No.Mine/IOC/Mahamaya/2018/48

Date:12/04/2018

To, Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (WCZ), Ground Floor, East Wing, New Secretariat Building Civil Lines, Nagpur-440001 Tel.No.0712-2531318, Fax: 0712-2531318

Ref: No. No. J-11015/11/2007-IA.II (M) dated 26/03/2015

SUB: Six monthly status of compliance to the conditions stipulated in the Environmental Clearance granted by MoEFCC w.r.t. Mahamaya-Dulki Mining Lease (1522.67 Hect.) for the Proposed Enhancement of Production Capacity from 0.96 TO 1.46 MTPA of M/S SAIL-Bhilai Steel Plant.

Sir,

Please find enclosed herewith the six monthly compliance report for period OCT'17 to MAR'18 with respect to conditions stipulated in the Environmental Clearance granted by MoEFCC w.r.t. Mahamaya Dulki Mining Lease (1522.67 Hect.) granted vide above reference.

Thank you,

Mine Manager Mahamaya Mine

KUMAR SHIVESH Mine Manager Mahamaya Mine

Copy to, Member Secretary Paryavas Bhavan, North Block Sector-19, Naya Raipur(C.G.), Phone:0771-2512220

> भिलाई 490 001, छत्तीसगढ़, वेब साइट : www.sail.co.in Bhilai 490 001, Chhattisgarh, website : www.sail.co.in

Sub: The point wise Compliances of Environment Clearance condition granted by MoEF&CC vide letter No. J-11015/11/2007-IA.II(M) dated 26/03/2015 with respect to Mahamaya Dulki Mining Lease (1522.67 Hect.) for the Proposed Enhancement of Production Capacity from 0.96 TO 1.46 MTPA of M/S SAIL-Bhilai Steel Plant.

S.No.	Conditions	Compliance
A	SPECIFIC CONDITIONS	
(i)	No mining activities are allowed in forest area for which the FC is not available.	Mining activity is being carried out only in that are for which FC is available. Forestry Clearance of Mahamaya (84 Ha) - Stage-II Clearance granted By MOEF & CC vide no. F No. 8-19/2002-FC Dated 07.03.2003 & Stage-II Forestry Clearance granted by MOEF&CC over 60.0 Ha Vide Letter No.F.No.8-559/89-FC (PT), New Delhi Dated-07.08.2015.
(ii)	The condition 3(iii)b of the guidelines issued by the Forest Conservation Division in this Ministry vide F.No. 11-362/2012-FC dated 1 <sup>st</sup> February, 2013 is not being prescribed in view of Hon'ble Supreme Court order dated 27/01/2014 and the EC is subject to the final order of the Supreme Court in the matter.	
(iii)	The project proponent shall obtain Consent to Establish and Consent to Operate from the State Pollution Control Board and effectively implement all the conditions stipulated therein.	The Member Secretary, CECB, Raipur has granted "Consent to Establish" vide no 4088/TS/CECB/2016 Naya Raipur, Dated 14.01.2016, and "Consent to Operate" vide no 768/TS/CECB/2017 Naya Raipur, Dated 24.05.2017,
(iv)	The mining operations shall be restricted to above ground water table and it should not intersect the groundwater table.	The mining operations are being carried out above ground water table.
(v)	The loose solids should be kept separately from flowing water and flow of effluents to nearby areas outside the leasehold shall be prevented. These paved drains along with arrangements for Over Burden Dumps and their drainage may be clearly depicted on a contoured map of the mining area.	Existing Waste dumps are well within the lease area. Garland drainage, check dams and retaining wall are prepared to prevent the flow of effluents to nearby area outside the mine. Total 13 check dams have been constructed around the Mine. Photos of check dams, garland drainage and retaining wall are enclosed in <b>Annexure-1</b> .

(vi)	The project proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any mining operations. Adequate measures shall be taken for conservation and protection of the 1 <sup>st</sup> and 2 <sup>nd</sup> order streams, emanating or passing through the mine lease during the course of mining operation.	resources are obstructed due to any mining operation.
(vii)	The top soil, if any shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation	utilized for reclamation and rehabilitation of
(ix)	The over burden (OB) generated during the mining operation shall be stacked at earmarked dump site(s) only and it should not be kept active for a long period of time and their phase-wise stabilization shall be carried out. Proper terracing of OB dump(s) shall be carried out so that the overall slope shall not exceed 28°. The over burden dump(s) shall be scientifically vegetated with suitable native species to prevent erosion and surface run off	The over burden (OB) generated during the mining operation is being stacked at earmarked dump site(s). Stabilization and proper terracing of OB dump is done & scientifically vegetated with suitable native species. Till date 5826 numbers of tress have been planted in 2.43 Hectare within lease area and 34531 numbers of trees have been planted in 16.818 Hectare outside mining lease. Photographs of plantation are enclosed in Annexure-2.
(x)	Catch drains and siltation ponds of appropriate size shall be constructed for the working pit, temporary OB and mineral dumps to arrest flow of silt and sediment directly into the adjoining River and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desalted particularly after the monsoon and maintained properly.	Drainages, and check dams have been prepared to arrest the flow of silt. There is no adjoining river and water body. The drainages and check dams are regularly desilted before Monsoon every year. Photo of drainage, sumps and check dam is enclosed in Annexure-1.
(xi)	Dimension of the retaining wall at the toe of the OB dump(s) and the OB benches within the mine to check run-off and siltation should be based on the rain fall data.	Retaining wall exists at the toe of OB dump to check run-off and silt. Dimension of RCC wall is 45m x 3.6m x 2m. Photo of retaining wall is enclosed in <b>Annexure-1</b> .

(xii)	Plantation shall be raised in an area earmarked including a 7.5 m wide green belt in the safety zone around the mining lease, OB dump(s), along the roads, etc. by planting the native species in consultation with the local DFO/Agriculture Department. In addition, plantation shall also be raised in the backfilled and reclaimed area and around water body. The density of the trees should be around 2500 plants per ha.	lease. Plantation has been done in backfilled and reclaimed area. Till March 2018, total 40357 plants have been planted. Photographs of plantation are enclosed in Annexure-2.
(xiii)	Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as around crushing and screening plant, loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air quality parameters conform to the norms prescribed by the Central pollution Control Board in this regard.	Extensive Water sprinkling is done on haul road. Crushing and screening plant does not exist within the lease. Ambient air quality parameters are monitored and are within norms as prescribed by the Central pollution Control Board in this regard. Water sprinkling on haul road is being carried out by 06 numbers of water tankers of 10 KL capacity.
(xiv)	Regular monitoring of water quality upstream and downstream of perennial nallahs falling in the impact zone shall be carried out and record of monitoring data should be maintained and submitted to Ministry of Environment, Forest and Climate Change, its Regional Office, Nagpur, Central Groundwater Authority, Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board.	There is no perennial nallah in the impact zone of Mahamaya Mine
(xv)	Appropriate measures shall be taken for treatment of the upper catchment of the mine lease area.	Appropriate measures are taken for treatment of the upper catchment of the mine lease area. 10 numbers of sumps have been prepared in the top of the mine to arrest the surface run-off. Photo of sumps is enclosed in <b>Annexure-1</b> .
(xvi)	The project authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.	Rain water is collected in pit sumps for ground water recharging. Trenches and drainages have been prepared to recharge ground water by storing run-off within the mine. Photographs are attached in Annexure-1.

(xvii	Trotal Inches	ern di armir di bi describ
	lease by establishing a network of existing wells a installing new piezometes during the mini operation. The periodic monitoring[(at least fo times in a year - pre-monsor (A ill) for	and quality are carried out in and around the lease area and the report is sent regularly.
	winter (January), once in each season)] shall be carried out in consultation with the State of	nd pe
LOT IS	Water Board/Central Ground Water Authority are the data thus collected may be sent regularly to the Ministry of Environment, Forest and Climate Change and its Province of the	
	Ground Water Authority and the Regional Di	al
I C = T	Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the minimum table is getting.	
LTO	depleted due to the mining activity, necessar corrective measures shall be carried out.	y
		Leading Towns D. Later, 11
(xviii)	The project	
	The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water, required for the project	Mahamaya Mine started in the year 1971. Water requirement is fulfilled from "Boridihi dam" of Bhilai steel Plant. Water Cess is being paid to CECB.
(xix)	Suitable rainwater harvesting measures on long term	r benny Life y bendan i en en en
	basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.	Board has been consulted for suitable harvesting scheme. Suitable rainwater harvesting measures on long term basis will be planned and implemented in consultation with the Regional Director, Central Ground Water Board.
(vv)		Meanwhile, departmental initiatives have been taken up to augment ground water recharge as per scheme prepared with inhouse expertise. Trenches have been prepared and drainages are made to retain run-off and replenish ground water for water
(xx)	Appropriate imitative magazini	harvesting.  No river is in the nearby of the Lease.



(xxi)	Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.	control and regularly monitored. Regular checking of vehicle is done for controlling emission. Preventive maintenance of HEMM and light vehicles is undertaken
(xxii)	Controlled blasting shall be practiced. The imitative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented	Controlled blasting is in practice. The following measures are being practiced at
xxiii)	Drills shall either be operated with dust extractors or equipped with water injection system.	Drilling is provided with water injection system for suppression of dust. Photo is enclosed at <b>Annexure-3</b> .
xxiv)	Mineral handling area shall be provided with the adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.	Mineral handling areas are provided with water sprinkling system. Mineral handling plant does not exist within the lease.

colony. Elf shall also be provided for	generated in the liline.
project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.	Pre-placement medical examination and periodical medical examination of the workers engaged in the mines are carried out and records are maintained.  All newly appointed workers undergo a comprehensive medical examination (Preemployment Medical Examination) and subsequently a periodical Medical Examination (PME) at regular interval. All workers undergo a PME every 5 years, however workers whose age is more than 45 years, the PME is done in every 3 years. All contractual workers also undergo medical examination. The Examination is conducted by occupational health specialist of hospital
ensured that the levels of silica do not exceed the prescribed limit. The workers will be prescribed limit.	Regular monitoring of dust level is done by centralized environment department at IOC Rajhara. The workers are provided with
Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	There is no construction labour engaged within the site. In case of any temporary construction work, the labourers engaged in the construction activity reside in nearby villages.
plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. Necessary	All precautionary measures during mining operation for conservation and protection of endangered flora as well as endangered fauna spotted in the study area will be taken care. Action plan for conservation of flora and fauna would be prepared and implemented in consultation with the State Forest and Wildlife Department.
	workshop and wastewater generated during the mining operation.  Pre-placement medical examination and periodic medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and follower accordingly.  Regular monitoring of free silica in the dust will be carried out and records maintained. It shall be ensured that the levels of silica do not exceed the prescribed limit. The workers will be provided with personal protective measures to guard against inhaling silica dust.  Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.  The project proponent should take all precautionary measures during mining operation for conservation and protection of endangered flora as well as endangered fauna spotted in the study area. Action plan for conservation of flora and fauna shall be orepared and implemented in consultation with the state Forest and Wildlife Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so llocated shall be included in the project cost. Copy of action plan may be submitted to the Minimum and plan may be submitted to the Minimum and protection plan may be submitted to the Minimum and protection plan may be submitted to the Minimum and plan may be submitted to the Minimum and protection plan may be submitted to the Minimum and protection plan may be submitted to the Minimum and protection plan may be submitted to the Minimum and protection plan may be submitted to the Minimum and protection plan may be submitted to the Minimum and protection plan may be submitted to the Minimum and protection plan may be submitted to the Minimum and protection p



(xxx)	The critical parameters such as RSPM (Particulate matter with size less than 10 micron i.e., PM10) and NOx in the ambient air within the impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharged water shall also be monitored [(TDS, DO, PH and Total Suspended Solids (TSS)]. The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain. The Circular No. J-20012/1/2006-IA.IIM) dated 27/05/2009 issued by Ministry of Environment, Forest and Climate Change, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance.	The critical parameters in ambient air quality, fugitive dust, peak particle velocity are monitored periodically by our environment department. Quality of discharge water is also monitored. SPM, PM-10.PM-2.5,NO <sub>X</sub> and SO <sub>2</sub> aremonitored. Monitoring is done in consultation with officials of state pollution board control board.
(xxxi)	A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment, Forest and Climate Change 5 years in advance of final mine closure for approval.	Final Mine closure Plan along with details of Corpus fund will be submitted to the Ministry 5 years in advance of final mine closure for approval. However, the progressive Mine Closure Plan is approved by IBM.
(xxxii)	The project proponent shall undertake all the commitments made during the public hearing and effectively address the concerns raised by the locals in the public hearing as well as during consideration of the project, while implementing the project.	BSP shall undertake all the commitments made during the public hearing and effectively address the concerns raised by the locals in the public hearing as well as during consideration of the project, while implementing the project.
В	General Conditions	Action Taken/Action to be taken
(i)	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment, Forest and Climate Change.	
(ii)	No change in the calendar plan including excavation, quantum of mineral and waste should be made.	There is no change in calendar plan including excavation, quantum of mineral and waste.

(iii)	Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10 micron i.e., PM <sub>10</sub> ) and NOx monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.	already established in the core zone as wel as in the buffer zone. Monitoring is being conducted in consultation with the state pollution control board.
(iv)	Data on ambient air quality RSPM (Particulate matter with size less than 10 micron i.e., PM <sub>10</sub> ) &NOx should be regularly submitted to the Ministry of Environment, Forest and Climate Change including its Regional office located at Nagpur and the State Pollution Control Board/Central Pollution Control Board once in six months.	All the monitoring data is intimated regularly to state pollution control board.
(v)	Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.	Water spraying arrangement is available for controlling dust. Fugitive dust is also monitored and within permissible limit.
(vi)	Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs.	Measures are already taken for control or noise levels below 85 dBA in the work environment. Workers engaged in operation of HEMM are provided with ear plug/muffs.
(vii)	Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 <sup>th</sup> May, 1993 and 31 <sup>st</sup> December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.	No Industrial waste water (workshop and waste water) generated. All the equipment is deployed by contractual means and maintenance is done outside the lease area.
(viii)	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed	Personnel working in dusty areas are provided protective respiratory devices Periodical Medical Examination of al workers is being carried out and there is no contractions exposure of dust.



(ix)	A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.	Suitable qualified personnel is at Iron Ora
(x)	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment, Forest and Climate Change and its Regional Office located at Nagpur.	funds earmarked for environmental protection measures.
(xi)	The project authorities should inform to the Regional Office located at Nagpur regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	located at Nagpur regarding date of financial closures and final approval of the project by
(xii)	The Regional Office of this Ministry located at Nagpur shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer(s) of the Regional Office by furnishing the requisite data/information/monitoring reports.	
(xiii)	The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment, Forest and Climate Change, its Regional Office, Nagpur, the respective Zonal Office of Central Pollution Control Board the State Pollution Control Board. The proponent shall upload the status of compliance of the environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the Ministry of Environment, Forest and Climate Change, Nagpur, the respective Zonal Office of Central Pollution Control Board and the State Pollution Control Board	Will be submitted.

(xiv)	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, ZilaParishad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	Already it was sent to concerned Panchayat, ZilaParishad/ Municipal Corporation,
(xv)	The State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and the Collector's office/Tehsildar's Office for 30 days.	
(xvi)	The environmental statement for each financial year ending 31 <sup>st</sup> March in Form-Vas is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment, Forest and Climate Change, Nagpur by e-mail.	The environmental statements are submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986.

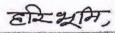


(xvii)

The project authorities should advertise at least in two local newspapers of the District or State in which the project is located and widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at website of the Ministry of Environment, Forest and Climate at – http://envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this Ministry located at Nagpur.

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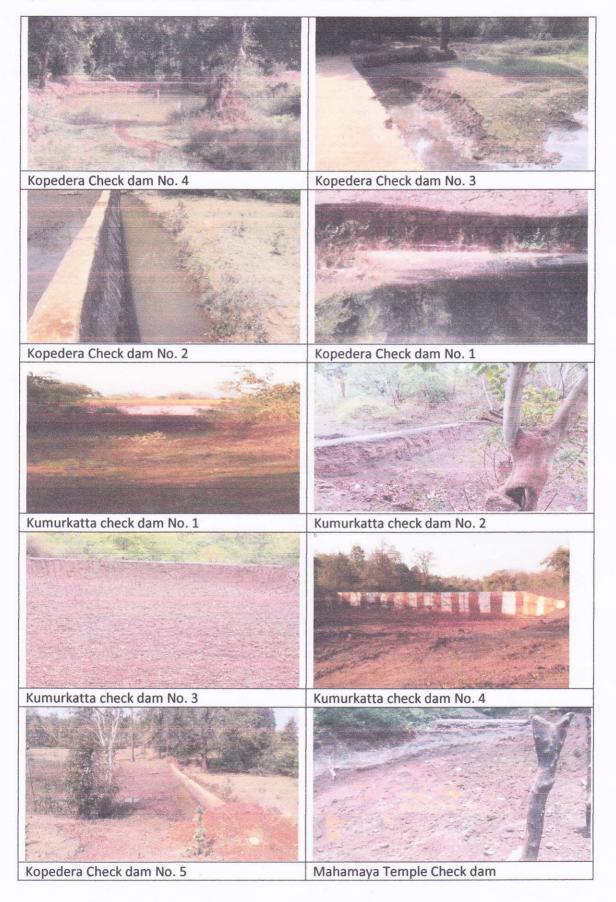




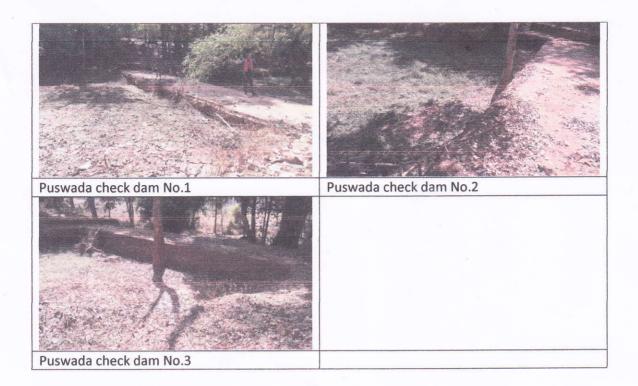


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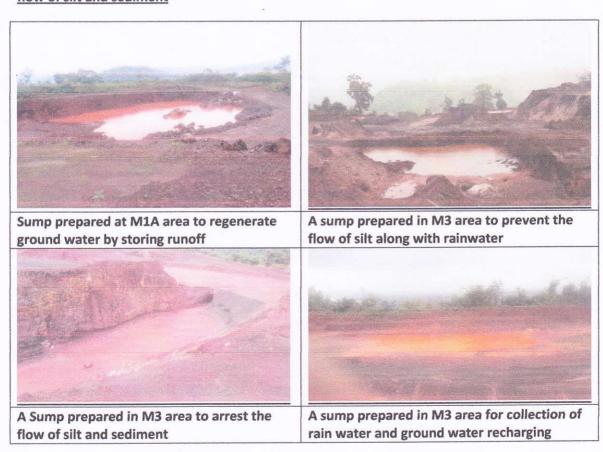
#### 13 check dams have been constructed around Mahamaya Mine



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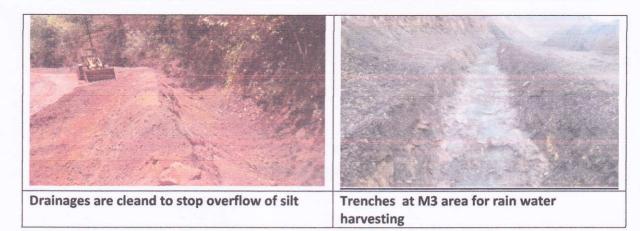


# <u>Sumps are prepared in the mine to regenerate ground water by storing runoff and to arrest the flow of silt and sediment</u>



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## Drainages and tranches are prepared for controlling overflow of silt and rainwater harvesting



#### Retaining wall and afforestation along the waste dump



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### Plantation done at mines area



Killer

#### Annexure-3



Drilling machine is provided with water injection system to suppress the dust

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## Top soil is preserved at Mahamaya-Dulki lease



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