Environment Management and Engineering Division

(Environmental Laboratory)

Agriculture College Campus, Next to DIC office, Shivaji Nagar, Pune. 411 005, Ph. No. 66289405/400, email: emelab@mitconindia.com

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Quarter October- November- December 2022

Test Report

Report Number: MITCON/2022-23/December/12262

Issue Date:12/12/2022

Client's Name & Address	Reference No.	MITCON/2022- 23/December/12262/2
M/s MOIL LIMITED,	Date of Monitoring	04/12/2022
Sitapatore Manganese Mines L2= 4.734 Ha Site, Dist:-	Type of Monitoring	Ambient Air
Balaghat (M.P)	Test Location	Haul Road
	Monitoring Done By	MITCON
	Date of Analysis	06/12/2022

OBSERVATION

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
30	30	14	50	1440	0.0	7.0 km/ hrs.(Avg)	NE

RESULT

Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO ₂)	μg/M³	12.8	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO2)	μg/M³	18.0	≤80	IS 5182(Part 6)
03	Particulate Matter PM10 micron	μg/M³	61.4	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM2.5 micron	μg/M³	32.0	≤ 60	USEPA 40 CFRCH
05	Ozone (O₃)	μg/M³	3.7	≤ 100	IS 5182
06	Lead (Pb)	μg/M³	BDL	≤ 1.0	APHA - AAS
. 07	Carbon Monoxide (CO)	mg/M ³	0.360	≤ 2.0	IS 5182
08	Ammonia (NH ₃)	μg/M³	4.3	≤ 400	APHA - 401
09	Benzene (C₅H6)	μg/M³	BDL	≤ 5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/ M³	BDL	≤1	IS 5182
11	Arsenic (As)	ng/ M³	BDL	≤6	APHA - AAS
12	Nickel (Ni)	ng/ M³	BDL	≤ 20	APHA - AAS

REMARKS/OBSERVATIONS:

> All above results are within National Ambient Air Quality standards.

▶ BDL: - Below Detection Limit.

For MITCON Consultancy & Engineering Service Styd.

Checked By

(Mrs.Kadambari Deshmukh)

Authorized Signatory Dr. Sandeep Jadhav Senior vice president

PUNE *

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Quarter October- November- December 2022

Test Report

Report Number: MITCON/2022-23/December/12262

Issue Date:12/12/2022

Client's Name & Address		Sample Details			
M/s MOIL LIMITED,	Sample Code	MITCON/2022-23/December/12262/1			
·	Name of Sample	Ground Water			
Sitapatore Manganese Mines L2= 4.734 Ha Site,	Sample Details	Open Dugwell Water supply			
Dist:- Balaghat (M.P)	Container Details	1 lit plastic can			
_	Sample Collected By	MITCON			
	Method of sampling	IS 3025(Part I)			
	Sample Collected On	04/12/2022			
	Date of Sample Receipt	06/12/2022			
	Analysis Start Date	06/12/2022			
	End Date of Analysis	12/12/2022			

ANALYSIS RESULTS

Parameters	Results Unit		Limits as per IS 10500:2012	Test Methods
pH at 25C	7.23	-	6.5 to 8.5	APHA 4500 H+, A, 4-95, 23rd Ed 2017
Total suspended solids	6.0	mg/l	N.S	APHA 2540 D,2-70 to 2-71 23rd ed 2017
Turbidity	<1	NTU 💮	51	IS: 3025 Part-10 (R.A : 2002)
Total Dissolved Solids	283.1	mg/l	≤500	APHA 2540 C, 2-69 to 2-70, 23rd Ed 2017
Total Hardness as CaCO3	141.55	mg/l	≤200	APHA 2340 C ;2-48 to 2-50,23rd Ed 2017
Calcium as Ca	35.38	mg/l	≤75	АРНА 3500 Ca B , 3-69 to 3-70 , 23rd Ed. 2017
Magnesium as Mg	17.69	mg/l	≤30	APHA 3500 Mg B, 3-86 , 23rd Ed 2017
Mangnese as mn	< 0.1	mg/l	< 0.1	APHA 3111 B, 3-18 to 3-21 23rd Ed. 2017
Total Alkalinity as Caco3	121.5	Mg/I	<200	APHA 2320 B ,2-37 to 2-39 23rd Ed 2017
Fluoride as F	< 0.1	Mg/I	å 24 1	APHA 4500 F- D 4-90 to 4-9123rd Ed 2017
Chloride as Cl	30,23	mg/i	≤ 250	APHA 4500 Cl, B, 4-75 to 4-76, 23rd Ed 2017
Sulphate as SO4	17.11	mg/l	≤ 200	APHA 4500 -SO4E, 4-199 TO 4-200, 23rd Ed 2017
Iron as Fe	< 0.05	mg/l	≤ 0.3	APHA 3111 B, 3-18 TO 3-21, 23rd Ed 2017 (using AAS)
Nitrate as NO3	4.18	mg/l	≤45	APHA 4500 NO3-B,4-127 23rd Ed 2017
E.coli	Absent	MPN/100m I	Absent	IS: 1622 (R.A : 2014)
Total Coliform	Absent	MPN/100m	Absent	IS: 1622 (R.A : 2014)
colour	<5	HZ	≤5	IS: 3025 Part-4 (Rev.1, RA 2012)
odour	Aggreable	Agreeable	Agreeable	IS: 3025 Part-5 (Rev.1, RA 2012)
	pH at 25C Total suspended solids Turbidity Total Dissolved Solids Total Hardness as CaCO3 Calcium as Ca Magnesium as Mg Mangnese as mn Total Alkalinity as Caco3 Fluoride as F Chloride as CI Sulphate as SO4 Iron as Fe Nitrate as NO3 E.coli Total Coliform colour	pH at 25C 7.23 Total suspended solids 6.0 Turbidity < 1	PH at 25C 7.23 -	Disposition Disposition

REMARKS / OBSERVATIONS:

KS / OBSERVATIONS:
The above water sample is complying with required limits as ger IS 10500:2012.

For MITCON Consultancy & Engineering Services 34. Checked By KUDENULL

(Mrs. Kadambari Deshmukh)

Authorized Signatory (Dr.Sandeep Jadhav) Septor Vice President

PUNE "

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Quarter October- November- December 2022

Test Report

Report Number: MITCON/2022-23/December/12262

Issue Date:12/12/2022

Client's Name & Address	Reference No.	MITCON/2022-23/December/12262/3
M/s MOIL LIMITED,	Date of Monitoring	04/12/2022
	Type of Monitoring	Ambient Noise
Sitapatore Manganese Mines L2= 4.734 Ha Site, Dist:- Balaghat (M.P).	Monitoring Done By	MITCON

READINGS

Sr. No.	Test Location	Unit	Readings
01	Haul Road	dB(A)	62.8
L			

REMARKS / OBSERVATIONS:

Limits: The Madhya Pradesh Pollution Control Board has prescribe 75 dB (A) as an upper limit of Noise Level during daytime.

For MITCON Consultancy & Engineering Services Ltd.

Checked By

(Mrs. Kadambari Deshmukh)



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Quarter October- November- December 2022

Test Report

Report Number: MITCON/2022-23/December/12261

Issue Date:12/12/2022

Client's Name & Address	Reference No.	MITCON/2022- 23/December/12261/5
M/s MOIL LIMITED, Sitapatore Manganese Mines L1= 43.350Ha Site, Distr-Balaghat (M.P)	Date of Monitoring	04/12/2022
	Type of Monitoring	Ambient Air
	Test Location	Near Mine Pit
	Monitoring Done By	MITCON
	Date of Analysis	06/12/2022

OBSERVATION

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
30	30	14	50	1440	0.0	7.0 km/	NE
	1				5	hrs.(Avg)	

RESULT

					Fig. 1. Straightfulfic Ellegis 1.
Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO ₂)	μg/M³	12.4	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO ₂)	μg/M³	16.5	≤ 80	IS 5182(Part 6)
03	Particulate Matter PM10 micron	μg/M³	60.9	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM2.5 micron	μg/M ³	30.2	≤ 60	USEPA 40 CFRCH
05	Ozone (O₃)	μg/M³	3.6	≤ 100	IS 5182
06	Lead (Pb)	μg/M³	BDL	≤ 1.0	APHA - AAS
07	Carbon Monoxide (CO)	mg/M³	0.334	≤ 2.0	IS 5182
08	Ammonia (NH3)	μg/M³	3.8	≤ 400	APHA - 401
09	Benzene (C ₆ H ₆)	μg/M³	BDL	≤5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/M³	BDL	<u></u> ≤1	IS 5182
11	Arsenic (As)	ng/M³	BDL	≤6	APHA - AAS
12	Nickel (Ni)	ng/M³	BDL	≤ 20	APHA - AAS

REMARKS/OBSERVATIONS:

> All above results are within National Ambient Air Quality standards.

> BDL: - Below Detection Limit.

For MITCON Consultancy & Engineering Services L

<u>KUDENUUH</u> Checked By

(Mrs.Kadambari Deshmukh)



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Quarter October- November- December 2022

Test Report

Report Number: MITCON/2022-23/December/12261

Issue Date:12/12/2022

Client's Name & Address	Reference No.	MITCON/2022- 23/December/12261/6
M/s MOIL LIMITED, Sitapatore Manganese Mines L1= 43.350Ha Site, Dist:-Balaghat (M.P).	Date of Monitoring	04/12/2022
	Type of Monitoring	Ambient Air
	Test Location	Near Mine office
	Monitoring Done By	MITCON
	Date of Analysis	06/12/2022

OBSERVATION

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
30	30	14	50	1440	0.0	7.0 km/ hrs.(Avg)	NE

RESULT

Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO₂)	μg/M³	11.2	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO ₂)	μg/M³	15.6	≤80	IS 5182(Part 6)
03	Particulate Matter PM10 micron	hg/M ₃	59.2	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM _{2.5 micron}	μg/M³	28.3	≤ 60	USEPA 40 CFRCH
05	Ozone (O ₃)	μg/M³	3.2	≤ 100	IS 5182
06	Lead (Pb)	μg/M³	BDL	≤1.0	APHA - AAS
07.	Carbon Monoxide (CO)	mg/M ³	0.264	≤2.0	IS 5182
08	Ammonia (NH ₃)	μg/M³	3.5	≤400	APHA - 401
09	Benzene (C ₆ H ₆)	μg/M³	BDL	≤5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/ M³	BDL	<u> </u>	IS 5182
11	Arsenic (As)	ng/ M³	BDL	<u></u> ≤6	APHA - AAS
12	Nickel (Ni)	ng/M³	BDL	≤ 20	APHA - AAS

REMARKS/OBSERVATIONS:

> All above results are within National Ambient Air Quality standards

BDL: - Below Detection Limit.

For MITCON Consultancy & Engineering Services Lt

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Test Report

Report Number: MITCON/2022-23/December/12261

Issue Date:12/12/2022

Client's Name & Address	Reference No.	MITCON/2022- 23/December/12261/7
M/s MOIL LIMITED,	Date of Monitoring	04/12/2022
	Type of Monitoring	Ambient Air
Sitapatore Manganese Mines L1= 43.350Ha Site, Dist:-Balaghat (M.P).	Test Location	Near Mine Dump
,	Monitoring Done By	MITCON
	Date of Analysis	06/12/2022

OBSERVATION

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfali (mm)	Wind Velocity	Wind Direction
30	30	14	50	1440	0.0	7.0 km/	NE
			1 - Sec. 1965 (1965)	2000 - 2000 AMARA (1000)		hrs.(Avg)	\$11.

70.4	and the second and th		AA 100 V		. Duna de de la deserción de la company de l
Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dloxide (SO ₂)	μg/M³	12.8	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO ₂)	μg/M³	17.0	≤80	IS 5182(Part 6)
03	Particulate Matter PM _{10 micron}	hg/W ₃	64.8	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM2.5 mlcron	μg/M³	32.4	≤ 60	USEPA 40 CFRCH
05	Ozone (O ₃)	μg/M³	3.8	≤ 100	IS 5182
06	Lead (Pb)	μg/M³	BDL	<u>≤ 1.0</u>	· · · · · · · · · · · · · · · · · · ·
07	Carbon Monoxide (CO)	mg/M ³	0.344	······································	APHA - AAS
08	Ammonia (NH₃)	μg/M³	3.9	≤ 2.0	IS 5182
09	Benzene (C ₆ H ₆)	μg/M³	- 	≤ 400	APHA - 401
10	Benzo(a)Pyrene (BaP)	·	BDL	≤5	IS 5182
11	Arsenic (As)	ng/M³	BDL	≤1	IS 5182
		ng/ M³	BDL	≤6	APHA - AAS
12	Nickel (Ni)	ng/M³	BDL	≤ 20	APHA - AAS

REMARKS/OBSERVATIONS:

> All above results are within National Ambient Air Quality standards. HICY B ENGINE

➤ BDL: - Below Detection Limit.

For MITCON Consultancy & Engineering Services

Kodenlich Checked By

(Mrs.Kadambari Deshmukh)

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Quarter October- November- December 2022

Test Report

Report Number: MITCON/2022-23/December/12261

Issue Date:12/12/2022

Client's Name & Address	Reference No.	MITCON/2022- 23/December/12261/8
M/s MOIL LIMITED, Sitapatore Manganese Mines L1= 43.350Ha Site, Dist:-Balaghat (M.P).	Date of Monitoring	04/12/2022
	Type of Monitoring	Ambient Air
	Test Location	Near Sitapatore Village
	Monitoring Done By	MITCON
	Date of Analysis	06/12/2022

OBSERVATION

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
30	30	14	50	1440	0.0	7.0 km/ hrs.(Avg)	NE

RESULT

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Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO ₂)	μg/M³	11.4	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO ₂)	μg/M³	15.3	≤80	IS 5182(Part 6)
03	Particulate Matter PM10 micron	μg/M³	59.8	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM2.5 micron	μg/M³	26.2	≤ 60	USEPA 40 CFRCH
05	Ozone (O ₃)	μg/M³	3.0	≤ 100	IS 5182
06	Lead (Pb)	µg/M³	BDL	≤ 1.0	APHA - AAS
07	Carbon Monoxide (CO)	mg/M³	0.214	≤ 2.0	IS 5182
08	Ammonia (NH ₃)	μg/M³	3.4	≤ 400	APHA - 401
09	Benzene (C₅H₅)	μg/M³	BDL	≤ 5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/M³	BDL	≤1	IS 5182
11	Arsenic (As)	ng/M³	BDL	≤6	APHA - AAS
12	Nickel (Ni)	ng/ M³	BDL	≤ 20	APHA - AAS

REMARKS/OBSERVATIONS:

> All above results are within National Ambient Air QualityStandards.

➤ BDL: - Below Detection Limit.

For MITCON Consultancy & Engineering Services

Checked By

(Mrs.Kadambari Deshmukh)

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Quarter October- November- December 2022

Test Report

Report Number: MITCON/2022-23/December/12261

Issue Date:12/12/2022

Client's Name & Address	Sample Details			
M/s MOIL LIMITED,	Sample Code	MITCON/2022-23/December/12261/2		
Sitapatore Manganese Mines L1= 43.350Ha Site,	Name of Sample	Ground Water		
Dist:- Balaghat (M.P)	Sample Details	Mine office Open Dugwell		
	Container Details	1 lit plastic can MITCON		
	Sample Collected By			
	Method of sampling	IS 3025(Part I)		
	Sample Collected On	04/12/2022		
	Date of Sample Receipt	06/12/2022		
	Analysis Start Date	06/12/2022		
	End Date of Analysis	12/12/2022		

ANALYSIS RESULTS

Sr. No.	Parameters	Results	Unit	Limits as per IS 10500:2012	Test Methods
01	pH at 25C	7.24	-	6.5 to 8.5	APHA 4500 H+, A, 4-95, 23rd Ed 2017
02	Total suspended solids	7.0	mg/l	N.S.	APHA 2540 D,2-70 to 2-71 23rd ed 2017
03	Turbidity	<1	บาท	<u>s1</u>	IS: 3025 Part-10 (R.A : 2002)
04	Total Dissolved Solids	231.1	mg/l	≤500	APHA 2540 C) 2-69 to 2-70, 23rd Ed 2017
05	Total Hardness as CaCO3	115.8	mg/i	≤200	APHA 2340 C;2-48 to 2-50,23rd Ed 2017
06	Calcium as Ca	28.88	mg/l	≤ 75	APHA 3500 Ca B , 3-69 to 3-70 , 23rd Ed. 2017
07	Magnesium as Mg	14.4	mg/l	≤30	APHA 3500 Mg B, 3-86 , 23rd Ed. 2017
08	Mangnese as mn	< 0.1	mg/l	< 0.1	APHA 3111 B, 3-18 to 3-21 23rd Ed. 2017
09	Total Alkalinity as Caco3	97.8	Mg/I	<200	APHA 2320 B ,2-37 to 2-39 23rd Ed 2017
10	Fluoride as F	< 0.1	Mg/I	<1	APHA 4500 F- D 4-90 to 4-9123rd Ed 2017
11	Chloride as Cl	29,12	mg/l	≤ 250	
12	Sulphate as SO4	14.89	mg/l	≤ 200	APHA 4500 CI, B, 4-75 to 4-76, 23rd Ed 2017
13	Iron as Fe	< 0.05	mg/l	≤0,3	APHA 4500 –SO4 – E, 4-199 TO 4-200, 23rd Ed 2017
14	Nitrate as NO3	3.85	mg/l	S45	APHA 3111 B, 3-18 TO 3-21, 23rd Ed 2017 (using AAS)
15	E.coli	Absent	MPN/100ml	Absent	APHA 4500 NO3-B,4-127 23rd Ed 2017
16	Total Coliform	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
17	cólour	<5	HZ	<u>∠455</u>	i5: 1622 (R.A : 2014) iS: 3025 Part-4 (Rev.1, RA 2012)
18	odour	Aggreable	Agreeable	Agreeable	IS: 3025 Part-5 (Rev.1, RA 2012)
				A STATE OF THE PERSON NAMED IN COLUMN NAMED IN	

REMARKS / OBSERVATIONS:

For MITCON Consultancy & Engineering Services ENDERHIEL.

Checked By

(Mrs. Kadambari Deshmukh)

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Quarter October- November- December 2022

Test Report

Report Number: MITCON/2022-23/December/12261

Issue Date:12/12/2022

Client's Name & Address	Sample Details		
M/s MOIL LIMITED,	Sample Code	MITCON/2022-23/December/12261/3	
	Name of Sample	Ground water	
Sitapatore Manganese Mines L1=43.350Ha Site,	Sample Details	Sitapatore Village Open Dugwell	
Dist:- Balaghat (M.P)	Container Details	1 lit plastic can	
	Sample Collected By	MITCON	
	Method of sampling	IS 3025(Part I)	
	Sample Collected On	04/12/2022	
	Date of Sample Receipt	06/12/2022	
	Analysis Start Date	06/12/2022	
	End Date of Analysis	12/12/2022	

ANALYSIS RESULTS

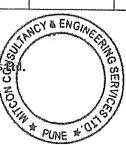
Sr. No.	Parameters	Results	Unit	Limits as per IS 10500:2012	Test Methods
01	pH at 25C	7.30	-	6.5 to 8.5	APHA 4500 H+, A, 4-95, 23rd Ed 2017
02	Total suspended solids	11.0	mg/l	N.S	APHA 2540 D,2-70 to 2-71 23rd ed 2017
03	Turbidity	<1	NTU 🏐	≤1	(5; 3025 Part-10 (R.A : 2002)
. 04	Total Dissolved Solids	246.6	mg/l	≤500	APHA 2540 C, 2-69 to 2-70, 23rd Ed 2017
05	Total Hardness as CaCO3	123,3	mg/l	≤200	APHA 2340 C , 2-48 to 2-50,23rd Ed 2017
06	Calcium as Ca	30.82	mg/l	≤75	APHA 3500 Ca B , 3-69 to 3-70 , 23rd Ed. 2017
07	Magnesium as Mg	15.41	mg/l	≤30	APHA 3500 Mg B, 3-86 , 23rd Ed. 2017
80	Mangnese as mn	< 0.1	mg/l	< 0.1	APHA 3111 B, 3-18 to 3-21 23rd Ed. 2017
09	Total Alkalinity as Caco3	103.3	Mg/I	<200	APHA 2320 B ,2-37 to 2-39 23rd Ed 2017
10	Fluoride as F	< 0.1	Mg/l	<1	APHA 4500 F- D 4-90 to 4-9123rd Ed 2017
11	Chloride as Cl	. 30.18	mg/l	≤ 250	APHA 4500 Ci, B, 4-75 to 4-76, 23rd Ed 2017
12	Sulphate as SO4	17.87	mg/l	≤ 200	APHA 4500 –SO4E, 4-199 TO 4-200, 23rd Ed 2017
13	Iron as Fe	< 0.05	mg/l	≤0.3	APHA 3111 B, 3-18 TO 3-21, 23rd Ed 2017 (using AAS)
14	Nitrate as NO3	3.67	mg/l	≲45	APHA 4500 NO3-B,4-127 23rd Ed 2017
15	E.coli	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
16	Total Coliform	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
17	colour	<5	HZ	≤5	IS: 3025 Part-4 (Rev.1, RA 2012)
18	odour	Aggreable	Agreeable	Agreeable	IS: 3025 Part-5 (Rev.1, RA 2012)

REMARKS / OBSERVATIONS:

For MITCON Consultancy & Engineering Service

Checked by

(Mrs. Kadambari Deshmukh)



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Format No. EME/LAB/Format 7.8/TR

Quarter October- November- December 2022

Test Report

Report Number: MITCON/2022-23/December/12261

Issue Date:12/12/2022

Client's Name & Address	Sample Details			
M/s MOIL LIMITED,	Sample Code	MITCON/2022-23/December/12261/4		
City and a second of	Name of Sample	Ground Water		
Sitapatore Manganese Mines L1= 43.350Ha Site, Dist:- Balaghat (M.P)	Sample Details	Mine Premises Borewell water		
	Container Details	1 lit plastic can		
	Sample Collected By	MITCON		
	Method of sampling	IS 3025(Part I)		
	Sample Collected On	04/12/2022		
	Date of Sample Receipt	06/12/2022		
	Analysis Start Date	06/12/2022		
	End Date of Analysis	12/12/2022		

ANALYSIS RESULTS

Sr. No.	Parameters	Results	Unit	Limits as per IS 10500:2012	Test Methods
01	pH at 25C	7.39	, 90., 9.000pg, 2 5	6.5 to 8.5	APHA 4500 H+, A, 4-95, 23rd Ed 2017
02	Total suspended solids	12.0	mg/l	N.S	APHA 2540 D,2-70 to 2-71 23rd ed 2017
.03	Turbidity	<1	עדע 🌯	s1	IS: 3025 Part-10 (R.A : 2002)
04	Total Dissolved Solids	263.1	mg/l	≤500	APHA 2540 C, 2-69 to 2-70, 23rd Ed 2017
05	Total Hardness as CaCO3	131.55	mg/l	≤200	APHA 2340 C ,2-48 to 2-50,23rd Ed 2017
06	Calcium as Ca	32.88	mg/i	≤ 75	APHA 3500 Ca B , 3-69 to 3-70 , 23rd Ed. 2017
07	Magnesium as Mg	16.45	mg/l	≤30	APHA 3500 Mg B, 3-86 , 23rd Ed. 2017
08	Mangnese as mn	< 0.1	mg/l	< 0.1	APHA 3111 B, 3-18 to 3-21 23rd Ed. 2017
09	Total Alkalinity as Caco3	111.55	Mg/I	<200	APHA 2320 B ,2-37 to 2-39 23rd Ed 2017
10	Fluoride as F	> < 0.1	Mg/I	<1	APHA 4500 F- D 4-90 to 4-9123rd Ed 2017
11	Chloride as Cl	30.45	mg/l	≤ 250	
12	Sulphate as SO4	17.01	mg/l	≤ 200	APHA 4500 Cl, B, 4-75 to 4-76, 23rd Ed 2017
13	Iron as Fe	< 0.05	mg/l	≤0.3	APHA 4500 -SO4E, 4-199 TO 4-200, 23rd Ed 2017
14	Nitrate as NO3	4.23	mg/i	≤ 4 5	APHA 3111 B, 3-18 TO 3-21, 23rd Ed 2017 (using AAS)
15	E.coli	Absent	MPN/100ml	Absent	APHA 4500 NO3-B,4-127 23rd Ed 2017
16	Total Coliform	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
17	colour	<5	HZ	<u> </u>	IS: 1622 (R.A : 2014) IS: 3025 Part-4 (Rev.1, RA 2012)
18	odour	Aggreable	Agreeable	Agreeable	IS: 3025 Part-5 (Rev.1, RA 2012)

REMARKS / OBSERVATIONS:

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Quarter October- November- December 2022

Test Report

Report Number: MITCON/2022-23/December/12261

Issue Date:12/12/2022

Client's Name & Address	Sample Details			
M/s MOIL LIMITED,	Sample Code	MITCON/2022-23/December/12261/1		
	Name of Sample	Waste Water (Mine Discharge water)		
Sitapatore Manganese Mines L1= 43.350Ha Site,	Sample Details	Mine Discharge water		
Dist:- Balaghat (M.P)	Container Details	1 lit plastic can		
_	Sample Collected By	MITCON		
	Method of sampling	IS 3025(Part I)		
	Sample Collected On	04/12/2022		
	Date of Sample Receipt	06/12/2022		
	Analysis Start Date	06/12/2022		
	End Date of Analysis	12/12/2022		

ANALYSIS RESULTS

Sr. No.	Characteristic	Results	Unit	Permissible Limit as per Consent Condition	Test Methods
01	pH at 25°C	7.19	francisco de la como d La como de la como de	5.5 to 9.0	APHA 4500 H+ A, 4-95, 23rd Ed. 2017
02	Dissolved Oxygen	3.2	mg/l		IS: 3025 Part 38
03	Chemical Oxygen Demand	56.7	mg/i	250	APHA 5220 C,5-20 to 5-21 23rd Ed 2017
04	Biochemical Oxygen	21.3	mg/l	30	IS :3025 (Part 44)
୍ଦ୍ର	Total suspended solids	23.4	mg/l	100	APHA 2540 D,2-70 to 2-71 23 rd Ed 2017
06	Oil and grease	<5	mg/l	10	APHA 5520 B,5-42 to 5-43 23rd Ed 2017
07	Manganese	0.33	mg/i	2	APHA 3111 B,3-18 to 3-21 23 rd Ed 2017

REMARKS / OBSERVATIONS:

For MITCON Consultancy & Engineering Services Ltd.

(Mrs. Kadambari Deshmukh)

THE ENGINEE.

ized Signatory (Dr. Sandeep Jadhav) Sénior Vice President

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Test Report

Report Number: MITCON/2022-23/December/12261

Issue Date:12/12/2022

Cilent's Name & Address	Reference No.	MITCON/2022-23/December/12261/9
M/s MOIL LIMITED,	Date of Monitoring	04/12/2022
	Type of Monitoring	Ambient Noise
Sitapatore Manganese Mines L1=43.350Ha Site, Dist:- Balaghat (M.P).	Monitoring Done By	MITCON

READINGS

Sr. No.	Test Location	Unit	Readings
01	Mine Office Premises	dB(A)	54.4
02	Dumper Loaded	dB(A)	71.9
03	Jack Hammer Drill	dB(A)	70.4
04	Near Excavator	dB(A)	69.6

REMARKS / OBSERVATIONS:

Limits: The Madhya Pradesh Pollution Control Board has prescribe 75 dB (A) as an upper limit of Noise Level during daytime.

For MITCON Consultancy & Engineering Services Ltd.

Checked By

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Report Number: MITCON/2022-23/December/12263

Issue Date:12/12/2022

Client's Name & Address	Reference No.	MITCON/2022- 23/December/12263/6
M/s MOIL LIMITED,	Date of Monitoring	04/12/2022
	Type of Monitoring	Ambient Air
Sukali Manganese Mines L1=79.550 Ha Site, Dist:Balaghat (M.P).	Test Location	Haul Road
	Monitoring Done By	MITCON
	Date of Analysis	06/12/2022

OBSERVATION

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
30	30	14	50	1440	0.0	7.0 km/ hrs.(Avg)	NE

RESULT

Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO₂)	μg/M³	13.0	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO2)	μg/M³	17.2	≤80	IS 5182(Part 6)
03	Particulate Matter PM10 micron	h8/W ₃	61.7	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM2.5 micron	μg/M³	31.3	≤ 60	USEPA 40 CFRCH
05	Ozone (O₃)	μg/M³	3.4	≤ 100	IS 5182
06	Lead (Pb)	μg/M³	BDL	≤ 1.0	APHA - AAS
. 07	Carbon Monoxide (CO)	mg/M³	0.352	≤ 2.0	IS 5182
08	Ammonia (NH ₃)	μg/M³	3.6	≤ 400	APHA - 401
09	Benzene (C ₆ H ₆)	μg/M³	BDL	≤5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/ M³	BDL	≤1	IS 5182
11	Arsenic (As)	ng/M³	BDL	≤6	APHA - AAS
12	Nickel (Ni)	ng/ M ³	BDL	≤ 20	APHA - AAS

REMARKS/OBSERVATIONS:

- > All above results are within National Ambient Air Quality standards.
- ➢ BDL: Below Detection Limit.

For MITCON Consultancy & Engineering Services

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Report Number: MITCON/2022-23/December/12263

Issue Date:12/12/2022

Client's Name & Address	Reference No.	MITCON/2022- 23/December/12263/5
M/s MOIL LIMITED,	Date of Monitoring	04/12/2022
	Type of Monitoring	Ambient Air
Sukali Manganese Mines L1=79.550 Ha Site, Dist:-	Test Location	Near Sukali Village
Balaghat (M.P).	Monitoring Done By	MITCON
	Date of Analysis	06/12/2022

OBSERVATION

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
30	30	14	50	1440	0.0	7.0 km/ hrs.(Avg)	NE

Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO ₂)	μg/M³	10.6	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO2)	μg/M³	15.4	≤80	IS 5182(Part 6)
03	Particulate Matter PM10 micron	μg/M³	58.9	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM2.5 mlcron	μg/M³	29.0	≤ 60	USEPA 40 CFRCH
05	Ozone (O₃)	μg/M³	3.2	≤ 100	IS 5182
06	Lead (Pb)	μg/M³	BDL	≤ 1.0	APHA - AAS
07	Carbon Monoxide (CO)	mg/M³	0.260	≤ 2.0	IS 5182
08	Ammonia (NH₃)	μg/M³	3.3	≤ 400	APHA - 401
09	Benzene (C ₆ H ₆)	μg/M³	BDL	≤5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/ M³	BDL	≤1	IS 5182
11	Arsenic (As)	ng/ M³	BDL	≤6	APHA - AAS
12	Nickel (Ni)	ng/ M³	BDL	≤ 20	APHA - AAS

REMARKS/OBSERVATIONS:

- > All above results are within National Ambient Air Quality standards.
- ➢ BDL: Below Detection Limit.

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Issue Date:12/12/2022

Client's Name & Address	Reference No.	MITCON/2022- 23/December/12263/4
M/s MOIL LIMITED,	Date of Monitoring	04/12/2022
	Type of Monitoring	Ambient Air
Sukali Manganese Mines L1= 79.550 Ha Site, Distr- Balaghat (M.P)	Test Location	Near Pit No. 5
	Monitoring Done By	MITCON
	Date of Analysis	06/12/2022

OBSERVATION

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
30	30	14	50	1440	0.0	7.0 km/ hrs.(Avg)	NE

RESULT

Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO ₂)	μg/M³	13.2	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO2)	μg/M³	17.8	≤ 80	IS 5182(Part 6)
03	Particulate Matter PM10 micron	μg/M³	63.4	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM _{2.5 micron}	μg/M³	34.9	≤ 60	USEPA 40 CFRCH
05	Ozone (O ₃)	μg/M³	3.8	≤ 100	IS 5182
06	Lead (Pb)	μg/M³	BDL	≤ 1.0	APHA - AAS
07	Carbon Monoxide (CO)	mg/M³	0.384	≤ 2.0	IS 5182
08	Ammonia (NH ₃)	μg/M³	3.9	≤ 400	APHA - 401
09	Benzene (C₅H₅)	μg/M³	BDL.	≤5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/ M³	BDL	≤1	IS 5182
11	Arsenic (As)	ng/M³	BDL	≤6	APHA - AAS
12	Nickel (Ni)	ng/ M³	BDL	≤ 20	APHA - AAS

REMARKS/OBSERVATIONS:

➤ All above results are within National Ambient Air Quality Standards.

➤ BDL: - Below Detection Limit.

For MITCON Consultancy & Engineering Service

Checked By

(Mrs.Kadambari Deshmukh)

d Signatory Dr. Sandeep Jadhav Senior vice president

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Test Report

Report Number: MITCON/2022-23/December/12263

Issue Date:12/12/2022

Client's Name & Address	Sample Details			
M/s MOIL LIMITED,	Sample Code	MITCON/2022-23/December/12263/1		
	Name of Sample	Ground Water		
Sukali Manganese Mines L1= 79.550 Ha Site,	Sample Details	Sukali Village Bore well		
Dist:- Balaghat (M.P)	Container Details	1 lit plastic can		
	Sample Collected By	MITCON		
	Method of sampling	IS 3025(Part I)		
	Sample Collected On	04/12/2022		
	Date of Sample Receipt	06/12/2022		
	Analysis Start Date	06/12/2022		
	End Date of Analysis	12/12/2022		

ANALYSIS RESULTS

Sr. No.	Parameters	Results	Unit	Limits as per IS 10500:2012	Test Methods
01	pH at 25C	7.23	_	6.5 to 8.5	APHA 4500 H+, A, 4-95, 23rd Ed 2017
02	Total suspended sollds	9.0	mg/l	N.S.	APHA 2540 D,2-70 to 2-71 23rd ed 2017
03	Turbidity	<1	NTU	≤1	IS: 3025 Part-10 (R.A : 2002)
04	Total Dissolved Solids	229.3	mg/l	≤500	APHA 2540 C, 2-69 to 2-70, 23rd Ed 2017
05	Total Hardness as CaCO3	114.6	mg/l	≤200	APHA 2340 C ,2-48 to 2-50,23rd Ed 2017
06	Calcium as Ca	28.66	mg/l	≤75	APHA 3500 Ca B , 3-69 to 3-70 , 23rd Ed. 2017
07	Magnesium as Mg	14.3	mg/l	≤30	APHA 3500 Mg B, 3-86 , 23rd Ed. 2017
80	Mangnese as mn	< 0.1	mg/i	<0.1	APHA 3111 B, 3-18 to 3-21 23rd Ed. 2017
09	Total Alkalinity as Caco3	94.6	Mg/l	<200	APHA 2320 B ,2-37 to 2-39 23rd Ed 2017
10	Fluoride as F 💮	< 0.1	Mg/I	<1	APHA 4500 F- D 4-90 to 4-9123rd Ed 2017
11	Chloride as Cl	30.12	mg/l	≤ 250	APHA 4500 Cl, B, 4-75 to 4-76, 23rd Ed 2017
12	Sulphate as SO4	15.89	mg/l	≤ 200	APHA 4500 -SO4E, 4-199 TO 4-200, 23rd Ed 2017
13	Iron as Fe	< 0.05	mg/l	≤ 0.3	APHA 3111 B, 3-18 TO 3-21, 23rd Ed 2017 (using AAS)
14	Nitrate as NO3	3.50	mg/l	≤45	APHA 4500 NO3-B,4-127 23rd Ed 2017
15	E.coli	Absent	MPN/100m I	Absent	IS: 1622 (R.A : 2014)
16	Total Coliform	Absent	MPN/100m	Absent	i5: 1622 (R.A : 2014)
17	colour	<5	HZ	≤5	IS: 3025 Part-4 (Rev.1, RA 2012)
18	odour	Aggreable	Agreeable	Agreeable	IS: 3025 Part-5 (Rev.1, RA 2012)
MAR	KS / OBSERVATIONS			CY & FW	
0	KS / OBSERVATIONS The above water sa	mple is compl	ying with	quired limits às pe	r IS 10500:2012.
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(Mrs. Kadambari Deshmukh)

Autholited Signatory (Dr.Sandeep Jadhav) Senior Vice President

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Quarter October- November- December 2022

Test Report

Report Number: MITCON/2022-23/December/12263

Issue Date:12/12/2022

Client's Name & Address		Sample Details	
M/s MOIL LIMITED,	Sample Code	MITCON/2022-23/December/12263/2	
	Name of Sample	Ground water	
Sukali Manganese Mines L1= 79.550 Ha Site,	Sample Details	Pit No. 5 Water supply	
Dist:- Balaghat (M.P)	Container Details	1 lit plastic can	
	Sample Collected By	MITCON	
	Method of sampling	IS 3025(Part I)	
	Sample Collected On	04/12/2022	
	Date of Sample Receipt	06/12/2022	
	Analysis Start Date	06/12/2022	
	End Date of Analysis	12/12/2022	

ANALYSIS RESULTS

Sr. No.	Parameters	Results	Unit	Limits as per IS 10500:2012	Test Methods
01	pH at 25C	7.35		6.5 to 8.5	APHA 4500 H+, A, 4-95, 23rd Ed 2017
02	Total suspended solids	12.0	mg/l	N.S	APHA 2540 D,2-70 to 2-71 23rd ed 2017
03	Turbidity	<1	NTU	≤1	IS: 3025 Part-10 (R.A : 2002)
04	Total Dissolved Solids	258.3	mg/l	≤ 500	APHA 2540 C, 2-69 to 2-70, 23rd Ed 2017
05	Total Hardness as CaCO3	129.15	mg/l	≤200	APHA 2340 C ,2-48 to 2-50,23rd Ed 2017
06	Calcium as Ca	32.28	mg/l	≤75	APHA 3500 Ca B , 3-69 to 3-70 , 23rd Ed 2017
07	Magnesium as Mg	16.14	mg/l	≲30	APHA 3500 Mg B, 3-86 , 23rd Ed; 2017
08	Mangnese as mn	< 0.1	mg/l	< 0.1	APHA 3111 B, 3-18 to 3-21 23rd Ed. 2017
09	Total Alkalinity as Caco3	109.15	Mg/I	<200	APHA 2320 B ,2-37 to 2-39 23rd Ed 2017
10	Fluoride as F	< 0.1	Mg/I	<1	APHA 4500 F- D 4-90 to 4-9123rd Ed 2017
11	Chloride as Cl	30.30	mg/l	≤ 250	APHA 4500 Cl, B, 4-75 to 4-76, 23rd Ed 2017
12	Sulphate as SO4	14.89	mg/l	≤ 200	APHA 4500 –SO4E, 4-199 TO 4-200, 23rd Ed 2017
13	Iron as Fe	< 0.05	mg/l	≤0.3	APHA 3111 B, 3-18 TO 3-21, 23rd Ed 2017 (using AAS)
14	Nitrate as NO3	3,45	mg/l	≤45	APHA 4500 NO3-B,4-127 23rd Ed 2017
15	E.coli	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
16	Total Coliform	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
17	colour	< 5	HZ	≤5	IS: 3025 Part-4 (Rev.1, RA 2012)
18	odour	Aggreable	Agreeable	Agreeable	IS: 3025 Part-5 (Rev.1, RA 2012)

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REMARKS / OBSERVATIONS:

For MITCON Consultancy & Engineering Services Ltd S kuneruuh.

Checked By

(Mrs. Kadambari Deshmukh)

Signatory (Dr. Sandeep Jadhav) Senior Vice President

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Format No. EME/LAB/Format 7.8/TR

Quarter October- November- December 2022

Test Report

Report Number: MITCON/2022-23/December/12263

Issue Date:12/12/2022

Client's Name & Address	Sample Details			
M/s MOIL LIMITED,	Sample Code	MITCON/2022-23/December/12263/3		
0.1.1124	Name of Sample	Waste Water (Mine Discharge water)		
Sukali Manganese Mines L1= 79.550 Ha Site, Dist:- Balaghat (M.P)	Sample Details	Mine Discharge water 1 lit plastic can		
Disc- balagnat (IVI.P)	Container Details			
	Sample Collected By	MITCON		
	Method of sampling	IS 3025(Part I)		
	Sample Collected On	04/12/2022		
	Date of Sample Receipt	06/12/2022		
	Analysis Start Date	06/12/2022		
	End Date of Analysis	12/12/2022		

ANALYSIS RESULTS

Sr. No.	Characteristic	Results	Unit	Permissible Limit as per Consent Condition	Test Methods
01	pH at 25 ^o C	7.29	-	5.5 to 9.0	APHA 4500 H+ A, 4-95, 23rd Ed. 2017
02	Dissolved Oxygen	3.6	mg/I		IS: 3025 Part 38
03	Chemical Oxygen Demand	78.6	mg/l	250	APHA 5220 C,5-20 to 5-21 23rd Ed 2017
04	Biochemical Oxygen	22.5	mg/l	30	IS :3025 (Part 44)
05	Total suspended solids	33.0	mg/I	100	APHA 2540 D,2-70 to 2-71 23 rd Ed 2017
06	Oil and grease	< 5	mg/l	10	APHA 5520 B,5-42 to 5-43 23rd Ed 2017
07	Manganese	0.38	mg/I	2	APHA 3111 B,3-18 to 3-21 23rd Ed 2017

REMARKS / OBSERVATIONS:

For MITCON Consultancy & Engineering Services Ltd.

Checked By

(Mrs. Kadambari Deshmukh)



Signatory (Dr.Sandeep Jadhav) Senior Vice President

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Customer complaint register is available in the laboratory.

Environment Management and Engineering Division

(Environmental Laboratory)

Agriculture College Campus, Next to DIC office, Shivaji Nagar, Pune. 411 005, Ph. No. 66289405/400, email: emelab@mitconindia.com

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Test Report

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Issue Date:12/12/2022

Client's Name & Address	Reference No.	MITCON/2022-23/December/12263/7
M/s MOIL LIMITED,	Date of Monitoring	04/12/2022
	Type of Monitoring	Ambient Noise
Sukali Manganese Mines L1= 79.550 Ha Site, Dist:- Balaghat (M.P).	Monitoring Done By	MITCON

READINGS

Sr. No.	Test Location	Unit	Readings
01	Near Pit No. 5	dB(A)	61.0
02	Near Sukali Village	dB(A)	48.1
03	Haul Road	dB(A)	56.9

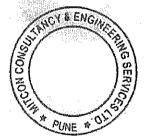
REMARKS / OBSERVATIONS:

Limits: The Madhya Pradesh Pollution Control Board has prescribe 75 dB (A) as an upper limit of Noise Level during daytime.

For MITCON Consultancy & Engineering Services Ltd.

Checked By

(Mrs. Kadambari Deshmukh)



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