STEEL AUTHORITY OF INDIA LTD.
(A Govt. of India Enterprise)
Raw Materials Division
Bhawanathpur Group of Mines
PO- BhawanathpurTownship,
Distt: Garhwa (Jharkhand.),
PIN- 822129
Email: bnptdr@gmail.com

Ref: RMD/BNP/DGM/2018-	Date : 28/05/2018

To,

The Director(IA-division)
Vayu-305, Indira Paryavaran Bhawan,
Ministry of Environment, Forest & CC,
Jorbagh Road, Lodi Road, New Delhi-110003

Sub:-**Six monthly status of compliance of conditions stipulated in Environmental Clearance(Grant order of MoEF No J-11015/14/92-IA,II(M) dated 24th March 1995) for the period ending up to 31st March 2018 of Tulsidamar Dolomite Mine, RMD, SAIL.**

Sir,

Please find enclosed here with the six monthly compliance report with respect to the conditions stipulated by ministry of Environment and Forest, New Delhi while granting environmental clearance to Tulsidamar Dolomite Mines of M/S Steel Authority of India Limited vide MoEF letter No J-11015/14/92-IA, II(M) dated 24th March 1995 for the period from October - 2017 to March-2018.

Thanking You,

Yours Faithfully,

28/05/2018

(M. R. Solanki)
Dy. General Manager(Mines)
BNP Group of Mines

Enclosed as stated:

Copy to:-

1. Member secretary, JSPCB, Ranchi,
2. Regional office, JSPCB, Ranchi,
3. Regional office, MOEFCC, Ranchi.

Status of Compliance to Conditions Stipulated in Environmental ClearanceVideorder no. J-11015/14/92-IA.II (M), dt.24.03.1995 ofTulsidamar Dolomite Mine,RMD, SAIL

(Period: October 2017 to March, 2018)

1. **The project involves diversion of 101.32 ha of forest land. The project should be taken in the forest area only after clearance under Forest (Conservation) Act, 1980 is granted.**

   Forestry Clearance has been granted by MoEF vide No. 8 – 57 / 94 FC, dated 18.12.1997 for diversion of 101.32 ha of forest land within the lease hold area. Mining is confined within permitted forest area only.

2. **The company should surrender 83.7 ha of the forest land under its mine lease to the concerned State after authorities as incorporated in the revised EMP.**

   Forest land covering an area of 83.7 ha has already been surrendered to DFO, Garhwa (North Division)vide letter no. 314 dated 13.12.1997. Accordingly, the original lease of 202.42 ha (Forest Land: 185.02 ha & Raity land: 17.40 ha) has been reduced to 118.72 ha (101.32 ha forest land + 17.40 ha non-forest land).

3. **The existing OB Dumps due to previous mining should be stabilized on priority by appropriate physical and biological reclamation measures to prevent water pollution and siltation of the adjoining nallahs.**

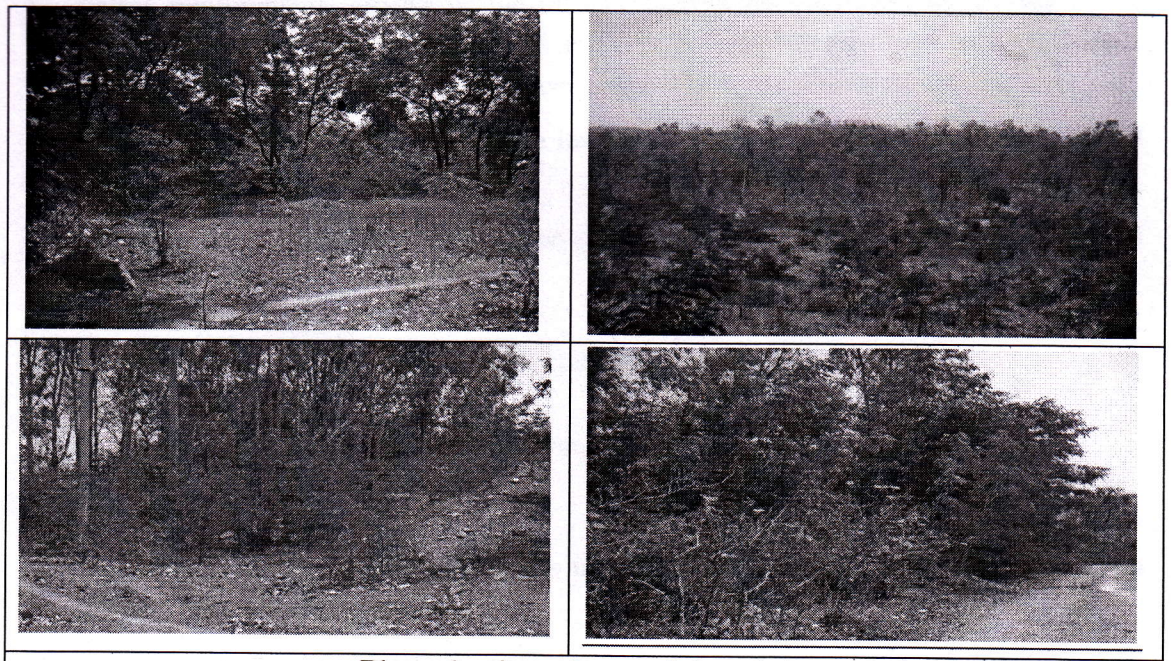
   Existing OB dumps have been stabilized by physical and biological reclamation so as to prevent water pollution and silting.

4. **The pollution control measures for maintaining adequate air quality, water quality and noise level detailed in the revised EMP should be implemented in conformity with the standards prescribed by Central/Sate Pollution Control Board under Environment (Protection) Act, 1986. Sufficient number of air and water quality monitoring stations should be set up. Six monthly monitoring reports should be sent to this Ministry and Regional Office, Bhubaneshwar and to State Pollution Control Board.**

   Five numbers air quality and five numbers of water quality monitoring locations have been established at the mine in consultation with the Jharkhand State Pollution Control Board and being monitored regularly. TheAir, water & noise qualitydata for the period of October, 2017 to March, 2018 (during 26th -27th Feb, 2018) are placed as **Annexure-I**.

5. **The project authorities should implement mined area reclamation as elaborated in the EMP. A green belt in non-mineralized area should be developed.**

   Reclamation of mined areas shall commence after reaching the bottom of the deposit as per the approved Mining Plan & Progressive Mine Closure Plan. Plantation in and around the mine is being done to improve the green cover. Green belt in non-mineralized area is developed. Photographs showing plantation efforts made at the mines are given below.



Plantation in and around the mine

6. **The project authorities should take up adequate socio economic measures including community development projects in the project impact zone.**

In accordance to the Companies (Corporate Social Responsibility Policy), Rules, 2014 and as a Maharatna company of India, SAIL has envisaged its policy on Corporate Social Responsibility (CSR). The company's CSR Policy recognizes that its business activities have direct and indirect impact on the society. The policy also aims improving the quality of life of the workforce and their families as well as of the local community and society at large.

In line with CSR policy of SAIL, Tulsidamar &Bhawanathpur Group of Mines, Raw Materials Division (RMD) has also contributed for social upliftment of the region in and around its mining complex.To improve education facilities of the region, a DAV Public School, Bhawanathpur is being run by SAIL with presently about 1500 students from LKG to 12th standard. Most of the school children of the DAV School are from nearby villages. SAIL is presently spending to the tune of Rs. 150 lac per annum towards running & maintenance of the DAV School. Further, infrastructural facilities have been provided to Saraswati Vidhaya Mandir and Children Paradise.

In addition to the above, an amount of Rs. 1.5 lac has been spent during 2017-18 under CSR activities at the Tulsidamar & Bhawanathpur Group of Mines involving free medical camps & free eye operation Camps etc.

Sixteen meritorious poor students of Tulsidamar Dolomite mines peripheral area have been sponsored for two years ITI training in Chinmay Technical Academy, Rourkela, Odisha. The cost of training is Rs14,40,000/- per year.

7. **The project should have an environmental management cell for monitoring the quality of environmental parameters, OB dump stabilization, green belt development and other action plans for protection of environment.**

An Environmental Management Cell exist under Tulsidamar & Bhawanathpur Group of Mines to control environmental aspects of the mines including environmental quality monitoring, waste management & dump stabilization, afforestation & green belt development, compliance to conditions stipulated in clearances and consents, submission of statutory compliance etc.

8. **A periodic progress report regarding the implementation of the EMP measures should be submitted once in 6 months.**

The following are the major various pollution prevention & control measures are implemented at the mines:

- Wet drilling to control dust emissions
- Water sprinkling on haul roads through mobile Road Sprinklers
- Plantation in and around the mines
- Check dams & settling tanks for surface runoff control
- Stabilization of waste dumps

9. **The funds earmarked for EMP measures including antipollution measures should not be diverted for any other purposes.**

Based on the requirement, fund allocation for pollution prevention & control is being made every year and the same is being utilized for schemes related to environmental protection measures.

10. **This ministry may stipulate subsequently any other conditions as may be required in the interest of environmental protection.**

Agreed.

(M.R. Soliria) 28/5/2018
Dy. General Manager (Mines)
Bhawanathpur & Tulsidamar Group of Mines

ANNEXURE-I

Environmental Monitoring Locations

Water Quality Monitoring locations :	
A. Streams	
Sample # 1 (W1)	U/S of GudrahNullah
Sample # 2 (W2)	Storage Dam Water
B. Effluent	
Sample # 3 (W3)	Discharge from Gurgaon Quarry
C. Drinking Water	
Sample #4 (W4)	Hand pump at Ghaghra Mines Site - Office
Sample #5 (W5)	Hand pump at Township near Post Office
Sample #6 (W6)	Guest House Tap Water
Air Quality Monitoring locations :	
A. Residential, rural &other areas	
Location #1(A1)	Bhawanathpur Township (Near Power House)
Location #2(A2)	Administration (ADM) Building
Location #3(A3)	Bhawanathpur Village
Location #4(A4)	Mount club Guest house
B. Work Zone Area :	
Location #5(A5)	Sizing, sorting& loading into tipper trucks at the Mine face (Gorgaon)
Location #6(A6)	Drilling point (Gorgaon)
Location #7(A7)	Haul Road (Gorgaon)
Location #8(A8)	Rail Way Siding (Wagon loading area)
Noise Quality Monitoring locations :	
A. Ambient Noise	Bhawanathpur Village
	BNP Administrative building
	Hospital (OPD)
B. Work zone Noise	Haul Road
	Water Treatment plant
	Gorgaon Mining area
	Drilling
	Wagon loading area

Water Quality Monitoring

Date of Sampling : 26th February 2018

Date of Analysis : 26th& 27th February 2018

Sl. No.	Parameters	W1 (U/S of GudrahNullah)	W2 Storage Dam	Limits as per (IS:10500- 2012)
1.	Color (Pt-Co Scale) APHA	11	8	5
2.	Turbidity (NTU)	9	7	0
3.	Temperature (^{O}C)	24.5	24	-
4.	Odour	odorless	odorless	unobjectionable
5.	Suspended Solids (mg/l)	15	10	-
6.	*p*H	7.7	7.6	6.5 – 8.5
7.	Conductivity (Micro Siemens /cm)	430	305	-
8.	Total Dissolved Solids(mg/l)	220	180	500
9.	Ammonical Nitrogen as N (mg/l)	BDL	BDL	0.5
10.	Free Chlorine as Cl_2 (mg/l)	0.08	0.07	0.2 (min)
11.	Alkalinity	105	98	200
12.	Total Hardness as $CaCO_3$ (mg/l)	239	190	200
13.	Calcium as Ca (mg/l)	58	43	75
14.	Magnesium as Mg (mg/l)	23	20	30
15.	Hexavalent Chromium as Cr^{+6}(mg/l)	BDL	BDL	-
16.	Fluoride as F (mg/l)	0.51	0.42	1
17.	Phosphate as PO_4 (mg/l)	0.02	BDL	-
18.	Sulphide as S^{2-} (mg/l)	BDL	BDL	0.05
19.	Manganese (mg/l)	0.02	0.01	0.1
20.	Total Iron as Fe (mg/l)	0.11	0.13	0.3
21.	Sulphates as SO_4 (mg/l)	13	10	200

23.	Chloride as Cl (mg/l)	31	40	250
24.	Copper as Cu mg/l	0.02	0.02	0.05
BDL :	*Below Detectable Limit.*			

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Water Quality Monitoring

Sl. No.	Parameters	W3 Gurgaon Quarry Discharge	Norm** (Maximum)
1.	Color (Pt-Co Scale) APHA	There is no discharge from Gurgaon Quarry at present	*
2.	Turbidity (FTU)		-
3.	Temperature (OC)		-
4.	Odour		*
5.	Conductivity (Micro Siemens /cm)		-
6.	Total Dissolved Solids(mg/l)		
7.	pH		5.5-9.0
8.	Suspended Solids (mg/l)		100
9.	Total Residual Chlorine as Cl2 (mg/l)		1
10.	Ammoniacal Nitrogen as N (mg/l)		50
11.	Total Hardness as CaCO3 (mg/l)		-
12.	Calcium as Ca (mg/l)		-
13.	Magnesium as Mg (mg/l)		-
14.	Hexavalent Chromium as Cr+6 (mg/l)		0.1
15.	Fluoride as F (mg/l)		2
16.	Dissolved Phosphate as P (mg/l)		5
17.	Sulphide as S2- (mg/l)		2
18.	Manganese as Mn (mg/l)		2
19.	Total Iron as Fe (mg/l)		3
20.	Sulphate as SO4 (mg/l)		-
21.	Nitrate Nitrogen as N (mg/l)		10

BDL: Below Detectable Limit.

** : Limits prescribed in the Schedule VI of Environment (Protection) Act 1986, vide the Gazette of India Extraordinary, dated 19th May 1993 as amended on 31. 12. 93.
(Norms for effluents discharging to inland surface water bodies)

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Water Quality Monitoring

Sl.	Parameters	W4 H/P at Ghagra site office	W5 H/P at Township Post Office	W6 G/ House Tap Water	Limits as per (IS:10500 - 2012)
1.	Color (Pt-Co Scale)	9	7	11	5
2.	Odour	Odourless	Odourless	Odourless	-
3.	Temperature (^{o}C)	25.5	25.4	25.9	-
4.	Taste	Agreeable	Agreeable	Agreeable	Agreeable
5.	Turbidity (NTU)	6	8	7	-
6.	Total Suspended Solids (mg/l)	7	7	10	-
7.	*p*H	7.6	7.4	7.5	6.5 - 8.5
8.	Conductivity (Micro Siemens /cm)	420	310	430	500
9.	Total Dissolved Solid (mg/l)	195	155	190	-
10.	Ammoniacal Nitrogen as N (mg/l)	0.02	0.01	0.03	0.05
11.	Free Chlorine (mg/l)	0.15	0.18	0.21	0.2
12.	Alkalinity	120	121	132	-
13.	Total Hardness as $CaCO_3$ (mg/l)	228	199	212	200
14.	Calcium as Ca (mg/l)	60	55	57	75
15.	Magnesium as Mg (mg/l)	19	15	17	30
16.	Hexavalent Chromium as Cr+6(mg/l)	BDL	BDL	BDL	-
17.	Fluoride as F (mg/l)	0.32	0.45	0.55	1
18.	Phosphate as PO_4 (mg/l)	0.03	0.02	0.02	-
19.	Sulphide as S^{2-} (mg/l)	BDL	BDL	BDL	0.05
20.	Manganese (mg/l)	0.04	0.03	0.05	0.1
21.	Total Iron as Fe (mg/l)	0.12	0.11	0.1	0.3

23.	Sulphates as SO_4 (mg/l)	18	19	21	200
24.	Nitrate as NO_3 (mg/l)	2.3	2.6	2.8	45
25.	Copper as Cu mg/l	0.03	0.02	0.02	0.05
BDL	*Below Detectable Limit.*				

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Air Quality Monitoring

Date of Monitoring: 26 to 27 February, 2018

Ambient Air Quality

Location	Date	RSPM(PM_{10}) ($\mu g/m^3$)	PM 2.5 ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)
(A1) Bhawanathpur Township (Near Power House)	-	-	--	-	-
(A2) Administration Building	-	-	-	-	-
(A3) Bhawanathpur Village	-	-	-	-	-
(A4) Mount club Guest House	27/02/18	60	-	8	12
Norm		100	60	80	80

Note: The norms are as per the NAAQS dtd: 16th Nov'2009 issued by MoEF/CPCB
BDL: Below Detectable limit (<6m g/m3)
BNP-Bhawanathpur
Air quality monitoring could not be done at locations A1 an A3 due to intermittent rain.

Work Zone Area Air Quality

Location	Date	SPM (mg/m^3)	RSPM(PM_{10}) ($\mu g/m^3$)	SO_2 (mg/m^3)	NO_x (mg/m^3)
(A-5) : Gorgaon Quarry	-	-	-	-	-
(A6) :Drilling point (Gorgaon)	-	-	-	-	-
(A7) : Haul Road (Gorgaon)	-	-	-	-	-
(A8) : Rail Way Siding (Wagon loading area)	26/02/2018	340	130	15	18
Norm		**SPM - 700**	**RSPM - 350**	**SOx –**	**NOx –**

There was no mining operation during the monitoring period.		

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Noise Quality Monitoring

Ambient Noise

Location	Day time* Leq - dB(A)	Night time* Leq - dB(A)	Monitoring Condition
Bhawanathpur Village	51	41	Distant vehicular movement was observed
BNP Administrative building	49	-	Distant vehicular movement was observed during office hours in day time
Hospital (OPD)	48	36	Distant vehicular movement was observed

Noise Standards as per E(P) Act, 1986: *Industrial Area(A)Day time75 dB(A) Leq& Night time 70 dB(A) Leq, : Comercial Area(B)Day time65 dB(A) Leq& Night time 55 dB(A) Leq, :Residential Area(C)Day time55 dB(A) Leq& Night time 45 dB(A) Leq, : Silence Zone(D)Day time50 dB(A) Leq& Night time 40 dB(A) Leq.*

Note: Day time shall mean from 6.00 a.m. to 10.00 p.m. & Night time shall mean from 10.00 p.m. to 6.00 a.m.

Work zone Noise

Location	Leq - dB(A)	L-max. dB(A)	Monitoring Condition
Haul Road	-	-	There was no mining operation during monitoring period.
Water Treatment plant	-	-	Normal working condition
Gorgaon Mining area	-	-	There was no mining operation during monitoring period.
Drilling	-	-	There was no drilling operation during monitoring period.
Wagon loading area	82.5	88.3	Wagon loading activity was observed during monitoring period.

Work zone Noise standard: As per DGMS circular no 18(Tech), 1975 is 90-dB (A) for 8 hours exposure.

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