Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

Surface & Sub-Surface Investigation Infrastructure Enginering Water Resource Management

Environmental & Social Study

- ◆Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration Waste Management Services

Environment Lab Food Lab Material Lab Soil Lab Mineral Lah

Laboratory Services

Date: 05.12.2023

## **TEST REPORT**

Test Report No: ENVLAB/23-24/TR-12053

Name of the		Ferro Alloys Corporation Ltd.,	Date of Sampling	:	17.11.2023
Industry	:	Charge Chrome Plant, D.P. Nagar, Randia, Bhadrak	Sample Received on	:	18.11.2023
Sample Description	:	Ambient Air	Sampling Procedure	:	VCSPL/F-SOP/001, Dt. 04.09.2021
			Sampling Location	:	AUTO GARAGE
Environment Condition during Sampling	:	Atmospheric Temp.: 29 – 33°C Barometric Pressure : 755 mm of Hg	Instrument used for Sampling	:	RDS (APM 460 BL), FPS (APM 550). VOC Sampler
Sample Condition	;	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	:	Ashutosh Mohanty
Test Started on	:	18.11.2023	Test Completed on	:	24.11.2023

#### 1. Chemical Testing

## A. Atmospheric Pollution

Sl. No	Parameters	Unit	Test Method	National Ambient Air Quality Standard, CPCB, 18 <sup>th</sup> Nov. 2009	Analysis Result
1	Particulate matter as PM <sub>10</sub>	(μg/m <sup>3</sup> )	IS 5182 : Part 23: 2006, RA 2017	100	52.2
2	Particulate matter as PM <sub>2.5</sub>	(μg/m³)	IS 5182 (Part 24):2019	60	26.7
3	Sulphur Oxides as SO <sub>2</sub>	(μg/m³)	IS 5182 (Part 2): 2001, RA 2017	80	10.4
4	Nitrogen Oxides as NOx	$(\mu g/m^3)$	IS 5182 (Part 6): 2006, RA 2017	80	18.2
5	Carbon monoxide as CO(1 Hr)	(mg/m <sup>3</sup> )	IS 5182(Part 10):2019	4	0.071
6	Ozone as O <sub>3</sub> (1 Hr)	(µg/m³)	IS 5182 (Part-09):2019	180	5.4
7	Ammonia as NH <sub>3</sub>	(µg/m³)	IS 5182 (Part 25): 2018	400	<20
8	Lead as Pb	(μg/m <sup>3</sup> )	IS 5182(Part -22):2019	1	<0.006
9	Nickel as Ni	(ng/m <sup>3</sup> )	IS 5182(Part -22):2019	20	<3.1
10	Arsenic as As	(ng/m <sup>3</sup> )	IS 5182(Part -22):2019	6	<0.16
11	Benzene as C <sub>6</sub> H <sub>6</sub>	(μg/m³)	IS 5182 (Part 11):2006	5	<4
12	Benzo-a-pyrine as BaP	(ng/m <sup>3</sup> )	IS 5182 (Part 12):2017	1	<0.5

BDL Values: SO<sub>2</sub>< 4 µg/m<sup>3</sup>, NO<sub>3</sub>< 9 µg/m<sup>3</sup>, O<sub>3</sub><5 µg/m<sup>3</sup>, NH<sub>3</sub><20 µg/m<sup>3</sup>, Ni<3.1 ng/m<sup>3</sup>, As<0.16 ng/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub><4.0 µg/m<sup>3</sup>, BaP<0.5  $ng/m^3$ ,  $Pb<0.006 \mu g/m^3$ ,  $CO-<0.1 mg/m^3$ 

Remarks: The above Sample test resultsare within the prescribed standard for the above mentioned parameters.

## TERMS AND CONDITION:-

- The Test result is relevant only to the item tested.
- This report shall not be reproduced in full or part without written approval of Visiontek consultancy services.(P) Ltd
- The laboratory is not responsible for the authenticity of photocopied test report.
- The test item will not be retained for more than 15 days from the date of issue of test report except in case as required by applicable regulations.

The laboratory's responsibility under this report is limited to; proven willful negligence.



Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

· Agricultural Development

- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Information Technology
- · Mine Planning & Design Mineral Sub-Soil Exploration

Date: 05.12.2023



- Infrastructure Faginering Water Resource Management
- Environmental & Social Study
- Renewable Energy
- · Public Health Engineering
- Waste Management Services

# TEST REPORT

Test Report No: ENVLAB/23-24/TR-12054

Name of the	Ferro Alloys Corporation Ltd.,		Date of Sampling	:	17.11.2023	
Industry		Charge Chrome Plant, D.P. Nagar, Randia, Bhadrak	Sample Received on	:	18.11.2023	
Sample Description	:	Ambient Air	Sampling Procedure	:	VCSPL/F-SOP/001, Dt. 04.09.2021	
			Sampling Location	:	MRP	
Environment Condition during Sampling	:	Atmospheric Temp.: 29 – 33°C Barometric Pressure : 755 mm of Hg	Instrument used for Sampling	:	RDS (APM 460 BL). FPS (APM 550), VOC Sampler	
Sample Condition	;	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	:	Ashutosh Mohanty	
Test Started on	:	18.11.2023	Test Completed on	:	24.11.2023	

## 2. Chemical Testing

**B.** Atmospheric Pollution

Sl. No	Parameters	Unit	Test Method	National Ambient Air Quality Standard, CPCB, 18 <sup>th</sup> Nov. 2009	Analysis Result
1	Particulate matter as PM <sub>10</sub>	(μg/m <sup>3</sup> )	IS 5182 : Part 23: 2006. RA 2017	100	60.8
2	Particulate matter as PM <sub>2.5</sub>	$(\mu g/m^3)$	IS 5182 (Part 24):2019	60	30.9
3	Sulphur Oxides as SO <sub>2</sub>	(μg/m <sup>3</sup> )	IS 5182 (Part 2): 2001, RA 2017	80	12.2
4	Nitrogen Oxides as NOx	(μg/m <sup>3</sup> )	IS 5182 (Part 6): 2006, RA 2017	80	21.3
5	Carbon monoxide as CO(1 Hr)	(mg/m <sup>3</sup> )	IS 5182(Part 10):2019	2	0.065
6	Ozone as O <sub>3</sub> (1 Hr)	(μg/m <sup>3</sup> )	IS 5182 (Part-09):2019	180	6.1
7	Ammonia as NH <sub>3</sub>	(μg/m <sup>3</sup> )	IS 5182 (Part 25): 2018	400	<20
8	Lead as Pb	(μg/m <sup>3</sup> )	IS 5182(Part -22):2019	1	< 0.006
9	Nickel as Ni	(ng/m³)	IS 5182(Part -22):2019	20	<3.1
10	Arsenic as As	(ng/m³)	IS 5182(Part -22):2019	6	<0.16
11	Benzene as C <sub>6</sub> H <sub>6</sub>	(μg/m³)	IS 5182 (Part 11):2006	5	<4
12	Benzo-a-pyrine as BaP	(ng/m³)	IS 5182 (Part 12):2017	1	<0.5

**BDL** Values:  $SO_2 < 4 \mu g/m^3$ ,  $NO_X < 9 \mu g/m^5$ ,  $O_3 < 5 \mu g/m^3$ ,  $NH_3 < 20 \mu g/m^3$ ,  $Ni < 3.1 ng/m^3$ ,  $As < 0.16 ng/m^3$ ,  $C_6H_6 < 4.0 \mu g/m^3$ . BaP<0.5 ng/m<sup>3</sup>, Pb<0.006 μg/m<sup>3</sup>, CO-<0.1 mg/m<sup>3</sup>

Remarks: The above Sample test resultsare within the prescribed standard for the above mentioned parameters.

#### TERMS AND CONDITION:-

- The Test result is relevant only to the item tested.
- This report shall not be reproduced in full or part without written approval of Visiontek consultancy services. (P) Ltd
- 3. The laboratory is not responsible for the authenticity of photocopied test report.
- The test item will not be retained for more than 15 days from the date of issue of test report except in case as required by applicable regulations.
- The laboratory's responsibility under this report is limited to: proven willful negligence.





Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

Surface & Sub-Surface Investigation • Infrastructure Enginering Water Resource Management

● Environmental & Social Study

- ◆Quality Control & Project Management
- Renewable Energy
- Agricultural Development Information Technology Public Health Engineering
- Mine Planning & Design Mineral Sub-Soil Exploration
  - Waste Management Services

Laboratory Services Environment Lab Food Lab Material Lab Soil Lab Mineral Lab Microbiology Lab

Date: 05.12.2023

## TEST REPORT

Test Report No: ENVLAB/23-24/TR-12055

Name of the	Ferro Alloys Corporation Ltd.,		Date of Sampling	:	17.11.2023
Industry	:	Charge Chrome Plant, D.P. Nagar, Randia, Bhadrak	Sample Received on	:	18.11.2023
Sample Description		Ambient Air	Sampling Procedure	:	VCSPL/F-SOP/001, Dt. 04.09.2021
			Sampling Location	:	MRSS
Environment Condition during Sampling	:	Atmospheric Temp.: 29 – 33°C Barometric Pressure : 755 mm of Hg	Instrument used for Sampling	:	RDS (APM 460 BL), FPS (APM 550), VOC Sampler
Sample Condition	;	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	:	Ashutosh Mohanty
Test Started on	:	18.11.2023	Test Completed on	:	24.11.2023

#### 3. Chemical Testing

C. Atmospheric Pollution

	Atmospheric Tonution				
Sl. No	Parameters	Unit	Test Method	National Ambient Air Quality Standard, CPCB, 18 <sup>th</sup> Nov. 2009	Analysis Result
1	Particulate matter as PM <sub>10</sub>	(μg/m <sup>3</sup> )	IS 5182 : Part 23: 2006, RA 2017	100	65.9
2	Particulate matter as PM <sub>2.5</sub>	(μg/m³)	IS 5182 (Part 24):2019	60	33.1
3	Sulphur Oxides as SO <sub>2</sub>	(μg/m <sup>3</sup> )	IS 5182 (Part 2): 2001, RA 2017	80	15.6
4	Nitrogen Oxides as NOx	$(\mu g/m^3)$	IS 5182 (Part 6): 2006, RA 2017	80	22.3
5	Carbon monoxide as CO(1 Hr)	(mg/m³)	IS 5182(Part 10):2019	2	0.071
6	Ozone as O <sub>3</sub> (1 Hr)	$(\mu g/m^3)$	IS 5182 (Part-09):2019	180	6.5
7	Ammonia as NH <sub>3</sub>	(μg/m <sup>3</sup> )	IS 5182 (Part 25): 2018	400	<20
8	Lead as Pb	$(\mu g/m^3)$	IS 5182(Part -22):2019	1	< 0.006
9	Nickel as Ni	(ng/m³)	IS 5182(Part -22):2019	20	<3.1
10	Arsenic as As	(ng/m³)	IS 5182(Part -22):2019	6	< 0.16
11	Benzene as C <sub>6</sub> H <sub>6</sub>	(μg/m <sup>3</sup> )	IS 5182 (Part 11):2006	5	<4
12	Benzo-a-pyrine as BaP	(ng/m <sup>3</sup> )	IS 5182 (Part 12):2017	1	<0.5

**BDL Values:**  $SO_2 < 4 \mu g/m^3$ .  $NO_X < 9 \mu g/m^3$ ,  $O_3 < 5 \mu g/m^3$ .  $NH_3 < 20 \mu g/m^3$ .  $Ni < 3.1 \text{ ng/m}^3$ .  $As < 0.16 \text{ ng/m}^3$ .  $C_6H_6 < 4.0 \mu g/m^3$ .  $BaP < 0.5 \mu g/m^3$ .  $C_6H_6 < 4.0 \mu g/m^3$ .  $C_6H_6 < 4$ ng/m<sup>3</sup>, Pb<0.006 μg/m<sup>3</sup>, CO-<0.1 mg/m<sup>3</sup>

Remarks: The above Sample test resultsare within the prescribed standard for the above mentioned parameters.

#### TERMS AND CONDITION:-

- The Test result is relevant only to the item tested.
- This report shall not be reproduced in full or part without written approval of Visiontek consultancy services.(P) Ltd
- 3. The laboratory is not responsible for the authenticity of photocopied test report.
- The test item will not be retained for more than 15 days from the date of issue of test report except in case as required by applicable regulations.
- The laboratory's responsibility under this report is limited to; proven willful negligence.





Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

● Surface & Sub-Surface Investigation

● Quality Control & Project Management

• Renewable Energy

• Agricultural Development

• Information Technology Mineral Sub-Soil Exploration ● Public Health Engineering

Waste Management Services

• Mine Planning & Design

Laboratory Services Environment Lab Food Lab Material Lab Soil Lab Mineral Lab Microbiology Lab

Date: 05.12.2023

## TEST REPORT

Test Report No: ENVLAB/23-24/TR-12056

• Infrastructure Enginering

• Water Resource Management

● Environmental & Social Study

Name of the	Ferro Alloys Corporation Ltd.,		Date of Sampling	:	17.11.2023
Industry	:	Charge Chrome Plant, D.P. Nagar, Randia, Bhadrak	Sample Received on	:	18.11.2023
Sample Description	:	Ambient Air	Sampling Procedure	:	VCSPL/F-SOP/001, Dt. 04.09.2021
			Sampling Location	:	R & C LABORATORY
Environment Condition during Sampling	:	Atmospheric Temp.: 29 – 33°C Barometric Pressure : 755 mm of Hg	Instrument used for Sampling	:	RDS (APM 460 BL), FPS (APM 550). VOC Sampler
Sample Condition	;	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	:	Ashutosh Mohanty
Test Started on	:	18.11.2023	Test Completed on	:	24.11.2023

#### 4. Chemical Testing

D. Atmospheric Pollution

SI. No	Parameters	Unit	Test Method	National Ambient Air Quality Standard, CPCB, 18 <sup>th</sup> Nov. 2009	Analysis Result
1	Particulate matter as PM <sub>10</sub>	(μg/m³)	IS 5182 : Part 23: 2006, RA 2017	100	55.8
2	Particulate matter as PM <sub>2.5</sub>	(μg/m <sup>3</sup> )	IS 5182 (Part 24):2019	60	28.3
3	Sulphur Oxides as SO <sub>2</sub>	(μg/m <sup>3</sup> )	IS 5182 (Part 2): 2001. RA 2017	80	19.6
4	Nitrogen Oxides as NOx	(μg/m <sup>3</sup> )	IS 5182 (Part 6): 2006, RA 2017	80	23.1
5	Carbon monoxide as CO(1 Hr)	(mg/m <sup>3</sup> )	IS 5182(Part 10):2019	2	0.062
6	Ozone as O <sub>3</sub> (1 Hr)	$(\mu g/m^3)$	IS 5182 (Part-09):2019	180	6.8
7	Ammonia as NH <sub>3</sub>	(μg/m <sup>3</sup> )	IS 5182 (Part 25): 2018	400	<20
8	Lead as Pb	(μg/m <sup>3</sup> )	IS 5182(Part -22):2019	1	< 0.006
9	Nickel as Ni	(ng/m³)	IS 5182(Part -22):2019	20	<3.1
10	Arsenic as As	(ng/m³)	IS 5182(Part -22):2019	6	<0.16
11	Benzene as C <sub>6</sub> H <sub>6</sub>	(μg/m³)	IS 5182 (Part 11):2006	5	<4
12	Benzo-a-pyrine as BaP	(ng/m³)	IS 5182 (Part 12):2017	1	<0.5

ng/m<sup>3</sup>, Pb<0.006 μg/m<sup>3</sup>, CO-<0.1 mg/m<sup>3</sup> Remarks: The above Sample test results are within the prescribed standard for the above mentioned parameters.

#### TERMS AND CONDITION:-

The Test result is relevant only to the item tested.

This report shall not be reproduced in full or part without written approval of Visiontek consultancy services.(P) Ltd

The laboratory is not responsible for the authenticity of photocopied test report.

The test item will not be retained for more than 15 days from the date of issue of test report except in case as required by applicable regulations.

The laboratory's responsibility under this report is limited to; proven willful negligence

\*\*\* End Report\*\*\*

**BDL Values**: SO<sub>2</sub>< 4 µg/m<sup>3</sup>. NO<sub>X</sub>< 9 µg/m<sup>3</sup>. O<sub>3</sub><5 µg/m<sup>3</sup>. NH<sub>3</sub><20 µg/m<sup>3</sup>. Ni<3.1 ng/m<sup>3</sup>. As <0.16 ng/m<sup>3</sup>. C<sub>6</sub>H<sub>6</sub><4.0 µg/m<sup>3</sup>. BaP<0.5



Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Infrastructure Enginering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration Waste Management Services

Date: 05.12.2023

Environment Lab Food Lab Material Lab Soil Lab Mineral Lab Microbiology Lab

# TEST REPORT

Test Report No: ENVLAB/23-24/TR-12057

Name of the		Ferro Alloys Corporation Ltd., Sampl	Date of Sampling	:	17.11.2023
Industry	: Charge Chron		rge Chrome Plant, D.P. Nagar, dia, Bhadrak Sample Received on		18.11.2023
Sample Description	:	Source Emission	Sampling Procedure	:	VCSPL/SOP/003. Dt. 01.08.2019
			Sampling Location	:	ST-1: Dedusting System
Sample Condition	;	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	:	Ashutosh Mohanty
Test Started on	:	18.11.2023	Test Completed on	:	22.11.2023

1. Chemical Testing

A. Atmospheric Pollution

				Analysis Results
SI. No.	Parameter	Unit	Standard as per CTO	ST-1
1	Temperature	<sup>0</sup> К		373
2	Velocity	m/sec		9.2
3	Particulate Matter as PM	mg/Nm <sup>3</sup>		51.2
4	Sulphur Dioxide as SO <sub>2</sub>	mg/Nm³		31.6
5	Oxides of Nitrogen as NO <sub>X</sub>	mg/Nm <sup>3</sup>		38.1
6	Carbon Monoxide as CO	mg/m³		0.011
7	Carbon dioxide as (CO <sub>2</sub> )	%		6.8
8	Mercury (as Hg)	mg/Nm <sup>3</sup>		0.65
Remarks:	The above Sample test results are with	in the prescribed stand	ard for the above mentioned paramete	ers.

## TERMS AND CONDITION:-

- The Test result is relevant only to the item tested.
- This report shall not be reproduced in full or part without written approval of Visiontek consultancy services. (P) Ltd
- The laboratory is not responsible for the authenticity of photocopied test report.
- The test item will not be retained for more than 15 days from the date of issue of test report except in case as required by applicable regulations.
- The laboratory's responsibility under this report is limited to; proven willful negligence.





Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Infrastructure Enginering • Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
  - Quality Control & Project Management
  - Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Environment Lab Food Lab Material Lab Soil Lab Mineral I ab & Vicrobiology Lab

Date: 05.12.2023

# TEST REPORT

Test Report No: ENVLAB/23-24/TR-12058

Name of the		Ferro Alloys Corporation Ltd.,	Date of Sampling	:	17.11.2023
Industry	:	Charge Chrome Plant, D.P. Nagar, Randia, Bhadrak	Sample Received on	:	18.11.2023
Sample Description	:	Source Emission	Sampling Procedure	:	VCSPL/SOP/003, Dt. 01.08.2019
			Sampling Location	:	ST-2: DRYER STACK
Sample Condition	;	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	:	Ashutosh Mohanty
Test Started on	:	18.11.2023	Test Completed on	:	22.11.2023

## 2. Chemical Testing

Atmospheric Pollution

				Analysis Results	
Sl. No.	Parameter	Unit	Standard as per CTO	ST-2	
1	Temperature	<sup>0</sup> K		352	
2	Velocity	m/sec		7.1	
3	Particulate Matter as PM	mg/Nm <sup>3</sup>		98.6	
4	Sulphur Dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>		28.7	
5	Oxides of Nitrogen as NO <sub>X</sub>	mg/Nm³		31.3	
6	Carbon Monoxide as CO	mg/m <sup>3</sup>		0.071	
7	Carbon dioxide as (CO <sub>2</sub> )	%		7.2	
8	Mercury (as Hg)	mg/Nm <sup>3</sup>		0.80	

# TERMS AND CONDITION:-

- The Test result is relevant only to the item tested.
- This report shall not be reproduced in full or part without written approval of Visiontek consultancy services. (P) Ltd
- The laboratory is not responsible for the authenticity of photocopied test report.
- The test item will not be retained for more than 15 days from the date of issue of test report except in case as required by applicable
- The laboratory's responsibility under this report is limited to; proven willful negligence.





Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

● Surface & Sub-Surface Investigation

• Quality Control & Project Management

• Renewable Energy

• Infrastructure Enginering

• Water Resource Management

Environmental & Social Study

• Agricultural Development ● Information Technology

• Public Health Engineering

Vine Planning & Design

Mineral/Sub-Soil Exploration

Waste Management Services

Laboratory Services Environment Lab Food Lab Material Lab Soil Lab Mineral Lab & Microbiology Lab

Date: 05.12.2023

# TEST REPORT

Test Report No: ENVLAB/23-24/TR-12059

Name of the		Ferro Alloys Corporation Ltd.,	Date of Sampling	:	17.11.2023
Industry	:	Charge Chrome Plant, D.P. Nagar, Randia, Bhadrak	Sample Received on	:	18.11.2023
Sample Description	:	Source Emission	Sampling Procedure	:	VCSPL/SOP/003, Dt. 01.08.2019
			Sampling Location	:	ST-3: GCP STACK (45 MVA)
Sample Condition	;	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	:	Ashutosh Mohanty
Test Started on	:	18.11.2023	Test Completed on	:	22.11.2023

3. Chemical Testing

C. Atmospheric Pollution

Parameter	Unit	Standard as per CTO	ST-3
nperature	<sup>0</sup> K		378
ocity	m/sec		7.7
ticulate Matter as PM	mg/Nm <sup>3</sup>		90.1
phur Dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>		30.5
ides of Nitrogen as NO <sub>X</sub>	mg/Nm <sup>3</sup>		39.8
rbon Monoxide as CO	mg/m³		0.082
rbon dioxide as (CO <sub>2</sub> )	%		7.8
rcury (as Hg)	mg/Nm³		0.052
i	des of Nitrogen as NO <sub>X</sub> bon Monoxide as CO bon dioxide as (CO <sub>2</sub> ) reury (as Hg)	des of Nitrogen as NO <sub>X</sub> mg/Nm³ bon Monoxide as CO mg/m³ bon dioxide as (CO <sub>2</sub> ) % reury (as Hg) mg/Nm³	des of Nitrogen as NO <sub>X</sub> mg/Nm³ bon Monoxide as CO mg/m³ bon dioxide as (CO <sub>2</sub> ) %

TERMS AND CONDITION:-

The Test result is relevant only to the item tested.

This report shall not be reproduced in full or part without written approval of Visiontek consultancy services.(P) Ltd

The laboratory is not responsible for the authenticity of photocopied test report. 3

The test item will not be retained for more than 15 days from the date of issue of test report except in case as required by applicable regulations.

The laboratory's responsibility under this report is limited to; proven willful negligence.





Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Surface & Sub-Surface Investigation • Infrastructure Enginering
- Water Resource Management ● Quality Control & Project Management
- Renewable Energy Environmental & Social Study
- Agricultural Development ■ Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Date: 05.12.2023

Environment Lab Food Lab Material Lab Soil Lab Mineral Lab & Microbiology Lab

## TEST REPORT

Test Report No: ENVLAB/23-24/TR-12060

Name of the		Ferro Alloys Corporation Ltd.,	Date of Sampling	:	17.11.2023	
Industry	:	Charge Chrome Plant, D.P. Nagar, Randia, Bhadrak	Sample Received on	:	18.11.2023	
Sample Description	:	Source Emission	Sampling Procedure	:	VCSPL/SOP/003, Dt. 01.08.2019	
			Sampling Location	:	ST-4: DG STACK/01	
Sample Condition	;	Air Tight Sealed and gaseous Sample Solution Refrigerated	Sampling done by	:	Ashutosh Mohanty	
Test Started on	:	18.11.2023	Test Completed on	:	22.11.2023	

#### 4. Chemical Testing

D. Atmospheric Pollution

				Analysis Results	
Sl. No.	Parameter	Unit	Standard as per CTO	ST-4	
1	Temperature	°K		389	
2	Velocity	m/sec		5.6	
3	Particulate Matter as PM	mg/Nm <sup>3</sup>		44.6	
4	Sulphur Dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>		20.9	
5	Oxides of Nitrogen as NO <sub>X</sub>	mg/Nm <sup>3</sup>		31.6	
6	Carbon Monoxide as CO	mg/m³		0.073	
7	Carbon dioxide as (CO <sub>2</sub> )	%		7.5	
8	Mercury (as Hg)	mg/Nm³		0.020	

# TERMS AND CONDITION:-

- The Test result is relevant only to the item tested.
- This report shall not be reproduced in full or part without written approval of Visiontek consultancy services. (P) Ltd
- The laboratory is not responsible for the authenticity of photocopied test report.
- The test item will not be retained for more than 15 days from the date of issue of test report except in case as required by applicable
- 10. The laboratory's responsibility under this report is limited to; proven willful negligence.







Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy

• Infrastructure Enginering

• Water Resource Management

Environmental & Social Study

- Agricultural Development • Information Technology Public Health Engineering
- Mine Planning & Design Mineral/Sub-Soil Exploration
- Waste Management Services

Date: 05.12.2023



## TEST REPORT

Test Report No: ENVLAB/23-24/TR-12065

Name & Address of the Customer	:	Ferro Alloys Corporat	D.P. Nagar, Randia, Bhadrak			
		Surface Runoff	Date of Sampling	:	17.11.2023	
Sample Description	:	Treatment Plant	Sample Received on		18.11.2023	
		Treatment Flant	Sampling Procedure	:	APHA 1060 B	
Identification by Customer	:	SRTS	Sampling Location	:	S1:Surface Runoff Treatment Plant Outlet	
Sample Condition	;	Ice Preserved	Sampling done by	:	Ashutosh Mohanty	
Test Started on	:	18.11.2023	Test Completed on	:	24.11.2023	

#### Chemical Testing

#### A. Pollution& Environment

SI.	Parameters	Unit	Testing Methods	General Standards for discharge of Environmental Pollutants Part A-	- Analysis Results	
No.	T at a meter 3	Cinc	Testing Methods	Effluents, Amendment Rules, 2015, Dt. 01.01.2016	S-1	
1	pH at 25°C	-	APHA 4500H+ B	6.0-9.0	7.25	
2	Total Dissolve Solids as TDS	mg/l	APHA 2540 C	2100	227	
3	Total Suspended Solids as TSS	mg/l	APHA 2540 D	100	26	
4	BOD (3 days at 27°C)	mg/l	APHA 5210 B	30	6.0	
5	Chemical Oxygen Demand as COD	mg/l	APHA 5220-C	250	20.0	
6	Oil & Grease	mg/l	APHA 5520 B	10	ND	
7	Iron (as Fe)	mg/l	APHA3500-Fe, B	3	0.15	
8	Total Chromium as Cr	mg/l	APHA 3500Cr B	2	<0.1	
9	Cyanide (as CN)	mg/l	APHA 4500 CN- C,D	0.2	<0.01	
10	Ammonical nitrogen (as N)	mg/l	APHA 4500-NH3,C	50	<0.5	
11	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 5530 B, D	1	<0.05	
12	Hexavalent Chromium (as Cr <sup>-</sup> 6)	mg/l	APHA 3500 Cr B	0.1	<0.05	

- The Test result is relevant only to the item tested.
- This report shall not be reproduced in full or part without written approval of Visiontek consultancy services. (P) Ltd
- The laboratory is not responsible for the authenticity of photocopied test report.
- The test item will not be retained for more than 15 days from the date of issue of test report except in case as required by applicable regulations.
- The laboratory's responsibility under this report is limited to; proven willful negligence

Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Surface & Sub-Surface Investigation Infrastructure Enginering
- Ouality Control & Project Management Water Resource Management
- Environmental & Social Study Renewable Energy
- Agricultural Development
- Information Technology
- ●Public Health Engineering
- Mine Planning & Design • Mineral/Sub-Soil Exploration
- Waste Management Services

Date: 05.12.2023

Laboratory Services Environment Lab Food Lab Material Lab Soil Lab Mineral Lab & Microbiology Lab

## **TEST REPORT**

Test Report No: ENVLAB/23-24/TR-12062

Name of the Industry		Ferro Alloys Corporation Ltd.,	Date of Sampling	:	17.11.2023
Name of the modstry	:	Charge Chrome Plant, D.P. Nagar, Randia, Bhadrak	Sample Received on	:	18.11.2023
Sample Description	:	Waste Water	Sampling Procedure	:	АРНА 1060 В
Samuela Candidian		Ice Preservation	Sampling Location	:	WW-1: MRP POND
Sample Condition			Sampling done by	:	Ashutosh Mohanty
Test Started on	:	18.11.2023	Test Completed on	:	24.11.2023

#### Chemical Testing

#### A. WATER:

SI. No	Parameter	Unit	Testing Methods	Standard as per IS 2296 Class C	Analysis Results WW1
1.	pH at 25°C	mg/l	APHA4500 H <sup>+</sup> B	6.5-9.0	7.84
2.	Suspended Solids	mg/l	APHA 2540 D	<100	85.0
3.	Biochemical Oxygen Demand (as BOD at 27°C For 3 days)	mg/l	IS3025(P-44)1993 RA 2003	<30	2.4
4.	Chemical Oxygen Demand as COD	mg/l	АРНА 5220-С	<250	9.0
5.	Ammonical nitrogen (as NH <sub>4</sub> -N)	mg/l	APHA 4500- NH3,C	5	1.28
6.	Total Nitrogen	mg/l	APHA 4500-N	10	3.5
7.	Oil & Grease	mg/l	APHA 5520 B		2.4
8.	Fecal Coliform	MPN/100 ml	APHA 9221 E	<1000	79

#### TERMS AND CONDITION:-

- The Test result is relevant only to the item tested.
- This report shall not be reproduced in full or part without written approval of Visiontek consultancy services. (P) Ltd
- The laboratory is not responsible for the authenticity of photocopied test report.
- The test item will not be retained for more than 15 days from the date of issue of test report except in case as required by applicable regulations
- 5. The laboratory's responsibility under this report is limited to; proven willful negligence.





Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Infrastructure Enginering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering

Data of

- Mine Planning & Design
- Mineral Sub-Soil Exploration
- Waste Management Services

Environment I Food Lab Material Lab Soil Lab Mineral I ab

# **TEST REPORT**

Test Report No: ENVLAB/23-24/TR-12063

.11.2023	
3.11.2023	

Date: 05.12.2023

		Ferro Alloys Corporation Ltd.,	Sampling	:	17.11.2023	
Name of the Industry	:	Charge Chrome Plant, D.P. Nagar,	Sample			
		Randia, Bhadrak	Received	:	18.11.2023	
			on			
Sample Description	١.	Waste Water	Sampling		APHA 1060 B	
			Procedure	Ľ		
		Ice Preservation	Sampling	١.	WW-2: Cooling Tower Waste Water	
6 1 6 15	:		Location			
Sample Condition			Sampling		Ashutosh Mohanty	
			done by		Ashuosh Mohanty	
			Test			
Test Started on	:	18.11.2023	Completed	:	24.11.2023	
			on			

- Chemical Testing
- WATER:

SI. No	Parameter	Unit	Testing Methods	Standard as per IS 2296 Class C	Analysis Results WW2
1.	pH at 25°C	mg/l	APHA4500 H <sup>+</sup> B	6.5-9.0	7.18
2.	Suspended Solids	mg/l	APHA 2540 D	<100	53.0
3.	Biochemical Oxygen Demand (as BOD at 27°C For 3 days)	mg/l	IS3025(P-44)1993 RA 2003	<30	3.0
4.	Chemical Oxygen Demand as COD	mg/l	АРНА 5220-С	<250	10.0
5.	Ammonical nitrogen (as NH <sub>4</sub> -N)	mg/l	APHA 4500-NH3,C	5	2.8
6.	Total Nitrogen	mg/l	APHA 4500-N	10	5.1
7.	Oil & Grease	mg/l	APHA 5520 B		1.2
8.	Fecal Coliform	MPN/100 ml	APHA 9221 E	<1000	47

#### TERMS AND CONDITION:-

- The Test result is relevant only to the item tested.
- This report shall not be reproduced in full or part without written approval of Visiontek consultancy services. (P) Ltd
- The laboratory is not responsible for the authenticity of photocopied test report.
- The test item will not be retained for more than 15 days from the date of issue of test report except in case as required by applicable regulations
- The laboratory's responsibility under this report is limited to; proven willful negligence.

\*\*\* End Report\*\*\*



E-mail: visiontek@visiontek.org, visiontekin@gmail.com

Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Infrastructure Enginering • Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management Renewable Energy
- Agricultural Development • Information Technology



Date: 05.12.2023

Laboratory Services Environment Lab Food Lab

Material Lab Soil Lab

Mineral Lab

 Vine Planning & Design Mineral/Sub-Soil Exploration Public Health Engineering Waste Management Services

# TEST REPORT

Test Report No: ENVLAB/23-24/TR-12064

Name & Address of the Customer	:	Ferro Alloys Corporation	n Ltd., Charge Chrome Pla	Plant, D.P. Nagar, Randia, Bhadrak			
			Date of Sampling	:	17.11.2023		
Sample Description	:	Sewage Water (STP)	Sample Received on	1:	18.11.2023		
			Sampling Procedure	:	APHA 1060 B		
Identification by Customer	1:	CTD 1 CTD 2	Samuling Lagation	Ι.	S-1: Water From Inlet		
identification by Customer	1	STP-1, STP-2	Sampling Location	:	S-2: Water From Outlet		
Sample Condition	;	Ice Preserved	Sampling done by	:	Ashutosh Mohanty		
Test Started on	:	18.11.2023	Test Completed on	:	24.11.2023		

# **Chemical Testing:**

## A. Waste Water

SL No.	Parameters	Unit	Standard (Inland Surface water) Part-A	Test methods	S-1	S-2
1	Total Suspended Solids	mg/l, max	100	APHA 2540 D	45	21
2	pH at 25°C	-	6.5-9.0	APHA 4500H <sup>+</sup> B	6.86	7.13
3	Biochemical Oxygen Demand (as BOD), 3 Days at 27°C	mg/l, max	30	IS 3025(P-44): 1993 RA 1999	106	14
4	Fecal Coliform (as TC)	mg/l	APHA 9221 E	<1000	430	210

## TERMS AND CONDITION:-

- The Test result is relevant only to the item tested.
- This report shall not be reproduced in full or part without written approval of Visiontek consultancy services. (P) Ltd
- The laboratory is not responsible for the authenticity of photocopied test report.
- The test item will not be retained for more than 15 days from the date of issue of test report except in case as required by applicable regulations.
- 5. The laboratory's responsibility under this report is limited to; proven willful negligence



Certified for: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

Accredited by: NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Infrastructure Enginering ● Surface & Sub-Surface Investigation
- Quality Control & Project Management ◆ Water Resource Management
- Environmental & Social Study • Renewable Energy
- Agricultural Development • Information Technology
- Mine Planning & Design Mineral Sub-Soil Exploration • Public Health Engineering
  - Waste Management Services

Date: 05.12.2023

Laboratory Services Environment Lab Food Lab Material Lab Soil Lab Mineral Lab Microbiology Lab

# TEST REPORT

Test Report No: ENVLAB/23-24/TR-12066

Nome of the		Ferro Alloys Corporation Ltd.,	Date of Sampling	:	17.11.2023
Name of the Industry	:	Charge Chrome Plant, D.P. Nag Randia, Bhadrak	Sample Received on	:	18.11.2023
Sample Description	:	NOISE	Sampling Procedure	:	IS 9989: 2020
Sampling done by:	:	Ashutosh Mohanty			

Location ID	Location	Noise Level in dB(A) leq Day Time	Noise Level in dB(A) leq Night time
S-1	NEAR 45 MVA FURNACE	71.4	66.1
S-2	NEAR ADMINISTRATIVE BUILDING	55.6	44.8
S-3	NEAR AGGLOMERATION PLANT	70.2	67.1
S-4	NEAR AUTO GARAGE	60.3	54.4
S-5	NEAR BRIQUETTE STORAGE AREA	70.4	63.9
S-6	NEAR CENTRAL STORE	54.4	45.1
S-7	NEAR DRYER PLANT	72.3	68.9
S-8	NEAR FACOR COLONY	53.4	43.1
S-9	NEAR FINISHED PRODUCT HANDLING	74.1	59.4
S-10	NEAR GCP	71.9	69.2
S-11	NEAR MAIN GATE	63.4	49.8
S-12	NEAR MATERIAL RECOVERY PLANT	72.1	66.7
S-13	NEAR MRSS SWITCH YARD	66.4	56.9
S-14	NEAR STORAGE AREA	52.9	41.2
S-15	NEAR VEHICLE PARKING AREA	50.3	44.3
S-16	NEAR WATER COOLING TOWER AREA	76.4	69.1
S-17	OHC	55.1	46.2
Limit		75.0	70.0



