

CC

Mine Owners

ALTINHO - MAPUSA - GOA

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 under Section 25/26 of Water (Prevention & Control of Pollution) Act 1974, Section 21 of Air (Prevention & Control of Pollution) Act 1981 and Authorization under Rule 5 of Hazardous Waste (Management, Handling and Transboundry Movement) Rules 2008 for Gaval- Sonshi Mines for the month of June 2017.

Ref: Consent to operate and Authorization No. 5/5009/15-PCB/CI-572, Dated 07/09/2015

Sir,

With Reference to the condition in Consent to Operate and Authorization granted to Gaval-Sonshi Iron Ore Mine, we have enclosed here with the Water Analysis for the Month of June 2017 for Gaval-Sonshi Iron Ore Mine. We would like to inform your good office that Air monitoring is temporary discontinued due to monsoon.

Thanking you

Yours faithfully,

For COSME COSTA & SONS

Vijay Mehta
Vijay Mehta

Mines Manager

Gaval-Sonshi Mine

Pissurlem village,

Sattari Taluka, North Goa



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 12th January 2015, Valid up to 11.01.2020

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

Ambient Air Quality Monitoring Report

Mine Name: Sonshi Mine

Instruments used: Respirable Dust Sampler 460BL

Calibration date: 28.09.2016

Validity of calibration :27.09.2017

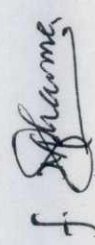
Standard method used for analysis: Particulate Matter -Gravimetric method

Monitoring Date	Particulate Matter (24 hourly)		Emission Standards
	Camp Area Service Road/Ore Storage	Near Security Gate B Ore storage/Loading	
01.06.2017	26	23	1200 µg/m ³
06.06.2017	35	41	
08.06.2017	46	26	
13.06.2017	43	23	
15.06.2017	23	26	
20.06.2017	23	18	
22.06.2017	29	16	
29.06.2017	25	32	

Note: Waste is temporary backfilled in working pit


Authorized 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 & PM_{2.5} - Gravimetric method

SO₂ - Improved west & Gaeke

NO_x - Modified Jacob & Hoocheiser

Validity of calibration :27.09.2017

Location Name : Cudnem Village					Location Name : Datin village				
Monitoring Date	PM _{2.5} in µg/m ³ (24 hourly)	PM ₁₀ in µg/m ³ (24 hourly)	SO ₂ in µg/m ³ (24 hourly)	NO _x in µg/m ³ (24 hourly)	PM _{2.5} in µg/m ³ (24 hourly)	PM ₁₀ in µg/m ³ (24 hourly)	SO ₂ in µg/m ³ (24 hourly)	NO _x in µg/m ³ (24 hourly)	
01.06.2017	5	10	4	6	2	5	6		
06.06.2017	2	8	BDL	BDL	3	7	BDL		
08.06.2017	3	7	BDL	7	5	8	6		
13.06.2017	4	6	4	5	6	11	4		
15.06.2017	2	6	BDL	7	3	8	BDL		
20.06.2017	3	8	6	8	5	7	BDL		BDL
22.06.2017	6	12	5	8	2	6	5		5
29.06.2017	3	5	BDL	8	6	10	4		8
									6
Location Name : Viridi Village					Location Name : Sanquelim Village				
Monitoring Date	PM _{2.5} in µg/m ³ (24 hourly)	PM ₁₀ in µg/m ³ (24 hourly)	SO ₂ in µg/m ³ (24 hourly)	NO _x in µg/m ³ (24 hourly)	PM _{2.5} in µg/m ³ (24 hourly)	PM ₁₀ in µg/m ³ (24 hourly)	SO ₂ in µg/m ³ (24 hourly)	NO _x in µg/m ³ (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 _{2.5} 60 µg/m ³ PM ₁₀ 100 µg/m ³ SO ₂ 80 µg/m ³ NO _x 80 µg/m ³				

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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 _{2.5} in µg/m ³ hourly	(24 hourly)	PM ₁₀ in µg/m ³ hourly	(24 hourly)	SO ₂ in µg/m ³ (24 hourly)	NOx in µg/m ³ (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_{2.5} 60 µg/m³

PM₁₀ 100 µg/m³

SO₂ 80 µg/m³

NO_x 80 µg/m³

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Well Water level Report

Mine Name: Sonshi 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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Well Water Analysis Report

Mine Name: Sonshi Mine

Date of Sample collection : 12.06.2017

Standard method used for analysis: APHA Standard

Test Report No: 313

Date of Receipt of sample: 12.06.2017

Analysis completion date: 22.06.2017

Parameter	Unit	Desirable Limit	Location			
			Sonshi Well	PTI Camp Well	Maresh 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



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Surface Water Analysis Report for the Month of June 2017

Mine Name: Sonshi Mine

Date of Sample collection: 12.06.2017

Standard method used for analysis: APHA Standard

Test Report No: 312

Date of Receipt of sample: 12.06.2017

Analysis completion date: 22.06.2017

Parameter	Unit	Desirable Limit	Location								
			Upstream Advoii Nallah	Downstream Advoii nallah	Upstream sonshi nallah	Down stream sonshi nallah	Pit Discharge	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
pH	----	5.5 to 9.0	6.36	6.25	6.53	6.51	6.35	6.03	6.23	6.01	6.52
Turbidity	NTU	----	2.6	6.1	5.8	6.4	1.8	7.0	4.3	7.0	5.6
Dissolved Solids	mg/lit	----	23	25	20	27	35	12	15	7	23
Conductivity	µS/cm	----	46	50	40	54	70	24	30	14	46
Suspended Solids	mg/lit	100	4	5	6	8	2	9	6	8	5
Chlorides	mg/lit	----	6.7	8.7	4.8	5.8	5.8	4.8	2.9	4.8	6.7
Total Hardness as CaCO3	mg/lit	----	18.4	18.4	16.3	16.3	33	10.2	10.2	10.2	18.4
Calcium as Ca ⁺⁺	mg/lit	----	4.1	4.1	3.3	3.3	9.0	2.5	2.5	2.5	4.9
Magnesium as Mg ⁺⁺	mg/lit	----	2.0	2.0	2.0	2.0	2.5	1.0	1.0	1.0	1.5
Sulphate as SO4	mg/lit	----	0.6	0.8	0.6	1	1	0.8	0.6	0.6	1
Phosphate as PO4	mg/lit	5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nitrate as NO3	mg/lit	10	0.1	0.1	BDL	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
C.O.D	mg/lit	250	<10	<10	<10	<10	<10	<10	<10	<10	<10
Total Iron	mg/lit	3	0.05	0.08	0.04	0.05	0.09	0.06	0.06	0.05	0.04
Manganese as Mn	mg/lit	2	0.02	0.03	0.02	BDL	0.07	0.03	0.03	0.03	BDL
D.O	mg/lit	----	6	6	6	6	6	6	6	6	5
Oil & Grease	mg/lit	10	<1	<1	<1	<1	<1	Nil	Nil	Nil	<1

BDL- Below Detection Limit

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