

# JAYASWAL NECO INDUSTRIES LTD

CIN : L28920MH1972PLC016154

(STEEL PLANT DIVISION)

SILTARA GROWTH CENTRE, BILASPUR ROAD, SILTARA, RAIPUR - 493111 (C.G.) - INDIA

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JNIL/ENV//~~17~~/2024/ 186

Date: 20.11.2024

The Regional Officer,  
Integrated Regional Office, MoEF & CC,  
Govt. of India, Aranya Bhawan, North Block,  
Sector-19, Nava Raipur, Atal Nagar, Chhattisgarh.

**Sub:- Six Monthly EC Compliance Report for the period 1st April, 2024 to 30th September, 2024 regarding Metabodeli Open Cast Iron Ore Mine with production capacity 1.0 Million TPA, (Lease area-25 ha.) located near village - Metabodeli, Tehsil-Pakhanjur, District-Kanker (Chhattisgarh).**

\*Ref: 1. E.C. Vide Order No.64/SEIAA, C.G./Mine/Kanker/557 Naya Raipur dated. 17/04/2017.  
2. Amendment EC Vide Order No.338/SEIAA, C.G./Mine/Kanker /557, Naya Raipur Dated.11/07/2017.

Sir,

This has with reference to the above referred letter on the subject matter. Please find enclosed herewith the Six-Monthly Environmental Clearance Compliance Report of Metabodeli Iron Ore Mine-25 Ha, village - Metabodeli, Tehsil-Pakhanjur, District-Kanker (Chhattisgarh) for the period 1st April, 2024 to 30th September, 2024. We had also tried to submit online Six-Monthly EC compliance report on Parivesh 2.0 but it could not be submitted online due to some unknown problem on Parivesh Portal.

This is for your kind information please.

Thanking you,  
Yours faithfully,  
For Jayaswal Neco Industries Ltd.

**Susanta Kumar Moitra**

Associate Director

Encl: Compliance Status Report period 1st April, 2024 to 30th September, 2024

CC to:

1. The Director, MoEF & CC (Mining Division), Government of India, Indira Paryavaran Bhawan, Jorbagh Road, Aliganj, New Delhi-110 003.	2. The Zonal Officer, Central Pollution Control Board, Sahkar Bhawan, 3rd Floor, North T.T. Nagar, Bhopal (M.P.).
3. The Member Secretary, Chhattisgarh Environmental Conservation Board, Paryavas Bhavan, North Block Sector-19, Atal Nagar, Raipur (C.G.) 490 099.	4. The Regional Officer, Chhattisgarh Environment Conservation Board, HIG-5 & 6, Aghanpur Housing Board Colony, Chitrakut Road, Jagdalpur(C.G.)
5. The M.S. – SEAC, Chhattisgarh, Paryavas Bhavan, North Block Sector-19, Naya Raipur (C.G.) 490 099.	

**REGD. OFFICE :** F-8, MIDC INDUSTRIAL AREA, HINGNA ROAD, NAGPUR - 440 016 (M.S.) (INDIA)

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**Six monthly compliance report of Environment Clearance regarding**

**Metabodeli Iron Ore Mine**

**(Period from 1<sup>st</sup> April, 2024 to 30<sup>th</sup> September, 2024)**

**Capacity & Location:-** Metabodeli Opencast Iron Ore Mine with production capacity 1.0 Million TPA, (Lease area-25 ha.) issued vide letter 64/SEIAA, C.G./Mine/Kanker/557 Naya Raipur dated.17/04/2017 & its amendment letter No. 338/SEIAA, C.G./Mine/Kanker /557, Naya Raipur Dated.11/07/2017 located near village-Metabodeli, Tehsil-pakhanjur, District-Kanker(Chhattisgarh).

1. **EC Letter No:-** 64/SEIAA, C.G./Mine/Kanker/557 Naya Raipur dated.17/04/2017.
2. **EC amendment Letter No:-** 338/SEIAA, C.G./Mine/Kanker/557 Naya Raipur dated.11/07/2017.

i)	Beneficiation of iron ore (wet or dry) shall not be carried out by the project proponent within lease area.	:	Beneficiation of iron ore is not done within lease area
ii)	Top soil shall be stacked properly with proper slope with adequate safeguards. Plantation shall be done on it after storing the topsoil in barrier zone.	:	No topsoil is being generated therefore no top soil dump is created.
iii)	Over burden shall be stacked at earmarked dump site(s) only and shall not be kept active for long period. The OB dumps shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining.	:	Two no of OB dumps have been created at specified location in which one no is active another one is inactive dump.  To prevent erosion and surface runoff the inactive dump has been covered by Geo-textile technique and plantation is going on each year as per approved plan. <b>Photo of the same is attached as Ann-</b>
iv)	Project authority shall provide adequate facility for proper treatment of industrial effluent (if any) and domestic effluent. Domestic effluent shall be treated in well-designed septic tank and soak pits. In case of any failure of effluent treatment arrangement, it shall be immediate rectified or same alternate arrangement shall be provided. Treated effluent shall be utilized either in process or for plantation purposes within plant premises only. Project authority shall make arrangement of	:	No industrial effluent is being generated from the mining operation. However in rainy season, to handle surface runoff water, three no's settling ponds were constructed. Monsoon surface Runoff water is collected through garland drain and check dam. Garland drain and check dam are constructed around slope of hill which connects to settling pond. <b>Photo of the same is attached as Ann-</b>  After treatment by lime and chemical water is used for plantation purpose and

	<p>suitable drains/pipe networks to ensure adequate flow for full utilization of treated effluent inside the premises. No effluent shall be discharged out of mine premises under any circumstances. Hence zero discharge condition outside the premises shall be maintained all the time. Project authority shall ensure the treated effluent quality within standard prescribed by Ministry of Environment, Forest and Climate Change, Government of India. Industrial wastewater shall conform to the standards prescribed under GSR 422 (E) dated.19<sup>th</sup> May, 1993 and December, 1993 or as amended from time to time.</p>		<p>sprinkling at haulage road. Generation of Domestic effluent is very less. To collect the domestic effluent, soak pit has been made in which domestic effluent is collected. No effluent discharged out of side of mine premises. Hence zero discharge condition outside the premises being maintained.</p>
v)	<p>Any liquid effluent what so ever generated from mining activities shall not be discharged into the river or any surface water bodies under any circumstances, and it shall be reused wholly in the process/plantation. All the industrial effluent generated shall be re-circulated/reused after proper treatment. Project authority shall provide sewage treatment system of adequate capacity for treatment of domestic effluent generated. The untreated/treated domestic effluent shall not be discharge in to the river or any surface water bodies. The treated domestic effluent shall be used for plantation purpose after proper disinfection. The concept of zero discharge shall be maintained all the time except during monsoon. Arrangements shall be made that effluents and storm water do not get mixed.:</p>	:	<p>There is no industrial waste water generated from the mine operation. Domestic effluent being treated in Soak pit in the mine. No effluent discharged out of mine premises.</p> <p>The Hazardous waste such as used oil generated from mines is stored at safe place and later on sold to authorized dealer at Raipur.</p>
vi)	<p>Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and constructing new Piezometer during the mining operation. The monitoring shall be carried out four times in a year – pre-monsoon (April-May), monsoon</p>	:	<p>Monitoring of Ground Water in core and buffer zone is being carried out at regular interval through Piezometer. Report is attached here with as <b>Annexure</b></p>

	(August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to SEIAA, Chhattisgarh, Central Ground Water Authority and Regional Director Central Ground Water Board.		
vii)	Prior permission from the competent authority shall be obtained for drawl of ground water if any.	:	Permission from CGWA obtained for withdrawal of water @ 50 KL/ day.
viii)	The project authority shall implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.	:	Rain water harvesting system, arrangement of water flow meter at each bore-well, checking of pipe leakage on regular interval has been adopted to augment ground water resources in the area.
ix)	Adequate no of garland drains and check dams shall be constructed to arrest silt and sediment flows from soil and mineral dumps. The water so collected shall be utilized for watering the mine area roads, green belt development etc. after proper treatment. The drains shall be regularly desilted particularly after monsoon and maintained properly.	:	<p><b>Check Dam:</b> Nine no's of check dam constructed across garland drain to counteract erosion by reducing water flow velocity. They are used to control water velocity, conserve soil, and improve the land.</p> <p><b>Garland drain:</b> In previous years total 1646 meter garland drain has been erected all around the mine pit. Every year before monsoon maintenance of garland drain is done. <b>Photographs attached at Anx-.</b></p>
x)	Project authority shall provide adequate air pollution control arrangements at all point and non point sources(if any). Project authority shall install suitable & effective air pollution control equipment's at all transfer points, junction points etc. also. All the conveying system, transfer point, junction point etc. shall be covered. Adequate provision shall be made for sprinkling of water at strategic locations to ensure dust does not get air borne. For controlling fugitive dust, regular sprinkling of water in vulnerable areas shall be ensured. All air pollution Control systems shall be kept in good running conditions all the time and failure (if any), shall be immediately rectified without delay otherwise similar	:	<p>Adequate air pollution monitoring system provided at site. To prevent dust emission, all the crushers working in mine, having inbuilt water sprinkling system with a covered conveyor belt. Green net surrounding Crusher &amp; Screen as well as haul roads has also been provided to arrest the dust.</p> <p>For controlling fugitive dust, regular sprinkling of water is carried out by water tankers at vulnerable area such as haul road, crusher screen area etc. The air monitoring report is attached as <b>Anx-</b></p>



	alternate arrangement shall be made. The emission of pollutants from any point source (if any) shall not exceed the following limit :- Particulate Matter : 50 mg/Mm <sup>3</sup> (Fifty Milligram per Normal Cubic Meter)		
xi)	Four ambient air quality – monitoring stations shall be established in the core zone as well as in the buffer zone for PM <sub>2.5</sub> , PM <sub>10</sub> , SO <sub>2</sub> , NO <sub>x</sub> monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.	:	As required four monitoring station in core zone and two in Buffer zone have been established. Air quality monitoring report is submitted every month to Chhattisgarh Environment Conservation Board.
xii)	Data on ambient air quality (PM <sub>2.5</sub> , PM <sub>10</sub> , SO <sub>2</sub> and NO <sub>x</sub> ) should be regularly monitored. The data so collected shall be properly analysed and submitted to the Chhattisgarh Environment Conservation Board, Naya Raipur, Regional Office, Chhattisgarh Environment Conservation Board, Jagdalpur, SEIAA, Chhattisgarh and Regional Office, Ministry of Environment, Forest and Climate Change, Government of India, Nagpur in every six months.	:	As required air quality data is monitored on regular intervals and submitted regularly. The detail is attached .
xiii)	Fugitive dust emissions from all the sources shall be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points shall be provided and properly maintained.	:	In-built belt conveyor canopy with inbuilt water sprinkling system has been provided at Crusher and also green net surrounding approach road, crusher area have been installed. Water sprinkling is done on regular basis for control of dust emission. Beside this, tankers have been provided for sprinkling of water all along the approach side of about 25 kms from Chargaon to Temrupani village to reduce the dust pollution by transport vehicles.
xiv)	Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in	:	Vehicles used for transportation are covered by tarpaulin and sealed as per provision.

	mining operations and in transportation of minerals. The vehicles shall be covered with a tarpaulin and shall not be overloaded.		
xv)	Measures shall be taken for control of noise levels in the work environment. Workers engaged in operations of HEMM, etc. shall be provided with ear plugs/muffs.	:	To control noise pollution, adequate ear plug have been provided by the company to the labours and staff working in crusher/noisy area.
xvi)	A Final Mine Closure Plan shall be submitted to the SEIAA, Chhattisgarh, 5 years in advance of final mine closure for approval.	:	Shall be complied.
xvii)	Plantation shall be raised by planting the native species around the ML area, roads, OB dump sites etc. in consultation with the local DFO / Agriculture Department.	:	1000 Nos. saplings in safety zone and OB dump and 200 outside mine have been planted during monsoon. Species of Gulmohar, karnj, mango, black cirrus have been planted.
xviii)	No change in mining technology and scope of working shall be made without prior approval of the SEIAA, Chhattisgarh.	:	Noted.
xix)	No change in calendar plan including excavation, quantum of mineral iron ore shall be made.	:	Noted.
xx)	Conservation measures for protection of flora and fauna in the core & buffer zone shall be drawn up in consultation with local forest and wildlife department.	:	Noted.
xxi)	Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.	:	Every month Safety committee meeting on safety and occupational health aspects training to Drivers and operators, Orientation program, vocational training are given to workers and staff. Appropriate PPE's has been given to all workers. Regular health checking of the workers is undertaken.
xxii)	The project authorities shall inform to SEIAA, Chhattisgarh regarding date of financial closures and the date of start of land development work.	:	The mine is in operation since 2002, and information in this regard had been submitted to MOEF.
xxiii)	The funds earmarked for	:	Fund earmarked for environments

	environmental protection measures shall be kept in separate account and should not be diverted for other purpose. Year wise expenditure shall be reported to the SEIAA, Chhattisgarh.		protection measures have been kept in separate account. The expenses made for environment conservation an period 01.04.2024 to 30.09.2024 is attached.
xxiv	Occupational health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	:	The company has established health care centre at Chargaon and Metabodeli village where Doctors are providing free of cost treatment to workers, staff and villagers for general illness. No health issue has been encountered due to mining activity till date. Time to time Health checkup and Eye camp and awareness program are also organised in the area. Beside this as per DGMS norms Initial medical examination (IME) to workers and staff are going on to observe any contractions due to exposure of dust as per scchedule.
xxv)	Project authority shall establish an environmental management cell to carry out function relating to environmental management under the supervision of senior executive who shall directly report to the head of organization. A full-fledged laboratory with qualified technical/scientific staffs to monitor the in fluent, effluent, ground water, surface water, soil, stack emission and ambient air quality etc. shall be provided.	:	Corporate Environment Management cell is established at Raipur. However at each mine location the environment cell is also established for environment monitoring
xxvi)	The issuance of this environmental clearance does not convey any property rights in either real or personal property, or any exclusive privileges, nor does not authorise any injury to private property or any invasion of personal rights, nor any infringement of Central, State or Local laws or regulations.	:	Noted.
xxvii)	SEIAA, Chhattisgarh reserves the right to amend/cancel any of the conditions and add new conditions and make further stringent the emission/effluent limit as and when deemed necessary in the interest of environmental protection, change in the project profile or non-satisfactory	:	Noted.

	implementation of the stipulated conditions etc.		
xxviii)	Local persons shall be given employment during construction and operation of the plant.	:	More than 400 local persons have been employed in the mine.
xxix)	The Project proponent shall advertise in at least two local news papers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the Chhattisgarh Environment Conservation Board and may also seen at Website of SEIAA, Chhattisgarh at <a href="http://www.seiaacg.org">www.seiaacg.org</a> .	:	Already been advertised on two new papers name Navbharat and Haribhumi on 18.04.2017.
xxx)	Half yearly report on the status of implementation of the stipulated conditions and environment safeguards shall be submitted to the Chhattisgarh Environment Conservation Board, Naya Raipur, Regional Office, Chhattisgarh Environment Conservation Board, Jagdalpur, SEIAA, Chhattisgarh and Regional Office, Ministry of Environment, Forest and Climate Change, Government of India, Nagpur.	:	Being complied.
xxxi)	Regional Office of the Ministry of Environment, Forest and Climate Change, Government of India at Nagpur shall monitor the implementation of the stipulated conditions. A complete set of documents including Environment Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring.	:	Being complied.
xxxii	Full Cooperation shall be extended to the Scientists/Officers from the	:	Noted.

	SEIAA, Chhattisgarh, Ministry of Environment, Forest and Climate Change, Government of India/Regional Office, Ministry of Environment, Forest and Climate Change, Government of India, Nagpur/CPCB/Chhattisgarh Environment Conservation Board, who would be monitoring the compliance of environment status.		
xxxiii)	In case of any deviation or alteration in the proposed project from those submitted to this SEIAA, Chhattisgarh for clearance, a fresh reference should be made to the SEIAA, Chhattisgarh to assess the adequacy of the condition(s) imposed and to add additional environment protection measures required, if any. No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, Government of India/SEIAA, Chhattisgarh.	:	Noted.
xxxiv)	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment(Protection) Act, 1986.	:	Noted.
xxxv)	The project authorities must strictly adhere to the stipulations made by the Chhattisgarh Environment Conservation Board(CECB) and the State Government.	:	Noted.
xxxvi)	The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 197, the Air(Prevention and Control of Pollution) Act, 1981, the Environment (Protection) act, 1986 and rules there under, Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016 and its amendments, the Public Liability	:	Noted.

	Insurance Act, 1991 and its amendments.		
xxxvii)	Chhattisgarh Environment Conservation Board shall display a copy of the Clearance letter at the Regional Office, District Trade and Industries Center and Collector's Office/Tehsildars Office for 3 days.	:	As required EC letter has already been displayed in compliance to this condition.
xxxviii)	Any appeal against this environmental clearance 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.	:	Noted.



## **Photographs of Geo-technic adopted in mine to prevent erosion at Dump site**





## **Photographs of Settling pond for collection of surface runoff water in rainy season**





## Efforts towards rain water Harvesting, Ground water recharge and plantation



RAINWATER HARVESTING SYSTEM AT METABODELI MINE





## **Efforts towards rain water Harvesting, Ground water recharge and plantation**





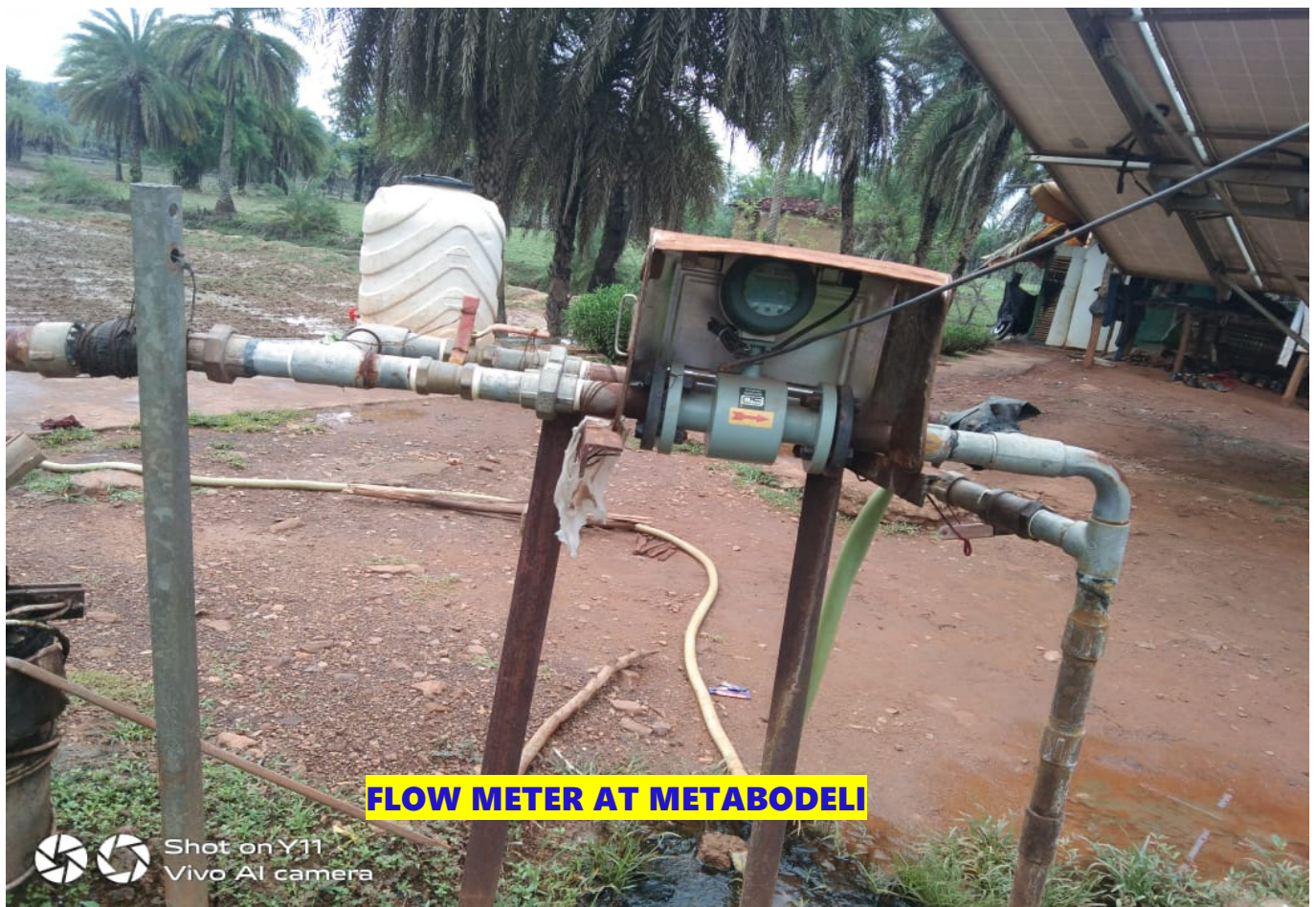
## Photographs showing Garland drain & check dam













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Sample Number:  
Name & Address of the PartyVTL /AA/01  
M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111)Report No.: VTL/A/2405150009  
Format No.: 7.8 F 02  
Party Reference No.: NIL

Sample Description : Ambient Air Quality Monitoring

Report Date: 22/05/2024  
Period of Analysis: 15-22/05/2024  
Receipt Date: 15/05/2024

## General Information:-

Sampling Location

Sample collected by

Sampling Equipment used

Fastament Code

Latitude

Longitude

Meteorological condition during monitoring

Date of Sampling

Time of Sampling

Ambient Temperature (°C)

Surrounding Activity

Scope of Monitoring

Sampling &amp; Analysis Protocol

Sampling Duration

Parameter Required

: Nearby Weigh Bridge  
: VTL Team  
: RDS &FPS  
: VTL/RDS/FPS/01  
: --  
: --  
: Clear sky  
: 10/05/2024 to 11/05/2024  
: 08:30 to 08:30 Hrs.  
: Min. 20°C, Max. 35 °C  
: Human ,Vehicular & Mining Activities  
: Regulatory Requirement  
: IS-5182 & CPCB Guidelines  
: 24 hrs.  
: As Per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
1.	Particulate Matter (PM <sub>2.5</sub> )	IS 5182 (P-24) -2019	45.63	µg/m3	60
2.	Particulate Matter (PM <sub>10</sub> )	IS: 5182 (P-23)-2006, RA 2017	84.96	µg/m3	100
3.	Nitrogen Dioxide (NO <sub>2</sub> )	IS: 5182 (P-6)-2006, RA-2018	22.55	µg/m3	80
4.	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (P-2)-2001, RA-2018	15.27	µg/m3	80
5.	Carbon Monoxide (as CO)	IS:5182(P-10) NDIR	0.84	mg/m3	4
6.	Ammonia (as NH <sub>3</sub> )	Method Of Air Sampling And Analysis,3rd ed.,1988 Method No.401	9.16	µg/m3	400
7.	Lead (as Pb)	IS: 5182 (P-22)-2004 RA 2019	*BLQ(**LOQ-0.02)	µg/m3	1
8.	Benzene(as C <sub>6</sub> H <sub>6</sub> )	IS: 5182 (P-11)-2006 RA 2017	*BLQ(**LOQ-1.0)	µg/m3	5
9.	Benzo(a)pyrine	IS: 5182 (P-12)-2004 RA 2019	*BLQ(**LOQ-0.2)	ng/m3	1
10.	Ozone (as O <sub>3</sub> )	IS: 5182 (P-9)-1974, RA 2019	11.2	µg/m3	180
11.	Arsenic(as As)	Method Of Air Sampling And Analysis,3rd ed.,1988 Method No.302	*BLQ(**LOQ-0.15)	ng/ m3	6
12.	Nickel (as Ni)	USEPA compendium IO-3.2,1999	*BLQ(**LOQ-5.0)	ng/ m3	20

\*BLQ- Below Limit Of Quantification, \*\* LOQ- Limit Of Quantification

Checked By

Approved &amp; Certified

EPA 1986 Recognised, ISO:9001 and OHSAS:45001 Certified



RK Yadav

Lab Incharge  
Authorized Signatory

Term &amp; conditions PTO

**Vibrant Techno Lab Pvt. Ltd.**

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Sample Number:  
Name & Address of the  
Party

VTL /AA/02  
M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist -Kanker  
(Chhattishgarh 493111)

Report No.: VTL/A/2405150010  
Format No.: 7.8 F 02  
Party Reference No.: NIL

Sample Description : Ambient Air Quality Monitoring

Report Date: 22/05/2024  
Period of Analysis: 15-22/05/2024  
Receipt Date: 15/05/2024

**General Information:-**

Sampling Location : Nearby CAF Camp  
Sample collected by : VTL Team  
Sampling Equipment used : RDS &FPS  
Instrument Code : VTL/RDS/FPS/02  
Latitude : --  
Longitude : --  
Meteorological condition during monitoring : Clear sky  
Date of Sampling : 10/05/2024 to 11/05/2024  
Time of Sampling : 08:50 to 08:50 Hrs.  
Ambient Temperature (°C) : Min. 20°C, Max. 35 °C  
Surrounding Activity : Human ,Vehicular & Mining Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : IS-5182 & CPCB Guidelines  
Sampling Duration : 24 hrs.  
Parameter Required : As Per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
1.	Particulate Matter (PM <sub>2.5</sub> )	IS 5182 (P-24) -2019	46.73	µg/m3	60
2.	Particulate Matter (PM <sub>10</sub> )	IS: 5182 (P-23)-2006, RA 2017	86.19	µg/m3	100
3.	Nitrogen Dioxide (NO <sub>2</sub> )	IS: 5182 (P-6)-2006, RA-2018	25.88	µg/m3	80
4.	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (P-2)-2001, RA-2018	15.62	µg/m3	80
5.	Carbon Monoxide (as CO)	IS:5182(P-10) NDIR	0.88	mg/m3	4
6.	Ammonia (as NH <sub>3</sub> )	Method Of Air Sampling And Analysis,3rd ed.,1988 Method No.401	11.26	µg/m3	400
7.	Lead (as Pb)	IS: 5182 (P-22)-2004 RA 2019	*BLQ(**LOQ-0.02)	µg/m3	1
8.	Benzene(as C <sub>6</sub> H <sub>6</sub> )	IS: 5182 (P-11)-2006 RA 2017	*BLQ(**LOQ-1.0)	µg/m3	5
9.	Benzo(a)pyrene	IS: 5182 (P-12)-2004 RA 2019	*BLQ(**LOQ-0.2)	ng/m3	1
10.	Ozone (as O <sub>3</sub> )	IS: 5182 (P-9)-1974, RA 2019	16.85	µg/m3	180
11.	Arsenic(as As)	Method Of Air Sampling And Analysis,3rd ed.,1988 Method No.302	*BLQ(**LOQ-0.15)	ng/ m3	6
12.	Nickel (as Ni)	USEPA compendium IO-3.2,1999	*BLQ(**LOQ-5.0)	ng/ m3	20

\*BLQ- Below Limit Of Quantification, \*\* LOQ- Limit Of Quantification



RK Yadav

Lab Incharge  
Authorized Signatory

Term & conditions PTO

**Vibrant Techno Lab Pvt. Ltd.**

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www.vibranttechnolab.com



Sample Number: VTL /AA/03  
Name & Address of the Party: M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist Kanker  
(Chhattishgarh 493111)

Report No.: VTL/A/2405150011  
Format No.: 7.8 F 02  
Party Reference No.: NIL

Sample Description : Ambient Air Quality Monitoring

Report Date: 22/05/2024  
Period of Analysis: 15-22/05/2024  
Receipt Date: 15/05/2024

General Information:-

Sampling Location : Near Mines Main Gate  
Sample collected by : VTL Team  
Sampling Equipment used : RDS &FPS  
Instrument Code : VTL/RDS/FPS/03  
Latitude : --  
Longitude : --  
Meteorological condition during monitoring : Clear sky  
Date of Sampling : 10/05/2024 to 11/05/2024  
Time of Sampling : 09:30 to 09:30 Hrs.  
Ambient Temperature (°C) : Min. 20°C, Max. 35 °C  
Surrounding Activity : Human ,Vehicular & Mining Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : IS-5182 & CPCB Guidelines  
Sampling Duration : 24 hrs.  
Parameter Required : As Per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
1.	Particulate Matter (PM <sub>2.5</sub> )	IS 5182 (P-24) -2019	43.74	µg/m <sup>3</sup>	60
2.	Particulate Matter (PM <sub>10</sub> )	IS: 5182 (P-23)-2006, RA 2017	78.92	µg/m <sup>3</sup>	100
3.	Nitrogen Dioxide (NO <sub>2</sub> )	IS: 5182 (P-6)-2006, RA-2018	19.85	µg/m <sup>3</sup>	80
4.	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (P-2)-2001, RA-2018	15.10	µg/m <sup>3</sup>	80
5.	Carbon Monoxide (as CO)	IS:5182(P-10) NDIR	0.79	mg/m <sup>3</sup>	4
6.	Ammonia (as NH <sub>3</sub> )	Method Of Air Sampling And Analysis,3rd ed.,1988 Method No.401	9.28	µg/m <sup>3</sup>	400
7.	Lead (as Pb)	IS: 5182 (P-22)-2004 RA 2019	*BLQ(**LOQ-0.02)	µg/m <sup>3</sup>	1
8.	Benzene(as C <sub>6</sub> H <sub>6</sub> )	IS: 5182 (P-11)-2006 RA 2017	*BLQ(**LOQ-1.0)	µg/m <sup>3</sup>	5
9.	Benzo(a)pyrene	IS: 5182 (P-12)-2004 RA 2019	*BLQ(**LOQ-0.2)	ng/m <sup>3</sup>	1
10.	Ozone (as O <sub>3</sub> )	IS: 5182 (P-9)-1974, RA 2019	15.98	µg/m <sup>3</sup>	180
11.	Arsenic(as As)	Method Of Air Sampling And Analysis,3rd ed.,1988 Method No.302	*BLQ(**LOQ-0.15)	ng/ m <sup>3</sup>	6
12.	Nickel (as Ni)	USEPA compendium IO-3.2,1999	*BLQ(**LOQ-5.0)	ng/ m <sup>3</sup>	20

\*BLQ- Below Limit Of Quantification, \*\* LOQ- Limit Of Quantification

Checked By:   
Approved & Certified

EPA 1986 Recognised, ISO:9001 and OHSAS:45001 Certified



RK Yadav

Lab Incharge  
Authorized Signatory

Term & conditions PTO

**Vibrant Techno Lab Pvt. Ltd.**

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Sample Number: VTL /AA/04  
Name & Address of the Party: M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist Kanker  
(Chhattishgarh 493111)

Report No.: VTL/A/2405150012  
Format No.: 7.8 F 02  
Party Reference No.: NIL

Sample Description : Ambient Air Quality Monitoring

Report Date: 22/05/2024  
Period of Analysis: 15-22/05/2024  
Receipt Date: 15/05/2024

General Information:-

Sampling Location : Near mine office  
Sample collected by : VTL Team  
Sampling Equipment used : RDS &FPS  
Instrument Code : VTL/RDS/FPS/04  
Latitude : --  
Longitude : --  
Meteorological condition during monitoring : Clear sky  
Date of Sampling : 10/05/2024 to 11/05/2024  
Time of Sampling : 09:50 to 09:50 Hrs.  
Ambient Temperature (°C) : Min. 20°C, Max. 35 °C  
Surrounding Activity : Human ,Vehicular & Mining Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : IS-5182 & CPCB Guidelines  
Sampling Duration : 24 hrs.  
Parameter Required : As Per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
1.	Particulate Matter (PM <sub>2.5</sub> )	IS 5182 (P-24) -2019	40.82	µg/m <sup>3</sup>	60
2.	Particulate Matter (PM <sub>10</sub> )	IS: 5182 (P-23)-2006, RA 2017	77.55	µg/m <sup>3</sup>	100
3.	Nitrogen Dioxide (NO <sub>2</sub> )	IS: 5182 (P-6)-2006, RA-2018	18.41	µg/m <sup>3</sup>	80
4.	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (P-2)-2001, RA-2018	13.18	µg/m <sup>3</sup>	80
5.	Carbon Monoxide (as CO)	IS:5182(P-10) NDIR	0.73	mg/m <sup>3</sup>	4
6.	Ammonia (as NH <sub>3</sub> )	Method Of Air Sampling And Analysis,3rd ed.,1988 Method No.401	8.15	µg/m <sup>3</sup>	400
7.	Lead (as Pb)	IS: 5182 (P-22)-2004 RA 2019	*BLQ(**LOQ-0.02)	µg/m <sup>3</sup>	1
8.	Benzene(as C <sub>6</sub> H <sub>6</sub> )	IS: 5182 (P-11)-2006 RA 2017	*BLQ(**LOQ-1.0)	µg/m <sup>3</sup>	5
9.	Benzo(a)pyrene	IS: 5182 (P-12)-2004 RA 2019	*BLQ(**LOQ-0.2)	ng/m <sup>3</sup>	1
10.	Ozone (as O <sub>3</sub> )	IS: 5182 (P-9)-1974, RA 2019	9.16	µg/m <sup>3</sup>	180
11.	Arsenic(as As)	Method Of Air Sampling And Analysis,3rd ed.,1988 Method No.302	*BLQ(**LOQ-0.15)	ng/ m <sup>3</sup>	6
12.	Nickel (as Ni)	USEPA compendium IO-3.2,1999	*BLQ(**LOQ-5.0)	ng/ m <sup>3</sup>	20

\*BLQ- Below Limit Of Quantification, \*\* LOQ- Limit Of Quantification

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## TEST REPORT

Sample Number  
Name & Address of the  
Party

VTL /AA/05  
M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist Kanker  
(Chhattishgarh 493111)

Report No.: VTL/A/2405150013  
Format No.: 7.8 F 02  
Party Reference No.: NIL

Sample Description : Ambient Air Quality Monitoring

Report Date: 22/05/2024  
Period of Analysis: 15-22/05/2024  
Receipt Date: 15/05/2024

### General Information:-

Sampling Location : Sodwapara Village  
Sample collected by : VTL Team  
Sampling Equipment used : RDS &FPS  
Instrument Code : VTL/RDS/FPS/01  
Latitude : --  
Longitude : --  
Meteorological condition during monitoring : Clear sky  
Date of Sampling : 11/05/2024 to 12/05/2024  
Time of Sampling : 09:00 to 09:00 Hrs.  
Ambient Temperature (°C) : Min. 20°C, Max. 35 °C  
Surrounding Activity : Human ,Vehicular & Other Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : IS-5182 & CPCB Guidelines  
Sampling Duration : 24 hrs.  
Parameter Required : As Per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
1.	Particulate Matter (PM <sub>2.5</sub> )	IS 5182 (P-24) -2019	37.52	µg/m <sup>3</sup>	60
2.	Particulate Matter (PM <sub>10</sub> )	IS: 5182 (P-23)-2006, RA 2017	66.14	µg/m <sup>3</sup>	100
3.	Nitrogen Dioxide (NO <sub>2</sub> )	IS: 5182 (P-6)-2006, RA-2018	17.28	µg/m <sup>3</sup>	80
4.	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (P-2)-2001, RA-2018	9.84	µg/m <sup>3</sup>	80
5.	Carbon Monoxide (as CO)	IS:5182(P-10) NDIR	0.66	mg/m <sup>3</sup>	4
6.	Ammonia (as NH <sub>3</sub> )	Method Of Air Sampling And Analysis,3rd ed.,1988 Method No.401	6.78	µg/m <sup>3</sup>	400
7.	Lead (as Pb)	IS: 5182 (P-22)-2004 RA 2019	*BLQ(**LOQ-0.02)	µg/m <sup>3</sup>	1
8.	Benzene(as C <sub>6</sub> H <sub>6</sub> )	IS: 5182 (P-11)-2006 RA 2017	*BLQ(**LOQ-1.0)	µg/m <sup>3</sup>	5
9.	Benzo(a)pyrene	IS: 5182 (P-12)-2004 RA 2019	*BLQ(**LOQ-0.2)	ng/m <sup>3</sup>	1
10.	Ozone (as O <sub>3</sub> )	IS: 5182 (P-9)-1974, RA 2019	8.72	µg/m <sup>3</sup>	180
11.	Arsenic(as As)	Method Of Air Sampling And Analysis,3rd ed.,1988 Method No.302	*BLQ(**LOQ-0.15)	ng/ m <sup>3</sup>	6
12.	Nickel (as Ni)	USEPA compendium IO-3.2,1999	*BLQ(**LOQ-5.0)	ng/ m <sup>3</sup>	20

\*BLQ- Below Limit Of Quantification, \*\* LOQ- Limit Of Quantification



RK Yadav

Lab Incharge  
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Sample Number:  
Name & Address of the  
Party

VTL /AA/06  
M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist Kanker  
(Chhattishgarh 493111)

Report No.: VTL/A/2405150014  
Format No.: 7.8 F 02  
Party Reference No.: NIL

Sample Description : Ambient Air Quality Monitoring

Report Date: 22/05/2024  
Period of Analysis: 15-22/05/2024  
Receipt Date: 15/05/2024

**General Information:-**

Sampling Location	: Metabodeli Village
Sample collected by	: VTL Team
Sampling Equipment used	: RDS &FPS
Instrument Code	: VTL/RDS/FPS/02
Latitude	: --
Longitude	: --
Meteorological condition during monitoring	: Clear sky
Date of Sampling	: 11/05/2024 to 12/05/2024
Time of Sampling	: 09:20 to 09:20 Hrs.
Ambient Temperature (°C)	: Min. 20°C, Max. 35 °C
Surrounding Activity	: Human ,Vehicular & Other Activities
Scope of Monitoring	: Regulatory Requirement
Sampling & Analysis Protocol	: IS-5182 & CPCB Guidelines
Sampling Duration	: 24 hrs.
Parameter Required	: As Per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
1.	Particulate Matter (PM <sub>2.5</sub> )	IS 5182 (P-24) -2019	36.52	µg/m <sup>3</sup>	60
2.	Particulate Matter (PM <sub>10</sub> )	IS: 5182 (P-23)-2006, RA 2017	65.28	µg/m <sup>3</sup>	100
3.	Nitrogen Dioxide (NO <sub>2</sub> )	IS: 5182 (P-6)-2006, RA-2018	16.48	µg/m <sup>3</sup>	80
4.	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (P-2)-2001, RA-2018	9.84	µg/m <sup>3</sup>	80
5.	Carbon Monoxide (as CO)	IS:5182(P-10) NDIR	0.64	mg/m <sup>3</sup>	4
6.	Ammonia (as NH <sub>3</sub> )	Method Of Air Sampling And Analysis,3rd ed.,1988 Method No.401	7.66	µg/m <sup>3</sup>	400
7.	Lead (as Pb)	IS: 5182 (P-22)-2004 RA 2019	*BLQ(**LOQ-0.02)	µg/m <sup>3</sup>	1
8.	Benzene(as C <sub>6</sub> H <sub>6</sub> )	IS: 5182 (P-11)-2006 RA 2017	*BLQ(**LOQ-1.0)	µg/m <sup>3</sup>	5
9.	Benzo(a)pyrene	IS: 5182 (P-12)-2004 RA 2019	*BLQ(**LOQ-0.2)	ng/m <sup>3</sup>	1
10.	Ozone (as O <sub>3</sub> )	IS: 5182 (P-9)-1974, RA 2019	10.92	µg/m <sup>3</sup>	180
11.	Arsenic(as As)	Method Of Air Sampling And Analysis,3rd ed.,1988 Method No.302	*BLQ(**LOQ-0.15)	ng/ m <sup>3</sup>	6
12.	Nickel (as Ni)	USEPA compendium IO-3.2,1999	*BLQ(**LOQ-5.0)	ng/ m <sup>3</sup>	20

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VTL /AA/07  
M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist Kanker  
(Chhattishgarh 493111)

Report No.: VTL/A/2405150015  
Format No.: 7.8 F 02  
Party Reference No.: NIL

Sample Description : Ambient Air Quality Monitoring

Report Date: 22/05/2024  
Period of Analysis: 15-22/05/2024  
Receipt Date: 15/05/2024

General Information:-

Sampling Location : Surewahi Village  
Sample collected by : VTL Team  
Sampling Equipment used : RDS & FPS  
Instrument Code : VTL/RDS/FPS/03  
Latitude : --  
Longitude : --  
Meteorological condition during monitoring : Clear sky  
Date of Sampling : 11/05/2024 to 12/05/2024  
Time of Sampling : 09:50 to 09:50 Hrs.  
Ambient Temperature (°C) : Min. 20°C, Max. 35 °C  
Surrounding Activity : Human, Vehicular & Other Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : IS-5182 & CPCB Guidelines  
Sampling Duration : 24 hrs.  
Parameter Required : As Per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
1.	Particulate Matter (PM <sub>2.5</sub> )	IS 5182 (P-24) -2019	35.42	µg/m <sup>3</sup>	60
2.	Particulate Matter (PM <sub>10</sub> )	IS: 5182 (P-23)-2006, RA 2017	64.92	µg/m <sup>3</sup>	100
3.	Nitrogen Dioxide (NO <sub>2</sub> )	IS: 5182 (P-6)-2006, RA-2018	16.72	µg/m <sup>3</sup>	80
4.	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (P-2)-2001, RA-2018	8.69	µg/m <sup>3</sup>	80
5.	Carbon Monoxide (as CO)	IS:5182(P-10) NDIR	0.65	mg/m <sup>3</sup>	4
6.	Ammonia (as NH <sub>3</sub> )	Method Of Air Sampling And Analysis, 3rd ed., 1988 Method No.401	7.22	µg/m <sup>3</sup>	400
7.	Lead (as Pb)	IS: 5182 (P-22)-2004 RA 2019	*BLQ(**LOQ-0.02)	µg/m <sup>3</sup>	1
8.	Benzene(as C <sub>6</sub> H <sub>6</sub> )	IS: 5182 (P-11)-2006 RA 2017	*BLQ(**LOQ-1.0)	µg/m <sup>3</sup>	5
9.	Benzo(a)pyrene	IS: 5182 (P-12)-2004 RA 2019	*BLQ(**LOQ-0.2)	ng/m <sup>3</sup>	1
10.	Ozone (as O <sub>3</sub> )	IS: 5182 (P-9)-1974, RA 2019	8.98	µg/m <sup>3</sup>	180
11.	Arsenic(as As)	Method Of Air Sampling And Analysis, 3rd ed., 1988 Method No.302	*BLQ(**LOQ-0.15)	ng/ m <sup>3</sup>	6
12.	Nickel (as Ni)	USEPA compendium IO-3.2, 1999	*BLQ(**LOQ-5.0)	ng/ m <sup>3</sup>	20

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**VIBRANT**

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Sample Number:

Name & Address of the Party

VTL /AA/08

M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist Kanker  
(Chhattishgarh 493111)

Report No.:

VTL/A/2405150016

Format No.:

7.8 F 02

Party Reference No.:

NIL

Sample Description :

Ambient Air Quality Monitoring

Report Date:

22/05/2024

Period of Analysis:

15-22/05/2024

Receipt Date

15/05/2024

**General Information:-**

Sampling Location

Sample collected by

Sampling Equipment used

Instrument Code

Latitude

Longitude

Meteorological condition during monitoring

Date of Sampling

Time of Sampling

Ambient Temperature (°C)

Surrounding Activity

Scope of Monitoring

Sampling & Analysis Protocol

Sampling Duration

Parameter Required

: Chargaon Village

: VTL Team

: RDS & FPS

: VTL/RDS/FPS/04

: --

: --

: Clear sky

: 11/05/2024 to 12/05/2024

: 10:50 to 10:50 Hrs.

: Min. 20°C, Max. 35 °C

: Human, Vehicular & Other Activities

: Regulatory Requirement

: IS-5182 & CPCB Guidelines

: 24 hrs.

: As Per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
1.	Particulate Matter (PM <sub>2.5</sub> )	IS 5182 (P-24) -2019	36.14	µg/m <sup>3</sup>	60
2.	Particulate Matter (PM <sub>10</sub> )	IS: 5182 (P-23)-2006, RA 2017	65.32	µg/m <sup>3</sup>	100
3.	Nitrogen Dioxide (NO <sub>2</sub> )	IS: 5182 (P-6)-2006, RA-2018	17.18	µg/m <sup>3</sup>	80
4.	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (P-2)-2001, RA-2018	9.10	µg/m <sup>3</sup>	80
5.	Carbon Monoxide (as CO)	IS:5182(P-10) NDIR	0.69	mg/m <sup>3</sup>	4
6.	Ammonia (as NH <sub>3</sub> )	Method Of Air Sampling And Analysis, 3rd ed., 1988 Method No.401	7.88	µg/m <sup>3</sup>	400
7.	Lead (as Pb)	IS: 5182 (P-22)-2004 RA 2019	*BLQ(**LOQ-0.02)	µg/m <sup>3</sup>	1
8.	Benzene(as C <sub>6</sub> H <sub>6</sub> )	IS: 5182 (P-11)-2006 RA 2017	*BLQ(**LOQ-1.0)	µg/m <sup>3</sup>	5
9.	Benzo(a)pyrene	IS: 5182 (P-12)-2004 RA 2019	*BLQ(**LOQ-0.2)	ng/m <sup>3</sup>	1
10.	Ozone (as O <sub>3</sub> )	IS: 5182 (P-9)-1974, RA 2019	9.28	µg/m <sup>3</sup>	180
11.	Arsenic(as As)	Method Of Air Sampling And Analysis, 3rd ed., 1988 Method No.302	*BLQ(**LOQ-0.15)	ng/m <sup>3</sup>	6
12.	Nickel (as Ni)	USEPA compendium IO-3.2, 1999	*BLQ(**LOQ-5.0)	ng/m <sup>3</sup>	20

\*BLQ- Below Limit Of Quantification, \*\* LOQ- Limit Of Quantification

Checked By

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Lab Incharge  
Authorized Signatory

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## TEST REPORT

**VIBRANT**  
"Experience the Unimaginable"

Sample Number:  
Name & Address of the  
Party

VTL/FD/07-10  
M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
hhattishgarh 493111)

Report No.: VTL/FD/2405150007-10  
Format No.: 7.8 F 02  
Party Reference No.: NIL

Sample Description : Fugitive Monitoring

Report Date: 22/05/2024  
Period of Analysis: 15-22/05/2024  
Receipt Date: 15/05/2024

### General Information:-

Sample collected by : VTL Team  
Sampling Equipment used : HVS  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear sky  
Surrounding Activity : Human, Vehicular & Other Activities  
Scope of Monitoring : Regulatory Requirement  
Analysis Protocol : IS: 5182 (P-4), 2006 RA: 2017  
Sampling Duration : 8 hrs.  
Parameter Required : Suspended Particulate Matter (SPM)

S. No.	Location	Sampling Date	Time	Result	Unit
1.	Mine Bench Face	10/05/2024	09:30 to 17:30 hrs.	518.0	$\mu\text{g}/\text{m}^3$
2.	Screen & Crushing Area	10-11/05/2024	18:30 to 02:30 Hrs.	426.0	$\mu\text{g}/\text{m}^3$
3.	Loading Area	11/05/2024	10:10 to 18:10 hrs.	482.0	$\mu\text{g}/\text{m}^3$
4.	Mine Haul Road	11-12/05/2024	19:30 to 03:30 Hrs.	389.0	$\mu\text{g}/\text{m}^3$
5.	Nearby Weigh Bridge	12/05/2024	05:00 to 13:00 Hrs	356.0	$\mu\text{g}/\text{m}^3$
6.	Near Mines Main Gate	12/05/2024	14:00 to 22:00Hrs	448.0	$\mu\text{g}/\text{m}^3$

Checked By



Lab Incharge  
RK Yadav  
Authorized Signatory

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## TEST REPORT

**VIBRANT**

"Experience the unimaginable"

Sample Number:

Name & Address of Party:

VTL/W/01

M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111)

Report No.:

VTL/WW/2405150010

Format No.:

7.8 F 01

Party Reference No.:

NIL

Report Date:

22/05/2024

Sample Description:

Effluent Water Sample

Sampling Location:

Mine Work Shop

Sample Collected by

VTL Team

Preservation:

Refrigerated

Sampling & Analysis Protocol:

IS-3025 & APHA

Period of Analysis:

15-22/05/2024

Receipt Date:

15/05/2024

Sampling Date:

12/05/2024

Sampling Type:

Grab

Sample Quantity:

2.0 Ltr.

### TEST RESULTS

S. No.	Parameter	Test Method	Results	Unit
1.	pH (at 25 °C)	IS 3025 (P-11): 2022	7.52	--
2.	Total Dissolved Solids	IS 3025 (P-16): 2023	590.0	mg/l
3.	Total Suspended Solids	IS 3025 (P-17): 2022	19.75	mg/l
4.	Oil & Grease	IS 3025 (P-39):2021	9.2	mg/l
5.	BOD (3days at 27 °c)	IS 3025(P-44):2023	12.1	mg/l
6.	Chemical Oxygen Demand (COD)	IS: 3025 (P-58): 2023	36.1	mg/l

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Sample Number: VTL/N/09  
Name & Address of the Party: M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111)  
Sample Description: Ambient Noise Level Monitoring  
Scope of Monitoring: Regulatory Requirement  
Protocol Used: IS 9989: IS 9876  
Instrument Used: SLM

Report No.: VTL/N/2405150009  
Format No.: 7.8 F 04  
Party Reference No.: NIL  
Report Date: 22/05/2024  
Receipt Date: 15/05/2024  
Sampling Duration: 24 Hrs.  
Sample Collected by: VTL Team  
Instrument Calibration Status: Calibrated

General Information:-

Sampling Location: : Near By Weigh Bridge  
Instrument Code: : VTL/SLM/05  
Meteorological condition during monitoring: : Clear sky  
Date of Monitoring: : 10/05/2024 to 11/05/2024  
Time of Monitoring: : 06:00 to 06:00 Hrs.  
Ambient Temperature (°C): : Min. 20°C, Max. 35 °C  
Surrounding Activity: : Human, Vehicular & Mining Activities  
Parameter Required: : As per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
1.	Leq	IS:9989,IS9876:1981	60.2	51.4

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

1. Day Time is from 6.00 AM to 10.00 PM.  
2. Night Time is reckoned between 10.00 PM to 6.00 AM.  
3. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.  
Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

Checked By



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Lab Incharge  
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Sample Number: VTL/N/10  
Name & Address of the Party: MM/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111)

Report No.: VTL/N/2405150010  
Format No.: 7.8 F 04  
Party Reference No.: NIL  
Report Date: 22/05/2024  
Receipt Date: 15/05/2024  
Sampling Duration: 24 Hrs.  
Sample Collected by: VTL Team  
Instrument Calibration Status: Calibrated

Sample Description: Ambient Noise Level Monitoring  
Scope of Monitoring: Regulatory Requirement  
Protocol Used: IS 9989: IS 9876  
Instrument Used: SLM

General Information:-

Sampling Location: Near By CAF Camp  
Instrument Code: VTL/SLM/06  
Meteorological condition during monitoring: Clear sky  
Date of Monitoring: 10/05/2024 to 11/05/2024  
Time of Monitoring: 06:00 to 06:00 Hrs.  
Ambient Temperature (°C): Min. 20°C, Max. 35 °C  
Surrounding Activity: Human, Vehicular & Mining Activities  
Parameter Required: As per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
2.	Leq	IS:9989,IS9876:1981	62.9	51.6

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

4. Day Time is from 6.00 AM to 10.00 PM.  
5. Night Time is reckoned between 10.00 PM to 6.00 AM.  
6. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.  
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Sample Number: VTL/N/11  
Name & Address of the Party: M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111))  
Sample Description: Ambient Noise Level Monitoring  
Scope of Monitoring: Regulatory Requirement  
Protocol Used: IS 9989: IS 9876  
Instrument Used: SLM

Report No.: VTL/N/2405150011  
Format No.: 7.8 F 04  
Party Reference No.: NIL  
Report Date: 22/05/2024  
Receipt Date: 15/05/2024  
Sampling Duration: 24 Hrs.  
Sample Collected by: VTL Team  
Instrument Calibration Status: Calibrated

General Information:-

Sampling Location: Near Mines Main Gate  
Instrument Code: VTL/SLM/07  
Meteorological condition during monitoring: Clear sky  
Date of Monitoring: 10/05/2024 to 11/05/2024  
Time of Monitoring: 06:00 to 06:00 Hrs.  
Ambient Temperature (°C): Min. 20°C, Max. 35 °C  
Surrounding Activity: Human, Vehicular & Mining Activities  
Parameter Required: As per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
3.	Leq	IS:9989,IS9876:1981	64.8	54.2

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

7. Day Time is from 6.00 AM to 10.00 PM.  
8. Night Time is reckoned between 10.00 PM to 6.00 AM.  
9. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.  
Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

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TEST REPORT

Sample Number: VTL/N/12  
Name & Address of the Party: M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111)  
Sample Description: Ambient Noise Level Monitoring  
Scope of Monitoring: Regulatory Requirement  
Protocol Used: IS 9989: IS 9876  
Instrument Used: SLM

Report No.: VTL/N/2405150012  
Format No.: 7.8 F 04  
Party Reference No.: NIL  
Report Date: 22/05/2024  
Receipt Date: 15/05/2024  
Sampling Duration: 24 Hrs.  
Sample Collected by: VTL Team  
Instrument Calibration Status: Calibrated

General Information:-

Sampling Location  
Instrument Code  
Meteorological condition during monitoring  
Date of Monitoring  
Time of Monitoring  
Ambient Temperature (°C)  
Surrounding Activity  
Parameter Required

: Sodwapara Village  
: VTL/SLM/08  
: Clear sky  
: 10/05/2024 to 11/05/2024  
: 06:00 to 06:00 Hrs.  
: Min. 20°C, Max. 35 °C  
: Human, Vehicular & Other Activities  
: As per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
4.	Leq	IS:9989,IS9876:1981	53.5	41.2

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

10. Day Time is from 6.00 AM to 10.00 PM.  
11. Night Time is reckoned between 10.00 PM to 6.00 AM.  
12. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.  
Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

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TEST REPORT

Sample Number: VTL/N/13  
Name & Address of the Party: M/s Jayaswal Neco Industries Ltd.  
Metabodli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111)  
Sample Description: Ambient Noise Level Monitoring  
Scope of Monitoring: Regulatory Requirement  
Protocol Used: IS 9989: IS 9876  
Instrument Used: SLM

Report No.: VTL/N/2405150013  
Format No.: 7.8 F 04  
Party Reference No.: NIL  
Report Date: 22/05/2024  
Receipt Date: 15/05/2024  
Sampling Duration: 24 Hrs.  
Sample Collected by: VTL Team  
Instrument Calibration Status: Calibrated

General Information:-

Sampling Location: Metabodli Village  
Instrument Code: VTL/SLM/05  
Meteorological condition during monitoring: Clear sky  
Date of Monitoring: 11/05/2024 to 12/05/2024  
Time of Monitoring: 06:00 to 06:00 Hrs.  
Ambient Temperature (°C): Min. 20°C, Max. 35 °C  
Surrounding Activity: Human, Vehicular & Other Activities  
Parameter Required: As per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
5.	Leq	IS:9989,IS9876:1981	51.9	42.3

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

13. Day Time is from 6.00 AM to 10.00 PM.

14. Night Time is reckoned between 10.00 PM to 6.00 AM.

15. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.

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Sample Number: VTL/N/14  
Name & Address of the Party: M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111)  
Sample Description: Ambient Noise Level Monitoring  
Scope of Monitoring: Regulatory Requirement  
Protocol Used: IS 9989: IS 9876  
Instrument Used: SLM

Report No.: VTL/N/2405150014  
Format No.: 7.8 F 04  
Party Reference No.: NIL  
Report Date: 22/05/2024  
Receipt Date: 15/05/2024  
Sampling Duration: 24 Hrs.  
Sample Collected by: VTL Team  
Instrument Calibration Status: Calibrated

General Information:-

Sampling Location: Surewahi Village  
Instrument Code: VTL/SLM/06  
Meteorological condition during monitoring: Clear sky  
Date of Monitoring: 11/05/2024 to 12/05/2024  
Time of Monitoring: 06:00 to 06:00 Hrs.  
Ambient Temperature (°C): Min. 20°C, Max. 35 °C  
Surrounding Activity: Human, Vehicular & Other Activities  
Parameter Required: As per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
6.	Leq	IS:9989,IS9876:1981	53.6	43.2

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

16. Day Time is from 6.00 AM to 10.00 PM.

17. Night Time is reckoned between 10.00 PM to 6.00 AM.

18. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.

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TEST REPORT

Sample Number: VTL/N/15  
Name & Address of the Party: M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111)  
Sample Description: Ambient Noise Level Monitoring  
Scope of Monitoring: Regulatory Requirement  
Protocol Used: IS 9989: IS 9876  
Instrument Used: SLM

Report No.: VTL/N/2405150015  
Format No.: 7.8 F 04  
Party Reference No.: NIL  
Report Date: 22/05/2024  
Receipt Date: 15/05/2024  
Sampling Duration: 24 Hrs.  
Sample Collected by: VTL Team  
Instrument Calibration Status: Calibrated

General Information:-

Sampling Location : Near Mine Site  
Instrument Code : VTL/SLM/07  
Meteorological condition during monitoring : Clear sky  
Date of Monitoring : 11/05/2024 to 12/05/2024  
Time of Monitoring : 06:00 to 06:00 Hrs.  
Ambient Temperature (°C) : Min. 20°C, Max. 35 °C  
Surrounding Activity : Human, Vehicular & Mining Activities  
Parameter Required : As per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
7.	Leq	IS:9989,IS9876:1981	58.5	44.9

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

19. Day Time is from 6.00 AM to 10.00 PM.

20. Night Time is reckoned between 10.00 PM to 6.00 AM.

21. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.

Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

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Sample Number: VTL/N/16  
Name & Address of the Party: M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111)  
Sample Description: Ambient Noise Level Monitoring  
Scope of Monitoring: Regulatory Requirement  
Protocol Used: IS 9989: IS 9876  
Instrument Used: SLM

Report No.: VTL/N/2405150016  
Format No.: 7.8 F 04  
Party Reference No.: NIL  
Reporting Date: 22/05/2024  
Receipt Date: 15/05/2024  
Sampling Duration: 24 Hrs.  
Sample Collected by: VTL Team  
Instrument Calibration Status: Calibrated

General Information:-

Sampling Location: Chargoan Village  
Instrument Code: VTL/SLM/08  
Meteorological condition during monitoring: Clear sky  
Date of Monitoring: 11/05/2024 to 12/05/2024  
Time of Monitoring: 06:00 to 06:00 Hrs.  
Ambient Temperature (°C): Min. 20°C, Max. 35 °C  
Surrounding Activity: Human, Vehicular & Mining Activities  
Parameter Required: As per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
1.	Leq	IS:9989,IS9876:1981	53.8	40.2

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

1. Day Time is from 6.00 AM to 10.00 PM.  
2. Night Time is reckoned between 10.00 PM to 6.00 AM.  
3. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.  
Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

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TEST REPORT

Sample Number: VTL/S0/01-02  
Name & Address of the Project: M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111)

Sample Description: SOIL  
Sample Collected by: VTL Team  
Sampling & Analysis Protocol: IS 2720 & USDA

Report No.: VTL/S0/2405150003-04  
Format No.: 7.8 F-01  
Party Reference No.: NIL  
Report Date: 22/05/2024  
Receipt Date: 15/05/2024  
Sampling Date: 12/05/2024  
Period Of Analysis: 15-22/05/2024  
Type of Sampling: Composite  
Sampling Quantity: 2.0 Kg  
Depth of Sampling: 30 cm  
Packing Status: Temp Sealed

S.No.	Parameter	Test Method	Chargoan Village	Metabodeli Village	Units
1.	pH (at 25 °C)	IS:2720 (P-26) 1987 RA 2021	7.96	7.65	--
2.	Conductivity ( mS/cm)	IS: 14767:2000 RA 2021	0.351	0.342	mS/cm
3.	Soil Texture	USDA:1954 RA 2014	Sandy Loam	Sandy Loam	--
4.	Color	USDA:1954 RA 2014	Reddish- Brown	Reddish- Brown	--
5.	Water holding capacity(%)	USDA:1954 RA 2014	30.88	44.2	%
6.	Bulk density ( gm/cc)	USDA:1954 RA 2014	1.26	1.30	gm/cc
7.	Chloride as Cl ( mg/kg)	USDA:1954 RA 2010 Page No. 198	88.2	81.6	mg/kg
8.	Calcium as Ca( mg/kg)	USDA:1954 RA 2014	301	315	mg/kg
9.	Sodium as Na( mg/kg)	USEPA: 3050 B 1996	98.6	93.4	mg/kg
10.	Potassium as K ( kg/hect.)	USEPA: 3050 B 1996	114	105	kg/hect.
11.	Organic Matter (%)	IS: 2720 (P-22) 1972 RA 2020	0.75	0.66	%
12.	Magnesium as Mg ( mg/kg)	USDA:1954 RA 2014	91.0	96.4	mg/kg
13.	Available Nitrogen as N ( kg/hect.)	IS:14684:1999	218	210	kg/hect.
14.	Available Phosphorus (kg/hect.)	USDA:1954 RA 2014	39.2	36.4	kg/hect.
15.	Zinc as Zn ( mg/kg)	USEPA: 3050 B 1996	19.4	16.7	mg/kg
16.	Manganese as Mn( mg/kg)	USEPA: 3050 B 1996	142	135	mg/kg
17.	Chromium as Cr ( mg/kg)	USEPA: 3050 B 1996	1.42	1.77	mg/kg
18.	Lead as Pb( mg/kg)	USEPA: 3050 B 1996	3.26	4.68	mg/kg
19.	Cadmium as Cd ( mg/kg)	USEPA: 3050 B 1996	0.81	0.88	mg/kg
20.	Copper as Cu ( mg/kg)	USEPA: 3050 B 1996	17.6	13.4	mg/kg

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Sample Number: VTL/S/01  
Name & Address of Party: M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111)  
Sample Description : STACK EMISSION MONITORING

Report No.: VTL/S/2405150004  
Format No.: 7.8 F-03  
Party Reference No.: NIL  
Report Date: 22/05/2024  
Period of Analysis: 15-22/05/2024  
Receipt Date: 15/05/2024

Sample Collected : VTL Team  
Date & Time of Sampling : 11/05/2024  
Location : DG Set 500 KVA  
Stack Attach To : DG Set  
Sampling duration (Minutes) : 40 Min. (11:00 to 11:40 Hrs.)  
Make Of Stack : MS  
Instrument calibration status : Calibrated  
Meteorological Condition status : Clear Sky  
Ambient Temperature - Ta (°C) : 32  
Temperature of Stack Gases - Ts (°C) : 131  
Velocity of Stack Gases (m/sec.) : 17.74  
Flow rate of PM (LPM) : 24  
Sampling condition : Isokinetic  
Flow rate of Flue Gas : 2.0  
Method of Sampling : IS-11255 & EPA

RESULTS

S. No.	Parameter	Test Method	Results	Units	Limits
1.	Particulate Matter (PM)	IS:11255 (Part-1): 1985 RA 2019	0.014	gm/kW-hr	0.02
2.	Carbon Monoxide (CO)	USEPA 10 : 1996	1.56	gm/kW-hr	3.5
3.	Nitrogen Oxides (NOx)	IS:11255 (Part-7) RA 2017	0.26	gm/kW-hr	0.40
4.	Non Methane Hydrocarbon (NMHC)	IS:5182, Based On GC, RA: 2012	0.10	gm/kW-hr	0.19

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

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Sample Number: VTL/S/02  
Report No.: VTL/S/2405150005  
Name & Address of Party: M/s Jayaswal Neco Industries Ltd.  
Format No.: 7.8 F-03  
Metabodeli Iron Ore mine-25 Ha  
Party Reference No.: NIL  
Tehsil Pakhanjur, Dist- Kanker  
Report Date: 22/05/2024  
(Chhattishgarh 493111)  
Period of Analysis: 15-22/05/2024  
Sample Description : STACK EMISSION MONITORING  
Receipt Date: 15/05/2024

Sample Collected : VTL Team  
Date & Time of Sampling : 11/05/2024  
Location : DG Set 200 KVA  
Stack Attach To : DG Set  
Sampling duration (Minutes) : 36 Min. (12:00 to 12:36 Hrs.)  
Make Of Stack : MS  
Instrument calibration status : Calibrated  
Meteorological Condition status : Clear Sky  
Ambient Temperature - Ta (°C) : 32  
Temperature of Stack Gases - Ts (°C) : 145  
Velocity of Stack Gases (m/sec.) : 20.42  
Flow rate of PM (LPM) : 28  
Sampling condition : Isokinetic  
Flow rate of Flue Gas : 2.0  
Method of Sampling : IS-11255 & EPA

RESULTS

S. No.	Parameter	Test Method	Results	Units	Limits
1.	Particulate Matter (PM)	IS:11255 (Part-1): 1985 RA 2019	0.011	gm/kW-hr	0.02
2.	Carbon Monoxide (CO)	USEPA 10 : 1996	1.21	gm/kW-hr	3.5
3.	Nitrogen Oxides (NOx)	IS:11255 (Part-7) RA 2017	0.19	gm/kW-hr	0.40
4.	Non Methane Hydrocarbon (NMHC)	IS:5182, Based On GC, RA: 2012	0.08	gm/kW-hr	0.19

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

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## TEST REPORT

**VIBRANT**  
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Sample Number :  
Name & Address of the  
Project:

VTL/SW/05  
M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111)  
Surface Water  
Medki River (UP Stream)

Sample Description:  
Sample Location:

Sample Collected by:  
Preservation:  
Method of Sampling :

VTL Team  
Refrigerated  
IS-3025

Report No.: VTL/W/2405150008  
Format No.: 7.8 F-01

Party Reference No.: NIL

Report Date: 22/05/2024  
Period Of Analysis: 15/05/2024-22/05/2024  
Receipt Date: 15/05/2024  
Sampling Date: 12/05/2024  
Sample Type: Grab  
Sampling Quantity: 2.0 Ltr  
Parameter Required: As per Work Allocation

S. No.	Parameter	Test Method	Result	Unit
Physical Parameters				
1.	pH (at 25 °C)	IS 3025 (P-11): 2022	7.35	--
2.	Colour	IS 3025(P-4): 2021	*BLQ(**LOQ-5.0)	Hazen
3.	Turbidity	IS 3025 (P-10): 2023	3.0	NTU
4.	Odour	IS 3025 (P-5)1983	Agreeable	--
5.	Taste	IS 3025(P-8) 1984	Agreeable	--
Chemical Parameters (mg/l)				
6.	Total Hardness as CaCO <sub>3</sub>	IS: 3025 (P-21): 2009,RA: 2019	223.00	mg/l
7.	Calcium as Ca	IS: 3025 (P-40): 1991, RA: 2019	67.80	mg/l
8.	Alkalinity as CaCO <sub>3</sub>	IS: 3025 (P-23): 2023	114.00	mg/l
9.	Chloride as Cl	IS: 3025(Part 32):1988, RA:2019	80.50	mg/l
10.	Cyanide as CN	IS: 3025 (P-27)1986	*BLQ(**LOQ-0.02)	mg/l
11.	Magnesium as Mg	IS: 3025 (P-46): 2023	13.08	mg/l
12.	Total Dissolved Solids	IS 3025 (P-16): 2023	489.00	mg/l
13.	Sulphate as SO <sub>4</sub>	IS: 3025 (P-24): Sec.1 : 2022	33.20	mg/l
14.	Fluoride as F	APHA (23rd Edition), 4500FD:2017	0.50	mg/l
15.	Nitrate as NO <sub>3</sub>	IS: 3025 (P-34): 1988,(Chromotropic Method) Sec. 4 RA: 2022	10.05	mg/l
16.	Iron as Fe	APHA (23rd Edition),3113B: 2017	0.19	mg/l
17.	Aluminium as Al	IS 3025 (P-55):2003,RA: 2019	*BLQ(**LOQ-0.03)	mg/l
18.	Boron	APHA (23rd Edition) 4500B: 2017	*BLQ(**LOQ-0.2)	mg/l
19.	Total Chromium as Cr	APHA (23rd Edition),3111 B: 2017	*BLQ(**LOQ-0.02)	mg/l
20.	Phenolic Compounds	APHA 23rd Edition,2017, 5530 C	*BLQ(**LOQ-0.001)	mg/l
21.	Anionic Detergents as	IS 3025 : Part 68 : 2019	*BLQ(**LOQ-0.02)	mg/l

Checked By



RK Yadav  
Lab Incharge

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	MBAS			
22.	Zinc as Zn	APHA (23 <sup>rd</sup> Edition),3111 B: 2017	0.35	mg/l
23.	Copper as Cu	APHA (23 <sup>rd</sup> Edition),3111 B: 2017	*BLQ(**LOQ-0.02)	mg/l
24.	Manganese as Mn	APHA (23 <sup>rd</sup> Edition),3111 B: 2017	*BLQ(**LOQ-0.05)	mg/l
25.	Cadmium as Cd	APHA (23 <sup>rd</sup> Edition),3111 B: 2017	*BLQ(**LOQ-0.002)	mg/l
26.	Lead as Pb	APHA (23 <sup>rd</sup> Edition),3111 B: 2017	*BLQ(**LOQ-0.005)	mg/l
27.	Selenium as Se	APHA (23 <sup>rd</sup> Edition)3114C,2017	*BLQ(**LOQ-0.005)	mg/l
28.	Arsenic as As	APHA (23 <sup>rd</sup> Edition),3114C,2017	*BLQ(**LOQ-0.005)	mg/l
29.	Mercury as Hg	APHA (23 <sup>rd</sup> Edition)3112 B,2017	*BLQ(**LOQ-0.001)	mg/l
30.	Conductivity	IS: 3025 (P-14): 1984,RA: 2019	815	µS/cm
31.	BOD ( 3days at 27°C)	IS:3025(P-44):1993, RA:2019	5.9	mg/l
32.	COD	IS:3025(P-58):2006, RA:2017	28	mg/l
33.	DO	IS:3025(P-38):1989, RA:2019	6.6	mg/l
34.	TSS	IS:3025(P-17):2021	13	mg/l
<b>Microbiological Parameters</b>				
35.	Total Coliform	IS:15185: 2016	Present	Present/Absent per 100 ml
36.	E.Coli	IS:15185: 2016	Present	

Note: - \*BLQ-Below Limit of Quantification, \*\*LOQ- Limit of Quantification

\*\*\*End of the report\*\*\*

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Sample Number :	VTL/SW/06	Report No.:	VTL/W/2405150009
Name & Address of the Project:	M/s Jayaswal Neco Industries Ltd. Metabodeli Iron Ore mine-25 Ha Tehsil Pakhanjur, Dist- Kanker (Chhattishgarh 493111)	Format No.:	7.8 F-01
Sample Description:	Surface Water	Party Reference No.:	NIL
Sample Location:	Medki River (Down Stream)	Report Date:	22/05/2024
Sample Collected by:	VTL Team	Period Of Analysis:	15/05/2024-22/05/2024
Preservation:	Refrigerated	Receipt Date:	15/05/2024
Method of Sampling :	IS-3025	Sampling Date:	12/05/2024
		Sample Type:	Grab
		Sampling Quantity:	2.0 Ltr
		Parameter Required:	As per Work Allocation

S. No.	Parameter	Test Method	Result	Unit
<b>Physical Parameters</b>				
1.	pH (at 25 °C)	IS 3025 (P-11): 2022	7.70	--
2.	Colour	IS 3025(P-4): 2021	*BLQ(**LOQ-5.0)	Hazen
3.	Turbidity	IS 3025 (P-10): 2023	2.2	NTU
4.	Odour	IS 3025 (P-5)1983	Agreeable	--
5.	Taste	IS 3025(P-8) 1984	Agreeable	--
<b>Chemical Parameters (mg/l)</b>				
6.	Total Hardness as CaCO <sub>3</sub>	IS: 3025 (P-21): 2009,RA: 2019	294.00	mg/l
7.	Calcium as Ca	IS: 3025 (P-40): 1991, RA: 2019	84.30	mg/l
8.	Alkalinity as CaCO <sub>3</sub>	IS: 3025 (P-23): 2023	150.00	mg/l
9.	Chloride as Cl	IS: 3025(Part 32):1988, RA:2019	98.60	mg/l
10.	Cyanide as CN	IS: 3025 (P-27)1986	*BLQ(**LOQ-0.02)	mg/l
11.	Magnesium as Mg	IS: 3025 (P-46): 2023	20.33	mg/l
12.	Total Dissolved Solids	IS 3025 (P-16): 2023	530.00	mg/l
13.	Sulphate as SO <sub>4</sub>	IS: 3025 (P-24): Sec.1 : 2022	43.20	mg/l
14.	Fluoride as F	APHA (23rd Edition), 4500FD:2017	0.70	mg/l
15.	Nitrate as NO <sub>3</sub>	IS: 3025 (P-34): 1988,(Chromotropic Method) Sec. 4 RA: 2022	13.78	mg/l
16.	Iron as Fe	APHA (23rd Edition),3113B: 2017	0.26	mg/l
17.	Aluminium as Al	IS 3025 (P-55):2003,RA: 2019	*BLQ(**LOQ-0.03)	mg/l
18.	Boron	APHA (23rd Edition) 4500B: 2017	*BLQ(**LOQ-0.2)	mg/l

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Lab Incharge

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19.	Total Chromium as Cr	APHA (23 <sup>rd</sup> Edition),3111 B: 2017	*BLQ(**LOQ-0.02)	mg/l
20.	Phenolic Compounds	APHA 23 <sup>rd</sup> Edition,2017, 5530 C	*BLQ(**LOQ-0.001)	mg/l
21.	Anionic Detergents as MBAS	IS 3025 : Part 68 : 2019	*BLQ(**LOQ-0.02)	mg/l
22.	Zinc as Zn	APHA (23 <sup>rd</sup> Edition),3111 B: 2017	0.39	mg/l
23.	Copper as Cu	APHA (23 <sup>rd</sup> Edition),3111 B: 2017	*BLQ(**LOQ-0.02)	mg/l
24.	Manganese as Mn	APHA (23 <sup>rd</sup> Edition),3111 B: 2017	*BLQ(**LOQ-0.05)	mg/l
25.	Cadmium as Cd	APHA (23 <sup>rd</sup> Edition),3111 B: 2017	*BLQ(**LOQ-0.002)	mg/l
26.	Lead as Pb	APHA (23 <sup>rd</sup> Edition),3111 B: 2017	*BLQ(**LOQ-0.005)	mg/l
27.	Selenium as Se	APHA (23 <sup>rd</sup> Edition)3114C,2017	*BLQ(**LOQ-0.005)	mg/l
28.	Arsenic as As	APHA (23 <sup>rd</sup> Edition),3114C,2017	*BLQ(**LOQ-0.005)	mg/l
29.	Mercury as Hg	APHA (23 <sup>rd</sup> Edition)3112 B,2017	*BLQ(**LOQ-0.001)	mg/l
30.	Conductivity	IS: 3025 (P-14): 1984,RA: 2019	890	μS/cm
31.	BOD ( 3days at 27°C)	IS:3025(P-44):1993, RA:2019	6.4	mg/l
32.	COD	IS:3025(P-58):2006, RA:2017	40	mg/l
33.	DO	IS:3025(P-38):1989, RA:2019	7.0	mg/l
34.	TSS	IS:3025(P-17):2021	19	mg/l
<b>Microbiological Parameters</b>				
35.	Total Coliform	IS:15185: 2016	Present	Present/Absent per 100 ml
36.	E.Coli	IS:15185: 2016	Present	Present/Absent per 100 ml

Note: - \*BLQ-Below Limit of Quantification, \*\*LOQ- Limit of Quantification  
\*\*\*End of the report\*\*\*

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Sample Number: VTL/UO/02  
Name & Address of the Party: M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111)  
Sample Description: Used Oil  
Sample Collected by: VTL Team  
Preservation: Suitable Preservation  
Parameter Required: As per Work Order  
Analysis Protocol: CPCB Guidelines

Report No.: VTL/UO/2405150002/B  
Format No.: 5.10 F-01  
Party Reference No.: NIL  
Report Date: 22/05/2024  
Period of Analysis: 15-22/05/2024  
Receipt Date: 15/05/2024  
Sampling Date: 13/05/2024  
Sampling Quantity: 2.0 Ltr  
Sampling Type: Grab

Test Result

S. No.	Parameter	Test-Method	Result	Unit	Limits
1.	Polychlorinated biphenyls(PCBs)	As per CPCB Guidelines	0.13	ppm	<2.0
2.	Lead (Pb)	As per CPCB Guidelines	1.34	ppm	100
3.	Arsenic	As per CPCB Guidelines	0.21	ppm	5
4.	Polyaromatic Hydrocarbon (PAH)	As per CPCB Guidelines	1.89	%	6
5.	Chromium +Cadmium+ Nickel	As per CPCB Guidelines	1.12	ppm	500
6.	Sediment	As per CPCB Guidelines	0.09	%	0.25
7.	Total Halogens	As per CPCB Guidelines	278	ppm	4000

Note- \*Below Limit of Quantification \*\* Limit Of Quantification

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## TEST REPORT

**VIBRANT**  
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Sample Number:

Name & Address of Party:

VTL/W/01

M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111)

Report No.:

VTL/W/2405150004

Format No.:

7.8 F 01

Party Reference No.:

NIL

Reporting Date:

22/05/2024

Sample Description:

Ground Water Sample

Sampling Location:

Chargaon Dongripara Village

Sample Collected by

VTL Team

Preservation:

Refrigerated

Sampling & Analysis Protocol:

IS-3025 & APHA

Period of Analysis:

15-22/05/2024

Receipt Date:

15/05/2024

Sampling Date:

12/05/2024

Sampling Type:

Grab

Sample Quantity:

2.0 Ltr.

### TEST RESULTS

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
1.	pH (at 25 °C)	IS 3025 (P-11): 2022	7.86	--	6.5 to 8.5	No Relaxation
2.	Total Dissolved Solids	IS 3025 (P-16): 1984RA: 2017	410	mg/l	500	2000
3.	Alkalinity as CaCO <sub>3</sub>	IS: 3025 (P-23): 1986,RA: 2019	148	mg/l	200	600
4.	Total Hardness as CaCO <sub>3</sub>	IS: 3025 (P-21): 2009,RA: 2019	196	mg/l	200	600
5.	Nitrate as NO <sub>3</sub>	IS: 3025 (P-34): 1988,(Chromotropic Method) Sec. 4 RA: 2022	15.2	mg/l	45	No Relaxation
6.	Chloride as Cl	IS: 3025(Part 32):1988, RA:2019	65.0	mg/l	250	1000
7.	Sulphate as SO <sub>4</sub>	IS: 3025 (P-24): 1986 Sec.1 RA: 2022	22.5	mg/l	200	400
8.	Calcium as Ca	IS: 3025 (P-40): 1991, RA: 2019	58.4	mg/l	75	200
9.	Magnesium as Mg	IS: 3025 (P-46): 1994, RA: 2019	12.22	mg/l	30	100
10.	Fluoride as F	APHA (23rd Edition), 4500FD:2017	0.48	mg/l	1.0	1.5
11.	Boron	APHA (23rd Edition) 4500B: 2017	*BLQ(**LOQ-0.2)	mg/l	0.5	1
12.	Arsenic as As	APHA (23rd Edition),3114C,2017	*BLQ(**LOQ-0.005)	mg/l	0.01	0.05
13.	Mercury as Hg	APHA (23rd Edition)3114C,2017	*BLQ(**LOQ-0.001)	mg/l	0.001	No relaxation
14.	Lead as Pb	APHA 23rd Edition2017,3030D,3111B	*BLQ(**LOQ-0.005)	mg/l	0.01	No relaxation
15.	Cadmium (as Cd)	APHA (23rd Edition)3030D,3113B	*BLQ(**LOQ-0.002)	mg/l	0.003	No relaxation
16.	Total Iron (as Fe)	APHA (23rd Edition),3113B: 2017	0.25	mg/l	1.0	No relaxation

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# TEST REPORT

Sample No.: VTL/W/01  
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Report No.: VTL/W/2405150004

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
17.	Copper as Cu	APHA 23 <sup>rd</sup> Edition 2017, 3111B	*BLQ(**LOQ-0.02)	mg/l	0.05	1.5
18.	Zinc as Zn	APHA 23 <sup>rd</sup> Edition 2017, 3030D, 3113B	0.34	mg/l	5	15
19.	Selenium as Se	APHA (23 <sup>rd</sup> Edition) 3114C, 2017	*BLQ(**LOQ-0.005)	mg/l	0.01	No relaxation
20.	Turbidity	IS 3025 (P-10): 1984, RA: 2017	*BLQ(**LOQ-1.0)	NTU	1	5
21.	Aluminium as Al	IS 3025 (P-55): 2003, RA: 2019	*BLQ(**LOQ-0.03)	mg/l	0.03	0.2
22.	Manganese as Mn	APHA (23 <sup>rd</sup> Edition) 3030D, 3113B: 2017	*BLQ(**LOQ-0.05)	mg/l	0.1	0.3
23.	Residual free Chlorine	IS: 3025 (p-26)	*BLQ(**LOQ-0.2)	mg/l	0.2	1
24.	Cyanide as CN	IS: 3025 (P-27) 1986	*BLQ(**LOQ-0.05)	mg/l	0.05	No relaxation
25.	Colour	IS 3025 (P-4): 2021	*BLQ(**LOQ-5.0)	Hazen	5	15
26.	Odour	IS 3025 (P-5) 1983	Agreeable	--	Agreeable	Agreeable
27.	Taste	IS 3025 (P-8) 1984	Agreeable	--	Agreeable	Agreeable
28.	Anionic Detergents as MBAS	APHA 23 <sup>rd</sup> Edition, 2017, 5540 C	*BLQ(**LOQ-0.01)	mg/l	0.2	1.0
29.	Mineral Oil	IS 3025 (P-39)	*BLQ(**LOQ-0.01)	mg/l	0.5	No relaxation
30.	Phenol	APHA 23 <sup>rd</sup> Edition, 2017, 5530 C	*BLQ(**LOQ-0.001)	mg/l	0.001	0.002
31.	Hexavalent Chromium (as Cr+6)	APHA 23 <sup>rd</sup> Edition, 2017, 3500 Cr-B	*BLQ(**LOQ-0.2)	mg/l	--	--
32.	Pesticides	APHA 23 <sup>rd</sup> Edition, 2017, 8081B/USEPA 8141A	*BLQ(**LOQ-0.0001)	µg/l	0.0005	No relaxation
33.	Polynuclear-aromatic Hydrocarbon (PAH)	APHA 23 <sup>rd</sup> Edition, 2017, 6040	*BLQ(**LOQ-0.0001)	µg/l	0.0001	No relaxation

Note:- \*BLQ- Below Quantification Limit, \*\*LOQ- Limit Of Quantification

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Sample Number:  
Name & Address of Party:

VTL/W/02  
M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111)

Report No.: VTL/W/2405150005  
Format No.: 7.8 F 01  
Party Reference No.: NIL  
Reporting Date: 22/05/2024

Sample Description:  
Sampling Location:  
Sample Collected by  
Preservation:  
Sampling & Analysis Protocol:

Drinking Water Sample  
Chargaon Dongripura Village  
VTL Team  
Refrigerated  
IS-3025 & APHA

Period of Analysis: 15-22/05/2024  
Receipt Date: 15/05/2024  
Sampling Date: 12/05/2024  
Sampling Type: Grab  
Sample Quantity: 2.0 Ltr.

TEST RESULTS

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
1.	pH (at 25 °C)	IS 3025 (P-11): 2022	7.77	--	6.5 to 8.5	No Relaxation
2.	Total Dissolved Solids	IS 3025 (P-16): 1984RA: 2017	395	mg/l	500	2000
3.	Alkalinity as CaCO <sub>3</sub>	IS: 3025 (P-23): 1986,RA: 2019	132	mg/l	200	600
4.	Total Hardness as CaCO <sub>3</sub>	IS: 3025 (P-21): 2009,RA: 2019	172	mg/l	200	600
5.	Nitrate as NO <sub>3</sub>	IS: 3025 (P-34): 1988,(Chromotropic Method) Sec. 4 RA: 2022	14.5	mg/l	45	No Relaxation
6.	Chloride as Cl	IS: 3025(Part 32):1988, RA:2019	55.0	mg/l	250	1000
7.	Sulphate as SO <sub>4</sub>	IS: 3025 (P-24): 1986 Sec.1 RA: 2022	12.4	mg/l	200	400
8.	Calcium as Ca	IS: 3025 (P-40): 1991, RA: 2019	46.5	mg/l	75	200
9.	Magnesium as Mg	IS: 3025 (P-46): 1994, RA: 2019	13.60	mg/l	30	100
10.	Fluoride as F	APHA (23rd Edition), 4500FD:2017	0.46	mg/l	1.0	1.5
11.	Boron	APHA (23rd Edition) 4500B: 2017	*BLQ(**LOQ-0.2)	mg/l	0.5	1
12.	Arsenic as As	APHA (23rd Edition),3114C,2017	*BLQ(**LOQ-0.005)	mg/l	0.01	0.05
13.	Mercury as Hg	APHA (23rd Edition)3114C,2017	*BLQ(**LOQ-0.001)	mg/l	0.001	No relaxation
14.	Lead as Pb	APHA 23 <sup>rd</sup> Edition2017,3030D,3111B	*BLQ(**LOQ-0.005)	mg/l	0.01	No relaxation
15.	Cadmium (as Cd)	APHA (23 <sup>rd</sup> Edition)3030D,3113B	*BLQ(**LOQ-0.002)	mg/l	0.003	No relaxation

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# TEST REPORT

Sample No.: VTL/W/02  
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Report No.: VTL/W/2405150005

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
16.	Copper as Cu	APHA 23 <sup>rd</sup> Edition 2017, 3111B	*BLQ(**LOQ-0.02)	mg/l	0.05	1.5
17.	Total Iron (as Fe)	APHA 23 <sup>rd</sup> Edition 2017, 3030D, 3113B	0.18	mg/l	1.0	No relaxation
18.	Zinc as Zn	APHA (23 <sup>rd</sup> Edition) 3114C, 2017	0.26	mg/l	5	15
19.	Selenium as Se	IS 3025 (P-10): 1984, RA: 2017	*BLQ(**LOQ-0.005)	mg/l	0.01	No relaxation
20.	Turbidity	IS 3025 (P-55): 2003, RA: 2019	*BLQ(**LOQ-1.0)	NTU	1	5
21.	Aluminium as Al	APHA (23 <sup>rd</sup> Edition) 3030D, 3113B: 2017	*BLQ(**LOQ-0.03)	mg/l	0.03	0.2
22.	Manganese as Mn	IS: 3025 (p-26)	*BLQ(**LOQ-0.05)	mg/l	0.1	0.3
23.	Residual free Chlorine	IS: 3025 (P-27) 1986	*BLQ(**LOQ-0.2)	mg/l	0.2	1
24.	Cyanide as CN	IS 3025 (P-4): 2021	*BLQ(**LOQ-0.05)	mg/l	0.05	No relaxation
25.	Colour	IS 3025 (P-5) 1983	*BLQ(**LOQ-5.0)	Hazen	5	15
26.	Odour	IS 3025 (P-8) 1984	Agreeable	--	Agreeable	Agreeable
27.	Taste	APHA 23 <sup>rd</sup> Edition, 2017, 5540 C	Agreeable	--	Agreeable	Agreeable
28.	Anionic Detergents as MBAS	IS 3025 (P-39)	*BLQ(**LOQ-0.01)	mg/l	0.2	1.0
29.	Mineral Oil	APHA 23 <sup>rd</sup> Edition, 2017, 5530 C	*BLQ(**LOQ-0.01)	mg/l	0.5	No relaxation
30.	Phenol	APHA 23 <sup>rd</sup> Edition, 2017, 1311 B	*BLQ(**LOQ-0.001)	mg/l	0.001	0.002
31.	Hexavalent Chromium (as Cr+6)	APHA 23 <sup>rd</sup> Edition, 2017, 3500 Cr-B	*BLQ(**LOQ-0.2)	mg/l	--	--
32.	Pesticides	APHA 23 <sup>rd</sup> Edition, 2017, 8081B/USEPA 8141A	*BLQ(**LOQ-0.0001)	µg/l	0.0005	No relaxation
33.	Polynuclear-aromatic Hydrocarbon (PAH)	APHA 23 <sup>rd</sup> Edition 2017, 3111B	*BLQ(**LOQ-0.0001)	µg/l	0.0001	No relaxation

Note:- \*BLQ- Below Quantification Limit, \*\*LOQ- Limit Of Quantification

Checked By



Lab Incharge  
RK Yadav  
Authorized Signatory

Approved & Certified EPA 1986 Recognised, ISO:9001 and OHSAS:45001 Certified

**Vibrant Techno Lab Pvt. Ltd.**

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9929108691, 9810205356, 8005707098, 9549956601

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bd@vibranttechnolab.com

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Sample Number:  
Name & Address of Party:

VTL/W/03  
M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111)

Report No.: VTL/W/2405150006  
Format No.: 7.8 F 01  
Party Reference No.: NIL  
Reporting Date: 22/05/2024

Sample Description:  
Sampling Location:  
Sample Collected by  
Preservation:  
Sampling & Analysis Protocol:

Ground Water Sample  
Chargaon Village  
VTL Team  
Refrigerated  
IS-3025 & APHA

Period of Analysis: 15-22/05/2024  
Receipt Date: 15/05/2024  
Sampling Date: 12/05/2024  
Sampling Type: Grab  
Sample Quantity: 2.0 Ltr.

TEST RESULTS

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
1.	pH (at 25 °C)	IS 3025 (P-11): 2022	7.66	--	6.5 to 8.5	No Relaxation
2.	Total Dissolved Solids	IS 3025 (P-16): 1984RA: 2017	435	mg/l	500	2000
3.	Alkalinity as CaCO <sub>3</sub>	IS: 3025 (P-23): 1986,RA: 2019	158	mg/l	200	600
4.	Total Hardness as CaCO <sub>3</sub>	IS: 3025 (P-21): 2009,RA: 2019	210	mg/l	200	600
5.	Nitrate as NO <sub>3</sub>	IS: 3025 (P-34): 1988,(Chromotropic Method) Sec. 4 RA: 2022	19.8	mg/l	45	No Relaxation
6.	Chloride as Cl	IS: 3025(Part 32):1988, RA:2019	69.0	mg/l	250	1000
7.	Sulphate as SO <sub>4</sub>	IS: 3025 (P-24): 1986 Sec.1 RA: 2022	17.2	mg/l	200	400
8.	Calcium as Ca	IS: 3025 (P-40): 1991, RA: 2019	62.4	mg/l	75	200
9.	Magnesium as Mg	IS: 3025 (P-46): 1994, RA: 2019	13.20	mg/l	30	100
10.	Fluoride as F	APHA (23rd Edition), 4500FD:2017	0.54	mg/l	1.0	1.5
11.	Boron	APHA (23rd Edition) 4500B: 2017	*BLQ(**LOQ-0.2)	mg/l	0.5	1
12.	Arsenic as As	APHA (23rd Edition),3114C,2017	*BLQ(**LOQ-0.005)	mg/l	0.01	0.05
13.	Mercury as Hg	APHA (23rd Edition)3114C,2017	*BLQ(**LOQ-0.001)	mg/l	0.001	No relaxation
14.	Lead as Pb	APHA 23rd Edition2017,3030D,3111B	*BLQ(**LOQ-0.005)	mg/l	0.01	No relaxation
15.	Cadmium (as Cd)	APHA (23rd Edition)3030D,3113B	*BLQ(**LOQ-0.002)	mg/l	0.003	No relaxation

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# TEST REPORT

**VIBRANT**  
"Experience the unimaginable"

Sample No.: VTL/W/02

Report No.: VTL/W/2406150006

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
16.	Copper as Cu	APHA 23 <sup>rd</sup> Edition 2017, 3111B	*BLQ(**LOQ-0.02)	mg/l	0.05	1.5
17.	Total Iron (as Fe)	APHA 23 <sup>rd</sup> Edition 2017, 3030D, 3113B	0.28	mg/l	1.0	No relaxation
18.	Zinc as Zn	APHA (23 <sup>rd</sup> Edition) 3114C, 2017	0.39	mg/l	5	15
19.	Selenium as Se	IS 3025 (P-10): 1984, RA: 2017	*BLQ(**LOQ-0.005)	mg/l	0.01	No relaxation
20.	Turbidity	IS 3025 (P-55): 2003, RA: 2019	*BLQ(**LOQ-1.0)	NTU	1	5
21.	Aluminium as Al	APHA (23 <sup>rd</sup> Edition) 3030D, 3113B: 2017	*BLQ(**LOQ-0.03)	mg/l	0.03	0.2
22.	Manganese as Mn	IS: 3025 (p-26)	*BLQ(**LOQ-0.05)	mg/l	0.1	0.3
23.	Residual free Chlorine	IS: 3025 (P-27) 1986	*BLQ(**LOQ-0.2)	mg/l	0.2	1
24.	Cyanide as CN	IS 3025 (P-4): 2021	*BLQ(**LOQ-0.05)	mg/l	0.05	No relaxation
25.	Colour	IS 3025 (P-5) 1983	*BLQ(**LOQ-5.0)	Hazen	5	15
26.	Odour	IS 3025 (P-8) 1984	Agreeable	--	Agreeable	Agreeable
27.	Taste	APHA 23 <sup>rd</sup> Edition, 2017, 5540 C	Agreeable	--	Agreeable	Agreeable
28.	Anionic Detergents as MBAS	IS 3025 (P-39)	*BLQ(**LOQ-0.01)	mg/l	0.2	1.0
29.	Mineral Oil	APHA 23 <sup>rd</sup> Edition, 2017, 5530 C	*BLQ(**LOQ-0.01)	mg/l	0.5	No relaxation
30.	Phenol	APHA 23 <sup>rd</sup> Edition, 2017, 1311 B	*BLQ(**LOQ-0.001)	mg/l	0.001	0.002
31.	Hexavalent Chromium (as Cr+6)	APHA 23 <sup>rd</sup> Edition, 2017, 3500 Cr-B	*BLQ(**LOQ-0.2)	mg/l	--	--
32.	Pesticides	APHA 23 <sup>rd</sup> Edition, 2017, 8081B/USEPA 8141A	*BLQ(**LOQ-0.0001)	µg/l	0.0005	No relaxation
33.	Polynuclear-aromatic Hydrocarbon (PAH)	APHA 23 <sup>rd</sup> Edition 2017, 3111B	*BLQ(**LOQ-0.0001)	µg/l	0.0001	No relaxation

Note:- \*BLQ- Below Quantification Limit, \*\*LOQ- Limit Of Quantification

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## TEST REPORT

**VIBRANT**  
"Experience the Unimogtable"

Sample Number:  
Name & Address of Party:

VTL/W/03  
M/s Jayaswal Neco Industries Ltd.  
Metabodeli Iron Ore mine-25 Ha  
Tehsil Pakhanjur, Dist- Kanker  
(Chhattishgarh 493111)

Report No.: VTL/W/2405150007  
Format No.: 7.8 F 01  
Party Reference No.: NIL  
Reporting Date: 22/05/2024

Sample Description:  
Sampling Location:  
Sample Collected by  
Preservation:  
Sampling & Analysis Protocol:

Drinking Water Sample  
Chargaon Village  
VTL Team  
Refrigerated  
IS-3025 & APHA

Period of Analysis: 15-22/05/2024  
Receipt Date: 15/05/2024  
Sampling Date: 12/05/2024  
Sampling Type: Grab  
Sample Quantity: 2.0 Ltr.

### TEST RESULTS

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500-2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
1.	pH (at 25 °C)	IS 3025 (P-11): 2022	7.50	--	6.5 to 8.5	No Relaxation
2.	Total Dissolved Solids	IS 3025 (P-16): 1984RA: 2017	340	mg/l	500	2000
3.	Alkalinity as CaCO <sub>3</sub>	IS: 3025 (P-23): 1986,RA: 2019	110	mg/l	200	600
4.	Total Hardness as CaCO <sub>3</sub>	IS: 3025 (P-21): 2009,RA: 2019	124	mg/l	200	600
5.	Nitrate as NO <sub>3</sub>	IS: 3025 (P-34): 1988,(Chromotropic Method) Sec. 4 RA: 2022	14.8	mg/l	45	No Relaxation
6.	Chloride as Cl	IS: 3025(Part 32):1988, RA:2019	34.2	mg/l	250	1000
7.	Sulphate as SO <sub>4</sub>	IS: 3025 (P-24): 1986 Sec.1 RA: 2022	12.7	mg/l	200	400
8.	Calcium as Ca	IS: 3025 (P-40): 1991, RA: 2019	34.8	mg/l	75	200
9.	Magnesium as Mg	IS: 3025 (P-46): 1994, RA: 2019	9.03	mg/l	30	100
10.	Fluoride as F	APHA (23rd Edition), 4500FD:2017	0.38	mg/l	1.0	1.5
11.	Boron	APHA (23rd Edition) 4500B: 2017	*BLQ(**LOQ-0.2)	mg/l	0.5	1
12.	Arsenic as As	APHA (23rd Edition),3114C,2017	*BLQ(**LOQ-0.005)	mg/l	0.01	0.05
13.	Mercury as Hg	APHA (23rd Edition)3114C,2017	*BLQ(**LOQ-0.001)	mg/l	0.001	No relaxation
14.	Lead as Pb	APHA 23rd Edition2017,3030D,3111B	*BLQ(**LOQ-0.005)	mg/l	0.01	No relaxation
15.	Cadmium (as Cd)	APHA (23rd Edition)3030D,3113B	*BLQ(**LOQ-0.002)	mg/l	0.003	No relaxation

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# TEST REPORT

Sample No.: VTL/W/02  
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Report No.: VTL/W/2406150007

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
16.	Copper as Cu	APHA 23 <sup>rd</sup> Edition 2017, 3111B	*BLQ(**LOQ-0.02)	mg/l	0.05	1.5
17.	Total Iron (as Fe)	APHA 23 <sup>rd</sup> Edition 2017, 3030D, 3113B	0.22	mg/l	1.0	No relaxation
18.	Zinc as Zn	APHA (23 <sup>rd</sup> Edition) 3114C, 2017	0.25	mg/l	5	15
19.	Selenium as Se	IS 3025 (P-10): 1984, RA: 2017	*BLQ(**LOQ-0.005)	mg/l	0.01	No relaxation
20.	Turbidity	IS 3025 (P-55): 2003, RA: 2019	*BLQ(**LOQ-1.0)	NTU	1	5
21.	Aluminium as Al	APHA (23 <sup>rd</sup> Edition) 3030D, 3113B: 2017	*BLQ(**LOQ-0.03)	mg/l	0.03	0.2
22.	Manganese as Mn	IS: 3025 (p-26)	*BLQ(**LOQ-0.05)	mg/l	0.1	0.3
23.	Residual free Chlorine	IS: 3025 (P-27) 1986	*BLQ(**LOQ-0.2)	mg/l	0.2	1
24.	Cyanide as CN	IS 3025 (P-4): 2021	*BLQ(**LOQ-0.05)	mg/l	0.05	No relaxation
25.	Colour	IS 3025 (P-5) 1983	*BLQ(**LOQ-5.0)	Hazen	5	15
26.	Odour	IS 3025 (P-8) 1984	Agreeable	--	Agreeable	Agreeable
27.	Taste	APHA 23 <sup>rd</sup> Edition, 2017, 5540 C	Agreeable	--	Agreeable	Agreeable
28.	Anionic Detergents as MBAS	IS 3025 (P-39)	*BLQ(**LOQ-0.01)	mg/l	0.2	1.0
29.	Mineral Oil	APHA 23 <sup>rd</sup> Edition, 2017, 5530 C	*BLQ(**LOQ-0.01)	mg/l	0.5	No relaxation
30.	Phenol	APHA 23 <sup>rd</sup> Edition, 2017, 1311 B	*BLQ(**LOQ-0.001)	mg/l	0.001	0.002
31.	Hexavalent Chromium (as Cr+6)	APHA 23 <sup>rd</sup> Edition, 2017, 3500 Cr-B	*BLQ(**LOQ-0.2)	mg/l	--	--
32.	Pesticides	APHA 23 <sup>rd</sup> Edition, 2017, 8081B/USEPA 8141A	*BLQ(**LOQ-0.0001)	µg/l	0.0005	No relaxation
33.	Polynuclear-aromatic Hydrocarbon (PAH)	APHA 23 <sup>rd</sup> Edition 2017, 3111B	*BLQ(**LOQ-0.0001)	µg/l	0.0001	No relaxation

Note:- \*BLQ- Below Quantification Limit, \*\*LOQ- Limit Of Quantification

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