vedanta
transforming elements

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

Date: 12/07/2017

Subject: Compliance of Consent to Operate for Surla-Sonshi Iron Ore Mine for the month of June 2017.

Reference: For Surla-Sonshi Iron Ore Mine, Village Surla, Kudnem & Sonshi Onvoliem, Bicholim and Sattari Talukas, North- Goa (T.C No 21/1954, 5/1954, 20/1954): Consent to operate No. 5/5009/15-PCB/CI-572, Dated 07/09/2015

Sir,

With Reference to the condition stipulated under Consent to Operate granted to Surla-Sonshi Iron Ore Mine, we have enclosed herewith the Air Monitoring & Water Analysis Reports for the Month of June 2017.

Yours faithfully,
For Sesa Resources Ltd.

Ulhas Betkikar
Mines Manager
North Goa

Goa State Pollution Control Board
Patto, Panaji Goa
Date: 14/07/17 Time.....
Inward no.:.....
Received Signature:.....

SESA RESOURCES LIMITED:

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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 th January 2015 , Valid up to 11.01.2020

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

Ambient Air Quality Monitoring Report

Mine Name- Surla mine

Location Name: Sinori Jetty (Nearest Residence)

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

Calibration date: 24.01.2017 **Validity of calibration :23.01.2018**

Standard method used for analysis: Particulate Matter Gravimetric method

Monitoring Date	$PM_{2.5}$ in $\mu g/m^3$ (24 hourly)	PM_{10} in $\mu g/m^3$ (24 hourly)
01.06.2017	6	12
06.06.2017	4	8
08.06.2017	3	9
13.06.2017	5	10
15.06.2017	2	4
20.06.2017	4	11
22.06.2017	3	6
29.06.2017	5	7

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Ambient Air Quality Monitoring Report

Location Name: Surla Mine
Instruments used: Fine Particulate Sampler APM550 MFC, Respirable Dust Sampler 460 NL
Calibration date: 24.01.2017 **Validity of calibration :23.01.2018**
Standard method used for analysis: Particulate Matter Gravimetric method

Monitoring Date	$PM_{2.5}$ in µg/m^3 (24 hourly)	PM_{10} in µg/m^3 (24 hourly)	Standards
	Surla Village		
01.06.2017	6	11	PM_{10} .100 µg/m3 $PM_{2.5}$ -60 µg/m3
06.06.2017	2	7	
08.06.2017	4	9	
13.06.2017	3	8	
15.06.2017	2	5	
20.06.2017	5	8	
22.06.2017	3	9	
29.06.2017	3	7	

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Ambient Air Quality Monitoring Report

Location Name: Surla Mine

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

Calibration date: 24.01.2017 **Validity of calibration :23.01.2018**

Standard method used for analysis: Particulate Matter Gravimetric method

Monitoring Date	$PM_{2.5}$ in µg/m^3 (24 hourly)	PM_{10} in µg/m^3 (24 hourly)	Standards
	Surla jetty		
01.06.2017	8	13	PM_{10} 100 µg/m3 $PM_{2.5}$ 60 µg/m3
06.06.2017	5	10	
08.06.2017	2	5	
13.06.2017	6	9	
15.06.2017	7	12	
20.06.2017	3	6	
22.06.2017	2	8	
29.06.2017	5	10	

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Ambient Air Quality Monitoring Report

Mine Name: Surla Mine

Instruments used: Respirable Dust Sampler 460BL

Calibration date: 24.01.2017 **Validity of calibration :23.01.2018**

Standard method used for analysis: Particulate Matter -Gravimetric method

Monitoring Date	Particulate Matter (24 hourly)				Emission Standards
	Pit Edge Mine Face	Mine Office Service Road	Weigh Bridge Ore storage/Loading	SMBP (screening Plant)	
01.06.2017	23	12	9	12	1200 µg/m3
06.06.2017	21	32	12	25	
08.06.2017	36	24	14	26	
13.06.2017	41	21	23	35	
15.06.2017	21	38	21	26	
20.06.2017	21	22	41	28	
22.06.2017	28	36	36	13	
29.06.2017	28	32	30	33	

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Well Water level Report

Mine Name: Surla 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
			16.06.2017	
1	Well Surla Jetty	7.08	4.55	2.53
2	Well Khodgini	6.9	4.78	2.12
3	Well Near Mine Garage Office	7.5	5.07	2.43
4	Well surla Village	6.16	3.15	3.01
5	Well behind New Admin Office	7.2	4.65	2.55

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Well Water Analysis Report

Mine Name: Surla Mine
Date of Sample collection : 16.06.2017
Standard method used for analysis: APHA Standard
Test Report No: 323

Date of Receipt of sample: 16.06.2017
Analysis completion date: 22.06.2017

Parameter	Unit	Desirable Limit	Location				
			Mine Garage Well	Behind New Admin Office Well	Surla jetty Well	Surla Village Well	Khodgini Well
Colour	Hazen	<5.0	<5	<5	<5	<5	<5
pH	-	6.5-8.5	6.51	6.64	6.52	6.57	6.53
Turbidity	NTU	1	0.7	0.8	0.6	0.5	0.8
Conductivity	µs/cm	-	40	80	70	80	136
Dissolved Solids	mg/lit	500	20	40	35	40	68
Suspended Solids	mg/lit	-	2	2	2	2	2
Chloride	mg/lit	250	3.9	12.5	11.6	7.7	6.7
Total Hardness as CaCO3	mg/lit	200	18.4	28.6	16.3	26.5	61.2
Calcium as Ca++	mg/lit	75	4.1	4.9	3.3	4.9	16.4
Magnesium as mg++	mg/lit	30	2.0	4.0	2.0	3.5	5.0
Sulphate as SO4	mg/lit	200	2.0	2.5	3.2	3.1	2.2
Nitrate as NO3	mg/lit	45	0.1	0.1	0.1	0.1	0.1
Alkalinity	mg/lit	200	16	22	11	33	28
Iron as Fe	mg/lit	0.3	0.06	0.07	0.06	0.04	0.07
Manganese as Mn	mg/lit	0.1	0.02	0.03	0.02	BDL	0.02
Total Coliform/100ml	-	-	24	16	22	31	11
E.Coli	-	Absent	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: Surla Mine
Date of Sample collection:16.06.2017
Standard method used for analysis: APHA Standard
Test Report No: 322

Date of Receipt of sample: 16.06.2017
Analysis completion date : 22.06.2017

Parameter	Unit	Location						
		Desirable Limit	Nallah water-Bhillem	Sonshi Nallah Water- Entry to MINE	Sonshi Nallah water- Exit from MINE	Mine discharge to paddy fields	Upstream river Mandovi	Downstream river Mandovi
Colour	Hazen	----	<5	<5	<5	<5	<5	<5
pH	----	5.5 to 9.0	6.25	6.05	6.06	6.13	6.51	6.5
Turbidity	NTU	----	2.0	2.0	1.0	1.0	3.0	3.0
Dissolved Solids	mg/lit	----	30	26	25	23	79	78
Conductivity	µS/cm	----	60	52	50	46	158	156
Suspended Solids	mg/lit	100	3	3	4	2	3	3
Chlorides	mg/lit	----	7	7.7	6.7	6	58	48
Total Hardness as $CaCO_3$	mg/lit	----	22	20.4	20.4	16	41	41
Calcium as Ca^{++}	mg/lit	----	6	4.1	4.9	3	8.2	8
Magnesium as Mg^{++}	mg/lit	----	2	2.5	2.0	2	5.0	5
Sulphate as SO_4	mg/lit	----	1	1	1.1	1	1.1	1.2
Phosphate as PO_4	mg/lit	5	BDL	BDL	BDL	BDL	0.07	0.05
Nitrate as NO_3	mg/lit	10	0.18	BDL	0.1	BDL	0.2	0.3
B.O.D (3days, 30°C)	mg/lit	30	<3	<3	<3	<3	<3	<3
C.O.D	mg/lit	250	<10	<10	<10	<10	<10	<10
Total Iron	mg/lit	3	0.05	0.06	0.07	0.03	0.07	0.1
Manganese as Mn	mg/lit	2	0.01	0.03	BDL	BDL	0.03	0.04
D.O	mg/lit	----	6	6	6	7	6	6
Oil & Grease	mg/lit	10	<1	<1	<1	1	1.2	1.1

Note :- No water discharge from SMBP & SBP Tailing Pond.
BDL- Below Detection Limit

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Ambient Air Quality Monitoring Report

MineName : Surla mine

Location Name: Surla Benefication Plant

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

Calibration date: 28.09.2016 **Validity of calibration :27.09.2017**

Standard method used for analysis: Particulate Matter Gravimetric method

Monitoring Date	$PM_{2.5}$ in µg/m^3 (24 hourly)	PM_{10} in µg/m^3 (24 hourly)	Standards
01.06.2017	5	10	PM_{10} 100 µg/m3 $PM_{2.5}$ -60 µg/m3
06.06.2017	4	8	
08.06.2017	2	6	
13.06.2017	3	7	
15.06.2017	6	10	
20.06.2017	2	8	
22.06.2017	7	11	
29.06.2017	5	8	

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