Ref No: BAL/Mines/241

Dated: 27.9.2016

The Member Secretary,
State Pollution Control Board
Paribesh Bhawan,A/118
Nilakantha Nagar Unit-VIII
Bhubaneswar -751012

Sub: **Submission of Environmental Statement in Form-V with respect to our Kaliapani Chromite Mines, M/s Balasore Alloys Ltd for the financial year 2015-16.**

Ref: *Consent to Operate Vide No No: 4712/IND_I-CON-2576 dated 17.3.2016 Consent Order No. 1239*

Dear Sir,

Please find enclosed herewith the Environmental Statement in Form - V for the financial year 2015-16 with respect to our Kaliapani Chromite Mines, M/S Balasore Alloys Ltd, Kaliapani, Jajpur for your kind perusal.

Thanking you with regards

Yours faithfully
For M/s Balasore Alloys Ltd

Amarnath Dhar
Mines Manger

Encl: As above

Copy to: The Regional Officer, Kalinganagar, OSPCB.

State Pollution Control Board (Odisha) RECEIVED No..... Date..... Regional Office

Received 27-09-2016

No..... Dt. 3/10/16

03 OCT 2016

Kaliapani Chromite Mines, Kaliapani, Jajpur, Odisha - 755 047, India, Phone No: (06726) 268298 * Fax No : (06726) 268520
Email : sukinda_mines@balasorealloys.com, ialmines@yahoo.com * Website : www.balasorealloys.com
CIN - L27101 OR1 1984PLC 001354

Kaliapani Chromite Mines, M/s Balasore Alloys Ltd
Environment Statement For the Year 2015-16

FORM – V

(See rule 14)

Environmental Statement for the financial year ending with 31st March' 16

PART – A

i. Name and address of the owner/occupier of the industry/operation/process :

Mr Amarnath Dhar
Mines Manager
Kaliapani Chromite Mine,
M/s Balasore Alloys Ltd
At/PO:Kaliapani, Jajpur 755047
ODISHA
sukinda_mines@balasorealloys.com

ii. Industry category : Primary - Large
Secondary - Red

iii. Production category : Open Cast Chromite Mine

iv. Year of establishment : 2000

v. Date of the last Environmental Statement submitted: 07.09.2015

PART – B

Water and Raw Material Consumption:

i. Water consumption in m^3/day

Process (COB Plant): 220 M^3/Day

Cooling: Not Applicable

Domestic: 105.45 M^3/Day

MINES MANAGER

MINES MANAGER
Kaliapani Chromite Mine
BALASORE ALLOYS LTD.

Kaliapani Chromite Mines, M/s Balasore Alloys Ltd
Environment Statement For the Year 2015-16

Name of Products	Process water consumption per unit of products	
	During the current financial year(2014-15)	During the current financial year(2015-16)
Chrome Ore	No water is required for mining of chrome ore	
Chrome concentrate	2.07 KL/Ton	2.07 KL/Ton

ii. Raw material consumption: Raw material is consumed only in the C.O.B. Plant.

Name of raw materials*	Name of Products	Consumption of raw material per unit of output	
		During the current last financial year(2014-15)	During the current financial year(2015-16)
Low Grade Chrome Ore	Chrome Concentrate	2.918 MT	2.918 MT

* Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.

PART – C

Pollution discharged to environment/unit of output:

(Parameter as specified in the consent issued)

Pollutants	Quantity of Pollutants discharged (mass/day)	Concentration of Pollutants discharged (mass/volume)	Percentage of variation from prescribed standards with reasons
<u>Water</u>			
i. pH	6.9	6.9	-23.33%

MINES MANAGER

MINES MANAGER
Kaliapani Chromite Mine
BALASORE ALLOYS LTD.

ii. TSS	178.01 Kg	43.8 mg/L	-12.40%
iii. Cr^{6+}	0.061 kg	0.015 mg/L	-70.00%
iv. Total Chromium	0.252 Kg	0.062 mg/L	-96.90%
v. Fe	4.71 Kg	1.159 mg/L	-61.37%
Air			
i. PM 10	-	65.35 µg/m^3	-34.65%
ii. PM 2.5		27.07 µg/m^3	-54.88%
iii. SO_2	-	6.93 µg/m^3	-91.34%
iv. NO_x	-	12.35 µg/m^3	-84.56%

PART – D

HARZARDOUS WASTES:

(As specified under Hazardous Wastes (Management & Handling Rules, 1989)

Hazardous Wastes	Total Quantity	
	During the previous financial year(2014-15)	During the current financial year(2015-16)
From Process i. Used oil	3000 Ltrs	4400 Ltrs
From Pollution Control Equipments (ETP sludge)	22.00 Metric Ton	25.04 Metric Ton

MINES MANAGER

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Kaliapani Chromite Mine
BALASORE ALLOYS LTD,

Kaliapani Chromite Mines, M/s Balasore Alloys Ltd
Environment Statement For the Year 2015-16

PART – E

SOLID WASTES:

Solid Wastes	Total Quantity	
	During the previous financial year(2014-15)	During the current financial year(2015-16)
From Process i. Overburden ii. Tailing Pond Sludge	946681 M^3 41844.2 M^3	426602 M^3 55200.769 MT
From Pollution Control Facility	Nil	Nil
Quantity recycled or reutilized within the unit	Nil	Nil

PART – F

Please specify the characteristics (in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes:

I. **Solid Waste:**

Solid wastes in form of overburden and sludge of the tailing pond are generated during development of open cast mines and operation of Chrome Ore Beneficiation Plant. The overburden is being dumped on non-mineralized zone as per the mining plan approved by Indian Bureau of Mines. The sludge of the tailing pond, after drying, are taken to the tailing dump, where these are dumped on a impervious platform made up of concrete and HDPE lining by providing retaining wall along the dump with settling pit and leachate collection pit. The collected run-off and leachate are diverted to the ETP for treatment with pumping arrangement.

MINES MANAGER

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II. Hazardous Waste:

(a) **ETP Sludge:** The sludge from the ETP has been disposed to Common Hzaradous Waste treatment Storage Disposal facility (M/s Ramky) present at Jajpur, Odisha.

(b) **Used Oil:** The generation of used oil in our project area is around 370 litres per month which is disposed to OSPCB authorized vendors as per the guidelines.

PART – G

Impact of the pollution control measures taken, on conservation of natural resources and consequently on the cost of production:

To suppress the fugitive dust generation, regular sprinkling of water is being done on haul roads and transporting roads. The dead overburden dump surfaces are covered with intensive plantation. For treatment of mine discharge water, run-off water during rain an Effluent Treatment Plant is in operation. For the people in the noise prone areas protection equipments like ear muffs have been provided. Vehicles and machines without having pollution under control certificates are not being allowed to ply on the roads inside the mines. The impact of the above measures is around 2% of the cost of the production per ton of chrome ore.

PART – H

Additional measures/investment proposal for environmental protection including abatement of pollution:

- The dump slopes are being covered with coir matting, grass turfing, grass development through seed dispersion and massive plantation.
- Hexavalent chromium content of the mine water is being /will be reduced by treatment of at ETP.
- The entire surface Runoff of mines has been channelized to ETP for treatment before disposing outside.

PART – I

MISCELLANEOUS:

Any other particulars in respect of environmental protection and abatement of pollution: Gabion wall is constructed at toe of dump-1 to arrest wash off from dump slope.

MINES MANAGER

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Kaliapani Chromite Mine
BALASORE ALLOYS LTD.