

Ref: LQ: GO: 21/ 470  
25 May 2016

Lanjiberna Limestone & Dolomite Mines  
At/PO = Lanjiberna-770023  
Dist.Sundargarh (ODISHA)  
Phone No.(06624) 211251/ 211249  
Fax No. (06624) 676012

The Additional Director  
Ministry of Environment and Forests  
Paryavaran Bhawan  
CGO Complex, Lodhi Road  
NEW DELHI-110 003

REGISTERED WITH A/D

Dear Sir,

Sub Submission of Six Monthly compliance report in respect of the stipulated prior Environmental clearance terms & conditions of Lanjiberna Limestone & Dolomite Mines for the half year ended **31<sup>st</sup> Mar. 2016.**

We are enclosing here with the compliance status report six monthly basis ending on **31<sup>st</sup> Mar. 2016.** Further as advised by your good self vide your Environmental clearance letter ref. no. J-11015/372/2007-IA.II (M) dated 28<sup>th</sup> April-2010.

We hope you will kindly find the enclosed compliance in order and we look forward for your kind valuable suggestion & guidance for improving the environmental parameters further.

Hope, you will be find the same in order.

Thanking you,

Yours faithfully,  
for OCL INDIA LIMITED



(Subrat Mishra)

Chief Manager (Mines)

Encl. as above

- Cc to The Additional Director (S)  
Ministry of Environment & Forests  
Regional Office, A/3, Chandrasekharpur  
BHUBANESWAR-751 023 .. for kind information.
- Cc to The Chairman,  
Central Pollution Control Board, Parivesh Bhawan,  
CBD-Cum-Office Complex, East Arjun Nagar,  
DELHI-32 .. for kind information.
- Cc to The Member Secretary  
State Pollution Control Board of Orissa  
Department of Forest & Environment,  
Paribesh Bhawan, A/118, Nilakanthanagar, Unit-VIII  
BHUBANESWAR-751 012 .. for kind information.

## OCL INDIA LTD, RAJGANGPUR

**Sub:** Submission of compliance status of conditions imposed by MoEF in regard to implementation of the Expansion of Lanjiberna Limestone & Dolomite Mining Project of M/s OCL India Limited located in Village(s) Alanda, Bihabandh, Jhagarpur, Kesarmal, Raiberna, Katang, Dhauradha, Lanjiberna and Kukuda, Tehsil Rajgangpur, District Sundergarh, Odisha

## A. SPECIFIC CONDITIONS:

Sl.No.	CONDITIONS IMPOSED BY MoEF	COMPLIANCE STATUS
(i)	The project proponent shall obtain Consent to Operate from the State Pollution Control Board, Odisha and effectively implement all the conditions stipulated therein.	Consent to Operate has been obtained from the State Pollution Control Board, Odisha vide letter no. 2378/IND-I-CON-258 dtd.10.02.2015, valid till 31.03.2016 and vide letter no. 2595/IND-I-CON-258 dtd.08.02.2016, valid till 31.03.2017. All the conditions are being implemented effectively.
(ii)	The project proponent shall obtain fresh forestry clearance for diversion of 62.39ha of forestland for renewal of mine lease under Section-2 of the Forest (Conservation) Act, 1980. Environmental clearance is subject to grant of forestry clearance.	Fresh forest clearance for diversion of 62.56 ha forest land (62.04 ha for mining and allied activities and 0.52 ha for safety zone) for mining has been obtained from the MoEF vide letter no. F.No. 8-56/1994-FC (pt) dtd. 30 September, 2013
(iii)	The project proponent shall compensate and rehabilitate the land oustees and land losers/affected people, if any due to mining project as per the National Policy on Resettlement and Rehabilitation of project Affected Families (NPRR).	This project does not involve displacement or dislocation of people.
(iv)	The environmental clearance is subject to approval of the State Landuse Department, Government of Rajasthan for diversion of agricultural land for non-agricultural use.	The total agriculture land has been converted to non- agriculture category as per the Orissa Land Reform Act.
(v)	The project proponent shall develop fodder plots in the non-mineralised area in lieu of use of grazing land.	Plantation has been taken up over an area of 54.230 ha in non-mineralized area and serve for the purpose. Besides, It has been planned for grass plantation for dump stabilization and will also serve as fodder plots.
(vi)	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.	Most of the area under mining operation does not contain top soil. But wherever top soil is found, the same is collected and reused for plantation and green belt development in a systematic manner.
(vii)	The waste generated during the mining operations shall be concurrently used for backfilling. The existing waste dumps shall be stabilized by plantation. The maximum height of the waste dumps shall not exceed 24m. Proper terracing of the waste dumps shall be carried out and the overall slope of the dumps shall be maintained to 28°. The waste dumps shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the dumps. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhubaneswar	It has been estimated that Qry 4-5 will be exhausted within the year 2030. Priority will be given and scheduling will be made such that Qry 4-5 can be exhausted earlier. Once the quarry is exhausted, reclamation of the pit will be taken up. As already discussed, western part of Qry 4-5 has already been reclaimed and dumping of waste is continuing over this presently taking the height of the dump to 30 m from ground level (305 mRL). The balance 14.659 Ha area of Qry 4-5 will be reclaimed with waste material to be generated during conceptual period. Waste which has been dumped in 2nd stage and above in the presently reclamation area will be removed and entire quarry will be made leveled to bring the pit up to ground level. The total quantity which can be accommodated in this quarry is estimated to be around 10.74 Million M <sup>3</sup> . The

	<p>on six monthly basis.</p>	<p>waste material during conceptual period (9.767 M<sup>3</sup>) shall be utilized for back filling of Q 4-5 with some materials from the existing old used dumps at the conceptual stage. Soil will be spread over to develop plantation over the same. Plantation is being carried out on inactive dumps &amp; on its slopes to check soil erosion as per approved Mining Plan. Efforts will be there to stabilize the dumps.</p> <p>Monitoring and management of rehabilitated areas will continue until the vegetation becomes self-sustained.</p> <p>Compliance status shall be submitted regularly to the Ministry Environment and Forest and also to its Regional office, Bhubaneswar on six monthly basis.</p>
(viii)	<p>Catch drains and siltation ponds of appropriate size shall be constructed around the mine working and waste dumps to prevent run off of water and flow of sediments directly into the agricultural fields, the Sankha River, the Dolki Nallah, the Jharia Nallah, the Nakti Jhor and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after the monsoon and maintained properly.</p> <p>Garland drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and waste dumps to prevent run off of water and flow of sediments directly into the agricultural fields, the Sankha River, the Dolki Nallah, the Jharia Nallah, the Nakti Jhor and other water bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at the corners of the garland drains and desilted at regular intervals.</p>	<p>Garland drains have already been provided in the mine area. They meet the criteria indicated.</p> <p>Retaining walls and garland drains have also been provided along external dumps. Siltation ponds and a settling tank for mine discharge have been provided.</p> <p>The drain and the settling tanks are regularly de silted before onset of monsoon.</p>
(ix)	<p>Dimension of the retaining wall at the toe of the waste dumps and the OB benches within the mine to check run-off and siltation shall be based on the rain fall data.</p>	<p>Adequate dimension of the retaining wall at the toe of the waste dumps have been provided.</p>
(x)	<p>The void left unfilled in an area of 125.12ha shall be converted into water body. The higher benches of excavated void/mining pit shall be terraced and plantation done to stabilize the slopes. The slope of higher benches shall be made gentler for easy accessibility by local people to use the water body. Peripheral fencing shall be carried out all along the excavated area.</p>	<p>It is ascertain that at the end of the mine life, the mine voids shall be converted to water body but the situation has not yet arrived. It is a progressive mine and the operation are carried out as per the approved mining plan / scheme. Therefore the point in question shall be complied once all pits are devoid of minerals.</p>
(xi)	<p>Plantation shall be raised in an area of 185.83ha including a 7.5m wide green belt by planting the native species in consultation with the local DFO/Agriculture Department in the safety zone around the mining lease, waste dumps, mine benches, around the water body, along the roads etc. The density of the trees should be around 2500 plants per</p>	<p>As on date, 101.39 hectares area has been covered with plantation. Within mining lease area 83.89 hectares and outside mining lease area 17.50 hectares. During 2015-16, 4120 no of trees have been planted and total 3,13,934 nos of trees have been planted and the plant species like Teak, Shisham, Chakunda, Debdaru, Mango etc have been used. Survival rate is 67.29%</p>

	hectare.	Re-plantation is undertaken, where the survival rates are low. The balance area out of 185.83ha including 7.5m wide green belt area, will be afforested in a phased manner as advised. It has been planned to plant @ 4000 trees/year. Plantation will be continued along the roads, dumpsite, all around the ML area, magazine etc and in other areas wherever possible by planting native plants in consultation with local DFO. Care will be taken to ensure density of 2500 trees/ hectare as advised. Crushing plant is provided with high efficiency bag filters. Water sprinkling is regularly done on limestone receiving hopper, conveyor belt, and on haulage roads, blasted muck pile as well as in crusher area to abate fugitive emissions. Further permanent water sprinkling system has been installed along the haulage road. Ambient Air Quality meet the CPCB norms.
(xii)	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 haul road, loading and unloading point and all transfer points. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.	Presently water is stored in non active quarries are acting as conservation of water and also for ground water recharging.
(xiii)	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.	Regular monitoring of ground water level is measured from the existing wells and quality analysis is also being carried out. Data thus collected are maintained. Quality parameters are all within norms as prescribed limits. Reports are submitted regularly to the authorities. However, as suggested to conduct networking piezometer test shall be taken up immediately and complied Presently water is stored in non-active quarries are acting as ground water recharging. Further course of action will be taken in case of depletion of water table observed due to mining operation.
(xiv)	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and installing new piezometers during the mining operation. The periodic monitoring [(at least four times in a year- pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January); once in each season)] shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office Bhubaneswar, the Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity, necessary corrective measures shall be carried out.	Permission has been obtained for withdrawal of 550 m <sup>3</sup> / day from the CGWA.
(xv)	The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of groundwater required for the project.	Implementation of artificial recharge measures/rain water harvesting measures for augmenting the ground water resources of the area will be undertaken as per Hydrogeological investigation and in consultation with Regional Director, Central Ground Water Board.
(xvi)	Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.	Action has already been taken for regular monitoring of data. Preventive maintenance of diesel driven equipments are being carried out as per OEM's recommendations. Due care will be taken in case of mineral
(xvii)	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.	transportation outside the Mine lease area through covered trucks and shall not be overloaded.
(xviii)	Blasting operation shall be carried out only during the daytime. Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.	Blasting is done only during day time with proper evacuation plan. Controlled blasting technology is being adopted Charging patterns are followed as recommended by CIMFR Dhanbad to restrict the ground vibration, fly rock & sound within safe limit. Use of NONEL and multi-delay detonators in a hole is practiced to reduce noise, ground vibration, back break, fly rock within the safe limit.
(ixx)	Drills shall either be operated with the dust extractors or equipped with water injection system.	Eco friendly, Hydraulic drills attached with efficient dust collection system have been deployed.
(xx)	Mineral handling area shall be provided with 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.	Crushing plant has been provided with bag filter. Filter bags are periodically cleaned/ changed. Fugitive dust emission levels are being periodically monitored and recorded properly.
(xxi)	Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operation.	There is one small residential colony for 45 families within the lease and 119 families outside the lease. Presently, total occupants are few as all the employees have been shifted to township of cement plant located at a distance of 18 KM from the mines by road. Sewage water from the colony is being discharged to septic tank and soakpit. Workshop effluent is sent to Oil & Grease separation pit before reuse. Mine sump water pass through settling tank.
(xxii)	Pre-placement medical examination and periodical 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 followed accordingly.	Being complied with. Each workman undergoes initial/periodical medical examination as per rules. No such disease has been detected as occupational disease.
(xxiii)	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.	Project work has already been completed. However for any construction, most of the labours were engaged from the local villages. For necessary employment of outside labours, existing vacant housing colony was utilised as most of the employees have been provided quarters in cement factory colony.
(xxiv)	The critical parameters such as RSPM (Particulate matter with size less than 10micron i.e., PM <sub>10</sub> ) and NO <sub>x</sub> 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.II(M) dated 27.05.2009 issued by Ministry of Environment and Forests, which is available on the website of the Ministry <a href="http://www.envfor.nic.in">www.envfor.nic.in</a> shall also be referred in this regard for its compliance.	The critical parameter as RSPM (Particulate matter with size less than 10micron and 2.5 micron i.e. PM <sub>10</sub> and PM <sub>2.5</sub> ) and NO <sub>x</sub> in the ambient air is being monitored at four location in the core zone and two in buffer zone regularly. Peak particle velocity from the nearest habitation and also at 300m distance has been studied by CIMFR in past. Recently we entrusted the jobs to study by CIMFR for monitoring. Reports are well within limits. Periodical monitoring will be conducted. Further quality of discharged water are being monitored periodically including [(TDS, DO, PH and Total Suspended Solids (TSS)] Monitored data in electronics display is being displaced at main gate. Also the monitoring data is available in our company website i.e <a href="http://www.ocli.in">www.ocli.in</a>

(xxv)	A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.	Shall be completed with before 5 years from the Mine Closure
(xxvi)	Digital processing of the entire lease area using remote sensing technique should be done regularly once in three years for monitoring land use pattern and report submitted to the Ministry of Environment and Forests and its Regional Office, Bhubaneswar.	We are in process of digital mapping, report shall be submitted to authority after complete the job.

**B. GENERAL CONDITIONS:**

Sl.No.	CONDITIONS IMPOSED BY MoEF	COMPLIANCE STATUS
(i)	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.	There is no change in mining technology and scope of working.
(ii)	No change in the calendar plan including excavation, quantum of mineral limestone and waste should be made.	A copy depicting the total excavation, quantum of mineral limestone and waste generation plan, which is approved by Indian Bureau of Mines is enclosed as Annexure-I for your ready reference.
(iii)	Conservation measures for protection of flora and fauna in the core & buffer zone should be drawn up in consultation with the local forest and wildlife department.	We have 62.56 ha as reserve forest out of total surface right area of 333.43 ha. The reserve forest area is completely eliminated from mining operation and correspondingly no disturbance to the flora and fauna. All initiative to maintain green belt in an around lease hold area (Core zone) has been maintained as a permanent activity.  In the buffer zone deepening and widening of community ponds have been taken up under CSR activity and in addition social forestry concept has been implemented through free distribution of sapling to the villagers around.  Kitchen garden concept through organic farming (use of vermin compost) has been widely spread around the mining area. Smokeless chulla concept is spread in the CSR activity area towards conservation of environment.
(iv)	Atleast 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 10micron i.e., PM <sub>10</sub> ), SO <sub>2</sub> and NO <sub>x</sub> 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.	Ambient Air Quality RSPM (Particulate matter with size less than 10micron i.e., PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> and CO is being monitored at four location in the core zone & two in the buffer zone regularly as per CPCB norms. Monitoring stations have been set up in consultation with OSPCB.

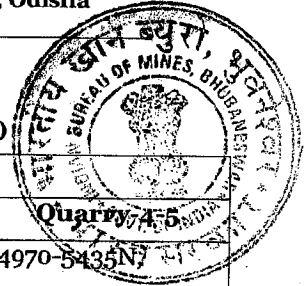
(v)	Data on ambient air quality [(RSPM) particulate matter with size less than 10micron i.e., PM <sub>10</sub> ], SO <sub>2</sub> and NO <sub>x</sub> should be regularly submitted to the Ministry including its Regional office located at Bhubaneswar and the State Pollution Control Board / Central Pollution Control Board once in six months.	The reports are being submitted to the State Pollution Control Board, Odisha on monthly basis and to the Ministry on half-yearly basis.
(vi)	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.	Hydraulic drills attached with efficient dust collection system have been deployed. Latest blasting technology is being adopted. Water sprinkling is being done on haul roads, quarry faces, limestone receiving hopper, conveyor belt etc. Limestone crushing plant has been provided with bag filter. Filter bags are periodically cleaned/ changed. Fugitive dust emission levels are being periodically monitored and recorded properly. Permanent water sprinkling systems along the haul roads have been installed along the main haul road.
(vii)	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.	To control noise levels below 85 dB (A), latest blasting technology is being adopted. Drill bits are being timely sharpened. Preventive maintenance of diesel driven quarry equipment is being done as per OEM's recommendations. Workers engaged in blasting & drilling operations and in operating HEMM have been provided with ear plugs/ muffs
(viii)	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 effluent	Wastewater from garage and workshop are carried to oil separation system (oil & grease trap) and the water is recycled. There is no discharge from the workshop. Water discharged from the quarry pits passes through long drainage and discharge to settling tanks. Thereafter, the water is allowed to discharge to the nearby agricultural land for ultimate usage by the tenants for cultivation purpose as per advice of District Administration. The quality of water is regularly monitored from approved laboratories and is found well within the prescribed norms.
(ix)	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.	Being complied with. Workers have been provided with dust mask. Basic & vocational training is being imparted as per schedule under VT Rules. Being complied with. Each workman undergoes initial/periodical medical examination as per rules. No such disease has been detected as occupational disease.
(x)	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.	Environmental management Cell has been set up and functioning.
(xi)	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 and its Regional Office located at Bhubaneswar.	The amount spent on environmental protection during the period Oct-2015 to March-2016 is Rs.0.46 crore. A sheet showing detail expenses in different activity is attached herewith as Annexure-II.
(xii)	The project authorities should inform to the Regional Office located at	Not applicable being an expansion of the existing mine.

	Bhubaneswar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	
(xiii)	The Regional Office of this Ministry located at Bhubaneswar 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.	Noted
(xiv)	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 and Forests, its Regional Office Bhubaneswar, the respective Zonal Office of Central Pollution Control Board and 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 and Forests, Bhubaneswar, the respective Zonal Officer of Central Pollution Control Board and the State Pollution Control Board.	The reports are being submitted to the Odisha State Pollution Control Board on monthly basis and to the Ministry on half-yearly basis  The data is being uploaded in the website regularly. Six Monthly compliance report is being uploaded at OCL website regularly.
(xv)	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad/ 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.	Complied.
(xvi)	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/ Topsider's Office for 30 days.	Complied.
(xvii)	The environmental statement for each financial year ending 31 <sup>st</sup> March in Form-V as 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 respective Regional Office of the Ministry of Environment and Forests, Bhubaneswar by e-mail.	Being complied.
8	The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.	Noted
9	Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.	Noted
10.	The above conditions will be enforced inter-alia, under the provisions of	Noted



	<p>the Water (Prevention &amp; Control of Pollution) Act, 1974, the Air (Prevention &amp; Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made thereunder and also any other orders passed by the Honorable Supreme Court of India/ High Court of Orissa and any other Court of Law relating to the subject matter.</p>	
11	<p>Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Authority Act, 1997.</p>	Noted

**Scheme of Mining with PMCP of Lanjiberna Limestone & Dolomite Mines of OCL INDIA LIMITED  
for the Period of 2015-16 to 2019-20 over 873.057 Ha in Sundargarh District, Odisha**



**(e.5) Development during 2019-20 of the scheme period (Plate 10A, 10B, 10C & 10D)**

Description	Limestone		
	Quarry-1-3	Quarry-2-6	Quarry-4-5
Quarry proposed to be Worked			
Co-Ordinate at the end of Year	4610-5000N, 3900-4800E	4640-5264N, 5960-7164E	4970-5435N, 4538-5580E
R.L of the quarry floor at the end of the year (m)	214	198	206
Bench levels to be worked (m)	222-230/214-222	238-246/ 230- 238/222-230/ 214-222/206- 214/ 198-206	230-238/222-230/ 214-222
No of benches to be worked	2	6	3
Height of the bench (m)	8m	8m	8m
Width of the benches (m)	12m (min)	12m (min)	12m (min)
Length /Width of quarry (m) Av.	1836 x 338	1264 x 510	1050 x 430
Length of haul road with gradient	720m (1:20)	820m (1:20)	900m (1:20)
No. of ramps if any	3	3	4
Direction of advancement of the faces	North-South & East	North-South & East	North-South & West
Overall slope of the quarry at the end of the year	53°	53°	53°
Production of Limestone with Mineral Rejects (tonnes)	1,564,880	1,804,130	853,650
Production of Limestone with Mineral Rejects (CuM)	625,952	721,652	341,460
Waste generation (Cu.m)	142,336	614,340	293,832
Generation of Dolomitic stone (Cu.m)	0	94,720	67,780
Recovery of Dolomite (Cu.m)	0	18,944	13,556
Recovery of Dolomite (Tonnes)	0	47,360	33,890
Stripping ratio (waste/ ore) M <sup>3</sup> /M <sup>3</sup>	1:0.23	1:0.98	1:1.06
Site for disposal of waste (Co-ordinates)	4925-5350N, 3780-4470E		

**Summary of Production of Limestone with generation of dolomite during the scheme period**

Year	Production of Limestone with MR (Sub grade) in tonnes	Recovery of Dolomite (Tonnes)	Stripping ratio
2015-16	41,69,650	63,535	1:0.91
2016-17	43,58,710	55,479	1:0.85
2017-18	43,89,690	73,737	1:0.94
2018-19	42,23,560	69,442	1:0.73
2019-20	42,22,660	81,250	1:0.74

**Scheme of Mining with PMCP of Lanjiberna Limestone & Dolomite Mines of OCL INDIA LIMITED for the Period of 2015-16 to 2019-20 over 873.057 Ha in Sundargarh District, Odisha**



**(e.6) Disposal of OB/waste/rejects along with ground preparation prior to disposal of waste**

A total of 12 dumps are there in the area which were inactive at the start of plan period. All the dumps have been suitably terraced, sloped and raised to a height of 10-15m in each step. Parts of Dump 6N & 3N/4N have been re handled and the materials have been utilized for back filling of western part of Qry 4-5. Retaining walls and garland drains already built are being maintained regularly. In addition, the following measures have been undertaken for stabilization & rehabilitation of dumps.

Particulars	2010-11	2011-12	2012-13	2013-14	2014-15 (upto Sep'14)
Pitching (m <sup>2</sup> )	---	---	---	32000	---
Retaining wall (m)	---	---	---	942	475
Settling Pond (No.)	---	---	---	1 (50mx 25mx 1.5m)	---
Garland Drain (m)	---	---	---	3000	475
De silting of settling ponds (m)	---	---	---	3000	1250 M <sup>3</sup>
Afforestation on dumps (Area/Nos)	2.1Ha/ 10000	2.4Ha/ 12100	0.9Ha/ 3450	2.4Ha/ 10000	1.5 Ha 10000

As discussed in Para 2.0A(b)II, the company has a proposal to sell the waste rocks on 'as is where is' basis to outside agencies for use in civil construction & road building purposes after size reduction and classification of such rejected compact waste rocks. Similarly dolomite from dolomite mixed reject stones can be sorted out and supplied to steel plants for consumption in the process of steel making. It is estimated that about 50% of such waste rocks raised each year during the scheme period might be put to gainful use in civil construction jobs in the above process and almost the entire quantity of dolomite likely to be generated from reject stones would be supplied to steel plants for use in steel making after obtaining necessary permission from the State Government authorities. The reject stone/dolomitic stone to be generated each year and its disposal with recovery of dolomite can be summarized below:

Year	IB/ Waste including soil mixed IB (M <sup>3</sup> )	Rehandling of waste dump 7N (M <sup>3</sup> )	Total waste (M <sup>3</sup> )	Dolomitic stone (M <sup>3</sup> )	Generation of Dolomite (M <sup>3</sup> )	Balance dolomitic reject stone to be dumped (M <sup>3</sup> )	Sale of waste (M <sup>3</sup> )	Balance waste to be dumped (M <sup>3</sup> )
(1)	(2)	(3)	(4) = 2+3	(5)	(6) 20% of (5)	(7) = 5-6	(8) 50% of (4+7)	(9)=(4+7)-8
2015-16	13,87,258	2,00,000	15,87,258	1,27,068	25,414	1,01,654	8,44,456	8,44,456
2016-17	13,58,443	2,00,000	15,58,443	1,10,960	22,192	88,768	8,23,605	8,23,605
2017-18	15,02,094	1,29,000	16,31,094	1,47,476	29,495	1,17,981	8,74,538	8,74,538
2018-19	10,94,965	-----	10,94,965	1,38,884	27,777	1,11,107	6,03,036	6,03,036
2019-20	10,82,008	-----	10,82,008	1,62,500	32,500	1,30,000	6,06,004	6,06,004
<b>Total</b>	<b>64,24,768</b>	<b>5,29,000</b>	<b>69,53,768</b>	<b>6,86,888</b>	<b>1,37,378</b>	<b>5,49,510</b>	<b>37,51,639</b>	<b>37,51,639</b>

SUMMARY OF THE EXPENSES SPENT ON ENVIRONMENTAL PROTECTION

DURING THE PERIOD OCTOBER-2015 TO MARCH -2016 (In Rupees)

	Water Sprinkling	Bag Filter Operation	Environmental Monitoring Data Analysis	Other (Construction of Retaining Wall)	Total
Plantation					
232687	451294	3417830	434838	88418	4625067