### Six Monthly E.C Compliance report Period: October-2021 to March-2022

#### **Environment Clearance Letter No.:**

SEIAA/26/9, dated. 27.11.2009 and 3427/SEIAA, dated 30.05.2015.



## Deojhar Iron Ore Mines M/s. Tarini Minerals Pvt. Ltd.

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#### A. SPECIFIC CONDITIONS

SL. No.	SPECIFIC CONDITION	COMPLIANCE
No.	The applicant (Project Proponent) will take necessary measures for prevention, control and mitigation of Air Pollution, water pollution, noise pollution and land pollution including solid waste management as mentioned by him in Form-I, Final EIA Reports And Environment Management Plan (EMP) in compliance with prescribed statutory norms and standards.	<ul> <li>The project proponent has taken up adequate preventive measures for prevention and control of different environmental parameters;</li> <li>a. Air pollution Measures: Regular water sprinkling by engaging mobile water tankers, truck wheel wash system, dry fog system in mineral handling plants &amp; plantation,</li> <li>b. Water pollution Measures: Provided settling pond, check dam with cumulative length of 541 mtrs. with garland drains during the monsoon season, preventive and scheduled maintenance of the HEMM are being carried out at regular intervals to avoid/ mitigate any noise induced pollution, de-silting of the surface run off management structures is carried</li> <li>c. Dump Management: At present there is 1 No. of OB dump which is active with retaining wall at its toe.</li> <li>d. Environmental Monitoring: Apart from that regular environmental monitoring of different parameters are being carried out as per the MOEF&amp;CC &amp; SPCB guidelines for Air, Water, Noise etc.</li> </ul>
		The photo of the same is enclosed as photo-1,2,3,4&5.
2	The applicant will take necessary steps for socio economic development after a detailed Primary Socio-economic Survey of the people of Core area on need based assessment for providing employment, education, health, drinking water and sanitation, road and	The project has carried a need based assessment by engaging a consultant i.e. JANASADHANA. Based on the findings different projects have undertaken in consultation with "JANASADHANA" for the socio-economic development of the local people belongs to adjoining villages. The

3	communication facilities etc. A report is to be submitted by the proponent to SEIAA regularly on 1st June and 1st December of each calendar year. The applicant will comply with the points concerns and issues raised by the people during public hearing on 4 <sup>th</sup> February, 2009 in accordance with the commitments made by him thereon.	year wise CSR expenses incurred by the project are attached as <b>Table-01</b> . We have full-filled the commitment regarding the demands raised during the public hearing and compliance are made as per the commitments i.e. Infrastructure development, Health, Sanitation, Education, etc. All the raised points are addressed and complied. The details have been attached here in <b>Table - 02</b> .
4	The applicant will take statutory clearance/approval/permissions from the concerned authorities in respect of his project as and when required.	Necessary statutory clearances/approval/permissions from the concerned authorities have been obtained such as: Consent to Operate from SPCB, Ground Water Permission from CGWA, Hazardous waste authorization, approved mining plan from IBM, Forest clearance from MoEF, etc. Forest Clearance from MoEF (copy attached as <b>Annexure – 1</b> ), Consent to Operate from SPCB, Orissa vide letter No.: 2603/IND-I-CON-1373 date 14.03.2019 (copy attached as <b>Annexure – 2</b> ), Approved Mining Scheme from IBM for the period 2019-20 to 2023-24 vide letter No.MS/FM/39-ORI/BHU/2018-19/2501 dated. 25.01.2019 (copy attached as <b>Annexure – 3</b> ).
5	For post environmental clearance monitoring, the applicant will submit half yearly compliance report in respect of the stipulated terms and conditions of this Environmental Clearance to the State Environmental Impact Assessment Authority (SEIAA), Orissa on 1 <sup>st</sup> June and 1 <sup>st</sup> December of each calendar year.	Half yearly compliance is being submitted as per the EC conditions on time to time basis. The half yearly compliance status reports are mentioned in <b>Table -03</b> .

6	The core zone should be monitored	Reaula	r monitorina	of AAQ in the core as
	intensively with no. of stations as	-	•	of the ML area being
	prescribed by CPCB, Delhi and unit of			AAQ's notification. The
	pollutant level should be expressed as	project	•	adopting specified
	NAAQ of CPCB, Delhi. The detail			analysis of the AAQ
	methodology adopted for analysis of		•	•
	samples shall be cleared indicated.	-		nmarized AAQ report is
			ed as <b>Annex</b>	
		SI.No.		Method
			SO <sub>2</sub>	Ultraviolet
				Fluorescence
		2	NO <sub>2</sub>	Chemiluminescence
		3	SPM(PM <sub>10</sub> )	Gravimetric
		4	SPM(PM <sub>2.5</sub> )	Gravimetric
		5	CO	CO monitor
7	The proponent shall submit ground	The site	specific Wild	dlife Conservation Plan
	toothing baseline data on flora and	has be	en approve	ed by PCCF (Wildlife),
	fauna and CSR activities already carried	Chief W	Vildlife Warde	en, Odisha. The project
	out within three months to the SEIAA,	has est	imated cost	of Rs. 54 Lakhs which
	Orissa.	include	s cost for bot	th buffer zone i.e. Rs. 41
		Lakhs v	vhich is alrea	ady deposited through
		RTGS	No. BARB	H4179631316 dated.
		28.06.20	014 in favor	of CA Fund and core
		zone i.e	ə. Rs. 13 Lakl	ns for the conservation
		and mo	anagement o	of wildlife.
		Project	proponent h	has appointed 4 nos. of
		watche	ers for prote	ction of wild animals
		with	the expen	diture of Rs. 3.8
		Lakhs/c	annum. Apar	t from that, the project
		propon	ent has con	structed check dam &
		check	weirs to re	estrict the mixing of
		undesir	ed substance	es in nearby streams &
		also est	ablished gua	ard wall along the sides
		of nalla	IS.	
		The co	py of the	same is attached as
		Annexu	<b>ire — 5</b> (appi	roval letter).
8	No two pits shall be simultaneously	There is	s only one r	mines pit i.e. Pit No1
	worked. After exhausting the first mine pit		•	The project is operating
	and before starting mining operations in	accord		e above mentioned
	the next pit, reclamation and plantation	conditio	0	
I				

	and the sector of the sector o	
	works in the exhausted pit shall be	scheme/plan including PMCP as
	completed so as to ensure that	approved by IBM.
	reclamation, forest cover and vegetation	
	should be visible during the first year of	
	mining operations in the next pit. This	
	process will follow till the last pit is	
	exhausted. Adequate rehabilitation of	
	mined pit shall be completed before any	
	new ore body is worked.	
9	Adequate buffer zone shall be	There is only one mines pit and the project
	maintained between two consecutive	has maintained the safety zone of 7.5 m
	mineral bearing deposits.	width around the ML boundary.
		The project has planted 3500 numbers of
		saplings inside the ML area till during April-
		2021 to March-2022 apart from that we
		have distributed 500 nos. of fruit bearing
		saplings to nearby villages and school
		photo of the same is attached as <b>photo</b> –
		Annual plantation details have been given
		in <b>table – 4</b> .
10	Zero waste mining concept shall be	Due to the incorporation of better &
	implemented either by putting up	efficient machineries and latest
	pelletisation plant or disposal of low	technologies, we ensure that zero wastes
	grade ores/fines to prospective buyers.	will be coming out due to the mining
		activity. Steps have been initiated to work
		out in this context.
11	The following shall be implemented viz.	The project has taken the following steps
	(a) dump run off should be diverted into	a. Run off generated from Dump
	settling ponds until it is clear (b)	areas are being diverted to settling
	adequate rain water harvesting and	pits with proper checks before
	ground water recharging facilities should	disposal to natural water bodies.
	be developed in the core zone, (c)	b. We have implemented the roof top
	attempt should be made to achieve zero	rain water harvesting structures and
	water balance.	settling pits cum harvesting
		structures in the mines areas
		towards recharge of the ground
		water.
		c. Steps have been taken to achieve
		zero water balance like
		implementation of STP (Ultra

		Filtration Unit) for treatment of
		domestic effluent and reuse of the
		treated water for mines dust
		suppression and nearby gardening
		purpose.
12	Maintenance of roads through which	The project has black topped the
	transportation of ores are undertaken	transportation approach roads and
	shall be carried by the project regularly	regular maintenance of the main
	at its own cost.	approach road along with the mines haul
		roads are being carried out by engaging
		the grader periodically, the roads are
		without ruts & potholes. The project is also
		ensuring the tarpluin covers over the
		loaded trucks so as to prevent the spillage
		of the materials. The Project authority are
		regularly monitoring the emission of the
		vehicle to ascertain whether the vehicle
		meet the pollution norms.
		The photo of the same is attached as
		photo -07.
13	Fugitive dust generation shall be	There is regular monitoring of the Fugitive
	controlled. Fugitive dust emission shall be	dust emission. The project has taken
	regularly monitored at locations of	adequate measures like dry fog system in
	nearest human habitation (including	screen plants, water sprinkling in mines
	schools and other public amentias	haulage roads etc. towards dust
	located nearest to sources of dust	suppression purposes. The project has
	generation as applicable) and records	established the monitoring of fugitive dust
	shall be submitted to the SEIAA, Orissa.	in the mining lease area, viz. Mines
		Face/Haulage Road, Crusher/Screen
		Plant, Loading/Unloading point. The
		analysis report of the same is attached as
		Annexure – 6.
14	Transportation of ore shall be done by	The steps are being followed by proper
	covering the trucks with tarpaulin or	care towards public roads to ensure that
	other suitable mechanism so that no	the trucks should not be overloaded
	spillage of ore /dust takes place.	during transportation: besides these trucks
		are being covered with tarpaulins while
		transportation of the iron ore. Time to time
		awareness program is being carried out for
		the operators/drivers etc. towards the same. Photo of the same is attached as

	photo -07.
15 Rain water harvesting shall be undertaken to recharge the ground water source.	In the entire area, where ever possibility of wash off, flow of sediments etc. is anticipated retaining wall, garland drain, check weirs have been provided apart from that the roof top rain water harvesting structure got implemented towards augmentation of ground water in the camp area. Photo of the same has been attached as <b>Photo -08</b> .
16 Monitoring of ground and surface water quality shall be regularly conducted and records should be maintained and data	Regular monitoring of the ground water quality on quarterly basis, as per the monitoring locations there are 4 nos. of
shall be submitted regularly to SEIAA, Orissa.	locations and monitoring of the surface water quality is also being carried out in 5 nos. locations. The records are also maintained for this purpose & it's being monitored 4 times in a year i.e. pre- monsoon, monsoon, post monsoon and winter. The monitoring of ground and surface water quality records being submitted to SEIAA, Orissa on half yearly basis and Regional Office of MoEF&CC, Bhubaneswar. The summarized analysis report of the same is attached as <b>Annexure - 7 &amp; 8</b> .
17 The proponent shall ensure that no silt originating due to mining activity is transported in the surface water course. Measures for prevention and control of soil erosion and management of silt shall be undertaken. Protection of dumps against erosion shall be carried out with geo-textile matting or other suitable material, and thick plantations of native trees and shrubs shall be carried out at the dump slopes. Dumps shall be protected by retaining walls.	

	same have been attached as Photo -4, 5
	<b>&amp;6.</b>
18 Trenches garland drains shall be constructed at foot of dumps to arrest silt from being carried to water bodies. Adequate number of check dams shall be constructed across seasonal or perennial nallah (if any) flowing through the ML area be arrested. De-silting at regular intervals shall be carried out.	To arrest silt from mines run off, a number of catch drains and settling cum percolation pits have been constructed with garland drains around the mines dump areas. Nallah protection guard walls have also been constructed across the length of the nallah. Time to time de-silting is followed before each monsoon.
health care, crèche etc. the housing may be in the form of temporary structures to be removed after the completion of the project.	The is no such housing being made for the labours within the lease area however the project has commonly created a temporary housing facility for the work force by facilitating fuel for cooking, septic tank followed by soak pit for domestic effluents (STP-Ultra Filtration Unit), drinking water, medical health care etc. photo of the same is attached as <b>Photo-09</b> .
measures for the workers including identification of work related health hazards, training on malaria dust eradication, HIV, and health effects on exposure to respirable mineral dust etc. shall be carried out. The proponent shall engage a full time qualified doctor who is trained in occupational health. Periodic monitoring for exposure to respirable mineral dust on the workers	Initial Medical Examination & Periodical Medical Examination of the workers engaged in the project is being undertaken periodically for permanent and outsider employees along with the pre-medical examination of persons employed, who are engaged in the process of mining & are likely exposed to dust to observe any contractions due to exposure to dust. This is being carried as per in compliance to Mines Act 1952 & rules 1956 and amendments there to. The various tests include PFT, X-Ray, and lung spirometry etc. During the reporting period 05 Nos. of IME and 05 Nos. of PME (client and contractor) have been carried out. The detailed list along with a sample copy of IME/PME is attached as <b>Annexure-09</b> .

	follow up action wherever required.	
	Occupational Health center shall be	
	established near the mine itself.	
21	Shelter belt i.e. (wind break of 15m width	There are no such human
21	and consisting of at least around the	habitation/schools etc. within the ML area.
	lease facing the human habitation,	However, the project has covered all the
	school/agricultural fields etc.) if any in	sub-grade dumps with plantation with
	the vicinity in the safety zone/backfilled	native species and application of mixed
	and reclaimed areas, around voids and	grass seeds along the slopes to stabilize
	roads shall be raised. Green belt	and also to reduce wash off in case of
	development and selection of plant	rains during monsoon.
	species shall be as per SPCB guidelines.	A safety zone of 7.5 m width around the
	Density of trees has to be around 2500	ML boundary is being maintained.
	plants per hectare, herbs and shrubs	During the year the project has planted
	shall also form a part of afforestation	3500 Nos of saplings inside the ML
	program besides tree plantation. Help	area(Safety zone & dump).
	and guidance of local DFO may be	
	sought in the matter. Details of year wise	
	afforestation program including rehabilitation of mined out area shall be	
	submitted to the SEIAA, Orissa within six	
	months.	
22	This environmental clearance is	The forest clearance has been obtained
	subjected to forest clearance under the	over an area of 34.365 ha vide MoEF letter
	Forest (Conservation) Act, 1980.	no: F No.8- 216/1992-FC dated 31st March
		1993. As per the present circular dated
		01.04.2015 from MoEF, Govt. of India the
		forest clearance over 34.365 Ha will be
		extended up to the coterminous of the
		extended lease period.
23	The mining operation shall be restricted	The Project proponent working at a depth
	to above ground water table and it	of 590aMSL which is far above the ground
	should not intersect the groundwater	water level and ground water level exist
	table.	540 aMSL. The ultimate depth of the
		bottom of the approval Mining Scheme is
		at 548m RL. Therefore, intersection of
		ground water table during the whole life of
		the ML area shall not be obstructed.
		However, the Project has carried out a
		detailed study on hydrology and hydro-
L		actailed study on hydrology and hydro-

	T	
		geological aspect of the area through an
1		expert agency and base line data
		developed for future reference.
24	The top soil shall temporarily be stored at	There is no generation of the top soil during
1	earmarked site(s) only and it should not	mining operations. In case of top soil
	be kept unutilized for long (not more	generation generated in future, it should
	than 3 years). The topsoil shall be used	be stored in an earmarked area and
	for land reclamation and plantation.	necessary precaution may be taken to
1		preserve its nutrient values.
25	The over burden (OB) generated during	At present there is 1 OB dump which is
	the mining operation shall be temporarily	active, phase wise plantation and
	stacked at earmarked dump site(s) only	stabilization will be done.
	and it should not be kept active for a	
1	long period of time and its phase-wise	
1	stabilization shall be carried out. Proper	
	terracing of OB dump shall be carried	
	out so that the overall slope shall not	
1	exceed $28^{\circ}$ Back filling shall be done as	
	per approved mining plan; back filling to	
	start from 3rd year onwards of the mining	
	operations and the entire quantity of	
	waste shall be backfilled and liquidated	
	within five years. There shall be no	
1	external OB dumps after the 6th year of	
	the mining operations. The backfilled	
	area shall be afforested. Backfilling has	
	to be done in a manner that it is restored	
	to the normal ground level. Monitoring	
	and management ofrehabilitated areas	
	should continue till the vegetation is	
	established and becomes self-	
	generating compliance status to be	
	reported to the appropriate authorities.	
26	The funds earmarked for the environment	The funds earmarked for environmental
	protection measures shall be judiciously	protection are being utilized for the same.
	utilized. Under no circumstances this	The year wise environmental expenses are
	funds shall be diverted for other	shown in T <b>able No. 05</b> .
	purposes. Year wise expenditure for	
	these funds should be reported to the	
	SEIAA, Orissa.	
	<u> </u> ,	

27	The above mentioned stipulated	We are abiding by the said conditions.
	conditions shall be complied in time	
	bound manner. Failure to comply with	
	any of the conditions mentioned above	
	may result in withdrawal of this	
	environmental clearance and attract	
	action under the provisions of	
	Environmental Protection (EP) Act, 1986.	
	Additional Environmental Clearance	
SI.	condition of mining projects vide. OM of	
No.	MoEF&CC, F.No. 22-34/2018-IA.III dated:	Compliance Status
	16.01.2020 in respect of Deojhar Iron Ore	
	Mines, M/s Tarini Minerals Pvt. Ltd.	
	The mining lease holders shall, after	We will abide by the condition.
	ceasing mining operations, undertake	At present the mining operation is going
	re-grassing the mining area and any	on and the mineral is not exhausted at all
	other area which may have been	& it's also duly approved by the IBM in
01	disturbed due to their mining activities	Mining Plan. Therefore, after ceasing of the
	and restore the land to a condition which	mining operation or exhaust of minerals,
	is fit for growth of fodder, flora, fauna etc.	we will undertake re-grassing of the
		disturbed land due mining activities and
		restore the land to a condition which is fit
		for growth of fodder, flora, fauna etc. as
		duly approved in Mining Plan by IBM.

# TABLES

	CSR Expen	diture	
	Deojhar Iron Ore Mines, M/s	a Tarini Minerals Pvt. Ltd.	
SI. No.ParticularsExpenditure for the year 2021-2			
1	Education	3.6	
2	Health	4.6	
3	Drinking Water Facility	0.5	
4	Social welfare (Peripheral Activities) & Infrastructure	1.2	
5	Electricity	0.4	
6	Water Sprinkling (Inter connecting village road etc.)	6.1	
	TOTAL	16.2	

#### Table No.1 -CSR Expenses(Oct-21 to March-22)

#### Table No. 02: Compliance to the points raised in Public Hearing

SI. No.	Public Hearing consents by the Project Proponent	Compliance Status
1	The Project Proponent assured with consultation with Govt. department and as per their advice they will adopt all the measures to keep the sound pollution under control especially during blasting.	Due to availability of soft material there is no blasting is being carried and the excavation work is carried out by engaging excavators only. Anyhow noise is being monitored and the results are well within the prescribed norms.
2	To construct Check dam for Mahadev NasaNalla and for this the project proponent invited the village committee to come with a proposal for the same.	We ensure that natural watercourse of Mahadev Nalla will not be obstructed due to our mining operations. Necessary precautionary measures were well taken in consultation with Govt. bodies to avoid any sort of interference like providing guard wall & check weir at bank of Mahadev Nallah.

3	Suitable dump management system to minimize the pollution and all wastes are being dumped inside the lease area.	Sub grade is being stacked in an identified area inside ML Area by maintaining proper terracing & slope. It has also developed with garland drain and retaining wall along with native sapling plantation for stabilization of critical areas of dump.
4	Company has formed an Environment cell and they are monitoring this on regular basis to keep this under control.	A separate environmental management cell is in operation under the control of Mines Manager, which is looking after all environmental activities including Environmental Monitoring.
5	The Project proponent will give priority in employing skilled local people such as drivers, drillers, operators, etc. according to their qualification.	Local peoples are being given priority in employing skilled local people such as drivers, drillers, operators, etc. according to their qualification.
6	The Project proponent assured that they will re-open all the schools in Murgabeda Village those are not running at present and will appoint 4 teachers in those Schools on permanent basis.	The School is running effectively with engagement of teaching facilities with appointment of teachers. Study materials like books, slates, pencils etc. are being provided. Mid-day meal is provided at free of cost for class IX & X at Deojhar High School. Bus facility is being provided for Deojhar high school and for Sarswati Sisu Mandir, Bileipada.
7	The project proponent is already supplying drinking water to Murgabeda villages through water tanker and will continue this facility.	2 no. of bore wells with drinking water facilities are provided for the villagers of the Muragbeda, about a population of around 1000 no's.
8	The Project proponent is ready to construct inter village connecting roads in Murgabeda village and they invited proposal from the village committee for the same.	Inter connecting village roads are made up of black top with a length of 1.8 Km .

9	The project proponent has already opened a dispensary here for locals for availing medical facility free of cost where a doctor is available. One Ambulance is always available there at service.	Medical facilities like dispensary and ambulances are being provided. Medical health camp is being organized at regular intervals for the local villagers with free of cost medicines.
10	Regarding electrification of villages, we have requested the concerned Village committee along with Sarpancha to come forward with the latest status and the proposal so that they can support and assist the village committee for electrification.	It is being carried out with the village committee members by providing materials for Street Light Connections to nearby villages.
11	The Project Proponent assured that they are following all the Govt. rules regarding employment and statutory payments.	It is being followed.
12	The project proponent requested the Murgabeda Temple committee to come with a proposal so that they can consider for its renovation.	Temple renovation work is completed with the proposals of Temple Committee members. The bathing area has been developed with anti-slippery tiles and guard bars and a cloth changing room have provided. Two male and three female labours have deployed for proper up- keep of the temple.

SI.No	Compliance Time Period	Date of Submission
1	April 21 to September 21	15.11.2021
2	October 20 to March 21	18.05.2021
3	April 20 to September20	24.11.2020
4	October 2020 to March 2020	20.05.2020
5	April 2019 to September 2019	18.11.2019
6	October 2018 to March 2019	25.04.2019
7	April 2018 to September 2018	20.11.2018
8	October 2017 to March 2018	30.05.2018
9	April 2017 to September 2017	25.11.2017
10	October 2016 to March 2017	25.05.2017
11	April 2016 to September 2016	19.11.2016
12	October 2015 to March 2016	25.05.2016
13	April 2015 to September 2015	16.11.2015

#### Table 3 – Six Monthly Compliance Submission details

#### Table 4- Annual Plantation Details (2021-22)

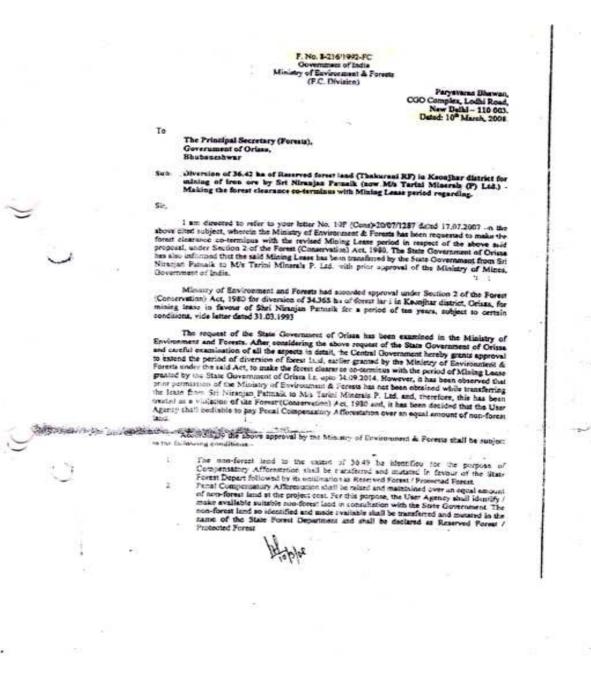
	PLANTATION ANNUAL STATEMENT													
	FOR THE YEAR 2021-2022													
					Within ML		Out	Side ML		Ave	nue Planta	ation	То	tal
SI. No	Mines Name	ML Area in Ha.	Period	No of Trees Planted	Area in Ha	Survival rate	No of Trees Planted	Area in Ha	Survival rate	No of Trees Planted	Area in RKM	Survival rate	No of Trees Planted	Survival rate
1	Deojhar Iron Ore Mines, M/s Tarini Minerals Pvt. Ltd.	34.365 Ha	April- 2021 to March- 2022	3500	1.4	60%	500(Deojhar School)			Nil	Nil	Nil	4000	60%

#### Table 5-Details of Environmental Expenses

Environm	Environmental Expenditure of Deojhar Iron Ore Mining Project of M/s. Tarini Minerals Pvt. Ltd, District, Keonjhar,										
	Cost, Rs. In Lakt										
		2021-22									
SI. No.	Activity	(October-21 to March-22)									
1	Dry-fog system installed & maintenance	0.1									
2	Water tankers two no's for water sprinkling	3									
3	Rain water harvesting structures	0.1									
4	Site specific sewage treatment plant with maintenance	0.2									
5	Service Centre cum ETP & its maintenance	0.1									
6	Tyre wash system maintenance	0.1									
7	Plantation	2.5									
	Total amount incurred	6.1									

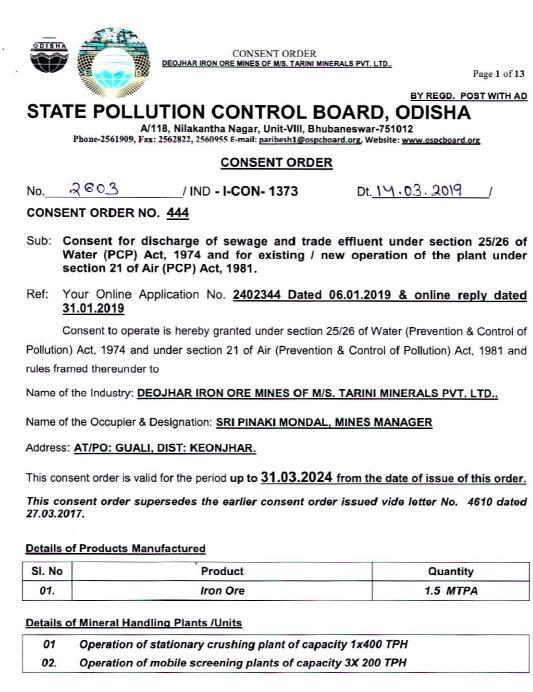
# ANNEXURES

#### <u>Annexure – 1: Forest Clearance Copy</u>



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Annexure-2: Consent to Operate Copy from OSPCB



This consent order is valid for the specified outlets, discharge quantity and quality, specified chimney/stack, emission quantity and quality of emissions as specified below. This consent is granted subject to the general and special conditions stipulated herein.

Annexure – 3 : Approved Mining Scheme Copy from IBM



भारत सरकार GOVERNMENT OF INDIA खान मंत्रालय MINISTRY OF MINES भारतीय खान ब्यूरो INDIAN BUREAU OF MINES क्षेत्रीय खान नियंत्रक के कार्यालय OFFICE OF THE REGIONAL CONTROLLER OF MINES



By. Regd. Parcel / E-M Phone: 0674-23524 Tele Fax: 0674-23524

ro.bhubaneshwar@ibm.go\ Plot No.149, Pokhari BHUBANESWAR-751(

Date: 25.01.2019

No. MS/FM/39-ORI/BHU/2018-19 / 2501

Shri D. R. Patnaik, Managing Director, M/s Tarini Minerals Pvt. Ltd, X-5, Civil Township, Rourkela, Pin-769004, Odisha.

Sub:Approval of Review of Mining Plan of Deojhar Iron Ore Mines over an area of 34.365 ha in Keonjhar district of Odisha of M/s Tarini Minerals Private Limited submitted under rule-17 (2) of MCR, 2016.

Ref: -i) Your letter no. nil dated 19.12.2018.

- ii) This office letter of even no. dated 19.12.2018.
- iii) This office letter of even no. dated 19.12.2018 addressed to the Director of Mines, Govt. of Odisha, copy endorsed to you.
- iv) This office letter of even no. dated 03.01.2019.
- v) Your letter no. nil dated 16.01.2019 received on 18.01.2019.

Sir,

То

In exercise of the power delegated to me vide Gazette Notification No. S.O. 1857 (E) dated 18.05.2016, I hereby <u>Approve</u> the Review of Mining Plan including Progressive Mine Closure Plan of Deojhar Iron Ore Mines over an area of 34.365 ha of M/s Tarini Minerals Private Limited in Keonjhar district of Odisha State submitted under Rule 17 (2) of Mineral Concession Rules, 2016. This approval is subject to the following conditions:

- The Review of Mining Plan is approved without prejudice to any other law applicable to the mine area from time to time whether made by the Central Government, State Government or any other authority and without prejudice to any order or direction from any court of competent jurisdiction.
- II. The proposals shown on the plates and/or given in the document is based on the lease map /sketch submitted by the applicant/ lessee and is applicable from the date of approval.
- III. It is clarified that the approval of aforesaid Review of Mining Plan does not in any way imply the approval of the Government in terms of any other provision of Mines & Minerals (Development & Regulation) Act, 1957, or the Mineral Concession Rules, 2016 and any other laws including Forest (Conservation) Act, 1980, Environment (Protection) Act, 1986 or the rules made there under, Mines Act, 1952 and Rule & Regulations made there under.
- IV. Indian Bureau of Mines has not undertaken verification of the mining lease boundary on the ground and does not undertake any responsibility regarding correctness of the boundaries of the leasehold shown on the ground with reference to lease map & other plans furnished by the applicant / lessee.

Contd. Page-2

Summarized Mo	niniy Ave	lage Amb				epon	
Sampling Location	Month	A	mbient Air	Quality Parc	ameters i	n µgm/m	3
		Range	P.M-10	P.M2.5	SO <sub>2</sub>	NOx	CO
	Oct-21	Avg.	74.88	29.50	10.10	11.13	0.35
Mine Site Office (AAQ-1)	Nov-21	Avg.	66.75	29.50	10.55	11.63	0.48
	Dec-21	Avg.	72.11	24.89	10.81	12.17	0.67
	Jan-22	Avg.	73.50	62.50	10.79	12.71	0.62
	Feb-22	Avg.	75.00	27.88	10.30	11.76	0.57
	Mar-22	Avg.	73.78	25.11	8.42	10.08	0.48
	Oct-21	Avg.	76.13	26.38	10.15	11.15	0.44
	Nov-21	Avg.	76.25	29.75	11.25	12.76	0.48
	Dec-21	Avg.	75.33	29.33	11.09	12.50	0.67
Exit Gate (AAQ-2)	Jan-22	Avg.	74.00	30.38	10.03	12.24	0.70
	Feb-22	Avg.	76.38	29.88	10.76	12.26	0.58
	Mar-22	Avg.	77.00	27.78	10.03	11.76	0.49
	Oct-21	Avg.	68.50	22.25	9.63	10.64	0.47
	Nov-21	Avg.	71.38	30.25	10.43	11.73	0.58
	Dec-21	Avg.	69.33	24.67	10.74	12.10	0.68
wurgabeda village (AAQ-3)	Jan-22	Avg.	67.25	24.63	9.99	12.08	0.70
	Feb-22	Avg.	70.25	26.25	10.40	11.90	0.54
	Mar-22	Avg.	71.33	27.11	9.68	11.16	0.56
	Oct-21	Avg.	69.25	24.25	10.61	11.96	0.50
	Nov-21	Avg.	67.13	24.50	9.79	11.18	0.53
	Dec-21	Avg.	72.00	24.33	10.77	12.10	0.63
Bileipada village(AA&-4)	Jan-22	Avg.	66.63	23.88	10.75	12.78	0.69
	Feb-22	Avg.	70.25	26.25	10.40	11.90	0.54
	Mar-22	Avg.	72.44	27.67	9.28	11.17	0.56
	Oct-21	Avg.	72.00	22.75	10.88	12.10	0.64
	Nov-21	Avg.	70.13	29.00	11.36	12.98	0.51
	Dec-21	Avg.	69.78	25.11	11.54	12.97	0.66
Deojnar village (AAQ-5)	Jan-22	Avg.	68.38	25.50	11.04	12.51	0.54
ileipada Village (AAQ-3) ileipada Village(AAQ-4) Deojhar Village (AAQ-5)	Feb-22	Avg.	71.00	26.50	10.83	12.35	0.54
	Mar-22	Avg.	71.00	25.67	8.50	10.17	0.57
	Oct-21	Avg.	68.00	21.25	9.93	11.33	0.51
	Nov-21	Avg.	64.75	24.13	9.59	11.79	0.39
Mahadevnasa Village	Dec-21	Avg.	70.44	24.11	11.77	13.24	0.69
(AAQ-6)	Jan-22	Avg.	67.50	25.00	10.50	12.33	0.66
	Feb-22	Avg.	70.13	25.88	8.94	10.50	0.44
	Mar-22	Avg.	69.78	24.22	8.77	10.49	0.54

#### Annexure – 5 : Wild Life Conservation Plan Copy

WARDEN, ORISSA5<sup>TH</sup> FLOOR, B.D.A. APARTMENT, PRAKRUTI BHAWAN, NILAKANTHA NAGAR, BHUBANESWAR- 751012. Memo No 1238 Dt. 15.2.2010 1WL-C-FC- 524/09 То The Chief Conservator of Forests (Nodal), O/o the Principal CCF, Orissa, Bhubaneswar λ. Approval of Site Specific Wildlife Conservation Plan for Deojhar Iron Ore Mines in Sub village Deojhar in Keonjhar district Sir. 1 am directed to inform you that the Site Specific Wildlife Conservation Plan for Deojhar Iron Ore Mines in village Deojhar in Keonjhar district of M/s Tarini Minerals Pvt. Ltd. has been approved by PCCF(WL) & Chief Wildlife Warden. Onssa with financial forecast of Rs.54.00 lakhs for the following activities 1. For activities to be implemented by User agency in Project Area ---- Rs 13 00 lakhs For activities to be implemented by DFO, Keonjhar Division in the Project Impact Area ----- Rs 41 00 lakhs Total Rs.54.00 lakhs User agency will execute activites for Rs.13 lakhs in the lease hold area under the guidance of DFO, Keonjhar Division & Rs.41.00 lakhs may be deposited with DFO Keonjhar division under CAMPA for activities to be executed by DFO in the zone of influence. Conservator of Forests (WL) Va ... Memo No. 1239 dt. 15-2-2010 Copy forwarded to the DFO, Keonjhar Division for information & necessary action with reference to Memo No. 2562 dt. 8.709 of CF., Rourakela Circle. Conservator of Forests (WL) Memo No.1240 DL 15.2.2010 (a) Copy forwarded to CF, Rourkela Circle for information & necessary action with reference to his office Memo No. 2561 dt.8.7.09 2 Conservator) of Forests (WL) Memo No. 1241 dt. 15.2.2010 Copy forwarded to the M/s Tarini Minerals Pvt. Ltd, Bonikela, Joda, Keonjhar for information & necessary action with reference to his letter dated 22.9 09 2-2 e Alo, all V.o. bu -O Chouse of Forests (WL) Conserva θ 25 \$ Called to be tree was to a sur

Monthly Average Fugitive Du	st Monitoring Repo	rt	
Sampling Location	Month	Month Month µgm/m <sup>3</sup>	
	Oct-21	Avg.	615.25
	Nov-21	Avg.	693.25
Minos Egos / Haulago road	Dec-21	Avg.	651.38
Mines Face/ Haulage road	Jan-22	Avg.	662.50
	Feb-22	Avg.	741.43
	Mar-22	Avg.	654.13
	Oct-21	Avg.	672.13
	Nov-21	Avg.	700.50
Screening Plant	Dec-21	Avg.	733.63
	Jan-22	Avg.	712.50
	Feb-22	Avg.	768.13
	Mar-22	Avg.	765.2
	Oct-21	Avg.	624.88
	Nov-21	Avg.	626.7
Loading & Unloading point	Dec-21	Avg.	658.88
	Jan-22	Avg.	685.38
	Feb-22	Avg.	677.88
	Mar-22	Avg.	681.00

#### Annexure - 6 : Fugitive Dust Monitoring Report

	Deojhar Iron Ore Mines												
	M	/s Tarini N	Ainerals Pvt.	Ltd.									
	Gre	ound Wate	er Quality Re	port									
	October-2021												
Location Murgabeda Daldir Deojhar Bile Village Village Village Village Village													
SI. No.	Test Parameter	Units		Result									
1	Odour		Agreeable	Agreeable	Agreeabl e	Agreeab le							
2	Colour	Hazen	<5	<5	<5	<5							
3	рН		6.68	6.73	6.71	6.75							
4	Turbidity	NTU	<1	<1	<1	<1							
5	Total Hardness as CaCO <sub>3</sub>	mg/l	72	84	92	128							
6	Iron as Fe	mg/l	0.09	0.08	0.11	0.13							
7	Chlorides as Cl	mg/l	38	50	40	54							
8	Total Dissolved solids @105 °C	mg/l	154	302	276	288							
9	Calcium as Ca	mg/l	20.0	24	28	40							
10	Magnesium as Mg	mg/l	5.3	5.8	5.3	6.8							
11	Sulphate as SO <sub>4</sub>	mg/l	25	37	34	36							
12	Nitrate as NO <sub>3</sub>	mg/l	16	22	19	30							
13	Flouride as F	mg/l	0.29	0.42	0.45	0.51							
14	Total Alkalinity as CaCO <sub>3</sub>	mg/l	26	106	102	86							
15	Boron as B	mg/l	< 0.10	< 0.10	< 0.10	<0.10							
16	Aluminium as Al	mg/l	< 0.02	< 0.02	< 0.02	< 0.02							
17	Copper as Cu	mg/l	< 0.02	< 0.02	< 0.02	< 0.02							
18	Manganese as Mn	mg/l	<0.02	<0.02	<0.02	< 0.02							
19	Selinium as Se	mg/l	< 0.01	< 0.01	< 0.01	< 0.01							
20	Zinc as Zn	mg/l	<0.02	<0.02	<0.02	< 0.02							
21	Cadmium as Cd	mg/l	< 0.003	< 0.003	< 0.003	< 0.003							
22	Lead as Pb	mg/l	< 0.01	< 0.01	< 0.01	< 0.01							
23	Mercury as Hg	mg/l	< 0.001	< 0.001	< 0.001	< 0.001							
24	Total Arsenic as As	mg/l	< 0.01	< 0.01	< 0.01	< 0.01							
25	Total Chromimum as Cr	mg/l	< 0.02	< 0.02	< 0.02	< 0.02							
26	Total Coliforms	CFU/ 100 ml	Absent	Absent	Absent	Absent							

#### Annexure - 7: Ground Water Monitoring Report

		Deojhar	Iron Ore Mi	nes							
	M	/s Tarini	Minerals Pv	rt. Ltd.							
	Gre	ound Wa	ter Quality	Report							
		Januai	ry-2022								
	Location Murgabeda Daldir Deojhar Bileipad Village Village Village Village										
SI. No.	Test Parameter	Units		Resu	lt	·					
1	Odour		Agreeable	Agreeable	Agreeable	Agreeable					
2	Colour	Hazen	<5	<5	<5	<5					
3	рН		6.79	6.87	6.73	6.67					
4	Turbidity	NTU	<1	<1	<1	<1					
5	Total Hardness as CaCO <sub>3</sub>	mg/l	94	116	96	118					
6	Iron as Fe	mg/l	0.11	0.09	0.12	0.1					
7	Chlorides as Cl	mg/l	56	62	48	62					
8	Total Dissolved solids @105 °C	mg/l	214	316	294	308					
9	Calcium as Ca	mg/l	32.0	40	30	40					
10	Magnesium as Mg	mg/l	3.4	3.9	5.1	4.4					
11	Sulphate as SO <sub>4</sub>	mg/l	29	35	40	45					
12	Nitrate as NO <sub>3</sub>	mg/l	21	28	26	31					
13	Flouride as F	mg/l	0.34	0.51	0.48	0.52					
14	Total Alkalinity as CaCO <sub>3</sub>	mg/l	38	94	92	74					
15	Boron as B	mg/l	< 0.10	< 0.10	< 0.10	<0.10					
16	Aluminium as Al	mg/l	< 0.02	< 0.02	< 0.02	< 0.02					
17	Copper as Cu	mg/l	< 0.02	< 0.02	< 0.02	< 0.02					
18	Manganese as Mn	mg/l	<0.02	<0.02	<0.02	< 0.02					
19	Selinium as Se	mg/l	< 0.01	< 0.01	< 0.01	< 0.01					
20	Zinc as Zn	mg/l	<0.02	<0.02	<0.02	< 0.02					
21	Cadmium as Cd	mg/l	< 0.003	< 0.003	< 0.003	< 0.003					
22	Lead as Pb	mg/l	< 0.01	< 0.01	< 0.01	< 0.01					
23	Mercury as Hg	mg/l	< 0.001	< 0.001	< 0.001	< 0.001					
24	Total Arsenic as As	mg/l	< 0.01	< 0.01	< 0.01	< 0.01					
25	Total Chromimum as Cr	mg/l	< 0.02	< 0.02	< 0.02	< 0.02					
26	Total Coliforms	CFU/ 100 ml	Absent	Absent	Absent	Absent					

Note – The above tests are carried by B.S Envi. Tech P. Ltd Laboratory & its accredited by NABL and MoEF&CC.

	Deojhar Iron Ore Mines												
	M/s Tarini Minerals Pvt. Ltd.												
	Su	ırface W	ater Qual	ity Repor	t								
	October-2021												
	Location		Suna Nadi U/S	Suna Nadi D/S	Mahade v Nallah U/S	Mahade v Nallah D/S	Baitarani River						
SI. No.	Test Parameter	Units		F	Result								
1	рН		6.65	6.72	6.68	6.76	6.67						
2	Oil & Grease	mg/l	< 1	< 1	<1	< 1	<1						
3	Total Suspended Solids	mg/l	68	90	68	102	62						
4	Total Dissolved Solids @ 105°C	mg/l	184	208	202	216	176						
5	BOD for 3 days at 27°C	mg/l	10	17	16	25	11						
6	COD	mg/l	64	92	120	144	64						
7	Chloride as Cl	mg/l	8.5	13.5	9.5	17.5	9.2						
8	Phosphate as P	mg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10						
9	Sulphide as S <sup>2-</sup>	mg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10						
10	Sulphates as SO₄	mg/l	9.1	10	11	16	6.8						
11	Total Volatile Suspended Solids (MLVSS)	mg/l	18	30	22	38	14						
12	Colour	Hazen units	5	10	5	10	10						
13	Odour		Agreeable	Agreeable	Agreeab le	Agreeab le	Agreeab le						
14	Iron as Fe	mg/l	0.19	0.23	0.24	0.29	0.12						
15	Flouride as F	mg/l	0.24	0.27	0.27	0.34	0.17						
16	Boron as B	mg/l	<0.10	<0.10	< 0.10	< 0.10	< 0.10						
17	Percent Sodium		40.9	41.5	40.8	43.5	40.8						
18	Residual Sodium Carbonate	mg/l	42	53	53	43	48						
19	Copper as Cu	mg/l	<0.02	<0.02	< 0.02	< 0.02	< 0.02						
20	Manganese as Mn	mg/l	<0.02	<0.02	< 0.02	< 0.02	< 0.02						
21	Selenium as Se	mg/l	<0.01	< 0.01	< 0.01	< 0.01	< 0.01						
22	Zinc as Zn	mg/l	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02						
23	Cadmimum as Cd	mg/l	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003						
24	Lead as Pb	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01						

#### Annexure - 8 : Surface Water Monitoring Report

25	Mercury as Hg	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
26	Nickel as Ni	mg/l	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
27	Total Arsenic as As	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
28	Total Chromimum as Cr	mg/l	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
	Total Coliforms	CFU/100					
29		ml	80	110	110	130	60

	Deojhar Iron Ore Mines M/s Tarini Minerals Pvt. Ltd.									
Surface Water Quality Report										
	January-2022									
	Location	Suna Nadi U/S	Suna Nadi D/S	Mahade v Nallah U/S	Mahade v Nallah D/S	Baitarani River				
SI. No.	Test Parameter	Units	Result							
1	рН		6.65	6.82	6.67	6.75	6.58			
2	Oil & Grease	mg/l	< 1	< 1	<1	< 1	<1			
3	Total Suspended Solids	mg/l	98	114	84	120	104			
4	Total Dissolved Solids @ 105°C	mg/l	236	248	202	256	226			
5	BOD for 3 days at 27°C	mg/l	10	17	13	25	16			
6	COD	mg/l	72	108	108	164	132			
7	Chloride as Cl	mg/l	12.4	17.9	14.2	24.9	21.4			
8	Phosphate as P	mg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10			
9	Sulphide as S <sup>2-</sup>	mg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10			
10	Sulphates as SO <sub>4</sub>	mg/l	14	19	15	28	12			
11	Total Volatile Suspended Solids (MLVSS)	mg/l	26	34	28	40	34			
12	Colour	Hazen units	5	10	5	15	10			
13	Odour	••••	Agreeable	Agreeable	Agreeab le	Agreeab le	Agreeab le			
14	Iron as Fe	mg/l	0.25	0.28	0.18	0.29	0.18			
15	Flouride as F	mg/l	0.31	0.34	0.27	0.34	0.23			
16	Boron as B	mg/l	<0.10	<0.10	< 0.10	< 0.10	< 0.10			
17	Percent Sodium	••••	41.2	43.5	40.1	43.5	40.9			
18	Residual Sodium Carbonate	mg/l	58	53	37	32	32			
19	Copper as Cu	mg/l	<0.02	<0.02	< 0.02	< 0.02	< 0.02			

20	Manganese as Mn	mg/l	<0.02	<0.02	< 0.02	< 0.02	< 0.02
21	Selenium as Se	mg/l	<0.01	< 0.01	< 0.01	< 0.01	< 0.01
22	Zinc as Zn	mg/l	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
23	Cadmimum as Cd	mg/l	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
24	Lead as Pb	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
25	Mercury as Hg	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
26	Nickel as Ni	mg/l	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
27	Total Arsenic as As	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
28	Total Chromimum as Cr	mg/l	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
29	Total Coliforms	CFU/100					
		ml	110	140	140	170	70

Note – The above tests are carried by B.S Envi. Tech P. Ltd Laboratory & its accredited by NABL and MoEF&CC.

#### Annexure - 9: List of IME Carried out &Sample IME/PME test report

Category of	IM	E	PME		
Employees	Contractor Owner Contractor		Contractor	Owner	
Workers	5	0	0	3	
Staff	0	0	0	0	
Executive / Managers	0	0	0	2	
TOTAL	5	0	0	5	

Report of Medical Examination Under Rule 29 B	
(To be issued in Triplicate)** 90 1000 1101	An
	ofr
	Ide
CHATHERATE NO. T10123 Sr Engineer, Muhans.	
Sr Ins Deather	1.
Certified that Sri/Sm. employed as	2
mine, Form B No	
medical examination. He/She appears to be years of age.	
The findings if the examination authority are given in the attached sheet, it is	
considered that Sri/Strimati	
C. M.	
Attuty	
(a)* is medically fit for any employment in mines	5
and is medically unfit for	0
(2) 20 (any employment in mine, or	
and Marine and an and an and a second at	б.
Read No. Other Ud (in) any employment or work 117N	
(c)* is suffering from. and should get this disability*	
cured/controlled and should be again examined within a period of	7.
months. He/She* will appear for re-examined with the result of test of	
and the opinion of	8
He/She* may be permitted/not* permitted to carry on his/her duties during this period.	
Al linz	-
1 2 2 W	
Signature of the Examining	
Authority	-
The state of the second	10
Name and Designation in Block Letters	11
Rend Nix 6220 HERE	12
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tos to rescure duly	
Place : Hi-Tech Diagnostic Centre, Joda of the modification of	16
Date: MUNOT 2 where the Dr P. 9	1
· Delete whatever not applicable Sed Perking, model and an also	r 15
· Original - To be kept with Examining Authority.	20
Pink Copy - To be handed over to Person Concernecd.	5
Yellow Copy - To be sent to the concerned Manager of the Mine	P
-19-	

## PHOTOGRAPHS



Photo-1: Mobile Water Tanker for dust suppression



Photo-2: Truck Tire wash system





Photo-3: Environment monitoring & sampling





Photo-4: Showing Check weirs, Settling pond and Garland drain



Photo-5: Retaining wall at toe of dumps



Photo-6: Safety zone plantation and dump plantation

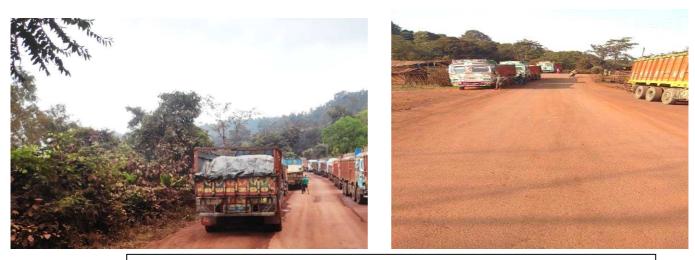


Photo-7: Mineral dispatch road black topped with dispatch vehicles with tarpaulin cover on top





Photo-8: Roof top rain water harvesting along with village pond for rain water harvesting



Photo-9: STP for treatment of Domestic Waste Water (Ultra Filtration Unit) & its utilization in green belt development

## ENVIRONMENT MONITORING REPORTS