

o/c.

Ref: SMCL/ENV/2016/.6.1

Date: 08/09/2016

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

**Subject: Compliance of Consent conditions of Bicholim Iron Ore Mine, T.C. Nos: 11/1941, 12/1941, 13/1941, 14/1941 & 15/1941, Village Mayem, Lamgao, Bordem, Mulgao & Shirgao of Bicholim Taluka for the month of Aug 2016.**

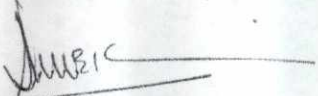
**Ref: Consent to Operate No. 5/2569/15-PCB/CI-554 dated 07/09/2015**

With reference to the condition in Consent to Operate and Authorization granted to Bicholim Iron Ore Mine, we have enclosed herewith the Water Analysis Report for the Month of August 2016.

Thanking you,

Yours faithfully,

**For Sesa Mining Corporation Limited,**

  
**Santosh C. Mandrekar**  
Mines Manager  
Sesa Mining Corporation Ltd.,  
Bicholim Iron Ore Mine  
Bicholim, Goa.

Goa State Pollution Control Board	
Patto, Panaji Goa	
Date: 8/09/16	Time: 2:30 pm
Inward no.:	
Receivers signature:	

**M/s Sesa Environment Laboratory**

Vedanta Limited, Mining Division, Codli Mines, P.O. Kirilapale, 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, ISO 14001 :2004 and OHSAS 18001:2007

**Surface Water Analysis Report for the Month of August 2016**

Mine Name: Bicholim Mine  
Date of Sample collection : 23.08.2016  
Standard method used for analysis: APHA Standard

Date of Receipt of sample: 23.08.2016  
Analysis completion date: 29.08.2016

Parameter	Unit	Permissible limits	Location						
			1Top settling pond (Vagachiper lease Discharge)	2Top settling pond (Lamgao lease Discharge)	3Top settling pond (Totichomordon gor lease Discharge)	Upstream River Assanora	Downstream River Assanora	Upstream River Bicholim	Downstream River Bicholim
Colour	Hazen	----	8	7	5	8	11	10	9
pH	----	5.5 to 9.0	6.38	6.5	5.53	6.96	6.89	6.53	6.61
Turbidity	NTU	----	5	3.0	2.2	4	7	6.4	5
Dissolved Solids	mg/lit	----	33	20	20	43	45	34	34
Conductivity	µS/cm	----	66	39	40	86	91	68	69
Suspended Solids	mg/lit	100	3	2	2	4	3	3	3
Chlorides	mg/lit	----	7.9	7.0	6.0	13.9	14.9	8.9	8.9
Total Hardness as CaCO <sub>3</sub>	mg/lit	----	20	14	10	24	28	22	24
Calcium as Ca <sup>++</sup>	mg/lit	----	4.8	3.2	3.2	4.8	5.6	4.8	4.8
Magnesium as Mg <sup>++</sup>	mg/lit	----	1.9	1.5	0.5	2.9	3.4	2.4	2.9
Sulphate as SO <sub>4</sub>	mg/lit	----	1.6	0.8	1.8	1.9	1	1	0.6
Phosphate as PO <sub>4</sub>	mg/lit	5	0.1	BDL	BDL	BDL	BDL	BDL	BDL
Nitrate as NO <sub>3</sub>	mg/lit	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1
B.O.D (3days, 27°C)	mg/lit	30	<3	<3	<3	<3	<3	<3	<3
C.O.D	mg/lit	250	<10	<10	<10	<10	<10	<10	<10
Total Iron	mg/lit	3	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Manganese as Mn	mg/lit	2	BDL	BDL	BDL	BDL	BDL	BDL	BDL
D.O	mg/lit	----	6	7	7	7	6	7	7
Oil & Grease	mg/lit	10	Nil	Nil	Nil	<1	<1	1	1.1

BDL- Below Detection Limit

*[Signature]*  
Govt. Analyst



*[Signature]*  
Laboratory Incharge

Scan copy & sub

Scan Submitted

**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, ISO 14001:2004 and OHSAS 18001:2007

**Well Water Analysis Report**

Mine Name: Bicholim Mine

Date of Sample collection :23.08.2016

Standard method used for analysis: APHA Standard

Date of Receipt of sample:23.08.2016

Analysis completion date:29.08.2016

Parameter	Unit	Permissible Limit	Location			
			Mayem Village Well	Pilgaon Village Well	Mulgao Well	Lamgao Well
Colour	Hazen	<5.0	<5	<5	<5	<5
pH	-	6.5-8.5	6.12	5.42	5.44	6.25
Turbidity	NTU	5	3.2	2.2	2	1.2
Conductivity	µs/cm	-	50	37	57	79
Dissolved Solids	mg/lit	500	25	18	29	40
Suspended Solids	mg/lit	-	3	2	2	2
Chloride	mg/lit	250	7	6	8.9	7.9
Total Hardness as CaCO3	mg/lit	200	14	8	16	20
Calcium as Ca++	mg/lit	75	2.4	2.4	3.2	4.8
Magnesium as SO4	mg/lit	30	1.9	0.5	1.9	1.9
Sulphate as SO4	mg/lit	200	2.0	2.3	2.0	2.5
Nitrate as NO3	mg/lit	45	0.1	0.1	0.1	0.1
Alkalinity	mg/lit	200	22	24	23	27
Iron as Fe	mg/lit	0.3	BDL	BDL	BDL	BDL
Manganese as Mn	mg/lit	0.1	BDL	BDL	BDL	BDL
MPN/100ml	-	Absent	21	21	11	17

BDL- Below Detection Limit

  
Govt. Analyst



  
Laboratory Incharge

**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, ISO 14001:2004 and OHSAS 18001:2007

Well water level Report

Mine Name: Bicholim 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	Mulgao Village Well	7.1	5.1	2
2	Lamgao Village Well-Santosh	5.4	3.4	2
3	Pilgao Village Well- Ratur	5.75	2.2	3.55
4	Mayem Village-Mohan	9.25	7.1	2.15

Govt Analyst

*[Signature]*  
Laboratory Incharge



Scan copy submitted