INDIAN METALS & FERRO ALLOYS LIMITED

- Received copy -

imfa

Mahagiri Mines
(Chromite)
P.O. Kaliapani
755047
Dist Jajpur
Odisha, India

TEL +91 6726 268139
+91 6726 268143
FAX +91 6726 268996

Corporate Office
IMFA Building
Bhubaneswar - 751010
Odisha, India

Corporate Identity No.
L27101OR1961PLC000428

TEL +91 674 3051000
+91 674 2580100
FAX +91 674 2580020
+91 674 2580145

mail@imfa.in

www.imfa.in

Ref. No: IMFA/MMC/19/1611
Date : 27/09/2019

To,
The Chairman,
State Pollution Control Board,Odisha,
Paribesh Bhawan, A/118,
Nilakantha Nagar,Unit-VIII,
Bhubaneswar -751012.

Sub: Annual Environmental Statement in the stipulated format i.e Form (v) under EP Act 1986, in respect of Mahagiri Mines(Chromite) of M/s IMFA Ltd.for the financial year 2018-19.

Dear sir,

Enclosed please find herewith the Annual Environmental Statement in Form(v) for the financial year 2018-2019 in respect of Mahagiri Mines (Chromite) of M/s IMFA Ltd.

This is for your kind information please.

Thanking You.

Yours faithfully,
for Indian Metals & Ferro Alloys Ltd.

(L.Mahapatra)
Mines Manager
Mahagiri Mines (Chromite)

Encl : As above.

Cc: Regional Office, State Pollution Control Board- Odisha, Dhabalagiri, In front of OMC guesthouse, Po-Ferrochrome Project,Dist - Jajpur-755020.

Cc: The Joint Director(S) Environment, Ministry of Environment and Forest Eastern Region Office, A/3, Chandrasekharpur, Bhubaneswar- 751023.

GOVT OF INDIA
MoEF & CC, Eastern R.O.
Bhubaneswar-751023
30 SEP 2019
RECEIVED

No.....Dt.....
RECEIVED
30 SEP 2019
S.P.C. BOARD
BHUBANESWAR-12

30/09/19

Form V
(See Rule 14)

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR 2018-19, IN RESPECT OF MAHAGIRI MINES (CHROMITE), M/S. INDIAN METALS & FERRO ALLOYS LIMITED.

PART – A

(i)	Name & address of the Owner/ Occupier of the industry, Operation or process.	:	Mr. C.R.Ray, M/s. Indian Metals & Ferro Alloys Ltd. Bomikhal, Rasulgarh, Bhubaneswar Odisha-751010
ii)	Industry category Primary (STC Code) Secondary (SIC Code)	:	Primary
(iii)	Production Capacity	:	3.0 Lakh Tonnes of Chrome Ore per Annum.
(iv)	Year of establishment	:	2006
(v)	Date of the last environmental Statement submitted	:	27-09-2018

PART - B

WATER & RAW MATERIAL CONSUMPTION

(1) **Water consumption m^3 / day** **:2018-19**

Process	Nil
Sprinkling	20.35 KL/day(Avg)
Domestic	9.752 KL/day(Avg)
Others*	908.234 KL/day(Avg)

Note:* 908.234KL/day Mines dewatering quantity considered in others. i.e. KL/day(Avg).

(2) **Raw material consumption -** NA

PART - C
POLLUTION DISCHARGED TO ENVIRONMENT / UNIT OF OUTPUT
Concentration of Pollutants

A. Water

There is no generation of water from the Opencast mine, as the mine is not operative and already been filled. During monsoon, Surface run-off generated from the base filling and the other areas is coursed suitably through garland drains to the intermediate settling ponds. The water is further coursed to one final settling pond, from where it is pumped out to common ETP located at Sukinda Mines (Chromite) [adjoining Lease of same lessee-M/s IMFA Ltd] and upgraded as per guidelines of IIT,Kharagpur, for treatment before final discharge.The water generated from the Underground mine is coursed through pipeline to the ETP -4 and is treated before final discharge.

B. Air

Sl.No.		Core Zone Avg.µg/m³	Buffer Zone Avg.µg/m³
i	Particulate Matter (PM_{10})	66.27	58.56
ii	Particulate Matter ($PM_{2.5}$)	28.32	25.27
iii	Sulphur Dioxide (SO_2)	11.65	13.95
iv	Oxides of Nitrogen (NO_x)	16.05	15.59
v	Carbon Monoxide (CO)	0.73	0.70

PART - D
HAZARDOUS WASTES
(As specified under Hazardous Wastes (Management & Handling) Rules, 1989)

Hazardous Wastes	Total Quantity (kg) During Financial Year	
	(2017-18)	(2018-19)
a. From process	Used oil - 780 Ltrs Waste containing oil- - Oil filter - - Empty oil barrel - 5 nos.	Used oil - 9486 Ltrs Waste containing oil- - Oil filter - - Empty oil barrel - 46 nos.
b. From Pollution Control facilities	Not Applicable	Not Applicable

PART – E
SOLID WASTES

Solid Wastes	Total Quantity (cum) During Financial Year	
	2017-18	2018-19
a. From process (overburden)	30357	18263
b. From Pollution Control facilities	N/A	N/A
c. Quantity recycled or re-utilised	N/A	N/A

PART – F

PLEASE SPECIFY THE CHARACTERISTICS (IN TERMS OF COMPOSITION AND QUANTUM) OF HAZARDOUS AS WELL AS SOLID WASTES AND INDICATE DISPOSAL PRACTICE ADOPTED FOR BOTH THESE CATEGORIES OF WASTES.

Solid waste management and characteristics:-

The solid waste generated from the mine is in the form of overburden from opencast workings & waste rock from Underground workings. During reporting period there is no overburden generation from opencast operation.The waste rocks generated from underground workings is dumped in mined out area of the opencast quarry, under backfilling as per approved mining plan.

The chracterstic of the overburden materials is as follows.

Parameters	Results (%)
Cr_2O_3	1.46
FeO	8.06
CaO	0.45
MgO	39.19
SiO_2	32.10
Al_2O_3	1.22
P	0.006

Hazardous Waste Management and its Characterstics:-

Generation of hazardous waste is being created only in the workshop premises during maintenance of HEMM and other mining equipments.The generation includes used oil,oil filters,waste containing oil & empty barrels. Used oil is stored in barrels and disposed off to SPCB authorised recycler. Oil filters and waste containing oil are stored in the impervious pit and disposed off to the authorised recycler.

The Annual return in Form- 4 as required under Rule 5(6) and 22(2) of hazardous waste (Management, Handling and Transboundary Movement) Rules- 2016 has been submitted to SPCB vide Ref No. IMFA/MMC/19/800 dtd 27.06.2019

PART – G

IMPACT OF THE POLLUTION ABENTMENT MEASURES ON CONSERVATION OF NATURAL RESOURCES AND THE COST OF PRODUCTION.

Mahagiri Mines (Chromite) has taken various measures on conservation of natural resources and cost of the production.

1. Measures for control of Air Pollution

Source of dust from the mining operation is only from crushing, screening, transportation and drilling. So to minimise air pollution within the mines premises following Mitigative measures are been implemented.

a) Mobile water tanker is being used for haul mines dust suppression to minimize the air born dust form transportation operation.

b) 0.9 KM running meter automatic fixed sprinklers have been installed at mines permanent haul road to minimize the air born dust form transportation operation.

c) Dry fog systems have been installed at crushing and screening plants to arrest air born dust from source level and which is being operated regularly.

d) MIST cannon installed at crushing and screening plant area to supress the air born dust from plant premises area.

e) A mobile MIST Cannon of 40 meter throwing capacity is being engaged for dust

suppression at mines and mineral stock yards,etc.

f) Wet drilling is being practiced in the underground operation to arrest the dust generation during drilling operation.

g) Regular maintenance is being carried out for the vehicles / HEMM / Equipments used for mining operation. PUC validity is regularly checked for the trucks used for mineral transportation from site to railway siding and plants.

h) Trucks are covered for both up and down with tarpaulin to minimize the air born dust due to spillage of the mineral to haul road and public road.

i) Plantations have been done in the safety zone, haul road barrier & plant premises.

2. Measures for Control of Water Pollution.

Mahagiri Mines (Chromite) has taken various control measures to minimize the water pollution. The details are follows.

a) The overburden dump are well developed with plantation and other suitable grass seed to control the soil erosion.

b) Retaining wall provided at bottom of the OB dump and other required area to avoid the dump collapse and soil erosion.

c) The underground water seepage water is being coursed to common effluent treatment plant located at Sukinda Mines (Chromite) of same lessee for further treatment to evaluate the Cr+6 concentration. The treated water is being used for mines dust suppression and other activities.

d) Mines runoff water is being channelized to common settling pond located at Sukinda Mines (Chromite) of the same lesser for primary settlement and followed to common Effluent Treatment Plant for treatment to evaluate the Cr+6 concentration. The treated water is being used for mines dust suppression and other activities. Excess water if any is being disposed to nearest Nallah.

e) Oil trap unit installed at workshop water service centre to evaluate the oil and grease from workshop water servicing output water and the same water is recirculated for the same use.

f) Check dams are constructed at the permanent open drain to arrest the silt from the runoff water.

g) Concrete roads have been constructed at vulnerable area to minimize the slurry formation during monsoon period in respect to water pollution.

3. Measures for Control of Sound Pollution and Ground Vibration

Source of the water pollution is from the transportation activity, crushing and screening operation and blasting.To minimize the same following control measures are being practice.

a) Preventive maintenance is being carried out for all the equipment's used for mining operation.

b) Acoustic cabin is provided to all the DG sets & compressor to minimize the air born dust.

c) Control blasting is being practiced.

d) Persons engaged in the noisy are facilitated with ear muffs.

4. Green Belt Development-Plantation Programme

The Statement showing the details in year wise plantation & survival rate from the beginning of the mines (i.e. September' 2005-2006 to 2018-2019).

Year of Plantation	Area Planted in Ha.	No. of Trees Planted	No. of Trees Survived	Survival Rate (%)	Name of the Species
2005-2006	0.000	0	0	0	0
2006-2007	0.410	1091	960	88	Cashew,Neem,Karanja,Gumhari,Chakunda,Jamun,Akasia and Mirigichara .
2007-2008	1.190	2847	2506	88	Akasia,Cashew,Neem,Karanja,Gumhari,Chakunda,Jack fruit and Sirish.
2008-2009	1.490	3003	2583	86	Neem,Mango,Sisoo,Gumhari,Jamun, Radhachuda and Mirigichara .
2009-2010	1.300	2747	2472	90	Karanja,Sal,Chakunda,Akasia,Sisoo, Gumhari,Arjun,Aunla,Chhatiana,Jamun and Mirigichara .
2010-2011	1.000	2590	2550	98	Bahada,Sunari,Cashew,Chanda,Akasia,Gambhari,Mirigichara,Bamboo, Chhatina,Mango,Sirisa etc.
2011-2012	0.80	2125	1807	85	Neem, Chakunda, Bamboo, Bahada,Gumhari, Teak etc
2012-2013	0.71	2809	2440	87	Neem,Chakunda, Bahada,Gumhari, Teak etc.
2013-2014	0.25	1670	1477	88	Jamu, Neem, Karanja, Mahula, Sunari, Chakunda, Babool etc.
2014-2015	0.31	1730	1549	90	Teak, Krushnachuda, Chakunda, Sunari, Chhatini, Bahada, Neem, Karanja, Jamu, Sirisha, Mahula, Piasal, Mirigchara etc
2015-2016	0.5	2042	1848	91	Potash,Mehobeen,Sala,Teak,Chhatini,Bahada,Neem,Karanja,Jamu,Sirisha,Piasala etc.
2016-2017	0.49	1750	1602	92	Mahaneem,Chhatini,Bahada,Neem, Karanja,Jamu,Sirisha,Piasala,Sunari ,Raktachandan,Harida,Bahada,Arjuna,Bela,Guava,Agasti,Dalimba,Amla, Kaintha etc.
2017-2018	0.45	1550	1437	93	Chhatini,Bahada,Neem,Karanja, Jamu,Sirisha,Piasala,Sunari, Arjuna,Sala. etc
2018-2019	0.12	320	289	90	Harida,Arjun,Dhaura,Chhatini,Bahada,Neem,Karanja,Raktachandana, Sirisha,Piasala,Sunari, etc.
Total	9.02	26274	23520	90	