

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

Ref No. GMPL/22-23/MoEF&CC/02

Date: 31.05.2022

To,
Director General of Forest
Integrated Regional Office
Ministry of Environment, Forest & Climate Change
Kolkata IB-198, Sector-III, Salt Lake City, Kolkata-700106

Ref: Ministry's EC No J-11011/366/2010-IA.II (I) dated 8th April, 2021

Sub: Submission of Six Monthly Compliance Report

Respected Sir,

We are submitting herewith the Six Monthly EC Compliance Report as on 31st March 2022 for your kind perusal. The same is being also uploaded on our website www.giridhanmetal.com

Kindly find attached as follows:

1. Point wise Six Monthly Compliance status as on 31st March 2022
2. Letter from M/s ISGEC Heavy Engineering, Noida on SO₂, NO_x reduction (Annexure-1)
3. Affidavit document of our compliance against observations made by regional office (Annexure-2)
4. Latest Environment Monitoring Reports (Annexure-3)
5. Corporate Environment Policy (Annexure-4)
6. Paper cutting of Public Notice regarding EC (Annexure-5)
7. Speed post document against EC granted intimation to local body (Annexure-6)
8. Hazard Identification and Risk Assessment (HIRA) Report (Annexure-7)
9. Health surveillance report (Annexure - 8)

Thanking you.

Yours Sincerely



Manish Poddar

Giridhan Metal Private Limited

Jamuria Industrial Estate, Paschim Bardhaman, West Bengal

Email: giridhanmetal@gmail.com



GIRIDHAN METAL PRIVATE LIMITED

Jamuria Industrial Estate, Jamuria , 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 8th April, 2021

Period of Compliance Report: October 2021 to March 2022

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.	Giridhan Metal Private Limited (GMPL) has started the plantation, till date we have 6157 nos of trees inside the plant premises. Now we are in project stage, and plantation area is already earmarked, but due to construction activity it is very difficult to keep alive. We are continuing plantation wherever the place is available.
ii)	Closed type Submerged Arc Furnace with 4 th hole extraction system shall be installed.	GMPL has installed Closed type Submerged Arc Furnace with 4 th hole extraction system.
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 got the CTO for 1x350 TPD DRI Kiln. The project for another 600 TPD DRI is in progress. The dismantling job for 50 TPD DRI is in progress.
iv)	Project proponent shall meet the particulate matter emission norms in all stacks less than 30 mg/Nm ³ .	GMPL has installed 5 field ESP at 350 TPD DRI & Captive Power Plant to meet the standard norms and bag filter at Ferro Alloys plant. The emission report of WBPCB as well as NABL accredited third party laboratory is within the standard norms. The reports are attached herewith as Annexure - 3
V)	The Project proponent shall comply with emission norms of PM, SO _x , NO _x and Mercury for captive power plant at stipulated in the gazette notification no. S.O. 3305 (E) dated 7/12/2015.	We are complying the conditions of 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,

		SOx, NOx and Mercury is within the standard norms. WBPCB has also taken the samples and the results are with the standard norm. The results are attached herewith as Annexure - 3
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	Now we are in project stage, it will be taken care once project will be completed.
vii)	The heat rate of coal based power plant as specified by Central Electricity Authority shall be maintained and monitored	Noted and will be complied.
viii)	Energy efficient drives, VFD for auxiliary motors and slip power recovery system for motors above 1000 KW shall be provided.	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 and we are following your instruction for every filter bag house.
x)	PP shall use ultralow NOx burner with three stage combustion, flue gas recirculation and auto combustion control system. Shall use Post combustion control system (SCR/SCNR process) with NH ₃ monitoring when Ammonia is used.	We have installed De SOx and De NOx system in FBC boiler. M/s ISGEC Heavy Engineering, Noida has assured for the same & SO ₂ ,NOx will be less than permissible standard. The letter is attached herewith as Annexure-1.
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.	We are considering all roofs of the plant under rain water harvesting from beginning stage. Now we are in construction stage and it will be complied.
xii)	Treated effluent shall be recycled and reused	Now we are in construction stage and it will be complied
xiii)	Air cooled condensers shall be used in CPP	Air cooled condenser has been installed.
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 having impervious floor and well equipped with water spray system.
xv)	Jigging and briquetting Plant shall be installed.	Jigging plant has been installed. We are producing ferro chrome, hence briquetting plant 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.	The Steel Smelting Shop is in construction stage. GMPL is planning for hot charging of billets in maximum extent.
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 th July 2021, which is attached as Annexure-2.

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 (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.	We have installed continuous emission monitoring system for 350 DRI & Captive Power Plant. Data connectivity process with CPCB server is in progress.
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.	We have monitored the fugitive emission in the plant premises by NABL accredited laboratory. The results are attached herewith as Annexure – 3.
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 system in all the dust generating point to comply the stack emission and fugitive emission standard. <ol style="list-style-type: none"> 1. The 350 TPD DRI is well equipped with 5-field ESP 2. The CFBC boiler is well equipped with 5-field ESP 3. Ferro Alloys 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 02 nos of bag filter to control fugitive emission.

		5. Dry fog system has been installed in entire coal circuit area to control the fugitive emission.
iv)	The project proponent shall provided leakage detection and mechanized bag cleaning facilities for better operation bag houses.	Mechanized bag cleaning facilities with Purging facility is being adopted for better operation of bag houses. Also we are adopting TPM (Autonomous Maintenance) in all pollution equipment.
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.	Now we are using iron ore pellet as a raw material for 350 TPD DRI, so no iron ore fines are generating. Coal and coke fines collected in pollution control devices are being 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 conveyor (raw materials & products) are covered by canopy and transportation of raw materials & products are also doing in fully covered condition to prevent spillage and fugitive dust generation.
vii)	The project proponent shall provide primary and secondary fume extraction system at all melting furnaces.	Steel Smelting Shop is in construction stage.
viii)	Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.	Most of the raw materials are kept under shed.
ix)	Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars	Noted
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.	Now we are in construction stage and it will be complied
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.	Now we are in construction stage and it will be complied
iii)	Sewage Treatment Plant shall be provided for treatment of domestic waste water to meet the prescribed standards.	Soak pit is connected with domestic waste water.
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 st March 2012 (applicable to IF.EAF) as amended from time to time	Now we are in construction stage and it will be complied

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 report.	Noise level survey is being carried out. The reports are attaching herewith in Annexure – 3 .
v. Energy Conservation measures		
i)	Energy conservation measures may be adopted such as adoption of solar energy and provision of LED light etc., to minimize the energy consumption.	LED lights have been provided at entire offices as well as plant area also.
VI. Waste management		
i)	Used refractories shall be recycled as far as possible.	It will be complied
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.	Still the power plant is in trial stage and very small quantity ash is generated which is being used in low land filling at project site inside the plant premises.
iii)	Dolochar generated from DRI kiln shall be used for power generation.	Dolochar generated from DRI kiln shall be used in CFBC boiler for power generation.
iv)	Oily scum and metallic sludge recovered from rolling mills ETP shall be mixed, dried, and briquetted and reused in melting Furnaces.	Now we are in construction stage and it will be complied
v)	Kitchen waste shall be composed or converted to biogas for further use.	We are planning to install biogas plant
VII. Green Belt		
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.	After completion of the project we will engage a third party to conduct the programme.
VIII. Public hearing and Human health issues		
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. Attached as Annexure-7
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.	Now we are in construction stage and it will be complied
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. Attached some health reports as a sample copy as Annexure-8
IX. Corporate Environment Responsibility		
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.	Agreed & will be complied

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.	We have a well laid down environmental policy duly approved by the Board of Directors. The policy is attached herewith as Annexure-4 .
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 control of senior Executive, who will report directly to the head of the organization.	It is under planning stage
X. Miscellaneous		
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 make public notice regarding environment clearance on 28 th April 2021 in two local news papers "Ei Samay" (vernacular language-bengali) and "Pravat Khabar" (Hindi). The scan copy of paper is attaching herewith as Annexure – 5 .
ii)	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal 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.	The copy of environmental clearance has been submitted to Heads of local bodies of "Asansol Municipal Corporation" and "Asansol Durgapur Development Authority". The letter with speed post documents are attached herewith as Annexure – 6 .
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.	GMPL comply the same on time
iv)	The project proponent shall monitor the criteria pollutants level namely; PM ₁₀ , SO ₂ , NO _x (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.	GMPL is being submitted the six monthly compliance report to regional office on time.
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	The plant operation has been started very recently, so we will submit the environment statement to State

	Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	Pollution Control Board for 2021-22 FY first time.
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.	Shall inform
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 comply
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
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



ISGEC HEAVY ENGINEERING LTD.

ISGEC BOILERS

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

A-4, Sector-24,
Noida - 201 301 (U.P.) India
Tel.: +91-120-4085000 / 01 / 02
Fax: +91-120-4085100
www.isgec.com

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 SO₂.

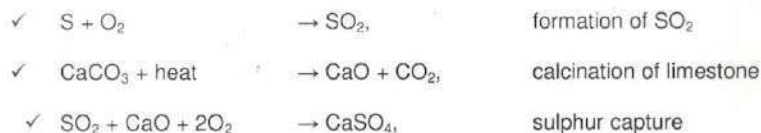
Descriptions and Features De SO_x System in CFB Technology:

CFB has been proven to be quite effective in the reduction of SO₂ emissions. Reduction of SO₂ emissions, in CFB is accomplished by the injection of limestone into the furnace. The CFB boiler is suitable for SO₂ 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 SO₂ 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 (CaSO₄) 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 SO₂ 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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www.isgpec.com

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
Heavy Engineering Ltd
(U. P.) India

1005 1106 5 9



পশ্চিমবঙ্গ পশ্চিম বঙ্গাল 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, 3rd Floor, P.S. - Shakespeare Sarani, Kolkata - 700017, West Bengal; do here by solemnly affirm and declare as follows :-



[Handwritten Signature]

27 JUL 2021

27 JUL 2021

Serial No. 2001 Date 27 JUL 2021
Sold to J. Sarkar per

Address C-7
Value of Stamps of this Stamp Paper 24 JUN 2021

Date of Purchase from the Treasury
Name of the Treasury from where Purchased, DURGAPUR.

Subrata Kumar Chakraborty
Stamp Vendor
A. D. S. R. Office, Durgapur-16
Licence No. 5 of 1989

GOVERNMENT OF WEST BENGAL

DURGAPUR

VALIDITY

Stamp paper is valid for use in the State of West Bengal only. It is not valid for use in any other State or Union Territory. The stamp paper is valid for use in the State of West Bengal only. It is not valid for use in any other State or Union Territory. The stamp paper is valid for use in the State of West Bengal only. It is not valid for use in any other State or Union Territory.

10/5/21

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 2nd April 2012 and J-11011/366/2010-IA. II(I) dated 29th 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 24th May, 2019 extended till 1st 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, 3rd 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 1st 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.	<p>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.</p>	<p>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.</p> <p>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.</p>



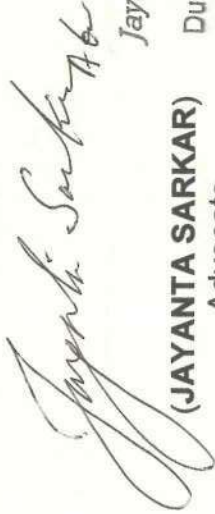
27 JUL 2021

2.	<p>Specific condition (xvi) : 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 & 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 & plantation by planting trees to the tune of 2500 trees/ha. Plantation schedule is enclosed as Annexure 2.</p>
3.	<p>General condition (xi) : 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 27th 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

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

District Courts of Paschim Bardhaman



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

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

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

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

27 JUL 2021

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 ²)	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 ³)	1.008
21. Corrected flue gas volume (Nm ³)	0.9528	22. Percentage of CO ₂ & O ₂	CO ₂ = 2.4% O ₂ = 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 ³)	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 ²)	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 ³)	1.0
21.Corrected flue gas volume (Nm ³)	0.9452	22.Percentage of CO ₂ & O ₂	CO ₂ =11.8% O ₂ = 6.4%
23.To be compensated at (% if required)	12% CO ₂		
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 ³)	15.55
28.Barometric Pressure Head (mm of Hg)	758	29.Diameter of the nozzle	9.52 mm
30. Others SO ₂		31. Thimble Number	3817
32. Sampled by	Mr. R. Chakraborty, AEE		

04/03/2022

Date of Reporting

Junior Scientist, DRL

Scientist, DRL

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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 ²)	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 ³)	1.020
21. Corrected flue gas volume (Nm ³)	0.9673	22. Percentage of CO ₂ & O ₂	-
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 ³)	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:
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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	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 ²)	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 ³)	1.008
21.Corrected flue gas volume (Nm ³)	0.9397	22.Percentage of CO ₂ & O ₂	-
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 ³)	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

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Analysis Reports of Gaseous Emission

Identification Code: 2 2 1 1 2 0 2 1 8 0 8 6


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, Sponge Iron Unit		
4.Sampling Date	22.11.2021		
5.Duration of Sampling	36 min		
6.Name of Laboratory	M/s. J.M. Biotech (P) Ltd.		
7.Height of Stack from ground (m)	30.0		
8.Cross section of Stack at sampling point (m ²)	2.2707		
9.Stack connected to	Product Separation House		
10.Emission due to (Furnace / Boiler)	Process Activity		
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)	350 TPD DRI		
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 Separation House		
18.Flue Gas Temp (°C)	53.0		
19.Flue gas velocity (m/s)	5.74	20.Volume of Flue gas drawn in lit (m ³)	1.008
21.Corrected flue gas volume (Nm ³)	0.8583	22.Percentage of CO ₂ & O ₂	CO ₂ =0.2% O ₂ =14.8%
23.To be compensated at (% if required)	-		
24.Initial wt of thimble (gm)	1.5209	25.Final wt of thimble (gm)	1.5297
26.Wt. of PM (mg)	8.80	27.Particulate matter (mg/Nm ³)	10.25
28.Barometric Pressure Head (mm of Hg)	758	29.Diameter of the nozzle	9.525 mm
30. Others -		31. Thimble Number	3562
32. Sampled by	Mr. A. Fouzdar, AEE		

08/12/2021

Date of Reporting

Junior Scientist, DRL

Scientist, DRL

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3. Env. Engineer (DRO) / Sr. 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, Sponge Iron Unit		
4. Sampling Date	22.11.2021		
5. Duration of Sampling	43 min		
6. Name of Laboratory	M/s. J.M. Biotech (P) Ltd.		
7. Height of Stack from ground (m)	80.0		
8. Cross section of Stack at sampling point (m ²)	12.5714		
9. Stack connected to	Rotary Kiln Connected with DRI (WHRB)		
10. Emission due to (Furnace / Boiler)	Combustion of Coal & Reduction of Iron Ore		
11. Average operational hours of boiler/furnace (per month)	720 hrs		
12. APC System (if any)	ESP (5 No. Fields)		
13. Working load of source (MT/hr)	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 Kiln (WHRB)		
18. Flue Gas Temp (°C)	96.0		
19. Flue gas velocity (m/s)	11.94	20. Volume of Flue gas drawn in lit (m ³)	1.032
21. Corrected flue gas volume (Nm ³)	0.8787	22. Percentage of CO ₂ & O ₂	CO ₂ =11.6% O ₂ =6.8%
23. To be compensated at (% if required)	12% CO ₂		
24. Initial wt of thimble (gm)	1.5148	25. Final wt of thimble (gm)	1.5288
26. Wt. of PM (mg)	14.00	27. Particulate matter (mg/Nm ³)	16.48 at 12% CO ₂
28. Barometric Pressure Head (mm of Hg)	758	29. Diameter of the nozzle	6.35 mm
30. Others SO ₂ & NO _x		31. Thimble Number	3561
32. Sampled by	Mr. A. Fouzdar, AEE		

08/12/2021

Date of Reporting

Junior Scientist, DRL

Scientist, DRL

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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

Name & Address Of the Customer : M/s. Giridhan Metal Pvt Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O. - Nandi, Paschim Bardhaman , Pin:713 344	ULR No.	: TC627121000002783F
	Report No.	: QLS/A/21-22/C/531
	Date	: 22.11.2021
	Sample No.	: QLS/A/21-22/531
	Sample Description	: Stack Flue Gas
	Date of Performance	: 18-22.11.2021
	Sample Mark	: DRI- 350TPD
Ref No. Date	: WS1601-007, Dated 01.06.2021	

Analysis Result

Date & Time of Sampling : 16.11.2021 at 12:10 P.M. Sampling done by : S.Ghosh	Sampling Procedures : EPA/IS		
A : General Information of Stack:			
1 Stack connected to	: Rotary Kiln Connected with 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		
B : Physical Characteristic of Stack:			
1 Height of Stack from ground level	: 80.0 m		
2 Diameter of Stack at bottom	: ----		
3 Diameter of Stack at sampling point	: 4.0 m		
4 Height of the sampling point from ground level	: 35.0 m		
5 Area of Stack	: 12.57 m ²		
C : Analysis/Characteristic of Stack:			
1 Fuel used : Coal	2. Fuel consumption : 12.5 TPH		
D : Results of Sampling & Analysis of gaseous Emission:			
	RESULT	METHOD	LIMIT
1 Temperature of emission (°C)	: 110	EPA Part 2	---
2 Barometric pressure (mm of Hg)	: 747	EPA Part 2	---
3 Velocity of gas (m/sec)	: 7.84	EPA Part 2	---
4 Quantity of gas flow (Nm ³ /hr)	: 101452	EPA Part 2	---
5 Concentration of Carbon monoxide(%v/v)	: <0.2	IS:13270-1992, Reaf : 2017	---
6 Concentration of Carbon dioxide(%v/v)	: 8.2	IS:13270-1992, Reaf : 2017	---
7 Concentration of Sulphur dioxide (mg/Nm ³)	: 161.8	EPA Part-6	---
8 Concentration of Nitrogen dioxide (mg/Nm ³)	: 98.0	EPA Part-7	---
9 Concentration of Particulate Matters (mg/Nm ³)	: 18 at 12% CO ₂	EPA Part 5	100
E : Pollution Control Device :			
Details of pollution control devices attached with the stack		: ESP	
F : Remarks: 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	: 11.08.2022		

for Qualissure Laboratory Services
Reviewed & Authorized By

(Authorized Signatory)

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

TEST REPORT

Name & Address Of the Customer : M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarapur, Jamuria P.O.: Nandi, Paschim Bardhaman , Pin:713 344	ULR No.	: TC627121000002783F
	Report No.	: QLS/A/21-22/C/532
	Date	: 22.11.2021
	Sample No.	: QLS/A/21-22/532(A-D)
	Sample Description	: Noise Monitoring
	Ref No. Date	: GMPL/JMR/2019-20/03, Dt.31.03.2020

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
532A	16-17.11.2021	Near Admin Building	60.8	50.4
532B		North East Side- (Fabrication Of Coal Shed)	64.3	51.6
532C	17-18.11.2021	South East Side (Fabrication Of Power Plant)	64.8	53.2
532D		Near Batching Plant Area	60.5	49.8

Code/ Category	Leq dB Day Time(A)	Leq dB Night Time(A)	NOTE: 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	

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

TEST REPORT

Name & Address Of the Customer : M/s. Giridhan Metal Pvt Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O. - Nandi, Paschim Bardhaman , Pin:713 344	URL No.	: TC627121000002781F
	Report No.	: QLS/A/21-22/C/530
	Date	: 22.11.2021
	Sample No.	: QLS/A/21-22/530
	Sample Description	: Fugitive Air
Ref No. Date	: GMPL/JMR/2019-20/03, Dt.31.03.2020	

Analysis Result

Location : Fabrication Yard Near Power Plant		Date of sampling : 16.11.2021	
Sampling Done by: S.Ghosh / J.Sahana		Sampling done as per : CPCB Guidelines (Volume-1)	
Environmental Condition : Clear & Sunny			
Sl. No.	Pollutants	Result	Method of Test Reference
1	Total Respirable Particulate Matter in $\mu\text{g}/\text{m}^3$	157	IS: 5182 (Part-23)- (RA-2017)
2	Sulphur dioxide (SO ₂) in $\mu\text{g}/\text{m}^3$	6.8	IS: 5182, Part-2 : (RA-2017)
3	Nitrogen dioxide (NO ₂) in $\mu\text{g}/\text{m}^3$	27.8	IS: 5182, Part- 6 : (RA-2017)
4	Carbon Monoxide (CO) in $\mu\text{g}/\text{m}^3$	684	IS: 5182 (Part- 10)-2014
NOTE: ----			

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TEST REPORT

Name & Address Of the Customer : M/s. Giridhan Metal Pvt Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O. - Nandi, Paschim Bardhaman , Pin:713 344	URL No.	: TC627121000002780F
	Report No.	: QLS/A/21-22/C/529
	Date	: 22.11.2021
	Sample No.	: QLS/A/21-22/529
	Sample Description	: Fugitive Air
	Ref No. Date	: GMPL/JMR/2019-20/03, Dt.31.03.2020

Analysis Result

Location : Ferro Fabrication Yard		Date of sampling : 16.11.2021	
Sampling Done by: S.Ghosh / J.Sahana		Sampling done as per : CPCB Guidelines (Volume-1)	
Environmental Condition : Clear & Sunny			
Sl. No.	Pollutants	Result	Method of Test Reference
1	Total Respirable Particulate Matter in $\mu\text{g}/\text{m}^3$	146	IS: 5182 (Part-23)- (RA-2017)
2	Sulphur dioxide (SO ₂) in $\mu\text{g}/\text{m}^3$	7.3	IS: 5182, Part-2 : (RA-2017)
3	Nitrogen dioxide (NO ₂) in $\mu\text{g}/\text{m}^3$	28.4	IS: 5182, Part- 6 : (RA-2017)
4	Carbon Monoxide (CO) in $\mu\text{g}/\text{m}^3$	629	IS: 5182 (Part- 10)-2014
NOTE: ----			

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

TEST REPORT

Name & Address Of the Customer : M/s. Giridhan Metal Pvt Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O. - Nandi, Paschim Bardhaman , Pin:713 344	URL No.	: TC627121000002779F
	Report No.	: QLS/A/21-22/C/528
	Date	: 22.11.2021
	Sample No.	: QLS/A/21-22/528
	Sample Description	: Fugitive Air
Ref No. Date	: GMPL/JMR/2019-20/03, Dt.31.03.2020	

Analysis Result

Location : Main Fabrication yard		Date of sampling : 16.11.2021	
Sampling Done by: S.Ghosh / J.Sahana		Sampling done as per : CPCB Guidelines (Volume-1)	
Environmental Condition : Clear & Sunny			
Sl. No.	Pollutants	Result	Method of Test Reference
1	Total Respirable Particulate Matter in $\mu\text{g}/\text{m}^3$	134	IS: 5182 (Part-23)- (RA-2017)
2	Sulphur dioxide (SO_2) in $\mu\text{g}/\text{m}^3$	6.0	IS: 5182, Part-2 : (RA-2017)
3	Nitrogen dioxide (NO_2) in $\mu\text{g}/\text{m}^3$	27.1	IS: 5182, Part- 6 : (RA-2017)
4	Carbon Monoxide (CO) in $\mu\text{g}/\text{m}^3$	572	IS: 5182 (Part- 10)-2014
NOTE: ----			

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

TEST REPORT

Name & Address Of the Customer : M/s. Giridhan Metal Pvt Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O. - Nandi, Paschim Bardhaman , Pin:713 344	URL No.	:TC627121000002778F
	Report No.	: QLS/A/21-22/C/527
	Date	: 22.11.2021
	Sample No.	: QLS/A/21-22/527
	Sample Description	: Fugitive Air
	Ref No. Date	: GMPL/JMR/2019-20/03, Dt.31.03.2020

Analysis Result

Location : DRI Cooler Discharge		Date of sampling : 15.11.2021	
Sampling Done by: S.Ghosh / J.Sahana		Sampling done as per : CPCB Guidelines (Volume-1)	
Environmental Condition : Clear & Sunny			
Sl. No.	Pollutants	Result	Method of Test Reference
1	Total Respirable Particulate Matter in $\mu\text{g}/\text{m}^3$	143	IS: 5182 (Part-23)- (RA-2017)
2	Sulphur dioxide (SO ₂) in $\mu\text{g}/\text{m}^3$	7.7	IS: 5182, Part-2 : (RA-2017)
3	Nitrogen dioxide (NO ₂) in $\mu\text{g}/\text{m}^3$	27.6	IS: 5182, Part- 6 : (RA-2017)
4	Carbon Monoxide (CO) in $\mu\text{g}/\text{m}^3$	664	IS: 5182 (Part- 10)-2014
NOTE: ---			

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Reviewed & Authorised by


Authorized Signatory

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

TEST REPORT

Name & Address Of the Customer : M/s. Giridhan Metal Pvt Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O. - Nandi, Paschim Bardhaman , Pin:713 344	URL No. : TC627121000002777F Report No. : QLS/A/21-22/C/526 Date : 22.11.2021 Sample No. : QLS/A/21-22/526 Sample Description : Fugitive Air Ref No. Date : GMPL/JMR/2019-20/03, Dt.31.03.2020
--	---

Analysis Result

Location : DRI Product House		Date of sampling : 15.11.2021	
Sampling Done by: S.Ghosh /J.Sahana		Sampling done as per : CPCB Guidelines (Volume-1)	
Environmental Condition : Clear & Sunny			
Sl. No.	Pollutants	Result	Method of Test Reference
1	Total Respirable Particulate Matter in $\mu\text{g}/\text{m}^3$	196	IS: 5182 (Part-23)- (RA-2017)
2	Sulphur dioxide (SO ₂) in $\mu\text{g}/\text{m}^3$	8.2	IS: 5182, Part-2 : (RA-2017)
3	Nitrogen dioxide (NO ₂) in $\mu\text{g}/\text{m}^3$	28.0	IS: 5182, Part- 6 : (RA-2017)
4	Carbon Monoxide (CO) in $\mu\text{g}/\text{m}^3$	715	IS: 5182 (Part- 10)-2014
NOTE: ---			

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

TEST REPORT

Name & Address Of the Customer : M/s. Giridhan Metal Pvt Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O. - Nandi, Paschim Bardhaman , Pin:713 344	URL No. : TC627121000002776F Report No. : QLS/A/21-22/C/525 Date : 22.11.2021 Sample No. : QLS/A/21-22/525 Sample Description : Fugitive Air Ref No. Date : GMPL/JMR/2019-20/03, Dt.31.03.2020
--	---

Analysis Result

Location : Near Ground Hopper Coal Crusher		Date of sampling : 15.11.2021	
Sampling Done by: S.Ghosh / J.Sahana		Sampling done as per : CPCB Guidelines (Volume-1)	
Environmental Condition : Clear & Sunny			
Sl. No.	Pollutants	Result	Method of Test Reference
1	Total Respirable Particulate Matter in $\mu\text{g}/\text{m}^3$	376	IS: 5182 (Part-23)- (RA-2017)
2	Sulphur dioxide (SO_2) in $\mu\text{g}/\text{m}^3$	8.0	IS: 5182, Part-2 : (RA-2017)
3	Nitrogen dioxide (NO_2) in $\mu\text{g}/\text{m}^3$	27.4	IS: 5182, Part- 6 : (RA-2017)
4	Carbon Monoxide (CO) in $\mu\text{g}/\text{m}^3$	664	IS: 5182 (Part- 10)-2014
NOTE: ---			

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

TEST REPORT

Name & Address Of the Customer : M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O.- Nandi, Paschim Bardhaman, Pin:713 344	URL No. : TC62712100002775P Report No. : QLS/A/21-22/C/524 Date : 22.11.2021 Sample No. : QLS/A/21-22/524 Sample Description : Ambient Air Sample Mark : Near Weigh Bridge Ref No. Date : GMPL/JMR/2019-20/03, Dt.31.03.2020
---	--

Analysis Result

Location : Near Weigh Bridge		Date of sampling : 16-17.11.2021		
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 ³	70	100	IS: 5182 (Part-23)- (RA-2017)
2	Particulate matter (<2.5µm) in µg/m ³	33	60	USEPA CFR-40,Part-50, Appendix-L
3	Sulphur dioxide (SO ₂) in µg/m ³	7.6	80	IS: 5182 (Part-2)-2001, (RA-2017)
4	Nitrogen dioxide (NO ₂) in µg/m ³	30.2	80	IS: 5182 (Part- 6)- 2001, (RA-2017)
5	Carbon Monoxide (CO) in µg/m ³	721	2000	IS: 5182 (Part- 10):1999, (RA-2014)
6	Ammonia (NH ₃) in µg/m ³	12.7	400	Air Sampling , 3 rd Edn -Method-401
7	Ozone (O ₃) in µg/m ³	<19.62	180	Air Sampling , 3 rd Edn -Method-411
8	Lead (Pb) in µg/m ³	<0.02	1	EPA IO-3.2 & 5.0
9	Nickel (Ni) in ng/m ³	7.2	20	EPA IO-3.2
10	Arsenic (As) in ng/m ³	<1.0	6	Air Sampling , 3 rd Edn.Method 402 and APHA 22 nd Edition Part 3114B
11*	Benzene (C ₆ H ₆) in µg/m ³	<2.08	5	IS: 5182 (Part- 11)
12*	Benzo (a) pyrene in ng/m ³	<0.4	1	IS: 5182 (Part- 12)
NOTE: Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality. * Not in our NABL Scope				

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TEST REPORT

Name & Address Of the Customer : M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarapur, Jamuria P.O.- Nandi, Paschim Bardhaman, Pin:713 344	ULR No.	: TC627121000002774P
	Report No.	: QLS/A/21-22/C/523
	Date	: 22.11.2021
	Sample No.	: QLS/A/21-22/523
	Sample Description	: Ambient Air
	Sample Mark	: Near Proposed Cooling Tower Power Plant (South Side)
	Ref No. Date	: GMPL/JMR/2019-20/03, Dt.31.03.2020

Analysis Result

Location : Near Proposed Cooling Tower Power Plant , South Side		Date of sampling : 15-16.11.2021		
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 ³	59	100	IS: 5182 (Part-23)- (RA-2017)
2	Particulate matter (<2.5µm) in µg/m ³	22	60	USEPA CFR-40,Part-50, Appendix-L
3	Sulphur dioxide (SO ₂) in µg/m ³	6.9	80	IS: 5182 (Part-2)-2001, (RA-2017)
4	Nitrogen dioxide (NO ₂) in µg/m ³	28.8	80	IS: 5182 (Part- 6)- 2001, (RA-2017)
5	Carbon Monoxide (CO) in µg/m ³	561	2000	IS: 5182 (Part- 10):1999, (RA-2014)
6	Ammonia (NH ₃) in µg/m ³	<10.0	400	Air Sampling , 3 rd Edn -Method-401
7	Ozone (O ₃) in µg/m ³	<19.62	180	Air Sampling , 3 rd Edn -Method-411
8	Lead (Pb) in µg/m ³	<0.02	1	EPA IO-3.2 & 5.0
9	Nickel (Ni) in ng/m ³	<4.0	20	EPA IO-3.2
10	Arsenic (As) in ng/m ³	<1.0	6	Air Sampling , 3 rd Edn.Method 402 and APHA 22 nd Edition Part 3114B
11*	Benzene (C ₆ H ₆) in µg/m ³	<2.08	5	IS: 5182 (Part- 11)
12*	Benzo (a) pyrene in ng/m ³	<0.4	1	IS: 5182 (Part- 12)
NOTE: Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality. * Not in our NABL Scope				

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TC-6271

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

TEST REPORT

Name & Address Of the Customer : M/s. Giridhan Metal Pvt. Ltd. Jamuria Industrial Estate, Damodarpur, Jamuria P.O.- Nandi, Paschim Bardhaman, Pin:713 344	URL No.	: TC627121000002773P
	Report No.	: QLS/A/21-22/C/522
	Date	: 22.11.2021
	Sample No.	: QLS/A/21-22/522
	Sample Description	: Ambient Air
	Sample Mark	: Admin Building
	Ref No. Date	: GMPL/JMR/2019-20/03, Dt.31.03.2020

Analysis Result

Location : Admin Building		Date of sampling : 15-16.11.2021		
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 ³	67	100	IS: 5182 (Part-23)- (RA-2017)
2	Particulate matter (<2.5µm) in µg/m ³	29	60	USEPA CFR-40,Part-50, Appendix-L
3	Sulphur dioxide (SO ₂) in µg/m ³	7.3	80	IS: 5182 (Part-2)-2001, (RA-2017)
4	Nitrogen dioxide (NO ₂) in µg/m ³	28.7	80	IS: 5182 (Part- 6)- 2001, (RA-2017)
5	Carbon Monoxide (CO) in µg /m ³	629	2000	IS: 5182 (Part- 10):1999, (RA-2014)
6	Ammonia (NH ₃) in µg/m ³	<10.0	400	Air Sampling , 3 rd Edn -Method-401
7	Ozone (O ₃) in µg/m ³	<19.62	180	Air Sampling , 3 rd Edn -Method-411
8	Lead (Pb) in µg/m ³	<0.02	1	EPA IO-3.2 & 5.0
9	Nickel (Ni) in ng/m ³	5.3	20	EPA IO-3.2
10	Arsenic (As) in ng/m ³	<1.0	6	Air Sampling , 3 rd Edn.Method 402 and APHA 22 nd Edition Part 3114B
11*	Benzene (C ₆ H ₆) in µg/m ³	<2.08	5	IS: 5182 (Part- 11)
12*	Benzo (a) pyrene in ng/m ³	<0.4	1	IS: 5182 (Part- 12)
NOTE: Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality. * Not in our NABL Scope				

for Qualissure Laboratory Services

Reviewed & Authorised by

Authorized Signatory

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TEST REPORT

ULR: TC-695022000004854F

Name & Address of the Customer:
Giridhan Metal Private Limited,
Jamuria Industrial Estate,
PO-Nandi, PS-Jamuria,
Asansol-713344.
Pashim Bardhaman.

Report No. : C/2022/4854
Date : 21.05.22
Sample No. : MSK/KOL/2022/4673
Date of receipt of sample : 14.05.22
Date(s) of performance : 14.05.22-21.05.22
Ref. No. & Date : W.O.NO. WZ22430-001 dt.30.04.22
Discipline : Chemical

We hereby certify that the following sample drawn by us from the customer has been analyzed with the following results:

1	Group	: Atmospheric Pollution
2	Description of sample(As declared by customer)	: Fugitive Air
3	Date of sampling	: 12.05.22
4	Unique Identification	: Equipment Used: MSK/WB/FIELD/RDS-4
5	Place of sampling	: Near Ferro Raw Material Yard
6	Sampling Plan & Procedures used	: IS/CPCB Guidelines (Volume-1)
7	Environmental conditions during sampling & Transport Condition	: Cold Chain Maintained
8	Identification of the personnel performing sampling	: Mr. Amar Biswas

ANALYSIS RESULT

Sl. No.	Name of Pollutants	Unit	Results	Test Method
1	Particulate Matter < 10 µm (PM10)	µg/m ³	499.1	TPM/MSK/ENV(AP)/04/02
2	Arsenic as As	µg/m ³	<0.003	USEPA-IO 3.4 by ICP-OES
3	Mercury as Hg	µg/m ³	<0.003	USEPA-IO 5.0 by ICP-OES

END

Report prepared by:

Signature :
Name : Mr. Asim Kumar Jana
Designation : Sr. Office Assistant

Report Verified By

Signature :
Name : Ms. Paulami Dutta
Designation : Executive QA

Report Sign By Authorized Signatory

Signature :
Name : Dr. Sudmyadeep Mukhopadhyay
Designation : Lab In charge

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- The reserved part of sample(s), except perishable sample(s), shall be retained for 15 days & 1 year (Air) from the date of issue of the Test Report.
- The reserved part of sample(s), Soil, Solid & Liquid Waste shall be retained for 15 days (as per CPCB guideline) from the date of issue of the Test Report.
- Microbiological sealed pack water sample(s) shall be retained for 15 days & food sample(s) shall be retained for 4 days after analysis

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TEST REPORT

ULR: TC-695022000004855F

Name & Address of the Customer:
Giridhan Metal Private Limited,
Jamuria Industrial Estate,
PO-Nandi, PS-Jamuria,
Asansol-713344.
Pashim Bardhaman.

Report No. : C/2022/4855
Date : 21.05.22
Sample No. : MSK/KOL/2022/4674
Date of receipt of sample : 14.05.22
Date(s) of performance : 14.05.22-21.05.22
Ref. No. & Date : W.O.NO. WZ22430-001 dt.30.04.22
Discipline : Chemical

We hereby certify that the following sample drawn by us from the customer has been analyzed with the following results:

1	Group	
2	Description of sample(As declared by customer)	: Atmospheric Pollution
3	Date of sampling	: Fugitive Air
4	Unique Identification	: 12.05.22
5	Place of sampling	: Equipment Used: MSK/WB/FIELD/RDS-3
6	Sampling Plan & Procedures used	: Near Coal Yard
7	Environmental conditions during sampling & Transport Condition	: IS/CPCB Guidelines (Volume-1)
8	Identification of the personnel performing sampling	: Cold Chain Maintained
		: Mr. Amar Biswas

ANALYSIS RESULT

Sl. No.	Name of Pollutants	Unit	Results	Test Method
1	Particulate Matter < 10 µm (PM10)	µg/m ³	281.1	TPM/MSK/ENV(AP)/04/02
2	Arsenic as As	µg/m ³	<0.003	USEPA-IO 3.4 by ICP-OES
3	Mercury as Hg	µg/m ³	<0.003	USEPA-IO 5.0 by ICP-OES

END

Report prepared by:

Signature :
Name : Mr. Asim Kumar Jana
Designation : Sr. Office Assistant

Report Verified By

Signature :
Name : Ms. Paulami Dutta
Designation : Executive QA

Report Sign By Authorized Signatory

Signature :
Name : Dr. Soumyadeep Mukhopadhyay
Designation : Lab In charge

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- Microbiological sealed pack water sample(s) shall be retained for 15 days & food sample(s) shall be retained for 4 days after analysis

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Web : www.mitrask.com



TEST REPORT


ULR: TC-695022000004981F

Name & Address of the Customer:	Report No.	: C/2022/4981
Giridhan Metal Private Limited,	Date	: 27.05.22
Jamuria Industrial Estate,	Sample No.	: MSK/KOL/2022/4845
PO-Nandi, PS-Jamuria,	Date of receipt of sample	: 26.05.22
Asansol-713344.	Date(s) of performance	: 26.05.22-27.05.22
Pashim Bardhaman.	Ref. No. & Date	: W.O.NO. WZ22430-001 dt.30.04.22
	Discipline	: Chemical


We hereby certify that the following sample drawn by us from the customer has been analyzed with the following results:

1	Group	: Atmospheric Pollution
2	Description of sample (As declared by customer)	: Stack
3	Date of sampling	: 13.05.2022 at 11.15 AM to 01.00 PM
4	Unique Identification	: Equipment Used: MSK/WB/FIELD/S-09
5	Place of sampling	: CFBC Boiler
6	Sampling Plan & Procedures used	: EPA/IS
7	Environmental conditions during sampling & Transport Condition	: Cold Chain Maintained
8	Identification of the personnel performing sampling	: Mr. Amar Biswas

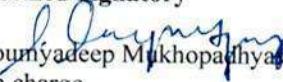
Report prepared by:

Signature : 
Name : Mr. Asim Kumar Jana
Designation : Sr. Office Assistant

Report Verified By

Signature : 
Name : Ms. Paulami Dutta
Designation : Executive QA

Report Sign By Authorized Signatory

Signature : 
Name : Dr. Sourmyadeep Mukhopadhyay
Designation : Lab In charge

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- Microbiological sealed pack water sample(s) shall be retained for 15 days & food sample(s) shall be retained for 4 days after analysis

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TC-6950

Report No. : C/2022/4981

Sample No. : MSK/KOL/2022/4845

ULR: TC-695022000004981F

ANALYSIS RESULT

A : GENERAL INFORMATION ABOUT STACK :				
1	Stack connected to	: CFBC Boiler		
2	Emission due to	: Combustion of Coal		
3	Material of construction of Stack	: RCC		
4	Shape of Stack	: Circular		
5	Whether Stack is provided with permanent platform	: 32 TPH		
B : PHYSICAL CHARACTERISTICS OF STACK :				
1	Height of Stack from ground level	: 80 m		
2	Diameter of Stack at sampling point	: 2.0 m		
3	Height of the sampling point from ground level	: 35.0 m		
4	Area of Stack	: 3.14 m ²		
C: ANALYSIS/CHARACTERSTIC OF STACK:				
1	Fuel used: Coal	2. Fuel consumption: 7 TPH		
D: RESULTS OF SAMPLING & ANALYSIS OF GASEOUS EMISSION:				
		Unit	RESULT	METHOD
1	Temperature of emission	Deg C	72	IS:11255 Part-3
2	Barometric pressure	mm of Hg	754	IS:11255 Part-3
3	Velocity of gas	m/sec	6.98	IS:11255 Part-3
4	Quantity of gas flow	Nm ³ /hr.	65866	IS:11255 Part-3
5	Concentration of Carbon monoxide	%v/v	<0.2	IS:13270
6	Concentration of Carbon dioxide	%v/v	9.8	IS:13270
7	Concentration of Oxygen	%v/v	9.4	IS:13270
8	Moisture content	%v/v	7.41	USEPA Part 4
9	Concentration of Particulate Matters	mg/Nm ³	12.0	IS:11255 Part-1
10	Concentration of Sulphur di oxide	mg/Nm ³	86.3	IS:11255 Part-2
11	Concentration of Nitrogen di oxide	mg/Nm ³	168.4	IS:11255 Part-7
12	Mercury as Hg (Particulate)	mg/Nm ³	<0.001	USEPA-29
13	Mercury as Hg (Gaseous)	mg/Nm ³	<0.003	USEPA-29
14	Arsenic as As	mg/Nm ³	<0.0005	USEPA-29
E : POLLUTION :				
Details of pollution control devices attached with the stack: ESP				

End

Report prepared by:

Signature :
Name : Mr. Asim Kumar Jana
Designation : Sr. Office Assistant

Report Verified By

Signature :
Name : Ms. Paulami Dutta
Designation : Executive QA

Report Sign By Authorized Signatory

Signature :
Name : Dr. Sournyadeep Mukhopadhyay
Designation : Lab In charge

Mitra S.K.Private Limited

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TC-6950

TEST REPORT


ULR: TC-695022000004853F

Name & Address of the Customer:	Report No.	: C/2022/4853
Giridhan Metal Private Limited,	Date	: 21.05.22
Jamuria Industrial Estate,	Sample No.	: MSK/KOL/2022/4672
PO-Nandi, PS-Jamuria,	Date of receipt of sample	: 14.05.22
Asansol-713344.	Date(s) of performance	: 14.05.22-21.05.22
Pashim Bardhaman.	Ref. No. & Date	: W.O.NO. WZ22430-001 dt.30.04.22
	Discipline	: Chemical


We hereby certify that the following sample drawn by us from the customer has been analyzed with the following results:

1	Group	: Atmospheric Pollution
2	Description of sample (<i>As declared by customer</i>)	: Stack
3	Date of sampling	: 12.05.2022 at 03.45 PM to 05.15 PM
4	Unique Identification	: Equipment Used: MSK/WB/FIELD/S-09
5	Place of sampling	: SEAF (09MVA X2)
6	Sampling Plan & Procedures used	: EPA/IS
7	Environmental conditions during sampling & Transport Condition	: Cold Chain Maintained
8	Identification of the personnel performing sampling	: Mr. Amar Biswas

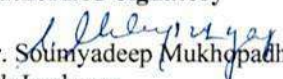
Report prepared by:

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Name : Mr. Asim Kumar Jana
Designation : Sr. Office Assistant

Report Verified By

Signature : 
Name : Ms. Paulami Dutta
Designation : Executive QA

Report Sign By Authorized Signatory

Signature : 
Name : Dr. Soumyadeep Mukhopadhyay
Designation : Lab In charge

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- Microbiological sealed pack water sample(s) shall be retained for 15 days & food sample(s) shall be retained for 4 days after analysis

Mitra S.K.Private Limited



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Web : www.mitrask.com



TC-6950

Report No. : C/2022/4853

Sample No. : MSK/KOL/2022/4672

ULR: TC-695022000004853F

ANALYSIS RESULT

A : GENERAL INFORMATION ABOUT STACK :				
1	Stack connected to	: SEAF (09MVA X2)		
2	Emission due to	: --		
3	Material of construction of Stack	: MS		
4	Shape of Stack	: Circular		
5	Whether Stack is provided with permanent platform	: Yes		
B : PHYSICAL CHARACTERISTICS OF STACK :				
1	Height of Stack from ground level	: 40 m		
2	Diameter of Stack at sampling point	: 1.8 m		
3	Height of the sampling point from ground level	: 27.0		
4	Area of Stack	: 2.54 m ²		
C: ANALYSIS/CHARACTERSTIC OF STACK:				
1	Fuel used: Electricity	2. Fuel consumption: ---		
D: RESULTS OF SAMPLING & ANALYSIS OF GASEOUS EMISSION:				
		Unit	RESULT	METHOD
1	Temperature of emission	Deg C	105	IS:11255 Part-3
2	Barometric pressure	mm of Hg	754	IS:11255 Part-3
3	Velocity of gas	m/sec	8.37	IS:11255 Part-3
4	Quantity of gas flow	Nm ³ /hr.	58381	IS:11255 Part-3
5	Concentration of Carbon monoxide	%v/v	<0.2	IS:13270
6	Concentration of Carbon dioxide	%v/v	4.0	IS:13270
7	Concentration of Oxygen	%v/v	15.4	IS:13270
8	Moisture content	%v/v	2.52	USEPA Part 4
9	Concentration of Particulate Matters	mg/Nm ³	<5.0	IS:11255 Part-1
10	Concentration of Sulphur di oxide	mg/Nm ³	<5.0	IS:11255 Part-2
11	Concentration of Nitrogen di oxide	mg/Nm ³	<10.0	IS:11255 Part-7
12	Mercury as Hg (Particulate)	mg/Nm ³	<0.001	USEPA-29
13	Mercury as Hg (Gaseous)	mg/Nm ³	<0.003	USEPA-29
14	Arsenic as As	mg/Nm ³	<0.0005	USEPA-29
E : POLLUTION :				
Details of pollution control devices attached with the stack: Bag Filter				

End

Report prepared by:

Signature :
Name : Mr. Asim Kumar Jana
Designation : Sr. Office Assistant

Report Verified By

Signature :
Name : Ms. Paulami Dutta
Designation : Executive QA

Report Sign By Authorized Signatory

Signature :
Name : Dr. Soumyadeep Mukhopadhyay
Designation : Lab In charge

Mitra S.K.Private Limited

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Web : www.mitrask.com



TC-6950

TEST REPORT


ULR: TC-695022000004872F

Name & Address of the Customer:	Report No.	: C/2022/4872
Giridhan Metal Private Limited,	Date	: 23.05.22
Jamuria Industrial Estate,	Sample No.	: MSK/KOL/2022/4690
PO-Nandi, PS-Jamuria,	Date of receipt of sample	: 17.05.22
Asansol-713344.	Date(s) of performance	: 17.05.22-23.05.22
Pashim Bardhaman.	Ref. No. & Date	: W.O.NO. WZ22430-001 dt.30.04.22
	Discipline	: Chemical


We hereby certify that the following sample drawn by us from the customer has been analyzed with the following results:

1	Group	: Atmospheric Pollution
2	Description of sample (As declared by customer)	: Stack
3	Date of sampling	: 13.05.2022 at 02.45 PM to 04.30 PM
4	Unique Identification	: Equipment Used: MSK/WB/FIELD/S-09
5	Place of sampling	: Rotary @ Kiln Connected With DRI & WHRB
6	Sampling Plan & Procedures used	: EPA/IS
7	Environmental conditions during sampling & Transport Condition	: Cold Chain Maintained
8	Identification of the personnel performing sampling	: Mr. Amar Biswas


Report prepared by:

Signature : 
Name : Mr. Asim Kumar Jana
Designation : Sr. Office Assistant

Report Verified By

Signature : 
Name : Ms. Paulami Dutta
Designation : Executive QA

Report Sign By Authorized Signatory

Signature : 
Name : Dr. Soumyadeep Mukhopadhyay
Designation : Lab In charge

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Web : www.mitrask.com



Report No. : C/2022/4872

Sample No. : MSK/KOL/2022/4690


ULR: TC-695022000004872F

ANALYSIS RESULT


A : GENERAL INFORMATION ABOUT STACK :				
1	Stack connected to	: Rotary @ Kiln Connected with DRI & WHRB		
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	: 350TPD		
B : PHYSICAL CHARACTERISTICS OF STACK :				
1	Height of Stack from ground level	: 80 m		
2	Diameter of Stack at sampling point	: 4.0 m		
3	Height of the sampling point from ground level	: 35.0 m		
4	Area of Stack	: 12.56 m ²		
C: ANALYSIS/CHARACTERSTIC OF STACK:				
1	Fuel used: Coal	2. Fuel consumption: 315 TPD		
D: RESULTS OF SAMPLING & ANALYSIS OF GASEOUS EMISSION:				
		Unit	RESULT	METHOD
1	Temperature of emission	Deg C	90	IS:11255 Part-3
2	Barometric pressure	mm of Hg	754	IS:11255 Part-3
3	Velocity of gas	m/sec	7.62	IS:11255 Part-3
4	Quantity of gas flow	Nm ³ /hr.	259596	IS:11255 Part-3
5	Concentration of Carbon monoxide	%v/v	<0.2	IS:13270
6	Concentration of Carbon dioxide	%v/v	12.0	IS:13270
7	Concentration of Oxygen	%v/v	8.0	IS:13270
8	Moisture content	%v/v	7.41	USEPA Part 4
9	Concentration of Particulate Matters	mg/Nm ³	17.9	IS:11255 Part-1
10	Concentration of Sulphur di oxide	mg/Nm ³	423.6	IS:11255 Part-2
11	Concentration of Nitrogen di oxide	mg/Nm ³	258.9	IS:11255 Part-7
12	Mercury as Hg (Particulate)	mg/Nm ³	<0.001	USEPA-29
13	Mercury as Hg (Gaseous)	mg/Nm ³	<0.003	USEPA-29
14	Arsenic as As	mg/Nm ³	<0.0005	USEPA-29
E : POLLUTION :				
Details of pollution control devices attached with the stack: ESP				

End


Report prepared by:

Signature : 
Name : Mr. Asim Kumar Jana
Designation : Sr. Office Assistant

Report Verified By

Signature : 
Name : Ms. Paulami Dutta
Designation : Executive QA

Report Sign By Authorized Signatory

Signature : 
Name : Dr. Soumyadeep Mukhopadhyay
Designation : Lab In charge

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TEST REPORT

Name & Address of the Customer:	Report No.	: C/2022/4853A
Giridhan Metal Private Limited,	Date	: 21.05.22
Jamuria Industrial Estate,	Sample No.	: MSK/KOL/2022/4672
PO-Nandi, PS-Jamuria,	Date of receipt of sample	: 14.05.22
Asansol-713344.	Date(s) of performance	: 14.05.22-21.05.22
Pashim Bardhaman.	Ref. No. & Date	: W.O.NO. WZ22430-001 dt.30.04.22
	Discipline	: Chemical

We hereby certify that the following sample drawn by us from the customer has been analyzed with the following results:

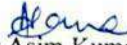
1	Group	: Atmospheric Pollution
2	Description of sample (As declared by customer)	: Stack
3	Date of sampling	: 12.05.2022 at 03.45 PM to 05.15 PM
4	Unique Identification	: Equipment Used: MSK/WB/FIELD/S-09
5	Place of sampling	: SEAF (09MVA X2)
6	Sampling Plan & Procedures used	: EPA/IS
7	Environmental conditions during sampling & Transport Condition	: Cold Chain Maintained
8	Identification of the personnel performing sampling	: Mr. Amar Biswas

ANALYSIS RESULT


D: RESULTS OF SAMPLING & ANALYSIS OF GASEOUS EMISSION:		Unit	RESULT	METHOD
1	Fluoride (Particulate & Gaseous)	mg/Nm ³	<0.1	IS 11255(Part-5)
E : POLLUTION :				
Details of pollution control devices attached with the stack: Bag Filter				

End


Report prepared by:

Signature : 
Name : Mr. Asim Kumar Jana
Designation : Sr. Office Assistant

Report Verified By

Signature : 
Name : Ms. Paulami Dutta
Designation : Executive QA

Report Sign By Authorized Signatory

Signature : 
Name : Dr. Soumyadeep Mukhopadhyay
Designation : Lab In charge

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Mitra S.K.Private Limited



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Email : mitrasklab@yahoo.com
Web : www.mitrask.com

TEST REPORT

Name & Address of the Customer: Giridhan Metal Private Limited,
Jamuria Industrial Estate,
PO-Nandi, PS-Jamuria,
Asansol-713344.
Pashim Bardhaman.

Report No. : C/2022/4871A
Date : 23.05.22
Sample No. : MSK/KOL/2022/4689
Date of receipt of sample : 17.05.22
Date(s) of performance : 17.05.22-23.05.22
Ref. No. & Date : W.O.NO. WZ22430-001 dt.30.04.22
Discipline : Chemical

We hereby certify that the following sample drawn by us from the customer has been analyzed with the following results:

1	Group	: Atmospheric Pollution
2	Description of sample (As declared by customer)	: Stack
3	Date of sampling	: 13.05.2022 at 11.15 AM to 01.00 PM
4	Unique Identification	: Equipment Used: MSK/WB/FIELD/S-09
5	Place of sampling	: CFBC Boiler
6	Sampling Plan & Procedures used	: EPA/IS
7	Environmental conditions during sampling & Transport Condition	: Cold Chain Maintained
8	Identification of the personnel performing sampling	: Mr. Amar Biswas

ANALYSIS RESULT


D: RESULTS OF SAMPLING & ANALYSIS OF GASEOUS EMISSION:		Unit	RESULT	METHOD
1	Fluoride (Particulate & Gaseous)	mg/Nm ³	<0.1	IS 11255(Part-5)
E : POLLUTION :				
Details of pollution control devices attached with the stack: Bag Filter				

End

Report prepared by:

Signature : 
Name : Mr. Asim Kumar Jana
Designation : Sr. Office Assistant

Report Verified By

Signature : 
Name : Ms. Paulami Dutta
Designation : Executive QA

Report Sign By Authorized Signatory

Signature :
Name : Dr. Soumyadeep Mukhopadhyay
Designation : Lab In charge

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Web : www.mitrask.com

TEST REPORT

Name & Address of the Customer:	Report No.	: C/2022/4872A
Giridhan Metal Private Limited,	Date	: 23.05.22
Jamuria Industrial Estate,	Sample No.	: MSK/KOL/2022/4690
PO-Nandi, PS-Jamuria,	Date of receipt of sample	: 17.05.22
Asansol-713344.	Date(s) of performance	: 17.05.22-23.05.22
Pashim Bardhaman.	Ref. No. & Date	: W.O.NO. WZ22430-001 dt.30.04.22
	Discipline	: Chemical

We hereby certify that the following sample drawn by us from the customer has been analyzed with the following results:


1	Group	: Atmospheric Pollution
2	Description of sample (As declared by customer)	: Stack
3	Date of sampling	: 13.05.2022 at 02.45 PM to 04.30 PM
4	Unique Identification	: Equipment Used: MSK/WB/FIELD/S-09
5	Place of sampling	: Rotary @ Kiln Connected With DRI & WHRB
6	Sampling Plan & Procedures used	: EPA/IS
7	Environmental conditions during sampling & Transport Condition	: Cold Chain Maintained
8	Identification of the personnel performing sampling	: Mr. Amar Biswas

ANALYSIS RESULT

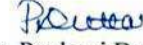
D: RESULTS OF SAMPLING & ANALYSIS OF GASEOUS EMISSION:		Unit	RESULT	METHOD
1	Fluoride (Particulate & Gaseous)	mg/Nm ³	<0.1	IS 11255(Part-5)
E : POLLUTION :				
Details of pollution control devices attached with the stack: Bag Filter				

End

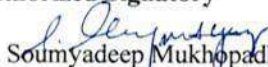
Report prepared by:

Signature : 
Name : Mr. Asim Kumar Jana
Designation : Sr. Office Assistant

Report Verified By

Signature : 
Name : Ms. Paulami Dutta
Designation : Executive QA

Report Sign By Authorized Signatory

Signature : 
Name : Dr. Soumyadeep Mukhopadhyay
Designation : Lab In charge

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Web : www.mitrask.com



TC-6950

TEST REPORT

ULR: TC-695022000004873F

Name & Address of the Customer:
Giridhan Metal Private Limited,
Jamuria Industrial Estate,
PO-Nandi, PS-Jamuria,
Asansol-713344.
Pashim Bardhaman.

Report No. : C/2022/4873
Date : 23.05.22
Sample No. : MSK/KOL/2022/4691
Date of receipt of sample : 17.05.22
Date(s) of performance : 17.05.22-23.05.22
Ref. No. & Date : W.O.NO. WZ22430-001 dt.30.04.22
Discipline : Chemical

We hereby certify that the following sample drawn by us from the customer has been analyzed with the following results:


1	Group	: Pollution & Environment
2	Description of sample (As declared by customer)	: Solid Wastes
3	Date of sampling	: 13.05.22
4	Unique Identification	: CPP Bed Ash
5	Place of sampling	: NA
6	Sampling Plan & Procedures used	: EPA 833-B-89-100
7	Environmental conditions during sampling & Transport Condition	: Maintained
8	Identification of the personnel performing sampling	: Mr. Amar Biswas

ANALYSIS RESULT


Serial No.	Test Parameter	Test Method	Result
1	Lead as Pb in mg/kg	EPA 3050 B(Digestion) EPA 6010 D(ICP-OES)	2.20
2	Nickel as Ni in mg/kg	EPA 3050 B(Digestion) EPA 6010 D(ICP-OES)	6.20
3	Zinc as Zn in mg/kg	EPA 3050 B(Digestion) EPA 6010 D(ICP-OES)	4.60
4	Mercury as Hg in mg/kg	USEPA 245.5	BDL(DL:1.0)
5	Cadmium as Cd in mg/kg	EPA 3050 B(Digestion) EPA 6010 D(ICP-OES)	BDL(DL:2.0)
6	Copper as Cu in mg/kg	EPA 3050B(Digestion), EPA 7000 B	7.60
7	Arsenic as As in mg/kg	EPA 3050B(Digestion), EPA 7000 B	4.60

End

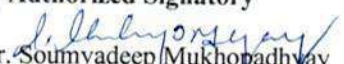
Report prepared by:

Signature : 
Name : Mr. Asim Kumar Jana
Designation: Sr. Office Assistant

Report Verified By

Signature : 
Name : Ms. Paulami Dutta
Designation: Executive - QA

Report Sign By Authorized Signatory

Signature : 
Name : Dr. Soumyadeep Mukhopadhyay
Designation: Lab In- Charge

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TEST REPORT

ULR: TC-695022000004874F

Name & Address of the Customer:
Giridhan Metal Private Limited,
Jamuria Industrial Estate,
PO-Nandi, PS-Jamuria,
Asansol-713344.
Pashim Bardhaman.

Report No. : C/2022/4874
Date : 23.05.22
Sample No. : MSK/KOL/2022/4692
Date of receipt of sample : 17.05.22
Date(s) of performance : 17.05.22-23.05.22
Ref. No. & Date : W.O.NO. WZ22430-001 dt.30.04.22
Discipline : Chemical

We hereby certify that the following sample drawn by us from the customer has been analyzed with the following results:

1	Group	: Pollution & Environment
2	Description of sample (As declared by customer)	: Solid Wastes
3	Date of sampling	: 13.05.22
4	Unique Identification	: Ferro Alloy Slag (Si-Mn)
5	Place of sampling	: NA
6	Sampling Plan & Procedures used	: EPA 833-B-89-100
7	Environmental conditions during sampling & Transport Condition	: Maintained
8	Identification of the personnel performing sampling	: Mr. Amar Biswas

ANALYSIS RESULT

Serial No.	Test Parameter	Test Method	Result
1	Lead as Pb in mg/kg	EPA 3050 B(Digestion) EPA 6010 D(ICP-OES)	BDL(DL:2.0)
2	Nickel as Ni in mg/kg	EPA 3050 B(Digestion) EPA 6010 D(ICP-OES)	BDL(DL:2.0)
3	Zinc as Zn in mg/kg	EPA 3050 B(Digestion) EPA 6010 D(ICP-OES)	BDL(DL:2.0)
4	Mercury as Hg in mg/kg	USEPA 245.5	BDL(DL:1.0)
5	Cadmium as Cd in mg/kg	EPA 3050 B(Digestion) EPA 6010 D(ICP-OES)	BDL(DL:2.0)
6	Copper as Cu in mg/kg	EPA 3050B(Digestion), EPA 7000 B	BDL(DL:2.0)
7	Arsenic as As in mg/kg	EPA 3050B(Digestion), EPA 7000 B	3.57

End

Report prepared by:

Signature :
Name : Mr. Asim Kumar Jana
Designation: Sr. Office Assistant

Report Verified By

Signature :
Name : Ms. Paulami Dutta
Designation: Executive - QA

Report Sign By Authorized Signatory

Signature :
Name : Dr. Soumyadeep Mukhopadhyay
Designation: Lab In- Charge

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- Microbiological sealed pack water sample(s) shall be retained for 15 days & food sample(s) shall be retained for 4 days after analysis

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.



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

In addition to the above, Giridhan 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:

Giridhan 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.

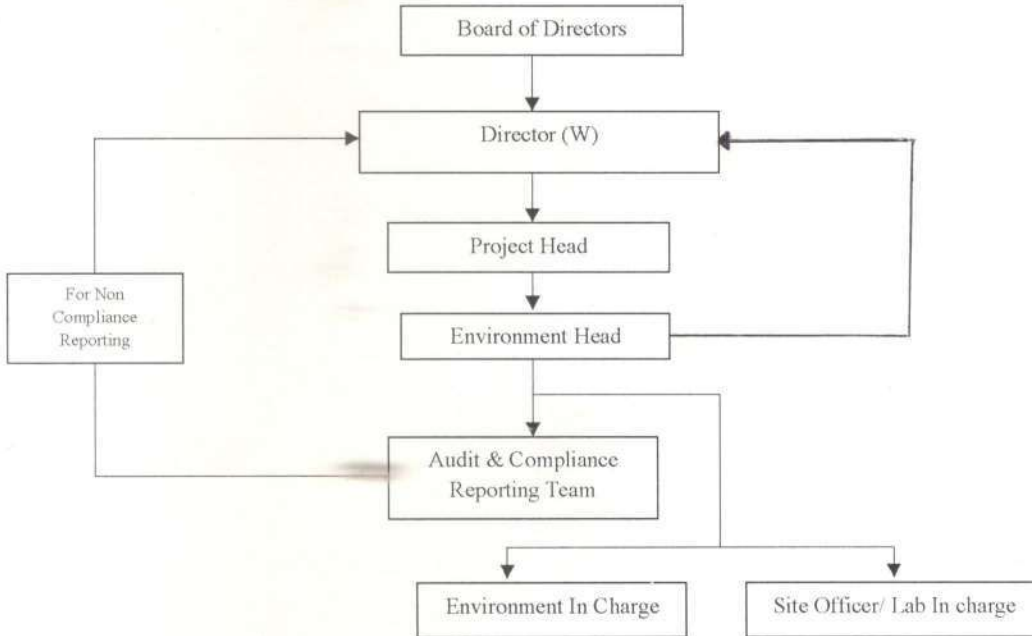
The below organizational structure Management Cell is responsible for any non-compliance/ infringement/ deviation/ violation of the environmental or forest norms under the supervision of Board of Directors.



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



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



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

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

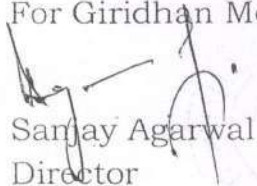
Dear Sir,

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 8th April, 2021.

Thanking you,

Yours faithfully
 For Giridhan Metal Private Limited


 Sanjay Agarwal
 Director



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

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

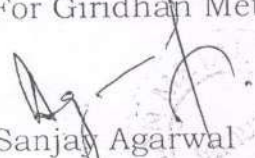
Dear Sir,

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 to 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 8th April, 2021.

Thanking you,

Yours faithfully
For Giridhan Metal Private Limited


Sanjay Agarwal
Director



(Construction Site)

GIRIDHAN METAL PRIVATE LIMITED

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

Expansion of Integrated Steel Plant: Sponge Iron from 3,18,000 TPA to 7,14,000 TPA, MS Billets from 3,72,300 TPA to 7,44,600 TPA, Rolling Mill from 3,00,000 TPA to 6,00,000 TPA, Submerged Arc Furnace (SAF) from 30,000 TPA to 57,500 TPA & Captive Power Plant (42 MW to 84 MW) including Waste Heat Recovery Boiler (WHRB) from 21 MW to 63 MW

A DOCUMENT ON
HAZARDS IDENTIFICATION AND RISK ASSESSMENT

HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

Name of Job : DEMOLITION WORK	Department : CONSTRUCTION	Prepared By :	Checked By :-	Approved By :
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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	8	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	3	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	10	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	10	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	10	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	3	Additional control shall be proposed when necessary.
	Overstretching.	Near miss/ unsafe act/ unsafe condition.	Workers to take a short break.	3	1	3	Additional control shall be proposed when necessary.
	Space constrain.	Near miss/ unsafe act/ unsafe condition.	Training and proper planning of work.	4	1	4	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	4	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	10	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	10	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	6	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	4	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	10	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	2	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	10	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	4	Additional control shall be proposed when necessary.

HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

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

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.	Minor injury/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.	Minor injury/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

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
EXCAVATION WORK	CONSTRUCTION			

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	10	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	3	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	6	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	3	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	10	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	3	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	6	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	6	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 :
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	20	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	6	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	2	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	10	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	6	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 :
ROAD WORK	CONSTRUCTION			

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	10	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	4	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	4	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	8	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	4	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	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 supporting platform.	3	2	6	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	6	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	10	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	6	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	10	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 :
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	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	8	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	3	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	3	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	4	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	5	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	10	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	6	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	6	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	6	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	5	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 :
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

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
ROOF WORK	CONSTRUCTION			

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

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
SCAFFOLDING WORK	CONSTRUCTION			

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	10	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	3	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	4	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	3	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	4	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	4	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	4	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	10	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	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	Wearing hard hat, close supervision by competent scaffold supervisor.	2	5	10	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	4	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	10	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	6	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	6	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	10	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 :
DRAINAGE, SEWERAGE & PIPING WORK	CONSTRUCTION			

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

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
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

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
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

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
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

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
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	
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

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
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

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
CONFINED WORK SPACE	CONSTRUCTION			

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 :
CONFINED WORK SPACE (Cont'd)	CONSTRUCTION			

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	3	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	10	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	10	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	10	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	10	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	10	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	4	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	4	Additional control shall be proposed when necessary

HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
WELDING WORK	CONSTRUCTION			

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

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
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

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
MASONRY WORK	CONSTRUCTION			

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

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
MASONRY 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 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

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

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	10	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	6	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	4	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	10	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	3	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	3	Additional control shall be proposed when necessary

HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
LIFTING WORK	CONSTRUCTION			

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

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
LIFTING 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	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

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
HANDTOOL WORK	CONSTRUCTION			

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 toolbreakdown	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

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
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

Name of Job :	Department :	Prepared By :	Checked By :-	Approved By :
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.

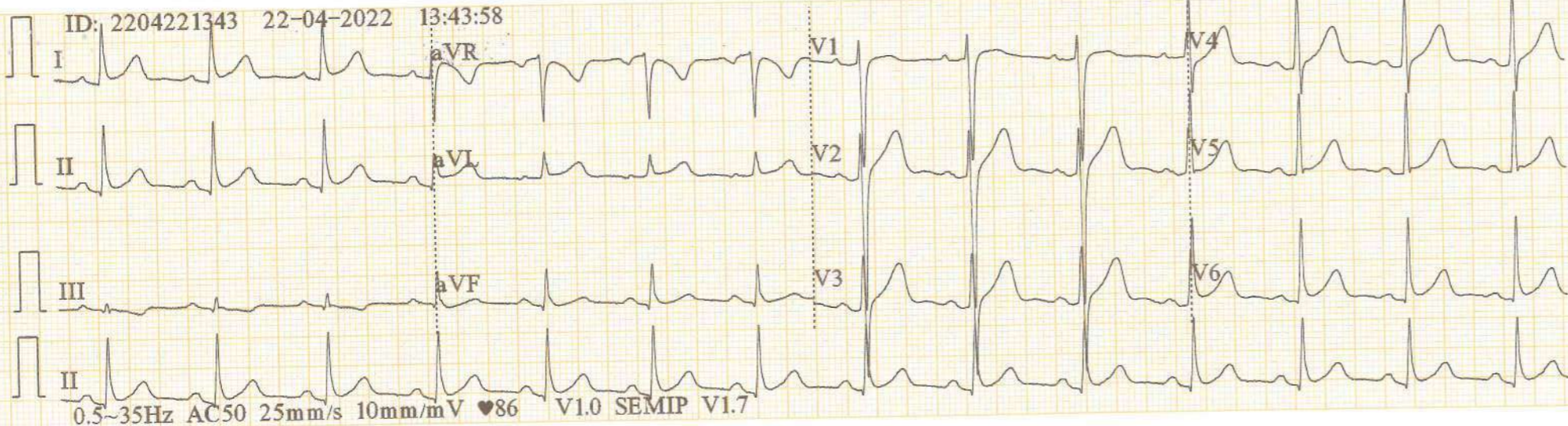
HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING CONTROL

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

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 for other work	Reason for such with drawel	Sign & Syptoms 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	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	Navendra 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 Gorai (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	Sukchand 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 Garai (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 Haldar (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		


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



ID: 2204221343 22-04-2022 13:43:58

ID: 2204221343
 Ashok Kumar Sahoo
 Male 19-29Y 32 yr
 cm kg
 50000402

Diagnosis Information:
 Sinus Rhythm
 Slight ST Elevation(V4,V6)

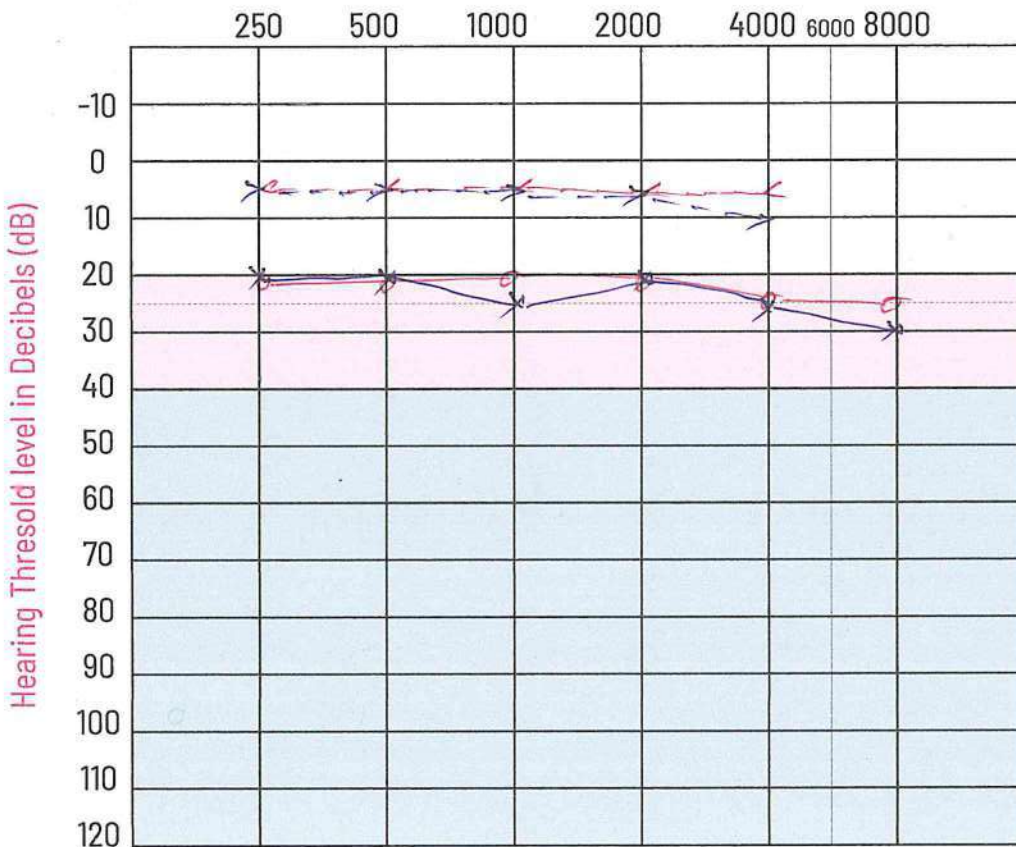
HR : 83 bpm
 P : 110 ms
 PR : 162 ms
 QRS : 81 ms
 QT/QTc : 352/415 ms
 P/QRS/T : 58/33/21 °
 RV5/SV1 : 1.385/1.693 mV Report Confirmed by:

0.5-35Hz AC50 25mm/s 10mm/mV ♥86 V1.0 SEMIP V1.7

Name Ashok Kr. Saha Age 32 Sex Male Date 28/4/2022

Address Contact No. 7978241128

Frequency in Hertz (Hz)



Symbols used in audiogram

Modality	Ear	
	Right	Left
AC unmasked	○	×
AC masked	△	□
BC unmasked	<	>
BC masked	⌈	⌋
No response	⊗	⊗

Provisional Diagnosis :

Right Ear : }
 Left Ear : } *Both ear → Hearing within Normal limits*

Rinne Test	Right	Left
		<i>+</i>

Advice :



[Signature]
 28/4/2022

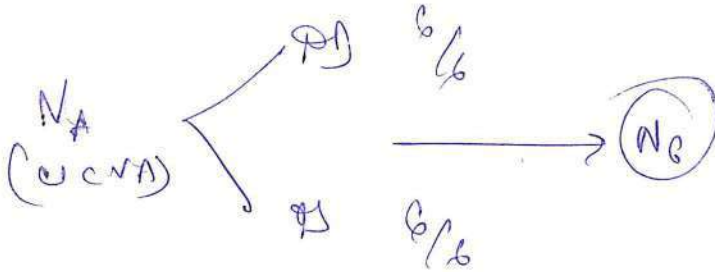
AUDIOLOGIST
 CRRNO : A18944



VIVEKANANDA HOSPITAL PVT. LTD.

DR. ZAKIR HUSSAIN AVENUE, BIDHAN NAGAR, DURGAPUR - 713206
Phone : (0343) 253 2430 / 253 1002 / 253 1003, Fax : (0343) 253 7707
E-mail : hospitalvivekananda@yahoo.com
CIN : U85110WB1995PTC075109

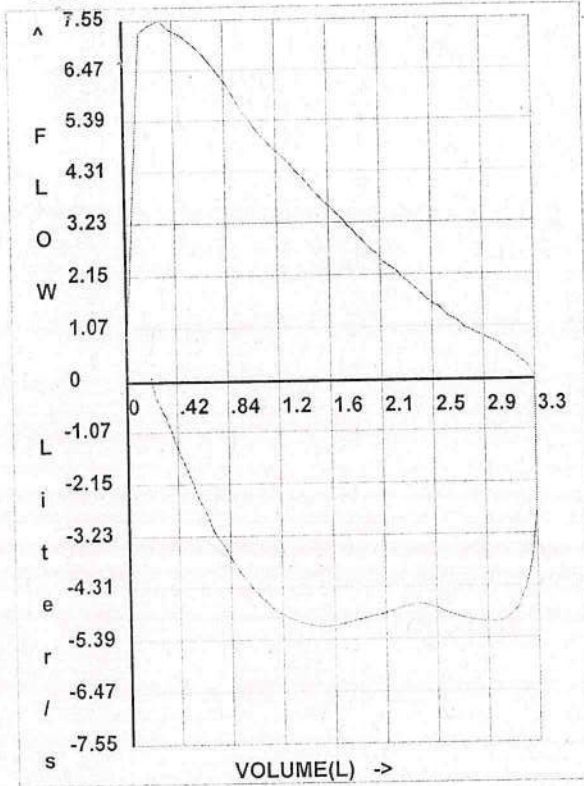
Ashok Kumar. Sahas / 32/M.



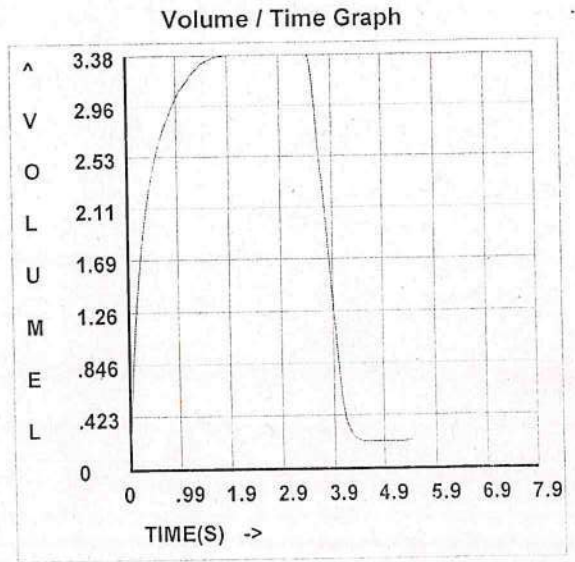
Color vision ? WNL

DR. SUBRATA MUKHOPADHYAY
M.B.B.S. (Cal), M.S. (OPH)
Fellow (Glaucoma)
Aravind Eye Hospital (Madurai)
REGN. No.-49491

Flow / Volume Graph



FVC GRAPHS



TEST RESULTS

Parameter (U)	Pred.	Actual	%Pred.
FVC (L)	3.295	3.385	102.7
FEV0.5 (L)		2.378	
FEV1 (L)	2.768	3.035	109.6
FEV1/FVC %	80.37	89.66	111.5
PEF (L/s)	6.868	7.554	109.9
PIF (L/s)		5.129	
FEF25-75% (L/s)	3.398	3.433	101.0
Vmax25% (L/s)	5.906	7.087	119.9
Vmax50% (L/s)	3.75	3.917	104.4
Vmax75% (L/s)	1.562	1.679	107.4
FET100% (s)		3.54	

28/4/22
 Dt - Name - A.K. Sahoo
 Age - 33 years. Sex - Male
 Ht - 165 cm wt - 88kg.

EST. Lung Age (Yrs.) 26

INTERPRETATION: Normal Spirometry
 This may be clinically co - related.



V.Id.: D 28-112

Patient Name : Mr. Ashoke Kumar Sahoo

Age: 33Yrs, Sex: Male

Referred by Dr. Own

Party Name: Super Smelters Ltd.

Booking Date : 28.04.2022

Reporting Date: 30.04.2022

SKIAGRAM OF CHEST PA VIEW

- *No obvious lung parenchymal lesion seen.*
- *Hila are normal.*
- *C.P. angles are clear.*
- *Both the diaphragms are normal in contour.*
- *C. T. ratio is within normal limits.*
- *The bony thoracic cage is normal.*



DR. A.K. SAU
MBBS (CAL), DMRD (CAL)
SENIOR CONSULTANT RADIOLOGIST

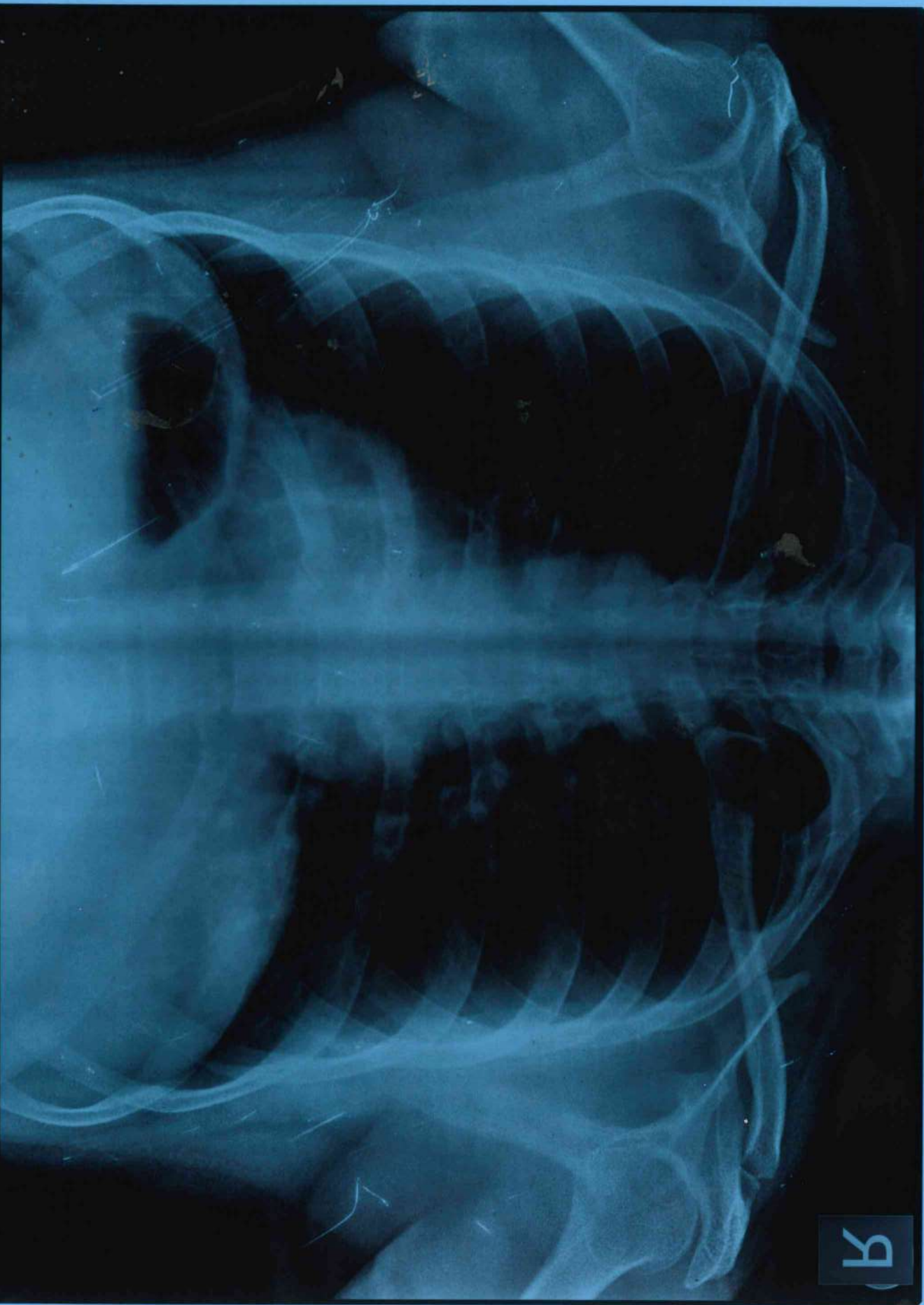


HEALTH CHECK UB
DSS-34 28'0 00

Male

УЛСГАЙН АЖИЛААНЫ ГЭМШИГ
33442 5810413033
УЛСГАЙН АЖИЛААНЫ ГЭМШИГ

УЗШОХЕ КЛИНИК 2АНОО
Сүхэт 1А



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