

ANNEXURE I

F. No. 8-78/ 1996-FC (pt.-I)
Government of India
Ministry of Environment, Forests and Climate Change
(Forest Conservation Division)

Indira Paryavaran Bhawan
Aliganj, Jorbagh Road
New Delhi -110 003
Dated: 3rd November, 2014

To,
The Principal Secretary (Forests),
Government of Odisha,
Bhubaneswar.

Sub: Diversion of 73.697 hectares of forest land in Sukinda Chromite Mines of M/s. TATA Steel Ltd. In Jajpur district during 3rd Renewal of mining lease (RML) period.

Sir,

I am directed to refer to the Government of Odisha's letter No 10F (Cons) 73/ 2014-8679/ F &E dated 9th May 2014 on the above mentioned subject, seeking prior approval of the Central Government under Section 2 of the Forest (Conservation) Act, 1980, and to say that the said proposal has been examined by the Forest Advisory Committee constituted by the Central Government under section-3 of the aforesaid Act.

2. After careful consideration of the proposal of the State Government of Odisha and on the basis of the recommendations of the Forest Advisory Committee, the Central Government hereby agrees to accord **stage-I approval** for the diversion of 73.697 hectares of forest land in Sukinda Chromite Mines of M/s. TATA Steel Ltd. In Jajpur district during 3rd Renewal of mining lease (RML) period, subject to the following conditions:

- (i) Legal status of the diverted forest land shall remain unchanged;
- (ii) Following activities shall be undertaken by the user agency at the project cost:
 - (a) A plan containing appropriate mitigative measures to minimize soil erosion and choking of streams shall be prepared and implemented;
 - (b) Planting of adequate drought hardy plant species and sowing of seeds in the appropriate area within the mining lease to arrest soil erosion;
 - (c) Construction of check dams, retention /toe walls to arrest sliding down of the excavated material along the contour;
 - (d) Stabilize the overburden dumps by appropriate grading/benching so as to ensure that that angles of repose at any given place is less than 28°; and
 - (e) Strict adherence to the prescribed top soil management.
- (iii) State Government shall charge the Net Present Value (NPV) of the forest area diverted under this proposal from the user agency as per the Orders of the Hon'ble

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Supreme Court of India dated 28.03.2008, 24.04.2008 and 09.05.2008 in Writ Petition (Civil) No. 202/1995 and the guidelines issued by this Ministry vide its letter No. 5-3/2007-FC dated 05.02.2009 in this regard;

- (iv) At the time of payment of the Net Present Value (NPV) at the present rate, the user agency shall furnish an undertaking to pay the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India;
- (v) All the funds received from the User Agency under the project shall be transferred to Ad-hoc CAMPA in the concerned Saving Bank Account in Corporation Bank, Lodi Road, New Delhi-110003;
- (vi) User agency shall obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986;
- (vii) User agency shall maintain 7.50 meters wide strip all along the periphery of the mining lease as safety zone. No mining activity shall be undertaken in the safety zone;
- (viii) State Government shall ascertain the status, as on 25th October 1980, of the area located in the mining lease which has been treated as 'non-forest' as per the Hal (present) record of rights and intimate the same to the Ministry of Environment and Forests, Government of India within a period of one month from the date of grant of stage-I approval;
- (ix) User agency shall prepare a schedule of the surrender of the fully(biologically) reclaimed mined out forest land and submit the same to the Ministry of Environment and Forests before grant to stage-II approval under the FC Act;
- (x) The User Agency shall pay the proportionate cost of implementation of Regional Wildlife Management Plan at revised cost; and
- (xi) The user agency shall pay towards the cost of site specific conservation plan to be approved by the CWLW, Odisha for its implementation in leasehold as well as surrounding area.
- (xii) User agency in consultation with the State Forest Department shall create and maintain alternate habitat/ home for the avifauna, whose nesting trees are to be cleared in this project. Bird nests artificially made out of eco-friendly materials shall be used in the area, including forest area and human settlements, adjoining the forest area being diverted for the project;
- (xiii) User agency either himself or through the State Forest Department shall undertake fencing, protection and afforestation of the safety zone area (7.5 meter strip all along the outer boundary of the area identified to undertake mining), at the project cost;

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- (xiv) User agency either himself or through the State Forest Department shall undertake afforestation on degraded forest land, one and half time in extent to the area used for safety zone;
- (xv) Period of diversion of the said forest land under this approval shall be for a period co-terminus with the period of the mining lease proposed to be granted under the Mines and Minerals (Development and Regulation) Act, 1957, and the Rules framed there-under, subject to a maximum period of 20 years;
- (xvi) User agency either himself or through the State Forest Department shall undertake gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests (having crown density less than 0.4), if any, located in the area within 100 meters from outer perimeter of the mining lease;
- (xvii) User agency shall undertake de-silting of the village tanks and other water bodies located within five km from the mine lease boundary so as to mitigate the impact of siltation of such tanks/water bodies, whenever required;
- (xviii) User agency shall undertake mining in a phased manner and take due care for reclamation of the mined over area. The concurrent reclamation plan shall be executed by the User Agency as per the approved mining plan/scheme and an annual report on implementation thereof shall be submitted to the Nodal Officer, Forest (Conservation) Act, 1980, Government of Odisha and the Addl. Principal Chief Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office (Eastern Zone), Bhubaneswar. If it is found from the annual report that the activities indicated in the concurrent reclamation plan are not being executed by the user agency, the Nodal Officer or the Addl. Principal Chief Conservator of Forests (Central) may direct that the mining activities shall remain suspended till such time, such reclamation activities are satisfactorily executed;
- (xix) No labour camp shall be established on the forest land;
- (xx) User agency shall provide firewood preferably alternate fuel to the labourers and the staff working at the site so as to avoid any damage and pressure on the adjacent forest areas;
- (xxi) Boundary of the mining lease and safety zone shall be demarcated on ground at the project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, forward and back bearing and distance from pillar to pillar;
- (xxii) Forest land shall not be used for any purpose other than that specified in the proposal;
- (xxiii) State Government shall complete settlement of rights, in term of the Scheduled Tribes and Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, if

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any, on the forest land to be diverted and submit the documentary evidence as prescribed by this Ministry in its letter No. 11-9/1998-FC (pt.) dated 3rd August 2009, in support thereof;

- (xxiv) Any other condition that the Regional Office (Eastern Zone), Bhubaneswar of this Ministry, Bhubaneswar may stipulate, from time to time, in the interest of conservation, protection and development of forests & wildlife; and
- (xxv) User agency and the State Government shall ensure compliance to provisions of the all Acts, Rules, Regulations and Guidelines, for the time being in force, as applicable to the project.

3. After receipt of the report on compliance to the conditions stipulated in the paragraph-2 above, from the Government of Odisha, final/ stage-II approval for diversion of the said forest under Section-2 of the Forest (Conservation) Act, 1980 will be issued by this Ministry. Transfer of the said forest land to the user agency shall not be affected by the Government of Odisha till final/ stage-II approval for its diversion is issued by this Ministry.

4. However, pending receipt of report on compliance to the conditions stipulated in paragraph-2 above and grant of final/ stage-II approval under the Forest (Conservation) Act, 1980 for diversion of the said forest land, State Government may allow the user agency to undertake mining, as per the approved mining plan, in the already broken up forest land being diverted for mining purposes (as per the approved land use plan), for a period not exceeding one year from the date of issue of this letter.

5. Stage-I approval and Working Permission for mining over already broken up area is subject to in-principle decision of the authority in the State Government in terms of section 8(3) of the Mines and minerals (Development and Regulation) Act, 1957 that in the interest of mineral development it is necessary to renew the lease.

Yours faithfully,

S/L

(H. C. Chaudhary)
Director

Copy to:

1. The Principal Chief Conservator of Forests, Government of Odisha, Bhubaneswar.
2. The Nodal Officer, the Forest (Conservation) Act, 1980, the Government of Odisha, Bhubaneswar.
3. The Addl. Principal Chief Conservator of Forests (Central), Regional Office (Eastern Zone), Bhubaneswar.
4. User Agency.
5. Monitoring Cell, FC Division, MoEF, New Delhi.
6. Guard File.

(H. C. Chaudhary)
Director

**ANNEXURE II
MINERALOGICAL COMPOSITION OF PARTICULATE MATTER**

MINERALOGICAL COMPOSITION OF PARTICULATE MATTER

Sl. No.	Location	Mineralogical Composition (%)						
		Cr ₂ O ₃	Fe ₂ O ₃	MnO ₂	SiO ₂	Al ₂ O ₃	MgO	CaO
1.	Laboratory Top	18.5	7.7	1.8	24.1	11.8	13.8	3.0
2.	Hospital Top	17.2	7.1	1.3	23.8	11.4	12.4	2.5
3.	Mining Complex	22.9	7.9	1.2	25.9	11.6	12.7	3.7
4.	Residential Colony (Qtr No.L2/R-73)	14.4	6.7	0.9	23.8	15.1	12.2	3.3

**ANNEXURE III
PERSONAL RESPIRABLE DUST**

Date	Sampler Attached to the Person	Personal Respirable Dust in mg/m ³	Respirable Free Silica (%)
05.04.2016	Mr. Bansidhar Naik, Sr. Drill Operator	0.321	2.8
06.04.2016	Mr. Purnachandra Sahoo, Sr. Dumper Operator	0.169	4.1
07.04.2016	Mr. Basanta Kumar Padhi, Sr. HMEO	0.219	3.6
09.05.2016	Mr. Bansidhar Naik, Sr. Drill Operator	0.293	2.5
10.05.2016	Mr. Purnachandra Sahoo, Sr. Dumper Operator	0.152	3.1
11.05.2016	Mr. Basanta Kumar Padhi, Sr. HMEO	0.187	3.9
07.06.2016	Mr. Bansidhar Naik, Sr. Drill Operator	0.208	2.6
08.06.2016	Mr. Purnachandra Sahoo, Sr. Dumper Operator	0.113	2.1
09.06.2016	Mr. Basanta Kumar Padhi, Sr. HMEO	0.149	3.7

**ANNEXURE IV
COVERING OF LOADED TRUCK BY TARPAULIN**



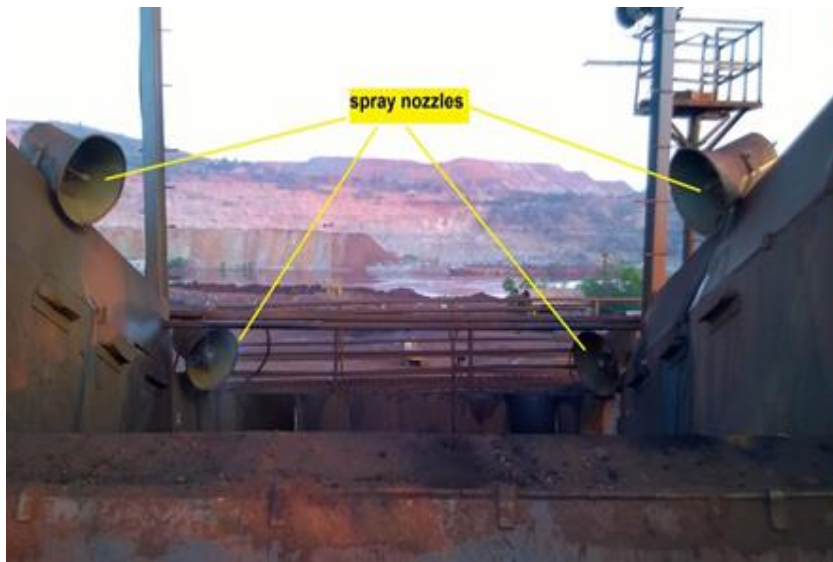
ANNEXURE V
DUST CONTROLLING MAJORS



Concrete Path



Stationary Water Sprinkler



Dust Suppression System at Hopper



Water Sprinkling



Concentrate Stack Covered With Tarpaulin



COVERING OF TRUCK BY TARPAULIN

Truck Covered With Tarpaulin

ANEXURE-VI
TATA STEEL LIMITED, SUKINDA CHROMITE MINE
AMBIENT AIR QUALITY PARAMETERS (April'16 to September'16)

Monthly Average	PM10 µg/m3						PM2.5µg/m3						SO2 µg/m3						NOX µg/m3						CO						O3							
	C	S	L	H	M	T	C	S	L	H	M	T	C	S	L	H	M	T	C	S	L	H	M	T	C	S	L	H	M	T	C	S	L	H	M	T		
April-16	59.56	64.56	54.33	44.89	49.44	40.33	33.42	36.41	31.24	26.22	28.73	23.71	4.97	5.38	4.63	4.19	4.40	4.07	11.76	12.18	11.23	10.43	10.93	9.89	0.21	0.25	0.18	0.14	0.16	0.12	6.74	7.16	6.32	5.36	5.82	4.98		
May-16	61.22	67.22	56.00	47.00	51.67	43.11	34.64	37.77	31.93	27.29	29.67	25.40	5.00	5.36	4.66	4.106	4.38	4.02	12.43	13.02	11.77	10.83	11.31	10.32	0.22	0.27	0.18	0.14	0.16	0.13	7.04	7.48	6.50	5.58	6.00	5.23		
June-16	55.22	60.44	51.00	42.00	46.78	37.44	31.52	34.18	29.54	24.74	27.21	22.28	4.56	4.83	4.32	4.08	4.17	BDL	11.80	12.32	11.38	10.51	10.93	10.03	0.20	0.24	0.17	0.14	0.15	0.12	6.30	6.78	5.84	5.31	5.51	5.14		
July-16	50.38	55.44	46.22	37.22	41.44	32.67	28.74	31.73	26.69	21.76	24.80	19.31	4.22	4.42	4.09	BDL	BDL	BDL	11.47	11.90	11.02	10.10	10.61	9.66	0.16	0.19	0.14	0.11	0.13	5.93	6.34	5.53	5.10	5.27	BDL			
Aug-16	46.22	50.89	41.89	34.78	38.11	31.78	26.77	29.30	24.81	20.44	22.33	18.97	4.13	4.29	4.13	4.02	4.07	BDL	10.97	11.48	10.57	9.88	10.22	9.51	0.14	0.17	0.13	0.11	0.12	5.89	6.33	5.63	5.19	5.43	5.19			
Sep-16	46.56	52.22	42.67	35.56	39.22	32.11	26.47	30.19	25.09	21.10	23.00	19.08	4.18	4.40	4.09	BDL	4.04	BDL	10.86	11.42	10.49	9.81	10.13	9.49	0.15	0.17	0.13	0.11	0.12	5.66	6.02	5.41	5.14	5.24	5.14			
Monthly Average	Pb µg/m3						NH3 µg/m3						Benzene µg/m3						Benzo(a)Pyrene ng/m3						Arsenic ng/m3						Nickel ng/m3							
	C	S	L	H	M	T	C	S	L	H	M	T	C	S	L	H	M	T	C	S	L	H	M	T	C	S	L	H	M	T	C	S	L	H	M	T		
April-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.81	0.89	0.75	0.62	0.68	0.56	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
May-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.81	0.90	0.73	0.63	0.65	0.58	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
June-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.79	0.86	0.74	0.63	0.67	0.57	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
July-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.74	0.80	0.66	0.55	0.60	0.49	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aug-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.67	0.73	0.62	0.52	0.56	0.47	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Sep-16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.70	0.75	0.65	0.55	0.60	0.50	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

BDL Values: PM-10 :- 5 µg/m³ ; PM-2.5:- 2.0 µg/m³ ; SO2 :- 4 µg/m³ ; NOx:- 9µg/m³ ; CO:- 0.1 mg/m³ ;Ozone:- 5µg/m³ ; Ni :- 0.05 ng/m³ ; Pb:- 0.00005 µg/m³ ; As :- 0.05ng/m³ ; NH₃:- 20µg/m³ ; B(a)P :- 2 ng/m³ ;

Benzene:- 0.1 µg/m³

C:COB Plant
S:Stackyard
M:Mining Complex
T: Tailing Dam

Residential Area: L: Laboratory Top
Sensitive Area : H: Hospital

BUFFER ZONE AAQ

SIX MONTHS AVERAGES

Sl. No	Location	PM 10 µgm/m ³	PM 2.5 µgm/m ³	SO2 µgm/m ³	NOx µgm/m ³	CO mg/m ³	O3 µg/m ³	Pb µg/m ³	NH3 µg/m ³	Benze ne µg/m ³	Benzo(a) Pyrene ng/m ³	Arsenic ng/m ³	Nickel ng/m ³
1	Birasa Birasal	40.00	23.95	BDL	10.45	0.13	5.30	BDL	BDL	0.64	BDL	BDL	BDL
2	Kanehipal	35.00	20.50	BDL	10.00	0.12	5.30	BDL	BDL	0.61	BDL	BDL	BDL
3	Kalarangiatta	52.00	29.35	BDL	11.40	0.17	5.70	BDL	BDL	0.64	BDL	BDL	BDL
4	Kaliapani	38.50	23.55	BDL	10.15	0.13	6.10	BDL	BDL	0.66	BDL	BDL	BDL
5	Kakudia	31.00	17.85	BDL	9.20	BDL	BDL	BDL	BDL	0.57	BDL	BDL	BDL
6	Sendashara	29.50	17.10	BDL	BDL	BDL	BDL	BDL	BDL	0.50	BDL	BDL	BDL
7	Laxmidharpur	39.00	23.70	BDL	10.25	0.12	BDL	BDL	BDL	0.55	BDL	BDL	BDL
8	Sukarangi	46.00	26.70	BDL	11.00	0.14	5.20	BDL	BDL	0.60	BDL	BDL	BDL
9	Muruabil	28.50	16.00	BDL	BDL	BDL	BDL	BDL	BDL	0.51	BDL	BDL	BDL
10	Kharkhari	40.00	23.55	BDL	10.30	0.12	BDL	BDL	BDL	0.65	BDL	BDL	BDL

BDL Values: PM-10 :- 5 µg/m³; PM-2.5:- 2.0 µg/m³; SO2 :- 4 µg/m³; NOx:- 9µg/m³; CO:- 0.1 mg/m³; Ozone:- 5µg/m³; Ni :- 0.05 ng/m³; Pb:- 0.00005 µg/m³; As :- 0.05ng/m³; NH₃:- 20µg/m³; B(a)P :- 2 ng/m³;

Ambient Air Quality in Buffer Zone Data of April'16 & September'16

Sl.No	Location	Month of Monitoring	PM10 µg/m ³	PM2.5 µg/m ³	SO2 µg/m ³	NOx µg/m ³	CO mg/m ³	O3 µg/m ³	Pb µg/m ³	NH3 µg/m ³	Benzene µg/m ³	Benzo(a)Pyr ene ng/m ³	Arsenic ng/m ³	Nickel ng/m ³
1	Birasal	June'16	45	27.5	BDL	10.8	0.14	5.3	BDL	BDL	0.68	BDL	BDL	BDL
		Sep'16	35	20.4	BDL	10.1	0.12	BDL	BDL	BDL	0.59	BDL	BDL	BDL
2	Kanehipal	June'16	39	23.4	BDL	10.2	0.12	5.3	BDL	BDL	0.68	BDL	BDL	BDL
		Sep'16	31	17.6	BDL	9.8	0.11	BDL	BDL	BDL	0.53	BDL	BDL	BDL
3	Kalarangiatta	June'16	55	30.6	BDL	11.6	0.18	BDL	BDL	BDL	0.61	BDL	BDL	BDL
		Sep'16	49	28.1	BDL	11.2	0.16	5.7	BDL	BDL	0.66	BDL	BDL	BDL
4	Kaliapani	June'16	41	25.8	BDL	10.4	0.13	6.1	BDL	BDL	0.74	BDL	BDL	BDL
		Sep'16	36	21.3	BDL	9.9	0.12	BDL	BDL	BDL	0.58	BDL	BDL	BDL
5	Kakudia	June'16	33	18.2	BDL	9.2	BDL	BDL	BDL	BDL	0.63	BDL	BDL	BDL
		Sep'16	29	17.5	BDL	BDL	BDL	BDL	BDL	BDL	0.5	BDL	BDL	BDL
6	Sendashara	June'16	28	16.1	BDL	BDL	BDL	BDL	BDL	BDL	0.56	BDL	BDL	BDL
		Sep'16	31	18.1	BDL	BDL	BDL	BDL	BDL	BDL	0.44	BDL	BDL	BDL
7	Laxmidharpur	June'16	42	25.7	BDL	10.6	0.13	BDL	BDL	BDL	0.51	BDL	BDL	BDL
		Sep'16	36	21.7	BDL	9.9	0.11	BDL	BDL	BDL	0.59	BDL	BDL	BDL
8	Sukarangi	June'16	49	28.4	BDL	11.3	0.15	BDL	BDL	BDL	0.67	BDL	BDL	BDL
		Sep'16	43	25.0	BDL	10.7	0.12	5.2	BDL	BDL	0.53	BDL	BDL	BDL
9	Muruabil	June'16	30	16.2	BDL	BDL	BDL	BDL	BDL	BDL	0.54	BDL	BDL	BDL
		Sep'16	27	15.8	BDL	BDL	BDL	BDL	BDL	BDL	0.48	BDL	BDL	BDL
10	Kharkhari	June'16	42	24.9	BDL	10.5	0.13	BDL	BDL	BDL	0.68	BDL	BDL	BDL
		Sep'16	38	22.2	BDL	10.1	0.11	BDL	BDL	BDL	0.62	BDL	BDL	BDL

BDL Values: PM-10 :- 5 µg/m³; PM-2.5:- 2.0 µg/m³; SO2 :- 4 µg/m³; NOx:- 9µg/m³; CO:- 0.1 mg/m³; Ozone:- 5µg/m³; Ni :- 0.05 ng/m³; Pb:- 0.00005 µg/m³; As :- 0.05ng/m³; NH₃:- 20µg/m³; B(a)P :- 2 ng/m³;

ANNEXURE VII- Roof Top Rain water Harvesting



ANEXURE-VIII
Ground Water Quality in Villages (April' 16 to September' 16)

S.No.	Parameter	Unit	IS-10500	April'16 (Village Karadagadia)	May'16 (Village Kaliapani)	June'16 (Village Kakudia)	July'16 (Village Maruabil)	Aug'16 (Village Chingudipal)	Sep'16 (Village Ragadia)
1	Colour	Hazen	5	CL	CL	CL	CL	CL	CL
2	Odour	-	U/O	U/O	U/O	U/O	U/O	U/O	U/O
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU max	5	0.52	0.62	0.74	0.82	0.83	0.77
5	pH	-	6.5-8.5	7.2	7.1	7.2	7.3	7.2	7.2
6	Dissolved Oxygen	Mg /l	-	5.8	6.3	5.9	6.1	6.4	6.1
7	Total Hardness (as CaCO ₃)	Mg/l	300	51.4	50.8	54.6	57.2	57.2	55.6
8	Iron (as Fe)	Mg/l	0.3	0.10	0.11	0.10	0.09	0.12	0.13
9	Chloride (as Cl)	Mg/l	250	10.4	9.9	9.5	10.9	11.4	12.5
10	Rsidual free chlorine	Mg/l	0.2	ND	ND	ND	ND	ND	ND
11	Fluorides (as F)	Mg/l	1	0.05	0.04	0.058	0.066	0.08	0.074
12	Total Dissolved Solids	Mg/l	500	111	124	137	147	156	148
13	Calcium as Ca	Mg/l	75	9.2	9.5	9.9	10.1	9.5	9.2
14	Magnesium (as Mg)	Mg/l	30	6.8	6.6	7.3	7.8	6.9	6.5
15	Copper (as Cu)	Mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
16	Manganese (as Mn)	Mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
17	Sulphates (as SO ₄)	Mg/l	200	17.3	20.5	26.1	33.6	29.2	26.5
18	Nitrate (as NO ₃)	Mg/l	45	0.21	0.19	0.26	0.45	0.72	0.69
19	Mercury (as Hg)	Mg/l	0.001	BDL	BDL	BDL	BDL	BDL	BDL
20	Cadmium (as Cd)	Mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
21	Selenium (as Se)	Mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
22	Arsenic (as As)	Mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide (as CN)	Mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
24	Lead (as Pb)	Mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
25	Zinc (as Zn)	Mg/l	5	0.19	0.22	0.56	0.24	0.38	0.31
26	Chromium (as Cr ⁺⁶)	Mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
27	Mineral Oil	Mg/l	0.01	Nil	Nil	Nil	Nil	Nil	Nil
28	Alkalinity	Mg/l	200	26	29	43	34	31	28
29	Boron	Mg/l	1	BDL	BDL	BDL	BDL	BDL	BDL
30	Ground Water Level	m	-	15.1	15.8	11.9	11.2	7.4	3.9

ANEXURE-IX
Toe wall, Garland Drain and Surface Runoff Channel



Toe Wall



Toe Wall & garland drain



Surface runoff channel

ANNEXURE: X
Vetiver Plantation and Dump Plantation



Vetiver Plantation



ANNEXURE XI
New State- of - the-Art ETP at Sukinda Chromite Mine



CLF 2



Clariflocculator of New ETP



flash Mix Chamber

+

ANEXURE-XII
Herbal Treatment Plant



ANEXURE-XIII
Recycling of Water At COB Plant



Thickener and Water Recirculation Arrangement



Tailing Dewatering Plant and Water Recirculation Arrangement

ANEXURE-XIV
Water Quality Report At Upstream and Downstream of Damsala Nallah

Hexavalent Chromiums Cr+6 mg/l	Apr'16	May'16	June'16	July'16	Aug'16	Sep'16
Location	Cr+6 mg/l	Cr+6 mg/l	Cr+6 mg/l	Cr+6 mg/l	Cr+6 mg/l	Cr+6 mg/l
MINE WATER of QUARRY No: O.B.- X	0.21	0.17	0.21	0.19	0.16	0.20
DAMSALA RIVER UPSTREAM	0.029	0.036	0.023	0.03	0.024	0.03
DAMSALA RIVER DOWNSTREAM	0.023	0.027	0.019	0.022	0.019	0.02

ANNEXURE XV : Oil Separation Pit



Sewage Treatment Plant



ANEXURE-XVI
Water Quality Report
TATA STEEL LIMITED
SUKINDA CHROMITE MINE
Water Quality Parameters of ETP Inlet (April'16 to Sept'16)

Sl. No	Parameter	Unit	Standards (In land Surface water)	Apr'16	May'16	June'16	July'16	Aug'16	Sep'16
				Inlet	Inlet	Inlet	Inlet	Inlet	Inlet
1	Colour & Odour	Hazan/-	5.0 / U/O	CL & U/O	CL & U/O	2 & U/O	3 & U/O	4 & U/O	3 & U/O
2	Suspended Solids	mg/ltr	100	48	56	49	63	140	127
3	Particular Size of Suspended Solids	μ(micron)	<850	<850	<850	<850	<850	<850	<850
4	PH	--	5.5-9.0	6.9	6.8	6.6	6.7	6.21	6.8
5	Temperature	⁰ c.	Shall not exceed 5°C above the receiving water	25	25	25	25	25	25
6	Oil & Grease	mg/ltr	10	0.8	0.9	1.1	0.94	1.1	1
7	Total Residual Chlorine	mg/ltr	1	ND	ND	ND	ND	ND	ND
8	Amm. Nitrogen as N	mg/ltr	50	0.39	0.46	0.52	0.64	0.72	0.66
9	Total Kjeldal Nitrogen as NH ₃	mg/ltr	100	1.46	1.63	1.78	1.97	2.12	1.92
10	Free Ammonia as NH ₃	mg/ltr	5	0.003	0.004	0.005	0.004	0.005	0.004
11	BOD (3) days at 27 ⁰ c.	mg/ltr	30	1.88	1.96	2.1	2.2	2.34	2.26
12	COD	mg/ltr	250	4.9	5.74	6.42	6.57	7.28	7.12
13	Arsenic as As	mg/ltr	0.2	BDL	BDL	BDL	BDL	BDL	BDL
14	Mercury as Hg	mg/ltr	0.01	BDL	BDL	BDL	BDL	BDL	BDL
15	Lead as Pb	mg/ltr	0.1	BDL	BDL	BDL	BDL	BDL	BDL
16	Cadmium as Cd	mg/ltr	2	BDL	BDL	BDL	BDL	BDL	BDL
17	Hexa Chromium as Cr ⁺⁶	mg/ltr	0.1	0.2	0.18	0.2	0.17	0.13	0.19
18	Total Chromium as Cr	mg/ltr	2	0.33	0.29	0.37	0.31	0.21	0.23
19	Copper as Cu	mg/ltr	3	BDL	BDL	BDL	BDL	BDL	BDL
20	Zinc as Zn	mg/ltr	5	0.38	0.33	0.44	0.53	0.43	0.56
21	Selenium as Se	mg/ltr	0.05	BDL	BDL	BDL	BDL	BDL	BDL
22	Nickel as Ni	mg/ltr	3	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide as CN	mg/ltr	0.2	BDL	BDL	BDL	BDL	BDL	BDL
24	Fluoride as F	mg/ltr	2	0.06	0.07	0.09	0.12	0.2	0.19
25	Diss. Phosphate as P	mg/ltr	5	BDL	BDL	BDL	BDL	BDL	BDL
26	Sulphide as S	mg/ltr	2	ND	ND	ND	ND	ND	ND
27	Phenolic Compounds as C ₆ H ₅ OH	mg/ltr	1	BDL	BDL	BDL	BDL	BDL	BDL
28	Bio-assay Test	--	90% survival of fish after 96 hours in 100% effluent	97%	97%	96%	97%	97%	97%
29	Manganese as Mn	mg/ltr	2	0.021	0.028	0.033	0.042	0.036	0.031
30	Iron as Fe	mg/ltr	3	0.39	1.1	0.6	0.69	1.4	1.3
31	Vanadium as V	mg/ltr	0.2	BDL	BDL	BDL	BDL	BDL	BDL
32	Nitrate Nitrogen	mg/ltr	10	0.26	0.33	0.33	0.41	0.53	0.48
33	Pesticides (as Benzene hexa chloride), μg/l Max.	μg/l Max	10	Absent	Absent	Absent	Absent	Absent	Absent

NB : C.L. Colourless, O.L – Odourless, ND- Not Detectable.

Water Quality Report
TATA STEEL LIMITED
SUKINDA CHROMITE MINE
Water Quality Parameters of ETP Outlet (April'16 to September'16)

Sl. No	Parameter	Unit	Standards (In land Surface water)	Apr'16	May'16	June'16	July'16	Aug'16	Sep'16
				Outlet	Outlet	Outlet	Outlet	Outlet	Outlet
2	Colour & Odour	Hazan/-	5.0 / U/O	CL & U/O	CL & U/O	CL & U/O	CL & U/O	CL & U/O	CL & U/O
3	Suspended Solids	mg/ltr	100	39	29	34	41	38	31
4	Particular Size of Suspended Solids	μ(micron)	<850	<850	<850	<850	<850	<850	<850
5	PH	--	5.5-9.0	7.1	7.2	7.1	7.2	7.65	7.3
6	Temperature	⁰ c.	Shall not exceed 5°C above the receiving water	25	25	25	25	25	25
7	Oil & Grease	mg/ltr	10	ND	ND	ND	ND	ND	ND
8	Total Residual Chlorine	mg/ltr	1.0	ND	ND	ND	ND	ND	ND
9	Amm. Nitrogen as N	mg/ltr	50	0.31	0.39	0.47	0.55	0.6	0.58
10	Total Kjeldal Nitrogen as NH ₃	mg/ltr	100	1.4	1.51	1.66	1.74	1.6	1.52
11	Free Ammonia as NH ₃	mg/ltr	5.0	0.002	0.003	0.004	0.004	0.004	0.004
12	BOD (3) days at 27 ⁰ c.	mg/ltr	30	1.46	1.54	1.48	1.63	1.86	1.63
13	COD	mg/ltr	250	4.6	4.2	5.1	6.03	4.29	4.16
14	Arsenic as As	mg/ltr	0.2	BDL	BDL	BDL	BDL	BDL	BDL
15	Mercury as Hg	mg/ltr	0.01	BDL	BDL	BDL	BDL	BDL	BDL
16	Lead as Pb	mg/ltr	0.1	BDL	BDL	BDL	BDL	BDL	BDL
17	Cadmium as Cd	mg/ltr	2.0	BDL	BDL	BDL	BDL	BDL	BDL
18	Hexa Chromium as Cr ⁺⁶	mg/ltr	0.1	BDL	BDL	BDL	BDL	BDL	BDL
19	Total Chromium as Cr	mg/ltr	2.0	0.26	0.23	0.34	0.29	0.17	0.2
20	Copper as Cu	mg/ltr	3.0	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc as Zn	mg/ltr	5.0	0.32	0.28	0.36	0.47	0.35	0.41
22	Selenium as Se	mg/ltr	0.05	BDL	BDL	BDL	BDL	BDL	BDL
23	Nickel as Ni	mg/ltr	3.0	BDL	BDL	BDL	BDL	BDL	BDL
24	Cyanide as CN	mg/ltr	0.2	BDL	BDL	BDL	BDL	BDL	BDL
25	Fluoride as F	mg/ltr	2.0	0.05	0.05	0.06	0.08	0.11	0.14
26	Diss. Phosphate as P	mg/ltr	5.0	BDL	BDL	BDL	BDL	BDL	BDL
27	Sulphide as S	mg/ltr	2.0	ND	ND	ND	ND	ND	ND
28	Phenolic Compounds as C ₆ H ₅ OH	mg/ltr	1.0	BDL	BDL	BDL	BDL	BDL	BDL
29	Bio-assay Test	--	90% survival of fish after 96 hours in 100% effluent	98%	98%	98%	98%	98%	98%
30	Manganese as Mn	mg/ltr	2.0	0.016	0.02	0.029	0.033	0.028	0.025
31	Iron as Fe	mg/ltr	3.0	0.31	2.68	0.84	0.75	0.39	0.32
32	Vanadium as V	mg/ltr	0.2	BDL	BDL	BDL	BDL	BDL	BDL
33	Nitrate Nitrogen	mg/ltr	10	0.21	0.27	0.29	0.34	0.41	0.36
34	Pesticides (as Benzene hexa chloride), μg/l Max.	μg/l Max	10	Absent	Absent	Absent	Absent	Absent	Absent

NB :C.L. Colourless, O.L – Odourless., ND- Not Detectable.

TATA STEEL LIMITED
SUKINDA CHROMITE MINE
Water Quality Parameters at Oil separation System - INLET (April'16 to September' 16)

Sl. No	Parameter	Unit	Standards	Apr'16	May'16	June'16	July'16	Aug'16	Sep'16
				Inlet	Inlet	Inlet	Inlet	Inlet	Inlet
1	Colour & Odour	--	5 & U/O	2 & U/O	CL & U/O	CL & U/O	2 & U/O	4 & U/O	3 & U/O
2	Suspended Solids	mg/l	100	47	56	72	81	94	88
3	Particular Size of S.S.	μ(micron)	<850	<850	<850	<850	<850	<850	<850
4	pH	--	5.5-9.0	7.6	7.5	7.5	7.6	7.7	7.6
5	Temperature	°C	Shall not exceed 5°C above the receiving water	25	25	25	25	25	25
6	Oil & Grease	mg/l	10	1	0.94	1.1	1.25	1.36	1.29
7	Total Residual Chlorine	mg/l	1	ND	ND	ND	ND	ND	ND
8	Amm. Nitrogen as N	mg/l	50	0.29	0.36	0.43	0.57	0.63	0.57
9	Total Kjeldal Nitrogen as NH ₃	mg/l	100	1.18	1.28	1.36	1.46	1.52	1.46
10	Free Ammonia as NH ₃	mg/l	5	0.003	0.004	0.004	0.005	0.004	0.004
11	BOD(3) days at 27°C	mg/l	30	1.1	1.16	1.22	1.34	1.25	1.17
12	COD	mg/l	250	3.36	3.48	3.64	3.78	3.65	3.58
13	Arsenic as As	mg/l	0.2	BDL	BDL	BDL	BDL	BDL	BDL
14	Mercury as Hg	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
15	Lead as Pb	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
16	Cadmium as Cd	mg/l	2	BDL	BDL	BDL	BDL	BDL	BDL
17	Hexa Chromium as Cr ⁺⁶	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
18	Total Chromium as Cr	mg/l	2	0.23	0.28	0.35	0.41	0.33	0.29
19	Copper as Cu	mg/l	3	BDL	BDL	BDL	BDL	BDL	BDL
20	Zinc as Zn	mg/l	5	0.25	0.33	0.46	0.58	0.63	0.58
21	Selenium as Se	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
22	Nickel as Ni	mg/l	3	BDL	BDL	BDL	BDL	BDL	BDL
23	Cyanide	mg/l	0.2	BDL	BDL	BDL	BDL	BDL	BDL
24	Fluoride as F	mg/l	2	0.05	0.063	0.075	0.094	0.072	0.066
25	Diss. Phosphate as P	mg/l	5	BDL	BDL	BDL	BDL	BDL	BDL
26	Sulphide as S	mg/l	2	ND	ND	ND	ND	ND	ND
27	Phenolic Compounds as C ₆ H ₅ OH	mg/l	1	BDL	BDL	BDL	BDL	BDL	BDL
28	Bio-assay Test,	%	90% survival of fish after 96 hours in 100% effluent	98%	98%	97%	97%	97%	97%
29	Manganese as Mn, mg/l	mg/l	2	0.019	0.025	0.033	0.041	0.051	0.046
30	Iron as Fe, mg/l	mg/l	3	0.29	0.34	0.41	0.53	0.62	0.58
31	Vanadium as V, mg/l	mg/l	0.2	BDL	BDL	BDL	BDL	BDL	BDL
32	Nitrate Nitrogen , mg/l	mg/l	10	0.19	0.16	0.22	0.19	0.37	0.29
33	Pesticides (as Benzene hexa chloride)	μg/l	10	Absent	Absent	Absent	Absent	Absent	Absent

NB :C.L. Colourless, O.L – Odourless., ND- Not Detectable.

Annexure XVII**Annexure XVII****NOISE SURVEY REPORT AT COB PLANT, LOP PLANT OF
SUKINDA CHROMITE MINE, TATA STEEL LTD.**

SL.No.	LOCATION	June'16	Sep'16	AVERAGE
		Noise level in dB(A)	Noise level in dB(A)	
1	COB Plant Gate	69.1	70.4	69.8
2	Canteen	62.9	62.3	62.6
3	Work Shop	67.8	66.9	67.4
4	Office	57.2	58.5	57.9
5	D.G.Shed	91.4	90.0	90.7
6	MCC Room	65.4	66.1	65.8
7	Vibrating Screen	73.0	72.1	72.6
8	Scrubber	67.7	69.0	68.4
9	Control Room	65.3	64.7	65.0
10	Secondary Apron	67.2	66.3	66.8
11	Cone Crusher	68.7	70.0	69.4
12	DTJ Crusher	77.5	76.9	77.2
13	Concentrated Ore Loading	67.5	66.6	67.1
14	Wobbler area	73.1	74.4	73.8
15	Primary Apron feeder	75.1	73.7	74.4
16	C -1A	67.1	67.8	67.5
17	Shaking Table	78.3	77.4	77.9
18	Multiple Bin	76.9	78.2	77.6
19	H.T Room	65.8	65.2	65.5
20	Hydro Cyclone	67.0	66.1	66.6
21	Spirals	64.1	63.4	63.8
22	VS Ball Mill	91.2	92.0	91.6
23	C.6A	78.0	79.1	78.6
24	H.F Screen	75.9	75.0	75.5
25	Sieve band area	77.7	79.0	78.4
26	C3	74.2	73.6	73.9
27	C4	74.6	73.7	74.2
28	LOPP Sayaji Crusher	60.2	61.5	60.9
29	LOPP Screen	63.5	62.9	63.2
30	LOPP Control Room	63.4	62.5	63.0
31	LOPP Hopper	58.0	57.1	57.6

Ambient Noise Level Survey in Residential Areas of SCM, TSL from 6AM to 6AM (Next Day)

SLNo	Time in Hrs.	Locations	June'16	Sep'16	Average
			Noise level in dB(A)	Noise level in dB(A)	
1	6.00	Main Gate	64.5	65.8	65.2
2	6.30	Market Complex	58.1	57.5	57.8
3	7.00	Hospital	47.6	46.7	47.2
4	7.30	Post Office	43.3	44.6	44.0
5	8.00	Study Center	46	44.6	45.3
6	8.30	Water treatment Plant (D.G was not in operation)	52.9	53.6	53.3
7	9.00	STP	51.3	50.4	50.9
8	9.30	Shishu Mandir	<40	<40	<40
9	10.00	Children's Park	48.6	48	48.3
10	10.30	3RSF Qtrs	49.8	48.9	49.4
11	11.00	L2R Qtrs	52.9	54.2	53.6
12	11.30	Recreation Club	47.8	47.2	47.5
13	12.00	B4-B6 Block Qtrs	55.7	54.8	55.3
14	12.30	B3-B4 Block Qtrs	51.3	52.6	52.0
15	13.00	Geological Camp	45.1	43.7	44.4
16	13.30	Babu Line	51.7	52.4	52.1
17	14.00	Guest House	48.1	47.2	47.7
18	14.30	3R Qtrs	57.3	58.6	58.0
19	15.00	VT Centre	52.4	51.8	52.1
20	15.30	SS High school	45.9	45	45.5
21	16.00	2RF Qtrs	47.5	46.8	47.2
22	16.30	CT Qtrs	<40	<40	<40
0.	17.00	STP	46.5	47.6	47.1
24	17.30	Police Out Post	51	50.1	50.6
25	18.00	Jagannath Temple	47.2	48.5	47.9
26	18.30	GM Banglow	47.3	46.7	47.0
27	19.00	Market Complex	59.2	58.3	58.8
28	19.30	Laboratory	46.5	47.8	47.2
29	20.00	Chrome Vally Club	51	50.4	50.7
30	20.30	Atwal's Camp	47.1	46.2	46.7
31	21.00	Duplex Qtrs	44.7	43.8	44.3
32	21.30	FootBall Ground	<40	<40	<40
33	22.00	B4-B6 Block Qtrs	42.1	43.4	42.8
34	22.30	Sisu Mandir	<40	<40	<40
35	23.00	5 Star Qtrs	46	46.7	46.4
36	23.30	Stewart School	<40	<40	<40
37	0.00	A9-A13 Qtrs	49.7	51	50.4
38	0.30	A14-A19 Qtrs	43.4	42.8	43.1
39	1.00	A-17 - A23 Qtrs	<40	<40	<40
40	1.30	B1-B3 Block	<40	<40	<40
41	2.00	Hospital	<40	<40	<40
42	2.30	SBI	<40	<40	<40
43	3.00	Jagannath Temple	<40	<40	<40
44	3.30	TSRDS	<40	<40	<40
45	4.00	Babu Line	42.2	42.9	42.6
46	4.30	Guest House Annexe	<40	<40	<40
47	5.00	Banabharati Dance School	<40	<40	<40
48	5.30	Main Gate	45.6	45	45.3

Ambient Noise Level Survey in Industrial Areas of SCM, TSL from 6AM to 6AM(Next Day)

Sl. No	Time in Hrs.	Location	June16	Sep'16	AVERAGE
			Noise level in d B(A)	Noise level in d B(A)	
1	6.00	Canteen Gate	52.2	51.6	51.9
2	6.30	Quarry Pump House	62.3	61.4	61.9
3	7.00	Stack Yard	61.5	62.8	62.2
4	7.30	Lumpy Plot	59.4	58.0	58.7
5	8.00	40 t. Weigh Bridge	63.8	64.5	64.2
6	8.30	Concentrated Ore Stack Yard	64.1	63.2	63.7
7	9.00	OB Dump	62.7	64.0	63.4
8	9.30	OB IX Quarry	46.6	46.0	46.3
9	10.00	Atwal's Pyroxinate Crusher	65.7	64.8	65.3
10	10.30	Magazine	67.9	69.2	68.6
11	11.00	Pyroxinate Quarry	69.7	69.1	69.4
12	11.30	OB-II Quarry	64.1	63.2	63.7
13	12.00	OB Dump	62.4	63.7	63.1
14	12.30	Naresh Kumar Crusher	71.6	70.2	70.9
15	13.00	OB-X Quarry	70.9	71.6	71.3
16	13.30	Old ETP	50.0	49.1	49.6
17	14.00	Mining Complex	69.7	71.0	70.4
18	14.30	Slime Dam	55.8	55.2	55.5
19	15.00	OB-IX Quarry	61.8	60.9	61.4
20	15.30	Pyroxinate Plot	62.2	61.5	61.9
21	16.00	OB Dump	61.8	62.6	62.2
22	16.30	Temple Gate	44.0	45.1	44.6
0.	17.00	Air Strip	46.8	45.9	46.4
24	17.30	Hauling Gate	58.7	60.0	59.4
25	18.00	Work Shop	66.6	66.0	66.3
26	18.30	New ETP	46.6	45.7	46.2
27	19.00	20T Weigh Bridge	48.6	49.9	49.3
28	19.30	Engg. Complex	47.8	47.2	47.5
29	20.00	Atwal's Chrome Crusher	54.7	53.8	54.3
30	20.30	New ETP	51.6	50.7	51.2
31	21.00	Canteen Gate	58.8	60.1	59.5
32	21.30	Hauling Gate	51.5	50.6	51.1
33	22.00	Work Shop	55.6	54.7	55.2
34	22.30	Old ETP	45.6	46.9	46.3
35	23.00	Diesel Pump	46.1	44.7	45.4
36	23.30	Quarry Pump House	47.2	47.9	47.6
37	0.00	Hospital Gate	43.0	42.1	42.6
38	0.30	OB X Quarry	59.8	61.1	60.5
39	1.00	Alwal's chrome crusher	64.3	63.7	64.0
40	1.30	Atwal's Garage	57.3	56.4	56.9
41	2.00	Old OK Line	41.0	42.3	41.7
42	2.30	Air Strip	<40	<40	<40
43	3.00	Stack Yard	59.5	58.6	59.1
44	3.30	40Ton Weigh Bridge	62.9	64.2	63.6
45	4.00	Naresh Kumar Crusher	65.9	64.5	65.2
46	4.30	OB IX Quarry	60.0	60.7	60.4
47	5.00	Work shop	72.3	71.4	71.9

48	5.30	Canteen Gate	51.2	52.5	51.9
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NOISE LEVEL SURVEY AT GEOLOGICAL LABORATORY IN COB PLANT SCM TSL

Sl.No	Location	June'16		Sept'16		AVERAGES	
		Noise Level in dB(A)		Noise Level in dB(A)		Noise Level in dB(A)	
		Max	Min	Max	Min	Max	Min
1	Exhaust Fan	57.6	52.4	56.7	51.5	57.2	52.0
2	Dry Sieve Shaker Machine	66.9	60.5	68.2	61.8	67.6	61.2
3	Wet Sieve Shaker Machine	61.7	56.2	60.8	55.3	61.3	55.8
4	Manual sample preparation table	64.6	55.1	65.9	56.4	65.3	55.8

PERSONAL NOISE MONITORING REPORT
(Work Zone)

Date	Noise Meter Attached to a Person	Noise Level in dB(A) Max	Noise Level in dB(A) Min
12.05.2016	Mr. Bansidhar Naik, Sr. Drill Operator	68.4	60.6
13.05.2016	Mr. Purnachandra Sahoo, Sr. Dumper Operator	59.7	53.2
14.05.2016	Mr. Basanta Kumar Padhi, Sr. HMEO	63.1	56.9

ANEXURE-XVIII
Uploaded EC, EC Status Condition and Annual Environment Statement

The screenshot shows a web browser window with the following details:

- Browser Tab:** Corporate Citizen | Environ X
- Address Bar:** www.tatasteelindia.com/corporate-citizen/environment-compliance-reports.asp
- Content:** A list of 14 environmental compliance reports, each with a PDF icon and a title. The reports are:
 - EC Compliance Status (Oct'15 to March'16) of Sukinda Chromite Mine
 - EC Compliance Status (Oct'15 to March'16) of Sukinda Chromite Mine Annexure
 - Six Monthly Compliance Report for Env Clearance of Tata Steel Kalinganagar Plant for Oct'15 to Mar'16 2015
 - Six Monthly Compliance Report for Env Clearance of Tata Steel Residential Complex at Kalinganagar for Oct'15 to Mar'16 2015
 - Six Monthly Compliance Report of Environment Clearance for Oct'15-Mar'16
 - Six Monthly Compliance Report of CRZ Clearance for Oct'15-Mar'16
 - Half Yearly EC Compliance Report of Noamundi Iron Mine for Oct'15-Mar'16
 - Half Yearly EC Compliance Report of Katamati Iron Mine for Oct'15-Mar'16
 - Half Yearly EC Compliance Report of Joda East Iron Iron Mine for Oct'15-Mar'16
 - Half Yearly EC Compliance Report of Khondbond Iron & Manganese Mine for Oct'15-Mar'16
 - Half Yearly EC Compliance Report of Manmora Manganese Mine for Oct'15-Mar'16
 - Six Monthly EC Compliance Report of Ferro Alloy Plant, Bamnipal, M/s Tata Steel Limited (Oct'15 - March'16)
 - Half Yearly EC Compliance Report of Hooghly Metcoke Division, Haldia (Oct'15 - Mar'16)
 - Compliance of Consent to Operate, issued by JSPCB
 - EC letter issued to Tata Steel for 11MTPA Expansion by Ministry of Environment, Forest & Climate Change ,

The Windows taskbar at the bottom shows the Start button, icons for Adobe Reader, Internet Explorer, Google Chrome, File Explorer, iTunes, a folder, and Microsoft Word. The system tray on the right shows the time as 7:44 PM on 10/28/2016.

ANEXURE-XIX
Environment Clearance Intimation letters Panchayat, Zila Parisad



Ref: SCM/ENV/ 81 / 13
Date: 25/09/13

Mrs. Bhagabati Mohanta,
Chairman,
Panchayat Samiti, Sukinda Block,
Sukinda

Sub: Intimation of obtaining Environmental Clearance under EIA Notification, 2006 in respect of Sukinda Chromite Mine having Mining Lease area over 406 ha in Jajpur District.

Dear Madam,

We would like to inform you that Ministry of Environment & Forests (MoEF), Govt. of India has accorded Environmental Clearance in respect of Sukinda Chromite Mine, M/s Tata Steel Limited for renewal of mine lease, expansion of Chrome Ore Beneficiation plant and Pyrocorbine ore capacities and change of sintering & beneficiation technologies vide its letter no. J-11015/96/2011-GJ(M), Dated 06.09.2013.

We, therefore request your good self to kindly acknowledge the receipt of the above letter.

Yours Faithfully
E: Tata Steel Limited

Choudhury (Miranji)
&
Manager Cum Agent
Sukinda Chromite Mine

Encl: As above

*Bhagabati Mohanta
Chairman
Sukinda*

TATA STEEL LIMITED

Sukinda Chromite Mine, P.O. Sukinda, Dist. Jajpur, Orissa
Registered Office: Sakchi, Bhubaneswar, Orissa - 751005
Corporate Office: Sakchi, Bhubaneswar, Orissa - 751005
www.tatasteel.com



Ref SCM/ENV/ 66 / 13

Date 25/9/13

Mr. Bidhyadhar Patra
Member,
Zila Parishad, Jaipur

Sub: Intimation of obtaining Environmental Clearance under EIA Notification,
2006 in respect of Sukinda Chromite Mine having Mining Lease area over
406 ha in Jaipur District.

Dear Sir,

We would like to inform you that Ministry of Environment & Forests (MoEF), Govt. of India has accorded Environmental Clearance in respect of Sukinda Chromite Mine, M/s Tata Steel Limited for renewal of mine lease, expansion of Chrome Ore Beneficiation plant and Pyrochrome ore capacities and change of mining & beneficiation technologies vide its letter no. J-11015/96/2013-I.A.II(M), Dated 06.09.2013.

We, therefore request your good self to kindly acknowledge the receipt of the above letter.

Yours Faithfully
P: Tata Steel Limited

Chief (Mining)
&
Manager Cum Agent
Sukinda Chromite Mine

End: As above

Bidhyadhar Patra
Bidhyadhar Patra 25/9/13
Zilaparasad Member
IT Zone, Sukinda, Jaipur

TATA STEEL LIMITED

Sukinda-Chromite Mine, PO, Taluk, Jaipur District, Rajasthan
Rajasthan: Ph: 01426 220001 Fax: 01426 220002
Bhilai-Steel Plant, Taluk, District, Chhattisgarh, India. Ph: 0662 662000
www.tatasteel.com



Ref: SCM/ENV/EN/13

Date: 25/09/13

Mrs. Jinita Manda,
Sarpanch,
Kaliapani Gram Panchayat
Kaliapani

Sub: Intimation of obtaining Environmental Clearance under EIA Notification, 2006 in respect of Sukinda Chromite Mine having Mining Lease area over 406 ha in Jajpur District.

Dear Madam,

We would like to inform you that Ministry of Environment & Forests (MoEF), Govt. of India has accorded Environmental Clearance in respect of Sukinda Chromite Mine, M/s Tata Steel Limited for renewal of mine lease, expansion of Dryness Ore, Beneficiation plant and Pyrocentric ore capacities and change of mining & beneficiation technologies vide its letter no. J-11015/96/2013-I.A.II(M), Dated 06.09.2013.

We, therefore request your good self to kindly acknowledge the receipt of the above letter.

Yours Faithfully,
T. Tata Steel Limited


Chief (Mining)
&
Manager Care Agent
Sukinda Chromite Mine

Jinita Manda
Sarpanch
KALIAPANI G.P.

Encl: As above

TATA STEEL LIMITED

Sukinda Chromite Mine, Kalijapani, Jajpur District, Orissa-751005
Phone No. 76 3736, 369121, 369122, 369123
Registered Office: Kalijapani, P.O. Kalijapani, District: Jajpur, Orissa-751005
www.tatasteel.com



Ref: SCM/ENV/ 70 / 13
Date: 26/04/13

Mrs. Sashama Nayak
Sarpanch,
Ransol Grama Panchayat,
Ransol

Sub: Intimation of obtaining Environmental Clearance under EIA Notification, 2006 in respect of Sakinda Chromite Mine having Mining Lease area over 406 ha in Jajpur District.

Dear Madam,

We would like to inform you that Ministry of Environment & Forests (MoEF), Govt. of India has accorded Environmental Clearance in respect of Sakinda Chromite Mine, M/s Tata Steel Limited for renewal of mine lease, expansion of Chrome Ore Beneficiation plant and Pyrometallurgic capacity and change of mining & beneficiation technologies vide its letter no. J-11015/96/2013-LA.II(M), Dated 06.09.2013.

We, therefore, request your good self to kindly acknowledge the receipt of the above letter.

Yours Faithfully
F: Tata Steel Limited

Chief (Mining)
&
Manager Core Agent
Sakinda Chromite Mine

Encl: As above

S. Nayak
Sarpanch
Ransol Grama Panchayat

TATA STEEL LIMITED

Corporate Office: Plot No. 1, Sector-13, Gurgaon, Haryana
Registered Office: Plot No. 1, Sector-13, Gurgaon, Haryana
www.tatasteel.com



Ref: SCM/ENV/71 / 13

Date: 25/09/13

Mrs. Renuka Dehari
Sarpanch,
Chingadipal Grama Panchayat,
Chingadipal

Sub: Intimation of obtaining Environmental Clearance under EIA Notification, 2006 in respect of Sakinda Chromite Mine having Mining Lease area over 400 ha in Jajpur District.

Dear Madam,

We would like to inform you that Ministry of Environment & Forests (MoEF), Govt. of India has accorded Environmental Clearance in respect of Sakinda Chromite Mine, M/s Tata Steel Limited for renewal of mine lease, expansion of Chrome Ore, Beneficiation plant and Pyrocentric ore capacities and change of mining & beneficiation technologies vide its letter no. J-11015/96/2011-IA(E/M), Dated 06.09.2013.

We, therefore request your good self to kindly acknowledge the receipt of the above letter.

Yours Faithfully
F: Tata Steel Limited

Chief (Mining)
&
Manager Cum Agent
Sakinda Chromite Mine

Encl. As above

Renuka Dehari
Sarpanch
Chingadipal G.P.

TATA STEEL LIMITED

Corporate Office: Tata Steel Limited, Sakinda, Jajpur District, Orissa - 751005
Telephone: 06742 20241/2/3 Fax: 06742 20244

Regional Office: Sakinda, Sakinda, Jajpur District, Orissa - 751005
Telephone: 06742 20241/2/3 Fax: 06742 20244

www.tatasteel.com



Ref: SCM/ENV/ 72 / 13

Date: 25/04/13

Mr. Gobinda Chandra Dethari,
Sarpanch,
Kankadpal Grama Panchayat,
Kankadpal

Sub: Intimation of obtaining Environmental Clearance under EIA Notification, 2006 in respect of Sukinda Chromite Mine having Mining Lease area over 406 ha in Jajpur District.

Dear Sir,

We would like to inform you that Ministry of Environment & Forests (MoEF), Govt. of India has accorded Environmental Clearance in respect of Sukinda Chromite Mine, M/s Tata Steel Limited for renewal of mine lease, expansion of Chrome Ore Beneficiation plant and Pyrocentric ore capacities and change of mining & beneficiation technologies vide its letter no. J-11015/96/2011-(AJEM), Dated 06.09.2013.

We, therefore request your good self to kindly acknowledge the receipt of the above letter.

Yours faithfully
Tata Steel Limited


Chief (Mining)
&
Manager-Cum Agent
Sukinda Chromite Mine

Encl: As above


25-09-2013
SARPANCH
KANKADAPAL G.P.

TATA STEEL LIMITED

Corporate Office: Tata Steel Limited, Sakinaka, Jamshedpur, Jharkhand
Registered Office: Tata Steel Limited, Sakinaka, Jamshedpur, Jharkhand
www.tatasteel.com

ANEXURE-XX

Environmental Clearance Advertisement and Intimation to Eastern Regional Office of the MoEF



**Addl. Director(S)
Ministry of Environment & Forests
Eastern Regional Office
A/3, Chandrasekharapur,
Bhubaneswar- 751023**

Ref: SCM/ ENV/ 012/ ~~OGG~~ /13
Date: 18th June' 2013

Sub: Advertisement for grant of Environmental Clearance in respect of Sukinda Chromite Mine in Jajpur District of Odisha (Mining Lease area: 406 ha).

Ref: Ministry of Environment & Forests, Govt. of India letter no. J-11015/96/2011-1A.II(M). Dated 06.09.2013.

Dear Sir,

As per the General Condition no. xvi of the Environmental Clearance granted by Ministry of Environment & Forests, Govt. of India in respect of Sukinda Chromite Mine vide letter no. J-11015/96/2011-1A.II(M), Dated 06.09.2013, the matter was advertised in the Oriya daily " **The Samaja**" (date: 11.09.2013, page-5) and in English daily " **The New Indian Express**" (date: 11.09.2013, page-5). Copy of the above advertisement is enclosed as annexure for your ready reference.

Thanking you,

Yours sincerely,
f: Tata Steel Ltd.

Manager cum Agent
Sukinda Chromite Mine

Encl: as above

TATA STEEL LIMITED

Sukinda Chromite Mine (S) - Kalarangata Dist. Jajpur, Orissa 751023
Phone no. 01 6726 26731 Fax : 01 6726 26734
Registered Office: 9th Floor, Tower 3A, One One One, Mumbai - 400 001

ANEXURE-III
Photographs of Backfilling (In Progress)



ANEXURE-XXII
Year wise Plantation target and Actual Plantation Achieved

Year	Plan (Within ML)		Actual (within ML)		Plan (Outside ML)		Actual (Outside ML)	
	Nos. of Sapling	Area in Ha	Nos. of Sapling	Area in Ha	Nos. of Sapling	Area in Ha	Nos. of Sapling	Area in Ha
1998-99	4000	1.62	4000	1.7				
1999-00	4000	1.62	18000	4				
2000-01	5000	2.02	28342	2				
2001-02	5000	2.02	15000	0.5				
2002-03	5000	2.02	22000	1.5				
2003-04	10000	4	45500	1.5				
2004-05	2500	1	48000	1				
2005-06	6250	2.5	75000	2.5				
2006-07	14375	5.75	129500	5.75				
2007-08	13550	5.42	94000	4.42	Additional Area (100ha)obtained (#)			
2008-09	3000	1.2	85250	2.94	8750	3.5	36750	1.76
2009-10	4000	1.6	28000	3.9	17750	7.1	56000	5.6
2010-11	0	0	25000	2	20000	8	60000	6.5
2011-12	11250	4.5	45000	4.5	8750	3.5	35000	3.5
2012-13	4625	1.9	5700	1.83	21375	8.55	40000	6.5
2013-14	6250	2.5	3700	1.32	20000	8	54326	5.6
2014-15	4000	1.6	4050	1.2	19875	7.95	50100	5.1
2015-16	7500	3	6000	1	20125	8.05	61473	8
TOTAL	110300	44.27	682042	43.56	136625	54.65	393649	42.56
NB : (#) Actual less than plan due to delay in phased allotment of land								
Plantation during 2015-16 is continuing.								

Environment Awareness Programs at Sukinda Chromite Mine



