

ENVIRONMENTAL MONITORING REPORT

February, 2025

PROJECT: RAMANADURGA IRON ORE MINE

**ML NO. 2141
Dharmapura Village
Sandur Taluk, Ballari District,
Karnataka**

Lessee

M/S. Sri. KUMARASWAMY MINERAL EXPORTS PVT. LTD.,

**D. No. 462, SMIORE Colony,
Near Fire Station, Kudligi Road
SANDUR - 583119
BELLARY, KARNATAKA**

ENVIRONMENTAL LABORATORY

(Unit of Mineral Engineering Services)

**(Accredited by NABL &, MOEF&CC Under E(P) 1986)
#948, 2nd Cross, Kammanahalli Main Road,
St Thomas Town Post, Bangalore- 560 084, Karnataka,**

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TEST REPORT

Table No. 1

AMBIENT AIR QUALITY

Name of the Client : M/s. Sri. Kumaraswamy Mineral Exports Pvt. Ltd
 Name of the Project : Ramanadurga Iron Ore Mine (ML No. 2141)
 Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
 Station at & Code : A - I, Dharmapura
 Duration : 24 Hrs
 Issue date : 03.03.2025
 Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	Particulate Matter	
				PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)
03.02.2025	N/25/02/1-0120	11	14	56	30
04.02.2025	N/25/02/1-0167	9	10	50	26
14.02.2025	N/25/02/3-0207	9	11	54	28
15.02.2025	N/25/02/3-0255	8	14	46	25
17.02.2025	N/25/02/5-0022	12	13	30	22
18.02.2025	N/25/02/5-0058	11	15	44	25
26.02.2025	N/25/03/1-0007	10	14	50	29
27.02.2025	N/25/03/1-0030	11	18	55	30
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

M. SACHIN RAJU
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T.M. - Chemical

Govt. Analyst / Authorised Signatory

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Table No. 2

AMBIENT AIR QUALITY

Name of the Client : M/s. Sri. Kumaraswamy Mineral Exports Pvt. Ltd
 Name of the Project : Ramanadurga Iron Ore Mine (ML No. 2141)
 Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
 Station at & Code : A - II, Yeshwanthanagar
 Duration : 24 Hrs
 Issue date : 03.03.2025
 Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	Particulate Matter	
				PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)
03.02.2025	N/25/02/1-0108	11	15	52	28
04.02.2025	N/25/02/1-0156	12	18	48	25
10.02.2025	N/25/02/3-0018	12	13	50	29
11.02.2025	N/25/02/3-0084	10	17	55	30
21.02.2025	N/25/02/5-0158	9	13	46	27
22.02.2025	N/25/02/5-0246	11	18	57	29
24.02.2025	N/25/02/5-0341	12	13	44	23
25.02.2025	N/25/02/5-0455	10	11	52	27
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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Table No. 3

AMBIENT AIR QUALITY

Name of the Client : M/s. Sri. Kumaraswamy Mineral Exports Pvt. Ltd
 Name of the Project : Ramanadurga Iron Ore Mine (ML No. 2141)
 Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
 Station at & Code : A - III, Sushila Nagar village
 Duration : 24 Hrs
 Issue date : 03.03.2025
 Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	Particulate Matter	
				PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)
03.02.2025	N/25/02/1-0122	11	12	58	31
04.02.2025	N/25/02/1-0169	9	11	39	24
12.02.2025	N/25/02/3-0143	13	17	54	27
13.02.2025	N/25/02/3-0193	11	12	55	32
19.02.2025	N/25/02/5-0089	12	13	47	26
20.02.2025	N/25/02/5-0122	9	10	53	27
24.02.2025	N/25/02/5-0351	12	13	50	25
25.02.2025	N/25/02/5-0460	8	11	57	32
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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Table No. 4

AMBIENT AIR QUALITY

Name of the Client : M/s. Sri. Kumaraswamy Mineral Exports Pvt. Ltd
 Name of the Project : Ramanadurga Iron Ore Mine (ML No. 2141)
 Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
 Station at & Code : A - IV Sandur Town
 Duration : 24 Hrs
 Issue date : 03.03.2025
 Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	Particulate Matter	
				PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)
05.02.2025	N/25/02/1-0200	9	15	44	23
06.02.2025	N/25/02/1-0227	11	18	50	28
12.02.2025	N/25/02/3-0140	7	13	55	32
13.02.2025	N/25/02/3-0169	8	19	58	33
19.02.2025	N/25/02/5-0086	7	12	51	24
20.02.2025	N/25/02/5-0119	6	17	48	23
27.02.2025	N/25/03/1-0033	8	10	44	22
28.02.2025	N/25/03/1-0052	12	14	58	33
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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Table No. 5

AMBIENT AIR QUALITY

Name of the Client : M/s. Sri. Kumaraswamy Mineral Exports Pvt. Ltd
 Name of the Project : Ramanadurga Iron Ore Mine (ML No. 2141)
 Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
 Station at & Code : A - V Core zone Within ML Area
 Duration : 24 Hrs
 Issue date : 03.03.2025
 Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	Particulate Matter	
				PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)
03.02.2025	N/25/02/1-0123	8	11	48	25
04.02.2025	N/25/02/1-0170	7	10	55	31
12.02.2025	N/25/02/3-0144	8	11	49	27
13.02.2025	N/25/02/3-0194	12	16	54	29
19.02.2025	N/25/02/5-0090	7	9	51	27
20.02.2025	N/25/02/5-0123	9	12	57	30
24.02.2025	N/25/02/5-0352	7	10	39	21
25.02.2025	N/25/02/5-0461	8	13	46	25
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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Table No. 6

Fugitive Emission

Name of the Client	: M/s. Sri. Kumaraswamy Mineral Exports Pvt. Ltd	
Name of the Project	: Ramanadurga Iron Ore Mine (ML No. 2141)	
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)	
Station at & Code	: A - VI, Loading point	
Duration	: 08 Hrs	
Issue date	: 03.03.2025	
Date of sample	Lab Code	Particulate mater ($\mu\text{g}/\text{m}^3$)
12.02.2025	N/25/02/3-0145	265
19.02.2025	N/25/02/5-0091	387

Station at & Code	: A - VII, Crushing & Screening	
Duration	: 08 Hrs	
Date of sample	Lab Code	Particulate mater ($\mu\text{g}/\text{m}^3$)
13.02.2025	N/25/02/3-0172	389
20.02.2025	N/25/02/5-0124	412

Station at & Code	: A - VIII, Dumping point	
Duration	: 08 Hrs	
Date of sample	Lab Code	Particulate mater ($\mu\text{g}/\text{m}^3$)
12.02.2025	N/25/02/3-0146	367
19.02.2025	N/25/02/5-0092	385

Station at & Code	: A - IX, Haulage Road	
Duration	: 08 Hrs	
Date of sample	Lab Code	Particulate mater ($\mu\text{g}/\text{m}^3$)
13.02.2025	N/25/02/3-0173	432
20.02.2025	N/25/02/5-0125	396
Ref	: Environmental (Protection) Rules, 2010 (Sixth Amendment)	
	Particulate mater ($\mu\text{g}/\text{m}^3$)	
Permissible limits for Fugitive Emissions	600 $\mu\text{g}/\text{m}^3$	

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Table No. 7

STATISTICAL AIR QUALITY DATA

Name of the Project : Ramanadurga Iron Ore Mine (ML No. 2141)												
Name of the Client : M/s. Sri. Kumaraswamy Mineral Exports Pvt. Ltd												
Month : February, 2025												
Station Code : A - I, Dharmapura					A - II, Yeshwanthanagar				A - III, Sushila Nagar village			
	SO ₂	NO ₂	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	PM ₁₀	PM _{2.5}
Min.	8	10	30	22	9	11	44	23	8	10	39	24
10%	9	11	40	24	10	12	45	24	9	11	45	25
25%	9	13	46	25	10	13	48	27	9	11	49	26
50%	11	14	50	27	11	14	51	28	11	12	54	27
75%	11	14	54	29	12	17	53	29	12	13	56	31
98%	12	18	56	30	12	18	57	30	13	16	58	32
Max.	12	18	56	30	12	18	57	30	13	17	58	32
Avg.	10	14	48	27	11	15	51	27	11	12	52	28
SD	1	2	8	3	1	3	4	2	2	2	6	3
No. of obs	8				8				8			
Station Code : A - IV Sandur Town					A - V Core zone Within ML Area							
	SO ₂	NO ₂	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	PM ₁₀	PM _{2.5}				
Min.	6	10	44	22	7	9	39	21				
10%	7	11	44	23	7	10	44	24				
25%	7	13	47	23	7	10	48	25				
50%	8	15	51	26	8	11	50	27				
75%	10	17	56	32	8	12	54	29				
98%	12	19	58	33	12	16	57	31				
Max.	12	19	58	33	12	16	57	31				
Avg.	9	15	51	27	8	12	50	27				
SD	2	3	6	5	2	2	6	3				
No. of obs	8				8							

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TEST REPORT

Table No. 8

Name of the Client	: M/s. Sri. Kumaraswamy Mineral Exports Pvt. Ltd
Name of the Project	: Ramanadurga Iron Ore Mine (ML No. 2141)
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particulars of sample collected	: SW1 - Nari Halla Up Stream water, SW2 - Nari Halla Down Stream water
Date of sample collection	: 12.02.2025
Issue Date	: 25.02.2025
Ref : IS : 2296 Water Quality Standards	

Lab Code		N/25/02/3-0404	N/25/02/3-0405	Limits For Stream Water Standards	Method of Testing
Sl.No.	Parameters	Results			
		SW1	SW2		
1	Colour (Hazen Units)	5	5	300	IS:3025(Part-4)2021
2	pH	8.20	8.11	6.5 to 8.5	IS:3025(Part-11)2022
3	Dissolved Oxygen (as O ₂), mg/l	5.3	5.2	Min 4	IS:3025(Part-38)1989RA 2019
4	Biochemical Oxygen Demand (as O ₂), mg/l	<3.0	<3.0	3	IS:3025(P-44) 2014
5	Total Coliform (MPN/100ml)	245	260	5000	IS:1622:1981
6	Total Dissolved Solids, (mg/l)	924	930	1500	IS:3025(Part-16)2023
7	Oil & Greease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021
8	Chloride (as Cl),mg/l	290.0	285	600	IS:3025(Part-32) ;1988RA2019
9	Sulphates as SO ₄ (mg/l)	130.0	125.0	400	IS:3025(P-24)Sec 1 2022
10	Nitrates (as NO ₃),mg/l	30.0	32.5	50	IS:3025(Part-34)1988 RA 2019
11	Fluoride (as F),mg/l	0.78	0.82	1.5	APHA 23rd Edition 4500F
12	Copper (as Cu),mg/l	<0.005	<0.005	1.5	IS:3025(Part-2) 2019
13	Iron (as Fe),mg/l	<0.005	<0.005	50	IS:3025(P-2) 2019
14	Zinc (as Zn),mg/l	<0.005	<0.005	15	IS:3025(P-2) 2019
15	Total Arsenic (as As), (mg/l)	<0.002	<0.002	0.2	IS:3025(Part-37)
16	Lead (as Pb), mg/l	<0.005	<0.005	0.1	IS:3025(P-2) 2019
17	Cadmium (as Cd), mg/l	<0.001	<0.001	0.01	IS:3025(P-2) 2019
18	Hexavalent Chromium (as Cr ⁺⁶), mg/l,	<0.03	<0.03	0.05	IS:3025(P-52) 2014
19	Selenium (as Se), mg/l	<0.005	<0.005	0.05	IS:3025(P-2) 2019
20	Cyanide (as CN), mg/l	<0.005	<0.005	0.05	IS:3025(P-27) Sec 1 2021
21	Phenolic compounds (as C ₆ H ₅ OH),mg/l	<0.001	<0.001	0.005	IS:3025(P-43)Sec 1 2022
22	Anionic detergents (as MBAS),mg/l	<0.1	<0.1	1.0	IS:3025(Part-68)

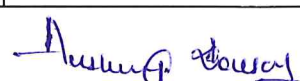
""END OF REPORT""



BINU MANI

T.M. - Microbiology

Govt. Analyst / Authorised Signatory



ARSHIYA KOUSAR

Dy. T.M. - Chemical

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TEST REPORT

Table No. 9

Name of the Client	: M/s. Sri. Kumaraswamy Mineral Exports Pvt. Ltd
Name of the Project	: Ramanadurga Iron Ore Mine (ML No. 2141)
Particulars of sample	: Soil Samples
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Date of sample collection	: 10.02.2025
Issue Date	: 03.03.2025

Sl. No.	Lab Code		N/25/02/3-0408	N/25/02/3-0409	N/25/02/3-0410	N/25/02/3-0411
	Sample Code		S1	S2	S3	S4
	PARAMETERS	Unit	Results			

PHYSICAL PROPERTIES

1	Colour	—	Red soil	Red soil	Red Soil	Red Soil
2	Textural class	—	LOAM	Clay Loam	LOAM	LOAM
3	Size Distribution					
	Sand	%	42.84	38.42	45.30	38.56
	Clay	%	22.40	31.25	22.66	25.65
	Silt	%	34.76	30.33	32.04	35.79
4	Moisture Content	%	10.86	11.38	10.55	11.63
5	Bulk Density	gm/cc	1.82	1.61	1.35	1.56
6	Water holding capacity	%	35.42	41.25	30.26	33.48
7	pH	—	6.99	6.89	6.75	6.82
8	EC	m.mohs/cm	0.450	0.582	0.480	0.336

Chemical Properties

9	Organic Carbon	%	0.82	0.52	0.81	0.88
10	Nitrogen as N	Kg/Ha	218	277	215	220
11	Phosphorous as P	Kg/Ha	11.86	9.86	11.28	10.86
12	Potassium as K ₂ O	Kg/Ha	134	140	140	134
13	Sodium as Na	mg/kg	54.00	30.00	39.00	41.00
14	Chloride as Cl	mg/kg	66.00	36.00	38.00	42.00
15	Sulphate as SO ₄	mg/kg	40.00	38.00	48.00	46.00

Sample Locations :

- S1 - Sushila Nagar Agricultural Land
- S2 - Yeshwanthanagar Agricultural Land
- S3 - Dharmapura Agricultural Land
- S4 - Dump soil with in the lease area

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