ADITYA BIRLA

UTKAL ALUMINA

UAIL-MINES/ENV/078/2018

14th September, 2018

To,

The Member Secretary
State Pollution Control Board
Paribesh Bhawan, A/118
Nilkantha Nagar, Unit-VIII
Bhubaneshwar-751001

Sub: Submission of Environmental Statement for the financial year ending 31st March, 2018 with respect to our Baphlimali Bauxite Mine of M/s. Utkal Alumina International Ltd.

Dear Sir,

We are enclosing herewith Environmental Statement in prescribed **FORM-V** for the financial year ending 31st March, 2018 with respect to our Baphlimali Bauxite Mine of Utkal Alumina International Ltd. as per the provision of Environment (Protection) Rule, 1986.

This is for your kind information and necessary record please.

Thanking you,

Yours faithfully,

For UTKAL ALUMINA INTERNATIONAL LIMITED.

N. Nagesh
Unit Head & President

Encl.: As above

Copy to: The Regional Officer, SPCB- Rayagada - For kind information

FORM-V
(See rule 14)

Environmental Statement for the Financial Year Ending 31st March 2018, of Baphlimali Bauxite Mines of M/s. Utkal Alumina International Ltd.

PART-A

(i). Name and address of the owner/ Occupier of the industry operation : Mr. S K Mishra
Baphlimali Bauxite Mine
Utkal Alumina International Ltd.
At- Doraguda, Po- Kucheipadar
Dist. Rayagada- 765015

(ii).Industry category : Large/Red

(iii).Production capacity : 8.5 MPTA (Bauxite Ore)

(iv).Year of establishment : 2012

(v). Date of the last environmental statement submitted. : 01.09.2017
(Vide letter No. UAIL- MINES/ENV/94/2017)

PART-B

WATER AND RAW MATERIAL CONSUMPTION

(1) Water Consumption in m3/Day

Process : Nil, Since Mining Activity.
Cooling (Dust Suppression & others) : 195 m3/Day
Domestic : 33 m3/Day

Name of products	Process water consumption per unit of product output	
	During the previous financial year	During the current financial year
	(1)	(2)
Bauxite Ore	N/A	N/A

(2) Raw material consumption

Not applicable, as it is a raw material (Bauxite Ore) generating unit for its parent concern Utkal Alumina International Limited.

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.
(a) Water	No Discharge	No Discharge	Not applicable since no discharge.
(b) Air	No Discharge except SPM	SPM < 1200 mg/m3	Below than the prescribed standards. However, the Ambient Air Quality Monitoring Report is attached as **Annexure- 1**

PART-D

HAZARDOUS WASTES

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

Hazardous Wastes	Total Quantity	
	During the previous financial year(2016-17)	During the current financial year (2017-18)
1. From Process		
a) Used Oil	: 14 KL	: 46.53 KL
b) Oil Filters	: Nil	: 3.43 Tonne
c) Discarded barrels	: Nil	: 221 Nos
d) Contaminated cotton waste	: Nil	: 0.50 tonnes
2. From Pollution Control Facilities	: NIL	: NIL

UTKAL ALUMINA INTERNATIONAL LIMITED

PART- E

SOLID WASTES

Solid Wastes	Total Quantity	
	During the previous financial year(2016-17)	During the current financial year (2017-18)
(a) From process (Overburden)	22,86,567 tonnes	28,17,581 tonnes
(b) From Pollution Control Facility	Nil	Nil
(c) i. Quantity recycled or re-Utilized within the unit. ii. Sold iii. Disposed	22,86,567 tonnes (backfilling) Nil Nil	28,17,581 tonnes (backfilling) 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.

Characterization of Hazardous waste & Solid waste:

The used or spent oil, contaminated cotton rags, oil filters etc. from the maintenance of HEMMs and other machineries have been identified as hazardous wastes. The composition of solid waste (Overburden) mainly consists of laterite.

Disposal Practices:

a) Solid Waste:

Over Burden is being systematically and scientifically backfilled over the voids of mined out area followed by plantation.

UTKAL ALUMINA INTERNATIONAL LIMITED

b) Hazardous wastes:

The used oil generated is collected in leak proof barrels and then kept on an impervious floor with oil catch pit. It is also ensured that the caps of the barrels remain intact and horizontal. During transfer of waste oil to barrels, a trough is placed underneath in order to prevent land contamination due to oil spillage. Provision of impervious pit with oil for collection of oily waste is there at the workshop premises in addition to the existing practice of collection at specified barrels.

Similarly, the used cotton wastes, oil filters generated are collected in designated containers.

Then at fixed intervals, the hazardous wastes are being dispatched to the registered re-cycler of SPCB.

PART-G

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

The main pollution control measures taken at Baphlimali bauxite mines of M/S Utkal alumina international ltd are as follows:

1. Air pollution control measures:

- Drilling machine with in-built vacuum cyclone dust collector & equipped with water spraying system is being adopted.
- Controlled blasting with the application of NONEL is being practiced to check fly rocks and pre-wetting is practiced before charging.
- The haulage roads are being maintained, compacted periodically.
- Regular water sprinkling is being carried out at sources of fugitive dust generation like loading & unloading areas, material transfer points etc. to suppress emission and distribution of dust particles.
- Dry Fog System is in place for dust suppression at crusher.
- The transportation of Bauxite ore from the mine pit to the refinery unit is being carried out through closed conveyor system to restrict the dispersion of dust. Periodic maintenance of Diesel machines is being carried out to decrease the emission level of NOx and SOx.
- Plantation is carried out in the plateau slope, safety zone, backfilled & other areas to prevent dust flow outside the lease area.
- Periodical monitoring of Air quality is being carried out by an approved external agency & is found within permissible limit.

2. Water pollution control measures:

- Runoff is coursed through garland drains provided with intermediate settling pits subsequently allowed to the mined-out pit where it gets recharged. The drains and settling pits are regularly de-silted and maintained.
- Check dams are provided around the slopes of valley to arrest the sediments.
- Peripheral barrier is provided around the mine to stop the direct flow of water down to the valley.
- Domestic effluents are treated in the sewage treatment plant (STP) located at mines & discharged to soak pit via septic tank.
- Actions taken for implementation of recommendations as suggested by NIT, Rourkela for Runoff Management.
- Water quality & ground water level is monitored periodically through an approved agency and is found within prescribed limit.

3. Sound and Vibration control measures:

- Preventive maintenance of machineries is carried out properly to control the noise level below 85 dB in the work environment.
- The controlled blasting technique is adopted to minimize noise & vibration. Blasting vibration is being measured regularly by using Seismograph.
- Workers engaged in blasting, drilling & HEMM operations are provided with ear plugs/ muffs.
- Noise level (ambient as well as work environment) is monitored periodically through an approved external agency & is found within permissible limit.

PART- H

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

- Mitigation measures shall be implemented to minimize soil erosion & choking of stream.
- Loose boulder check dams shall be constructed across the seasonal nallah, drainage line & semi-perennial nallah occurring along the sloppy area of the lease.
- Plantation programme for the FY 2018-19.

Year	Backfilled Area		Slope Area		Safety Zone	
	Area in Ha	No. of Saplings	Area in Ha	No. of Saplings	Area in Ha	No. of Saplings
2018-19	16	40000	10.025	25063	9.975	15960

ULTRAMARINE INTERNATIONAL LIMITED

PART - I

MISCELLANEOUS

Any other particulars in respect of environmental protection and abatement of pollution.

- Plantation Status till 2017-18

Block Plantation -

Year	Location of Plantation	Area of Plantation in Ha	No. of Trees Survived
Till FY-2016-17	Mines Slope area, Within service center facility area, Peripheral Barrier etc.	202	140950
FY-2017-18	Mines Slope area	3.6	5400
	Back-filling area	8.23	11640
Total		213.83	157990

Avenue Plantation-

Year	Location of Plantation	Area of Plantation in KM	No of Saplings Planted
Till FY-2016-17	LDC Corridor	3.0	6000
FY 2017-18	--	Nil	Nil
Total		3.0	6000

- An environment cell has been established for monitoring and implementation of safe guard measures for environmental parameters.
- We have developed a full- fledged Nursery in approx. 3000 Sq. Ft. with a capacity of more than 20,000 saplings within our ML area to develop, preserve & cater the saplings during the course of plantation.
- Expenditure incurred on Environment & Pollution Control during the year 2017-18 is 171.14 lakhs.
- The Mine is certified with Environment Management System ISO- 14001: 2007 in July 2018.

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UTKAL ALUMINA INTERNATIONAL LIMITED

ANNEXURE- 1

AMBIENT AIR QUALITY MONITORING REPORT

NAAQ Standards: **PM10**- 100 µg/m3, **PM2.5**- 60 µg/m3, **SOx** -80 µg/m3 ,**NOx** -80 µg/m3 ,**CO** - 4.0 mg/m3 (1 hour)

CORE ZONE:-

MINING PIT	PM-10 µg/m³	PM-2.5 µg/m³	SO2 µg/m³	NOx µg/m³	CO mg/m³
April-17	52.13	30.14	4.41	11.78	0.18
May-17	48.78	28.38	4.22	11.02	0.15
June-17	44.22	26.04	4.04	10.73	0.13
July-17	44.33	25.81	4.12	9.54	0.14
August-17	41.11	24.18	4.00	10.50	0.12
September-17	49.00	28.33	4.19	11.15	0.16
Average	**46.59**	**27.15**	**4.16**	**10.79**	**0.15**

CRUSHER	PM-10 µg/m³	PM-2.5 µg/m³	SO2 µg/m³	NOx µg/m³	CO mg/m³
April-17	65.63	36.70	5.18	12.89	0.25
May-17	59.67	33.87	4.94	12.27	0.21
June-17	52.89	30.39	4.28	11.59	0.18
July-17	53.33	31.01	4.32	11.49	0.18
August-17	51.67	29.60	4.17	11.43	0.16
September-17	59.63	33.69	4.81	12.28	0.22
Average	**57.13**	**32.54**	**4.62**	**11.99**	**0.20**

WEIGH BRIDGE	PM-10 µg/m³	PM-2.5 µg/m³	SO2 µg/m³	NOx µg/m³	CO mg/m³
April-17	58.38	32.56	4.69	12.33	0.21
May-17	54.22	30.98	4.49	11.61	0.18
June-17	47.78	27.68	4.11	11.13	0.15
July-17	48.00	28.56	4.23	10.98	0.16
August-17	45.78	26.81	4.07	10.92	0.14
September-17	54.00	30.46	4.39	11.70	0.19
Average	**51.36**	**29.51**	**4.33**	**11.44**	**0.17**

NEAR OFFICE	PM-10 µg/m³	PM-2.5 µg/m³	SO2 µg/m³	NOx µg/m³	CO mg/m³
April-17	47.25	27.60	4.19	11.18	0.15
May-17	44.00	25.82	4.04	10.38	0.13
June-17	39.56	22.99	4.00	10.21	0.12
July-17	38.78	23.61	4.03	10.01	0.12
August-17	36.78	21.52	4.00	10.03	0.11
September-17	44.38	25.75	4.09	10.58	0.14
Average	**41.79**	**24.55**	**4.06**	**10.40**	**0.13**

AMBIENT AIR QUALITY MONITORING REPORT

CORE ZONE:-

MINING PIT	PM-10 µg/m³	PM-2.5 µg/m³	SO2 µg/m³	NOx µg/m³	CO mg/m³
October-17	49.00	27.97	4.27	11.43	0.16
November-17	54.56	30.90	4.36	11.71	0.18
December-17	55.00	31.07	4.63	11.52	0.17
January-18	53.44	31.67	4.64	11.68	0.18
February-18	52.43	30.09	4.24	11.54	0.17
March-18	47.30	27.62	4.21	11.05	0.15
Average	51.955	29.88	4.391	11.48	0.168

CRUSHER	PM-10 µg/m³	PM-2.5 µg/m³	SO2 µg/m³	NOx µg/m³	CO mg/m³
October-17	60.00	33.93	4.87	12.42	0.21
November-17	63.78	36.06	5.14	12.70	0.24
December-17	66.11	35.03	5.34	12.53	0.25
January-18	68.78	39.10	5.69	13.19	0.28
February-18	62.57	34.94	4.89	12.47	0.23
March-18	57.40	31.92	4.46	12.10	0.20
Average	63.10	35.163	5.065	12.568	0.235

WEIGH BRIDGE	PM-10 µg/m³	PM-2.5 µg/m³	SO2 µg/m³	NOx µg/m³	CO mg/m³
October-17	53.67	30.55	4.53	11.87	0.18
November-17	58.67	33.11	4.73	12.22	0.21
December-17	60.56	32.92	4.91	11.97	0.21
January-18	60.33	34.36	5.17	12.31	0.21
February-18	56.71	32.19	4.47	12.03	0.20
March-18	51.40	29.41	4.32	11.59	0.18
Average	56.89	32.09	4.68	11.99	0.198

NEAR OFFICE	PM-10 µg/m³	PM-2.5 µg/m³	SO2 µg/m³	NOx µg/m³	CO mg/m³
October-17	43.83	25.27	4.08	10.95	0.14
November-17	50.33	28.92	4.13	11.19	0.15
December-17	50.67	28.93	4.31	10.97	0.15
January-18	48.56	28.09	4.33	11.17	0.15
February-18	48.14	27.50	4.10	11.00	0.15
March-18	43.40	25.75	4.12	10.49	0.13
Average	47.488	27.41	4.178	10.961	0.145

AMBIENT AIR QUALITY MONITORING REPORT

BUFFER ZONE:-

ADRI	PM-10 µg/m³	PM-2.5 µg/m³	SO2 µg/m³	NOx µg/m³	CO mg/m³
April-17	50.75	29.48	4.26	11.64	0.16
May-17	49.13	28.36	4.10	10.98	0.14
June-17	43.56	25.41	4.06	10.64	0.13
July-17	40.44	23.71	4.00	10.33	0.12
August-17	41.56	23.92	4.04	10.39	0.13
September-17	42.75	24.84	4.05	10.60	0.14
Average	**44.70**	**25.95**	**4.09**	**10.76**	**0.14**

CHANDRAGIRI	PM-10 µg/m³	PM-2.5 µg/m³	SO2 µg/m³	NOx µg/m³	CO mg/m³
April-17	45.75	29.40	4.11	11.14	0.14
May-17	43.75	25.89	4.03	10.40	0.12
June-17	38.67	22.98	4.00	10.19	0.12
July-17	35.56	20.99	4.00	9.83	0.11
August-17	36.56	21.11	4.00	9.96	0.11
September-17	38.00	22.51	4.00	10.10	0.13
Average	**39.71**	**23.81**	**4.02**	**10.27**	**0.12**

PAIKUPAKHAL	PM-10 µg/m³	PM-2.5 µg/m³	SO2 µg/m³	NOx µg/m³	CO mg/m³
April-17	63.13	35.31	5.00	12.65	0.23
May-17	54.63	32.06	4.41	11.83	0.18
June-17	53.11	30.26	4.39	11.61	0.18
July-17	49.78	28.72	4.13	11.30	0.16
August-17	49.67	28.83	4.28	11.29	0.17
September-17	53.38	30.18	4.40	11.60	0.18
Average	**53.95**	**30.89**	**4.44**	**11.71**	**0.18**

ANDHIRAKANCH	PM-10 µg/m3	PM-2.5 µg/m3	SO2 µg/m3	NOx µg/m3	CO mg/m3
April-17	55.75	31.44	4.54	12.14	0.19
May-17	51.50	29.93	4.26	11.34	0.16
June-17	47.89	27.26	4.14	11.11	0.15
July-17	44.78	25.81	4.03	10.80	0.14
August-17	45.22	25.89	4.12	10.83	0.15
September-17	47.75	27.25	4.19	11.03	0.16
Average	**48.81**	**27.93**	**4.21**	**11.21**	**0.16**

AMBIENT AIR QUALITY MONITORING REPORT

BUFFER ZONE:-

ADRI	PM-10 µg/m³	PM-2.5 µg/m³	SO2 µg/m³	NOx µg/m³	CO mg/m³
October-17	42.33	24.73	4.05	10.62	0.13
November-17	52.89	30.27	4.40	11.71	0.17
December-17	52.44	29.99	4.31	11.42	0.17
January-18	49.33	28.43	4.18	11.08	0.16
February-18	54.75	30.86	4.45	11.83	0.18
March-18	51.22	29.30	4.20	11.20	0.17
Average	50.49	28.93	4.265	11.31	0.163

CHANDRAGIRI	PM-10 µg/m³	PM-2.5 µg/m³	SO2 µg/m³	NOx µg/m³	CO mg/m³
October-17	36	21.42	BDL	9.98	0.12
November-17	48.00	27.57	4.11	11.28	0.14
December-17	47.11	27.06	4.09	10.99	0.14
January-18	45.11	26.39	4.07	10.51	0.14
February-18	48.75	28.46	4.19	11.31	0.15
March-18	45.78	26.84	4.02	10.48	0.14
Average	45.125	26.29	3.413	10.758	0.138

PAIKUPAKHAL	PM-10 µg/m³	PM-2.5 µg/m³	SO2 µg/m³	NOx µg/m³	CO mg/m³
October-17	53.83	30.18	4.47	11.58	0.18
November-17	64.11	35.92	5.24	12.76	0.24
December-17	62.67	35.17	4.97	12.53	0.23
January-18	58.44	33.13	4.63	12.03	0.20
February-18	65.25	36.34	5.31	12.88	0.26
March-18	62.50	35.17	5.06	12.42	0.24
Average	61.13	34.318	4.946	12.366	0.225

ANDHIRAKANCH	PM-10 µg/m3	PM-2.5 µg/m3	SO2 µg/m3	NOx µg/m3	CO mg/m3
October-17	47.17	27.53	4.20	11.00	0.16
November-17	56.78	32.34	4.81	12.20	0.20
December-17	56.56	32.37	4.60	11.94	0.19
January-18	53.44	30.62	4.37	11.51	0.18
February-18	60.13	33.85	4.83	12.38	0.21
March-18	57.00	32.16	4.65	11.82	0.20
Average	55.18	31.478	4.576	11.80	0.19

AMBIENT AIR QUALITY MONITORING REPORT

FUGITIVE DUST EMISSION REPORT

Sl. No.	Name of the Location	PARTICULATE MATTER µg/ m³						
		Apr-17	May-17	June-17	July-17	Aug-17	Sept-17	Average
1	CRUSHER POINT	341	280	242	198	199	224	247.33
2	DRILLING POINT	294	223	183	148	180	210	206.33
3	NEAR LDC	319	250	211	174	221	250	237.50
4	Near OVER BURDEN TRANSPORT POINT	269	204	166	131	156	182	184.67

AMBIENT AIR QUALITY MONITORING REPORT

FUGITIVE DUST EMISSION REPORT

Sl. No.	Name of the Location	PARTICULATE MATTER µg/ m^3						
		October'17	November'17	December'17	January'18	February'18	March'18	Average
1	CRUSHER POINT	263.33	323.33	308	337.33	255	294.7	296.94
2	DRILLING POINT	245.16	282.22	233	257.88	205.33	223.7	241.21
3	NEAR LDC	269.83	304.88	271.66	299.11	234.88	258.7	273.17
4	Near OVER BURDEN TRANSPORT POINT	214.33	267.22	225.11	252.55	189	214.6	227.135