

# GIRIDHAN METAL PRIVATE LIMITED

Registered Office : "PREMLATA" 39, Shakespeare Sarani, 2nd Floor, Kolkata - 700 017, West Bengal, India  
Telefax : +91 33 2289 2734 / 35 / 36, E-mail : giridhanmetal@gmail.com, CIN : U27320WB2019PTC234675

## GIRIDHAN METAL PRIVATE LIMITED

Jamuria Industrial Estate, Jaluria, Vill-Ikra&Damodarpur, Dist-Paschim Bardhaman, West Bengal

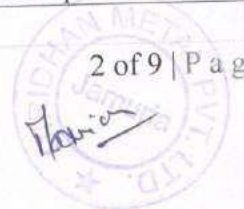
**Name of the Project:** Expansion of Steel Plant by expanding Sponge Iron from 1,20,000 TPA to 3,18,000 TPA, MS Billets from 1,05,000 TPA to 3,72,000 TPA, Rolling Mill from 1,00,000 TPA to 3,00,000 TPA, Submerged Arc Furnace (SAF) from 15,000 TPA to 30,000 TPA & Captive Power Plant from 16 MW to 42 MW including Waste Heat Recovery Boiler (WHRB) by Giridhan Metal Private Limited at Jamuria Industrial Estate, Village- Ikra&Damodarpur, Tehsil-Jamuria, District-Paschim Bardhaman, West Bengal

**Clearance Letter/s No. and date:** J-11011/366/2010-IA.II (I) dated 8<sup>th</sup> April, 2021 & amendment dated 16th January, 2023

**Period of Compliance Report:** October, 2022 to March, 2023

Specific Conditions:		
Sl. No.	Condition	Compliance thereof
i)	Green belt shall be developed in 31.38 acres of land (40%) including the gap filling in the existing green belt with a tree density of 2500 trees per hectare.	GMPL has earmarked 12.7 hectares (40% of the total area) as greenbelt & plantation area as per accorded EC. Till date, total 17084 trees have been planted inside the plant premises. The plantation is being continued for gap filling & densification @2500 trees/ha. Photographs of existing developed greenbelt & new plantations are attached herewith as <b>Annexure -1</b> .
ii)	Closed type Submerged Arc Furnace with 4 <sup>th</sup> hole extraction system shall be installed.	GMPL has already installed Closed type Submerged Arc Furnace with 4 <sup>th</sup> hole extraction system. Photographs are attached herewith as <b>Annexure - 2</b> .
iii)	1x350 TPD and 1x600 TPD DRI Kiln shall be installed. Remaining DRI Kilns as per existing EC accorded by MoEF&CC shall not be installed and 50 TPD DRI Kiln existing at the site shall be dismantled.	GMPL has already installed 1x350 TPD and 1x600 TPD DRI Kiln as per accorded EC & the kilns are under operation. For the same, the company has obtained CTO from West Bengal Pollution Control Board vide CTO No CO131954 dated 27 <sup>th</sup> July 2021 & CO132190 dated 23 <sup>rd</sup> August 2022 respectively valid till 31.07.2026. Copies of both CTOs are attached herewith as <b>Annexure - 3</b> . The 50 TPD DRI kiln existing at the site has already been dismantled.

iv)	Project proponent shall meet the particulate matter emission norms in all stacks less than 30 mg/Nm <sup>3</sup> .	Currently DRI, Ferro Alloys & Captive Power Plant through WHRB are in operation and for rest units, the company has applied for CTO. GMPL has installed 5 field ESP at 350 TPD DRI, 600 TPD DRI & Captive Power Plant to meet the standard norms and bag filter at Ferro Alloys plant. The emission reports of WBPCB as well as NABL accredited third party laboratory are within the stipulated standard norms. The test reports are attached herewith as <b>Annexure -4</b> .
V)	The Project proponent shall comply with emission norms of PM, SO <sub>x</sub> , NO <sub>x</sub> and Mercury for captive power plant at stipulated in the gazette notification no. S.O. 3305 (E) dated 7/12/2015.	GMPL is complying with the gazette notification no. S.O. 3305 (E) dated 7/12/2015. GMPL has analyzed the emission parameters by NABL accredited third party & the emission results of PM, SO <sub>x</sub> , NO <sub>x</sub> and Mercury are within the standard norms. WBPCB has also taken the samples and the results are within the standard norms. The results are attached herewith as <b>Annexure -4</b> .
vi)	PP shall be prepare implement an action plan giving annual improvement targets for resource conservation and environment improvement. This plan shall be monitored by the concerned Regional office of the MoEF & CC	GMPL has already prepared & taken necessary steps towards resource conservation and environment improvement which are attached herewith as <b>Annexure -5</b> .
vii)	The heat rate of coal-based power plant as specified by Central Electricity Authority shall be maintained and monitored	Noted. GMPL shall regularly monitor heat rate as specified by Central Electricity Authority & maintain the same.
viii)	Energy efficient drives, VFD for auxiliary motors and slip power recovery system for motors above 1000 KW shall be provided.	Noted. All the motors of above 500 KW are well equipped with VFD, energy efficient drives.
ix)	PTFE Membrane bags shall be used in filter bag house and designed for 150% of normal design air flow.	Noted. GMPL has installed PTFE Membrane bags with filter bag house and designed for 150% of normal design air flow. Specification of membrane bags attached herewith as <b>Annexure - 26</b> .
x)	PP shall use ultralow NO <sub>x</sub> burner with three stage combustion, flue gas recirculation and auto combustion control system. Shall use Post combustion control system (SCR/SCNR process) with NH <sub>3</sub> monitoring when Ammonia is used.	GMPL has already installed De-SO <sub>x</sub> and De-NO <sub>x</sub> system in FBC boiler. M/s ISGEC Heavy Engineering, Noida has assured for the same & SO <sub>2</sub> , NO <sub>x</sub> will be less than permissible standard. The letter for the same is attached herewith as <b>Annexure-6</b> .
xi)	Project proponent shall undertake rain water harvesting and recharge the ground water. Level monitoring indicators for online real time measurement of rain water harvesting shall be provided.	GMPL is practicing rooftop rain water harvesting from the initial stage. The rainwater is being collected from rooftops into recycler water tank. Till date, 5 nos. of buildings are having this facility & rooftop water is being collected & the water is being reused inside plant premises. Detailed rainwater harvesting along with Photographs of the rainwater harvestings tanks with level monitoring indicators are attached herewith as <b>Annexure - 28</b>
xii)	Treated effluent shall be recycled and reused	The plant is being/will be completely based on "Zero Effluent Discharge". Till date, ETP is under construction. After starting of ETP operations, the



		effluent will be treated with best available technology and treated water will be reused inside the plant premises. There shall be no waste water discharge outside the plant premises. LOI for ETP plant is attached herewith as <b>Annexure - 7</b> .
xiii)	Air cooled condensers shall be used in CPP	As per accorded EC, 12 nos. air cooled condensers have been installed in captive power plant. Photographs of the same are attached herewith as <b>Annexure - 29</b>
xiv)	All stockyards shall be having impervious flooring and shall be equipped with water spray system for dust suppression. Stockyards shall also have garland drains to trap the run off material.	All stockyards are having under shade with impervious floor and well equipped with water spray system for dust suppression. Photographs of the same are attached herewith as <b>Annexure - 30</b>
xv)	Jigging and briquetting Plant shall be installed.	Jigging plant has already been installed. Photographs of the same are attached herewith as <b>Annexure - 31</b> GMPL will not be producing Ferro Chrome; hence briquetting plant is not required.
xvi)	85-90% hot charging of billets shall be done. Balance heating can be done through RHF using LDO/FO as heating fuel.	GMPL has planned for 100% hot charging of billets.
xvii)	An affidavit shall be submitted to the Ministry as well as the regional office stating that observations made in the inspection report of Regional Office has been complied within three months from date of issue of the EC.	The affidavit has been made on 27 <sup>th</sup> July 2021 stating that observations made in the inspection report of Regional Office has been complied within three months from date of issue of the EC. Copy of the same is attached as <b>Annexure-8</b> .

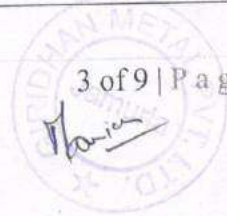
## General Conditions

### I. Statutory compliance

Sl No.	Condition	Compliance thereof
i)	The Environment Clearance (EC) granted to the project/activity is strictly under the provisions of EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount construe to approvals/consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.	Noted

### II. Air quality monitoring and preservation

i)	The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment	GMPL has installed continuous emission monitoring system (CEMS) for 350 DRI & 600 DRI and Captive Power Plant. Data connectivity process with CPCB & SPCB server is under process. There is a delay in data connectivity due to analyzer problem, the mail communication with the analyzer provider is attached
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	(Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (protection) Act, 1986 and NABL accredited laboratories as revised CPCB guidelines dated August, 2018 REV 01.	herewith as <b>Annexure – 27</b> . For CAAQMS, the order has been allotted to M/s Environment SA for installation of the same. Copy of the order is attached herewith as <b>Annexure –9</b> . GMPL have also considered 3 sites for manual Ambient Air Quality Monitoring covering 120° of the plant premises by NABL accredited laboratory and the results are attached herewith as <b>Annexure – 10</b> .
ii)	The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL, accredited laboratories.	GMPL have been monitoring the fugitive emission on quarterly basis by NABL accredited & WBPCB recognized laboratory. The last two quarter results are within the standard norms, which are attached herewith as <b>Annexure – 11</b> .
iii)	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating point including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards	GMPL has provided appropriate air pollution control systems in all the dust generating points to comply the stack emission and fugitive emission standard. 1. The 350 TPD & 600 TPD DRI is well equipped with 5-fields ESP. 2. The boiler is well equipped with 5-field ESP. 3. Ferro Alloy plant is well equipped with modern & pulse jet type, PTFE membrane filter. 4. Cooler discharge, surge bin, product separation area, product house area and every junction of DRI unit is well equipped with bag filter to control fugitive emissions. 5. Dry fog system has been installed in entire coal circuit area to control the fugitive emissions. 6. Primary as well as secondary suction hoods are installed and connected with modern & pulse jet type, PTFE membrane filter bag for steel smelting shop. Photographs of APC systems are attached herewith as <b>Annexure – 12</b> .
iv)	The project proponent shall provided leakage detection and mechanized bag cleaning facilities for better operation bag houses.	Mechanized bag cleaning facilities with Purgings facility is being adopted for better operation of bag houses. Also, GMPL is adopting TPM (Autonomous Maintenance) in all pollution equipments.
v)	Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/agglomeration.	As of now, GMPL have been using iron ore pellet as a raw material for 350 TPD & 600 TPD DRI, so no iron ore fines are being generated. Coal and coke fines dust collected in pollution control devices are being/will be reused in CPP.
vi)	The project proponent shall ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation.	The entire conveyors (raw materials & products) are covered by canopy and transportation of raw materials & products are also being done in fully covered conditions to prevent spillage and fugitive dust generation. Photographs of covered conveyors are attached herewith as <b>Annexure - 32</b>
vii)	The project proponent shall provide primary and	Steel Melting Shop is well connected with primary and



	secondary fume extraction system at all melting furnaces.	secondary fume extraction system. Photographs showing primary & secondary extraction system are attached herewith as <b>Annexure – 13</b> .
viii)	Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.	Wind shelter fence and chemical spraying is not applicable. The entire raw material stock piles have been kept inside covered sheds.
ix)	Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars	GMPL does not have any tunnels, motor houses & Oil Cellars, hence, ventilation systems for adequate air changes are not required.

### III. Water quality monitoring and preservation

i)	The proponent shall install 24×7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 (G.S.R. 414 (E) Dated 30th May 2008; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time ) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	The plant is being/will be completely based on “Zero Effluent Discharge”. Till date, ETP is under construction. In due course, the company will install 24×7 continuous effluent monitoring system and connect the same to SPCB and CPCB online servers.
ii)	The project proponent shall monitoring regularly ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	GMPL is monitoring regularly ground water quality twice a year (pre- and post-monsoon) in adjacent villages. Latest test results of groundwater monitoring in surrounding villages for January 2023 are attached herewith as <b>Annexure –14</b> .
iii)	Sewage Treatment Plant shall be provided for treatment of domestic waste water to meet the prescribed standards.	One STP (100 KLD) for treatment of domestic wastewater has been installed in hostel building and inside plant premises domestic wastewater is treated in soak pits. However, GMPL will install a 200 KLD STP in the plant premises shortly.
iv)	The project proponent shall provide the ETP for effluents of rolling mills to meet the standards prescribed in G.S.R 277(E) 31 <sup>st</sup> March 2012 (applicable to IF.EAF) as amended from time to time	The plant is being/will be completely based on “Zero Effluent Discharge”. Till date, ETP is under construction. After starting of ETP operations, the effluent from rolling mills will be treated with best available technology and treated water will be reused inside the plant premises. There shall be no waste water discharge outside the plant premises. LOI for ETP plant is attached herewith as <b>Annexure – 7</b> .

### IV. Noise monitoring and preservation

i)	Noise pollution shall be monitored as per the prescribed noise pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance	Noise level monitoring is being carried out on quarterly basis by NABL accredited laboratory. The latest test reports are attached herewith as <b>Annexure – 15</b> .
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	report.	
<b>v. Energy Conservation measures</b>		
i)	Energy conservation measures may be adopted such as adoption of solar energy and provision of LED light etc., to minimize the energy consumption.	The company is committed to maximize energy conservation measures to minimize energy consumption. For the same, GMPL has entered into an agreement with M/s Tata Power for installation of Solar Power of 250 KW in plant. The LOI is attached herewith as <b>Annexure – 16</b> . Also, LED lights have been provided in entire plant area including buildings & offices.
<b>VI. Waste management</b>		
i)	Used refractories shall be recycled as far as possible.	Till now no refractories are being generated in plant and the same shall be complied if generated.
ii)	100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding in this regard shall be submitted to the Ministry's Regional Office.	The fly ash generated from CFBC boiler will be used sent to nearby cement and bricks manufacturing plant. GMPL has done MoU with fly ash bricks manufacturers like M/s Shree Swastick Industries, M/s Sri OM Industries, M/s Damodar Ispat Ltd. etc. The copies of MoUs are attached herewith as <b>Annexure – 17</b> .
iii)	Dolochar generated from DRI kiln shall be used for power generation.	Dolochar generated from DRI kiln shall be used in CFBC boiler as fuel along with coal for power generation in future after being operational. As of now, GMPL is selling the generated dolochar to the adjacent plant M/s Super Smelters Limited. The purchase agreement between M/s GMPL & M/s Super Smelters Ltd. is attached herewith as <b>Annexure – 18</b> .
iv)	Oily scum and metallic sludge recovered from rolling mills ETP shall be mixed, dried, and briquetted and reused in melting Furnaces.	Till date, ETP is under construction. Oily scum and metallic sludge recovered from rolling mills ETP will be mixed, dried, and briquetted and reused in melting Furnaces.
v)	Kitchen waste shall be composted or converted to biogas for further use.	Kitchen waste generated from plant premises is being composted at present & used as manure. However, GMPL is planning to install a biogas plant in future. The same is under planning stage.
<b>VII. Green Belt</b>		
i)	The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration by trees.	GMPL will engage a third party to prepare GHG emissions inventory for the plant and submit the programme for reduction of the same including carbon sequestration by trees after operation of the entire plant.
<b>VIII. Public hearing and Human health issues</b>		
i)	Emergency preparedness plan based on the Hazard Identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	Hazard Identification and Risk Assessment (HIRA) and Disaster Management Plan are being implemented. HIRA with DMP is attached herewith as <b>Annexure-19</b> .



ii)	The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.	Presently GMPL have been providing all the PPEs which is applicable in hot zone area like heat proof apron, cotton/rubber hand gloves, goggles, helmet etc. Heat stress analysis will be carried out after operation of induction furnace for which CTO has been applied.
iii)	Occupational health surveillance of the workers shall be done on a regular basis and records maintained.	Occupational health surveillance of the workers is being done and records maintained as per Factory Act. Sample report of employee is attached herewith as <b>Annexure – 20.</b>
<b>IX. Corporate Environment Responsibility</b>		
i)	The project proponent shall comply with the provisions contained in this Ministry's OM vide F. No. 22-65/2017-IA.III dated 30/09/2020.	Till date, GMPL has spent approx. Rs. 355.98 lakhs towards CER activity out of Rs. 436.25 lakhs. The details of the CER activities done with implementation status & timeline are attached herewith as <b>Annexure – 21.</b>
ii)	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringement/deviation/violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/ violation of the environmental/ forest/ wildlife norms/ conditions and/ or shareholders/ stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.	GMPL has a well laid down environmental policy duly approved by the Board of Directors. The policy is attached herewith as <b>Annexure-22.</b>
iii)	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will report directly to the head of the organization.	A separate Environmental Cell has been prepared at the project and company head quarter level with qualified personnel, headed by director of the company. Details of environment lab with departmental organogram are attached herewith as <b>Annexure - 33</b>
<b>X. Miscellaneous</b>		
i)	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it in at least two local newspapers of the District of State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	M/s Giridhan Metal Private Limited has advertised public notice regarding Environment Clearance on 28 <sup>th</sup> April 2021 in two local newspapers "EiSamay" (vernacular language-Bengali) and "PrabhatKhabar" (Hindi). The scanned copies of newspaper are attached herewith as <b>Annexure –23.</b>
ii)	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal	The copy of environmental clearance has been submitted to Heads of local bodies of "Asansol Municipal Corporation" and "Asansol Durgapur



	Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	Development Authority". The letter with speed post documents are attached herewith as <b>Annexure – 24.</b>
iii)	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	Complied
iv)	The project proponent shall monitor the criteria pollutants level namely; PM <sub>10</sub> , SO <sub>2</sub> , NO <sub>x</sub> (ambient level as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.	Agreed & will be complied
v)	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on website of ministry of Environment, Forest and Climate Change at environment clearance portal.	Complied.
vi)	The project proponent shall submit the environment statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	GMPL has submitted the environment statement to State Pollution Control Board for 2021-22 FY. The environment statement is also attached herewith as <b>Annexure – 25.</b>
vii)	The project proponent shall inform the Regional Office as well as Ministry, the date of financial closure and final approval of the project by the concern authorities, commencing the land development work and start of production operation by the project.	The date of financial closure was 21 <sup>st</sup> December 2021.
viii)	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	Agreed and will be complied
ix)	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change (MoEF&CC).	Agreed & complied. The company has carried out partial construction of railway siding with wagon tippler as per granted EC by MoEFCC, New Delhi vide letter no. F. No. J-11011/366/2010-IA.II (I) dated 8th April, 2021 and NOC/CTE granted by WBPCB vide CTE no. NOCNO164560 dated 28.06.2021. Later on, the Railway authorities did not given permission due to technical constraints, after which company stopped construction. Thereafter company approached MoEFCC, New Delhi for EC Modification which was



		modified vide EC letter no. F. No. J-11011/366/2010-IA.II (I) dated 16th January, 2023. In accordance with regulations the company has not carried any expansion or modification without prior approval of MoEFCC.
x)	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Agreed
xi)	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Agreed
xii)	The Ministry reserves the right to stipulate addition conditions if found necessary. The company in the time bound manner shall implement these conditions.	Agreed
xiii)	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing data/ information/ monitoring reports.	Agreed & complied
xiv)	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010	Agreed

For GIRIDHAN METAL PRIVATE LIMITED

*Manish*

Authorized Signatory

Authorized Signatory

Giridhan Metal Private Limited

# GIRIDHAN METAL PRIVATE LIMITED

Registered Office : "PREMLATA" 39, Shakespeare Sarani, 2nd Floor, Kolkata - 700 017, West Bengal, India  
 Telefax : +91 33 2289 2734 / 35 / 36, E-mail : [gridhanmetal@gmail.com](mailto:gridhanmetal@gmail.com), CIN : U27320WB2019PTC234675

Annexure - 1

## Greenbelt Status

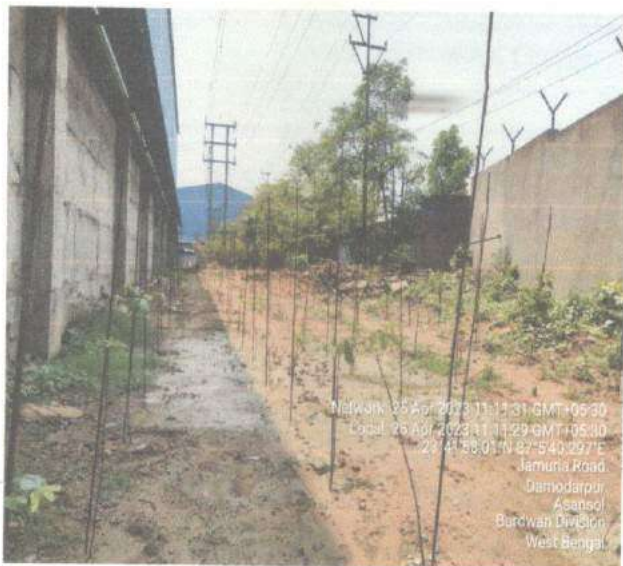
AREA/LOCATION	PLANTS NAME	NO. OF PLANTS	TOTAL NO. OF PLANTS	TOTAL AREA
DRI Area	Conocarpus, Bakul, Chatim, Sonajhuri, Kadam	1672	21195	10.09 Ha
DM Plant Area	Bakul, Conocarpus, Neem	947		
DVC Sub-station Area	Bakul, Debdaru, Conocarpus	879		
CPP Area	Sonajhuri, Conocarous, Sonalu, Karanj, Kadam, Bakul, Neem, Mahogany, Chatim	946		
Ferro Alloys Area	Sonalu, Bakul, Mahogany, Conocarous	674		
Near Water reservoir Area	Sonajhuri, Conocarous, Bakul, Neem, Mahogany, Chatim	2876		
Coal Shed Area	Conocarpus	976		
Pellet Yard Area	Neem, Sonajhuri, Conocarpus	2897		
Near New Canteen Area	Neem, Arjun, Conocarpus, Krishnachura, Radhachura	1790		
Between Mandir and New Admin office	Neem, Conocarpus	1567		
Near Project Office	Conocarpus, Bakul, Chatim, Radhachura	1388		
Admin Office Area	Conocarpus, Gulmohor	2635		
South Side boundary Wall	Conocarpus	1435		
Near New Store	Conocarpus, Neem	513		



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Furnace - 1



Furnace - 2



**WEST BENGAL POLLUTION CONTROL BOARD**

'Paribesh Bhawan'  
Bldg. No. - 10A, Block - LA, Sector-III  
Salt Lake City, Kolkata-700 098

Consent Letter Number : C0131954Memo Number : 107 - WPBA/Red(BWN)/Cont (928)/2021Date : 26/07/2021**Consent to Operate**

under

Section 25 & 26 of the **Water (Prevention and Control of Pollution) Act, 1974** and  
Section 21 of the **Air (Prevention and Control of Pollution) Act, 1981**

The West Bengal Pollution Control Board (hereinafter referred to as State Board) under the provisions of Section 25 & 26 of the Water (Prevention and Control of Pollution) Act, 1974, as amended and Section 21 of the Air (Prevention and Control of Pollution) Act, 1981, as amended and Rules and Orders made thereunder, hereby grants its consent to :

M/s. Giridhan Metal Private Limited.

.....(Address of Regd. office/Head/Office/City Office)

(hereinafter referred to as Applicant) for its unit located at Jamuria Industrial Estate,

Vill. - Ikra & Damodarapur, P.O. & P.S. - Jamuria,  
Dist - Paschim Bardhaman, Pin - 713344

.....(Detailed address of the manufacturing unit)

for a period from date of issue to 31/07/2026

to operate the industrial unit and to discharge liquid effluent and to emit gaseous effluent from the premises/land of the industrial unit, in accordance with the conditions as mentioned in the Annexure to this consent letter provided on any day at any instance the quantity and quality of liquid discharge and gaseous emission shall not exceed the permissible limit as specified in the Table I & II of this consent letter and in the Environmental (Protection) Act, 1986.

Breach of the conditions and / or failure to comply with the directions as set out in the Annexure shall render the applicant liable for prosecution under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.

The State Board reserve the right to revoke, withdraw or make any reasonable variation / change / alter the conditions of this consent letter giving one month's notice to the applicant.



For and on behalf of the State Board

(Member Secretary/Chief Engr./ Sr. Env. Engr. / Env. Engr. / Asst. Env. Engr.)

26/07/21  
**Environmental Engineer**  
**W. B. Pollution Control Board**  
**Operation & Execution Cell**

## ANNEXURE

Consent to M/s. Giridhan Metal Private Limited  
 for its unit at Jamuria Industrial Estate, Vill. - Ikra & Damodarapur  
P.O. & P.S. - Jamuria, Dist- Paschim Bardhaman, Pin-713344

**Conditions :**

01. This Consent is valid for the manufacture of :-

Sl. No.	Name of major products and by-products	Quantity manufactured per month
01	Sponge Iron	10,000 MT
02	Power	16 MW
03		
04		
05		
06		
07		
08		
09		
10		
11		
12		

02. The Applicant shall remain responsible for quantity and quality of liquid effluent and air emissions.
03. Daily discharge of industrial liquid effluent shall not exceed ..... KL.
04. Daily discharge of domestic liquid effluent shall not exceed ..... KL.
05. Daily discharge of mixed (industrial & domestic) liquid effluent shall not exceed ..... KL.
06. The Applicant shall discharge liquid effluent to Nil (To be reused after treatment ETP/STP) (place of discharge) through ..... nos. outlets / outfalls.
07. To bring into any altered or new outlet/outfall or to change the place of discharge, the Applicant shall have to inform the Board and obtain prior permission of the Board in this effect.
08. The Applicant shall provide comprehensive facility for treatment of industrial liquid waste and domestic liquid waste (sewage, sullage and liquid effluent generated from canteen), and operate and maintain the same continuously so that the quality of final effluent conforms to the Standard as given in Table-I in page 03.

(Member Secretary/Chief Engr./ Sr. Env. Engr. / Env. Engr. / Asst. Env. Engr.)

*26/07/21*  
 Environmental Engineer  
 W. B. Pollution Control Board  
 Operation & Execution Cell

Environmental Engineer  
 W. B. Pollution Control Board  
 Operation & Execution Cell

Continued.....



Consent to M/s. Giridhan Metal Private Limited  
 for its unit at Jamuria Industrial Estate, Vill. - Ikra & Damodarpu  
P.O. & P.S. - Jamuria, Dist - Paschim Bardhaman, Pin - 713344

11. The *Applicant* shall install suitable device for measuring the volume of water consumed for different purposes as mentioned above giving correct result to the satisfaction of the *State Board*.
12. All the stacks connected to various sources of emissions must be designated by numbers such as S-1, S-2, S-3, etc., and this must be painted/displayed to facilitate identification.
13. The *Applicant* shall install comprehensive control system consisting of pollution control equipment as is warranted with reference to generation of air emissions and operate and maintain the same continuously so as to achieve the level of pollutants of the *Standard* as given in Table-II below :

Table-II

Stack No.	Stack height from G.L., (in mts.)	Stack attached to (sources and control system, if any):	Volume Nm <sup>3</sup> /hr.	Velocity of gas emission m/sec	Concentrations of parameters not to exceed				Frequency of emission sampling
					SPM (mg/Nm <sup>3</sup> )	CO (%v/v)			
S-1	80	DRI Kiln (1x350TPD)			30				Quarterly
S-2	80	Boiler (32TPH)			30				-Do-
S-3	30	Cooler Discharge			30				-Do-
S-4	30	Product House	-	-	30				-Do-
S-5	10	D.G. Set 2000KVA	-	-	150				Yearly
S-6	10	D.G. Set 2000KVA	-	-	150				-Do-
S-7	10	D.G. Set 2000KVA	-	-	150				-Do-
S-8									
S-9									
S-10									

(Member Secretary/Chief Engr./ Sr. Env. Engr. / Env. Engr. / Asst. Env. Engr.)

26/02/21  
 Environmental Engineer  
 W. B. Pollution Control Board  
 Operation & Execution Cell

Continued.....

CO131954

(5)

Consent to M/s. Giridhan Metal Private Limited

for its unit at Jamuria Industrial Estate, Vill. - Ikra & Damodarapur,

P.O. & P.S. - Jamuria, Dist - Paschim Bardhaman, Pin - 713344

14. The Applicant shall provide ports in the stack(s) and other necessary permanent facilities such as ladder, platform, etc. for monitoring/sampling the air emissions and the same shall be made available for inspection and use by the State Board's staff as well as State Board's authorised agencies.

15. The Applicant shall observe the following fuel consumption pattern :-

Sl. No	Type of fuel	Quantity consumed per day	Fuel burning operation where the fuel is used
01	Coal	6300 MT/month	CFBC Boiler
02	HSD	—	D.G. Set.
03			
04			
05			

16. The Applicant shall maintain the generation and treatment/disposal of non-hazardous solid waste as specified below :-

Type of waste	Quantity	Treatment	Disposal
Dolochar	16800 MT/month	—	Used in CPP
Ash	48000 MT/month	—	Used for paver block, fly Ash Bricks, Dumped in abandoned OCRA of ECL.

17. The Applicant shall take adequate measures for control of noise levels from its own sources within the premises within the limit given below :-

Time	Limit in dB(A) $L_{eq}$
Day Time (06 a.m. to 10 p.m.)	55
Night Time (10 p.m. to 06 a.m.)	65

18. The Applicant shall at all times maintain good house-keeping, proper working order, and operate efficiently for control of pollution from all sources so as not to cause nuisance to surrounding areas/inhabitants and to achieve compliance with the terms and conditions of the consent.

19. The Applicant shall bring about at least 33% of the available open land under the green coverage / plantation.

20. The Applicant shall provide for an alternate electric power source sufficient to operate all pollution control facilities installed by the Applicant to maintain compliance with the terms and conditions of the consent. In absence of such an alternate electric power source, the Applicant shall stop, reduce or otherwise control production to abide by the terms and conditions of the Consent regarding pollution level.

21. The Applicant shall install a separate energy meter showing the consumption of energy for operation of pollution control devices.

22. The Applicant shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.

23. The Applicant shall provide drainage system for conveying industrial and domestic liquid waste. Storm-water drain shall be kept separate from the drainage system meant for industrial and domestic liquid waste

(Member Secretary/Chief Engr./ Sr. Env. Engr. / Env. Engr. / Asst. Env. Engr.)

Environmental Engineer  
W. B. Pollution Control Board  
Operation & Execution Cell

Environmental Engineer  
W. B. Pollution Control Board  
Operation & Execution Cell

Consent to M/s. Sinidhan Metal Private Limited  
 for its unit at Jamuria Industrial Estate, Vill. - Ikra & Damodarpur  
P.O. & P.S. - Jamuria, Dist Paschim Bardhaman, Pin - 713344.

24. The *Applicant* shall maintain a separate register showing consumption of chemicals used in pollution control systems.
25. The *Applicant* shall get the samples of hazardous wastes/leachates analysed at least once in ..... from the laboratory recognised of the West Bengal Pollution Control Board and ensure that they conform to the limits stipulated. Test reports shall be sent to the Board.
26. The *Applicant* shall provide adequate and safe facility for collection of air, waste water and solid waste samples by the *State Board's* staff as well as *State Board's* authorised agencies.
27. The *Applicant* shall submit to the *State Board* by the 30th September of every year the Environmental Statement Report for the financial year ending 31st March of the current year in the prescribed form (Form -V) as required under the provisions of rule 14 of the Environment (Protection) [Second Amendment] rules, 1992.
28. The *Applicant* shall allow the Officers of the *State Board* to enter into the applicant's premises at any reasonable time to inspect the pollution control systems as well as monitoring and measuring devices in connection with prevention & control of pollution.
29. The *Applicant* shall maintain an Inspection Book in the factory premises which shall be made available to Officers & employees of the *State Board* for inspection, review and to write down any direction or observation as is deemed necessary during the inspection from time to time.
30. The *Applicant* shall furnish to the *State Board* all information in respect of quality, quantity, rate of discharge, place of discharge of liquid effluent and air emissions.
31. The *Applicant* shall maintain adequate number of qualified and trained personnel among his staff for proper maintenance and operation of the effluent treatment and / or emission control devices and for overall environment management of the industry.
32. The *Applicant* shall have to make registration for the use of groundwater if any, with Central Ground Water Authority.
33. The *Applicant* shall intimate to the *State Board* immediately of any occurrence or apprehension of occurrence of discharge of any poisonous, noxious or pollutants in excess of quality as well as quality as mentioned earlier to any receiving water body/receiving system or to atmosphere owing to accident or other unforeseen incident/event including natural disaster. The *Applicant* Shall (i) take all steps adequate to prevent such accident discharge/release of poisonous, noxious or pollutants and to limit their consequences to persons and the environment, (ii) provide to the persons working on the site with the information, training and equipment including antidotes necessary to ensure their safety and mitigate the accidental release of poisonous noxious or pollutants to the environment.
34. The *Applicant* shall make an application to the *State Board* in the prescribed form for renewal of the consent at least 60 (sixty) days before the date of expiry of this Consent.
35. The *Applicant* shall not make any alternation/modification/expansion in the existing manufacturing process and equipment as well as the pollution control system without prior approval of the Board.
36. The *Applicant* shall comply with the conditions as laid down in the Manufacture, Storage and Import of hazardous Chemicals Rules, 1989 and Hazardous Wastes (Management & Handling) Rules, 1989.

Additional Conditions See Annexure

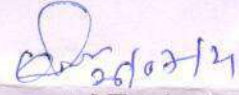
(Member Secretary/Chief Engr./ Sr. Env. Engr./ Env. Engr./ Asst. Env. Engr.)

  
 Environmental Engineer  
 W. B. Pollution Control Board  
 Operation & Execution Cell

**Annexure to Consent Letter Number – CO131954**

**Additional Conditions** issued to **M/s. Giridhan Metal Private Limited** at Jamuria Industrial Estate, Vill.-Ikra & Damodarpur, P.O & P.S.-Jamuria, Dist.-Paschim Bardhaman, Pin-713344

1. The unit shall abide by all other condition as mentioned in Environmental Clearance (EC) issued vide no.J-11011/366/2010-IA.II(I) dated 08.04.2021.& and NOC issued vide memo no. 477-2N-51/2003(E )-Pt.-I dated 28.06.2021
2. The unit should obtain all the statutory licenses as applicable from other concerned Govt. Department.
3. This consent may be revoked at any time on violation of environmental norms.
4. The unit shall submit a status of compliance of the conditions stipulated in EC.
5. The unit shall develop tree plantation/greeneries as per EC/NOC condition during monsoon season and submit compliance report.
6. The unit should install rain water harvesting system. Recharging of ground water is not permitted.
7. The unit shall install Continuous Automatic Ambient Air Quality Monitoring Station (CAAAQMS) immediately.
8. This Consent to Operate is valid for **01 no. DRI Kiln (1X350TPD)** and **01 no. CFBC boiler (1X32TPH)** only.



**Environmental Engineer**  
**West Bengal Pollution Control Board**  
**Environmental Engineer**  
**W. B. Pollution Control Board**  
**Operation & Execution Cell**

*Expansion*  
**WEST BENGAL POLLUTION CONTROL BOARD**

'Paribesh Bhawan'  
Bldg. No. - 10A, Block - LA, Sector-III  
Salt Lake City, Kolkata-700 098



Consent Letter Number : C0132108

Memo Number : 295-WPBA/Red(Bwn)/cont(928)/21

Date : 08/12/2021

**Consent to Operate**

under

Section 25 & 26 of the **Water (Prevention and Control of Pollution) Act, 1974** and  
Section 21 of the **Air (Prevention and Control of Pollution) Act, 1981**

The West Bengal Pollution Control Board (hereinafter referred to as State Board) under the provisions of Section 25 & 26 of the Water (Prevention and Control of Pollution) Act, 1974, as amended and Section 21 of the Air (Prevention and Control of Pollution) Act, 1981, as amended and Rules and Orders made thereunder, hereby grants its consent to :

M/s. Giridhan Metal Private Limited

(Address of Regd. office/Head/Office/City Office)

(hereinafter referred to as Applicant) for its unit located at Jamuria Industrial Estate,

Vill. Ikra & Damodarapur, P.O. & P.S. - Jamuria,

Dist - Paschim Bardhaman, Pin - 713344

(Detailed address of the manufacturing unit)

for a period from Date of issue to 31/07/2026

to operate the industrial unit and to discharge liquid effluent and to emit gaseous effluent from the premises/land of the industrial unit, in accordance with the conditions as mentioned in the Annexure to this consent letter provided on any day at any instance the quantity and quality of liquid discharge and gaseous emission shall not exceed the permissible limit as specified in the Table I & II of this consent letter and in the Environmental (Protection) Act, 1986.

Breach of the conditions and / or failure to comply with the directions as set out in the Annexure shall render the applicant liable for prosecution under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.

The State Board reserve the right to revoke, withdraw or make any reasonable variation / change / alter the conditions of this consent letter giving one month's notice to the applicant.



For and on behalf of the State Board

(Member Secretary/Chief Engr./ Sr. Env. Engr. / Env. Engr. / Asst. Env. Engr.)

*Handwritten signature*  
08/12/21  
**Sr. Environmental Engineer**  
W. B. Pollution Control Board  
Operation & Execution Cell

## ANNEXURE

Consent to M/s. Giridhan Metal Private Limited.  
 for its unit at Tamura Industrial Estate, Vill: Tkra & Damodarpur,  
P.O. & P.S. - Tamuria, Dist- Paschim Bardhaman, Pin - 713344

**Conditions :**

01. This Consent is valid for the manufacture of :-

Sl. No.	Name of major products and by-products	Quantity manufactured per month
01	Ferro Manganese/Silico Manganese	30000 MT/Year
02		
03		
04		
05		
06		
07		
08		
09		
10		
11		
12		

02. The Applicant shall remain responsible for quantity and quality of liquid effluent and air emissions.
03. Daily discharge of industrial liquid effluent shall not exceed recycled ..... KL.
04. Daily discharge of domestic liquid effluent shall not exceed 4.8 ..... KL.
05. Daily discharge of mixed (industrial & domestic) liquid effluent shall not exceed ..... KL.
06. The Applicant shall discharge liquid effluent to to be reused after treatment ETP/STP. (place of discharge)  
 through .....nos. outlets / outfalls.
07. To bring into any altered or new outlet/outfall or to change the place of discharge, the Applicant shall have to inform the Board and obtain prior permission of the Board in this effect.
08. The Applicant shall provide comprehensive facility for treatment of industrial liquid waste and domestic liquid waste (sewage, sullage and liquid effluent generated from canteen), and operate and maintain the same continuously so that the quality of final effluent conforms to the Standard as given in Table-I in page 03.

(Member-Secretary/Chief Engr./ Sr. Env. Engr. / Env. Engr. / Asst. Env. Engr.)

Harshi  
08/12/21  
 Sr. Environmental Engineer  
 W. B. Pollution Control Board  
 Operation & Execution Cell

Continued.....



Consent to M/s. Giridhan Metal Private Limited  
 for its unit at Jamuria Industrial Estate, Vill. Ikra & Damodarapur,  
P.O. & P.S. - Jamuria, Dist - Paschim Bardhaman, Pin - 713344

11. The *Applicant* shall install suitable device for measuring the volume of water consumed for different purposes as mentioned above giving correct result to the satisfaction of the *State Board*.
12. All the stacks connected to various sources of emissions must be designated by numbers such as S-1, S-2, S-3, etc., and this must be painted/displayed to facilitate identification.
13. The *Applicant* shall install comprehensive control system consisting of pollution control equipment as is warranted with reference to generation of air emissions and operate and maintain the same continuously so as to achieve the level of pollutants of the *Standard* as given in Table-II below :

Table-II

Stack No.	Stack height from G.L., (in mts.)	Stack attached to (sources and control system, if any):	Volume Nm <sup>3</sup> /hr.	Velocity of gas emission m/sec	Concentrations of parameters not to exceed				Frequency of emission sampling
					SPM (mg/Nm <sup>3</sup> )	CO (%v/v)			
S-I	40m	Submerged Arc Furnace (2x9MVA)			30	1			Quarterly
S-2									
S-3									
S-4									
S-5									
S-6									
S-7									
S-8									
S-9									
S-10									

(Member Secretary/Chief Engr. / Sr. Env. Engr. / Env. Engr. / Asst. Env. Engr.)

*March 08/12/21*  
 Sr. Environmental Engineer  
 W. B. Pollution Control Board Continued.....  
 Operation & Execution Cell

C0132108

(5)

Consent to M/s. Gini Khan Metal Private Limited  
for its unit at Jamura Industrial Estate, Vill. Ikra & Damodarpur,  
P.O. P.S. - Jamuria, Dist - Paschim Bardhaman, Pin - 713344.

14. The Applicant shall provide ports in the stack(s) and other necessary permanent facilities such as ladder, platf etc. for monitoring/sampling the air emissions and the same shall be made available for inspection and use by State Board's staff as well as State Board's authorised agencies.
15. The Applicant shall observe the following fuel consumption pattern :-

Sl. No	Type of fuel	Quantity consumed per day	Fuel burning operation where the fuel is us
01			
02			
03			
04			
05			

16. The Applicant shall maintain the generation and treatment/disposal of non-hazardous solid waste as speci below :-

Type of waste	Quantity	Treatment	Disposal
<u> Ferro Alloys Slag</u>	<u> 28500 MT/Year</u>	<u> -</u>	<u> road making / OCF</u> <u> tilting</u>

17. The Applicant shall take adequate measures for control of noise levels from its own sources within the prem within the limit given below :-

Time	Limit in dB(A) $L_{eq}$
<u> Day Time (06 a.m. to <sup>10</sup>09 p.m.)</u>	<u> 65</u>
<u> Night Time (<sup>10</sup>09 p.m. to 06 a.m.)</u>	<u> 55</u>

18. The Applicant shall at all times maintain good house-keeping, proper working order, and operate efficiently control of pollution from all sources so as not to cause nuisance to surrounding areas/inhabitants and to achi compliance with the terms and conditions of the consent.
19. The Applicant shall bring about at least 33% of the available open land under the green coverage / plantation.
20. The Applicant shall provide for an alternate electric power source sufficient to operate all pollution control facili installed by the Applicant to maintain compliance with the terms and conditions of the consent. In absence of s an alternate electric power source, the Applicant shall stop, reduce or otherwise control production to abide by terms and conditions of the Consent regarding pollution level.
21. The Applicant shall install a separate energy meter showing the consumption of energy for operation of pollut control devices.
22. The Applicant shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and s environment in and around the factory premises.
23. The Applicant shall provide drainage system for conveying industrial and domestic liquid waste. Storm-water di shall be kept separate from the drainage system meant for industrial and domestic liquid waste

(Member Secretary/Chief Engr./ Sr. Env. Engr. / Env. Engr. / Asst. Env. En

Harsh  
08/12/21  
Sr. Environmental Engineer  
W. B. Pollution Control Board  
Operation & Execution Cell

Continued..

Consent to M/s. Giridhan Metal Private Limited  
 for its unit at Jamura Industrial Estate, Vill. Ikra & Damodarpur  
P.O. & P.S. - Jamuria, Dist- Paschim Bardhaman, Pin-713344

24. The *Applicant* shall maintain a separate register showing consumption of chemicals used in pollution control systems.
25. The *Applicant* shall get the samples of hazardous wastes/leachates analysed at least once in ..... from the laboratory recognised of the West Bengal Pollution Control Board and ensure that they conform to the limits stipulated. Test reports shall be sent to the Board.
26. The *Applicant* shall provide adequate and safe facility for collection of air, waste water and solid waste samples by the *State Board's* staff as well as *State Board's* authorised agencies.
27. The *Applicant* shall submit to the *State Board* by the 30th September of every year the Environmental Statement Report for the financial year ending 31st March of the current year in the prescribed form (Form -V) as required under the provisions of rule 14 of the Environment (Protection) [Second Amendment] rules, 1992.
28. The *Applicant* shall allow the Officers of the *State Board* to enter into the applicant's premises at any reasonable time to inspect the pollution control systems as well as monitoring and measuring devices in connection with prevention & control of pollution.
29. The *Applicant* shall maintain an Inspection Book in the factory premises which shall be made available to Officers & employees of the *State Board* for inspection, review and to write down any direction or observation as is deemed necessary during the inspection from time to time.
30. The *Application* shall furnish to the *State Board* all information in respect of quality, quantity, rate of discharge, place of discharge of liquid effluent and air emissions.
31. The *Applicant* shall maintain adequate number of qualified and trained personnel among his staff for proper maintenance and operation of the effluent treatment and / or emission control devices and for overall environment management of the industry.
32. The *Applicant* shall have to make registration for the use of groundwater if any, with Central Ground Water Authority.
33. The *Applicant* shall intimate to the *State Board* immediately of any occurrence or apprehension of occurrence of discharge of any poisonous, noxious or pollutants in excess of quality as well as quality as mentioned earlier to any receiving water body/receiving system or to atmosphere owing to accident or other unforeseen incident/event including natural disaster. The *Applicant* Shall (i) take all steps adequate to prevent such accident discharge/release of poisonous, noxious or pollutants and to limit their consequences to persons and the environment, (ii) provide to the persons working on the site with the information, training and equipment including antidotes necessary to ensure their safety and mitigate the accidental release of poisonous noxious or pollutants to the environment.
34. The *Applicant* shall make an application to the *State Board* in the prescribed form for renewal of the consent at least 60 (sixty) days before the date of expiry of this Consent.
35. The *Applicant* shall not make any alternation/modification/expansion in the existing manufacturing process and equipment as well as the pollution control system without prior approval of the Board.
36. The *Applicant* shall comply with the conditions as laid down in the Manufacture, Storage and Import of hazardous Chemicals Rules, 1989 and Hazardous Wastes (Management & Handling) Rules, 1989.

Additional Conditions See Annexure.

(Member Secretary/Chief Engr./ Sr. Env. Engr. / Env. Engr. / Asst. Env. Engr.)

W. B. Pollution Control Board  
 Operation & Execution Cell

Annexure to Consent Letter Number – **CO132108**

Additional Conditions issued to **M/s. Giridhan Metal Private Limited** at existing factory premises Jamuria Industrial Estate, Vill-Ikra & Damodarpur, P.O & P.S-Jamuria, Dist-Paschim Bardhaman, Pin-713344.

1. The unit shall abide by all other condition as mentioned in Environmental Clearance (EC) issued vide no. J-11011/366/2010-1A-II(I) dated 08.04.2021 and NOC(NO164560) issued vide memo no.477-2N-51/2003 ( E )-Pt-I dated 28.06.2021 in favour of the expansion project.
2. The unit should comply all the conditions issued in earlier Consent to Operate.
3. The unit should obtain all the statutory licenses as applicable from other concerned Govt. Department.
4. The unit shall maintain the stringent stack emission standard –PM 30 mg/Nm<sup>3</sup>.
5. The unit should install online continuous emission monitoring system at stack attached with SEAFs within 31<sup>st</sup> March, 2022 failing which regulatory action will be initiated and Consent to operate will be revoked.
6. The unit should install Continuous Ambient Air Quality Station(CAAQS) within 31<sup>st</sup> March,2022 failing which regulatory action will be initiated.
7. The National Ambient Air Quality Emission Standards issued by MoEF vide G.S.R 826( E ) dated 16<sup>th</sup> November, 2009 should be complied with.
8. This consent may be revoked at any time on violation of environmental norms.
9. The unit shall submit a status of compliance of the conditions stipulated in EC.
10. This consent to Operate is valid for operation of Submerged Arc Furnaces (capacity- 2x9MVA).

  
08/12/21  
**Sr. Environmental Engineer**  
**West Bengal Pollution Control Board**  
Sr. Environmental Engineer  
W. B. Pollution Control Board  
Operation & Execution Cell



Application No. 2242763  
WEST BENGAL POLLUTION CONTROL BOARD

'Paribesh Bhawan'  
Bldg. No. - 10A, Block - LA, Sector-III  
Salt Lake City, Kolkata-700 098



Consent Letter Number : 00132190

Memo Number : 354 - WPBA / Red (BWN) / cont (928) / 2021

Date : 23/08/2022

**Consent to Operate**

under

Section 25 & 26 of the Water (Prevention and Control of Pollution) Act, 1974 and  
Section 21 of the Air (Prevention and Control of Pollution) Act, 1981

The West Bengal Pollution Control Board (hereinafter referred to as State Board) under the provisions of Section 25 & 26 of the Water (Prevention and Control of Pollution) Act, 1974, as amended and Section 21 of the Air (Prevention and Control of Pollution) Act, 1981, as amended and Rules and Orders made thereunder, hereby grants its consent to :

M/s. Ginidhan Metal Pvt. Ltd.

(Address of Regd. office/Head/Office/City Office)

(hereinafter referred to as Applicant) for its unit located at Jamuria Industrial Estate,  
Vill. - Itna & Damodarpur, P.O. - Nandi, P.S. - Jamuria,  
Dist. - Paschim Bardhaman, Pin - 713344

(Detailed address of the manufacturing unit)

for a period from Date of issue to 31/07/2026

to operate the industrial unit and to discharge liquid effluent and to emit gaseous effluent from the premises/land of the industrial unit, in accordance with the conditions as mentioned in the Annexure to this consent letter provided on any day at any instance the quantity and quality of liquid discharge and gaseous emission shall not exceed the permissible limit as specified in the Table I & II of this consent letter and in the Environmental (Protection) Act, 1986.

Breach of the conditions and / or failure to comply with the directions as set out in the Annexure shall render the applicant liable for prosecution under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.

The State Board reserve the right to revoke, withdraw or make any reasonable variation / change / alter the conditions of this consent letter giving one month's notice to the applicant.



For and on behalf of the State Board

(Member Secretary/Chief Engr./Sr. Env. Engr. / Env. Engr. / Asst. Env. Engr.)

Resinhe 23/08/2022  
Environmental Engineer  
W. B. Pollution Control Board  
Operation & Execution Cell

## ANNEXURE

Consent to M/s. Giridhan Metal Pvt. Ltd.  
 for its unit at Jamura Industrial Estate, Vill. - Ikra & Damedarpur,  
P.O. - Nandi, P.S. - Jamuria, Dist - Paschim Bardhaman, Pin - 713344

**Conditions :**

01. This Consent is valid for the manufacture of :-

Sl. No.	Name of major products and by-products	Quantity manufactured per month
01	Sponge Iron	16500 MT/Month
02	Captive Power	14 MW
03		
04		
05		
06		
07		
08		
09		
10		
11		
12		

02. The Applicant shall remain responsible for quantity and quality of liquid effluent and air emissions.

03. Daily discharge of industrial liquid effluent shall not exceed ..... KL.

04. Daily discharge of domestic liquid effluent shall not exceed ..... KL.

05. Daily discharge of mixed (industrial & domestic) liquid effluent shall not exceed ..... KL.

06. The Applicant shall discharge liquid effluent to To be reused after treatment (place of discharge)  
 through .....nos. outlets / outfalls.

07. To bring into any altered or new outlet/outfall or to change the place of discharge, the Applicant shall have to inform the Board and obtain prior permission of the Board in this effect.

08. The Applicant shall provide comprehensive facility for treatment of industrial liquid waste and domestic liquid waste (sewage, sullage and liquid effluent generated from canteen), and operate and maintain the same continuously so that the quality of final effluent conforms to the Standard as given in Table-I in page 03.

*R. Saha*  
 23/08/2022

(Member Secretary/Chief Engr./ Sr. Env. Engr. / Env. Engr. / Asst. Env. Engr.)

**Environmental Engineer**  
**W. B. Pollution Control Board**  
**Operation & Execution Cell**



(4)

Consent to M/s. Giridhan Metal Pvt. Ltd.

for its unit at Jamuria Industrial Estate, Vill. - Ikra & Damodarpur,  
P.O. - Nandi, P.S. - Jamuria, Dist. - Paschim Bardhaman, Pin-71334

11. The Applicant shall install suitable device for measuring the volume of water consumed for different purposes as mentioned above giving correct result to the satisfaction of the State Board.
12. All the stacks connected to various sources of emissions must be designated by numbers such as S-1, S-2, S-3, etc., and this must be painted/displayed to facilitate identification.
13. The Applicant shall install comprehensive control system consisting of pollution control equipment as is warranted with reference to generation of air emissions and operate and maintain the same continuously so as to achieve the level of pollutants of the Standard as given in Table-II below :

Table-II

Stack No.	Stack height from G.L., (in mts.)	Stack attached to (sources and control system, if any):	Volume Nm <sup>3</sup> /hr.	Velocity of gas emission m/sec	Concentrations of parameters not to exceed				Frequency of emission sampling
					SPM (mg/Nm <sup>3</sup> )	CO (%v/v)			
S-1									
S-2			See Annexure-I						
S-3									
S-4									
S-5									
S-6									
S-7									
S-8									
S-9									
S-10									

*R. Saha*

23/08/2022

(Member Secretary/Chief Engr./Sr. Env. Engr. / Env. Engr. / Asst. Env. Engr.)

**Environmental Engineer**  
**W. B. Pollution Control Board**  
**Operation & Execution Cell**

Continued.....

(5)

Consent to M/s. Giridhan Metal Pvt. Ltd.  
 for its unit at Jamura Industrial Estate, Vill. - Ikras & Damodarpur,  
P.O. - Nandi, A.S. - Jamuria, Dist. - Paschim Bardhaman, Pin - 713344.

14. The Applicant shall provide ports in the stack(s) and other necessary permanent facilities such as ladder, platform, etc. for monitoring/sampling the air emissions and the same shall be made available for inspection and use by the State Board's staff as well as State Board's authorised agencies.
15. The Applicant shall observe the following fuel consumption pattern :-

Sl. No	Type of fuel	Quantity consumed per day	Fuel burning operation where the fuel is used
01	Coal	14850 MT/Month	DRI Kiln
02			
03			
04			
05			

16. The Applicant shall maintain the generation and treatment/disposal of non-hazardous solid waste as specified below :-

Type of waste	Quantity	Treatment	Disposal
Dolochar	28000 MT/Year	-	Reused in CPP
DRI Kiln accretion	1200 MT/Year	-	Road Making & Landfill
Fly Ash from DRI	30000 MT/Year	-	Dumped in abandoned OCP of ECL.

17. The Applicant shall take adequate measures for control of noise levels from its own sources within the premises within the limit given below :-

Time	Limit in dB(A) $L_{eq}$
Day Time (06 a.m. to 10 p.m.)	65
Night Time (10 p.m. to 06 a.m.)	55

18. The Applicant shall at all times maintain good house-keeping, proper working order, and operate efficiently for control of pollution from all sources so as not to cause nuisance to surrounding areas/inhabitants and to achieve compliance with the terms and conditions of the consent.
19. The Applicant shall bring about at least 33% of the available open land under the green coverage / plantation.
20. The Applicant shall provide for an alternate electric power source sufficient to operate all pollution control facilities installed by the Applicant to maintain compliance with the terms and conditions of the consent. In absence of such an alternate electric power source, the Applicant shall stop, reduce or otherwise control production to abide by the terms and conditions of the Consent regarding pollution level.
21. The Applicant shall install a separate energy meter showing the consumption of energy for operation of pollution control devices.
22. The Applicant shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.
23. The Applicant shall provide drainage system for conveying industrial and domestic liquid waste. Storm-water drain shall be kept separate from the drainage system meant for industrial and domestic liquid waste

R. Saha  
23/08/2022

(Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asst. Env. Engr.)

Environmental Engineer  
 W. B. Pollution Control Board  
 Operation & Execution Cell

Continued.....

Consent to M/s. Giridhan Metal Pvt. Ltd.

for its unit at Jamunia Industrial Estate, Vill.- Ikra & Damodarpu,  
P.O.- Nandi, P.S.- Jamunia, Dist.- Paschim Bardhaman, Pin- 713344

24. The Applicant shall maintain a separate register showing consumption of chemicals used in pollution control systems.
25. The Applicant shall get the samples of hazardous wastes/leachates analysed at least once in ..... from the laboratory recognised of the West Bengal Pollution Control Board and ensure that they conform to the limits stipulated. Test reports shall be sent to the Board.
26. The Applicant shall provide adequate and safe facility for collection of air, waste water and solid waste samples by the State Board's staff as well as State Board's authorised agencies.
27. The Applicant shall submit to the State Board by the 30th September of every year the Environmental Statement Report for the financial year ending 31st March of the current year in the prescribed form (Form -V) as required under the provisions of rule 14 of the Environment (Protection) [Second Amendment] rules, 1992.
28. The Applicant shall allow the Officers of the State Board to enter into the applicant's premises at any reasonable time to inspect the pollution control systems as well as monitoring and measuring devices in connection with prevention & control of pollution.
29. The Applicant shall maintain an Inspection Book in the factory premises which shall be made available to Officers & employees of the State Board for inspection, review and to write down any direction or observation as is deemed necessary during the inspection from time to time.
30. The Application shall furnish to the State Board all information in respect of quality, quantity, rate of discharge, place of discharge of liquid effluent and air emissions.
31. The Applicant shall maintain adequate number of qualified and trained personnel among his staff for proper maintenance and operation of the effluent treatment and / or emission control devices and for overall environment management of the industry.
32. The Applicant shall have to make registration for the use of groundwater if any, with Central Ground Water Authority.
33. The Applicant shall intimate to the State Board immediately of any occurrence or apprehension of occurrence of discharge of any poisonous, noxious or pollutants in excess of quality as well as quality as mentioned earlier to any receiving water body/receiving system or to atmosphere owing to accident or other unforeseen incident/event including natural disaster. The Applicant Shall (i) take all steps adequate to prevent such accident discharge/release of poisonous, noxious or pollutants and to limit their consequences to persons and the environment, (ii) provide to the persons working on the site with the information, training and equipment including antidotes necessary to ensure their safety and mitigate the accidental release of poisonous noxious or pollutants to the environment.
34. The Applicant shall make an application to the State Board in the prescribed form for renewal of the consent at least 60 (sixty) days before the date of expiry of this Consent.
35. The Applicant shall not make any alternation/modification/expansion in the existing manufacturing process and equipment as well as the pollution control system without prior approval of the Board.
36. The Applicant shall comply with the conditions as laid down in the Manufacture, Storage and Import of hazardous Chemicals Rules, 1989 and Hazardous Wastes (Management & Handling) Rules, 1989.

Additional Conditions See Annexure II

Paluha  
23/08/2022

Annexure to Consent Letter No. CO132190

Issued to M/S. Girdhan Metal Pvt. Ltd. Located at Jamuria Industrial Estate, Vill. Ikra &amp; Damodarpur, P.O. Nandi, P.S. Jamuria, Dist. Paschim Bardhaman, Pin-713344

Table II

Stack No.	Stack height from G.L. in mts.	Stack attached to (sources and control system, if any)	Volume Nm <sup>3</sup> /hr	Velocity of gas emission m/sec	Concentrations of parameters not to exceed		Frequency of emission sampling
					SPM (mg/Nm <sup>3</sup> )	CO (% v/v)	
1	80	1x600TPD DRI Kiln with WHRB of 70TPH [ESP] (stack common with existing 1x350TPD DRI Kiln)	-	-	30	-	Quarterly
2	30	Cooler discharge, surge bin and transfer points [Bag Filter]	-	-	30	-	Quarterly
3	30	Product separation and Product house [Bag Filter]	-	-	30	-	Quarterly

*Rudra* 23/08/2023  
 Environmental Engineer  
 W.B. Pollution Control Board  
 Environmental Engineer  
 W. B. Pollution Control Board  
 Operation & Execution Cell

Annexure to Consent Letter No. CO132190

Additional Conditions issued to M/S. Giridhan Metal Pvt. Ltd. Located at Jamuria Industrial Estate, Vill. Ikra & Damodarpur, P.O. Nandi, P.S. Jamuria, Dist. Paschim Bardhaman, Pin-713344

1. The unit shall abide by all the conditions mentioned in the Environmental Clearance (EC) issued vide no. J-11011/366/2010-IA.II(I) dt. 08.04.2021 and Consent to Establish(NOC) issued vide memo no. 477-2N-51/2003( E )-Pt-I dt. 28.06.2021.
2. The unit shall comply with all the conditions issued in earlier Consent to Operate.
3. The unit shall obtain all statutory licenses as applicable from other concerned authorities.
4. The unit shall comply with the National Ambient Air Quality Emission Standards issued by MoEF vide G.S.R. 826( E ) dated 16.11.2009.
5. Fugitive emission from all the sources shall be controlled within the latest permissible limit issued by the Ministry vide G.S.R. 414 (E) dated 30/05/2008 and regulatory monitored. Guidelines /Code of Practice issued by the CPCB shall be followed.
6. This Consent may be revoked at any time on violation of environmental norms.
7. The unit shall develop tree plantation/greeneries as per the EC/NOC condition and submit compliance report.
8. The unit shall submit compliance status of the conditions stipulated in the EC.
9. Internal road condition and housekeeping to be improved.
10. This Consent to Operate is valid for 01 no. DRI Kiln of 600TPD and 01 no. WHRB of 70TPH.

*Reshma*  
23/08/2022  
Environmental Engineer  
W.B.Pollution Control Board  
Environmental Engineer  
W. B. Pollution Control Board  
Operation & Execution Cell

## Analysis Reports of Gaseous Emission

Identification Code: 101120228722


**WEST BENGAL POLLUTION CONTROL BOARD**  
 Durgapur Regional Laboratory, Paribesh Bhawan, City Centre, Durgapur- 713 216
**Analysis done at:**

1. Name of Industry	M/s. Giridhan Metal Private Ltd.		
2. Address	Jamuria Industrial Estate, P.O: Nandi, Jamuria Paschim Bardhaman, 713344		
3. Category & Type	Red & Integrated Steel Plant		
4. Sampling Date	10.11.2022		
5. Duration of Sampling	28 min		
6. Name of Laboratory	M/s. Eco Care		
7. Height of Stack from ground (m)	40.00		
8. Cross section of Stack at sampling point (m <sup>2</sup> )	4.9107		
9. Stack connected to	SEAF No.-1&2 (9 MVA×2) Both in Operation, Common Stack		
10. Emission due to (Furnace / Boiler)	Reduction of Mn-Ore		
11. Average operational hours of boiler/furnace (per month)	720 hrs/month.		
12. APC System (if any)	Bag Filter		
13. Working load of source (MT/hr)	SEAF No-1=5.6 MVA, No.-2=5.4 MVA		
14. Fuel used	Nil (Electrically Operated)		
15. Rated Fuel consumption (Kg or l/hr)	-		
16. Working Fuel consumption (Kg or l/hr)	-		
17. Nature of furnace/boiler	Submerged Electric Arc Furnace		
18. Flue Gas Temp (°C)	76.0		
19. Flue gas velocity (m/s)	8.93	20. Volume of Flue gas drawn in lit (m <sup>3</sup> )	1.008
21. Corrected flue gas volume (Nm <sup>3</sup> )	0.8941	22. Percentage of CO <sub>2</sub> & O <sub>2</sub>	CO <sub>2</sub> =2.6% O <sub>2</sub> =16.4%
23. To be compensated at (% if required)	-		
24. Initial wt of thimble (gm)	1.5866	25. Final wt of thimble (gm)	1.5916
26. Wt. of PM (mg)	5.00	27. Particulate matter (mg/Nm <sup>3</sup> )	5.59
28. Barometric Pressure Head (mm of Hg)	755	29. Diameter of the nozzle	3/8"
30. Others -		31. Thimble Number	4149
32. Sampled by	Mr. R. Chakraborty, AEE		

23/11/2022

Date of Reporting

Junior Scientist, DRL

23/11/2022

Scientist, DRL

Copy to:

1. Chief Engineer - Operation & Execution, WBPCB
2. Chief Scientist, WBPCB
3. Env. Engineer (DRO) / Env. Engineer (ARO), WBPCB
4. Industry



## WEST BENGAL POLLUTION CONTROL BOARD

Durgapur Regional Laboratory, Paribesh Bhawan, City Centre, Durgapur- 713 216

## Analysis done at:

1. Name of Industry	M/s. Giridhan Metal Private Ltd.		
2. Address	Jamuria Industrial Estate, P.O: Nandi, Jamuria Paschim Bardhaman, 713344		
3. Category & Type	Red & Integrated Steel Plant		
4. Sampling Date	10.11.2022		
5. Duration of Sampling	36 min		
6. Name of Laboratory	M/s. Eco Care		
7. Height of Stack from ground (m)	30.00		
8. Cross section of Stack at sampling point (m <sup>2</sup> )	1.1314		
9. Stack connected to	Cooler Discharge of DRI (600 TPD) & Surge BIN Attached with common stack (Both units were operation)		
10. Emission due to (Furnace / Boiler)	Process Activity (Cooling & Storage of Sponge Iron)		
11. Average operational hours of boiler/furnace (per month)	720 hrs/month.		
12. APC System (if any)	Bag Filter		
13. Working load of source (MT/hr)	600 TPD		
14. Fuel used	-		
15. Rated Fuel consumption (Kg or l/hr)	-		
16. Working Fuel consumption (Kg or l/hr)	-		
17. Nature of furnace/boiler	Cooler Discharge of DRI Kiln & Surge BIN		
18. Flue Gas Temp (°C)	49.0		
19. Flue gas velocity (m/s)	11.58	20. Volume of Flue gas drawn in lit (m <sup>3</sup> )	1.008
21. Corrected flue gas volume (Nm <sup>3</sup> )	0.7109	22. Percentage of CO <sub>2</sub> & O <sub>2</sub>	O <sub>2</sub> =18.4%
23. To be compensated at (% if required)	-		
24. Initial wt of thimble (gm)	1.4430	25. Final wt of thimble (gm)	1.4481
26. Wt. of PM (mg)	5.10	27. Particulate matter (mg/Nm <sup>3</sup> )	7.17
28. Barometric Pressure Head (mm of Hg)	755	29. Diameter of the nozzle	1/4"
30. Others -	31. Thimble Number		4151
32. Sampled by	Mr. R. Chakraborty, AEE		

23/11/2022

Date of Reporting

Junior Scientist, DRL

23/11/2022

Scientist, DRL

Copy to:

1. Chief Engineer - Operation & Execution, WBPCB
2. Chief Scientist, WBPCB
3. Env. Engineer (DRO) / Env. Engineer (ARO), WBPCB
4. Industry



**WEST BENGAL POLLUTION CONTROL BOARD**  
Durgapur Regional Laboratory, Paribesh Bhawan, City Centre, Durgapur- 713 216

**Analysis done at:**

1.Name of Industry	M/s. Giridhan Metal Private Ltd.		
2.Address	Jamuria Industrial Estate, P.O: Nandi, Jamuria Paschim Bardhaman		
3.Category & Type	Red & Integrated Steel Plant		
4.Sampling Date	10.11.2022		
5.Duration of Sampling	30 min		
6.Name of Laboratory	M/s. Eco Care		
7.Height of Stack from ground (m)	30.00		
8.Cross section of Stack at sampling point (m <sup>2</sup> )	2.2707		
9.Stack connected to	Product Handling & Product Separation House Attached to common stack of 350 TPD+600 TPD DRI		
10.Emission due to (Furnace / Boiler)	Process Activity		
11.Average operational hours of boiler/furnace (per month)	720 hrs/month.		
12.APC System (if any)	Bag Filter		
13.Working load of source (MT/hr)	-		
14. Fuel used	-		
15.Rated Fuel consumption (Kg or l /hr)	-		
16.Working Fuel consumption (Kg or l /hr)	-		
17.Nature of furnace/boiler	Product Handling & Product Separation House		
18.Flue Gas Temp (°C)	39.0		
19.Flue gas velocity (m/s)	17.16	20.Volume of Flue gas drawn in lit (m <sup>3</sup> )	1.02
21.Corrected flue gas volume (Nm <sup>3</sup> )	0.9042	22.Percentage of CO <sub>2</sub> & O <sub>2</sub>	O <sub>2</sub> =18.2%
23.To be compensated at (% if required)	-		
24.Initial wt of thimble (gm)	1.5023	25.Final wt of thimble (gm)	1.5066
26.Wt. of PM (mg)	4.30	27.Particulate matter (mg/Nm <sup>3</sup> )	4.76
28.Barometric Pressure Head (mm of Hg)	755	29.Diameter of the nozzle	1/4"
30. Others -			
31. Thimble Number	4150		
32. Sampled by	Mr. R. Chakraborty, AEE		

23/11/2022

Date of Reporting

Junior Scientist, DRL

Scientist, DRL

Copy to:

1. Chief Engineer - Operation & Execution, WBPCB
2. Chief Scientist, WBPCB
3. Env. Engineer (DRO) / Env. Engineer (ARO), WBPCB
4. Industry

## Analysis Reports of Gaseous Emission

Identification Code: 2 4 0 2 2 0 2 2 8 3 2 8



**WEST BENGAL POLLUTION CONTROL BOARD**  
Durgapur Regional Laboratory, Paribesh Bhawan, City Centre, Durgapur- 713 216

**Analysis done at:**

1. Name of Industry	M/s. Giridhan Metal Private Ltd.		
2. Address	Jamuria Industrial Estate, P.O: Nandi, Jamuria Dist: Paschim Bardhaman - 713344		
3. Category & Type	Red, Iron & Steel (Ferro Div)		
4. Sampling Date	24.02.2022		
5. Duration of Sampling	28 min		
6. Name of Laboratory	M/s. Envirocheck.		
7. Height of Stack from ground (m)	40.0		
8. Gross section of Stack at sampling point (m <sup>2</sup> )	4.90625		
9. Stack connected to	SEAF ( No.1&2) (9MVA-Each) attached to Common stack* (*Both SEAF were in operation)		
10. Emission due to (Furnace / Boiler)	Reduction of Mn-Ore		
11. Average operational hours of boiler/furnace (per month)	720 Hrs.		
12. APC System (if any)	Bag Filter		
13. Working load of source (MT/hr)	Rated -9 MVA [Running - 5.4 MVA(SEAF-1), 5.2 MVA(SEAF-2)]		
14. Fuel used	Nil (Electrically operated)		
15. Rated Fuel consumption (Kg or l/hr)	-		
16. Working Fuel consumption (Kg or l/hr)	-		
17. Nature of furnace/boiler	Submerged Electric Arc Furnace		
18. Flue Gas Temp (°C)	72.6		
19. Flue gas velocity (m/s)	8.90	20. Volume of Flue gas drawn in lit (m <sup>3</sup> )	1.008
21. Corrected flue gas volume (Nm <sup>3</sup> )	0.9528	22. Percentage of CO <sub>2</sub> & O <sub>2</sub>	CO <sub>2</sub> = 2.4% O <sub>2</sub> = 16.6%
23. To be compensated at (% if required)			
Initial wt of thimble (gm)	1.6279	25. Final wt of thimble (gm)	1.6337
26. Wt. of PM (mg)	5.80	27. Particulate matter (mg/Nm <sup>3</sup> )	6.09
28. Barometric Pressure Head (mm of Hg)	758	29. Diameter of the nozzle	9.52 mm.
30. Others -		31. Thimble Number	3816
32. Sampled by	Mr. R. Chakraborty, AEE		

04/03/2022

Date of Reporting

Junior Scientist, DRL

Scientist, DRL

Copy to:

1. Chief Engineer - Operation & Execution, WBPCB
2. Chief Scientist, WBPCB
3. Env. Engineer (DRO) / Sr. Env. Engineer (ARO), WBPCB
4. Industry

## Analysis Reports of Gaseous Emission

Identification Code: 2 4 0 2 2 0 2 2 8 3 2 9


**WEST BENGAL POLLUTION CONTROL BOARD**  
 Durgapur Regional Laboratory, Paribesh Bhawan, City Centre, Durgapur- 713 216
**Analysis done at:**

1.Name of Industry	M/s. Giridhan Metal Private Ltd.		
2.Address	Jamuria Industrial Estate, P.O: Nandi, Jamuria, Dist: Paschim Bardhaman - 713344		
3.Category & Type	Red, Iron & Steel (Ferro Div).		
4.Sampling Date	24.02.2022		
5.Duration of Sampling	25 min		
6.Name of Laboratory	M/s.Envirocheck.		
7.Height of Stack from ground (m)	80.0		
8.Cross section of Stack at sampling point (m <sup>2</sup> )	12.57		
9.Stack connected to	Rotary Kiln (350TPD) through WHRB		
10.Emission due to (Furnace / Boiler)	Oxidation of Coal & Reduction of Fe-ore		
11.Average operational hours of boiler/furnace (per month)	720 Hrs.		
12.APC System (if any)	ESP( 5 Nos. Fields)		
13.Working load of source (MT/hr)	Rated - 350 TPD (Running - 350 TPD)		
14. Fuel used	Coal		
15.Rated Fuel consumption (Kg or l /hr)	13.4 MT/Hr.		
16.Working Fuel consumption (Kg or l /hr)	13.4 MT/Hr.		
17.Nature of furnace/boiler	Rotary DRI Kiln through WHRB.		
18.Flue Gas Temp (°C)	109.06		
19.Flue gas velocity (m/s)	11.52	20.Volume of Flue gas drawn in lit (m <sup>3</sup> )	1.0
21.Corrected flue gas volume (Nm <sup>3</sup> )	0.9452	22.Percentage of CO <sub>2</sub> & O <sub>2</sub>	CO <sub>2</sub> =11.8% O <sub>2</sub> = 6.4%
23.To be compensated at (% if required)	12% CO <sub>2</sub>		
24.Initial wt of thimble (gm)	1.5885	25.Final wt of thimble (gm)	1.6032
26.Wt. of PM (mg)	14.70	27.Particulate matter (mg/Nm <sup>3</sup> )	15.55
28.Barometric Pressure Head (mm of Hg)	758	29.Diameter of the nozzle	9.52 mm
30. Others   SO <sub>2</sub>		31. Thimble Number	3817
32. Sampled by	Mr. R. Chakraborty, AEE		

04/03/2022

Date of Reporting

Junior Scientist, DRL

Scientist, DRL

Copy to:

1. Chief Engineer - Operation & Execution, WBPCB
2. Chief Scientist, WBPCB
3. Env. Engineer (DRO) / Sr. Env. Engineer (ARO), WBPCB
4. Industry

Analysis Reports of Gaseous Emission

Identification Code: 

2	4	0	2	2	0	2	2	8	3	3	1
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**WEST BENGAL POLLUTION CONTROL BOARD**  
Durgapur Regional Laboratory, Paribesh Bhawan, City Centre, Durgapur- 713 216

**Analysis done at:**

1. Name of Industry	M/s. Giridhan Metal Private Ltd.		
2. Address	Jamuria Industrial Estate, P.O: Nandi, Jamuria, Dist: Paschim Bardhaman - 713344.		
3. Category & Type	Red, Iron & Steel (Sponge Iron Div).		
4. Sampling Date	24.02.2022		
5. Duration of Sampling	30 min		
6. Name of Laboratory	M/s. Envirocheck.		
7. Height of Stack from ground (m)	30.0		
8. Cross section of Stack at sampling point (m <sup>2</sup> )	2.2707		
9. Stack connected to	Product Handling & Product Separation House. attached to common stack ( Both Units were in operation)		
10. Emission due to (Furnace / Boiler)	Process activity (Handling & separation of sponge Iron).		
11. Average operational hours of boiler/furnace (per month)	720 Hrs.		
12. APC System (if any)	Common Bag Filter		
13. Working load of source (MT/hr)	-		
14. Fuel used	Nil		
15. Rated Fuel consumption (Kg or l /hr)	-		
16. Working Fuel consumption (Kg or l /hr)	-		
17. Nature of furnace/boiler	Product Handling House & Product separation Build		
18. Flue Gas Temp (°C)	41.8		
19. Flue gas velocity (m/s)	17.07	20. Volume of Flue gas drawn in lit (m <sup>3</sup> )	1.020
21. Corrected flue gas volume (Nm <sup>3</sup> )	0.9673	22. Percentage of CO <sub>2</sub> & O <sub>2</sub>	-
23. To be compensated at (% if required)	-		
24. Initial wt of thimble (gm)	1.4740	25. Final wt of thimble (gm)	1.4784
26. Wt. of PM (mg)	4.40	27. Particulate matter (mg/Nm <sup>3</sup> )	4.55
28. Barometric Pressure Head (mm of Hg)	758	29. Diameter of the nozzle	6.35 mm.
30. Others -			
31. Thimble Number	3819		
32. Sampled by	Mr. R. Chakraborty ,AEE		

04/03/2022  
Date of Reporting

*[Signature]*  
Junior Scientist, DRL

*[Signature]* 04/03/2022  
Scientist, DRL

- Copy to:
1. Chief Engineer - Operation & Execution, WBPCB
  2. Chief Scientist, WBPCB
  3. Env. Engineer (DRO) / Sr. Env. Engineer (ARO), WBPCB
  4. Industry

*[Signatures]*



**WEST BENGAL POLLUTION CONTROL BOARD**  
Durgapur Regional Laboratory, Paribesh Bhawan, City Centre, Durgapur- 713 216

**Analysis done at:**

1.Name of Industry	M/s. Giridhan Metal Private Ltd.		
2.Address	Jamuria Industrial Estate, P.O: Nandi, Jamuria, Dist: Paschim Bardhaman – 713344.		
3.Category & Type	Red, Iron & Steel (Sponge Iron Div).		
4.Sampling Date	24.02.2022		
5.Duration of Sampling	42 min		
6.Name of Laboratory	M/s.Envirocheck.		
7.Height of Stack from ground (m)	30.0		
8. Cross section of Stack at sampling point (m <sup>2</sup> )	1.1304		
9.Stack connected to	Cooler Dishcharge of DRI (350 TPD) and Surge Bin attached to common stack (Both units were in operation)		
10.Emission due to (Furnace / Boiler)	Process activity (Cooling & Storage of Sponge Iron)		
11.Average operational hours of boiler/furnace (per month)	720 Hrs.		
12.APC System (if any)	Common Bag Filter		
13.Working load of source (MT/hr)	350 TPD		
14. Fuel used	Nil		
15.Rated Fuel consumption (Kg or l /hr)	-		
16. Working Fuel consumption (Kg or l /hr)	-		
17.Nature of furnace/boiler	Cooler Discharge of DRI kiln & Surge Bin		
18.Flue Gas Temp (°C)	38.5		
19.Flue gas velocity (m/s)	11.89	20.Volume of Flue gas drawn in lit (m <sup>3</sup> )	1.008
21.Corrected flue gas volume (Nm <sup>3</sup> )	0.9397	22.Percentage of CO <sub>2</sub> & O <sub>2</sub>	-
23.To be compensated at (% if required)	-		
24.Initial wt of thimble (gm)	1.6748	25.Final wt of thimble (gm)	1.6787
26.Wt. of PM (mg)	3.90	27.Particulate matter (mg/Nm <sup>3</sup> )	4.15
28.Barometric Pressure Head (mm of Hg)	758	29.Diameter of the nozzle	6.35 mm.
30. Others -		31. Thimble Number	3818
32. Sampled by	Mr. R. Chakraborty, AEE		

04/03/2022  
Date of Reporting

*R. Chakraborty*  
Junior Scientist, DRL

*R. Chakraborty* 04/03/2022  
Scientist, DRL

- Copy to:
1. Chief Engineer - Operation & Execution, WBPCB
  2. Chief Scientist, WBPCB
  3. Env. Engineer (DRO) / Sr. Env. Engineer (ARO), WBPCB
  4. Industry



# Qualissure Laboratory Services

361, Prantick Pally, 45/361, Bose Pukur Road, Kolkata -700107  
Email : qualissure@gmail.com; info@qualissure.com ; Mob.No. 98312 87086 ; 9830093976



DOC NO : QLS/SAMP/08-B/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b>	ULR No.	: TC627122000005278F
M/s. Giridhan Metal Pvt Ltd.	Report No.	: QLS/A/22-23/C/543
Jamuria Industrial Estate,	Date	: 08.11.2022
Damodarpur, Jamuria	Sample No.	: QLS/A/22-23/543
P.O. - Nandi,	Sample Description	: Stack Flue Gas
Paschim Bardhaman ,	Date of Performance(s)	: 17.10.2022 - 22.10.2022
Pin : 713 344	Sample Mark	: Product Handling & Separation House
	Ref No. Date	: WS22714-001, Dt.14.07.2022

## Analysis Result

Date & Time of Sampling : 13.10.2022 at 12:30 P.M.	Sampling Procedures : EPA/IS		
Sampling done by : S.Ghosh			
<b>A : General Information of Stack:</b>			
1 Stack connected to	: Product Handling & Product Separation House (attached with common Stack)		
2 Emission due to	: process Activity		
3 Material of construction of Stack	: M.S		
4 Shape of Stack	: Circular		
5 Whether stack is provided with permanent platform	: Yes		
6 Generation Capacity	: ---		
<b>B : Physical Characteristic of Stack:</b>			
1 Height of Stack from ground level	: 30.0 m		
2 Diameter of Stack at bottom	: ---		
3 Diameter of Stack at sampling point	: 1.7 m		
4 Height of the sampling point from ground level	: 20.0 m(Apx)		
5 Area of Stack	: 2.2707 m <sup>2</sup>		
<b>C : Analysis/Characteristic of Stack:</b>			
1 Fuel used : --	2. Fuel consumption : --		
<b>D : Results of Sampling &amp; Analysis of gaseous Emission:</b>			
	<b>RESULT</b>	<b>METHOD</b>	<b>LIMIT</b>
1 Temperature of emission (°C)	: 51	EPA Part 2	---
2 Barometric pressure (mm of Hg)	: 751	EPA Part 2	---
3 Velocity of gas (m/sec)	: 8.16	EPA Part 2	---
4 Quantity of gas flow (Nm <sup>3</sup> /hr)	: 60648	EPA Part 2	---
5 Concentration of Carbon monoxide(%v/v)	: <0.2	IS:13270-1992, Reaf : 2017	---
6 Concentration of Carbon dioxide(%v/v)	: <0.2	IS:13270-1992, Reaf : 2017	---
7 Concentration of Sulphur dioxide (mg/Nm <sup>3</sup> )	: ---	EPA Part-6	---
8 Concentration of Oxides of Nitrogen (mg/Nm <sup>3</sup> )	: ---	EPA Part-7	---
9 Concentration of Particulate Matters (mg/Nm <sup>3</sup> )	: 11	EPA Part 5	100
<b>E : Pollution Control Device :</b>			
Details of pollution control devices attached with the stack	: Bag Filter		
<b>F : Remarks:</b> Nil			
Note: 1) Equipment Name/ID	: Stack Sampler & Velocity Monitor		
2) Model No	: APM-160		
3) Make-	: LataEnvirotech Services		
4) SI No-	: 82-DTF-2016		
5) Calibration valid Up to	: 06.08.2023		

for Qualissure Laboratory Services

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# Qualissure Laboratory Services

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TC-6271

DOC NO : QLS/SAMP/08-B/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> M/s. Giridhan Metal Pvt Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O. - Nandi, Paschim Bardhaman , Pin : 713 344	ULR No.	: TC627122000005279F
	Report No.	: QLS/A/22-23/C/544
	Date	: 08.11.2022
	Sample No.	: QLS/A/22-23/544
	Sample Description	: Stack Flue Gas
	Date of Performance(s)	: 17.10.2022-22.10.2022
	Sample Mark	: Cooler Discharge of 350 TPD DRI
Ref No. Date	: WS22714-001, Dt.14.07.2022	

### Analysis Result

Date & Time of Sampling : 14.10.2022 at 12:00 P.M. Sampling done by : S.Ghosh	Sampling Procedures : EPAIS		
<b>A : General Information of Stack:</b>			
1 Stack connected to	: Cooler discharge & Surge Bin of 350 TPD DRI Attached with Common Stack		
2 Emission due to	: Process Activity		
3 Material of construction of Stack	: M.S		
4 Shape of Stack	: Circular		
5 Whether stack is provided with permanent platform	: Yes		
6 Generation Capacity	: ----		
<b>B : Physical Characteristic of Stack:</b>			
1 Height of Stack from ground level	: 30.0 m		
2 Diameter of Stack at bottom	: ----		
3 Diameter of Stack at sampling point	: 1.20		
4 Height of the sampling point from ground level	: 20.0 m (Apx)		
5 Area of Stack	: 1.1314 m <sup>2</sup>		
<b>C : Analysis/Characteristic of Stack:</b>			
1 Fuel used : --	2. Fuel consumption : --		
<b>D : Results of Sampling &amp; Analysis of gaseous Emission:</b>			
	<b>RESULT</b>	<b>METHOD</b>	<b>LIMIT</b>
1 Temperature of emission (°C)	: 42	EPA Part 2	---
2 Barometric pressure (mm of Hg)	: 752	EPA Part 2	---
3 Velocity of gas (m/sec)	: 9.41	EPA Part 2	---
4 Quantity of gas flow (Nm <sup>3</sup> /hr)	: 35841	EPA Part 2	---
5 Concentration of Carbon monoxide(%v/v)	: <0.2	IS:13270-1992, Reaf : 2017	---
6 Concentration of Carbon dioxide(%v/v)	: <0.2	IS:13270-1992, Reaf : 2017	---
7 Concentration of Sulphur dioxide (mg/Nm <sup>3</sup> )	: ----	EPA Part-6	---
8 Concentration of Oxides of Nitrogen (mg/Nm <sup>3</sup> )	: ----	EPA Part-7	---
9 Concentration of Particulate Matters (mg/Nm <sup>3</sup> )	: 8	EPA Part 5	100
<b>E : Pollution Control Device :</b>			
Details of pollution control devices attached with the stack	: Bag Filter		
<b>F : Remarks:</b> Nil			
Note: 1) Equipment Name/ID	: Stack Sampler & Velocity Monitor		
2) Model No	: APM-160		
3) Make-	: Lata Envirotech Services		
4) Sl No-	: 82-DTF-2016		
5) Calibration valid Up to	: 06.08.2023		

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*(Signature)*

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DOC NO : QLS/SAMP/08-B/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> M/s. Giridhan Metal Pvt Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O. - Nandi, Paschim Bardhaman, Pin : 713 344	ULR No.	: TC627122000005280F
	Report No.	: QLS/A/22-23/C/545
	Date	: 08.11.2022
	Sample No.	: QLS/A/22-23/545
	Sample Description	: Stack Flue Gas
	Date of Performance(s)	: 17.10.2022-22.10.2022
	Sample Mark	: Rotary Kiln (350 TPD & 600 TPD DRI)
	Ref No. Date	: WS22714-001, Dt.14.07.2022

## Analysis Result

Date & Time of Sampling : 14.10.2022 at 03:50 P.M. Sampling done by : S.Ghosh	Sampling Procedures : EPA/IS		
<b>A : General Information of Stack:</b>			
1 Stack connected to	: Attached With Common Stack 350 TPD & 600 TPD DRI		
2 Emission due to	: Combustion of Coal & Reduction of Fe Ore		
3 Material of construction of Stack	: RCC		
4 Shape of Stack	: Circular		
5 Whether stack is provided with permanent platform	: Yes		
6 Generation Capacity	: Rated -350 TPD for 350 TPD DRI & 600 TPD for 600 TPD DRI		
<b>B : Physical Characteristic of Stack:</b>			
1 Height of Stack from ground level	: 80.0 m		
2 Diameter of Stack at bottom	: ---		
3 Diameter of Stack at sampling point	: 4.0m		
4 Height of the sampling point from ground level	: 35.0 m		
5 Area of Stack	: 12.57 m <sup>2</sup>		
<b>C : Analysis/Characteristic of Stack:</b>			
1 Fuel used : Coal	2. Fuel consumption: 315 TPD for 350 TPD DRI & 540 TPD for 600 TPD DRI		
<b>D : Results of Sampling &amp; Analysis of gaseous Emission:</b>			
	<b>RESULT</b>	<b>METHOD</b>	<b>LIMIT</b>
1 Temperature of emission (°C)	: 95	EPA Part 2	---
2 Barometric pressure (mm of Hg)	: 751	EPA Part 2	---
3 Velocity of gas (m/sec)	: 8.02	EPA Part 2	---
4 Quantity of gas flow (Nm <sup>3</sup> /hr)	: 290105	EPA Part 2	---
5 Concentration of Carbon monoxide(%v/v)	: <0.2	IS:13270-1992, Reaf : 2017	---
6 Concentration of Carbon dioxide(%v/v)	: 9.8	IS:13270-1992, Reaf : 2017	---
7 Concentration of Sulphur dioxide (mg/Nm <sup>3</sup> )	: 87.4	EPA Part-6	---
8 Concentration of Oxides of Nitrogen (mg/Nm <sup>3</sup> )	: 69.6	EPA Part-7	---
9 Concentration of Particulate Matters (mg/Nm <sup>3</sup> )	: 22	EPA Part 5	100
<b>E : Pollution Control Device :</b>			
Details of pollution control devices attached with the stack	: ESP		
<b>F : Remarks: Nil</b>			
Note: 1) Equipment Name/ID	: Stack Sampler & Velocity Monitor		
2) Model No	: APM-160		
3) Make-	: LataEnvirotech Services		
4) SI No-	: 82-DTF-2016		
5) Calibration valid Up to	: 06.08.2023		

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TC-6271

DOC NO : QLS/SAMP/08-B/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O. - Nandi, Paschim Bardhaman, Pin : 713 344	ULR No.	: TC627122000005281F
	Report No.	: QLS/A/22-23/C/546
	Date	: 08.11.2022
	Sample No.	: QLS/A/22-23/546
	Sample Description	: Stack Flue Gas
	Date of Performance(s)	: 17.10.2022-22.10.2022
	Sample Mark	: SEAF(9 MVA X 2)
	Ref No. Date	: WS22714-001, Dt.14.07.2022

## Analysis Result

Date & Time of Sampling : 15.10.2022 at 12:55 P.M.		Sampling Procedures : EPA/IS	
Sampling done by : S.Ghosh			
<b>A : General Information of Stack:</b>			
1 Stack connected to	: SEAF (9 MVA X 2)		
2 Emission due to	: Reduction Of Mn Ore & Quartz		
3 Material of construction of Stack	: M.S		
4 Shape of Stack	: Circular		
5 Whether stack is provided with permanent platform	: Yes		
6 Generation Capacity	: 9 MVA X 2 (Both Were Running at Sampling Time)		
<b>B : Physical Characteristic of Stack:</b>			
1 Height of Stack from ground level	: 40.0 m		
2 Diameter of Stack at bottom	: ---		
3 Diameter of Stack at sampling point	: 2.5 m		
4 Height of the sampling point from ground level	: 27.0 m		
5 Area of Stack	: 4.91 m <sup>2</sup>		
<b>C : Analysis/Characteristic of Stack:</b>			
1 Fuel used :--	2. Fuel consumption : --		
<b>D : Results of Sampling &amp; Analysis of gaseous Emission:</b>			
	<b>RESULT</b>	<b>METHOD</b>	<b>LIMIT</b>
1 Temperature of emission (°C)	: 92	EPA Part 2	---
2 Barometric pressure (mm of Hg)	: 751	EPA Part 2	---
3 Velocity of gas (m/sec)	: 10.47	EPA Part 2	---
4 Quantity of gas flow (Nm <sup>3</sup> /hr)	: 149393	EPA Part 2	---
5 Concentration of Carbon monoxide(%v/v)	: <0.2	IS:13270-1992, Reaf : 2017	---
6 Concentration of Carbon dioxide(%v/v)	: 0.6	IS:13270-1992, Reaf : 2017	---
7 Concentration of Sulphur dioxide (mg/Nm <sup>3</sup> )	: ---	EPA Part-6	---
8 Concentration of Oxides of Nitrogen (mg/Nm <sup>3</sup> )	: ---	EPA Part-7	---
9 Concentration of Particulate Matters (mg/Nm <sup>3</sup> )	: 29	EPA Part 5	100
<b>E : Pollution Control Device :</b>			
Details of pollution control devices attached with the stack		: Bag Filter	
<b>F : Remarks:</b> Nil			
Note: 1) Equipment Name/ID	: Stack Sampler & Velocity Monitor		
2) Model No	: APM-160		
3) Make-	: Lata Envirotech Services		
4) SI No-	: 82-DTF-2016		
5) Calibration valid Up to	: 06.08.2023		

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## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> M/s. Giridhan Metal Pvt Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O. - Nandi, Paschim Bardhaman, Pin : 713 344	Report No.	: QLS/A/22-23/C/867
	Date	: 14.02.2023
	Sample No.	: QLS/A/22-23/867
	Sample Description	: Stack Flue Gas
	Date of Performance(s)	: 22-28.01.2023
	Sample Mark	: Rotary Kiln (350 TPD & 600 TPD DRI)
	Ref No. Date	: WS22714-001, Dt.14.07.2022

### Analysis Result

Date & Time of Sampling : 20.01.2023 at 03:30 P.M.		Sampling Procedures : EPA/IS	
Sampling done by : S.Ghosh			
<b>A : General Information of Stack:</b>			
1	Stack connected to	: Attached With Common Stack 350 TPD & 600 TPD DRI	
2	Emission due to	: Combustion of Coal & Reduction of Fe Ore	
3	Material of construction of Stack	: RCC	
4	Shape of Stack	: Circular	
5	Whether stack is provided with permanent platform	: Yes	
6	Generation Capacity	: Rated -350 TPD for 350 TPD DRI & 600 TPD for 600 TPD DRI	
<b>B : Physical Characteristic of Stack:</b>			
1	Height of Stack from ground level	: 80.0 m	
2	Diameter of Stack at bottom	: ---	
3	Diameter of Stack at sampling point	: 4.0m	
4	Height of the sampling point from ground level	: 35.0 m	
5	Area of Stack	: 12.57 m <sup>2</sup>	
<b>C : Analysis/Characteristic of Stack:</b>			
1	Fuel used : Coal	2.Fuel consumption: 315 TPD for 350 TPD DRI & 540 TPD for 600 TPD DRI	
<b>D : Results of Sampling &amp; Analysis of gaseous Emission:</b>			
		<b>RESULT</b>	<b>METHOD</b>
1	Temperature of emission (°C)	: 155	EPA Part 2
2	Barometric pressure (mm of Hg)	: 754	EPA Part 2
3	Velocity of gas (m/sec)	: 7.52	EPA Part 2
4	Quantity of gas flow (Nm <sup>3</sup> /hr)	: 226523	EPA Part 2
5	Concentration of Carbon monoxide(%v/v)	: <0.2	IS:13270-1992, Reaf : 2017
6	Concentration of Carbon dioxide(%v/v)	: 10.0	IS:13270-1992, Reaf : 2017
7	Concentration of Sulphur dioxide (mg/Nm <sup>3</sup> )	: 91.0	EPA Part-6
8	Concentration of Oxides of Nitrogen (mg/Nm <sup>3</sup> )	: 69.0	EPA Part-7
9	Concentration of Particulate Matters (mg/Nm <sup>3</sup> )	: 8.4 at 12% CO <sub>2</sub>	EPA Part 5
			30
<b>E : Pollution Control Device :</b>			
	Details of pollution control devices attached with the stack	: ESP	
<b>F : Remarks: Nil</b>			
Note:	1) Equipment Name/ID	: Stack Sampler & Velocity Monitor	
	2) Model No	: APM-160	
	3) Make-	: LataEnvirotech Services	
	4) SI No-	: 82-DTF-2016	
	5) Calibration valid Up to	: 06.08.2023	

Report Prepared By :

for Qualissure Laboratory Services

Reviewed & Authorized By



(Benimadhab Gorai, Chemist)  
(Authorized Signatory)

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## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> M/s. Giridhan Metal Pvt Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O. - Nandi, Paschim Bardhaman, Pin : 713 344	Report No.	: QLS/A/22-23/C/868
	Date	: 14.02.2023
	Sample No.	: QLS/A/22-23/868
	Sample Description	: Stack Flue Gas
	Date of Performance(s)	: 22-28.01.2023
	Sample Mark	: SEAF
	Ref No. Date	: WS22714-001, Dt.14.07.2022

### Analysis Result

Date & Time of Sampling : 21.01.2023 at 03:28 P.M. Sampling done by : S.Ghosh	Sampling Procedures : EPA/IS		
<b>A : General Information of Stack:</b>			
1 Stack connected to	: SEAF (9 MVA X 2)		
2 Emission due to	: Reduction Of Mn Ore & Quartz		
3 Material of construction of Stack	: M.S		
4 Shape of Stack	: Circular		
5 Whether stack is provided with permanent platform	: Yes		
6 Generation Capacity	: 9 MVA X 2 (Both Were Running at Sampling Time)		
<b>B : Physical Characteristic of Stack:</b>			
1 Height of Stack from ground level	: 40.0 m		
2 Diameter of Stack at bottom	: ---		
3 Diameter of Stack at sampling point	: 1.8 m		
4 Height of the sampling point from ground level	: 27.0 m		
5 Area of Stack	: 2.54 m <sup>2</sup>		
<b>C : Analysis/Characteristic of Stack:</b>			
1 Fuel used : Coal	2. Fuel consumption : 315 TPD		
<b>D : Results of Sampling &amp; Analysis of gaseous Emission:</b>			
	<b>RESULT</b>	<b>METHOD</b>	<b>LIMIT</b>
1 Temperature of emission (°C)	: 70	EPA Part 2	---
2 Barometric pressure (mm of Hg)	: 754	EPA Part 2	---
3 Velocity of gas (m/sec)	: 8.94	EPA Part 2	---
4 Quantity of gas flow (Nm <sup>3</sup> /hr)	: 136160	EPA Part 2	---
5 Concentration of Carbon monoxide(%v/v)	: <0.2	IS:13270-1992, Reaf : 2017	---
6 Concentration of Carbon dioxide(%v/v)	: <0.2	IS:13270-1992, Reaf : 2017	---
7 Concentration of Sulphur dioxide (mg/Nm <sup>3</sup> )	: 32.9	EPA Part-6	---
8 Concentration of Oxides of Nitrogen (mg/Nm <sup>3</sup> )	: 23.6	EPA Part-7	---
9 Concentration of Particulate Matters (mg/Nm <sup>3</sup> )	: 19	EPA Part 5	30
<b>E : Pollution Control Device :</b>			
Details of pollution control devices attached with the stack		: Bag Filter	
<b>F : Remarks: Nil</b>			
Note: 1) Equipment Name/ID	: Stack Sampler & Velocity Monitor		
2) Model No	: APM-160		
3) Make-	: LataEnvirotech Services		
4) SI No-	: 82-DTF-2016		
5) Calibration valid Up to	: 06.08.2023		

Report Prepared By :

for Qualissure Laboratory Services  
 Reviewed & Authorized By  
  
 (Benimadhab Gorai, Chemist)  
 (Authorized Signatory)

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# GIRIDHAN METAL PRIVATE LIMITED

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Telefax : +91 33 2289 2734 / 35 / 36, E-mail : [giridhanmetal@gmail.com](mailto:giridhanmetal@gmail.com), CIN : U27320WB2019PTC234675

Annexure - 5

## Action Plan for Resource Conservation and Environment Improvement

M/s Giridhan Metal Private Limited has taken the following steps towards resource conservation and environmental improvement. It has also future plan to minimize the resources depletion, the initiatives that have been/ will be taken by the Giridhan Metal Private Limited are as follows –

1. Entire waste/dust generated from DRI plant is being/will be completely reused inside the plant premises in the production process itself. e.g. dolochar generated from DRI kiln is being/will be reused in CPP for power generation. Coal fines and dust extraction dust generated from the process is being/will be reused in CPP for power generation.
2. Waste heat of DRI gas is being/will be reused for power generation through WHRB. In its expansion plan the company has only opted for power generation through WHRB.
3. The wastes generated from CPP are also reused. The fly ash generated from CPP is being/will be reused for making bricks. Bed ash is being/will be reused for making paver blocks.
4. For conservation of water, GMPL is being/will be taken many steps e.g. A) water is being/will be recycled in all divisions in maximum possible, to achieve this the company installed/will be installed water softner in each divisions. B) Company is being/will be taken initiatives towards rain water harvesting division wise. C) Company will install an effluent treatment plant of capacity 1500 KLD for treatment of waste water, generated from entire plant and will be reused in dust suppression, green belt development, cooler of DRI, ash conditioning, road sprinkling etc.
5. Company has already entered into agreement with M/s Tata Power for installation of solar power of capacity 250 KW on rooftop of administrative building & other buildings.
6. Company has/will be installed led light in plant premises in maximum extent, where possible. Company has/will be installed power saving drive in motors. It has also plan for third party energy audit.
7. Company is planning to install a bio methane gas plant near canteen, the generated gas will be reused in kitchen and waste of gas will be reused as manure.
8. Company is being/will be installed appropriate pollution control systems in each and every dust generation points. A road sweeping machine and a water tanker is being engaged by the GMPL for control the fugitive dust generated from road during transportation. The entire raw materials & product conveyors are covered by canopy. Closed conveying system has been/will be adopted for ESP and Bag Filter dust conveying.
9. Giridhan Metal Private Limited has plan to take Environment Management System (ISO 14001:2015) certification at the earliest.





## ISGEC HEAVY ENGINEERING LTD.

IJT BOILERS

Project Name : M/s. Giridhan Metal Private Limited (JB1171)

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Tel.: +91-120-4085000 / 01 / 02  
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### Sox formation and it's Reduction method in CFB boiler

#### Sox formation

Sulfur oxides are the gaseous products of the oxidation of sulfur (mainly from fuel) by oxygen (from combustion air). The primary product of oxidation of the fuel sulfur is SO<sub>2</sub>.

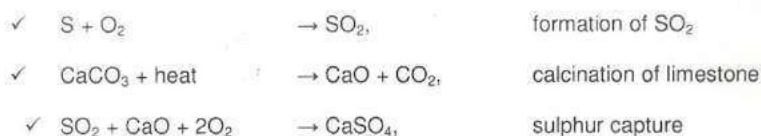
#### Descriptions and Features De SO<sub>x</sub> System in CFB Technology:

CFB has been proven to be quite effective in the reduction of SO<sub>2</sub> emissions. Reduction of SO<sub>2</sub> emissions, in CFB is accomplished by the injection of limestone into the furnace. The CFB boiler is suitable for SO<sub>2</sub> reduction of 98% with the following features by injecting lime stone in the CFB furnace

- Appropriate Furnace temperature (Typically 870- 910Deg.C) is maintained throughout the furnace which is effective temperature range for better sulphur capture.
- Furnace is designed with adequate height to have adequate gas and sorbent residence time.
- The time of contact between the formed SO<sub>2</sub> and the capturing Ca is taken into account via the furnace residence time and the separator
- Limestone feed system is designed to have even distribution of limestone over the furnace cross section.
- Optimum particle size distribution of sorbent (Lime stone) shall be maintained for effective sulphur capture.
- Compact separator of CFB boiler which collects the unburnt solids particle and un reacted limestone particles of size above 63 microns which are sent back to furnace for effective utilization of limestone and capture

#### Process Description:

- The sorbent (Limestone) is calcined using a small amount of the heat generated by combustion of the fuel and can then react with gaseous sulphur to generate a solid sulphate (CaSO<sub>4</sub>) which is either captured in the ESP or it is retained in the bed material and removed as bottom ash.
- The primary reactions involved in the generation and reduction of SO<sub>2</sub> emissions with calcium-based sorbents are:



Due to proven state of art CFB combustion technology with above method, the Sox produced is lesser than the permissible limit.



BOILERS

Isgec Heavy Engineering Ltd  
Noida 201 301 (U. P.) India  
CIN: L23423HR1933PLC000097



IJT BOILERS

ISGEC HEAVY ENGINEERING LTD.

Project Name : M/s. Giridhan Metal Private Limited (JB1171)

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## NOx Emission control in CFB boiler

NOx emissions from CFB boilers are much lower when compared with emissions from other combustion technology.

### NOx Formation and it's control method:

- **Combustion temperature** : At higher temperatures (in excess of 1100 °C) a fraction of the nitrogen in the combustion air also reacts with oxygen to form NOx. However, Due to the lower combustion temperature 870 – 910 °C found in fluidized bed combustion as opposed to temperatures in excess of 1100 °C encountered in other combustion systems, very little thermal NOx is formed which will be negligible.
- **Extent of air staging** : Reduction in NOx emissions results from the staged combustion utilized in CFB boilers. Staged combustion will take place effectively by means of Secondary air provided in Front & Rear walls of Combustor with multiple locations to avoid any NOx formation in flue gases.
- **Excess air level** : In addition to the Stoichiometric air required for Combustion of CFB Boilers, excess air is supplied for complete fuel oxidation in order to ensure proper combustion in Furnace to eliminate NOx.

Due to proven state of art CFB combustion technology with above precautions the NOx produced is lesser than the permissible limit.

  
  
BOILERS  
ISGEC Heavy Engineering Ltd  
Noida (U. P.) India

CIN: U27320WB2019PTC234675

**GIRIDHAN METAL PRIVATE LIMITED**

Registered Office: 'Premlata', 39, Shakespeare Sarani, 2<sup>nd</sup> Floor, Kolkata - 700 017, West Bengal, India.  
Telefax- +91 33 22892734 / 35 / 36. E-Mail : giridhanmetal@gmail.com

GMPL/KOL/L-01/23-24

Date : 02.05.2023

**LOI****AQUATREAT ENGINEERING PVT. LTD.**

68, Bidhan Sarani,  
Kolkata - 700 006

Kind Attn. : **Mr. S. Chowdhury**Subject : **LO for supply for Supply of ETP**Reference : **Offer no. AQ/51-R6/22-23/23-24/003 Dated 08.04.2023**

Dear Sir,

With reference to the above, we are pleased to place LOI on you for Supply of **1540 KLD Capacity Effluent Treatment Plant**.

**Total Price : Rs. 1,75,00,000.00 (Rupees One Crore Seventy Five Lakhs Only)**

Qty : 01 No

1. **PRICE BASIS :** FOR at our GMPL Plant.2. **PAYMENT TERMS :**

- A) 10% order advance against submission of proforma invoice
- B) 10% against drawing approval.
- C) 70% alongwith 100% GST subject to inspection clearance prior to despatch.
- D) Balance 10% after successful commissioning against submission of 10% PBG. PBG should be valid for 12 months from the date of commissioning or 18 months from the date of last supply whichever is earlier. We will return your PBG after expiry of claim period. PBG should be as per format.

3. Detail specification as per attached annexure.

4. **DELIVERY**

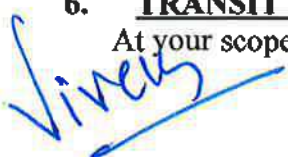
Within 3 - 4 months from the date of LOI / order.

5. **TRANSPORTATION & FREIGHT**

At your scope.

6. **TRANSIT INSURANCE**

At your scope.



## 7. LIQUIDATED DAMAGE CLAUSE

The Contract shall be governed by standard LD Clause which shall be applicable for the delay in supply beyond the agreed delivery schedule @.5% of the basic order value for the delay per week or part thereof. Such deduction of LD shall not exceed 5% of the total (basic) order value. This LD shall be applicable for the portion of order not executed within the agreed delivery schedule.

## 8. INSPECTION

At your site. You should give us minimum 10 days prior information from the date of inspection. Stage inspection will be applicable. We can send our representative or 3<sup>rd</sup> party inspector for inspection purpose. We will pay the inspection payment from our end. If the final inspection is not completed within the due stipulated time period of 10 days, the inspection shall be either considered as completed or GMPL has waived the inspection,

## 9. GUARANTEE

Supplier shall give Guarantee that the materials supplied by them shall be free from any defects and shall be of good workmanship and materials, in accordance with Contract Specification/PO and shall under normal operations; show no defect in performance due to material, design, and workmanship. **All Materials shall be new & unused.**

The Supplier obligation as to all Materials under the aforesaid Guarantee shall be effected for **Twelve (12) months** from the date of successful commissioning or **Eighteen (18) months** from delivery of last material at GMPL site whichever is earlier.

## 10. FORCE MAJEURE

The supplier shall not be considered in default in the supplies of the ordered obligations under the purchase order so long as such delivery is prevented or delayed for reasons beyond control including acts of God and severe earth quake, cyclone (Except monsoon), Flood, Land slide acts of nature, war, riot etc.

Under such circumstances, you will inform us within 7 days and suitable action is to be taken with mutual consent should the supplier be prohibited from fulfilling obligations under this order by a state of force majeure, the date of fulfillment of the obligation of the supplier shall be extended in proportion to the time during the circumstances prevailing at that time.

11. **JURIDICATION** : The Purchase Order is governed in accordance with LAWS OF INDIA and is subject to the jurisdiction of Courts of Kolkata.

12. **RISK PURCHASE CALUSE** : Applicable

13. **JURISDICTION** : Kolkata

14. **PACKING & FORWARDING** : Inclusive with the above price.

15. **SUPERVISION OF ERECTION & COMMISSIONING** : Free of cost. We will provide lodging, boarding at free of cost.

Kindly acknowledge and confirm acceptance. You will get the detail order shortly.

Thanking you

  
Vivek Srivastava

GM Procurement



# AQUATREAT ENGINEERING PVT. LTD

Water Effluent & Sewage Treatment Engineers  
ISO 9001:2015 CERTIFIED COMPANY

## B. Input & Output Water Quality & Quantity after ACF:

Sl. No.	Parameters	Unit	Input	ACF Output
01.	Capacity	Cum/day	<b>1540</b>	<b>1440</b>
02.	Duration of Operation per day	Hrs.	24	24
03.	Flow Rate	Cum/hr.	<b>65</b>	<b>60</b>
04.	pH	-	7.73	5.5 - 9.0
05.	BOD	mg/l	<b>240</b>	≤ 10
06.	COD	mg/l	216	≤ 50
07.	O & G	mg/l	123	≤ 5
08.	TSS	mg/l	<b>2000</b>	≤ 10
09.	Iron	mg/l	3.60	≤ 0.3
10.	TDS	mg/l	1000	1100 - 1200

## C. Technical Specifications:

Sl. No.	Equipment Description	Description	Qty	MOC
<b>A.</b>	<b><i>Civil Work - Client's Scope.</i></b>			
1.	Inlet Channel	0.5 m wide x 0.3 m ht. + IL	1 No.	RCC
2.	O & G Chamber	Effective volume - 22 cum Dimension - 5.0 m x 2.0 m x (2.2 SWD m + 0.3 m FB + IL)	1 No.	RCC
3.	Equalization Tank	Effective volume - 225 cum Dimension - 9.0 m x 5.0 m x (5.0 m SWD m + 0.3 m FB + IL)	1 No.	RCC
4.	Flash Mixer	Effective volume - 2.034 cum Dimension - 1.2 m dia. x 1.8 m SWD + 0.75 m FB)	1 No.	RCC
5.	Flocculator	Effective volume - 15.38 cum Dimension - 2.8 m dia. x 2.5 m SWD + 0.3 m FB)	1 No.	RCC
6.	Primary Clarifier	Effective volume - 137.93 cum Dimension - 6.8 m dia. x 3.8 m SWD + 0.5 m FB)	1 No.	RCC
7.	Aeration Tank	Effective volume - 240 cum Dimension - 10 m x 6 m x 4 m SWD + 0.6 m FB	1 No.	RCC

63, Bidhan Sarani, Kolkata - 700 006, West Bengal, India.

Additional Place of Business: 6A Duff Lane, Kolkata-700006

UAN No.-WB10A0010134, CIN No.- U29197WB1995PTC071152

Call: (033) 2352-0033, 2360-9265, 2241-0774, Fax: 0091-33-2354-1791,

e-mail: [info@aquatreatindia.com](mailto:info@aquatreatindia.com) Website: [www.aquatreatindia.com](http://www.aquatreatindia.com)



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Sl. No.	Equipment Description	Description	Qty	MOC
8.	Secondary Settling Tank	Effective volume - 145 cum Dimension - 6.8 m dia. x 4.0 m SWD + 0.5 m FB)	1 No.	RCC
9.	Disinfection Chamber	Effective volume - 65.45 cum Dimension - 5.5 m x 3.4 m x 3.5 m SWD + 0.3 m FB	1 No.	RCC
10.	Filtered Water Storage Tank	Effective volume - 100 cum Dimension - 5.5 m x 5.5 m x 3.5 m SWD + 0.3 m FB	1 No.	RCC
11.	Sludge Holding Tank	Effective volume - 50.46 cum Dimension - 5.8 m x 2.9 m x 3.0 m SWD + 0.3 m FB	1 No.	RCC
12.	Shed for Screw Press with accessories & Panel	Dimension - 8.5 m x 6.0 m x 4.5 m	1 No.	RCC/ BW
13.	Foundation for Electromechanical equipment	As required	1 Lot	RCC/ BW
14.	Stairs, Ladders, Platform etc.	As required	1 Lot	RCC/ BW

**Note:**

As discussed, structural design & drawing will be provided by us along with dimensional drawing of all civil structures. However, a detailed soil survey/investigation report to be provided by your good self.

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Sl. No.	Item	Description	Qty	MOC
<b>B.</b>	<b><i>Electromechanical Equipment – AEPL Scope</i></b>			
1.	Bar Screen with 10 mm slot	Suitable for flow of 60 cum/hr.	01 set	SS-304
2.	Tube Type Oil Skimmer cantilever type complete with motor and accessories	10 - 15 LPH	02 set	MSEP
3.	Alum solution Preparation Tank	1200 Lts	01 no	FRP
4.	Agitator for Alum solution preparation tank	0.5 HP motor with gearbox, base frame, shaft & impeller	01 set	MS
5.	Alum solution Dosing Tank	1200 Lts	01 no	FRP
6.	Alum dosing Pump	0 – 200 LPH @ 5.0 Bar	02 sets	PP
7.	Pipeline for alum solution Dosing system	20 nb.	01 Lot	uPVC
8.	PE solution Preparation Tank	1200 Lts	01 no	FRP
9.	Agitator for PE solution preparation tank	0.5 HP motor with gearbox, base frame, shaft & impeller	01 set	MS
10.	PE solution Dosing Tank	1200 Lts	01 no	FRP
11.	PE dosing Pump	0 – 200 LPH @ 5.0 Bar	02 sets	PP
12.	Pipeline for PE solution Dosing system	25 nb.	01 Lot	uPVC
13.	Agitator for Flash Mixer with motor, gearbox, base frame, shaft, bearing housing etc.	1.0 HP motor with gearbox, base frame, shaft & impeller	01 sets	MS
14.	Flocculator paddles with motor, gearbox, base frame, shaft, bearing housing etc.	0.5 HP motor with gearbox, base frame, shaft & impeller	01 sets	MS

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Sl. No.	Item	Description	Qty	MOC
15.	Horizontal, Centrifugal, Effluent Transfer Pump complete with motor, base frame, coupling, coupling guard etc.	60 cum/hr. @ 12 - 15 mwc	02 sets (1W+1SB)	CI
16.	Mechanical equipment for Primary Clarifier completes with fixed full bridge, feed well, motor, gearbox bearing housing capstan head, and scrapper assembly etc.	Suitable for 6.8 m dia. Clarifier.	01 set	MSEP
17.	Twin lobe rotary air blower complete with motor and all standard accessories.	1000 cum/hr. @ 0.5 Bar (For Air to O & G Tank, Equalization Tank, Aeration Tank & Sludge Holding Tank)	02 sets (1W+1SB)	CI
18.	Acoustic Hood suitable for above mentioned Blower.		01 Lot	-
19.	Fine bubble membrane Diffuser	63 mm dia. x 600 mm long	01 lot	EPDM
20.	Diffuser network	100 mm & 40 mm	01 lot	uPVC/ MS
21.	Mechanical equipment for Secondary Clarifier completes with fixed full bridge, feed well, motor, gearbox bearing housing capstan head, and scrapper assembly etc.	Suitable for 6.8 m dia. Secondary Settling Tank.	01 set	MSEP

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Sl. No.	Item	Description	Qty	MOC
22.	Fittings for Compressed Air (3.5 - 4.0 Bar) Line at Sludge line of Primary Clarifier.	25 nb	1 set	GI
23.	Fittings for Pressurized water (2.5 - 4.0 Bar) line at sludge line of Primary Clarifier	40 nb	1 set	uPVC
24.	Horizontal, Centrifugal, Sludge Recirculation Pump complete with motor, base frame, coupling, coupling guard etc.	60 cum/hr. @ 6 - 8 mwc	02 sets (1W+1SB)	CI
25.	Ultraviolet Sterilizer completes with accessories.	Suitable for flow of 60 cum/hr.	01 set	PP
26.	Horizontal, Centrifugal, Filter Feed Pump complete with motor, base frame, coupling, coupling guard etc.	60 cum/hr. @ 20 - 25 mwc	02 sets (1W+1SB)	CI
27.	Multi-grade Filter of capacity 60 cum/hr. complete with frontal pipeline, butterfly valves, suitable filter media and accessories.	2.2 m dia. x 1.8 m HOS	01 set	MS
28.	Activated Carbon Filter of capacity 60 cum/hr. complete with frontal pipeline, butterfly valves, suitable filter media and accessories.	2.1 m dia. x 1.8 m HOS	01 set	MS

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Sl. No.	Item	Description	Qty	MOC
29.	Interconnecting pipeline & valves			
a.	Pressure Line	100 NB	01 lot	MS/uPVC
b.	Gravity Line	200 & 250 NB	01 lot	MS/uPVC
c.	Sludge Line	100 NB	01 lot	MS/CI
30.	Screw Press Feed Pump	Capacity 10 cum/hr. @ 2.5 Bar	02 sets (1W+1SB)	CI
31.	Screw Press complete with accessories	10 cum/hr.	01 set	SS-304
32.	PE Dosing system consists of PE soln. preparation Tank, Agitator, PE Dosing Tank & PE Dosing Pump	PE soln. prep tank-1.0 cum PE Agitator - 0.5 HP PE dosing Tank - 1.0 cum PE dosing Pump - 0 - 200 LPH	01 set	FRP MSEP FRP PP
33.	Electrical Panel with suitable PLC, HMI & LPBS	As required.	1 Set	-
34.	Electrical Cabling work for all drives and instruments	As required	1 Job	-
35.	Instruments			
a.	Ultrasonic Flow Meter with weir	At inlet to O & G Chamber	01 no	-
b.	Ultrasonic Level transmitter/Float Switch	At EQT, SHT, Disinfection Chamber & Filtered water Tank.	04 nos.	-
c.	D O Meter	-	01 no.	-
d.	Electromagnetic Flow meter	At outlet of ACF	01 no	-
e.	Online monitoring system comprises of pH, TSS, TDS, BOD & COD at outlet of ACF	At Filtered Water Tank	01 no.	-

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Sl. No.	Item	Description	Qty	MOC
36.	Erection of all Electromechanical equipment & Commissioning of the ETP.	-	01 Job	-
37.	Transportation to site	-	01 job	-

**Note: The above dimensions & specifications are tentative and shall be finalized during detailed engineering after placement of order.**

## **A. EXCLUSIONS FROM OUR SCOPE OF WORK:**

1. All civil work related to the project.
2. Inlet & outlet connection to and from the system.
3. Compressed Air and Water Line at desired flow & pressure.
4. Incomer to MCC panel.
5. Earthing of drives and panel.
6. Necessary cable trench as required.
7. Chemicals and Consumables for running of the Plant during & after commissioning.
8. Manpower for day-to-day operation of the plant during and after commissioning.
9. Unloading & safe storage of materials at site.
10. Hydra / JCB to be provided during erection of electro-mechanical equipment at site as and when required.
11. Any other Item/ Items not mentioned elsewhere in the offer.

## **B. Tentative Electrical Load:**

- i. Connected Load : 145 KWH (Approx. 220 Amps at 415 V)
- ii. Operating Load : 92 KWH (Approx. 136 Amps at 415 V)  
(PF considered 0.95)

## **C. Approx Space Requirement: 30 m x 25 m (Please refer Layout)**

---

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## D. Make List

Sl. No.	Materials/Equipment	Make
01.	Motor	BB/Crompton/Kirloskar/Reputed <i>Siemens/Abb</i>
02.	Gear Box	PTEL/Rotoflex/Reputed <i>Shanti/Electon</i>
03.	Centrifugal Pump	Kirloskar / <del>CR</del> / KSB / Reputed
04.	Screw Pump	Roto / UT / Reputed
05.	Dosing Pump	Blackline/Aster/Prominent
06.	UV	Hitech / Reputed
07.	Skimmer	Potential / Reputed
08.	Armored Al. Cable	Polycab / Finolex / Reputed
09.	uPVC pipe	Supreme/ Ashirbad / Prince / Reputed
10.	MS Pipe	Nezone / Jindal / Reputed
11.	Instruments	Aster/Eqv.

## E. Tentative of Load of Civil Structure with Water & Mechanical Equipment:

Sl. No.	Item	Water Load (in Tons)	Civil Load (in Tons)	Mech. Load (in Tons)
01.	Oil & Grease Tank	24.20	54.44	0.50
02.	Equalization Tank	247.50	416.52	10.50
03.	Flash Mixer	2.30	13.365	0.355
04.	Flocculator	16.92	23.90	0.75
05.	Primary Clarifier	152.00	104.00	3.50
06.	Aeration Tank	264.00	97.40	2.80
07.	Secondary Clarifier	168.00	126.00	3.50
08.	Disinfection chamber	72.00	95.00	0.60
09.	Filtered Water Tank	100.00	110.00	65.00
10.	Sludge Holding Tank	63.00	69.80	0.60

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পশ্চিমবঙ্গ পশ্চিম বঙ্গাল WEST BENGAL GOVT. OF WEST BENGAL 56AB 940576

Before the Notary  
Govt. of West Bengal  
Burdwan District  
Durgapur



BEFORE THE LD. NOTARY PUBLIC, GOVERNMENT OF WEST BENGAL  
AT DURGAPUR.

**AFFIDAVIT**

I, **Mr. Sanjay Agarwal**, son of **Late Om Prakash Agarwal**, resident of Flat No. - 4D, Block-9 BD-37, **Rabindra Pally, Kestopor, District - North Twenty Four Parganas, West Bengal 700101**; the Board of Directors of the **M/s Giridhan Metal Private Limited** having its Registered Office at 39, **Shakespeare Sarani, 3<sup>rd</sup> Floor, P.S. - Shakespeare Sarani, Kolkata - 700017, West Bengal**; do here by solemnly affirm and declare as follows :-



*[Handwritten signature]*

27 JUL 2021



1. That Environment Clearance issued by the Ministry of Environment, Forest and Climate Change, New Delhi vide letter No. -11011/366/2010-IA. II(I) dated 2<sup>nd</sup> April 2012 and J-11011/366/2010-IA. II(I) dated 29<sup>th</sup> January 2020 (Transfer of Environment Clearance from M/s Damodar Ispat Limited. to M/s Giridhan Metal Private Limited) and Environment Clearance validity extension issued on 24<sup>th</sup> May, 2019 extended till 1<sup>st</sup> April, 2022 in favour of erstwhile company M/s Damodar Ispat Ltd. and now transferred in the name of our company that is the M/s Giridhan Metal Private Limited having its Registered Office at 39, Shakespeare Sarani, 3<sup>rd</sup> Floor, P.S. - Shakespeare Sarani, Kolkata – 700017, West Bengal.
2. That the project was monitored by Dr. Tandra Sarkar, Scientist-C, Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Kolkata - 700106, West Bengal, India and Dr. Sudeshna Biswas, Research Officer, Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Kolkata - 700106, West Bengal, India on 29.01.2021 and during monitoring, I, Shri Sanjay Agarwal, Director, M/s Giridhan Metal Private Limited along with Shri J. N. Mukerjee, HOD (Environment), Shri C. C. Ghosh, Manager (Environment) and other Officials of M/s Giridhan Metal Private Limited were present at the site visit of the project and discussions held during monitoring and the Project Authorities (PAs) provided information accordingly. The Project is under process and is expected to be completed within validity period i.e. before 1<sup>st</sup> April, 2022.
3. That Certified Compliance Report with some observations issued by Dr. Tandra Sarkar, Scientist-C, Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Kolkata - 700106, West Bengal, India vide letter No. 102-410/20/EPE/07 dated 05.02.2021.
4. That I (Shri Sanjay Agarwal, Director, M/s Giridhan Metal Private Limited) am herewith submitting the point wise reply of the observations made by Dr. Tandra Sarkar, Scientist-C, Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Kolkata - 700106, West Bengal, India vide letter No. 102-410/20/EPE/07 dated 05.02.2021 as follows:-

SL. NO.	OBSERVATIONS BY REGIONAL OFFICE AND INTEGRATED REGIONAL OFFICE, MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE	SUBMISSION ON BEHALF OF M/S GIRIDHAN METAL PRIVATE LIMITED AND PRAYER FOR CONSIDERATION
1.	Specific condition (v) : It is mentioned in that dust suppression system and bag filters shall be installed to control the fugitive dust emissions at conveyor and transfer points, product handling, loading and unloading points, but it is observed the same is being partially complied by the PA.	The former company had only one 50 TPD DRI production unit. After transfer of EC (Environment Clearance) from M/s Damodar Ispat Limited to M/s Giridhan Metal Private Limited, the new management has stopped the 50 TPD DRI production since 04.02.2020 and the same has been intimated to The Chairman, CPCB and Eastern Regional Office, Ministry of Environment, Forest and Climate Change, Bhubaneswar. The letter is enclosed as Annexure-1.  The project is now in construction phase for the present EC and company ensures dust suppression system and bag filters will be installed to control fugitive dust emissions at conveyor and transfer points, product handling, loading and unloading points.



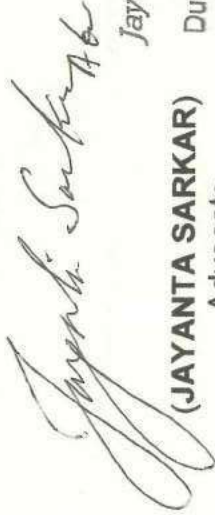
27 JUL 2021

2.	<p><b>Specific condition (xvi) :</b> As proposed, green belt shall be developed in 33% of plant area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO. Though the project proponent has done some plantation along the boundary line of the plant, it is not 33% yet.</p>	<p>33% of the existing plant area i.e., 13.34 acres (5.4 ha) has been earmarked and is being developed under greenbelt &amp; plantation. Presently, 5533 trees i.e. ~1000 trees/ha have been planted. The company has also proposed expansion in their existing EC and as a part of expansion approx. 40% of the total plant area i.e. 31.38 acres (12.7 ha) will be developed under greenbelt &amp; plantation by planting trees to the tune of 2500 trees/ha. Plantation schedule is enclosed as Annexure 2.</p>
3.	<p><b>General condition (xi) :</b> The copy of the letter with respect to environment clearance letter marked to concerned Panchayat, Zila Parishad, Municipal Corporation / Urban Local Body, local NGO may be submitted to the Regional Office, Kolkata.</p>	<p>After taking over the assets of the former company, GMPL could not locate the submission receipts of letter w.r.t. EC marked to concerned authority. The company ensures that on receipt of Environment Clearance of proposed expansion the letter will be positively marked to concerned Panchayat, Zila Parishad, Municipal Corporation/Urban Local Body, local NGO may be submitted to the Regional Office, Kolkata.</p>

5. That by virtue of this Affidavit, may consider my prayer in view of above submissions, kindly issue us a formal closure report on the observations marked in issued Certified Compliance Report.
6. That on behalf of the company assures to abide by the Rules & Regulations w.r.t. Environment and to comply all conditions stipulated in our Environment Clearance issued by Ministry of Environment, Forest and Climate Change, New Delhi.
7. That we hereby further state that we know that relying on the above representation and believing the same to be true.

That the above statements are true to the best of my knowledge and I sign and swear this affidavit on the 27<sup>th</sup> day of July, 2021, at Durgapur Court.

Identified by me,

  
**(JAYANTA SARKAR)**  
 Advocate  
 District Courts of Paschim Bardhaman

*Jayanta Sarkar*  
 Advocate  
 Durgapur Court

  
**GIRIDHAN METAL PRIVATE LIMITED**  
 Authorised Signatory

**(SANJAY AGARWAL)**  
 Director  
 M/s Giridhan Metal Private Limited



Regn No -40/2007 Govt of W.B.  
 Durgapur, Burdwan, W.B.  
 Mrs. A. Banerjee, Notary

  
 before me on identification  
 solemnly Affirmed & declared

Solemnly Affirmed & declared  
 before me on identification

  
 Mrs. A. Banerjee, Notary  
 Durgapur, Burdwan, W.B.  
 Regn No -40/2007 Govt. of W.B.

27 JUL 2021

**GIRIDHAN METAL PRIVATE LIMITED**

CIN : U27320WB2019PTC234675

Registered Office: 'Premлата', 39, Shakespeare Sarani, 2<sup>nd</sup> Floor, Kolkata – 700 017, West Bengal, India.  
Telex- +91 33 22892734 / 35 / 36. E-Mail : giridhanmetal@gmail.com

GMPL/DRI/ESIPL/PO-02/22-23

Date:02.03.2022

TO

M/S - ENVIRONNEMENT SA INDIA PRIVATE LIMITED

D/16 3 AND 4, TTC INDUSTRIAL AREA,

MIDC, TURBHE, THANE -400705,INDIA

State Name: MAHARASHTRA, State Code : 27

GSTIN/Unique ID : 27AACCE0200B1ZO

PAN No.: AACCE0200B

Ph. No. : 45020000

Sl No	Scope of Supply	Qty	Unit	Price (INR)	Amount (INR)
1	Ambient air quality monitoring station(online analyser) Make : Environnement Sa India Pvt. Ltd.(ENVE) Cost/Project : Environment ManagementPlan (C3-26) Remark : Continuous Ambient Air Quality Monitoring Station for PM10 based on Beta Ray Attenuation Model MP101M, PM2.5 based on Beta Ray Attenuation Model MP101M , SO2 ModelAF 22e & NOx Model AC 32e,Multipoint, Multi-Gas Calibrator, Model MGC 101 with all accessories for connection with CPCB & SPCB, Weather Monitoring System, Must be fulfill all crieteria of CPCB and approved by USEPA. CompleteDetails as per Annexure 1 HSN Code 90271000	1	NOS	32,00,000.00	32,00,000.00
<b>Total (Rs)</b>					<b>32,00,000.00</b>
<b>IGST@18%</b>					<b>5,76,000.00</b>
<b>Total Amount (in word - Rupees Thirty Seven Lakhs Seventy Six thousand only)</b>					<b>37,76,000.00</b>

1. Price Basis : FOR – GMPL Site.2. Taxes: EXTRA AS ACTUAL

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3. **Packing & Forwarding & Transit Insurance** - INCLUSIVE, ALL MATERIAL MUST BE WELL PACKED TO PREVENT ANY KIND OF DAMAGE DUE TO TRANSIT, HANDLING ETC, ALL MATERIAL MUST BE PROPERLY MARKED AS PER PROVIDED PACKING LIST

4. **PAYMENT TERMS:**

A) 90% AMOUNT ALONGWITH TAXES SHALL BE PAID WITHIN 30 DAYS UPON RECEIPT OF MATERIAL, BALANCE 10% PAYMENT SHALL BE RELEASED AFTER SUCCESSFUL COMMISSIONING & SUBMISSION OF PERFORMANCE BANK GUARANTEE(PBG) OF 10% OF BASIC ORDER VALUE.PBG WILL BE VALID FOR 12 MONTHS FROM THE DATE OF COMMISSIONING OR 18 MONTHS FROM THE DATE OF SUPPLY, WHICHEVER IS EARLIER, PBG BE PROVIDED AS PER M/s GMP L APPROVED FORMAT

5. **DELIVERY :** ALL MATERIAL WILL BE DELIVERED WITHIN 3 MONTHS FROM THE DATE OF PURCHASE ORDER.

6. **TRANSPORTATION & FREIGHT :** IN SUPPLIER SCOPE

7. **TRANSIT INSURANCE :** IN SUPPLIER SCOPE

8. **MODE OF TRANSPORT :** BY ROAD

9. **MODE OF TRANSPORT:** AS PER CPCB GUIDLINES & USEPA & TUV APPROVAL

10. **TEST CERTIFICATE:** SUPPLIER WILL SUBMIT ALL T.C. & CERTIFICATES OF ORIGINS OF MATERIAL BEFORE DISPATCH

11. **PENALTY FOR LATE DELIVERY**

The Order shall be governed by standard LD Clause/ Penalty, which shall be applicable for the delay in supply beyond the agreed delivery schedule @0.5% of the basic order value for the delay per week or part thereof. Such deduction of LD shall not exceed 5% of the total (basic) order value. This LD shall be applicable for the portion of order not executed within the agreed delivery schedule.

12. **INSPECTION**

At your site. You should give us minimum 10 days prior information from the date of inspection. Stage inspection will be applicable. We can send our representative or 3<sup>rd</sup> party inspector for inspection purpose. We will pay the inspection payment from our end. If the final inspection is not completed within the due stipulated time period of 10 days, the inspection shall be either considered as completed or SSL has waived the inspection.

13. **GUARANTEE**

Supplier shall give Guarantee that the materials supplied by them shall be free from any defects and shall be of good workmanship and materials, in accordance with Contract Specification/PO and shall under

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normal operations; show no defect in performance due to material, design, and workmanship. All Materials shall be new & unused.

The Supplier obligation as to all Materials under the aforesaid Guarantee shall be effected for **Twelve (12) months** from the date of successful commissioning or **Eighteen (18) months** from delivery of last material at our site whichever is earlier.

#### **14. FORCE MAJEURE**

The supplier shall not be considered in default in the supplies of the ordered obligations under the purchase order so long as such delivery is prevented or delayed for reasons beyond control including acts of God and severe earth quake, cyclone (Except monsoon), Flood, Land slide acts of nature, war, riot etc. Under such circumstances, you will inform us within 7 days and suitable action is to be taken with mutual consent should the supplier be prohibited from fulfilling obligations under this order by a state of force majeure, the date of fulfillment of the obligation of the supplier shall be extended in proportion to the time during the circumstances prevailing at that time.

#### **15. JURIDICATION :**

The Purchase Order is governed in accordance with LAWS OF INDIA and is subject to the jurisdiction of Courts of Kolkata.

**16. RISK PURCHASE CALUSE :** in case it is discovered at any stage that the supplier has failed to supply any item parts towards the purpose of this order, GMPL reserve the right to purchase the short supplied goods from other source at suppliers cost and risk if the supplier fails to make good the deficiency immediately on being informed of this

#### **17. ERECTION AND SUPERVISION OF COMMISSIONING -**

- You will depute your skilled engineer(s) at our site for supervision of Erection & commissioning services up to successful commissioning for total 45 Days in 4 visits. To and fro charges shall be borne by supplier . We shall provide lodging, boarding, local conveyance and food free of cost for your engineer(s) only.

#### **18. REJECTION :**

Examination/rejection of goods:-

-All materials duly processed and supplied against the order should conform to latest Indian standards; it should be new, merchantable quality, fit for their intended purpose.

-The purchaser reserves the rights to inspect the material at any stage during manufacture or supply and reject

#### **19. TEST CERTIFICATE :**

- All necessary required testing to be done. test certificates, guarantee certificates and other relevant documents (as applicable) to be provided for the same as per the details given on the technical specifications / its standards.

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- You shall submit you're internal inspection report and test certificate for physical and chemical properties, conductive test prior to dispatch.

- Without test reports, materials will not be acceptable to us. our quality assurance dept. shall verify your test reports at our site.

**20. PRICE ESCALATION:-**Any price escalation will be not acceptable till completion of the delivery.

## **21. AFTER SALES SERVICE -**

You shall provide prompt after sales services and shall provide us with technical information as may be necessary to enable us to efficiently. Operate and maintain the machinery and equipment supplied by you. You shall supply to us as and when required, all necessary parts, components, devices or materials at reasonable prices to keep the machinery and equipment in good working condition.

## **22. DRAWINGS & DOCUMENTS:**

You will submit the drawings within 2 weeks after advance payment, in three sets (hard copy) and also through electronic media for our reference. Final drawings will be submitted to us in three sets after incorporating all our comments before dispatch of equipments.

## **23.REMARKS:**

1. THIS BASIC CONTRACT PRICE INCLUDES THE PRICE FOR 2.5 YEARS COMPREHENSIVE MAINTENANCE CONTRACT(CAMC) INCLUDING THE SUPPLY OF SERVICES FOR REGULAR CHECKUP VISITS, MAINTENANCE VISITS, CALIBRATION, SUPPLY OF ALL SPARES, CONSUMABLES FOR A PERIOD OF 30 MONTHS FROM THE DATE OF INSTALLATION OF ALL EQUIPMENT.

2. Online Data transmission to SPCB/CPCB server for 30 MONTHS

3. Installation & Commissioning at site in India by Engineers of Environnement SA India Pvt. Ltd

4. Training for 2 days at site will be provided by Engineers of Environnement SA India Pvt. Ltd.

5. Stabilized & Uninterrupted Power Supply 230V AC, 50 Hz. to be provided by M/s GMPL at Analyzer Panel.

6. Air-conditioned civil room with all accessories to be provided by customer for mounting Analyzers. However CIVIL Drawings for Shelter shall be provided by M/s Environnement SA India Pvt. Ltd.

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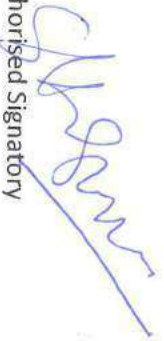
7. Broadband connection with static IP to be provided by M/s GMPL for communication with CPCB.
8. Any Civil & Mechanical job at site like Civil Foundation, Surge arrester & Earth pit shall be in the scope of M/s GMPL.
9. All analyzers including Multipoint, Multi-Gas Calibrator are USEPA Approved
10. M/s Environment SA India Pvt. Ltd. shall depute their Service Engineer within 48 Hours on requirement of M/s GMPL.
11. If there is any problem related to Data Transfer to SP/CB/CPCB then M/s Environment SA India Pvt. Ltd. will take care with SP/CB/CPCB.
12. Calibration of Weather Monitoring System will be done alongwith Calibration of Analysers. Vendor will Provide Annual Schedule for Regular Visits & Calibration Visits & will abide by that schedule, if there is any change in Scheduled Visits, Vendor will inform in 1 Week Advance.
13. There will be Capacity for Data Storage for 10 Years.
14. Local pickup & Drop, Lodging & Fooding if required for Service Engineers shall be provided by M/s GMPL.

Kindly acknowledge and confirm acceptance. You will get the detail order shortly.

Thanking you

For, GIRIDHAN METAL PRIVATE LIMITED

Authorised Signatory



**ANNEXURE 1 (PO NO. GMP/DR/ESIP/PO-02/22-23 Dt.02.03.2022)**

SL NO	Item Description	QTY	UM
	<b>Continuous Ambient Air Quality Monitoring System consisting of the following:</b>		
1	Continuous Ambient Analyser for Sulphur Dioxide (SO2) Analyser based on UV - Fluorescence Principle Model AF 22e suitable for 230 V, 50 Hz, power supply, builtin solenoid valve for manual/ auto calibration, built-in zero air scrubber for zero calibration, Colour Touchscreen display, Ethernet TCP/IP Port & USB Port for communication with Data Acquisition System US –EPA Approval No. EQSA-0802-149)	1	NOS
2	Continuous Ambient Analyser for Oxide of Nitrogen (NOX) based on Chemiluminescence principle Model AC 32e suitable for 230 V, 50 Hz, power supply, builtin solenoid valve for manual/ auto calibration, Colour Touchscreen display, Ethernet TCP/IP Port & USB Port for communication with Data Acquisition System. US –EPA Approval No: RFNA-0202-146)	1	NOS
3	Continuous Ambient Analyser for Particulates PM10 Analyser based on Beta Ray Attenuation principle Model MP10IM suitable for 230V AC, 50 Hz; Power supply with C-14 Radioactive source, Pump, PM10 Inlet & Standard foil for calibration, US-EPA Approval No. EQPM-0404-151)	1	NOS
4	Continuous Ambient Analyser for Particulates (PM2.5) PM2.5 Analyser based on Beta Ray Attenuation principle Model MP10IM suitable for 230V AC, 50 Hz. Power supply with C-14 Radioactive source, Pump, PM2.5 Inlet, Standard foil for calibration. US-EPA Approval No. EQPM-1013-211)	1	NOS
5	Calibration Gas Cylinder made of Aluminium with SS regulator & valve (1 Cylinder for each Gas) for following Gases:SO2 ,NO	1	NOS
6	Gas Sampling System & Hood consisting of SS gas sample inlet, perrier based moisture removal facility, manifold & tubings to the analyzers.	1	NOS
7	Standard 19" Rack Cabinet (Double Bay Rack) with Telescopic slides, Overload protection, Power Distribution box, Cooling fans, Dust filters & pneumatic plumbing to accommodate Analyzer, Calibrator & Accessories	1	NOS
8	Local Data Logger – PC based Data Acquisition System with SAM W/License Software suitable for Storing, Logging, Reporting, Printing data from above offered Analyzers with PC with specifications as under: Pentium Dual Core 2 Processor, 2 GB RAM, 250 GB HDD, CD/DVD Combo Drive, 19" TFT Monitor, 2 serial & 1 parallel ports, Standard WINDOWS Operating System, standard keyboard, mouse with pad.	1	NOS
9	Multiport, Multi-Gas Calibrator, Model MGC 101 (OEM Make Only) suitable for 230V AC, 50 Hz suitable for 230V AC, 50 Hz. with the following: 1. Mass Flow Controller based for Dilution air & Span Gas 2. Inlet ports for external span gases 3. RS 232 interface 4. In built Zero air generator	1	NOS
10	Display (1'X5') with 50 Mtr. Visibility	1	NOS
11	Weather Monitoring Station for Wind Speed, Wind Direction, RH, Temperature, Rainfall Sensor, Air pressure and Solar Radiation, Metrological Mast- 10 Meters, Interface unit, Barometric Pressure	1	NOS
13	Installation & Commissioning at site Jammura, West Bengal	1	NOS
14	Online Data transmission to SPCB/CPCB server for 2.5 Years	1	NOS
15	CAMC (Consumables, Spares & Services, Warranty) for 2.5 Years	1	NOS
16	Training at site provided by Engineers of Environment SA India Pvt. Ltd. For 2 Days	1	NOS



# Qualissure Laboratory Services

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 Email : qualissure@gmail.com; info@qualissure.com : Mob.No. 98312 87086 ; 9830093976



TC-6271

DOC NO : QLS/SAMP/08-A/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O.- Nandi, Paschim Bardhaman, Pin : 713 344	ULR No.	: TC627122000005273F
	Report No.	: QLS/A/22-23/C/548
	Date	: 08.11.2022
	Sample No.	: QLS/A/22-23/548
	Sample Description	: Ambient Air
	Sample Mark	: Near North East boundary Wall
	Date of Performance(s)	: 17.10.2022-22.10.2022
	Ref No. Date	: WS22714-001, Dt.14.07.2022

## Analysis Result

Location : Near North East Boundary Wall		Date of sampling : 14-15.10.2022		
Sampling Done by: S.Ghosh/J.Sahana		Sampling done as per : CPCB Guidelines (Volume-1)		
Environmental Condition : Cloudy & Rainfall				
Sl. No.	POLLUTANT	RESULT	LIMIT	METHOD OF TEST REFERENCE
1	Particulate matter (<10µm) in µg/m <sup>3</sup>	83	100	IS: 5182 (Part-23)- (RA-2017)
2	Particulate matter (<2.5µm) in µg/m <sup>3</sup>	44	60	USEPA CFR-40,Part-50, Appendix-L
3	Sulphur dioxide (SO <sub>2</sub> ) in µg/m <sup>3</sup>	8.5	80	IS: 5182 (Part-2)-2001, (RA-2017)
4	Nitrogen dioxide (NO <sub>2</sub> ) in µg/m <sup>3</sup>	30.5	80	IS: 5182 (Part- 6)- 2001, (RA-2017)
5	Carbon Monoxide (CO) in mg /m <sup>3</sup>	0.858	2	IS: 5182 (Part- 10):1999, (RA-2014)
6	Ammonia (NH <sub>3</sub> ) in µg/m <sup>3</sup>	23.1	400	Air Sampling , 3 <sup>rd</sup> Edn -Method-401
7	Ozone (O <sub>3</sub> ) in µg/m <sup>3</sup>	26.3	180	Air Sampling , 3 <sup>rd</sup> Edn -Method-411
8	Lead (Pb) in µg/m <sup>3</sup>	0.09	1	EPA IO-3.2 & 5.0
9	Nickel (Ni) in ng/m <sup>3</sup>	13.6	20	EPA IO-3.2
10	Arsenic (As) in ng/m <sup>3</sup>	1.1	6	Air Sampling , 3 <sup>rd</sup> Edn.Method 402 and APHA 22 <sup>nd</sup> Edition Part 3114B
<b>NOTE:</b> Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality.				

for Qualissure Laboratory Services  
 Reviewed & Authorized By

  
 (Authorized Signatory)

- The results relate only to the item(s) tested.
- This Test Report shall not be reproduced without the permission of Qualissure Laboratory Services.
- The reserved part of sample(s), except perishable sample(s), shall be retained for 30 days from the date of issue of the Test Report.



# Qualissure Laboratory Services

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Kolkata - 700107  
Email : qualissure@gmail.com  
Mob. No. : 9831287086  
9830093976

DOC NO : QLS/SAMP/08-A/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarapur, Jamuria P.O.- Nandi, Paschim Bardhaman, Pin : 713344	<b>Report No.</b> : QLS/A/22-23/C/548A <b>Date</b> : 08.11.2022 <b>Sample No.</b> : QLS/A/22-23/548 <b>Sample Description</b> : Ambient Air <b>Date of Performance(s)</b> : 17.10.2022-22.10.2022 <b>Sample Mark</b> : Near North East boundary Wall <b>Ref No. Date</b> : WS22714-001, Dt.14.07.2022
--	---

## Analysis Result

Location : Near North East boundary Wall		Date of sampling : 14-15.10.2022		
Sampling Done by : S.Ghosh/J.Sahana		Sampling done as per : CPCB Guidelines (Volume-1)		
Environmental Condition : Cloudy & Rainfall				
Sl. No.	POLLUTANT	RESULT	LIMIT	METHOD OF TEST REFERENCE
1	Benzene (C <sub>6</sub> H <sub>6</sub> ) in µg/m <sup>3</sup>	<2.08	5	IS: 5182 (Part- 11)
2	Benzo (a) pyrene in ng/m <sup>3</sup>	<0.4	1	IS: 5182 (Part- 12)
<b>NOTE:</b> Limit as per CPCB notification, New Delhi, 18 <sup>th</sup> November 2009, for Ambient air quality				

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DOC NO : QLS/SAMP/08-A/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O.- Nandi, Paschim Bardhaman, Pin : 713 344	ULR No. : TC627122000005274F Report No. : QLS/A/22-23/C/549 Date : 08.11.2022 Sample No. : QLS/A/22-23/549 Sample Description : Ambient Air Date of Performance(s) : 17.10.2022-22.10.2022 Sample Mark : Admin Building Ref No. Date : WS22714-001, Dt.14.07.2022
--	--

## Analysis Result

Location : Admin Building		Date of sampling : 14-15.10.2022		
Sampling Done by: S.Ghosh/J.Sahana		Sampling done as per : CPCB Guidelines (Volume-1)		
Environmental Condition : Cloudy & Rainfall				
Sl. No.	POLLUTANT	RESULT	LIMIT	METHOD OF TEST REFERENCE
1	Particulate matter (<10µm) in µg/m <sup>3</sup>	73	100	IS: 5182 (Part-23)- (RA-2017)
2	Particulate matter (<2.5µm) in µg/m <sup>3</sup>	46	60	USEPA CFR-40,Part-50, Appendix-L
3	Sulphur dioxide (SO <sub>2</sub> ) in µg/m <sup>3</sup>	9.2	80	IS: 5182 (Part-2)-2001, (RA-2017)
4	Nitrogen dioxide (NO <sub>2</sub> ) in µg/m <sup>3</sup>	31.6	80	IS: 5182 (Part- 6)- 2001, (RA-2017)
5	Carbon Monoxide (CO) in mg /m <sup>3</sup>	0.984	2	IS: 5182 (Part- 10):1999, (RA-2014)
6	Ammonia (NH <sub>3</sub> ) in µg/m <sup>3</sup>	42.3	400	Air Sampling , 3 <sup>rd</sup> Edn -Method-401
7	Ozone (O <sub>3</sub> ) in µg/m <sup>3</sup>	25.8	180	Air Sampling , 3 <sup>rd</sup> Edn -Method-411
8	Lead (Pb) in µg/m <sup>3</sup>	0.03	1	EPA IO-3.2 & 5.0
9	Nickel (Ni) in ng/m <sup>3</sup>	8.4	20	EPA IO-3.2
10	Arsenic (As) in ng/m <sup>3</sup>	<1.0	6	Air Sampling , 3 <sup>rd</sup> Edn.Method 402 and APHA 22 <sup>nd</sup> Edition Part 3114B
<b>NOTE:</b> Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality.				

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DOC NO : QLS/SAMP/08-A/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O.- Nandi, Paschim Bardhaman, Pin : 713 344	<b>Report No.</b> : QLS/A/22-23/C/549A <b>Date</b> : 08.11.2022 <b>Sample No.</b> : QLS/A/22-23/549 <b>Sample Description</b> : Ambient Air <b>Date of Performance(s)</b> : 17.10.2022-22.10.2022 <b>Sample Mark</b> : Admin Building <b>Ref No. Date</b> : WS22714-001, Dt.14.07.2022
--	--

## Analysis Result

Location : Admin Building		Date of sampling : 14-15.10.2022		
Sampling Done by : S.Ghosh/J.Sahana		Sampling done as per : CPCB Guidelines (Volume-1)		
Environmental Condition : Cloudy & Rainfall				
Sl. No.	POLLUTANT	RESULT	LIMIT	METHOD OF TEST REFERENCE
1	Benzene (C <sub>6</sub> H <sub>6</sub> ) in µg/m <sup>3</sup>	<2.08	5	IS: 5182 (Part- 11)
2	Benzo (a) pyrené in ng/m <sup>3</sup>	<0.4	1	IS: 5182 (Part- 12)
<b>NOTE:</b> Limit as per CPCB notification, New Delhi, 18 <sup>th</sup> November 2009, for Ambient air quality.				

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Reviewed & Authorized By



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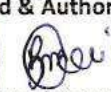


## TEST REPORT

<b>Name &amp; Address Of the Customer :</b>  M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O.- Nandi, Paschim Bardhaman, Pin : 713 344	ULR No.	: TC627122000005275F
	Report No.	: QLS/A/22-23/C/550
	Date	: 08.11.2022
	Sample No.	: QLS/A/22-23/550
	Sample Description	: Ambient Air
	Date of Performance(s)	: 17.10.2022-22.10.2022
	Sample Mark	: Near Switch Yard (CPP)
	Ref No. Date	: WS22714-001, Dt.14.07.2022

## Analysis Result

Location : Near Switch Yard (CPP)		Date of sampling : 15- 16.10.2022		
Sampling Done by : S.Ghosh/J.Sahana		Sampling done as per : CPCB Guidelines (Volume-1)		
Environmental Condition : Cloudy & Rainfall				
Sl. No.	POLLUTANT	RESULT	LIMIT	METHOD OF TEST REFERENCE
1	Particulate matter (<10µm) in µg/m <sup>3</sup>	92	100	IS: 5182 (Part-23)- (RA-2017)
2	Particulate matter (<2.5µm) in µg/m <sup>3</sup>	51	60	USEPA CFR-40,Part-50, Appendix-L
3	Sulphur dioxide (SO <sub>2</sub> ) in µg/m <sup>3</sup>	10.2	80	IS: 5182 (Part-2)-2001, (RA-2017)
4	Nitrogen dioxide (NO <sub>2</sub> ) in µg/m <sup>3</sup>	32.2	80	IS: 5182 (Part- 6)- 2001, (RA-2017)
5	Carbon Monoxide (CO) in mg /m <sup>3</sup>	1.018	2	IS: 5182 (Part- 10):1999, (RA-2014)
6	Ammonia (NH <sub>3</sub> ) in µg/m <sup>3</sup>	22.1	400	Air Sampling , 3 <sup>rd</sup> Edn -Method-401
7	Ozone (O <sub>3</sub> ) in µg/m <sup>3</sup>	36.8	180	Air Sampling , 3 <sup>rd</sup> Edn -Method-411
8	Lead (Pb) in µg/m <sup>3</sup>	0.14	1	EPA IO-3.2 & 5.0
9	Nickel (Ni) in ng/m <sup>3</sup>	17.6	20	EPA IO-3.2
10	Arsenic (As) in ng/m <sup>3</sup>	2.3	6	Air Sampling , 3 <sup>rd</sup> Edn.Method 402 and APHA 22 <sup>nd</sup> Edition Part 3114B
<b>NOTE:</b> Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality.				

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# Qualissure Laboratory Services

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DOC NO : QLS/SAMP/08-A/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O.- Nandi, Paschim Bardhaman, Pin : 713 344	<b>Report No.</b> : QLS/A/22-23/C/550A <b>Date</b> : 08.11.2022 <b>Sample No.</b> : QLS/A/22-23/550 <b>Sample Description</b> : Ambient Air <b>Date of Performance(s)</b> : 17.10.2022-22.10.2022 <b>Sample Mark</b> : Near Switch Yard(CPP) <b>Ref No. Date</b> : WS22714-001, Dt.14.07.2022
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## Analysis Result

Location : Near Switch Yard (CPP)		Date of sampling : 15 - 16.10.2022		
Sampling Done by : S.Ghosh/J.Sahana		Sampling done as per : CPCB Guidelines (Volume-1)		
Environmental Condition : Cloudy & Rainfall				
Sl. No.	POLLUTANT	RESULT	LIMIT	METHOD OF TEST REFERENCE
1	Benzene (C <sub>6</sub> H <sub>6</sub> ) in µg/m <sup>3</sup>	<2.08	5	IS: 5182 (Part- 11)
2	Benzo (a) pyrene in ng/m <sup>3</sup>	<0.4	1	IS: 5182 (Part- 12)
<b>NOTE:</b> Limit as per CPCB notification, New Delhi, 18 <sup>th</sup> November 2009, for Ambient air quality.				

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DOC NO : QLS/SAMP/08-A/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O.- Nandi, Paschim Bardhaman, Pin : 713 344	Report No.	: QLS/A/22-23/C/869
	Date	: 14.02.2023
	Sample No.	: QLS/A/22-23/869
	Sample Description	: Ambient Air
	Date of Performance(s)	: 22 - 28.01.2023
	Sample Mark	: North East Boundary Wall
	Ref No. Date	: WS22714-001, Dt.14.07.2022

## Analysis Result

Location : North East Boundary Wall		Date of sampling : 20-21.01.2023		
Sampling Done by: S.Ghosh/J.Sahana		Sampling done as per : CPCB Guidelines (Volume-1)		
Environmental Condition : Clear & Sunny				
Sl. No.	POLLUTANT	RESULT	LIMIT	METHOD OF TEST REFERENCE
1	Particulate matter (<10µm) in µg/m <sup>3</sup>	89	100	IS: 5182 (Part-23)- (RA-2017)
2	Particulate matter (<2.5µm) in µg/m <sup>3</sup>	43	60	USEPA CFR-40,Part-50, Appendix-L
3	Sulphur dioxide (SO <sub>2</sub> ) in µg/m <sup>3</sup>	10.4	80	IS: 5182 (Part-2)-2001, (RA-2017)
4	Nitrogen dioxide (NO <sub>2</sub> ) in µg/m <sup>3</sup>	32.0	80	IS: 5182 (Part- 6)- 2001, (RA-2017)
5	Carbon Monoxide (CO) in mg /m <sup>3</sup>	0.938	2	IS: 5182 (Part- 10):1999, (RA-2014)
6	Ammonia (NH <sub>3</sub> ) in µg/m <sup>3</sup>	29.1	400	Air Sampling , 3 <sup>rd</sup> Edn -Method-401
7	Ozone (O <sub>3</sub> ) in µg/m <sup>3</sup>	33.4	180	Air Sampling , 3 <sup>rd</sup> Edn -Method-411
8	Lead (Pb) in µg/m <sup>3</sup>	0.11	1	EPA IO-3.2 & 5.0
9	Nickel (Ni) in ng/m <sup>3</sup>	9.8	20	EPA IO-3.2
10	Arsenic (As) in ng/m <sup>3</sup>	<1.0	6	Air Sampling , 3 <sup>rd</sup> Edn.Method 402 and APHA 22 <sup>nd</sup> Edition Part 3114B
11	Benzene (C <sub>6</sub> H <sub>6</sub> ) in µg/m <sup>3</sup>	<2.08	5	IS: 5182 (Part- 11)
12	Benzo (a) pyrene in ng/m <sup>3</sup>	<0.4	1	IS: 5182 (Part- 12)

**NOTE:** Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality.

Report Prepared By :

for Qualissure Laboratory Services  
Reviewed & Authorized By

(Benimadhab Gorai, Chemist)  
(Authorized Signatory)

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## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O.- Nandi, Paschim Bardhaman, Pin : 713 344	<b>Report No.</b> : QLS/A/22-23/C/870 <b>Date</b> : 14.02.2023 <b>Sample No.</b> : QLS/A/22-23/870 <b>Sample Description</b> : Ambient Air <b>Date of Performance(s)</b> : 22 - 28.01.2023 <b>Sample Mark</b> : Admin Building <b>Ref No. Date</b> : WS22714-001, Dt.14.07.2022
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## Analysis Result

Location : Admin Building		Date of sampling : 20-21.01.2023		
Sampling Done by: S.Ghosh/J.Sahana		Sampling done as per : CPCB Guidelines (Volume-1)		
Environmental Condition : Clear & Sunny				
Sl. No.	POLLUTANT	RESULT	LIMIT	METHOD OF TEST REFERENCE
1	Particulate matter (<10µm) in µg/m <sup>3</sup>	81	100	IS: 5182 (Part-23)- (RA-2017)
2	Particulate matter (<2.5µm) in µg/m <sup>3</sup>	47	60	USEPA CFR-40,Part-50, Appendix-L
3	Sulphur dioxide (SO <sub>2</sub> ) in µg/m <sup>3</sup>	11.6	80	IS: 5182 (Part-2)-2001, (RA-2017)
4	Nitrogen dioxide (NO <sub>2</sub> ) in µg/m <sup>3</sup>	34.5	80	IS: 5182 (Part- 6)- 2001, (RA-2017)
5	Carbon Monoxide (CO) in mg /m <sup>3</sup>	1.281	2	IS: 5182 (Part- 10):1999, (RA-2014)
6	Ammonia (NH <sub>3</sub> ) in µg/m <sup>3</sup>	56.9	400	Air Sampling , 3 <sup>rd</sup> Edn -Method-401
7	Ozone (O <sub>3</sub> ) in µg/m <sup>3</sup>	30.5	180	Air Sampling , 3 <sup>rd</sup> Edn -Method-411
8	Lead (Pb) in µg/m <sup>3</sup>	0.63	1	EPA IO-3.2 & 5.0
9	Nickel (Ni) in ng/m <sup>3</sup>	11.2	20	EPA IO-3.2
10	Arsenic (As) in ng/m <sup>3</sup>	1.5	6	Air Sampling , 3 <sup>rd</sup> Edn.Method 402 and APHA 22 <sup>nd</sup> Edition Part 3114B
11	Benzene (C <sub>6</sub> H <sub>6</sub> ) in µg/m <sup>3</sup>	<2.08	5	IS: 5182 (Part- 11)
12	Benzo (a) pyrene in ng/m <sup>3</sup>	<0.4	1	IS: 5182 (Part- 12)
<b>NOTE:</b> Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality.				

Report Prepared By :

for Qualissure Laboratory Services  
Reviewed & Authorized By

(Benimadhab Gorai, Chemist)  
(Authorized Signatory)

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TC-6271

DOC NO : QLS/SAMP/08-A/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O.- Nandi, Paschim Bardhaman, Pin : 713 344	<b>Report No.</b> : QLS/A/22-23/C/871 <b>Date</b> : 14.02.2023 <b>Sample No.</b> : QLS/A/22-23/871 <b>Sample Description</b> : Ambient Air <b>Date of Performance(s)</b> : 22 - 28.01.2023 <b>Sample Mark</b> : Near Switch Yard (CPP) <b>Ref No. Date</b> : WS22714-001, Dt.14.07.2022
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## Analysis Result

Location : Near Switch Yard (CPP)		Date of sampling : 21-22.01.2023		
Sampling Done by: S.Ghosh/J.Sahana		Sampling done as per : CPCB Guidelines (Volume-1)		
Environmental Condition : Clear & Sunny				
Sl. No.	POLLUTANT	RESULT	LIMIT	METHOD OF TEST REFERENCE
1	Particulate matter (<10µm) in µg/m <sup>3</sup>	93	100	IS: 5182 (Part-23)- (RA-2017)
2	Particulate matter (<2.5µm) in µg/m <sup>3</sup>	54	60	USEPA CFR-40,Part-50, Appendix-L
3	Sulphur dioxide (SO <sub>2</sub> ) in µg/m <sup>3</sup>	9.2	80	IS: 5182 (Part-2)-2001, (RA-2017)
4	Nitrogen dioxide (NO <sub>2</sub> ) in µg/m <sup>3</sup>	33.4	80	IS: 5182 (Part- 6)- 2001, (RA-2017)
5	Carbon Monoxide (CO) in mg /m <sup>3</sup>	1.098	2	IS: 5182 (Part- 10):1999, (RA-2014)
6	Ammonia (NH <sub>3</sub> ) in µg/m <sup>3</sup>	34.8	400	Air Sampling , 3 <sup>rd</sup> Edn -Method-401
7	Ozone (O <sub>3</sub> ) in µg/m <sup>3</sup>	31.7	180	Air Sampling , 3 <sup>rd</sup> Edn -Method-411
8	Lead (Pb) in µg/m <sup>3</sup>	0.20	1	EPA IO-3.2 & 5.0
9	Nickel (Ni) in ng/m <sup>3</sup>	12.6	20	EPA IO-3.2
10	Arsenic (As) in ng/m <sup>3</sup>	1.1	6	Air Sampling , 3 <sup>rd</sup> Edn.Method 402 and APHA 22 <sup>nd</sup> Edition Part 3114B
11	Benzene (C <sub>6</sub> H <sub>6</sub> ) in µg/m <sup>3</sup>	<2.08	5	IS: 5182 (Part- 11)
12	Benzo (a) pyrene in ng/m <sup>3</sup>	<0.4	1	IS: 5182 (Part- 12)
<b>NOTE:</b> Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality.				

Report Prepared By :

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Reviewed & Authorized By

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(Authorized Signatory)

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TC-6271

DOC No. -QLS/SAMP/01-A/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O.- Nandi, Paschim Bardhaman, Pin : 713 344	ULR No.	: TC627122000005276F
	Report No.	: QLS/A/22-23/C/551
	Date	: 08.11.2022
	Sample No.	: QLS/A/22-23/551(A-F)
	Date of Performance(s)	: 17.10.2022-22.10.2022
	Sample Description	: Fugitive Air
	Ref No. Date	: WS22714-001, Dt.14.07.2022

### Analysis Result of Fugitive Air

Sampling Done by: S. Ghosh/J.Sahana		Sampling done as per : CPCB Guidelines (Volume-1)	
Environmental Condition : Cloudy & Rainfall			
Sample No.	Location	Date of Sampling	(RPM) in $\mu\text{g}/\text{m}^3$
551A	Near Cooler Discharge (600 TPD DRI)	13.10.2022	936
551B	Near I Bin (600 TPD DRI)		152
551C	Near Product House (600 TPD DRI)	14.10.2022	263
551D	Near CFBC Boiler (CPP)		414
551E	Near Furnace -2 (Ferro)	15.10.2022	369
551F	Near Batching Plant (Ferro)		279
NOTE:- Nil			

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## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O.- Nandi, Paschim Bardhaman, Pin : 713 344	Report No.	: QLS/A/22-23/C/872
	Date	: 14.02.2022
	Sample No.	: QLS/A/22-23/5872A-E)
	Date of Performance(s)	: 22 – 28.01.2023
	Sample Description	: Fugitive Air
	Ref No. Date	: WS22714-001, Dt.14.07.2022

### Analysis Result of Fugitive Air

Sampling Done by: S. Ghosh/J.Sahana		Sampling done as per : CPCB Guidelines (Volume-1)	
Environmental Condition : Clear & Sunny			
Sample No.	Location	Date of Sampling	(RPM) in $\mu\text{g}/\text{m}^3$
872A	Near CFBC Boiler (CPP)	20.01.2023	499
872B	Near CHP Area (CPP)		756
872C	Near Cooler Discharge (350 TPD DRI)	21.01.2023	421
872D	Near I Bin (350 TPD DRI)		990
872E	Near Furnace-1 (Ferro)		1641
NOTE:- Nil			

Report Prepared By :

for Qualissure Laboratory Services  
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(Benimadhab Gorai, Chemist)  
(Authorized Signatory)

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5 field ESP connected with 350 TPD DRI through WHRB

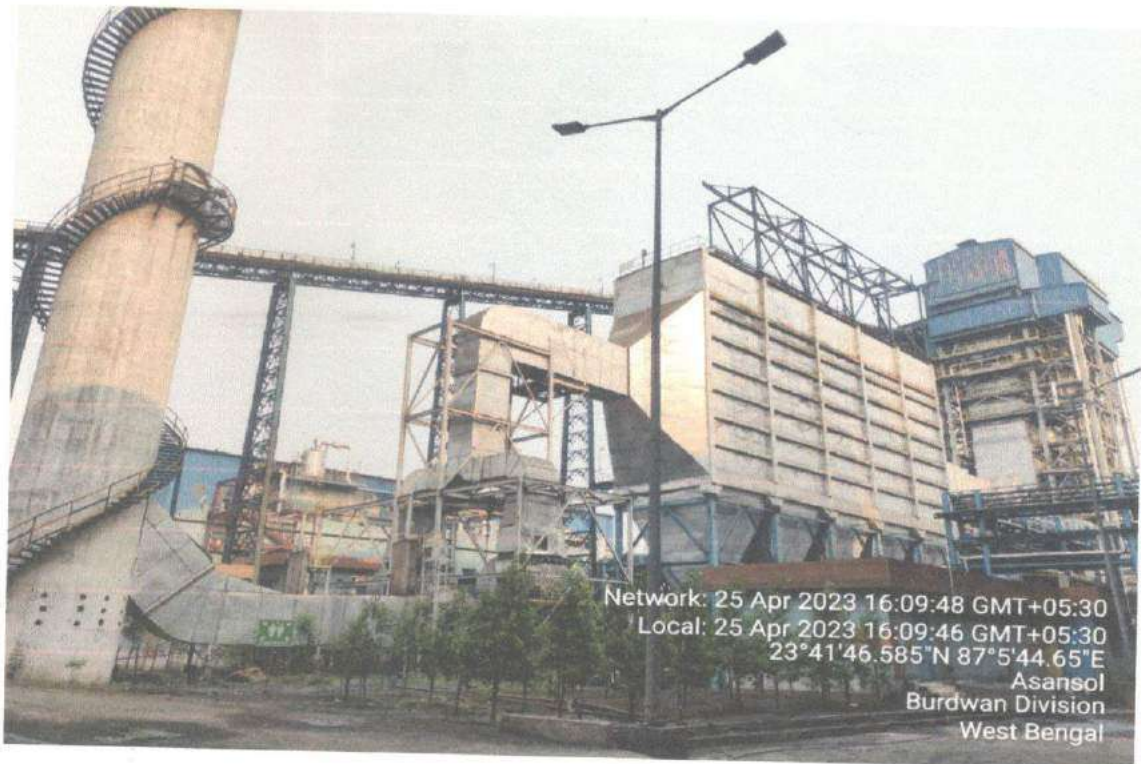


5 field ESP connected with 600 TPD DRI through WHRB



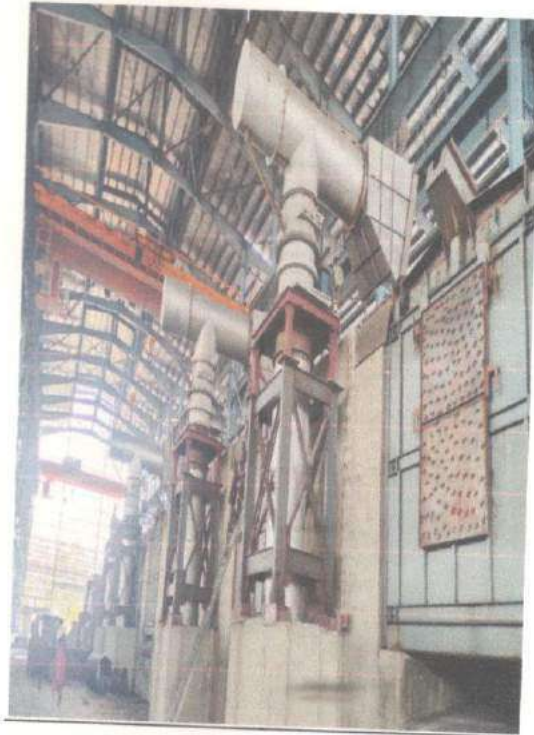


**Bag Filter connected with 2x9 MVA SEAF**



**5 field ESP for CFBC Boiler**





Secondary Suction

Primary Suction

Bag Filter for Steel Smelting Shop



Bag filter connected with CD & I-Bin of 300 TPD DRI





Bag filter connected with CD & I-bin of 600 TPD DRI



Bag Filter Connected with DRI 300 & 600 TPD (product separation & dispatch)





Closed Conveyor for raw materials handling



Pneumatic dust conveying system for fine dust





Dry fog system installed in coal handling system



Road sweeping machine to control fugitive dust from road during transportation





Raw material storage shed



Water tanker for sprinkling on road of project site



Water Sprinkler on road of plant site



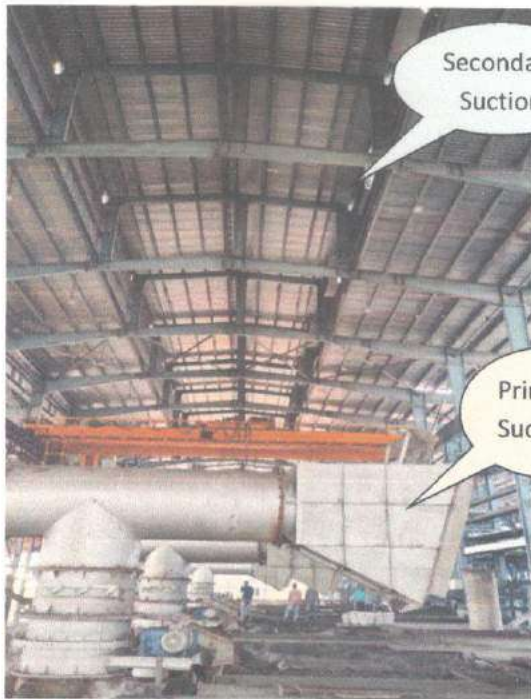
**Primary & Secondary Extraction System connected with 06x20T Induction Furnace**



Bag filter with chimney connected with 6x20T Induction Furnace



Induction furnace connected with primary hood



Primary & secondary suction connected with induction





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TC-6271

DOC NO : QLS/SAMP/08-D/00

## TEST REPORT

<b>Name &amp; Address of the Customer:</b>  <b>M/s. Giridhan Metal Pvt. Ltd.</b> Jamuria Industrial Estate, Damodarapur, Jamuria P.O.- Nandi, Paschim Bardhaman, Pin : 713 344	ULR No.	: TC627123000000348F
	Report No.	: QLS/W/22-23/C/640
	Date	: 04.02.2023
	Sample No.	: QLS/W/22-23/640
	Sample Description	: Ground Water
	Sample Mark/Location	: Ikra Village(23°41'7.21"N,87°6'33.25"E)
	Sample Drawn On	: 27.01.2023
	Date of Performance(s)	: 28.01.2023-03.02.2023
	Sampling Method	: IS 3025(Part 1): 1987 (RA 2019)
	Ref No. Date	: WS22601-001, Dated - 14.07.2022

### Analysis Result

#### (A) Microbiological Analysis

Sl. No.	Characteristic	Limit as Per IS 10500 :2012 Amd. 2	Test Method	Result
1.	E.coli/100ml	Not Detectable	IS 15185-2016	Not Detected
2.	Total Coliform Bacteria/100ml	Not Detectable	IS 15185-2016	Not Detected
3.	Faecal Coliform/100ml	—	IS 1622-1981,(RA 2019)	<2

#### (B) Chemical Analysis

Sl. No.	Test Parameter	Test Method	As per Drinking Water Standard : IS:10500, 2012 Amd. 1, 2 & 3		Result
			Acceptable Limit	Permissible Limit	
1.	Colour in Hazen Units	IS 3025 (Part 4): 1983 (RA 2012)	5	15	<5
2.	Odour	IS 3025 (Part 5): 1983 (RA 2012)	Agreeable	Agreeable	Agreeable
3.	Taste	IS 3025(Part 7 & 8): 1984 (RA 2002)	Agreeable	Agreeable	Agreeable
4.	pH Value at 25°C	IS 3025 (Part 11): 1984 (RA 2012)	6.5-8.5	No Relaxation	7.74
5.	Turbidity in NTU	IS 3025 (Part 10): 1984 (RA 2012)	1	5	<1.0
6.	Total Dissolved Solids (as TDS) in mg/l	IS 3025 (Part 16): 1984 (RA 2012)	500	2000	492
7.	Aluminium (as Al) in mg/l	IS 3025 (Part 55): 2003 (RA 2014)	0.03	0.2	<0.01
8.	Ammonia (as NH <sub>3</sub> ) in mg/l	IS 3025 (Part 34): 1988(RA 2014)	0.5	No Relaxation	<0.1
9.	Anionic Detergents(as MBAS) in mg/l	IS 13428-2005(Annex K)	0.2	1.0	<0.02
10.	Boron(as B) in mg/l	IS 13428-2005(Annex L)	0.5	2.4	<0.5
11.	Calcium(as Ca) in mg/l	IS 3025 (Part 40): 1991(RA 2014)	75	200	79.2
12.	Chloride(as Cl) in mg/l	IS 3025 (Part 32): 1988 (RA 2014)	250	1000	109
13.	Copper(as Cu) in mg/l	IS 3025 (Part 42): 1992(RA 2014)	0.05	1.5	<0.02
14.	Fluoride(as F) in mg/l	APHA 23rd Edition 2017, 4500 F D	1.0	1.5	<0.1
15.	Free Residual Chlorine in mg/l	IS 3025 (Part 26): 1986(RA 2014)	0.2	1.0	<0.1
16.	Iron (as Fe) in mg/l	IS 3025 (Part 53): 1988(RA 2014)	1.0	No Relaxation	0.18
17.	Magnesium(as Mg) in mg/l	IS 3025 (Part 46): 1994(RA 2014)	30	100	33.8
18.	Manganese (as Mn) in mg/l	IS 3025 (Part 59): 2006 (RA 2014)	0.1	0.3	<0.02
19.	Mineral Oil in mg/l	IS 3025 (Part 39): 1991 (RA 2014)	1.0	No Relaxation	<0.5
20.	Molybdenum (as Mo) in mg/l	APHA 23rd Edition, 2017, 3113B	0.07	No Relaxation	<0.05
21.	Nitrate (as NO <sub>3</sub> ) in mg/l	IS 3025 (Part 34): 1988(RA 2014)	45	No Relaxation	<0.5
22.	Phenolic Compounds(as C <sub>6</sub> H <sub>5</sub> OH) in mg/l	IS 3025 (Part 43): 1992(RA 2014)	0.001	0.002	<0.001
23.	Selenium(as Se) in mg/l	IS 15303: 2003 (RA 2013)	0.01	No Relaxation	<0.01
24.	Sulphate (as SO <sub>4</sub> ) in mg/l	IS 3025 (Part 24): 1986 (RA 2014)	200	400	59.7
25.	Alkalinity(as CaCO <sub>3</sub> ) in mg/l	IS 3025 (Part 23): 1986(RA 2014)	200	600	347.6
26.	Total Hardness (as CaCO <sub>3</sub> ) in mg/l	IS 3025 (Part 21): 2013	200	600	338.8
27.	Cadmium(as Cd) in mg/l	IS 3025 (Part 41): 1992(RA 2014)	0.003	No Relaxation	<0.002
28.	Cyanide(as CN) in mg/l	IS 3025 (Part 27): 1986(RA 2014)	0.05	No Relaxation	<0.02
29.	Lead(as Pb) in mg/l	IS 3025 (Part 47): 1994 (RA 2014)	0.01	No Relaxation	<0.01
30.	Mercury(as Hg) in mg/l	IS 3025 (Part 48): 1994(RA 2014)	0.001	No Relaxation	<0.001
31.	Arsenic(as As) in mg/l	IS 3025 (Part 37): 1988 (RA 2014)	0.01	No Relaxation	<0.01
32.	Zinc(as Zn) in mg/l	IS 3025 (Part 49): 1994 (RA 2014)	5	15	<0.02
33.	Total Chromium (as Cr) in mg/l	IS 3025 (Part 52): 2014(RA 2014)	0.05	No Relaxation	<0.05

Prepared By:

for Qualissure Laboratory Services

Reviewed &amp; Authorized By

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 Soumy Chakraborty, Microbiologist  
 (Authorized Signatory)

for Qualissure Laboratory Services

Reviewed &amp; Authorized By

*B. Banerjee*  
 Bishnupriya Banerjee, Chemist  
 (Authorized Signatory)

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# Qualissure Laboratory Services



TC-6271

361, Prantick Pally, 45/361, Bose Pukur Road, Kolkata -700107  
Email : qualissure@gmail.com; info@qualissure.com ; Mob.No. 98312 87086 ; 9830093976

DOC NO : QLS/SAMP/08-D/00

## TEST REPORT

<b>Name &amp; Address of the Customer:</b>  M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O.- Nandi, Paschim Bardhaman, Pin : 713 344	<b>ULR No.</b>	: TC627123000000349F
	<b>Report No.</b>	: QLS/W/22-23/C/641
	<b>Date</b>	: 04.02.2023
	<b>Sample No.</b>	: QLS/W/22-23/641
	<b>Sample Description</b>	: Ground Water
	<b>Sample Mark/Location</b>	: Damodarpur Village(23°42'13.28N;87°5'8.16"E)
	<b>Sample Drawn On</b>	: 27.01.2023
	<b>Date of Performance(s)</b>	: 28.01.2023-03.02.2023
	<b>Sampling Method</b>	: IS 3025(Part 1): 1987 (RA 2019)
	<b>Ref No. Date</b>	: WS22601-001, Dated - 14.07.2022

### Analysis Result

#### (A) Microbiological Analysis

Sl. No.	Characteristic	Limit as Per IS 10500 :2012 Amd. 2	Test Method	Result
1.	E.coli/100ml	Not Detectable	IS 15185-2016	Not Detected
2.	Total Coliform Bacteria/100ml	Not Detectable	IS 15185-2016	Not Detected
3.	Faecal Coliform/100ml	---	IS 1622-1981,(RA 2019)	<2

#### (B) Chemical Analysis

Sl. No.	Test Parameter	Test Method	As per Drinking Water Standard : IS:10500, 2012 Amd. 1, 2 & 3		Result
			Acceptable Limit	Permissible Limit	
1.	Colour in Hazen Units	IS 3025 (Part 4): 1983 (RA 2012)	5	15	<5
2.	Odour	IS 3025 (Part 5): 1983 (RA 2012)	Agreeable	Agreeable	Agreeable
3.	Taste	IS 3025 (Part 7 & 8): 1984 (RA 2002)	Agreeable	Agreeable	Agreeable
4.	pH Value at 25°C	IS 3025 (Part 11): 1984 (RA 2012)	6.5-8.5	No Relaxation	7.82
5.	Turbidity in NTU	IS 3025 (Part 10): 1984 (RA 2012)	1	5	<1.0
6.	Total Dissolved Solids (as TDS) in mg/l	IS 3025 (Part 16): 1984 (RA 2012)	500	2000	532
7.	Aluminium (as Al) in mg/l	IS 3025 (Part 55): 2003 (RA 2014)	0.03	0.2	<0.01
8.	Ammonia as NH <sub>3</sub> in mg/l	IS 3025 (Part 34): 1988(RA 2014)	0.5	No Relaxation	<0.1
9.	Anionic Detergents(as MBAS) in mg/l	IS 13428-2005(Annex K)	0.2	1.0	<0.02
10.	Boron(as B) in mg/l	IS 13428-2005(Annex L)	0.5	2.4	<0.5
11.	Calcium(as Ca) in mg/l	IS 3025 (Part 40): 1991(RA 2014)	75	200	72.2
12.	Chloride(as Cl) in mg/l	IS 3025 (Part 32): 1988 (RA 2014)	250	1000	115.1
13.	Copper(as Cu) in mg/l	IS 3025 (Part 42): 1992(RA 2014)	0.05	1.5	<0.02
14.	Fluoride(as F) in mg/l	APHA 23rd Edition 2017, 4500 F D	1.0	1.5	<0.1
15.	Free Residual Chlorine in mg/l	IS 3025 (Part 26): 1986(RA 2014)	0.2	1.0	<0.1
16.	Iron (as Fe) in mg/l	IS 3025 (Part 53): 1988(RA 2014)	1.0	No Relaxation	0.22
17.	Magnesium(as Mg) in mg/l	IS 3025 (Part 46): 1994(RA 2014)	30	100	41.1
18.	Manganese (as Mn) in mg/l	IS 3025 (Part 59): 2006 (RA 2014)	0.1	0.3	<0.02
19.	Mineral Oil in mg/l	IS 3025 (Part 39): 1991 (RA 2014)	1.0	No Relaxation	<0.5
20.	Molybdenum (as Mo) in mg/l	APHA 23rd Edition, 2017, 31138	0.07	No Relaxation	<0.05
21.	Nitrate (as NO <sub>3</sub> ) in mg/l	IS 3025 (Part 34): 1988(RA 2014)	45	No Relaxation	<0.5
22.	Phenolic Compounds(as C <sub>6</sub> H <sub>5</sub> OH) in mg/l	IS 3025 (Part 43): 1992(RA 2014)	0.001	0.002	<0.001
23.	Selenium(as Se) in mg/l	IS 15303: 2003 (RA 2013)	0.01	No Relaxation	<0.01
24.	Sulphate (as SO <sub>4</sub> ) in mg/l	IS 3025 (Part 24): 1986 (RA 2014)	200	400	76.1
25.	Alkalinity(as CaCO <sub>3</sub> ) in mg/l	IS 3025 (Part 23): 1986(RA 2014)	200	600	330
26.	Total Hardness (as CaCO <sub>3</sub> ) in mg/l	IS 3025 (Part 21): 2013	200	600	352
27.	Cadmium(as Cd) in mg/l	IS 3025 (Part 41): 1992(RA 2014)	0.003	No Relaxation	<0.002
28.	Cyanide(as CN) in mg/l	IS 3025 (Part 27): 1986(RA 2014)	0.05	No Relaxation	<0.02
29.	Lead(as Pb) in mg/l	IS 3025 (Part 47): 1994 (RA 2014)	0.01	No Relaxation	<0.01
30.	Mercury(as Hg) in mg/l	IS 3025 (Part 48): 1994(RA 2014)	0.001	No Relaxation	<0.001
31.	Arsenic(as As) in mg/l	IS 3025 (Part 37): 1988 (RA 2014)	0.01	No Relaxation	<0.01
32.	Zinc(as Zn) in mg/l	IS 3025 (Part 49): 1994 (RA 2014)	5	15	<0.02
33.	Total Chromium (as Cr) in mg/l	IS 3025 (Part 52): 2014( RA 2014)	0.05	No Relaxation	<0.05

Prepared By:

*Sey*

for Qualissure Laboratory Services

Reviewed & Authorized By

*S. Chakraborty*  
Soumy Chakraborty, Microbiologist  
(Authorized Signatory)

for Qualissure Laboratory Services

Reviewed & Authorized By

*Bishnu Priya Banerjee*  
Bishnu Priya Banerjee, Chemist  
(Authorized Signatory)

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TC-6271

DOC No : QLS/SAMP/08-D/00

## TEST REPORT

<b>Name &amp; Address of the Customer:</b>  M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O.- Nandi, Paschim Bardhaman, Pin : 713 344	ULR No.	: TC62712300000350F
	Report No.	: QLS/W/22-23/C/642
	Date	: 04.02.2023
	Sample No.	: QLS/ W/22-23/642
	Sample Description	: Ground Water
	Sample Mark/Location	: Mondalpur Village(23°41'4.82N;87°5'13.46"E)
	Sample Drawn On	: 27.01.2023
	Date of Performance(s)	: 28.01.2023-03.02.2023
	Sampling Method	: IS 3025(Part 1): 1987 (RA 2019)
	Ref No. Date	: WS22601-001, Dated - 14.07.2022

### Analysis Result

#### (A) Microbiological Analysis

Sl. No.	Characteristic	Limit as Per IS 10500-2012 Amd. 2	Test Method	Result
1.	E.coli/100ml	Not Detectable	IS 15185-2016	Not Detected
2.	Total Coliform Bacteria/100ml	Not Detectable	IS 15185-2016	Not Detected
3.	Faecal Coliform/100ml	—	IS 1622-1981,(RA 2019)	<2

#### (B) Chemical Analysis

Sl. No.	Test Parameter	Test Method	As per Drinking Water Standard : IS:10500, 2012 Amd. 1, 2 & 3		Result
			Acceptable Limit	Permissible Limit	
1.	Colour in Hazen Units	IS 3025 (Part 4): 1983 (RA 2012)	5	15	<5
2.	Odour	IS 3025 (Part 5): 1983 (RA 2012)	Agreeable	Agreeable	Agreeable
3.	Taste	IS 3025(Part 7 & 8): 1984 (RA 2002)	Agreeable	Agreeable	Agreeable
4.	pH Value at 25°C	IS 3025 (Part 11): 1984 (RA 2012)	6.5-8.5	No Relaxation	7.71
5.	Turbidity in NTU	IS 3025 (Part 10): 1984 (RA 2012)	1	5	<1.0
6.	Total Dissolved Solids (as TDS) in mg/l	IS 3025 (Part 16): 1984 (RA 2012)	500	2000	514
7.	Aluminium (as Al) in mg/l	IS 3025 (Part 55): 2003 (RA 2014)	0.03	0.2	<0.01
8.	Ammonia as NH <sub>3</sub> in mg/l	IS 3025 (Part 34): 1983(RA 2014)	0.5	No Relaxation	<0.1
9.	Anionic Detergents(as MBAS) in mg/l	IS 13428-2005(Annex K)	0.2	1.0	<0.02
10.	Boron(as B) in mg/l	IS 13428-2005(Annex L)	0.5	2.4	<0.5
11.	Calcium(as Ca) in mg/l	IS 3025 (Part 40): 1993(RA 2014)	75	200	81
12.	Chloride(as Cl) in mg/l	IS 3025 (Part 32): 1988 (RA 2014)	250	1000	115.1
13.	Copper(as Cu) in mg/l	IS 3025 (Part 42): 1992(RA 2014)	0.05	1.5	<0.02
14.	Fluoride(as F) in mg/l	APHA 23rd Edition 2017, 4500 F D	1.0	1.5	<0.1
15.	Free Residual Chlorine in mg/l	IS 3025 (Part 26): 1985(RA 2014)	0.2	1.0	<0.1
16.	Iron (as Fe) in mg/l	IS 3025 (Part 53): 1988(RA 2014)	1.0	No Relaxation	0.51
17.	Magnesium(as Mg) in mg/l	IS 3025 (Part 46): 1994(RA 2014)	30	100	37
18.	Manganese (as Mn) in mg/l	IS 3025 (Part 59): 2006 (RA 2014)	0.1	0.3	<0.02
19.	Mineral Oil in mg/l	IS 3025 (Part 39): 1991 (RA 2014)	1.0	No Relaxation	<0.5
20.	Molybdenum (as Mo) in mg/l	APHA 23rd Edition, 2017, 3113B	0.07	No Relaxation	<0.05
21.	Nitrate (as NO <sub>3</sub> ) in mg/l	IS 3025 (Part 34): 1988(RA 2014)	45	No Relaxation	<0.5
22.	Phenolic Compounds(as C <sub>6</sub> H <sub>5</sub> OH) in mg/l	IS 3025 (Part 43): 1992(RA 2014)	0.001	0.002	<0.001
23.	Selenium(as Se) in mg/l	IS 15303: 2003 (RA 2013)	0.01	No Relaxation	<0.01
24.	Sulphate (as SO <sub>4</sub> ) in mg/l	IS 3025 (Part 24): 1986 (RA 2014)	200	400	62.4
25.	Alkalinity(as CaCO <sub>3</sub> ) in mg/l	IS 3025 (Part 23): 1986(RA 2014)	200	600	347.6
26.	Total Hardness (as CaCO <sub>3</sub> ) in mg/l	IS 3025 (Part 21): 2013	200	600	356.4
27.	Cadmium(as Cd) in mg/l	IS 3025 (Part 41): 1992(RA 2014)	0.003	No Relaxation	<0.002
28.	Cyanide(as CN) in mg/l	IS 3025 (Part 27): 1986(RA 2014)	0.05	No Relaxation	<0.02
29.	Lead(as Pb) in mg/l	IS 3025 (Part 47): 1994 (RA 2014)	0.01	No Relaxation	<0.01
30.	Mercury(as Hg) in mg/l	IS 3025 (Part 48): 1994(RA 2014)	0.001	No Relaxation	<0.001
31.	Arsenic(as As) in mg/l	IS 3025 (Part 37): 1988 (RA 2014)	0.01	No Relaxation	<0.01
32.	Zinc(as Zn) in mg/l	IS 3025 (Part 49): 1994 (RA 2014)	5	15	<0.02
33.	Total Chromium (as Cr) in mg/l	IS 3025 (Part 52): 2014 (RA 2014)	0.05	No Relaxation	<0.05

Prepared By:

*S. Chakraborty*

for Qualissure Laboratory Services

Reviewed & Authorized By

*S. Chakraborty*  
Soumy Chakraborty, Microbiologist  
(Authorized Signatory)

for Qualissure Laboratory Services

Reviewed & Authorized By

*Bishnupriya Banerjee*  
Bishnupriya Banerjee, Chemist  
(Authorized Signatory)

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TC-6271

DOC NO : QLS/SAMP/08-C/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b>  M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O.: Nandi, Paschim Bardhaman, Pin : 713 344	ULR No.	: TC627122000005277F
	Report No.	: QLS/A/22-23/C/552
	Date	: 08.11.2022
	Sample No.	: QLS/A/22-23/552(A-D)
	Sample Description	: Noise Monitoring
	Date of Performance(s)	: 17.10.2022-22.10.2022
	Ref No. Date	: WS22714-001, Dt.14.07.2022

## Monitoring Result of Noise

Sampling Done By: S.Ghosh/J.Sahana				
Sampling Guideline : As per IS: 9876: 1981 (RA-2001)				
Sample No	Date of Monitoring	Location	Leq dB (A) Day Time	Leq dB (A) Night Time
552A	13-14.10.2022	Near CPP Area	63.5	51.6
552B		Near Ferro Plant	68.2	56.3
552C	14-15.10.2022	Near Main Gate	62.0	50.1
552D		Near 600 TPD DRI	67.5	54.7

Code/ Category	Leq dB Day Time(A)	Leq dB Night Time(A)	<b>NOTE:</b> Day Time : 06.00 Hr. – 22.00 Hr. Night Time : 22.00 Hr. – 06.00 Hr.
A/Industrial	75	70	
B/Commercial	65	55	
C/Residential	55	45	
D/Ecological Sensitive	50	40	

for Qualissure Laboratory Services  
 Reviewed & Authorized By  
  
 (Authorized Signatory)

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- The reserved part of sample(s), except perishable sample(s), shall be retained for 30 days from the date of issue of the Test Report.



## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarapur, Jamuria P.O.: Nandi, Paschim Bardhaman, Pin : 713 344	Report No.	: QLS/A/22-23/C/908
	Date	: 14.02.2023
	Sample No.	: QLS/A/22-23/908(A-D)
	Sample Description	: Noise Monitoring
	Date of Performance(s)	: 22 - 28.01.2023
	Ref No. Date	: WS22714-001, Dt.14.07.2022

## Monitoring Result of Noise

Sampling Done By: S.Ghosh/J.Sahana				
Sampling Guideline : As per IS: 9876: 1981 (RA-2001)				
Sample No	Date of Monitoring	Location	Leq dB (A) Day Time	Leq dB (A) Night Time
908A	20-21.01.2023	Near CPP Area	64.3	50.7
908B		Near Ferro Plant	62.7	52.4
908C	21-22.01.2023	Near Main Gate	61.8	50.1
908D		Near 600 TPD DRI	64.9	51.7

Code/ Category	Leq dB Day Time(A)	Leq dB Night Time(A)
A/Industrial	75	70
B/Commercial	65	55
C/Residential	55	45
D/Ecological Sensitive	50	40

**NOTE:**  
Day Time : 06.00 Hr. – 22.00 Hr.  
Night Time : 22.00 Hr. – 06.00 Hr.

Report Prepared By :

for Qualissure Laboratory Services  
Reviewed & Authorized By

(Benimadhab Gorai, Chemist)  
(Authorized Signatory)

----- End of the Report -----

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**Fw: LOI for Roof Top Solar Power Installation capacity of 245.7kWp- GMPL**

Sanjay Agarwal <sanjay.agarwal@supershakti.in>

Tue 02-05-2023 12:10

To: Chandrachur Ghosh <chandrachur.ghosh@supershakti.in>

1 attachments (3 MB)

SSL Techno-Commercial Proposal\_Revised.pdf;

**From:** Niraj Shroff <niraj.shroff@supershakti.in>

**Sent:** 02 May 2023 11:11

**To:** Sanjay Agarwal <sanjay.agarwal@supershakti.in>

**Subject:** FW: LOI for Roof Top Solar Power Installation capacity of 245.7kWp- GMPL

**From:** Pratap Routery <pratap.routrey@giridhanmetal.com>

**Sent:** Friday, April 28, 2023 4:35 PM

**To:** Ghosh Soumyajit <soumyajit.ghosh@tatapower.com>

**Cc:** Niraj Shroff <niraj.shroff@supershakti.in>; Basu Abhinanda <abhinanda.basu@tatapower.com>; Shyam Somani <shyam.somani@supershakti.in>; Vivek Srivastava <vivek.s@supershakti.in>; Mukesh Mishra <mukesh.mishra@giridhanmetal.com>; Ganesh Kumar <ganesh.kumar@giridhanmetal.com>; Sanjay Agarwal-GMPL <sanjay.agarwal@giridhanmetal.com>; Rajeev Jha <rajeev\_jha@supershakti.in>; MANOJ KUMAR MISHRA <manoj.mishra@giridhanmetal.com>; Farrukh Nadeem <farrukh.nadeem@giridhanmetal.com>; Parag Mukherjee <parag.mukherjee@supershakti.in>; Amaresh Mishra <amaresh.mishra@supershakti.in>

**Subject:** LOI for Roof Top Solar Power Installation capacity of 245.7kWp- GMPL

Dear Soumyajit Ji,

I am pleased to inform you that your proposal for the **installation of roof top solar power having capacity of 245.7kWp** at our facility has been selected. We appreciate the effort and dedication put into the submission of your proposal.

After careful evaluation of the proposal received, we are confident that your company has the necessary expertise and experience to deliver the quality of work required for this project. We are looking forward to collaborating with your team to bring this project to completion.

As per the mutual agreed terms, the contract is for the installation of roof top solar power at our facility located at Giridhan Metal Private Limited (detailed address mentioned below). The scope of work includes the supply and installation of all necessary equipment and materials, testing and commissioning of the system, and training our staff on the operation and maintenance of the system.

We expect the project to be completed within 45 days (PO/advance payment/site handover whichever happens later) done to Tata Power and we are confident that your team will work diligently to meet this deadline.

Please arrange for a final Contract/Agreement copy with clearly mentioning the Scope, BOM, timeline & Term Condition for the project awarded asap. The Purchase Order will follow post acceptance of this LOI, and final agreement copy received from TATA Power.

We appreciate your professionalism and dedication to this project. We look forward to a successful partnership with your company.

Please find the attached proposal which submitted by you during our discussions based on which the contract has been awarded.

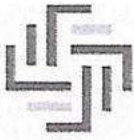
Thank you for your time and effort.

Thanks & Regards,

Pratap Routray (Manager - Procurement)

Giridhan Metal Private Limited



**SHREE SWASTICK  
INDUSTRIES**

39 G.T. Road, Bansra More P.O. Searsole Rajbari - 713358, Raniganj, Dist. Burdwan (W.B.)  
Contact: (+91) 94340 34806 | shree\_swastick@yahoo.com | www.shreeswastick.com

Manufacturers of cement bricks, paver blocks, designer tiles and precast products

Ref: SSI/23-24/APR/21-3

Date: 21-04-2023

To,  
M/s. Giridhan Metal Private Limited  
Jamuria Industrial Estate, Po. Nandi  
P.s. Jamuria, Dist- Paschim Burdwan  
(W.B) Pincode-713344

Kind. Attn: Director

Dear Sir,

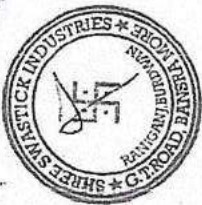
As Discussed with you we are desirous of purchasing the following materials from your upcoming project as per market rate prevailing at that time or as mutually agreed.

1. Power Plant Fly Ash – Forty Five to Fifty thousand tons per annum.

We would request you that whenever your plant commenced production we should be given priority to lift the aforesaid material.

Thanking You  
Yours Faithfully

**For Shree Swastick Industries**





**EASTERN COALFIELDS LIMITED**

(A Subsidiary of Coal India Limited)

Office of the Chief Manager (M)/ Agent

Amritnagar Group of Mines, Kunustoria Area

P.O.- Searsole Rajbari, Dist. Paschim Bardhaman

(W.B.) Pin - 713358

Ref. No. ECL/AMRT/2654/03/23

Date 23.03.2023

To  
The Director  
Giridhan Metal Pvt. Ltd.  
Jamuria Industrial Estate, Damodarpur,  
P.O. Nandi – 713344, Jamuria,  
Dist. Paschim Bardhaman (W.B.)

Sub: Permission for disposal of Industrial Waste

Dear Sir,


In response of your request letter dated 20.03.2023 for above noted subject matter issued by letter No. Nil dated 20<sup>th</sup> March 2023 we would like to inform you that the competent authority has given his permission for disposal of your said waste materials at the following places of Amritnagar Colliery.

1.

Our Terms & Condition are as follows:

- 1) Due case should be taken of environment from your end.
- 2) Material should be transported under covered condition.
- 3) No financial Aid will be given from E.C.L. end.
- 4) Compaction and levelling of fly ash will be done by your end.
- 5) Counting of trip of disposal will be totally your responsibility and not of E.C.L. authority.

Yours faithfully

  
Chief Manager (Mining) Agent  
Amritnagar Gr. of Mines

CC. to

1. GM – Projects ECL, Sanctoria
2. AGM, Amritnagar Area
3. Manager, Amritnagar Area
4. Area Survey Officer – Amritnagar Area

**SRI OM INDUSTRIES**

Manufacturer of Fly Ash Bricks and Pavers  
Jamuria, Haripur Main Road, Vill - Damodarpur, P.O.- Jamuria  
Dist.- Paschim Bardhaman (W.B.), Pin.- 713336  
Contact No.- 933342867, 9434182447, 7797507777

Ref. No.:-

Date .....

Date: 27/02/2020

To  
M/s. Giridhan Metal Private Limited  
Jamuria Industrial Estate, Po. Nandi  
Ps. Jamuria, Dist. Paschim Bardhaman  
(W.B) Pincode: 713344

Kind. Attn: Director

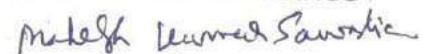
Dear Sir,

As discussed with you we are desirous of purchasing the following materials from your upcoming project as per market rate prevailing at that time or as mutually agreed.

1. Power Plant Fly Ash – Twenty Four Thousand Metric Tonne Per Annum

We would request you that whenever your plant commences production we should be given priority to lift the aforesaid material.

For Sri Om Industries



Partner



# DAMODAR ISPAT LIMITED

Damodar Ispat Limited

Registered Office & Factory :  
Jamuria Industrial Estate, P.O. Nandi, P.S. Jamuria, Jamuria, Paschim Bardhaman, W.B., Pin. 713344  
Mobile : 7547914101, E-mail : info@damodarispat.in  
CIN : U27310WB2003PLC095960, GST : 19AACCD0307J1ZX

Date: 27/02/2020

To  
M/s. Giridhan Metal Private Limited  
Jamuria Industrial Estate, Po. Nandi  
Ps. Jamuria, Dist. Paschim Bardhaman  
(W.B) Pincode: 713344

Kind. Attn: Director

Dear Sir,

As discussed with you we are desirous of purchasing the following materials from your upcoming project as per market rate prevailing at that time or as mutually agreed.

1. Power Plant Fly Ash – 2000-2500 MT per month (annually 25000 MT approx) for manufacture of Fly Ash Bricks.  
We additionally need
2. Bottom Fly Ash - 400-500 MT per month (annually 5000 MT approx) for manufacture of Paver Block.

We would request you that whenever your plant commences production we should be given priority to lift the aforesaid material.

For DAMODAR ISPAT LTD.

[Authorised Signatory]



Accepted  
Haim  
Authorised Signatory  
For GIRIDHAN METAL PRIVATE LIMITED





## SUPER SMELTERS LTD.

An ISO 9001:2008 Certified Company

Regd. Office : Premlata | 39 Shakespeare Sarani | 2nd Floor | Kolkata-700 017 | Telefax : +91 33 2289 2734-36

### PURCHASE AGREEMENT

This Purchase Agreement is made and executed on the 1<sup>st</sup> day of April-2023

#### BETWEEN

**SUPER SMELTERS LIMITED**, a company registered under the companies Act, 1956 having its registered office at "PREMLATA" 39, Shakespeare Sarani, 2<sup>nd</sup> Floor Kolkata-700 017 West Bengal, having plant manufacturing facilities situated at Jamuria Industrial Estate, Rajaram Danga, P.O. Ikra, P.S. Jamuria, Paschim Bardhaman-713 362, West Bengal (hereinafter referred to as "SSL"), which term shall unless excluded by or repugnant to the context include its permitted successors, assigns and nominees, of the **FIRST PART**

#### AND

**GIRIDHAN METAL PRIVATE LIMITED**, a company under the companies Act, 2013 having its registered office at "PREMLATA" 39, Shakespeare Sarani, 2<sup>nd</sup> Floor, Kolkata-700 017, West Bengal, having plant manufacturing facilities situated at Jamuria Industrial Estate P. S Jamuria, P.O. Nandi, Paschim Bardhaman- 713 344, West Bengal(hereinafter referred to as "GMPL"), which term shall unless excluded by or repugnant to the context include its permitted successors, assigns and nominees, of the **SECOND PART**.

**SSL AND GMPL** are hereinafter individually referred to as "Party" and collectively as the "Parties".

#### Description of Supply/Services

SSL is intended to procure 25000 MTS (Approx) of Dolochar/Charcoal @ 800/- PMT excluding other charges as per present market price from the Giridhan Metal Private Limited.

The Dolochar/Charcoal shall be delivered to the place designated by SSL for such above quantity. All transportation cost related to purchase of Dolochar/ Charcoal shall be borne by SSL and shall be their responsibilities to make the payment.

The order quantity as above will be lifted by SSL in F.Y. 2023-24.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on this 1<sup>st</sup> April 2023.

**SUPER SMELTERS LIMITED**

Authorised Signatory

**GIRIDHAN METAL PRIVATE LIMITED**

Authorised Signatory

**SUPER SHAKTI**<sup>TM</sup>

## **GIRIDHAN METAL PRIVATE LIMITED**

JAMURIA INDUSTRIAL ESTATE,  
P. O. NANDI, P. S. JAMURIA,  
PASCHIM BARDHMAN-713344(W.B.)

Expansion of Integrated Steel Plant by expanding Sponge Iron from 1,20,000 TPA to 3,18,000 TPA, MS Billets from 1,05,000 TPA to 3,72,300 TPA, Rolling Mill from 1,00,000 TPA to 3,00,000 TPA, Submerged Arc Furnace (SAF) from 15,000 TPA to 30,000 TPA & Captive Power Plant from 16 MW to 42 MW including Waste Heat Recovery Boiler (WHRB).

A DOCUMENT ON  
**HAZARDS IDENTIFICATION AND RISK ASSESSMENT**

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b> DEMOLITION WORK	<b>Department :</b> CONSTRUCTION	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
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HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Setting up working platform (Scaffold)	Scaffold rod collapsed and hit a person at site.	Major injury/illness (Long absenteeism, M.C > 14 days).	Use safety net; Proper planning of work.	2	4	<b>8</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Heat stress/stroke due to hot working environment.	Near miss/ unsafe act/ unsafe condition.	Workers to take a short break where applicable.	3	1	<b>3</b>	Additional control shall be proposed when necessary.
	Electrocution due to faulty wiring touching metal.	Fatality or permanent disability or irreversible illness	Do not allow electrical wiring through scaffold structures.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
Setting up working platform (Ladder)	Slippery, ladder fall.	Fatality or permanent disability or irreversible illness	Buddy system properly secured.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Ladder broke.	Fatality or permanent disability or irreversible illness	Check the ladder properly before use.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Heat stress/stroke due to hot working environment.	Near miss/ unsafe act/ unsafe condition.	Workers to take a short break where applicable.	3	1	<b>3</b>	Additional control shall be proposed when necessary.
	Overstretching.	Near miss/ unsafe act/ unsafe condition.	Workers to take a short break.	3	1	<b>3</b>	Additional control shall be proposed when necessary.
	Space constrain.	Near miss/ unsafe act/ unsafe condition.	Training and proper planning of work.	4	1	<b>4</b>	Additional control shall be proposed when necessary.
Setting up working platform (Temporary Staging)	Temporary staging broke due to overloading of debris which is not removed.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000).	Training and proper planning of work.	2	2	<b>4</b>	Additional control shall be proposed when necessary.
Working environment	Falling from height	Fatality or permanent disability or irreversible illness	Workers wear safety harness; Provide safe working procedure.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Electrocuted due to faulty electrical equipment/dismantling wiring.	Fatality or permanent disability or irreversible illness	Wear proper PPE; Provide safe working/proper handling procedure.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Use of solvents or any other chemical.	First aid cases/medical treatment (M.C between 1 to 3 days)	Proper protective clothing; Training.	3	2	<b>6</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Lighting.	First aid cases/medical treatment (M.C between 1 to 3 days)	To provide adequate lighting.	2	2	<b>4</b>	Additional control shall be proposed when necessary.
	Falling and drowned.	Fatality or permanent disability or irreversible illness	Fall protection provided; To wear life jacket.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
DEMOLITION WORK (Cont'd)	CONSTRUCTION			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Working at height	Fall during erection	Severe injury /fatality	Work Permit Procedure, Use of PPEs like Full body harness, fall arrestor and helmet.	4	2	8	BOCW Act 1996 and state rules
	Failure of ladder structure	Failure of ladder structure	Weekly safety inspection	4	2	8	BOCW Act 1996 and state rules
	Tripping or slipping from ladders or stairs	Severe injury /fatality	Work Permit Procedure, Use of PPEs like Full body harness, fall arrestor and helmet.	4	2	8	BOCW Act 1996 and state rules
Welding work	Incompetence of employees	Incompetence employees can result in an injury	BOCW Act 1996 and state rules	3	3	9	Only trained welders must be used, Work Permit System Procedure for Welding and Cutting Safety.
	Use of damaged welding holder & cable	Electrocution, shock resulting in injury	Electricity Rules 1956	3	3	9	Only trained welders must be used, Work Permit System Procedure for Welding and Cutting Safety.
	Explosion of cylinder due to mishandling	Burn injury/fatality/	Gas Cylinders Rules 2004	2	2	4	Procedure for Welding and Cutting Safety
	Working in inadequate lighting conditions	eye problem/ headache / other like slip/trip/fall	Light posts have been provided.	2	2	4	Light posts have been provided.
	Use of improper PPE's	Inadequate or wrong PPE could cause injuries	BOCW Act 1996 and state rules	2	2	4	Procedure for selection of PPEs, Procedure for Inspection of PPEs and Safety Devices.
Grinding work at Fabrication Area	Use of improper PPE's	Inadequate or wrong PPE could cause injuries	BOCW Act 1996 and state rules	2	2	4	Procedure for selection of PPEs Procedure for Inspection of PPEs and Safety Devices
	Operation of grinding wheel without wheel guard	Physical injury/fatality	BOCW Act 1996 and state rules	3	4	12	Guards to be ensured on the wheel, Abrasive Wheel Safety Procedure(
	No separate switches for common extension board	Physical injury/fatality	Electricity Rules 1956	2	2	4	Electrical Safety Procedure. Procedure for Electrical Safety Inspection
	Operation of grinding wheel without wheel guard	Physical injury/fatality	Electricity Rules 1956	2	2	4	Guards to be ensured on the wheel, Abrasive Wheel Safety Procedure
	Use of damaged power cables & bare wire connections	Electrical shock, physical injury	Electricity Rules 1956	2	2	4	Electrical Safety Procedure. 28), Procedure for Electrical Safety Inspection

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

Gas cutting work	Back fire in gas cutting torch and gas cylinder	Burn injury/fatality	BOCW Act 1996 and state rules	4	4	16	Flash back arrestors are available at cylinder side as well as gas cutting torch, Procedure for Welding and Cutting Safety
	Flash back in gas cutting torch	burn injury	BOCW Act 1996 and state rules	3	3	9	Flash back arrestors are available at cylinder side as well as gas cutting torch, Procedure for Welding and Cutting Safety
	Damage of gas cylinder valve due to roll and fall	Fire/major injury/explosion/fatality	Gas cylinder rules 2004	3	2	6	Procedure for Welding and Cutting Safety
	Improper storage of gas cylinders	Physical injury due to fall of cylinders/explosion/property damage	Gas cylinder rules 2004	3	3	9	Procedure for Welding and Cutting Safety
	Fire/explosion due to heat exposure	Major burn injury/fatality	Gas cylinder rules 2005	2	2	4	Procedure for Welding and Cutting Safety
	Use of inadequate/improper PPE's	Inadequate or wrong PPE could cause injuries	BOCW Act 1996 and state rules	2	3	6	Procedure for selection of PPEs , Procedure for Inspection of PPEs and Safety Devices
Working environment	Heat stress/stroke due to hot working environment.	Near miss/ unsafe act/ unsafe condition.	Use proper ventilation system; Workers to take a short break.	3	1	3	Additional control shall be proposed when necessary.
	Body injuries due to struck by object / material debris.	Fatality or permanent disability or irreversible illness	Wear proper PPE.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Physical stress/repetitive work.	Near miss/ unsafe act/ unsafe condition.	Workers to take a short break where applicable.	3	1	3	Additional control shall be proposed when necessary.
Working with manual handling	Physical stress due to vibration.	Near miss/ unsafe act/ unsafe condition.	Workers to take a short break where applicable.	3	1	3	Additional control shall be proposed when necessary.
	Punching.	First aid cases/medical treatment (M.C between 1 to 3 days)	Training on proper handling; Wear proper PPE.	2	2	4	Additional control shall be proposed when necessary.
	Repetitive work.	Near miss/ unsafe act/ unsafe condition.	Working in interval time limit.	3	1	3	Additional control shall be proposed when necessary.
	Rotating, Shearing.	Minor injury/illness (M.C between 5 to 14 days)	Machine guarding; Training on proper handling.	2	3	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Body injuries/cut caused by sharp object.	Major injury/illness (Long absenteeism, M.C > 14 days);	Worker wear proper PPE.	2	4	8	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Heat due to oxy cutting activities.	Near miss/ unsafe act/ unsafe condition.	Wear proper and safe attire.	3	1	3	Additional control shall be proposed when necessary.
	Electrocuted due to faulty tools wiring.	Fatality or permanent disability or irreversible illness	To check tool equipment free from defect; Wear proper PPE.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Body injuries due to heat/radiation.	Near miss/ unsafe act/ unsafe condition.	Workers wear proper PPE.	2	1	2	Briefing By SHO on safety awareness. Additional control shall be made if necessary.

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

	Inhalation of fume or chemical vapor.	Near miss/ unsafe act/ unsafe condition.	Worker wear proper PPE.	2	1	<b>2</b>	Additional control shall be proposed when necessary.
Working with machinery	Hit by moving object.	Fatality or permanent disability or irreversible illness	Provide signalman and barricade working area.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Damage to equipment/machinery due to mishandling.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000).	Trained operator and close supervision; Provide safe working procedure.	2	2	<b>4</b>	Additional control shall be proposed when necessary.

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By : GMPLE TEAM</b>	<b>Checked By :- GMPLETEAM</b>	<b>Approved By : GMPLE TEAM</b>
<b>CONCRETEING WORK</b>	<b>CONSTRUCTION</b>			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Mobilization of machinery	Traffic Collision	Major injury/illness (Long absenteeism, M.C > 14 days)	Provide experience driver with legal driving licence.	2	4	8	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Machinery collapse due to unstable ground	Major injury/illness (Long absenteeism, M.C > 14 days)	Use steel plate/solid material as a temporary platform.	2	4	8	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Space constrain.	Near miss/ unsafe act/ unsafe condition	Engineer to plan site layout.	3	1	3	Additional control shall be proposed when necessary.
Machinery movement within work area	Traffic collision.	Major injury/illness (Long absenteeism, M.C > 14 days)	Provide trafficman.	2	4	8	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Space constrain.	Near miss/ unsafe act/ unsafe condition	Engineer to plan site layout.	3	1	3	Additional control shall be proposed when necessary.
Unloading of ready mix concrete	Hit by moving object.	Fatality or permanent disability or irreversible illness	Workers wearing proper PPE; Closed supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Hit by falling object.	Fatality or permanent disability or irreversible illness	Operator to check bucket condition; Closed supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Hit by falling object due to broken cable crane.	Fatality or permanent disability or irreversible illness	Crane with PMA certificate; Signal man properly monitor.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Heat stroke from prolonged exposure to sunlight and dehydration.	Near miss/ unsafe act/ unsafe condition	Worker wear hard hat and safety glove; Worker encouraged to take short break; Break if more than 2 hours.	3	1	3	Additional control shall be proposed when necessary.
	Crane boom failure due to overloading or mishandling.	Fatality or permanent disability or irreversible illness	Crane with PMA certificate; Signal man properly monitor.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
In-situ concrete mixing (Manually)	Physical injuries caused by sharp object or hand tools.	Minorinjury/illness (M.C between 5 to 14 days)	Workers wear gloves and safety shoes.	2	3	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Manual handling due to improper lifting techniques.	Minorinjury/illness (M.C between 5 to 14 days)	Use proper hand tool, Proper handling techniques.	2	3	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Working with cement and mineral dust.	Near miss/ unsafe act/ unsafe condition	Workers wear proper PPE.	3	1	3	Additional control shall be proposed when necessary.
	Dermatitis/skin irritation.	Near miss/ unsafe act/ unsafe condition	Workers wear gloves and safety shoes.	3	1	3	Additional control shall be proposed when necessary.

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
<b>EXCAVATION WORK</b>	<b>CONSTRUCTION</b>			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Mobilization/ Unloading of excavator	Physical injuries caused by weight, sharp edges, hit by moving object.	Fatality or permanent disability or irreversible illness	Workers wear proper PPE; Signal man to monitor; Close supervision.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Insects bites or allergy to plants.	Near miss/ unsafe act/ unsafe condition	To ensure that worker wear heavy duty gloves during work.	3	1	<b>3</b>	Additional control shall be proposed when necessary.
	Trip or fall during mount or dismount of machinery.	Minor injury/illness (M.C between 5 to 14 days)	Worker wear proper PPE; Closed supervision.	2	3	<b>6</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Sudden injuries caused by excessive or cumulative lifting and/or work-rest cycle.	Near miss/ unsafe act/ unsafe condition	To ensure that worker do not work more than 2 hours at each time.	3	1	<b>3</b>	Additional control shall be proposed when necessary.
	Struck by overturning machinery due to unstable ground/traffic collision or machinery mishandling.	Fatality or permanent disability or irreversible illness	Instruction and site condition being briefed; Use solid platform; Signal man provided for traffic; Monitoring and provide signage.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
Excavator and case prepare base for site office container, diesel tank and store	Heat stroke caused by prolong exposure to sunlight and lack of water.	Near miss/ unsafe act/ unsafe condition	Workers wear hat and take a short break where applicable.	3	1	<b>3</b>	Additional control shall be proposed when necessary.
	Physical injuries caused by startup/mobilization such as belts, chain or weight of bucket wheel or hydraulic breaker during changeover between different types of accessories.	Minor injury/illness (M.C between 5 to 14 days)	To ensure that only competent person/operator performed mobilization for respective machinery.	2	3	<b>6</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Fire caused by heats engine or cigarette during refuel.	Localized damage (Repair cost > RM10,000 and < RM50,000)	To ensure that operator or worker not smoking during refueling and engine cool down of 15 minutes before refuel.	2	3	<b>6</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
EXCAVATION WORK (Cont'd)	CONSTRUCTION			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Excavate drainage/trenches/channel/site	Struck by collapse slope/falling object/material.	Fatality or permanent disability or irreversible illness	Close supervision; Working in buddy system; Barrier at excavate site area.	4	5	<b>20</b>	Briefing By SHO on safety awareness. Provide extra slope protection.
	Electrocution due to punching underground or overhead electric cable.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Worker or operator being briefed of site condition and hidden danger; Wear proper PPE; Closed supervision.	3	2	<b>6</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Monotony of work and work rest cycle for excavator operator; cumulative trauma of bending over in drainage trenches/channels during side shoring for workers.	Near miss/ unsafe act/ unsafe condition	To ensure that operator or worker not work continuously more than 4 hours and encourage short breaks where applicable.	2	1	<b>2</b>	Additional control shall be proposed when necessary.
	Punching by moving bucket due to improper manual handling.	Fatality or permanent disability or irreversible illness	Provide safe working practice; Warning signage; Close supervision.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Trip/fall/drop into trenches/drain/site during work or inspection.	Minor injury/illness (M.C between 5 to 14 days)	Set up barrier or warning markers; Close supervision.	2	3	<b>6</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
<b>ROAD WORK</b>	<b>CONSTRUCTION</b>			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Unloading material	Physical injuries caused by weight, sharp edges, hit by falling object.	Fatality or permanent disability or irreversible illness	Workers wear gloves and hard hat; Provide safe working procedure; Close supervision.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Snakes & insects bites & allergies from plant might be occurred during the activities	First aid cases/medical treatment (M.C between 1 to 3 days)	All workers at the site are required to wear long safety boots.	2	2	<b>4</b>	Additional control shall be proposed when necessary.
	During verification of peg points, trip / fall might happen.	First aid cases/medical treatment (M.C between 1 to 3 days)	All workers at the site are required to wear long safety boots.	2	2	<b>4</b>	Additional control shall be proposed when necessary.
	Punching.	Major injury/illness (Long absenteeism, M.C > 14 days)	Stay away from the working area.	2	4	<b>8</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Physical injuries caused by swinging object and property damage.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Provide safe working procedure on proper lifting and material handling; Provide warning signage.	2	2	<b>4</b>	Additional control shall be proposed when necessary.
	Crane collapse due to unstable ground.	Fatality or permanent disability or irreversible illness	To check outrigger and ground condition; Close supervision.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Damage to road surface due to crane sitting.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Proper use of outrigger pad; Use of supporting platform.	3	2	<b>6</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Electrocution due to over head or underground live cable.	Minor injury/illness (M.C between 5 to 14 days)	Wear proper gloves; Provide warning signage; Close supervision.	2	3	<b>6</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Boom failure due to overloading or mishandling.	Fatality or permanent disability or irreversible illness	To check on load chart and proper lifting method.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Material falling onto public vehicle/road.	Localized damage (Repair cost > RM10,000 and < RM50,000)	Provide warning signage; Put barrier on working area; Close supervision.	2	3	<b>6</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
Hit by falling object due to improper stacking.	Fatality or permanent disability or irreversible illness	Requirements on proper stacking techniques; Close supervision.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.	

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
<b>ROAD WORK (Cont'd)</b>	<b>CONSTRUCTION</b>			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Working environment and with material	Body injuries while handling machinery/hopper.	Major injury/illness (Long absenteeism, M.C > 14 days).	Provide safe working procedure; Training on machinery handling; Close supervision.	2	4	<b>8</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Health hazard due to tar and bitumen exposure.	Near miss/ unsafe act/ unsafe condition	Wear proper PPE; Close supervision.	3	1	<b>3</b>	Additional control shall be proposed when necessary.
	Heat stroke and dehydration due to prolonged exposure to sunlight or heating material.	Near miss/ unsafe act/ unsafe condition	Worker wear proper PPE; Worker to take a short break where applicable.	3	1	<b>3</b>	Additional control shall be proposed when necessary.
	Heat injury to body due to inappropriate insulation hand tools or inappropriate hands tools.	First aid cases/medical treatment (M.C between 1 to 3 days)	To use proper insulated hand tool; Wear proper PEP.	2	2	<b>4</b>	Additional control shall be proposed when necessary.
	Burnt injury due to mishandling flammable liquid or other combustible materials.	Fatality or permanent disability or irreversible illness	Wear proper PPE; Provide warning signage/MSDS; Close supervision.	1	5	<b>5</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Struck or hit by moving object (Hand tool or machinery).	Fatality or permanent disability or irreversible illness	To check outrigger and ground condition; Close supervision.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Physical injuries caused by traffic collision with public vehicle.	Minor injury/illness (M.C between 5 to 14 days)	Road site barrier/warning signage; Signal man proper monitoring; Close supervision.	2	3	<b>6</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Fall hazard due to cable snap or mishandling during lifting works.	Minor injury/illness (M.C between 5 to 14 days)	To check wire rope and proper handling during lifting work.	2	3	<b>6</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Fall into loading tray.	Minor injury/illness (M.C between 5 to 14 days)	Training for workers; Close supervision.	2	3	<b>6</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Fall into paver grader with rotating equipment.	Near miss/ unsafe act/ unsafe condition	Training for workers; Close supervision.	1	5	<b>5</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
ROAD WORK (Cont'd)	CONSTRUCTION			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Working environment and with material.	Material falling onto public vehicle/live lane/roads.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Close supervision; Proper cover and close the road while unloading material.	2	2	4	Additional control shall be proposed when necessary.
	Communication interrupted by noisy condition.	Near miss/ unsafe act/ unsafe condition	Training to workers use proper hand signal where applicable.	3	1	3	Additional control shall be proposed when necessary.
	Traffic collision with public vehicle.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	To wear high visibility vest and clothing; Close supervision.	2	2	4	Additional control shall be proposed when necessary.
	Material lifting interrupted by windy condition.	Near miss/ unsafe act/ unsafe condition	Training to workers proper lifting techniques and to provide sling man.	2	1	2	Additional control shall be proposed when necessary.
	Sudden injuries on hand due to vibration using jackhammer.	First aid cases/medical treatment (M.C between 1 to 3 days)	Provide safe working procedure; Training on hand tool handling.	3	2	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b> ROOF WORK	<b>Department :</b> CONSTRUCTION	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
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HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Mobilization/ Unloading of roof.	Physical injuries caused by weight/sharp edges.	Major injury/illness (Long absenteeism, M.C > 14 days)	Workers wear gloves and hard hat; Provide safe working procedure.	2	4	8	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Physical injuries due to hit by falling material/object.	Fatality or permanent disability or irreversible illness	Workers wear proper PPE; Close supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Manual handling.	First aid cases/medical treatment (M.C between 1 to 3 days)	Training and regular toolbox talk; Close supervision.	2	2	4	Additional control shall be proposed when necessary.
	Hit by moving/falling object during transfer of material.	Fatality or permanent disability or irreversible illness	Provide signal man; Close supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Damage of material due to mishandling and fall from height during lifting work.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Provide safe working/material handling procedure; Close supervision.	2	2	4	Additional control shall be proposed when necessary.
Material storage at roof top.	Heat stress/stroke due to hot working environment	Near miss/ unsafe act/ unsafe condition	Use proper ventilation system; Take a short break and drink water.	3	1	3	Additional control shall be proposed when necessary.
	Falling/flying object material due to windy condition.	Fatality or permanent disability or irreversible illness	Material to be securely stack and away from edges.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
Walkways and working platform.	Slip and fall from height.	Fatality or permanent disability or irreversible illness	Provide safe working procedure; Wear safety harness and provides lifeline.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Space constraint.	Near miss/ unsafe act/ unsafe condition	Training and proper planning of work.	3	1	3	Additional control shall be proposed when necessary.
Installation of roof material	Slip & fall from height	Fatality or permanent disability or irreversible illness	Provide safe working procedure; Wear safety harness & provide lifelines.	3	5	15	Permit to work, qualification/competency, briefing by SHO on safety awareness
	Material damage due to falling/hit by falling object	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Provide safe material handling & toe board at edge of roof; Cordon working area; Warning signage.	2	2	4	Additional control shall be proposed when necessary

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
<b>SCAFFOLDING WORK</b>	<b>CONSTRUCTION</b>			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Mobilization/ Unloading	Physical injuries caused by weight, sharp edges, hit by moving object.	Fatality or permanent disability or irreversible illness	Workers wearing proper PPE; Provide warning signage; Safe handling/working procedure.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Heat stress/stroke due to hot working environment.	Near miss/ unsafe act/ unsafe condition	Workers wearing hard hat; To take a short break and drink water.	3	1	<b>3</b>	Additional control shall be proposed when necessary.
	Physical injuries due to slip/trip fall during carry scaffold for storage.	First aid cases/medical treatment (M.C between 1 to 3 days)	Workers wearing proper PPE; Provide safe material handling/working procedure; Close supervision.	2	2	<b>4</b>	Additional control shall be proposed when necessary.
	Space constraint.	Near miss/ unsafe act/ unsafe condition	Training and proper planning of work; Safe work procedure.	3	1	<b>3</b>	Additional control shall be proposed when necessary.
	Physical injuries caused by fall of material during lifting process.	First aid cases/medical treatment (M.C between 1 to 3 days)	Workers wearing proper PPE; Close supervision; Provide safe material handling/working procedure.	2	2	<b>4</b>	Additional control shall be proposed when necessary.
	Sudden injuries caused by excessive lifting.	First aid cases/medical treatment (M.C between 1 to 3 days)	Workers wearing proper PPE; Provide warning signage; Safe handling/working procedure.	2	2	<b>4</b>	Additional control shall be proposed when necessary.
	Hand injuries when stacking the scaffold from lorry.	First aid cases/medical treatment (M.C between 1 to 3 days)	Workers wearing proper PPE; Provide safe working procedure.	2	2	<b>4</b>	Additional control shall be proposed when necessary.

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
SCAFFOLDING WORK (Cont'd)	CONSTRUCTION			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Installation of scaffold	Hit by moving object.	Fatality or permanent disability or irreversible illness	Wear proper PPE, Provide safe working procedure.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Platform collapse due to unstable ground.	Extensive damage > RM250,000	Provide safe working procedure, safe handling/working procedure, supervisor to check platform ground	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Hit by falling object.	Fatality or permanent disability or irreversible illness	Wearing hard hat, close supervision by competent scaffold supervisor.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Slip & trip while set up of installation at platform.	First aid cases/medical treatment (M.C between 1 to 3 days),	Wear proper PPE, platform to be clear & dry, close supervision.	2	2	<b>4</b>	Additional control shall be proposed when necessary
	Fall from height.	Fatality or permanent disability or irreversible illness	Provide safe working procedure, wear safety harness & provide lifelines	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
Erection of scaffold	Slip and trip during erection.	First aid cases/medical treatment (M.C between 1 to 3 days),	Using safe working platform; Passageway clear from obstruction; Workers wear proper PPE.	3	2	<b>6</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Material falling.	Minor injury/illness (M.C between 5 to 14 days)	Close supervision by competent scaffold supervisor; Provide warning signage at working area; Workers wear proper PPE.	2	3	<b>6</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Falling from height.	Fatality or permanent disability or irreversible illness	Close supervision; Using safe working platform; Worker wearing safety harness.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
<b>DRAINAGE, SEWERAGE &amp; PIPING WORK</b>	<b>CONSTRUCTION</b>			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Check and verify peg points as per survey drawings with reference to construct drawings	When checking peg points, possible injuries from snakes/insects bites and allergies from plants.	First aid cases/medical treatment (M.C between 1 to 3 days)	Worker to work in buddy system and compulsory use of safety shoes or proper PPE.	2	2	4	Additional control shall be proposed when necessary
	Trip/fall during verification of peg point.	First aid cases/medical treatment (M.C between 1 to 3 days)	Worker to work in buddy system and use of belay lines for transversing slopes if applicable; Workers to rotate carrying equipment and position.	2	2	4	Additional control shall be proposed when necessary
	Cumulative trauma from carrying peg variation equipment such as dumpy level, theodolite and stands inclusive of measurement staff.	First aid cases/medical treatment (M.C between 1 to 3 days)	Workers to rotate carrying equipment and position.	1	2	2	Additional control shall be proposed when necessary
Mobilize excavator or case	Trip/fall during mount/dismount of machinery, noise and vibration of machinery gives physical discomforts.	First aid cases/medical treatment (M.C between 1 to 3 days)	To ensure that operator to perform pre start check and clean up of slippery surfaces before mount/dismount.	2	2	4	Additional control shall be proposed when necessary
	Fire caused by heated engine or cigarette during refueling.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Enforce no smoking area and cool down engine before refueling.	2	2	4	Additional control shall be proposed when necessary
	Drop of machinery parts and hit the body of worker, noise and vibration of machinery might cause injury.	First aid cases/medical treatment (M.C between 1 to 3 days)	Workers to wear proper PPE; Provide safe working procedure; Close supervision.	2	2	4	Additional control shall be proposed when necessary

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
DRAINAGE, SEWERAGE & PIPING WORK (Cont'd)	CONSTRUCTION			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Unloading pipes from trailers	The crane's chain slipped or broken during the lifting operation and piles fall off and hit the body of worker causing body parts dislocated/fracture.	Major injury/illness (Long absenteeism, M.C > 14 days)	Workers to wear proper PPE; Provide signalman; Crane to have a valid PMA certificate; Provide safe work procedure.	1	4	4	Additional control shall be proposed when necessary
	Hand injuries might be occurred when the workers help to unload the pipes.	First aid cases/medical treatment (M.C between 1 to 3 days)	Workers to wear proper PPE; Provide safe work procedure.	2	2	4	Additional control shall be proposed when necessary
	Sudden body injuries due to excessive load weight.	First aid cases/medical treatment (M.C between 1 to 3 days)	Provide training/safety awareness; Close supervision.	2	2	4	Additional control shall be proposed when necessary
	Physical injuries caused by weight, sharp edges.	Minor injury/illness (M.C between 5 to 14 days)	Workers wear proper PPE.	2	3	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Hit by moving object.	Fatality or permanent disability or irreversible illness	Provide warning signage; Close supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
Stacking of pipes	Improper stacking of pipes might cause others to fall off and cause body injuries.	First aid cases/medical treatment (M.C between 1 to 3 days)	Workers wear proper PPE.	2	2	4	Additional control shall be proposed when necessary
	Hand injuries due to stacking the pipes on form ground with timber blocks and wedges.	First aid cases/medical treatment (M.C between 1 to 3 days)	Workers wear proper PPE.	2	2	4	Additional control shall be proposed when necessary
	Snakes and insects bites and allergies from plant might be occurred during the activities.	Near miss/ unsafe act/ unsafe condition	Workers wear proper PPE.	2	1	2	Additional control shall be proposed when necessary

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
DRAINAGE, SEWERAGE & PIPING WORK (Cont'd)	CONSTRUCTION			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Excavate drainage/ channels and preparing foundation	Trip/fall during mount/dismount of machinery, noise and vibration of machinery gives physical discomforts.	First aid cases/medical treatment (M.C between 1 to 3 days),	To ensure that operator to perform pre start checks and clean up of slippery surfaces before mount/dismount.	2	2	4	Additional control shall be proposed when necessary
	Monotony of work and work cycle for excavator operator; cumulative trauma of bending over in drainage trenches/channel during side shoring.	First aid cases/medical treatment (M.C between 1 to 3 days),	To ensure worker take a short break where applicable.	2	2	4	Additional control shall be proposed when necessary
	Buried alive by collapse ground or material.	Fatality or permanent disability or irreversible illness	Adequate slope protection; Safe excavation technique; Close supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Trip/fall/drop into trenches during work or inspection.	First aid cases/medical treatment (M.C between 1 to 3 days),	Trenches have barricade or warning signage; Close supervision.	2	2	4	Additional control shall be proposed when necessary
	Struck by collapse machinery.	Fatality or permanent disability or irreversible illness	Provide solid platform/use steel plate; Close supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Heat stroke from prolonged exposure to sunlight and dehydration.	Near miss/ unsafe act/ unsafe condition	Workers wear hard hat; Workers encourage to take a short where applicable.	3	1	3	Additional control shall be proposed when necessary
Placing of culverts/lay bedding concrete/pipes or related materials	Snakes and insects bites and allergies from plant might be occurred during the activities.	Near miss/ unsafe act/ unsafe condition	Workers wear proper PPE	2	1	2	Additional control shall be proposed when necessary
	Powered equipment and machinery such as hopper or manual compactor may cause possible injuries.	First aid cases/medical treatment (M.C between 1 to 3 days),	Workers wear proper PPE	2	2	4	Additional control shall be proposed when necessary

**HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL**

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
DRAINAGE, SEWERAGE & PIPING WORK (Cont'd)	CONSTRUCTION			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Placing of culverts/lay bedding concrete/pipes or related materials (Cont'd)	Physical injuries caused by weight, sharp edges.	Minor injury/illness (M.C between 5 to 14 days)	Workers wear proper PPE.	2	3	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Hit by moving object.	Fatality or permanent disability or irreversible illness	Provide warning signage; Close supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Fire caused by heated engine or cigarette during refueling.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Enforce no smoking area and cool down engine before refueling.	2	2	4	Additional control shall be proposed when necessary
	Buried alive by collapse ground or material.	Fatality or permanent disability or irreversible illness	Adequate slope protection; Safe excavation technique; Close supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Physical injuries caused by heavy items slipping from hands/lifting equipment and falling onto worker.	Minor injury/illness (M.C between 5 to 14 days)	Workers wear proper PPE; Signalman to be provided to stop other from working under the crane.	2	3	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Sudden body injuries due to excessive lifting.	First aid cases/medical treatment (M.C between 1 to 3 days),	Allowed to carry only where one's can; Required assistant when needed; Use crane or lifting machinery.	2	2	4	Additional control shall be proposed when necessary
	Electrocuted by faulty wiring.	Fatality or permanent disability or irreversible illness	Workers wear proper PPE; Close supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Struck by collapse machinery due to unstable ground.	Fatality or permanent disability or irreversible illness	Use of solid supporting platform; Close supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Radiation.	Major injury/illness (Long absenteeism, M.C > 14 days)	Worker wearing proper eye protection.	1	4	4	Additional control shall be proposed when necessary
	Heat stroke from prolonged exposure to sunlight and dehydration.	Near miss/ unsafe act/ unsafe condition	Workers wear hard hat; Workers encourage to take a short where applicable.	3	1	3	Additional control shall be proposed when necessary
Trip/fall/drop into trenches during work or inspection.	First aid cases/medical treatment (M.C between 1 to 3 days),	Trenches have barricade or warning signage; Close supervision.	2	2	4	Additional control shall be proposed when necessary	
Dermatitis due to prolonged direct contact with cement.	First aid cases/medical treatment (M.C between 1 to 3 days),	Workers wear proper PPE.	2	2	4	Additional control shall be proposed when necessary	

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
DRAINAGE, SEWERAGE & PIPING WORK (Cont'd)	<b>CONSTRUCTION</b>			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Install applicable components according to specifications	Physical injuries caused by weight, sharp edges when transferring material and equipment.	Minor injury/illness (M.C between 5 to 14 days)	Workers wear proper PPE; Workers to work in buddy system.	2	3	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Snakes and insects bites and allergies from plant might be occurred during the activities.	Near miss/ unsafe act/ unsafe condition	Workers wear proper PPE.	2	1	2	Additional control shall be proposed when necessary
	Possible injuries from fall and or equipment/ components falling onto workers when work at night.	Minor injury/illness (M.C between 5 to 14 days)	Workers wear proper PPE; Provide proper lighting.	2	3	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Heat stroke from prolonged exposure to sunlight and dehydration.	Near miss/ unsafe act/ unsafe condition	Workers wear hard hat; Workers encourage to take a short where applicable.	3	1	3	Additional control shall be proposed when necessary
	Physical injuries caused by heavy items slipping from hands/lifting equipment and falling on to worker.	First aid cases/medical treatment (M.C between 1 to 3 days),	Workers wear proper PPE; Signalman to be provided to stop other from working under the crane.	2	2	4	Additional control shall be proposed when necessary
Conduct applicable acceptance test or benchmark acceptance procedure	Heat stroke from prolonged exposure to sunlight and dehydration.	Near miss/ unsafe act/ unsafe condition	Workers wear hard hat; Workers encourage to take a short where applicable.	3	1	3	Additional control shall be proposed when necessary
	Physical injuries caused by weight, sharp edges when transferring test equipment.	First aid cases/medical treatment (M.C between 1 to 3 days),	Workers wear proper PPE; Workers to work in buddy system.	2	2	4	Additional control shall be proposed when necessary
	Possible injuries from fall and or hit by falling equipment.	Minor injury/illness (M.C between 5 to 14 days)	Ensure trenches have boundaries and warning markers.	2	3	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
DRAINAGE, SEWERAGE & PIPING WORK (Cont'd)	CONSTRUCTION			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Backfill for applicable closed drainage system to desired level	Excessive vibration of compactor/hopper and heat radiation from closed proximity of equipment.	Near miss/ unsafe act/ unsafe condition	To ensure workers not working more than 4 hours continuously and encourage to take a short break.	3	1	3	Additional control shall be proposed when necessary
	Monotony of work and work rest cycle for excavator operator; cumulative.	Near miss/ unsafe act/ unsafe condition	To ensure workers not working more than 4 hours continuously and encourage to take a short break.	3	1	3	Additional control shall be proposed when necessary
	Heat stroke from prolonged exposure to sunlight and dehydration.	Near miss/ unsafe act/ unsafe condition	Workers wear hard hat; Workers encourage to take a short where applicable.	3	1	3	Additional control shall be proposed when necessary
	Trip/fall/drop into trenches during work or inspection.	First aid cases/medical treatment (M.C between 1 to 3 days),	Trenches have barricade or warning signage; Close supervision.	2	2	4	Additional control shall be proposed when necessary
Post-work safety	Fire caused by heated engine or cigarette during refueling.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Enforce no smoking area and cool down engine before refueling.	2	2	4	Additional control shall be proposed when necessary
	Fall from height due to unprotected opening.	Fatality or permanent disability or irreversible illness	Provide warning system; Provide barrier.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Inhalation/exposure to toxic gases.	Fatality or permanent disability or irreversible illness	Working in buddy system; Close supervision; Check for toxic gases.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Confine space and insufficient oxygen.	Fatality or permanent disability or irreversible illness	Provide proper ventilation; Working in buddy system; Exhaust fan system.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
<b>CONFINED WORK SPACE</b>	<b>CONSTRUCTION</b>			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Entering confined space	Physical injuries due to slip and fall into manhole.	Major injury/illness (Long absenteeism, M.C > 14 days).	Workers wear proper PPE; Use safety harnesses if required; Closed supervision.	2	4	8	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Toxication due to inhalation of toxic gases.	Fatality or permanent disability or irreversible illness	Competent gas tester checks the air; Provide proper ventilation; Closed supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Electrocuted due to faulty wiring or electric leakage.	Fatality or permanent disability or irreversible illness	Workers wear proper PPE; Closed supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Body cut/pierce by sharp object.	Major injury/illness (Long absenteeism, M.C > 14 days).	Workers wear proper PPE; Closed supervision.	2	4	8	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
Mobilize material or equipment into confined space	Hand injuries might be occurred when the workers to unload material/ equipment.	First aid cases/medical treatment (M.C between 1 to 3 days),	Workers to wear proper PPE; Provide safe work procedure.	2	2	4	Additional control shall be proposed when necessary
	Hit by moving object.	First aid cases/medical treatment (M.C between 1 to 3 days),	Provide warning signage; Closed supervision.	2	2	4	Additional control shall be proposed when necessary
	Sudden body injuries due to excessive load weight.	First aid cases/medical treatment (M.C between 1 to 3 days),	Provide training/safety awareness; Closed supervision.	2	2	4	Additional control shall be proposed when necessary
Working in confined space	Physical injuries or death caused by hazardous atmosphere: asphyxiate, toxic gases, explosion.	Fatality or permanent disability or irreversible illness	Workers to wear proper PPE; Provide proper ventilation system; Work in buddy system; Closed supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Sudden injuries due to prolonged bending over .	First aid cases/medical treatment (M.C between 1 to 3 days),	Workers wear proper PPE; Workers to take break where applicable.	2	2	4	Additional control shall be proposed when necessary

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
<b>CONFINED WORK SPACE (Cont'd)</b>	<b>CONSTRUCTION</b>			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Working in confined space (Cont'd)	Heat stroke due to excessive heat and dehydration.	Near miss/ unsafe act/ unsafe condition	Workers to take a short break where applicable and drink more water; Provide proper ventilation system; Closed supervision.	3	1	<b>3</b>	Additional control shall be proposed when necessary
	Buried alive due to slope collapse/earth/solid material/fluid.	Fatality or permanent disability or irreversible illness	Workers to wear proper PPE; Provide lifeline communication system and work in buddy system; Closed supervision; Provide adequate slope protection.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Death due to inhalation of carbon monoxide.	Fatality or permanent disability or irreversible illness	Any machinery to be place outside; Provide proper ventilation system; Closed supervision.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
Inspection/ finished up and exit from confined space	Trip/fall/drop into manhole during inspection.	Fatality or permanent disability or irreversible illness	Provide warning signage; Closed supervision.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Buried by collapse ground or material.	Fatality or permanent disability or irreversible illness	Adequate slope protection; Safe excavation technique; Closed supervision.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Electrocuted by faulty wiring.	Fatality or permanent disability or irreversible illness	Workers wear proper PPE; Closed supervision.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Space constraint.	First aid cases/medical treatment (M.C between 1 to 3 days),	Training and proper planning of work; Provide safe working procedure.	2	2	<b>4</b>	Additional control shall be proposed when necessary
	Hit by moving object.	First aid cases/medical treatment (M.C between 1 to 3 days),	Workers wearing proper PPE; Provide safe working procedure.	2	2	<b>4</b>	Additional control shall be proposed when necessary

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
<b>WELDING WORK</b>	<b>CONSTRUCTION</b>			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Mobilization/ unloading of welding equipment	Physical injuries caused by weight, sharp edges.	First aid cases/medical treatment (M.C between 1 to 3 days),	Workers wear proper PPE.	2	2	4	Additional control shall be proposed when necessary
	Physical injuries caused by falling cylinder.	First aid cases/medical treatment (M.C between 1 to 3 days),	Workers wear safety shoes; Provide safe handling procedure.	2	2	4	Additional control shall be proposed when necessary
	Environment pollution caused leaking gases.	First aid cases/medical treatment (M.C between 1 to 3 days),	Provide safe storage procedure; Provide maintenance schedule; Closed supervision.	2	2	4	Additional control shall be proposed when necessary
	Sudden injuries caused by excessive lifting and mishandling.	First aid cases/medical treatment (M.C between 1 to 3 days),	Provide safe handling/lifting procedure; Closed supervision.	2	2	4	Additional control shall be proposed when necessary
Welding process	Eyes injury caused by excessive flash light.	First aid cases/medical treatment (M.C between 1 to 3 days),	Workers wearing face shield/goggle; Provide only competent welder.	2	2	4	Additional control shall be proposed when necessary
	Gas inhalation/welding fume.	First aid cases/medical treatment (M.C between 1 to 3 days),	Wearing face mask and face shield; Provide safe working procedure; Provide proper ventilation/exhaust fan.	2	2	4	Additional control shall be proposed when necessary
	Explosion due to leaking cylinder/valve/hose.	Fatality or permanent disability or irreversible illness	Worker wear proper PPE; Provide safe working procedure; Provide warning signage; Proper maintenance schedule; Closed supervision.	1	5	5	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Body injuries due to burnt/hot surface.	Major injury/illness (Long absenteeism, M.C > 14 days).	Worker wear proper PPE; Provide safe working procedure.	2	4	8	Briefing By SHO on safety awareness. Additional control shall be made if necessary.

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
WELDING WORK (Cont'd)	CONSTRUCTION			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Welding process (Cont'd)	Fire caused by improper welding procedure.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Worker wears proper PPE; Provide safe working procedure; Provide fire extinguisher; Closed supervision.	2	2	4	Additional control shall be proposed when necessary
	Physical injuries caused by sharp objects.	First aid cases/medical treatment (M.C between 1 to 3 days),	Worker wear proper PPE; safe material handling.	2	2	4	Additional control shall be proposed when necessary
	Falling from height due to unstable platform.	Fatality or permanent disability or irreversible illness	Worker wearing safety harness; Provide safe working procedure; Provide safe working platform.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
Inspect and storage of welding set	Manual handling.	First aid cases/medical treatment (M.C between 1 to 3 days),	Training and regular toolbox talk; Closed supervision.	2	2	4	Additional control shall be proposed when necessary
	Material damage due to falling/mishandling during storage.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Provide safe handling procedure; Provide a specific storage room.	2	2	4	Additional control shall be proposed when necessary
	Hand injury due to hot surface/platform.	First aid cases/medical treatment (M.C between 1 to 3 days),	Worker wear proper PPE; To ensure/wait till hot surface is cold.	2	2	4	Additional control shall be proposed when necessary
	Hit by moving object during transfer of equipment.	First aid cases/medical treatment (M.C between 1 to 3 days),	Provide safe working procedure; Closed supervision.	2	2	4	Additional control shall be proposed when necessary

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
<b>MASONRY WORK</b>	<b>CONSTRUCTION</b>			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Transporting of material	Traffic collision.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Competent and certified driver; Closed supervision.	2	2	4	Additional control shall be proposed when necessary
	Machinery breakdown.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Regular maintenance and servicing.	2	2	4	Additional control shall be proposed when necessary
	Material overloading, falling and hit workers.	Minor injury/illness (M.C between 5 to 14 days)	Workers wear proper PPE; Closed supervision.	2	3	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
Unloading of material	Physical injuries due to hit by moving objects.	Fatality or permanent disability or irreversible illness	Workers wear proper PPE; Provide safe working procedure.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Physical injuries due to hit by falling objects.	Fatality or permanent disability or irreversible illness	Workers wear proper PPE; Provide safe working procedure.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Crane collapse due to unstable ground/platform or mishandling.	Fatality or permanent disability or irreversible illness	Provide a proper PMA certificate; Fully use outrigger platform.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Trip and fall due to poor housekeeping.	Major injury/illness (Long absenteeism, M.C > 14 days).	Provide good/save access and maintain good hours keeping.	2	4	8	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Manual handling due to improper lifting techniques.	Minor injury/illness (M.C between 5 to 14 days)	Use proper hand tools; Workers wear proper PPE.	2	3	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Physical injuries due to cut/pierce by sharp edge object.	Minor injury/illness (M.C between 5 to 14 days)	Workers wear proper PPE; Provide safe working procedure.	2	3	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
<b>MASONRY WORK (Cont'd)</b>	<b>CONSTRUCTION</b>			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Storage of material	Hit by falling object due to improper stacking.	First aid cases/medical treatment (M.C between 1 to 3 days),	Requirements proper stacking techniques.	2	2	4	Additional control shall be proposed when necessary
	Fall hazard due to mishandling during stacking.	First aid cases/medical treatment (M.C between 1 to 3 days),	To check safe condition of platform; Wear a proper PPE; Close supervision.	2	2	4	Additional control shall be proposed when necessary
	Sudden body injuries due to excessive lifting is carried out.	First aid cases/medical treatment (M.C between 1 to 3 days),	Allowed to carry only where one's can; Required assistant when needed; Use crane or lifting machinery.	2	2	4	Additional control shall be proposed when necessary
	Manual handling.	Near miss/ unsafe act/ unsafe condition	Training and regular toolbox talk; Closed supervision.	3	1	3	Additional control shall be proposed when necessary
Working environment	Material fall onto public vehicle/live lane/road.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	To properly cover the material/stacked it away from the edge.	3	2	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Heat stroke from prolonged exposure to sunlight and dehydration.	Near miss/ unsafe act/ unsafe condition	Workers wear hard hat; Workers encourage to take a short break where applicable.	3	1	3	Additional control shall be proposed when necessary
	Trip and fall due to poor housekeeping.	First aid cases/medical treatment (M.C between 1 to 3 days),	Provide good/save access and maintain good house keeping.	2	2	4	Additional control shall be proposed when necessary
	Dusty work environment.	First aid cases/medical treatment (M.C between 1 to 3 days),	Workers to wear proper PPE (i.e Face mask); Conduct housekeeping regularly.	3	2	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Falling from height.	Fatality or permanent disability or irreversible illness	To provide barrier at open space edge; Workers to wear safety harness; Closed supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Body injuries/cut caused by sharp object.	Minor injury/illness (M.C between 5 to 14 days)	Worker wears proper PPE.	2	3	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
<b>MASONRY WORK (Cont'd)</b>	<b>CONSTRUCTION</b>			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Working with material	Hit by falling object due to mishandling/slip/fall.	Fatality or permanent disability or irreversible illness	Provide safe working procedure; Closed supervision.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Dermatitis due to exposure to cement/mineral dust.	First aid cases/medical treatment (M.C between 1 to 3 days),	Worker wear gloves/face mask; Conduct housekeeping regularly.	3	2	<b>6</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Damage to equipment/material due to mishandling.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Train worker for properly handling; Provide safe working procedure.	2	2	<b>4</b>	Additional control shall be proposed when necessary
	Fall from height due to unstable/collapse platform.	Fatality or permanent disability or irreversible illness	Provide safe working platform; To provide barrier at open space edge; Workers to wear safety harness; Closed supervision.	2	5	<b>10</b>	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Physical stress/repetitive work.	Near miss/ unsafe act/ unsafe condition	Worker to take a short break where applicable.	3	1	<b>3</b>	Additional control shall be proposed when necessary
	Environment pollution due to concrete and mineral dust.	Near miss/ unsafe act/ unsafe condition	Worker wear gloves/face mask; Conduct housekeeping regularly; Provide water spray system.	3	1	<b>3</b>	Additional control shall be proposed when necessary

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
<b>LIFTING WORK</b>	<b>CONSTRUCTION</b>			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Transporting of lifting machinery	Traffic collision.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Provide experience driver with legal driving license; Provide traffic man.	2	2	4	Additional control shall be proposed when necessary
	Machinery breakdown.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Regular maintenance and servicing.	3	2	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Equipment/machinery falling onto public vehicle/road.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	To securely tighten up equipment/machinery before transporting; Provide warning signage.	2	2	4	Additional control shall be proposed when necessary
	Body injuries while handling or secure equipment/ machinery for transporting.	First aid cases/medical treatment (M.C between 1 to 3 days),	Provide safe working procedure; Training on machinery handling; Close supervision.	2	2	4	Additional control shall be proposed when necessary
Mobilization/ unloading machinery/ material	Physical injuries caused by fall/hit by moving object during lifting process.	Fatality or permanent disability or irreversible illness	Worker wear gloves and hard hat; Signalman monitored lifting process; Close supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Crane cable slipped or break during the lifting process.	Fatality or permanent disability or irreversible illness	Provide a proper PMA certificate; Signalman monitored lifting process; Close supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Damage to road surface due to crane sitting.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Proper use of outrigger pad; Use of support platform.	3	2	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Struck by moving object due to unstable ground or mishandling.	Fatality or permanent disability or irreversible illness	Provide safe working procedure; Signalman monitored lifting process; Provide barrier and signage, Closed supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
<b>LIFTING WORK (Cont'd)</b>	<b>CONSTRUCTION</b>			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Working environment	Heat stroke from prolonged exposure to sunlight and dehydration.	Near miss/ unsafe act/ unsafe condition	Workers wear hard hat; Workers encourage taking a short break where applicable.	3	1	3	Additional control shall be proposed when necessary
	Sudden body injuries due to excessive lifting.	Near miss/ unsafe act/ unsafe condition	Allowed to carry only where one's can; Required assistant when needed; Use crane or lifting machinery.	3	1	3	Additional control shall be proposed when necessary
	Physical injuries caused by trip and fall during lifting and carrying material.	Minor injury/illness (M.C between 5 to 14 days)	Safe working procedure; Closed supervision.	2	3	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Space constraint.	Near miss/ unsafe act/ unsafe condition	Training and proper planning of work; Safe working procedure.	3	1	3	Additional control shall be proposed when necessary
Working with lifting/hoisting machinery.	Crane boom failure/collapse due to overloading.	Fatality or permanent disability or irreversible illness	Provide a proper PMA certificate; Signalman monitored lifting process; Close supervision; Provide barrier and signage.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Crane topple due to overweight/unstable ground.	Fatality or permanent disability or irreversible illness	Crane park at solid platform and outrigger support is fully used; Close supervision.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Manual handling.	First aid cases/medical treatment (M.C between 1 to 3 days),	Training and regular toolbox talk; Closed supervision.	2	2	4	Additional control shall be proposed when necessary
	Material damage due to falling/mishandling during storage.	Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000)	Provide safe handling procedure; Provide specific storage room.	2	3	6	Briefing By SHO on safety awareness. Additional control shall be made if necessary.

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
<b>HANDTOOL WORK</b>	<b>CONSTRUCTION</b>			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Working environment	Space constraint.	First aid cases/medical treatment (M.C between 1 to 3 days),	Training and proper planning of work; Safe working procedure.	2	2	4	Additional control shall be proposed when necessary
	Physical injuries caused by swinging object and property damage.	First aid cases/medical treatment (M.C between 1 to 3 days), Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000).	Provide safe working procedure; Provide warning signage; Work in safe condition and space; Closed supervision.	2	2	4	Additional control shall be proposed when necessary
Working with hand tool	Physical injuries caused by weight/sharp object.	First aid cases/medical treatment (M.C between 1 to 3 days),	Workers wear gloves; Provide safe working procedure.	2	2	4	Additional control shall be proposed when necessary
	Electrocution due to faulty wiring.	Fatality or permanent disability or irreversible illness	Worker wear proper PPE, make sure all equipment free from defect.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.
	Injuries or damage due to excessive vibration (Jackhammer/hopper).	First aid cases/medical treatment (M.C between 1 to 3 days),	Provide training how to use hand tool; Provide safe working procedure; Closed supervision.	2	2	4	Additional control shall be proposed when necessary
	Eyes injury caused by flying object/debris of hand tools.	First aid cases/medical treatment (M.C between 1 to 3 days),	Provide safe working procedure; Workers wearing face shield / goggle; Provide only competent worker.	2	2	4	Additional control shall be proposed when necessary
	Physical stress/repetitive work.	Near miss/ unsafe act/ unsafe condition	Worker to take a short break where applicable.	3	1	3	Additional control shall be proposed when necessary
	Injuries or damage due to mishandling or use of tools.	First aid cases/medical treatment (M.C between 1 to 3 days),	Conduct training; Provide safe working procedure; Closed supervision.	2	2	4	Additional control shall be proposed when necessary
	Electrical hand tool breakdown	Near miss/ unsafe act/ unsafe condition	Regular maintenance and servicing; Provide safe working procedure.	3	1	3	Additional control shall be proposed when necessary

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
HANDTOOL WORK (Cont'd)	CONSTRUCTION			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Storage of hand tool	Physical injuries caused by weight/sharp objects.	First aid cases/medical treatment (M.C between 1 to 3 days),	Workers wear gloves; Provide safe working procedure.	2	2	4	Additional control shall be proposed when necessary
	Possible injuries from fall and or hit by falling hand tool.	First aid cases/medical treatment (M.C between 1 to 3 days),	Worker wear Proper PPE (i.e. Safety shoes).	2	2	4	Additional control shall be proposed when necessary
Working/office environment	Sudden injuries caused by excessive lifting and mishandling of files, table, boxes and files cabinet.	First aid cases/medical treatment (M.C between 1 to 3 days),	Provide safe handling/lifting procedure; Close supervision.	2	2	4	Additional control shall be proposed when necessary
	When dealing with people with unsound/unstable mind and being attack, verbally or physically abuse.	First aid cases/medical treatment (M.C between 1 to 3 days),	Inculcate team spirit in the office; Create a friendly office environment; Provide two way communication; Closed supervision.	2	2	4	Additional control shall be proposed when necessary
	Physical injuries and property damage caused by fire at company's floor or other floors.	First aid cases/medical treatment (M.C between 1 to 3 days), Minor damage (No or less disruption, repair cost > RM1,000 and < RM10,000).	Provide overload tripping device at main breaker and main switch; Provide fire extinguisher; Conduct ERP and fire drill training; Closed supervision.	2	2	4	Additional control shall be proposed when necessary
	Fall sick/fever/flu due to unstable room temperature.	First aid cases/medical treatment (M.C between 1 to 3 days),	Provide sweater; Air conditioning temperature to be set comfortably.	2	2	4	Additional control shall be proposed when necessary
	Vomiting and diarrhea due to food or water poisoning in the office.	First aid cases/medical treatment (M.C between 1 to 3 days),	Provide boiling water to all employees or visitor; To ensure cleanliness of pantry.	2	2	4	Additional control shall be proposed when necessary

## HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

<b>Name of Job :</b>	<b>Department :</b>	<b>Prepared By :</b>	<b>Checked By :-</b>	<b>Approved By :</b>
HANDTOOL WORK (Cont'd)	CONSTRUCTION			

HAZARD IDENTIFICATION				RISK ASSESSMENT			Recommended Action/Additional Control
Job Activity	Hazard	Hazard Character	Current Risk Control	Probability	Severity	Risk	
Working/office environment (Cont'd)	Body injuries due to sitting for a very long period.	Near miss/ unsafe act/ unsafe condition	To ensure worker take a short break where applicable.	3	1	3	Additional control shall be proposed when necessary
	Allergic reactions or infections due to air contamination caused by rotten waste, fungi, bacteria and cigarette smoke.	Near miss/ unsafe act/ unsafe condition	Instruct building management to clean the air filter regularly; Impose NO SMOKING in the office.	2	1	2	Additional control shall be proposed when necessary
	Eyes injuries due to working in front of/looking at the computer for a very long period.	Near miss/ unsafe act/ unsafe condition	To ensure worker take a short break where applicable.	2	1	2	Additional control shall be proposed when necessary
	Electrocution due to short circuit or power leakage.	Fatality or permanent disability or irreversible illness	Provide overload tripping device at main breaker and main switch; Use SIRIM proven electrical appliances; Use only highly insulated electrical appliances.	2	5	10	Briefing By SHO on safety awareness. Additional control shall be made if necessary.

### HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

		Severity				
		TRR	1	2	3	4
Occurrence Probability(OP)	1	1	2	3	4	5
	2	2	4	6	8	10
	3	3	6	9	12	15
	4	4	8	12	16	20
	5	5	10	15	20	25
				Low risk		
			Medium risk			
			High risk			

## HEALTH REGISTER

## EMPLOYEE LIST

Sl. No.	Employee Name	Department Name	Sex	Date of Birth	Name of Hazardous Process	Dangerous Process/Operation	Nature of job or occupation	Raw Material Produced or Bi-Products likely to be exposed to	Date of posting	Date of leaving/transfer other work	Reason for such withdrawal	Sign & Symptoms observed during examination	Nature of Tests & Result thereof	Result Fit/Unfit	Period of temporary withdrawal from that work	Reason for such withdrawal	Date of declaring him unfit for that work	Signature with date of the Factory Medical Officer	Remarks
1	Ashok Kumar Sahoo (50000402)	Commercial	Male	21.05.1989	NIL	NIL	Office Work	Eye	17.12.2021	N/A	N/A	Normal	Eye Test	Fit	N/A	N/A	N/A		
2	Raja Babu (50000317)	Commercial	Male	26.08.1991	NIL	NIL	Office Work	Eye	01.10.2021	N/A	N/A	Normal	Eye Test	Fit	N/A	N/A	N/A		
3	Nishith Paul (50000468)	DRI	Male	23.11.1995	NIL	NIL	Electrical	Ear & Lungs	17.01.2022	N/A	N/A	Normal	Audiometric, chest x-ray & PFT	Fit	N/A	N/A	N/A		
4	Havendra Ravidas (50000330)	Ferro	Male	01.01.1995	NIL	NIL	Operation	Ear & Lungs	11.10.2021	N/A	N/A	Normal	Audiometric, chest x-ray & PFT	Fit	N/A	N/A	N/A		
5	Sanjoy Goral (50000453)	Ferro	Male	06.09.1984	NIL	NIL	Operation	Ear & Lungs	08.01.2022	N/A	N/A	Normal	Audiometric, chest x-ray & PFT	Fit	N/A	N/A	N/A		
6	Sukhand Hansda (50000481)	Ferro	Male	05.03.1988	NIL	NIL	Operation	Ear & Lungs	25.01.2022	N/A	N/A	Normal	Audiometric, chest x-ray & PFT	Fit	N/A	N/A	N/A		
7	Sukhen Das (50000460)	HR	Male	01.01.1978	NIL	NIL	Field Work	Ear & Lungs	11.01.2022	N/A	N/A	Normal	Audiometric, chest x-ray & PFT	Fit	N/A	N/A	N/A		
8	Tanmoy Bej (50000470)	DRI	Male	12.06.2000	NIL	NIL	Electrical	Ear & Lungs	17.01.2022	N/A	N/A	Normal	Audiometric, chest x-ray & PFT	Fit	N/A	N/A	N/A		
9	Tapas Goral (50000509)	Ferro	Male	06.11.2000	NIL	NIL	Electrical	Ear & Lungs	12.02.2022	N/A	N/A	Normal	Audiometric, chest x-ray & PFT	Fit	N/A	N/A	N/A		
10	Nilesh Kumar Tiwari (50000265)	Ferro	Male	01.01.1998	NIL	NIL	Mechanical	Ear & Lungs	16.08.2021	N/A	N/A	Normal	Audiometric, chest x-ray & PFT	Fit	N/A	N/A	N/A		
11	Kumar Avinash (50000316)	CPP	Male	17.04.1997	NIL	NIL	Operation	Ear & Lungs	01.10.2021	N/A	N/A	Normal	Audiometric, chest x-ray & PFT	Fit	N/A	N/A	N/A		
12	Somnath Pandey (50000164)	CPP	Male	02.12.1981	NIL	NIL	Operation	Ear & Lungs	28.06.2021	N/A	N/A	Normal	Audiometric, chest x-ray & PFT	Fit	N/A	N/A	N/A		
13	Indranath Halder (50000489)	CPP	Male	29.10.1996	NIL	NIL	Operation	Ear & Lungs	02.02.2022	N/A	N/A	Normal	Audiometric, chest x-ray & PFT	Fit	N/A	N/A	N/A		
14	Harendra Chauhan (50000513)	CPP	Male	15.11.1995	NIL	NIL	Operation	Ear & Lungs	12.02.2022	N/A	N/A	Normal	Audiometric, chest x-ray & PFT	Fit	N/A	N/A	N/A		



*Arun Kumar*  
**Dr. Anupam Prasad**  
 MBBS, MD  
 Regd.: 49421 (WBHU)

M/S GIRDHAN METAL PVT.LTD., JAMURIA  
FORM NO.17  
HEALTH REGISTER

CONTRACTOR EMPLOYEE LIST

Sl. No.	Employee Name	Department Name	Sex	Date of Birth	Name of Hazardous Process	Dangerous Process/Operation	Nature of job or occupation	Raw Material Produced or Bi-Products Likely to be exposed to	Date of posting	Date of leaving/tra nsfer or other work	Reason for such with drawel	Sign & Syntoms observed during examination	Nature of Tests & Result thereof	Result Fit/ Unfit	Period of temporary withdrawal from that work	Reason for such with drawel	Date of declaring him unfit for that work	Signature with date of the Factory Medical Officer	Remarks
1	SK. Guffar	FERRO	Male	04.07.1983	NIL	NIL	Field Work	Ear & Lungs	N/A	N/A	N/A	Normal	Audiometric, chest x-ray & PFT	Fit	N/A	N/A	N/A		
2	Hira Kora	DM PLANT	Male	12.05.1991	NIL	NIL	Office Work	Eye & Ear	N/A	N/A	N/A	Normal	Eye Test & Audiometric	Fit	N/A	N/A	N/A		
3	Chiranjib Banik	DRI	Male	04.02.2000	NIL	NIL	Field Work	Ear & Lungs	N/A	N/A	N/A	Normal	Audiometric, chest x-ray & PFT	Fit	N/A	N/A	N/A		
4	Manaranjan Das	FERRO	Male	15.04.1985	NIL	NIL	Field Work	Ear & Lungs	N/A	N/A	N/A	Normal	Audiometric, chest x-ray & PFT	Fit	N/A	N/A	N/A		
5	S.K. Kamal	FERRO	Male	01.01.1986	NIL	NIL	Field Work	Ear & Lungs	N/A	N/A	N/A	Normal	Audiometric, chest x-ray & PFT	Fit	N/A	N/A	N/A		
6	Prasanta Kumar	WEIGH BRIDGE	Male	14.01.2003	NIL	NIL	Office Work	Eye & Ear	N/A	N/A	N/A	Normal	Eye Test & Audiometric	Fit	N/A	N/A	N/A		
7	Sanny Yadav	DRI	Male	18.01.1996	NIL	NIL	Field Work	Ear & Lungs	N/A	N/A	N/A	Normal	Audiometric, chest x-ray & PFT	Fit	N/A	N/A	N/A		



*Dr. Anupam Prasad*  
Dr. Anupam Prasad  
MBBS, MD  
Regd.: 49421 (WBHU)

## CER Details

S. No.	Particulars	Physical activity and action plan	UOM	Status	Physical activity and action plan	UOM	Status	Physical activity and action plan		UOM	Status	Tentative Budget (In Lakhs)	Total expenses till date
								To be implemented in 1 <sup>st</sup> year	To be implemented in 2 <sup>nd</sup> Year				
1.	<b>Concern Raised in PH - Creation of employment Opportunities &amp; skill development</b>												
	Village Damodarpur	Adoption of Adivasi football team for boys and girls & development of their Football ground	15 nos. boys & 15 nos. girls	Partially done	Skill development/vocational training in trades	10nos.	Done	Skill development/vocational training in trades	10	Done	30.2	40.3	
		Training & Employment of local youth in own company	10 nos.	Done									
		**Training & employment of 38 local peoples instead of 30 peoples has been done till date											
	Village Simultala/Shekhpur	Training & Employment of local youth in own company	10 nos.	Done	Skill development/vocational training in trades	10 nos.	done	Skill development/vocational training in trades	10 nos.	done	26.2	34.0	
		**Training & employment of 34 local peoples instead of 30 peoples has been done till date											
	Village Ikra/Balanpur	Training & Employment of local youth in own company	10 nos.	Done	Skill development/vocational training in trades	10 nos.	done	Skill development/vocational training in trades	10 nos.	Done	26.2	28.0	
		** Training & employment of 28 local peoples instead of 30 peoples has been done till date											



S. N o.	Particulars	Physical activity and action plan		Status	Physical activity and action plan		Status	Physical activity and action plan		Status	Physical activity and action plan		Status	Tentative Budget (In Lakhs)	Total expenses till date
		To be implemented in 1 <sup>st</sup> year	UOM		To be implemented in 2 <sup>nd</sup> Year	UOM		To be implemented in 3 <sup>rd</sup> Year	UOM						
	Village Akhalpur	Training & Employment of local youth in own company	10 nos.	Done	Skill development/vocational training in trades	10 nos.	Done	Skill development/vocational training in trades	10 nos.					26.2	34.0
	Village Benali	** Training & employment of 34 local peoples instead of 30 peoples has been done till date													
					Skill development/vocational training in trades	10 nos.	Done	Skill development/vocational training in trades	10 nos.					25	
2.	<b>Concern Raised in PH - Infrastructure Development &amp; provision of drinking water facilities in nearby areas viz., development of roads, local schools</b>														
	Village Damodarpur	Construction of Adivasi community temple	1 nos.	Done	RO drinking water for villagers through tanker	1 no.	Done	Installation of solar lights	10 nos.					61	46.7
		Construction of community toilet for villagers	6 nos.	Done	Repairing of internal roads	400 m	Done	RO drinking water for villagers through tanker	1 no.	Done					
		Provision of RO drinking water for villagers through tanker	1 no.	Done											
	Village	Construction of	2 with 6	Done	Construction of	400 m	Partially	RO drinking	1 no.	Done				67	47.2



S. N o.	Particulars	Physical activity and action plan		UOM		Status		Physical activity and action plan		UOM		Status		UOM	Status	Tentative Budget (In Lakhs)	Total expenses till date	
		To be implemented in 1 <sup>st</sup> year	To be implemented in 2 <sup>nd</sup> year	To be implemented in 1 <sup>st</sup> year	To be implemented in 2 <sup>nd</sup> year	To be implemented in 1 <sup>st</sup> year	To be implemented in 2 <sup>nd</sup> year	To be implemented in 1 <sup>st</sup> year	To be implemented in 2 <sup>nd</sup> year	To be implemented in 1 <sup>st</sup> year	To be implemented in 2 <sup>nd</sup> year	To be implemented in 1 <sup>st</sup> year	To be implemented in 2 <sup>nd</sup> year					
	Simultala/Shekhpur	Community toilet	toilets each	1 no.	1 no.	Done	Done	drainage system and connect with main drain	done	1 no.	1 no.	Done	water for villagers through tanker					
		Construction of bath ghat	1 no.	1 no.	Done	Done	RO drinking water for villagers through tanker	Done										
		Provision of RO drinking water for villagers through tanker	1 no.	1 no.	Done	Done												
		Construction of well for drinking water	1 no.	1 no.	Done	Done	Construction of cycle stand shed in Govt. High school	1						Provision of computer	3 nos.	Done	14.1	11.5
	Village Ikra/Balanpur	Construction of lunch shed in Govt. primary school	1 no	1 no									Provision of printer	1 no.	Done			
		Construction of cultural stage	1 nos.	1 nos.	Partially done								Installation of LED lights in villages	10 nos.	Done			
													Distribution of furniture(Tables & Chairs) in Govt Primary	30 nos.	Done			



S. No.	Particulars	Physical activity and action plan		UOM		Status		Physical activity and action plan		UOM		Status		Physical activity and action plan		UOM		Status		Tentative Budget (In Lakhs)	Total expenses till date	
		To be implemented in 1 <sup>st</sup> year		To be implemented in 2 <sup>nd</sup> Year		To be implemented in 3 <sup>rd</sup> Year		To be implemented in 1 <sup>st</sup> year		To be implemented in 2 <sup>nd</sup> Year		To be implemented in 3 <sup>rd</sup> Year		To be implemented in 1 <sup>st</sup> year		To be implemented in 2 <sup>nd</sup> Year		To be implemented in 3 <sup>rd</sup> Year				
	Village Akhalpur	Construction of toilet in Govt. Primary School	2 closed toilets with 3 urinals	Done	Construction of borewell for drinking water in Govt. Primary School	1 no.	Done	Installation of solar light	3 nos.											19.0	21.4	
		Construction of boundary wall of Muslim Cemetery	1000 m	Done	Construction of public toilet in Hermitage	5 closed toilets																
	Village Benali	Renovation of Govt. School	1 no.	Done	Distribution of furniture in school (Tables & Chairs)	20 nos.		Repairing of internal road	700 m											15.5	12.6	
	Others							Development of roads opposite to plant site or connecting to one pucca road from Akhalpursubvillage to Damodarpur main road	1 km (** 250 m pucca road has been done)											80	22.0	



S. No.	Particulars	Physical activity and action plan	UOM	Status	Physical activity and action plan	UOM	Status	Physical activity and action plan	UOM	Status	Tentative Budget (In Lakhs)	Total expenses till date
		To be implemented in 1 <sup>st</sup> year			To be implemented in 1 <sup>st</sup> year			To be implemented in 2 <sup>nd</sup> Year			To be implemented in 3 <sup>rd</sup> Year	
3.	<b>Concern Raised in PH - Greenbelt development in nearby areas &amp; preserving local species</b>											
	Village Damodarapur	Community plantation	500 saplings	Done	Distribution of samplings and tree guard	300		Distribution of samplings and tree guard	300	Done	0.85	0.9
	Village Simultala/Shekhpur	Community plantation	600 saplings	Done	Distribution of samplings and tree guard	300		Distribution of samplings and tree guard	300	Done	0.95	1.0
	Village Ikra/Balanpur	Community plantation along with plantation in Govt. Primary School	700 saplings	Partially Done							0.55	0.6
	Village Akhalpur	Community plantation	700 saplings	Done				Distribution of samplings and tree guard	300	Done	0.8	1.0
	Village Benali	Community plantation	400 saplings					Distribution of samplings and tree guard in schools and villages	500 saplings		0.7	
4.	<b>Concern Raised in PH - Development of Health facilities</b>											

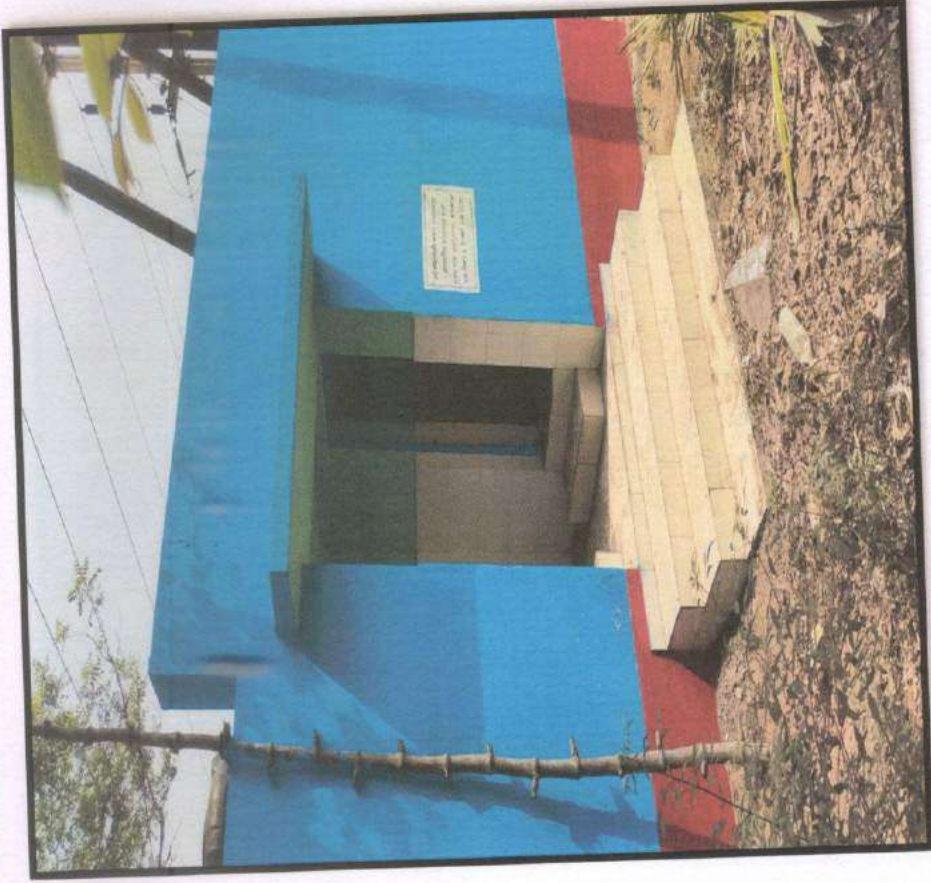


S. N o.	Particulars	Physical activity and action plan	UOM	Status	Physical activity and action plan	UOM	Status	Physical activity and action plan	UOM	Status	Tentative Budget (In Lakhs)	Total expenses till date
		To be implemented in 1 <sup>st</sup> year.			To be implemented in 2 <sup>nd</sup> Year			To be implemented in 3 <sup>rd</sup> Year				
	Village Damodarpur	Air-Conditioned Bolero Ambulance to Borough for villagers duly equipped with oxygen and stretcher	1 no.								10	
	Village Akhalpur				Provision of medical equipment as per the requirement of health centre	2 nos.					20	
5.	<b>Concern Raised in PH - Control of Pollution because of proposed project viz., air pollution, discharge of water, dust etc</b>											
	Village Damodarpur				Water tanker for water sprinkling on road to minimise fugitive emission during vehicular movement	2 nos.	Done				12	18.6
6.	Surroundings villagers	AC Hearse Van - for nearby villages										13.8
7.	Royal Enfield bike hand over to Asansol Durgapur Police Commissionerate											
Company has allocated Rs. 4.36 Crores for implementing all the activities mentioned above for socio-economic development of the area											436.25	<b>355.98</b>



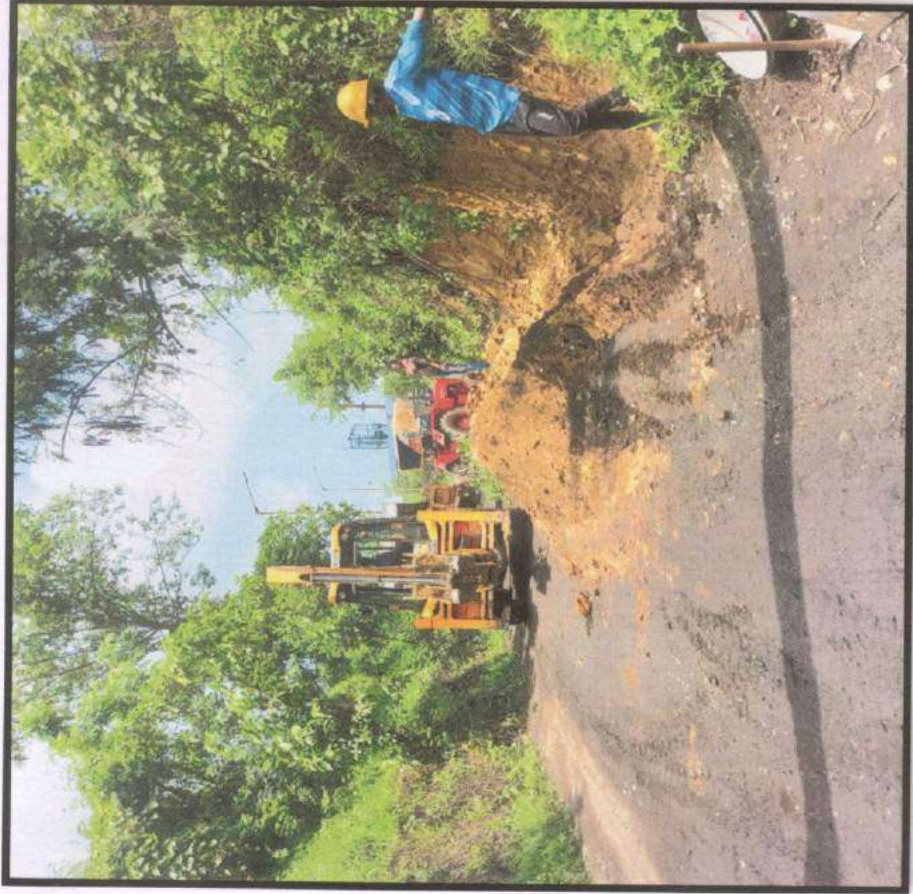
### Damodarpur Village

#### Construction of One Toilet Blocks (6 Toilets in the building Complex)



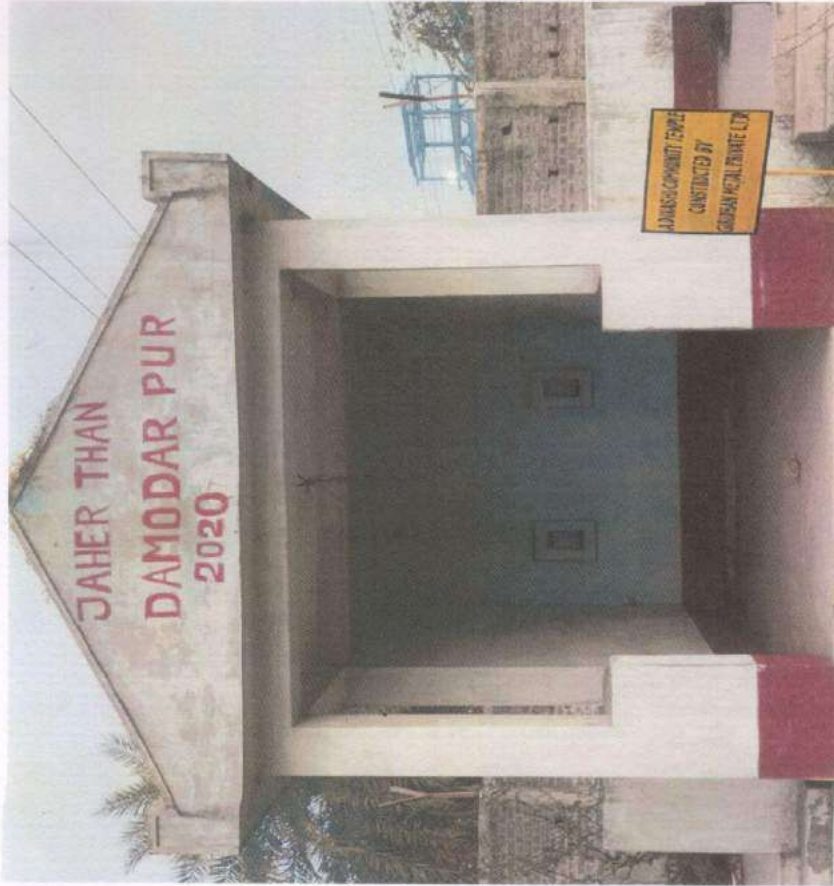
### Damodarpur Village

**Damodarpur More adjacent to Jamuria Haripur main road repairing work by heavy duty paver blocks**



## Damodarpur Village

Construction of Two Santhal Temples



## Damodarpur Village

Damodarpur Adibasi Football Team with hired Coach on monthly remuneration with all required dresses and accessories



## SIMULTALA

Renovation of One Pond by dredging and construction of Two numbers of Ghat



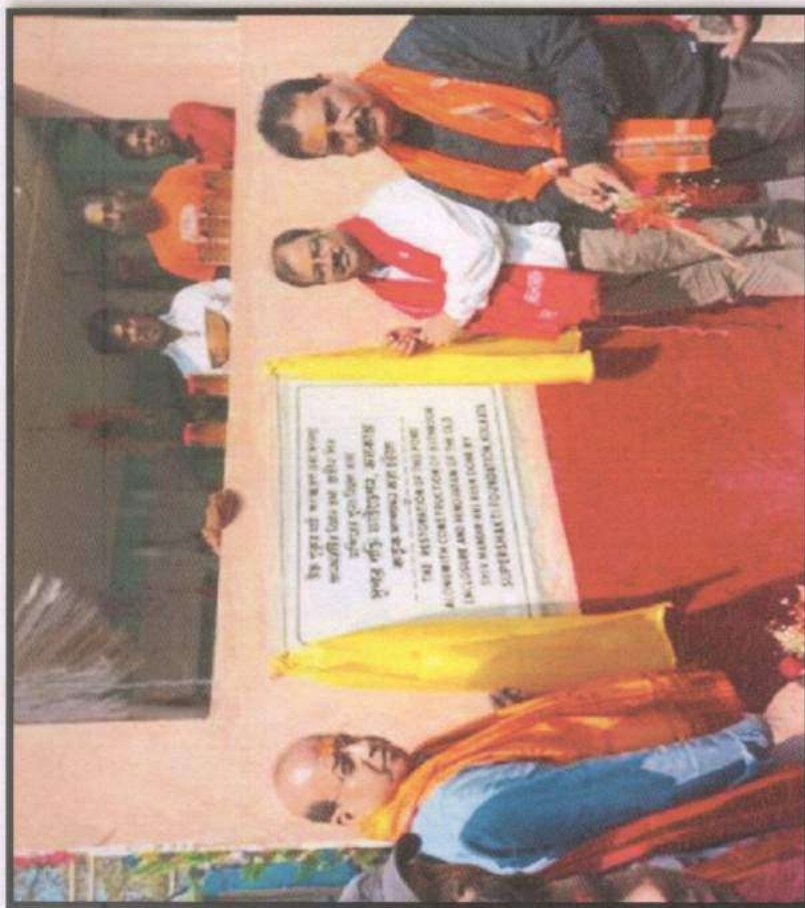
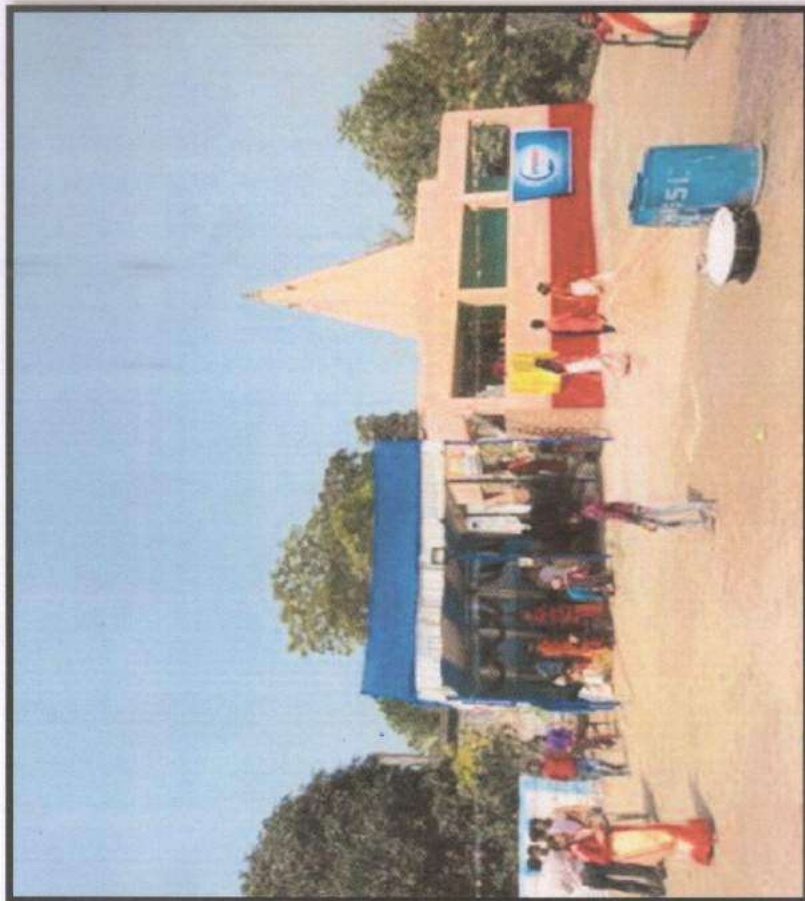
## SIMULTALA

Construction of Toilets and Temples



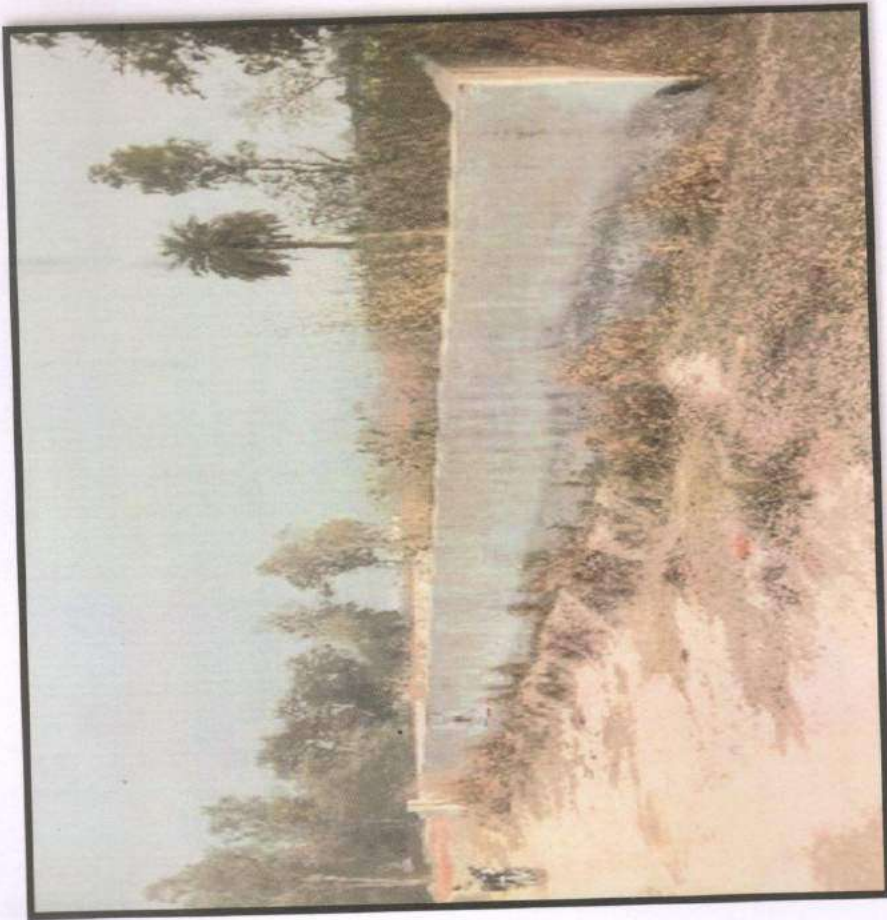
## Akhalpur Village

### Construction of Shiv Mandir



## Akhalpur Village

### Construction of Boundary Wall of Kabristan



এই কবরস্থানের প্রাচীরটি  
সুপার শক্তি ফাউন্ডেশন, কলকাতা কর্তৃক  
নির্মিত করা হয়েছে।

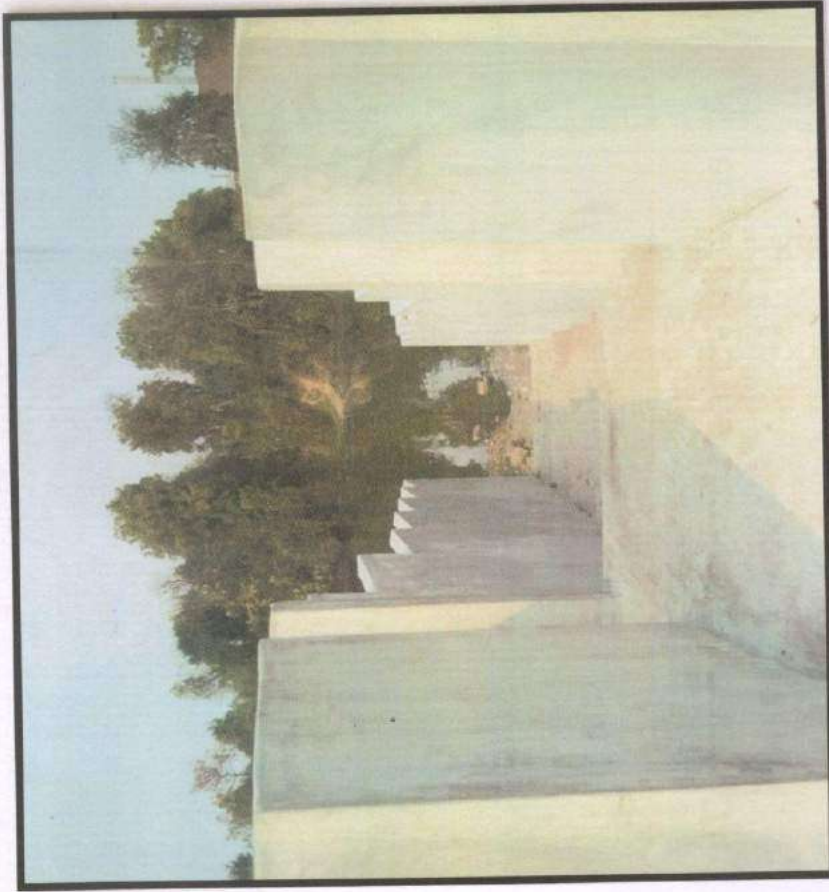
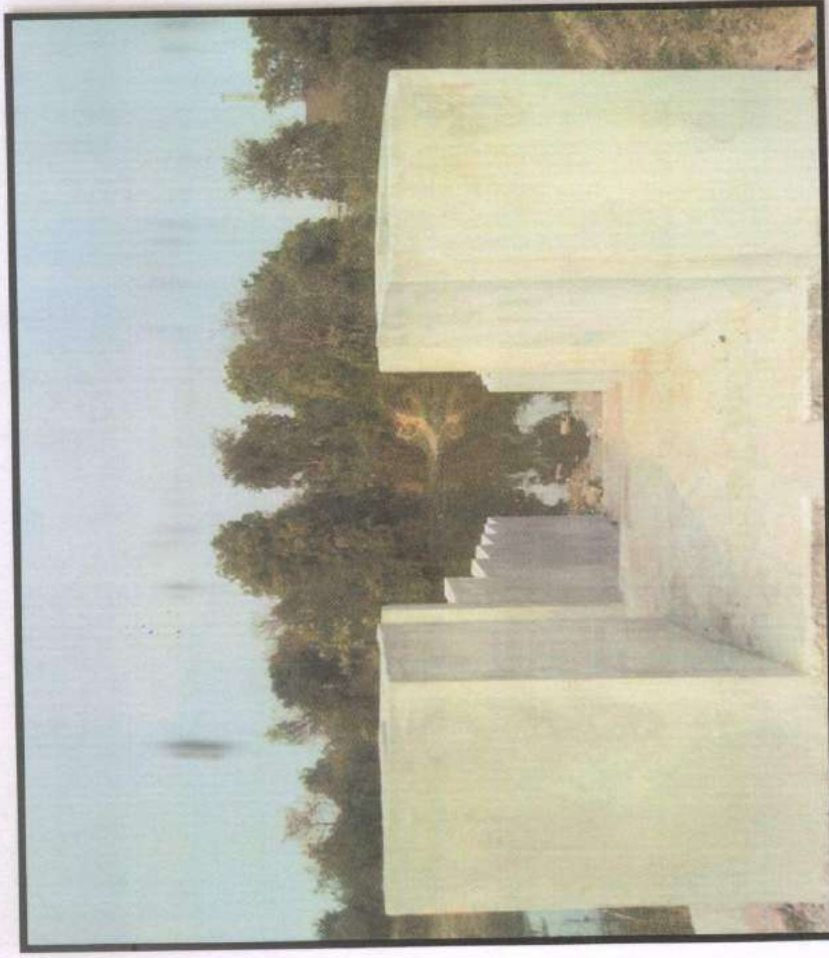
THE CONSTRUCTION OF THE BOUNDARY WALL  
OF THE CEMETERY HAS BEEN DONE UNDER

THE SUPERSHAKTI FOUNDATION, KOLKATA



## Akhalpur Village

### Construction of Bathing Ghat





AC Harse Van for nearby villages



Supply of R.O drinking water





## CER activity under progress

Construction of a Model School Damodar village for education to the Adivasi children's with appointment of a teacher on monthly remuneration.





# GIRIDHAN METAL PRIVATE LIMITED

Registered Office : "PREMLATA" 39, Shakespeare Sarani, 3rd Floor, Kolkata - 700 017, West Bengal, India  
 Telefax : +91 33 2289 2734 / 35 / 36, E-mail : giridhanmetal@gmail.com CIN : U27320WB2019PTC234675

## GIRIDHAN METAL PRIVATE LIMITED CORPORATE ENVIRONMENTAL POLICY

For protection of environment and sustainable development, Giridhan Metal Private Limited is committed to abide by environmental norms and various conditions stipulated by the Govt of India during approval of projects at the central as well as at the state levels. In addition to this, Giridhan Metal Private Limited acknowledge the importance of the concept of inter-dependence of all sections of society. In particular, it focuses revolves around the community residing in the immediate vicinity of its steel manufacturing plant where it seeks to actively assist in improving the quality of life.

In line with its abiding concern for preservation of the ecological balance and safeguarding the health and environment of the community, Giridhan Metal Private Limited will always actively demonstrate its firm resolves to protect the environment and its deeply committed to its reputation and respect built over the years in industry and society for its professional of management based on philosophy of the best in business ethics. Giridhan Metal Private Limited has global commitments and also the guidelines on norms and directives of different State and Central Government of India, Giridhan Metal Private Limited has formulated the following Corporate Environmental Policy & Responsibility for effective implementation across the organization in its projects and integrated steel plant. The policy shall:

- a) Be appropriate to the nature and scale of the organization's activities, products and services and adopted at the Board level. It shall be documented, implemented, maintained and communicated to all persons working for the organization and on its behalf.
- b) Define a specific organisational structure for guidance & implementation.
- c) Ensure the required commitment from top management for the allocation of sufficient financial, human, organizational infrastructure and technology resources for its implementation.
- d) Shall be integrated with all stages of the project/activity cycle of the organization.
- e) Ensure environmental performance of all projects/activities over and above the applicable statutory requirements to which organization have to comply.
- f) Shall be aligned with policies and management systems of the organization including the Environmental Management System (EMS) or other environmental performance initiatives.
- g) Shall provide for incentives for its employees for achieving corporate environmental targets that go beyond statutory compliance and disincentives for failure to achieve this.
- h) Provide for monitoring and review of corporate environmental performance along with the reporting of non-compliance.
- i) Monitoring of implantation and review shall be at the level of the Board and the guidance of the Board shall be communicated to all concerned in writing for compliance. Together these shall comprise the corporate Environmental Performance Report, and shall be included in the Organisation's Annual Report.




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In addition to the above, Girdhan Metal Private Limited will strive to adhere to the following elements of its Corporate Environmental Policy:

- 1) Operate the manufacturing and other facilities in compliance with all applicable laws and regulations related to environment and health & safety of employees and surrounding communities.
- 2) Continually improve the environmental performance of organisational process and products through waste minimization and pollution abatement.
- 3) Minimize consumption of natural resources through the reduction, reuse or recycling of materials, as much as possible.
- 4) Encourage efficient use of energy, water and utilities
- 5) Purchase products and services as far as possible, that do the least damage to the environment on a life cycle basis.
- 6) Promote environmental awareness among the employees and encourage them to work in environmentally responsible manner.
- 7) Communicate the environmental commitment and performance of the organization to its clients, customers and the public.
- 8) Develop and maintain appropriate emergency and response programs where required by legislation or where significant health, safety or environmental hazards exist.

Develop and maintain greenery in and around its mines, plants and other project units.

## Implementation of the Corporate Policy

### *Resources, Roles and Responsibility:*

Girdhan Metal Private Limited shall have an organization structure to oversee the effective implementation of corporate Environment Policy. This structure shall define key responsibilities within the various levels of the organization for policy implementation and shall include involvement at all the levels throughout the organization. An Organization structure in this regard is shown below:

The management shall ensure availability of resources essential to implement the corporate environment policy across its all operational and project units. Resources shall include human resources, organizational infrastructure, technology and financial resources. Roles and responsibilities shall be defined and documented to facilitate the effective implementation of the environment policy.

As part of the existing Board structure, Audit & Compliance reporting team shall also oversee the environmental status inclusive of the conditions prescribed under various environmental consents and clearances, as and when obtained from various State and Central Govt authorities, as well as the corporate norms, standards and targets that exceed the legal compliance requirements.

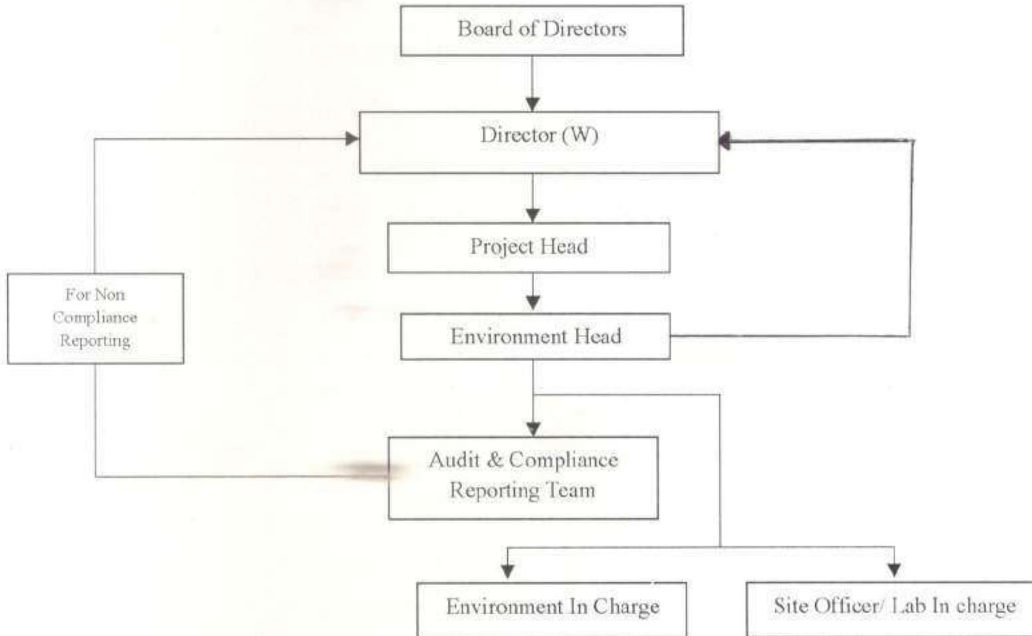
The below organizational structure Management Cell is responsible for any non-compliance/ infringement/ deviation/ violation of the environmental or forest norms under the supervision of Board of Directors.



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## Documentation:

The policy shall be made available on the Giridhan Metal Private Limited's website and also be available in hard copy. The planning, implementation and monitoring of the organizational environmental performance shall be documented. All achieved milestones will be supported by documentary evidence in the form of photographs, monitoring records and /or reports, wherever applicable.

## Transparency in the implementation of Environmental policy

Monitoring will be conducted periodically as per relevant norms framed by SPCB or MoEFCC or any other statutory authorities. It shall serve to drive accountability and transparency and provides for learning to implement in future initiatives. Giridhan Metal Private Limited shall implement a monitoring mechanism by its defined organizational structure with clear roles & responsibilities for every operational and project units by creating a register specifying all the regulatory compliances and clearance conditions that have been imposed by the Ministry or other public authorities. Giridhan Metal Private Limited shall also prepare Annual Environmental performance report and include it in its Annual Report.

The policy has been passed by the Board of Directors of Giridhan Metal Private Limited in compliance with the circular issued by Ministry of Environment, Forest and Climate Change. All issues related to Environment specifically non compliances be placed before the Board and the Head of the Plant should submit a report on the same before the ensuing meeting along with all the corrective measures taken thereon.



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Annexure - 1

## GIRIDHAN METAL PRIVATE LIMITED

### Environment Policy

Protection of environment is of prime concern and an important business objective at Giridhan Metal Private Limited. With a leading role in providing services in Manufacturing industry value chain in India, Giridhan Metal Private Limited is conscious of its responsibility towards creating, maintaining and ensuring a safe and clean environment for sustainable development. In particular Giridhan Metal Private Limited is committed to:

- 1) Operate the manufacturing and other facilities in compliance with all applicable laws and regulations related to environment and health & safety of employees and surrounding communities.
- 2) Continually improve the environmental performance of organisational process and products through waste minimization and pollution abatement.
- 3) Minimize consumption of natural resources through the reduction, reuse or recycling of materials, as much as possible.
- 4) Encourage efficient use of energy, water and utilities
- 5) Purchase products and services as far as possible, that do the least damage to the environment on a life cycle basis.
- 6) Promote environmental awareness among the employees and encourage them to work in environmentally responsible manner.
- 7) Communicate the environmental commitment and performance of the organization to its clients, customers and the public.
- 8) Develop and maintain appropriate emergency and response programs where required by legislation or where significant health, safety or environmental hazards exist.
- 9) Develop and maintain greenery in and around its mines, plants and other project units.

Date **04 MAR 2020**

  
Sanjay Agarwal  
Director







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Date: 24.04.2021

To,  
 The Chairman  
 Asansol Durgapur Development Authority  
 Asansol, Paschim Bardhaman, West Bengal

Ref: Environmental Clearance vide letter no. J-11011/366/2010-IA.II (I)  
 dated 08/04/2021

Dear Sir,

We have obtained Environmental Clearance for Expansion of our existing steel plant by expanding Sponge iron from 1,20,000 TPA to 3,18,000 TPA, MS Billets from 1,05,000 TPA to 3,72,000 TPA, Rolling Mill from 1,00,000 TPA to 3,00,000 TPA, Submerged Arc Furnace (SAF) from 15,000 TPA 30,000 & Captive Power Plant from 16 MW to 42 MW including Waste Heat Recovery Boiler (WHRB) at Jamuria Industrial Estate, Village - Ikra & Damodarpur, Tehsil - Jamuria, District - Paschim Burdwan, West Bengal from Ministry of Environment, Forest and Climate Change, Government of India.

As per the direction contained in the aforesaid Environmental Clearance (EC), kindly receive a copy of the letter J-11011/366/2010-IA.II(I) dated 8<sup>th</sup> April, 2021.

Thanking you,

Yours faithfully  
 For Giridhan Metal Private Limited

  
 Sanjay Agarwal  
 Director



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Date: 24.04.2021

To,  
The Mayor  
Asansol Municipal Corporation  
Asansol, Paschim Bardhaman, West Bengal

Ref: Environmental Clearance vide letter no. J-11011/366/2010-IA.II (I)  
dated 08/04/2021

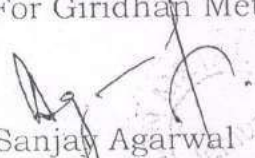
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Thanking you,

Yours faithfully  
For Giridhan Metal Private Limited

  
Sanjay Agarwal  
Director



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Ref No. GMPL/22-23/SPCB/08

Date: 22.09.2022

To,  
Environmental Engineer  
West Bengal Pollution Control Board  
(Department of Environment, Govt. of West Bengal)  
Asansol Regional Office, Kalyanpur Satellite Township Project (K.S.T.P.)  
Dr. B. C. Roy Road, P.O.-Dhadka, Asansol - 713302

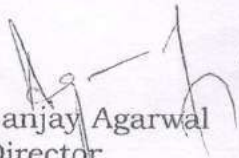
**Sub: Environmental Statement for the Period 2021-22 for Giridhan Metal Private Limited**

Dear Sir,

We are hereby submitting the '**Environmental Statement**' (Form-V) for the year of 2021-22 for Giridhan Metal Private Limited, Jamuria Industrial Estate, Nandi, Jamuria, Paschim Bardhaman for your kind consideration. We have filed the same in online also at your designated website

Thanking You.

Yours Sincerely

  
Sanjay Agarwal  
Director



Copy to:

1. The Member Secretary, WBPCB, Paribesh Bhawan, Salt Lake, Kolkata-700098
2. The IGF & Incharge, GOI, MoEF&CC, Integrated Regional Office, Kolkata, 1B-198, Salt Lake City, Setor-III, Kolkata-700106

भारतीय डाक



EW038867223IN IVR:6987038867223  
SP JAMURIAHAT SO <713336>  
Counter No:1,26/09/2022,10:45  
To:THE IGF & INCHARGE,GOI NDEF &CC  
PIN:700106, Bidhan Nagar IB Market SO  
From:GIRIDHAR ME,JAMURIA INUSTRIA  
Wt:30gms  
Amt:41.30(Cash)Tax:6.30  
<Track on [www.indiapost.gov.in](http://www.indiapost.gov.in)>  
<Dial 18002666868> <Wear Masks, Stay Safe>

भारतीय डाक



EW038867118IN IVR:6987038867118  
SP JAMURIAHAT SO <713336>  
Counter No:1,26/09/2022,10:45  
To:ENVIRONMENTAL,W B POLLUTION  
PIN:713302, Dakhin Dhadka SO  
From:GIRIDHAR ME,JAMURIA INUSTRIA  
Wt:30gms  
Amt:41.30(Cash)Tax:6.30  
<Track on [www.indiapost.gov.in](http://www.indiapost.gov.in)>  
<Dial 18002666868> <Wear Masks, Stay Safe>

भारतीय डाक



EW038867210IN IVR:6987038867210  
SP JAMURIAHAT SO <713336>  
Counter No:1,26/09/2022,10:45  
To:TO THE MEMBER,W B POLLUTION  
PIN:700097, Furbachal SO  
From:GIRIDHAR ME,JAMURIA INUSTRIA  
Wt:30gms  
Amt:41.30(Cash)Tax:6.30  
<Track on [www.indiapost.gov.in](http://www.indiapost.gov.in)>

**FORM-V**

**ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR 2020-21**

**GIRIDHAN METAL PRIVATE LIMITED, JAMURIA**

**PART-A**

Name and address of the owner/ occupier of the industry operation or process	Mr Sanjay Agarwal (Director) Giridhan Metal Private Limited Jamuria Industrial Estate P.O.-Nandi; P.S. - Jamuria Paschim Bardhaman – 713344 (W.B.)
Industry category Primary-(STC Code) Secondary-(STC Code)	Integrated Steel Plant ---
Production capacity	120000 TPA DRI, 30000 TPA Fe-Mn/Si-Mn with 16 MW CPP
Year of Establishment	2020 (Production starts from Aug 2021 with 350 TPD DRI & 16 MW CPP)
Date of Last Environmental /Audit Report submitted	---

**PART B**

**WATER AND RAW MATERIAL CONSUMPTION**

**1) Water consumption m<sup>3</sup>/day**

Process }  
Cooling } 120 m<sup>3</sup>  
Domestic }

Name of products	Process water consumption per unit of product output	
	During the current financial year 2020-21	During the current financial year 2021-22
Sponge Iron (m <sup>3</sup> /MT)	NA	0.22
Silico Manganese (m <sup>3</sup> /MT)	NA	0.44
Captive Power Plant ((m <sup>3</sup> /MW)	NA	0.38

**2) Raw material consumption**

SI No	Name of Raw Material	Name of the Products	Consumption of raw material	
			2020-21 (MT/Yr)	2021-22 (MT/Yr)
1	Iron Ore/Pellet	Sponge Iron	NA	86802
2	Coal	Sponge Iron	NA	77654
3	Dolomite	Sponge Iron	NA	2729
4	Manganese Ore	Si-Mn	NA	12061
5	Dolomite	Si-Mn	NA	2026
6	Coal	Si-Mn	NA	11732
7	Hard Coke	Si-Mn	NA	1674
8	Coal	CFBC	NA	7543
9	Dolochar	CFBC	NA	7847

**PART-C**  
**POLLUTION DISCHARGED TO ENVIRONMENT/ UNIT OF OUTPUT**  
**(PARAMETERS AS SPECIFIED IN THE CONSENT ISSUED)**

SI No	Pollutants	Prescribed Standard (mg/l)	Quantity of Pollutants discharged (mass/day)		Concentration of Pollutants discharged (mass/volume)		Percentage of variation from prescribed standard with reasons
			Kg/day		mg/lit		
a)	<b>Water</b>		FY: 2020-21	FY: 2021-22	FY: 2020-21	FY: 2021-22	No deviation.  Alls values are within the standard norms.  No effluent discharge from the plant
	pH	5.5-9.5	NA	8.22	NA	8.22	
	Total Suspended Solids (TSS)	100	NA	0.36	NA	10	
	BOD	30	NA	0.12	NA	3.3	
	COD	250	NA	0.43	NA	12.0	
	Oil & Grease	10	NA	<0.63	NA	<1.4	
b)	<b>AIR PM emission from Stack of</b>		Kg/day		mg/Nm <sup>3</sup>		No deviation.  Alls values are within the standard norms as pollution control equipments are maintained properly
		Prescribed Standard (mg/Nm <sup>3</sup> )	FY: 2020-21	FY: 2021-22	FY: 2020-21	FY: 2021-22	
	DRI - 1 (1x350TPD)	30	NA	119.67	NA	17.0	
	Product Handling (DRI -1 & 2 common)	30	NA	14.37	NA	4.6	
	CD & Surge Bin (DRI -1 & 2 common)	30	NA	4.6	NA	4.1	
	Ferro Alloys (9MVA x 2 nos)	30	NA	19.77	NA	6.0	

**PART-D**  
**HAZARDOUS WASTES**

**(AS SPECIFIED UNDER HAZARDOUS WASTES (MANAGEMENT, HANDLING AND TRANS BOUNDARY MOVEMENT RULES, 2008)**

The industry got consent for operation very recently and the process for getting the authorization as per Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016 is under process.

**PART-E**  
**SOLID WASTE**

SI. No.	Solid waste	Total Quantity Generated	
		FY: 2020-21	FY: 2021-22
<b>E-1: Generation from process</b>			
1	Dolochar from DRI	NA	7855
<b>E-2: Generation from Pollution Control Equipments (Tonne/year)</b>			
1	Coal DE dust	NA	3882
2	Ash	NA	655
<b>E-3: Quantity Recycled/Reutilized within the unit (Tonne/year)</b>			
1	Dolochar from DRI	NA	7847
2	Si-Mn Slag	NA	2853
3	Ash	NA	655
4	Coal Pollution Equipment dust	NA	3882
<b>E-4: Quantity Sold (Tonne/year)</b>			

<b>E-5: Quantity Disposed</b>		
Si-Mn Slag	NA	2853

**PART-F**

**Characteristics of Hazardous as well as Solid wastes and their method of disposal**

Hazardous/ Solid Wastes	Characteristics	Method of disposal
Used oil	Oily	Will be sale to authorized recycler

**PART-G**

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

1. Roof top rain water harvesting is being implemented at the beginning of the construction stage.
2. Dolochar generated from DRI process will be reused in CFBC for generation of power
3. Waste heat of DRI plant is being used to generate power through waste heat recovery boiler.
4. Highly efficient pollution control equipments have been installed at all the operation units.
5. Raw material handling systems are equipped with efficient Dust suppression control measures.
6. Pollution dust generated from coal handling system is reused in power plant.
7. All pollution dust closely conveying to a designated hopper to minimize fugitive dust.
8. Raw materials & products are conveying under fully covered condition.

**PART H**

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

**Environment Budgets (Planned Vs Actual) for FY 2020-21**

Sl. No.	Item	Expenditure (Lakh(s) INR) Year-2020-21
1	Recurring cost for environmental protection abatement of pollution for 2020-21	120
2	Installation of real-time dust analyzer	19.5
3	Installation of real-time SO <sub>2</sub> -NO <sub>x</sub> analyzer	18.5
4	Installation of conveying system & pug mill for management of bag filter dust at DRI	15.0
5	Installation of conveying system & pug mill for management of ESP dust at DRI & CPP	23.5
6	Installation of ESP & Bag Filter	130
<b>Total</b>		<b>326.5</b>

**PART I**

**Any other particulars for improving the quality of the environment**

1. Around 50000 sq. meter area inside the plant premises is covered under paver block to minimize the fugitive dust.
2. We also doing third part environmental monitoring (quarterly) by NABL accredited as well as WBPCB recognized laboratory.
3. Water sprinkler has been installed to minimize the fugitive dust.
4. Housekeeping audit is being done each and every month for all units.
5. About 9800 Sq. meter of Garden has been added at various locations inside plant premises such as Administrative building, Weigh bridge, DRI Plant, Power Plant, Project Office Area, Ferro Alloys Plant etc
6. More than 2000 tree plantation has been done in and around the plant premises.

**GIRIDHAN METAL PRIVATE LIMITED**

Registered Office: 'Premlata', 39, Shakespeare Sarani, 3<sup>rd</sup> Floor, Kolkata – 700 017, West Bengal, India.  
Telefax- +91 33 22892734 / 35 / 36. E-Mail : giridhanmetal@gmail.com

Annexure-26

**ANNEXURE – 1****□ Technical Specifications of Bag Filter:**

SN	Technical Parameter (Bag Filter)	Unit	Technical Description
1	Model No.	-	IAEC BF 6-12x15-4.88
2	Location	-	Sub-merged Arc Furnace
3	Cleaning type	offline / online	Offline
4	Emission Level	mg/Nm <sup>3</sup>	Below 30 guarantee
5	Pressure drop across unit (max.)	mm WC	150 (Max)
6	Gas Volume	Am <sup>3</sup> /hr	1,75,000
7	Designed dust load	gm/Nm <sup>3</sup>	100
8	Gas Temp. at inlet	deg. C	125
9	Air to cloth ratio (net)	m <sup>3</sup> /min/m <sup>2</sup>	1.09
10	Air to cloth ratio (gross)	m <sup>3</sup> /min/m <sup>2</sup>	1.31
11	Filtration Efficiency	%	99.97
12	Compressed Air Quantity (FAD)	m <sup>3</sup> /hr	35
13	Gauge pressure	Kg/cm <sup>2</sup>	6-8( Dry)
14	Compartment arrangement	-	Box type/Panel
15	Total No. of Bags	Nos.	1080
16	No. of Solenoid Valves & Size	Nos./NB	90/40
17	Housing - Casing/ No.	-	Box Type/6
18	No. of hoppers	-	6
19	Hopper type/ Valley Angle	-	Pyramid / 60 Deg.
20	Thickness of casing /MOC	mm	5 / IS:2062
21	Thickness of Top Cover /MOC	mm	3.15 / IS:2062
22	Hopper thickness	mm	5 / IS:2062
23	Tube sheet thickness	mm	5 / IS:2062
24	Bag fixing arrangement	-	Snap Band type
25	Bag dia.	mm	160
26	Length	mm	4880
27	Filter area per Bag	m <sup>2</sup>	2.47
28	Filtration area (total )	m <sup>2</sup>	2668
29	Filer bag fabric with treatment	-	Non-woven PNF with PTFE membrane finish
30	Weight of fabric	Gm/m <sup>2</sup>	600±5 %
31	Max. Temp. filter fabric with stand	deg. C	150
32	No. of Cage for Filter Bags	Nos.	1080
33	Cage Type	-	Single

34	Cage material	-	G.I.
35	Painting	-	Aluminum
36	Knife Gates	-	6+2
<b>SN</b>	<b>Technical Parameter (Rotary Air Lock Valve)</b>	<b>Unit</b>	<b>Technical Description</b>
1	RAL Below BF Hopper	-	Considered
2	RAL Quantity / Size	mm	9 / 250 X250 sq.
3	Make	-	IAEC
4	Speed	rpm	31
5	Drive arrangement	-	Direct through coupling
6	Drive motor power	KW	0.37
7	MOC of Housing and Rotor / Shaft	-	IS: 2062 / EN-8
<b>SN</b>	<b>Technical Parameter (ID Fan)</b>	<b>Unit</b>	<b>Technical Description</b>
1	Location	-	After Bag filter
2	Model No.	-	IAEC-ACB-160-199-7
3	Type	-	Single inlet Single width Centrifugal Fan
4	Make	-	IAEC
5	Capacity	Am <sup>3</sup> /Hr	1,92,500
6	Qty.	-	1
7	Operating Temp	deg. C	125
8	Static pressure at specified temperature	mm WC	350 at 125 Deg. C.
9	Total pressure at 20 Deg. C	mm WC	475 at 20 Deg. C
10	Shaft Power at specified temperature	BKW	222 at 125 Deg. C.
11	Shaft Power at 20 Deg C	BKW	310 at 20 Deg. C.
12	Static efficiency	%	76
13	Speed	rpm	980
14	Type of Drive arrangement	-	Coupling
15	Rating	KW / Pole	300 / 6
16	Casing/ Scroll ( thk) & MOC	mm	6 / 6 & IS: 2062
17	Impeller ( B. Plate/Blade/ Shroud) & MOC	mm	8/6 / 5 & IS: 2062
18	Shaft (MOC)	-	EN8
<b>SN</b>	<b>Technical Parameter (Chimney)</b>	<b>Unit</b>	<b>Technical Description</b>
1	Diameter of the Chimney	mm	2000
2	Height of the Chimney	meter	30



## FW: CFBC SPM Data(GMPL Jamuria)

Diptendu kapri <diptendu.kapri@giridhanmetal.com>

Tue 02-05-2023 19:40

To: Chandrachur Ghosh <chandrachur.ghosh@supershakti.in>

---

**From:** Sanjaya Gupta <sanjaya.gupta@giridhanmetal.com>

**Sent:** 03 March 2023 13:47

**To:** Dasgupta, Deepan <ddasgupta@forbesmarshall.com>

**Cc:** Govind Mishra <govind.mishra@giridhanmetal.com>; Manoj Kumar Tiwary <mk.tiwary@giridhanmetal.com>;

Lakshman Karmakar <lakshman.karmakar@giridhanmetal.com>; Dharmveer Gupta

<dharma.veer.gupta@giridhanmetal.com>; Diptendu kapri <diptendu.kapri@giridhanmetal.com>; Jitendra Nath Mukherjee

<jn.mukherjee@supershakti.in>; Sonu Singh <sonusingh@forbesmarshall.com>; Judhajit Dasgupta

<jdasgupta@forbesmarshall.com>; Ujjwal Kheto <ujjwal.kheto@giridhanmetal.com>; FM Anindya Pal

<apal@forbesmarshall.com>; Prasenjit DAS <pdas@forbesmarshall.com>; Avijit Bhunia <abhunia@forbesmarshall.com>;

Deepan Dasgupta <ddasgupta@forbesmarshall.com>; Sanchit Bhatnagar <sanchit.bhatnagar@giridhanmetal.com>;

isarkhel@forbesmarshall.com

**Subject:** CFBC SPM Data(GMPL Jamuria)

Dear Deepan Ji

The way your system responded and problems we are facing since installation, please note that from now onwards we have written purchase department to blacklist the FML for any future orders.

Regards

Sanjaya Gupta

---

**From:** Sanchit Bhatnagar <[sanchit.bhatnagar@giridhanmetal.com](mailto:sanchit.bhatnagar@giridhanmetal.com)>

**Sent:** Thursday, March 2, 2023 10:07 AM

**To:** Sarkhel, Indranil <[isarkhel@forbesmarshall.com](mailto:isarkhel@forbesmarshall.com)>

**Cc:** Govind Mishra <[govind.mishra@giridhanmetal.com](mailto:govind.mishra@giridhanmetal.com)>; Manoj Kumar Tiwary <[mk.tiwary@giridhanmetal.com](mailto:mk.tiwary@giridhanmetal.com)>;

Lakshman Karmakar <[lakshman.karmakar@giridhanmetal.com](mailto:lakshman.karmakar@giridhanmetal.com)>; Dharmveer Gupta

<[dharma.veer.gupta@giridhanmetal.com](mailto:dharma.veer.gupta@giridhanmetal.com)>; Sanjaya Gupta <[sanjaya.gupta@giridhanmetal.com](mailto:sanjaya.gupta@giridhanmetal.com)>; Diptendu kapri

<[diptendu.kapri@giridhanmetal.com](mailto:diptendu.kapri@giridhanmetal.com)>; Jitendra Nath Mukherjee <[jn.mukherjee@supershakti.in](mailto:jn.mukherjee@supershakti.in)>; Sonu Singh

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<[pdas@forbesmarshall.com](mailto:pdas@forbesmarshall.com)>; Avijit Bhunia <[abhunia@forbesmarshall.com](mailto:abhunia@forbesmarshall.com)>; Deepan Dasgupta

<[ddasgupta@forbesmarshall.com](mailto:ddasgupta@forbesmarshall.com)>

**Subject:** RE: CFBC SPM Data(GMPL Jamuria)

Dear Sir,

Sorry to say we have had very bad experience with Forbes Marshall regarding Stack Emission Monitoring here at GMPL Jamuria.

Out of Two Year extendable warranty period, one and half year we have had problem from your end, no concrete solution has been found. Everytime hit and trial approach have been applied without any permanent solution.

Hence, it is better to take away your system from our unit.

Regards,

Sanchit Bhatnagar

---

**From:** Sanchit Bhatnagar

**Sent:** 25 February 2023 09:34 AM

**To:** 'Sarkhel, Indranil' <[isarkhel@forbesmarshall.com](mailto:isarkhel@forbesmarshall.com)>

**Cc:** Govind Mishra <[govind.mishra@giridhanmetal.com](mailto:govind.mishra@giridhanmetal.com)>; Manoj Kumar Tiwary <[mk.tiwary@giridhanmetal.com](mailto:mk.tiwary@giridhanmetal.com)>;

Lakshman Karmakar <[lakshman.karmakar@giridhanmetal.com](mailto:lakshman.karmakar@giridhanmetal.com)>; Dharmveer Gupta

<[dharmveer.gupta@giridhanmetal.com](mailto:dharmveer.gupta@giridhanmetal.com)>; Sanjaya Gupta <[sanjaya.gupta@giridhanmetal.com](mailto:sanjaya.gupta@giridhanmetal.com)>; Diptendu kapri <[diptendu.kapri@giridhanmetal.com](mailto:diptendu.kapri@giridhanmetal.com)>; Jitendra Nath Mukherjee <[jn.mukherjee@supershakti.in](mailto:jn.mukherjee@supershakti.in)>; Sonu Singh <[sonusingh@forbesmarshall.com](mailto:sonusingh@forbesmarshall.com)>; Judhajit Dasgupta <[jdasgupta@forbesmarshall.com](mailto:jdasgupta@forbesmarshall.com)>; Ujjwal Kheto <[ujjwal.kheto@giridhanmetal.com](mailto:ujjwal.kheto@giridhanmetal.com)>; FM Anindya Pal <[apal@forbesmarshall.com](mailto:apal@forbesmarshall.com)>; Prasenjit DAS <[pdas@forbesmarshall.com](mailto:pdas@forbesmarshall.com)>; Avijit Bhunia <[abhunia@forbesmarshall.com](mailto:abhunia@forbesmarshall.com)>; Deepan Dasgupta <[ddasgupta@forbesmarshall.com](mailto:ddasgupta@forbesmarshall.com)>

**Subject:** RE: CFBC SPM Data(GMPL Jamuria)

Dear Sir,

Your last service engineer visited GMPL on 22 Feb 23 for our CFBC SPM Issue.

But Still SPM value is not coming up to the mark, please send someone or depute your team to solve this issue.

Please see its 24hrs trend which I have attached you.

Treat this issue on priority, most urgent way to resolve this issue.

Regards,  
Sanchit Bhatnagar

**From:** Bhunia, Avijit <[abhunia@forbesmarshall.com](mailto:abhunia@forbesmarshall.com)>

**Sent:** 21 February 2023 07:11 PM

**To:** Sanchit Bhatnagar <[sanchit.bhatnagar@giridhanmetal.com](mailto:sanchit.bhatnagar@giridhanmetal.com)>

**Cc:** Sarkhel, Indranil <[isarkhel@forbesmarshall.com](mailto:isarkhel@forbesmarshall.com)>; Govind Mishra <[govind.mishra@giridhanmetal.com](mailto:govind.mishra@giridhanmetal.com)>; Manoj Kumar Tiwary <[mk.tiwary@giridhanmetal.com](mailto:mk.tiwary@giridhanmetal.com)>; Lakshman Karmakar <[lakshman.karmakar@giridhanmetal.com](mailto:lakshman.karmakar@giridhanmetal.com)>; Dharmveer Gupta <[dharmveer.gupta@giridhanmetal.com](mailto:dharmveer.gupta@giridhanmetal.com)>; Sanjaya Gupta <[sanjaya.gupta@giridhanmetal.com](mailto:sanjaya.gupta@giridhanmetal.com)>; Diptendu kapri <[diptendu.kapri@giridhanmetal.com](mailto:diptendu.kapri@giridhanmetal.com)>; Jitendra Nath Mukherjee <[jn.mukherjee@supershakti.in](mailto:jn.mukherjee@supershakti.in)>; Sonu Singh <[sonusingh@forbesmarshall.com](mailto:sonusingh@forbesmarshall.com)>; Judhajit Dasgupta <[jdasgupta@forbesmarshall.com](mailto:jdasgupta@forbesmarshall.com)>; Ujjwal Kheto <[ujjwal.kheto@giridhanmetal.com](mailto:ujjwal.kheto@giridhanmetal.com)>; FM Anindya Pal <[apal@forbesmarshall.com](mailto:apal@forbesmarshall.com)>; Prasenjit DAS <[pdas@forbesmarshall.com](mailto:pdas@forbesmarshall.com)>

**Subject:** Re: CFBC SPM Data(GMPL Jamuria)

Dear Sir,

I will visit by tomorrow.

With regards,  
Avijit Bhunia | Tech. Specialist  
Customer Support Division | Kolkata Branch  
Forbes Marshall (P) Ltd.  
Rishi Tower, Premises No. 02/315, New Town, Kolkata,  
West Bengal - 700 156  
Tel: +91 33 3026 1264 | Mob: +91 9883253302  
Website: [www.forbesmarshall.com](http://www.forbesmarshall.com)

On Tue, Feb 21, 2023, 11:49 Pal, Anindya <[apal@forbesmarshall.com](mailto:apal@forbesmarshall.com)> wrote:

Dear Sir,  
We are scheduling for our engineer visit.  
You will receive the date today evening.

Regards,  
**Anindya Pal | Principal Lead**  
**Kolkata & Vizag Branch**  
**Forbes Marshall (P) Ltd**  
Rishi Tower, Premises No-02/315, Street No-315,  
NewTown, Kolkata-700156  
Tel: +91 33 30261250 Extn:1263 | Mob: 9434899681/8961709271

Email: [apal@forbesmarshall.com](mailto:apal@forbesmarshall.com)

Website: [www.forbesmarshall.com](http://www.forbesmarshall.com)

On Tue, Feb 21, 2023 at 11:48 AM Sanchit Bhatnagar <[sanchit.bhatnagar@giridhanmetal.com](mailto:sanchit.bhatnagar@giridhanmetal.com)> wrote:

Dear Sir,

Remaining material from Forbes Marshall has been received at GMPL for CFBC SPM Issue.

Please confirm availability of Service Engg. With date at GMPL.

Regards,  
Sanchit Bhatnagar

**From:** Sarkhel, Indranil <[isarkhel@forbesmarshall.com](mailto:isarkhel@forbesmarshall.com)>

**Sent:** 09 February 2023 05:06 PM

**To:** Sanchit Bhatnagar <[sanchit.bhatnagar@giridhanmetal.com](mailto:sanchit.bhatnagar@giridhanmetal.com)>

**Cc:** Pal, Anindya <[apal@forbesmarshall.com](mailto:apal@forbesmarshall.com)>; KHEDKAR, Ganesh <[gkhedkar@forbesmarshall.com](mailto:gkhedkar@forbesmarshall.com)>; Environmental Sales <[environ@forbesmarshall.com](mailto:environ@forbesmarshall.com)>; Govind Mishra <[govind.mishra@giridhanmetal.com](mailto:govind.mishra@giridhanmetal.com)>; Shift Incharge CPP <[shiftincharge.cpp@giridhanmetal.com](mailto:shiftincharge.cpp@giridhanmetal.com)>; Manoj Kumar Tiwary <[mk.tiwary@giridhanmetal.com](mailto:mk.tiwary@giridhanmetal.com)>; Lakshman Karmakar <[lakshman.karmakar@giridhanmetal.com](mailto:lakshman.karmakar@giridhanmetal.com)>; Deepan Dasgupta <[ddasgupta@forbesmarshall.com](mailto:ddasgupta@forbesmarshall.com)>; Dharmveer Gupta <[dharmveer.gupta@giridhanmetal.com](mailto:dharmveer.gupta@giridhanmetal.com)>; Sanjaya Gupta <[sanjaya.gupta@giridhanmetal.com](mailto:sanjaya.gupta@giridhanmetal.com)>; Diptendu kapri <[diptendu.kapri@giridhanmetal.com](mailto:diptendu.kapri@giridhanmetal.com)>; Chandrachur Ghosh <[chandrachur.ghosh@supershakti.in](mailto:chandrachur.ghosh@supershakti.in)>; Jitendra Nath Mukherjee <[jn.mukherjee@supershakti.in](mailto:jn.mukherjee@supershakti.in)>; Ranganath B. Thorat <[rthorat@forbesmarshall.com](mailto:rthorat@forbesmarshall.com)>; Satish MOHOLKAR <[smoholkar@forbesmarshall.com](mailto:smoholkar@forbesmarshall.com)>; Hitesh NAIK <[hnaik@forbesmarshall.com](mailto:hnaik@forbesmarshall.com)>; Samir BHANDARKAR <[sbhandarkar@forbesmarshall.com](mailto:sbhandarkar@forbesmarshall.com)>; Pravin Chavan <[pmchavan@forbesmarshall.com](mailto:pmchavan@forbesmarshall.com)>; Byju THOMAS <[bthomas@forbesmarshall.com](mailto:bthomas@forbesmarshall.com)>; Sonu Singh <[sonusingh@forbesmarshall.com](mailto:sonusingh@forbesmarshall.com)>; Avijit Bhunia <[abhunia@forbesmarshall.com](mailto:abhunia@forbesmarshall.com)>; Judhajit Dasgupta <[jdasgupta@forbesmarshall.com](mailto:jdasgupta@forbesmarshall.com)>; Ujjwal Kheto <[ujjwal.kheto@giridhanmetal.com](mailto:ujjwal.kheto@giridhanmetal.com)>; Surinder Pal SINGH <[ssingh@forbesmarshall.com](mailto:ssingh@forbesmarshall.com)>

**Subject:** Re: CFBC SPM Data(GMPL Jamuria)

Dear sir,

We are sending one SMPS unit to you.

Kindly send us the confirmation after receiving the same.

Regards  
Indranil Sarkhel

On Mon, Feb 6, 2023 at 9:48 AM Sanchit Bhatnagar <[sanchit.bhatnagar@giridhanmetal.com](mailto:sanchit.bhatnagar@giridhanmetal.com)> wrote:

Dear Sir,

Please update us about the delivery of material at GMPL. We don't want your internal mail to us like where the material is or when it is send which I have attached. We only want the result ie. material to be deliver at our site.

Regards,  
Sanchit Bhatnagar

**From:** Pal, Anindya <[apal@forbesmarshall.com](mailto:apal@forbesmarshall.com)>

**Sent:** 02 February 2023 09:52 AM

**To:** Ujjwal Kheto <[ujjwal.kheto@giridhanmetal.com](mailto:ujjwal.kheto@giridhanmetal.com)>

**Cc:** Sarkhel, Indranil <[isarkhel@forbesmarshall.com](mailto:isarkhel@forbesmarshall.com)>; KHEDKAR, Ganesh <[gkhedkar@forbesmarshall.com](mailto:gkhedkar@forbesmarshall.com)>; Environmental Sales <[environ@forbesmarshall.com](mailto:environ@forbesmarshall.com)>; Govind Mishra <[govind.mishra@giridhanmetal.com](mailto:govind.mishra@giridhanmetal.com)>; Shift Incharge CPP <[shiftincharge.cpp@giridhanmetal.com](mailto:shiftincharge.cpp@giridhanmetal.com)>; Manoj Kumar Tiwary <[mk.tiwary@giridhanmetal.com](mailto:mk.tiwary@giridhanmetal.com)>; Lakshman Karmakar <[lakshman.karmakar@giridhanmetal.com](mailto:lakshman.karmakar@giridhanmetal.com)>; Deepan Dasgupta <[ddasgupta@forbesmarshall.com](mailto:ddasgupta@forbesmarshall.com)>; Dharmveer Gupta <[dharmveer.gupta@giridhanmetal.com](mailto:dharmveer.gupta@giridhanmetal.com)>; Sanjaya Gupta <[sanjaya.gupta@giridhanmetal.com](mailto:sanjaya.gupta@giridhanmetal.com)>; Diptendu kapri <[diptendu.kapri@giridhanmetal.com](mailto:diptendu.kapri@giridhanmetal.com)>; Chandrachur Ghosh <[chandrachur.ghosh@supershakti.in](mailto:chandrachur.ghosh@supershakti.in)>; Jitendra Nath Mukherjee <[jn.mukherjee@supershakti.in](mailto:jn.mukherjee@supershakti.in)>; Ranganath B. Thorat <[rthorat@forbesmarshall.com](mailto:rthorat@forbesmarshall.com)>; Satish MOHOLKAR <[smoholkar@forbesmarshall.com](mailto:smoholkar@forbesmarshall.com)>; Hitesh NAIK <[hnaik@forbesmarshall.com](mailto:hnaik@forbesmarshall.com)>; Samir BHANDARKAR <[sbhandarkar@forbesmarshall.com](mailto:sbhandarkar@forbesmarshall.com)>; Pravin Chavan

<[pmchavan@forbesmarshall.com](mailto:pmchavan@forbesmarshall.com)>; Byju THOMAS <[bthomas@forbesmarshall.com](mailto:bthomas@forbesmarshall.com)>; Sonu Singh <[sonusingh@forbesmarshall.com](mailto:sonusingh@forbesmarshall.com)>; Avijit Bhunia <[abhunia@forbesmarshall.com](mailto:abhunia@forbesmarshall.com)>; Judhajit Dasgupta <[jdasgupta@forbesmarshall.com](mailto:jdasgupta@forbesmarshall.com)>; Sanchit Bhatnagar <[sanchit.bhatnagar@giridhanmetal.com](mailto:sanchit.bhatnagar@giridhanmetal.com)>; Surinder Pal SINGH <[ssingh@forbesmarshall.com](mailto:ssingh@forbesmarshall.com)>

**Subject:** Re: CFBC SPM Data(GMPL Jamuria)

Dear Sir,

Sorry for the inconvenience .

Materail is ready at our end and handed over to FGS for dispatch yesterday itself.

We will share you the LR details shortly.

Regards,

Anindya Pal | Principal Lead

Kolkata & Vizag Branch

Forbes Marshall (P) Ltd

9434899681

On Wed, 1 Feb 2023, 14:47 Ujjwal Kheto, <[ujjwal.kheto@giridhanmetal.com](mailto:ujjwal.kheto@giridhanmetal.com)> wrote:

Dear sir

As per trailing mail please update us on the status of materials dispatch. As discuss over telecom, there is no positive response about the status of material dispatch from your end . We have marked not positive response your end.

Regards

Ujjwal kheto

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**From:** Sarkhel, Indranil <[isarkhel@forbesmarshall.com](mailto:isarkhel@forbesmarshall.com)>

**Sent:** Saturday, January 28, 2023 5:32 PM

**To:** Ujjwal Kheto <[ujjwal.kheto@giridhanmetal.com](mailto:ujjwal.kheto@giridhanmetal.com)>; KHEDKAR, Ganesh <[gkhedkar@forbesmarshall.com](mailto:gkhedkar@forbesmarshall.com)>; Environmental Sales <[environ@forbesmarshall.com](mailto:environ@forbesmarshall.com)>

**Cc:** Govind Mishra <[govind.mishra@giridhanmetal.com](mailto:govind.mishra@giridhanmetal.com)>; Shift Incharge CPP

<[shiftincharge.cpp@giridhanmetal.com](mailto:shiftincharge.cpp@giridhanmetal.com)>; Manoj Kumar Tiwary <[mk.tiwary@giridhanmetal.com](mailto:mk.tiwary@giridhanmetal.com)>; Lakshman Karmakar <[lakshman.karmakar@giridhanmetal.com](mailto:lakshman.karmakar@giridhanmetal.com)>; Deepan Dasgupta <[ddasgupta@forbesmarshall.com](mailto:ddasgupta@forbesmarshall.com)>; Dharmveer Gupta <[dharmveer.gupta@giridhanmetal.com](mailto:dharmveer.gupta@giridhanmetal.com)>; Sanjaya Gupta

<[sanjaya.gupta@giridhanmetal.com](mailto:sanjaya.gupta@giridhanmetal.com)>; Diptendu kapri <[diptendu.kapri@giridhanmetal.com](mailto:diptendu.kapri@giridhanmetal.com)>; Chandrachur

Ghosh <[chandrachur.ghosh@supershakti.in](mailto:chandrachur.ghosh@supershakti.in)>; Jitendra Nath Mukherjee <[jn.mukherjee@supershakti.in](mailto:jn.mukherjee@supershakti.in)>; Ranganath B. Thorat <[rthorat@forbesmarshall.com](mailto:rthorat@forbesmarshall.com)>; Satish MOHOLKAR <[smoholkar@forbesmarshall.com](mailto:smoholkar@forbesmarshall.com)>; Hitesh NAIK <[hnaik@forbesmarshall.com](mailto:hnaik@forbesmarshall.com)>; Samir BHANDARKAR <[sbhandarkar@forbesmarshall.com](mailto:sbhandarkar@forbesmarshall.com)>; Pravin

Chavan <[pmchavan@forbesmarshall.com](mailto:pmchavan@forbesmarshall.com)>; Byju THOMAS <[bthomas@forbesmarshall.com](mailto:bthomas@forbesmarshall.com)>; Sonu Singh <[sonusingh@forbesmarshall.com](mailto:sonusingh@forbesmarshall.com)>; Avijit Bhunia <[abhunia@forbesmarshall.com](mailto:abhunia@forbesmarshall.com)>; Judhajit Dasgupta

<[jdasgupta@forbesmarshall.com](mailto:jdasgupta@forbesmarshall.com)>; Anindya Pal <[apal@forbesmarshall.com](mailto:apal@forbesmarshall.com)>; Sanchit Bhatnagar <[sanchit.bhatnagar@giridhanmetal.com](mailto:sanchit.bhatnagar@giridhanmetal.com)>; Surinder Pal SINGH <[ssingh@forbesmarshall.com](mailto:ssingh@forbesmarshall.com)>

**Subject:** Re: CFBC SPM Data(GMPL Jamuria)

Dear sir.

The required items are currently under test bench.

As per the latest update, we will despatch the required items on 31/01/23.

CC: Dear Pallavi and Ganesh, kindly share the docket details once despatched on 31st January.

Regards Indranil Sarkhel from Forbes Marshall Pvt Ltd Kolkata

On Sat, Jan 28, 2023, 15:08 Ujjwal Kheto <[ujjwal.kheto@giridhanmetal.com](mailto:ujjwal.kheto@giridhanmetal.com)> wrote:

Dear sir

Please update us the on the status of as per trailing mail spare . Already we had passed 15 days with the opacity meter issue, that is too much . So please do the plan to solve the issue of **Opacity meter ASAP** .

Regards  
Ujjwal kheto

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**From:** Sarkhel, Indranil <[isarkhel@forbesmarshall.com](mailto:isarkhel@forbesmarshall.com)>  
**Sent:** Tuesday, January 17, 2023 11:10 AM  
**To:** Sanchit Bhatnagar <[sanchit.bhatnagar@giridhanmetal.com](mailto:sanchit.bhatnagar@giridhanmetal.com)>  
**Cc:** Ujjwal Kheto <[ujjwal.kheto@giridhanmetal.com](mailto:ujjwal.kheto@giridhanmetal.com)>; Govind Mishra <[govind.mishra@giridhanmetal.com](mailto:govind.mishra@giridhanmetal.com)>; Shift Incharge CPP <[shiftincharge.cpp@giridhanmetal.com](mailto:shiftincharge.cpp@giridhanmetal.com)>; Manoj Kumar Tiwary <[mk.tiwary@giridhanmetal.com](mailto:mk.tiwary@giridhanmetal.com)>; Lakshman Karmakar <[lakshman.karmakar@giridhanmetal.com](mailto:lakshman.karmakar@giridhanmetal.com)>; Deepan Dasgupta <[ddasgupta@forbesmarshall.com](mailto:ddasgupta@forbesmarshall.com)>; Dharmveer Gupta <[dharmveer.gupta@giridhanmetal.com](mailto:dharmveer.gupta@giridhanmetal.com)>; Sanjaya Gupta <[sanjaya.gupta@giridhanmetal.com](mailto:sanjaya.gupta@giridhanmetal.com)>; Diptendu kapri <[diptendu.kapri@giridhanmetal.com](mailto:diptendu.kapri@giridhanmetal.com)>; Chandrachur Ghosh <[chandrachur.ghosh@supershakti.in](mailto:chandrachur.ghosh@supershakti.in)>; Jitendra Nath Mukherjee <[jn.mukherjee@supershakti.in](mailto:jn.mukherjee@supershakti.in)>; Ranganath B. Thorat <[rthorat@forbesmarshall.com](mailto:rthorat@forbesmarshall.com)>; Satish MOHOLKAR <[smoholkar@forbesmarshall.com](mailto:smoholkar@forbesmarshall.com)>; Hitesh NAIK <[hnaik@forbesmarshall.com](mailto:hnaik@forbesmarshall.com)>; Environmental Sales <[environ@forbesmarshall.com](mailto:environ@forbesmarshall.com)>; KHEDKAR, Ganesh <[gkhedkar@forbesmarshall.com](mailto:gkhedkar@forbesmarshall.com)>; Samir BHANDARKAR <[sbhandarkar@forbesmarshall.com](mailto:sbhandarkar@forbesmarshall.com)>; Pravin Chavan <[pmchavan@forbesmarshall.com](mailto:pmchavan@forbesmarshall.com)>; Byju THOMAS <[bthomas@forbesmarshall.com](mailto:bthomas@forbesmarshall.com)>; Sonu Singh <[sonusingh@forbesmarshall.com](mailto:sonusingh@forbesmarshall.com)>; Avijit Bhunia <[abhunia@forbesmarshall.com](mailto:abhunia@forbesmarshall.com)>; Judhajit Dasgupta <[jdasgupta@forbesmarshall.com](mailto:jdasgupta@forbesmarshall.com)>; Anindya Pal <[apal@forbesmarshall.com](mailto:apal@forbesmarshall.com)>; Surinder Pal SINGH <[ssingh@forbesmarshall.com](mailto:ssingh@forbesmarshall.com)>  
**Subject:** Re: CFBC SPM Data(GMPL Jamuria)

Dear sir

We again spoke today with our manufacturing division and understand that your materials are getting ready on 26th January.

We will definitely despatch those spares on 27th January and revert back to you.

We are keeping our manufacturing team also in loop, so that they can update us.

Regards  
Indranil Sarkhel  
Forbes Marshall Pvt Ltd

On Tue, Jan 17, 2023, 10:07 Sanchit Bhatnagar <[sanchit.bhatnagar@giridhanmetal.com](mailto:sanchit.bhatnagar@giridhanmetal.com)> wrote:

Dear Sir,

Still the Problem is open and we are facing lots of Problem, unable to answer to our management regarding this issue please understand my position.

Already talked to various forums(Seniors) of Forbes Marshall but still the issue is open and we are not getting proper support nor satisfaction from Forbes Marshall end.

Please do something to resolve this issue.

Regards,  
Sanchit Bhatnagar

**From:** Sarkhel, Indranil <[isarkhel@forbesmarshall.com](mailto:isarkhel@forbesmarshall.com)>  
**Sent:** 14 January 2023 11:07 AM  
**To:** Sanchit Bhatnagar <[sanchit.bhatnagar@giridhanmetal.com](mailto:sanchit.bhatnagar@giridhanmetal.com)>  
**Cc:** Ujjwal Kheto <[ujjwal.kheto@giridhanmetal.com](mailto:ujjwal.kheto@giridhanmetal.com)>; Govind Mishra <[govind.mishra@giridhanmetal.com](mailto:govind.mishra@giridhanmetal.com)>; Shift Incharge CPP <[shiftincharge.cpp@giridhanmetal.com](mailto:shiftincharge.cpp@giridhanmetal.com)>; Manoj Kumar Tiwary <[mk.tiwary@giridhanmetal.com](mailto:mk.tiwary@giridhanmetal.com)>; Lakshman Karmakar <[lakshman.karmakar@giridhanmetal.com](mailto:lakshman.karmakar@giridhanmetal.com)>; Deepan Dasgupta <[ddasgupta@forbesmarshall.com](mailto:ddasgupta@forbesmarshall.com)>; Dharmveer Gupta <[dharmveer.gupta@giridhanmetal.com](mailto:dharmveer.gupta@giridhanmetal.com)>; Sanjaya Gupta <[sanjaya.gupta@giridhanmetal.com](mailto:sanjaya.gupta@giridhanmetal.com)>; Diptendu kapri <[diptendu.kapri@giridhanmetal.com](mailto:diptendu.kapri@giridhanmetal.com)>; Chandrachur Ghosh <[chandrachur.ghosh@supershakti.in](mailto:chandrachur.ghosh@supershakti.in)>; Jitendra Nath Mukherjee <[jn.mukherjee@supershakti.in](mailto:jn.mukherjee@supershakti.in)>; Ranganath B. Thorat <[rthorat@forbesmarshall.com](mailto:rthorat@forbesmarshall.com)>; Satish MOHOLKAR <[smoholkar@forbesmarshall.com](mailto:smoholkar@forbesmarshall.com)>; Hitesh NAIK <[hnaik@forbesmarshall.com](mailto:hnaik@forbesmarshall.com)>;

Environmental Sales <[environ@forbesmarshall.com](mailto:environ@forbesmarshall.com)>; KHEDKAR, Ganesh <[gkhedkar@forbesmarshall.com](mailto:gkhedkar@forbesmarshall.com)>; Samir BHANDARKAR <[sbhandarkar@forbesmarshall.com](mailto:sbhandarkar@forbesmarshall.com)>; Pravin Chavan <[pmchavan@forbesmarshall.com](mailto:pmchavan@forbesmarshall.com)>; Byju THOMAS <[bthomas@forbesmarshall.com](mailto:bthomas@forbesmarshall.com)>; Sonu Singh <[sonusingh@forbesmarshall.com](mailto:sonusingh@forbesmarshall.com)>; Avijit Bhunia <[abhunia@forbesmarshall.com](mailto:abhunia@forbesmarshall.com)>  
**Subject:** Re: CFBC SPM Data(GMPL Jamuria)

Dear sir  
Noted with thanks.

We already initiated for the required items to our manufacturing team.

We will update you soon for the despatch details.

Regards Indranil Sarkhel from Forbes Marshall Pvt Ltd

On Sat, Jan 14, 2023, 09:27 Sanchit Bhatnagar <[sanchit.bhatnagar@giridhanmetal.com](mailto:sanchit.bhatnagar@giridhanmetal.com)> wrote:

Dear Sir,

Once again Communication Failure fault has come which you can see in the attached pic since night of 13 Jan 23.

Hence, plan a visit or send designated service engineer to address this issue.

Regards,  
Sanchit Bhatnagar

**From:** Sarkhel, Indranil <[isarkhel@forbesmarshall.com](mailto:isarkhel@forbesmarshall.com)>  
**Sent:** 13 January 2023 06:00 PM  
**To:** Sanchit Bhatnagar <[sanchit.bhatnagar@giridhanmetal.com](mailto:sanchit.bhatnagar@giridhanmetal.com)>  
**Cc:** Ujjwal Kheto <[ujjwal.kheto@giridhanmetal.com](mailto:ujjwal.kheto@giridhanmetal.com)>; Govind Mishra <[govind.mishra@giridhanmetal.com](mailto:govind.mishra@giridhanmetal.com)>; Shift Incharge CPP <[shiftincharge.cpp@giridhanmetal.com](mailto:shiftincharge.cpp@giridhanmetal.com)>; Manoj Kumar Tiwary <[mk.tiwary@giridhanmetal.com](mailto:mk.tiwary@giridhanmetal.com)>; Lakshman Karmakar <[lakshman.karmakar@giridhanmetal.com](mailto:lakshman.karmakar@giridhanmetal.com)>; Deepan Dasgupta <[ddasgupta@forbesmarshall.com](mailto:ddasgupta@forbesmarshall.com)>; Dharmveer Gupta <[dharmveer.gupta@giridhanmetal.com](mailto:dharmveer.gupta@giridhanmetal.com)>; Sanjaya Gupta <[sanjaya.gupta@giridhanmetal.com](mailto:sanjaya.gupta@giridhanmetal.com)>; Diptendu kapri <[diptendu.kapri@giridhanmetal.com](mailto:diptendu.kapri@giridhanmetal.com)>; Chandrachur Ghosh <[chandrachur.ghosh@supershakti.in](mailto:chandrachur.ghosh@supershakti.in)>; Jitendra Nath Mukherjee <[jn.mukherjee@supershakti.in](mailto:jn.mukherjee@supershakti.in)>  
**Subject:** Re: CFBC SPM Data(GMPL Jamuria)

Dear sir.

Please arrange to get one RS485 to USB converter at your end.

We will get in touch with you shortly.

Regards Indranil Sarkhel from Forbes Marshall Pvt Ltd

On Fri, Jan 13, 2023, 17:30 Sanchit Bhatnagar <[sanchit.bhatnagar@giridhanmetal.com](mailto:sanchit.bhatnagar@giridhanmetal.com)> wrote:

Dear Sir,

As per your telephonic support regarding above mentioned subject we did the following troubleshooting exercise like

1. Checked the Output going to our DCS.
2. Interfacing Channel assignment for Data Transmission.
3. Calibration.

After doing this exercise our Problem of DDU Comms Failure was resolved but still our Data is not Reflecting onto Forbes Marshall Cloud(We checked on the Link provided by you)

Hence, sir please take necessary steps or guide us to resolve the issue of Data being not reflecting on Forbes Marshall cloud and we are loosing faith to take Forbes Marshall into our next project by facing so many issues.

Regards,  
Sanchit Bhatnagar

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**From:** Sanchit Bhatnagar  
**Sent:** 11 January 2023 11:33 AM  
**To:** Sarkhel, Indranil <[isarkhel@forbesmarshall.com](mailto:isarkhel@forbesmarshall.com)>  
**Cc:** Ujjwal Kheto <[ujjwal.kheto@giridhanmetal.com](mailto:ujjwal.kheto@giridhanmetal.com)>; Govind Mishra <[govind.mishra@giridhanmetal.com](mailto:govind.mishra@giridhanmetal.com)>; Shift Incharge CPP <[shiftincharge.cpp@giridhanmetal.com](mailto:shiftincharge.cpp@giridhanmetal.com)>; Manoj Kumar Tiwary <[mk.tiwary@giridhanmetal.com](mailto:mk.tiwary@giridhanmetal.com)>; Lakshman Karmakar <[lakshman.karmakar@giridhanmetal.com](mailto:lakshman.karmakar@giridhanmetal.com)>; Deepan Dasgupta <[ddasgupta@forbesmarshall.com](mailto:ddasgupta@forbesmarshall.com)>; Dharmveer Gupta <[dharmveer.gupta@giridhanmetal.com](mailto:dharmveer.gupta@giridhanmetal.com)>; Sanjaya Gupta <[sanjaya.gupta@giridhanmetal.com](mailto:sanjaya.gupta@giridhanmetal.com)>; Diptendu kapri <[diptendu.kapri@giridhanmetal.com](mailto:diptendu.kapri@giridhanmetal.com)>  
**Subject:** RE: CFBC SPM Data(GMPL Jamuria)

Dear Sir,

As per your telephonic support, we have checked all the things like Data connectivity at GMPL end and we found all these things are found to be ok.

Also thrice we have faced DDU Comms Failure error at DDU, after power reset this fault is getting normal. Please Explain the frequent cause of this error.

But Still this data is not getting updated on Forbes Marshall Cloud. Please do the needful to update this data onto your cloud.

Regards,  
Sanchit Bhatnagar

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**From:** Sanjaya Gupta <[sanjaya.gupta@giridhanmetal.com](mailto:sanjaya.gupta@giridhanmetal.com)>  
**Sent:** 21 December 2022 04:07 PM  
**To:** Dasgupta, Deepan <[ddasgupta@forbesmarshall.com](mailto:ddasgupta@forbesmarshall.com)>  
**Cc:** Ujjwal Kheto <[ujjwal.kheto@giridhanmetal.com](mailto:ujjwal.kheto@giridhanmetal.com)>; Govind Mishra <[govind.mishra@giridhanmetal.com](mailto:govind.mishra@giridhanmetal.com)>; Shift Incharge CPP <[shiftincharge.cpp@giridhanmetal.com](mailto:shiftincharge.cpp@giridhanmetal.com)>; Manoj Kumar Tiwary <[mk.tiwary@giridhanmetal.com](mailto:mk.tiwary@giridhanmetal.com)>; Lakshman Karmakar <[lakshman.karmakar@giridhanmetal.com](mailto:lakshman.karmakar@giridhanmetal.com)>; Sarkhel, Indranil <[isarkhel@forbesmarshall.com](mailto:isarkhel@forbesmarshall.com)>; Avijit Bhunia <[abhunia@forbesmarshall.com](mailto:abhunia@forbesmarshall.com)>; Pravin Chavan <[pmchavan@forbesmarshall.com](mailto:pmchavan@forbesmarshall.com)>; Sandip Sarkar <[ssarkar@forbesmarshall.com](mailto:ssarkar@forbesmarshall.com)>; Sonu Singh <[sonusingh@forbesmarshall.com](mailto:sonusingh@forbesmarshall.com)>; Prasenjit DAS <[pdas@forbesmarshall.com](mailto:pdas@forbesmarshall.com)>; Samir BHANDARKAR <[sbhandarkar@forbesmarshall.com](mailto:sbhandarkar@forbesmarshall.com)>; Ranganath B. Thorat <[rthorat@forbesmarshall.com](mailto:rthorat@forbesmarshall.com)>; Dasgupta, Judhajit <[jdasgupta@forbesmarshall.com](mailto:jdasgupta@forbesmarshall.com)>; Anindya Pal <[apal@forbesmarshall.com](mailto:apal@forbesmarshall.com)>; Sanchit Bhatnagar <[sanchit.bhatnagar@giridhanmetal.com](mailto:sanchit.bhatnagar@giridhanmetal.com)>  
**Subject:** RE: Till Date MOM's Between M/S GMPL(Jamuria) & M/S. Forbes Marshall

Dear Deepan Ji

Sorry to say that despite all follow ups and had discussions with your team and Global expert, the problem with emission monitoring is persisting. Being a reputed company like FML, I think these may follow ups should not be required. This type of service was not anticipated by us. This will affect our future business relationship

Regards  
Sanjaya Gupta

**From:** Dasgupta, Deepan <[ddasgupta@forbesmarshall.com](mailto:ddasgupta@forbesmarshall.com)>

**Sent:** 11 November 2022 10:08

**To:** Sanchit Bhatnagar <[sanchit.bhatnagar@giridhanmetal.com](mailto:sanchit.bhatnagar@giridhanmetal.com)>

**Cc:** Sanjaya Gupta <[sanjaya.gupta@giridhanmetal.com](mailto:sanjaya.gupta@giridhanmetal.com)>; Ujjwal Kheto <[ujjwal.kheto@giridhanmetal.com](mailto:ujjwal.kheto@giridhanmetal.com)>; Govind Mishra <[govind.mishra@giridhanmetal.com](mailto:govind.mishra@giridhanmetal.com)>; Suprabhat Banerjee <[suprabhat.banerjee@giridhanmetal.com](mailto:suprabhat.banerjee@giridhanmetal.com)>; Shift Incharge CPP <[shiftincharge.cpp@giridhanmetal.com](mailto:shiftincharge.cpp@giridhanmetal.com)>; Manoj Kumar Tiwary <[mk.tiwary@giridhanmetal.com](mailto:mk.tiwary@giridhanmetal.com)>; Lakshman Karmakar <[lakshman.karmakar@giridhanmetal.com](mailto:lakshman.karmakar@giridhanmetal.com)>; Sarkhel, Indranil <[isarkhel@forbesmarshall.com](mailto:isarkhel@forbesmarshall.com)>; Avijit Bhunia <[abhunia@forbesmarshall.com](mailto:abhunia@forbesmarshall.com)>; Pravin Chavan <[pmchavan@forbesmarshall.com](mailto:pmchavan@forbesmarshall.com)>; Sandip Sarkar <[ssarkar@forbesmarshall.com](mailto:ssarkar@forbesmarshall.com)>; Sonu Singh <[sonusingh@forbesmarshall.com](mailto:sonusingh@forbesmarshall.com)>; Prasenjit DAS <[pdas@forbesmarshall.com](mailto:pdas@forbesmarshall.com)>; Samir BHANDARKAR <[sbhandarkar@forbesmarshall.com](mailto:sbhandarkar@forbesmarshall.com)>; Ranganath B. Thorat <[rthorat@forbesmarshall.com](mailto:rthorat@forbesmarshall.com)>; Dasgupta, Judhajit <[jdasgupta@forbesmarshall.com](mailto:jdasgupta@forbesmarshall.com)>; Anindya Pal <[apal@forbesmarshall.com](mailto:apal@forbesmarshall.com)>

**Subject:** Re: Till Date MOM's Between M/S GMPL(Jamuria) & M/S. Forbes Marshall

Dear Sir ,  
K/A : Mr. Bhatnagar

We thank you for sharing your concern and valued feedback with correspondences of MOM's. We hope to re-assure our best services and help you in the predicament. Please allow us to revert back to you.

Dear Pravin - We had jointly discussed with the customer during our visit call . Please take this up and help with the suitable Plan of action so that we can address this .

Warm Regards  
Deepan Dasgupta

On Fri, 11 Nov 2022, 09:55 Sanchit Bhatnagar, <[sanchit.bhatnagar@giridhanmetal.com](mailto:sanchit.bhatnagar@giridhanmetal.com)> wrote:

Dear Sir,

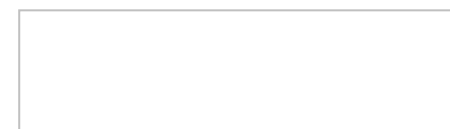
As per discussion held with you during your last visit to GMPL(Jamuria) on 09 Nov 22 please find all the scanned copies of MOM's held between us during the Plant Commissioning activities.

Also, during the discussion, we are having lots of Sox,NOx,SPM problems here at GMPL.

Hope this will help in resolving this problematic issue with your Top Management.

Please revert back to us.

Regards,  
Sanchit Bhatnagar



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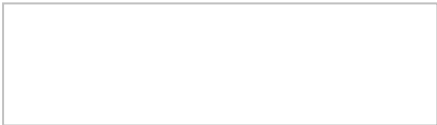
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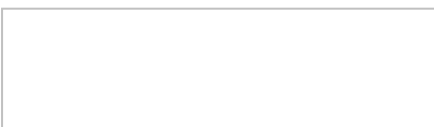
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Regards  
Indranil Sarkhel  
Forbes Marshall(P)Ltd  
Cell No. 09433079605  
Rishi Tower,Premises No. 02/315,New Town,Kolkata,West Bengal,PIN 700 156.Behind Tata Medical Centre and opposite Unitech Building Gate No.2. Ph - 033- 3026 1254, Fax: 033- 3026 1260



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Rain Water Harvesting



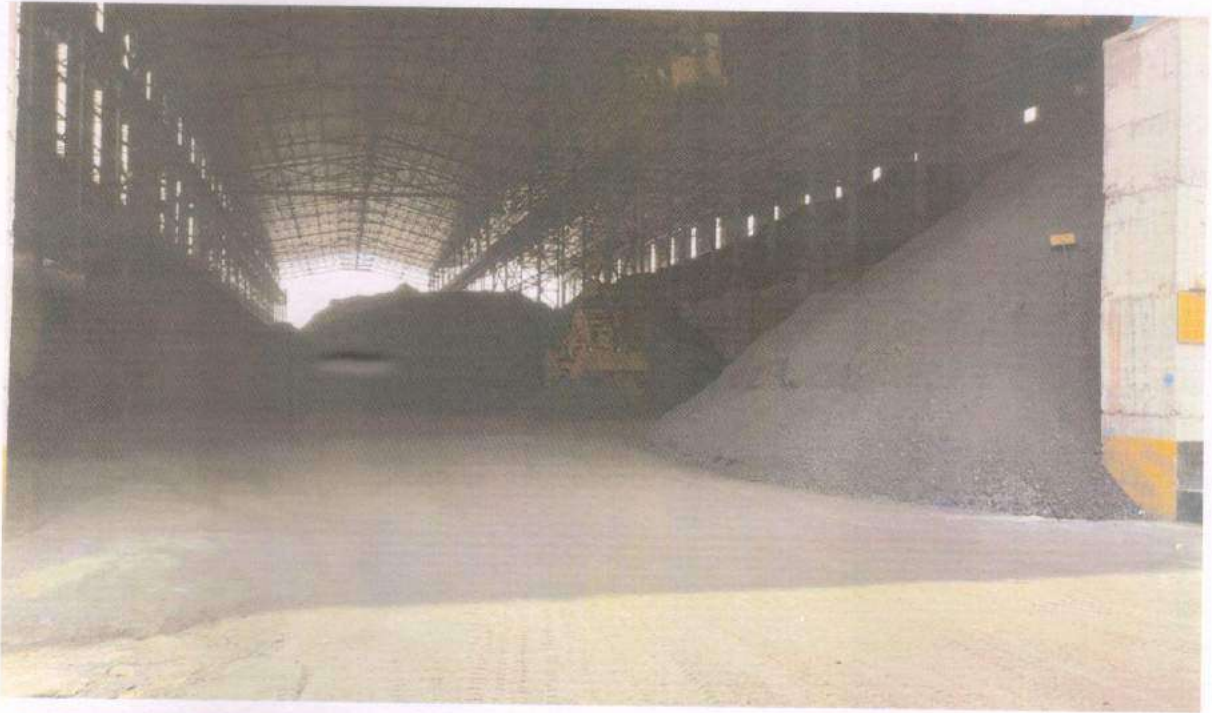
Water level monitoring indicator





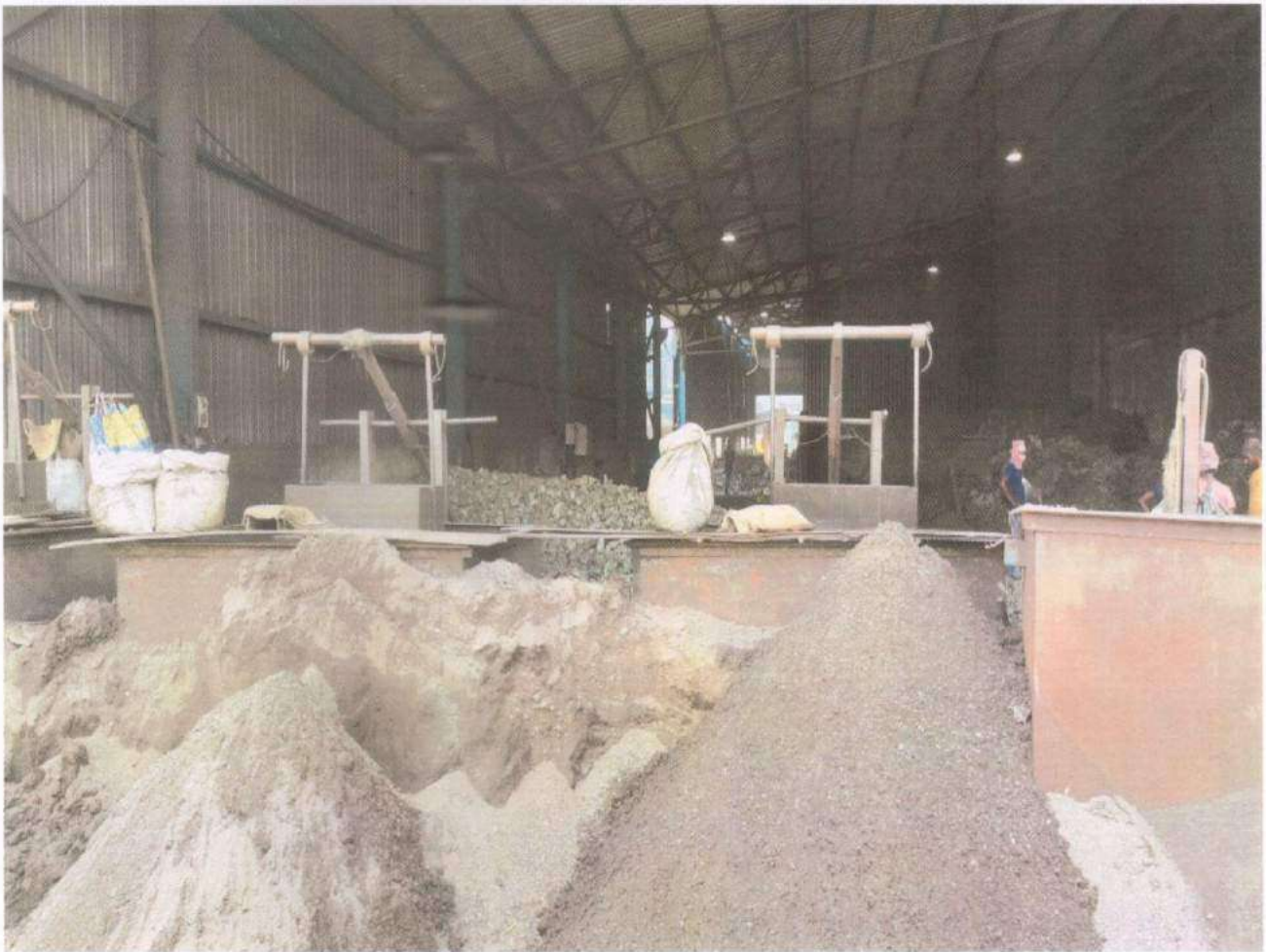
Air cooled condenser for Captive Power Plant





Raw material stock yard





Jigging Plant

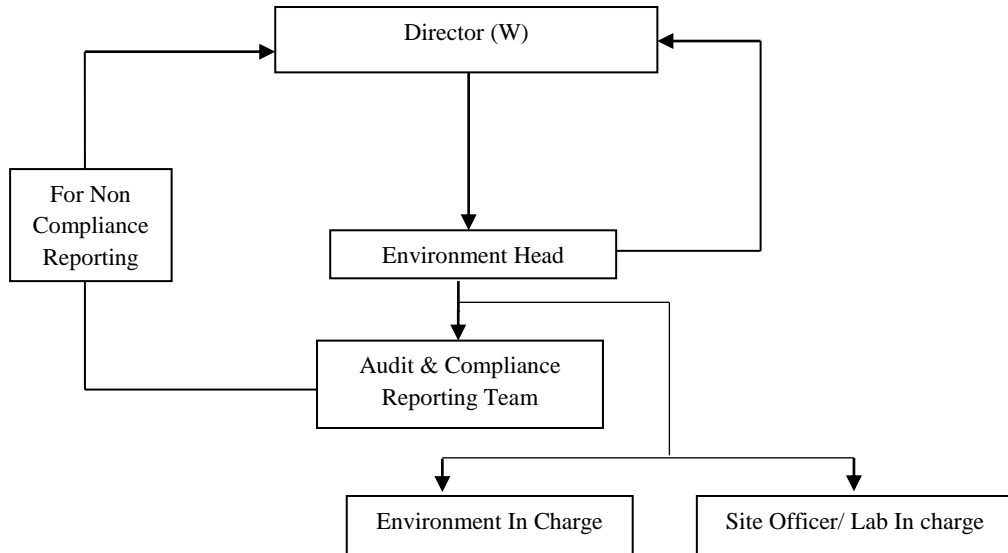




Covered raw material handling



### Organogram for Environment Department



Environment Laboratory