

Date: 12/07/2017

To,  
The Member Secretary  
Goa State Pollution Control Board  
EDC, Patto Plaza  
Panjim, Goa -403001

**Subject: Compliance of Consent to Operate for Botvadeacho Dongor Mine for the month of June 2017.**

**Ref: Botvadeacho Dongor Iron Ore Mine, (Village Pissurlem, Sattari- Goa, T.C No. 28/1951), Consent to Operate No. 5/5005/15-PCB/CI-568 dated 08/09/2015.**

Sir,

With Reference to the condition stipulated under Consent to Operate granted to Botvadeacho dongor Iron Ore Mine, We would also like to inform your good office that there is no water discharge from the mine pit. Please find the Air monitoring & surface water analysis reports for the month of June' 17.

Thanking you,

Yours faithfully,  
For Vedanta limited,



**Vikil Kawale**  
Mines Manager  
Botvadeacho Dongor iron ore Mine  
North Goa

Goa State Pollution Control Board
Patto Panaji Goa
Date: 14/07/2017
Forward no. ....
Signature: .....

**VEDANTA LIMITED**

Sesa Goa iron ore: Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa - 403 001, India  
T +91 0832 2460600 | Website: [www.sesagoaironore.com](http://www.sesagoaironore.com)

Registered Office: Vedanta Limited, 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai 400093, Maharashtra, India.  
CIN: L13209MH1965PLC291394

## M/s Sesa Environment Laboratory

Vedanta Limited, Mining Division, Codli Mines, P.O. Kirlapale, Goa-403727

Recognised by Ministry of Environment, Forests and Climate change, Govt. of India Vide Notification S.O.137(E) dated 12<sup>th</sup> January 2015, Valid up to 11.01.2020

\* Certified by ISO 9001:2008 and OHSAS 18001:2007

### Ambient Air Quality Monitoring Report

Mine Name: North central Mine

Location Name : Sonshi Village

Instruments used: Fine Particulate Sampler APM550 MFC, Respirable Dust Sampler 460 NL, Gaseous

Calibration date: 28.09.2016

Validity of calibration :27.09.2017

Standard method used for analysis: PM10 & PM2.5 - Gravimetric method

SO2 - Improved west & Gaeke

NOx - Modified Jacob & Hoccheiser

Monitoring Date	PM <sub>2.5</sub> in µg/m <sup>3</sup> hourly	(24) PM <sub>10</sub> in µg/m <sup>3</sup> hourly	(24) SO <sub>2</sub> in µg/m <sup>3</sup> (24 hourly)	NOx in µg/m <sup>3</sup> (24 hourly)
01.06.2017	6	10	6	8
06.06.2017	2	6	BDL	4
08.06.2017	5	8	8	9
13.06.2017	8	11	3	2
15.06.2017	6	12	7	10
20.06.2017	6	10	BDL	3
22.06.2017	5	9	2	5
29.06.2017	2	8	2	6

NAAQS Limits: PM<sub>2.5</sub> .60 µg/m<sup>3</sup>

PM<sub>10</sub> 100 µg/m<sup>3</sup>

SO<sub>2</sub>.80 µg/m<sup>3</sup>

NO<sub>x</sub>.80 µg/m<sup>3</sup>



Authorised Govt. Analyst



Laboratory Incharge

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**Ambient Air Quality Monitoring Report**

Mine Name: North Central Cluster Mine

Instruments used: Fine Particulate Sampler APM550 MFC, Respirable Dust Sampler 460 NL, Gaseous Pollutant Sampler

Calibration date: 28.09.2016

Standard method used for analysis: PM10 & PM2.5 - Gravimetric method

SO2 - Improved west & Gaeke

NOx - Modified Jacob & Hoccheiser

Validity of calibration :27.09.2017

Location Name : Cudnem Village					Location Name : Datin village				
Monitoring Date	PM <sub>2.5</sub> in µg/m <sup>3</sup> (24 hourly)	PM <sub>10</sub> in µg/m <sup>3</sup> (24 hourly)	SO <sub>2</sub> in µg/m <sup>3</sup> (24 hourly)	NOx in µg/m <sup>3</sup> (24 hourly)	PM <sub>2.5</sub> in µg/m <sup>3</sup> (24 hourly)	PM <sub>10</sub> in µg/m <sup>3</sup> (24 hourly)	SO <sub>2</sub> in µg/m <sup>3</sup> (24 hourly)	NOx in µg/m <sup>3</sup> (24 hourly)	
01.06.2017	5	10	4	6	2	5	6	7	
06.06.2017	2	8	BDL	BDL	3	7	BDL	6	
08.06.2017	3	7	BDL	7	5	8	6	8	
13.06.2017	4	6	4	5	6	11	4	8	
15.06.2017	2	6	BDL	7	3	8	BDL	BDL	
20.06.2017	3	8	6	8	5	7	BDL	5	
22.06.2017	6	12	5	8	2	6	5	8	
29.06.2017	3	5	BDL	8	6	10	4	6	

Location Name : Viridi Village					Location Name : Sanquelim Village				
Monitoring Date	PM <sub>2.5</sub> in µg/m <sup>3</sup> (24 hourly)	PM <sub>10</sub> in µg/m <sup>3</sup> (24 hourly)	SO <sub>2</sub> in µg/m <sup>3</sup> (24 hourly)	NOx in µg/m <sup>3</sup> (24 hourly)	PM <sub>2.5</sub> in µg/m <sup>3</sup> (24 hourly)	PM <sub>10</sub> in µg/m <sup>3</sup> (24 hourly)	SO <sub>2</sub> in µg/m <sup>3</sup> (24 hourly)	NOx in µg/m <sup>3</sup> (24 hourly)	
01.06.2017	6	11	BDL	BDL	2	5	7	16	
06.06.2017	4	7	6	10	5	7	BDL	7	
08.06.2017	2	6	BDL	BDL	4	8	7	12	
13.06.2017	3	8	5	8	2	9	BDL	BDL	
15.06.2017	3	7	5	10	3	8	4	9	
20.06.2017	2	8	8	10	3	9	5	8	
22.06.2017	3	6	6	10	4	8	7	8	
29.06.2017	6	9	BDL	BDL	2	6	BDL	BDL	

NAAQs Limits: PM<sub>2.5</sub> 60 µg/m<sup>3</sup> PM<sub>10</sub> 100 µg/m<sup>3</sup> SO<sub>2</sub> 80 µg/m<sup>3</sup> NOx 80 µg/m<sup>3</sup> PM<sub>2.5</sub> 60 µg/m<sup>3</sup> PM<sub>10</sub> 100 µg/m<sup>3</sup> SO<sub>2</sub> 80 µg/m<sup>3</sup> NOx 80 µg/m<sup>3</sup>

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*J. S. Sharma*  
Laboratory Incharge

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**Surface Water Analysis Report for the Month of June 2017**

Mine Name: Botvadeacho Dongor Mine

Date of Sample collection: 12.06.2017

Standard method used for analysis: APHA Standard

Test Report No: 316

Date of Receipt of sample: 12.06.2017

Analysis completion date: 22.06.2017

Parameter	Unit	Desirable Limit	Location									
			Upstream Advoi Nallah	Downstream Advoi nallah	Upstream sonshi nallah	Down stream sonshi nallah	Pissurlem dump run off	Vaghure side dump run off	Sonshi Dump run off	Sonshi Nallah near Ajoba Temple		
Colour	Hazen	---	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
pH	---	5.5 to 9.0	6.36	6.25	6.53	6.51	6.03	6.23	6.01	6.52	6.52	6.52
Turbidity	NTU	---	2.6	6.1	5.8	6.4	7.0	4.3	7.0	5.6	5.6	5.6
Dissolved Solids	mg/lit	---	23	25	20	27	12	15	7	23	23	23
Conductivity	µS/cm	---	46	50	40	54	24	30	14	46	46	46
Suspended Solids	mg/lit	100	4	5	6	8	9	6	8	5	5	5
Chlorides	mg/lit	---	6.7	8.7	4.8	5.8	4.8	2.9	4.8	6.7	6.7	6.7
Total Hardness as CaCO <sub>3</sub>	mg/lit	---	18.4	18.4	16.3	16.3	10.2	10.2	10.2	18.4	18.4	18.4
Calcium as Ca <sup>++</sup>	mg/lit	---	4.1	4.1	3.3	3.3	2.5	2.5	2.5	4.9	4.9	4.9
Magnesium as Mg <sup>++</sup>	mg/lit	---	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.5	1.5	1.5
Sulphate as SO <sub>4</sub>	mg/lit	---	0.6	0.8	0.6	1	0.8	0.6	0.6	1	1	1
Phosphate as PO <sub>4</sub>	mg/lit	5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nitrate as NO <sub>3</sub>	mg/lit	10	0.1	0.1	BDL	0.1	0.1	0.1	0.1	0.1	0.1	0.1
B.O.D (3days, 30°C)	mg/lit	30	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
C.O.D	mg/lit	250	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Total Iron	mg/lit	3	0.05	0.08	0.04	0.05	0.06	0.06	0.05	0.04	0.04	0.04
Manganese as Mn	mg/lit	2	0.02	0.03	0.02	BDL	0.03	0.03	0.03	0.03	0.03	0.03
D.O	mg/lit	----	6	6	6	6	6	6	6	6	6	6
Oil & Grease	mg/lit	10	<1	<1	<1	<1	Nil	Nil	Nil	Nil	Nil	<1



*f. Sharma*  
Laboratory Incharge

*[Signature]*  
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Note - No Pit Discharge  
BDL- Below Detection Limit

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**Well Water Analysis Report**

Mine Name: Botvadeacho Dongor Mine

Date of Sample collection : 12.06.2017

Standard method used for analysis: APHA Standard

Test Report No: 317

Date of Receipt of sample: 12.06.2017

Analysis completion date: 22.06.2017

Parameter	Unit	Desirable Limit	Location			
			Sonshi Well	PTI Camp Well	Mahesh Gauda Well	Mr. Gokuldas Gawde Well
Colour	Hazen	<5	<5	<5	<5	<5
pH	-	6.5-8.5	6.43	6.32	6.51	6.22
Turbidity	NTU	1	0.9	0.8	0.7	0.5
Conductivity	µs/cm	-	36	50	166	80
Dissolved Solids	mg/lit	500	18	25	83	40
Suspended Solids	mg/lit	-	2	2	2	1
Chloride	mg/lit	250	8.7	7.7	36.6	13.5
Total Hardness as CaCO3	mg/lit	200	12.2	20.4	24.5	22.4
Calcium as Ca++	mg/lit	75	1.6	4.9	7.4	4.1
Magnesium as mg++	mg/lit	30	2.0	2.0	1.5	3.0
Sulphate as SO4	mg/lit	200	1	1.5	6.5	4
Nitrate as NO3	mg/lit	45	0.1	0.1	0.1	0.1
Alkalinity	mg/lit	200	15	19	16	15
Iron as Fe	mg/lit	0.3	0.05	0.06	0.06	0.04
Manganese as Mn	mg/lit	0.1	0.01	0.02	0.02	BDL
Total Coliform/100ml	-	-	25	20	26	21
E.Coli	-	Absent	Absent	Absent	Absent	Absent

BDL- Below Detection Limit



*[Signature]*

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### Well Water level Report

Mine Name: Botvadeacho Dongor mine

Instrument Used: Well water tape

Sr.No	Location	Total Depth of well in mtr	Depth of Water level from the reference point in mtr	Water Column in mtr
1	Well of M/s Vedanta Limited	7.28	4.3	2.98
2	Well of Mr. Mahesh Gaude	3	1.8	1.2
3	Well of Mr. Gokuldas Gaude	7.4	4.53	2.87
4	PTI camp well	6	4.5	1.5



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### Ambient Air Quality Monitoring Report

**Location Name: Botvadecho Dongor Mine**

**Instruments used: Respirable Dust Sampler 460NL**

**Calibration date: 28.09.2016**

**Validity of calibration :27.09.2017**

**Standard method used for analysis: Particulate Matter Gravimetric method**

Monitoring Date	Particulate Matter	Emission Standards
	24 hourly	
	Mine Face/Service Roads	
01.06.2017	23	1200 µg/m <sup>3</sup>
06.06.2017	27	
08.06.2017	32	
13.06.2017	25	
15.06.2017	10	
20.06.2017	16	
22.06.2017	25	
29.06.2017	12	



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