EXECUTIVE SUMMARY

Of

PARASWANI LIMESTONE MINE
HIRMI CEMENT WORKS

Villages: Hirmi, Paraswani, Bardih, Phunderdih, Saklaur,
Taluk: Simga, District: Baloda Bazar - Bhatapara, State: Chhatisgarh

AREA OF THE MINE : 997.355 Ha

For

RENEWAL OF MINING LEASE
(4.2 MTPA LIMESTONE PRODUCTION)

CAPTIVE LIMESTONE MINE
Of
HIRMI CEMENT WORKS

UltraTech
ADITYA BIRLA GROUP

ULTRATECH CEMENT LIMITED

EXECUTIVE SUMMARY

1.1 INTRODUCTION

ULTRATECH CEMENT LTD (UTCL) is operating a 8200 TPD Cement Plant at Hirmi Village, Shimga Taluk, Baloda Bazar - Bhatapara District, Chhatisgarh State. The plant is supported by Captive Limestone Mines- Paraswani Limestone Mine, spreading in an area of about 997.355 Ha having sizeable reserves of Limestone. The mine lies adjacent to the Cement Plant. Limestone is produced at the rate of 4.2 MTPA from this mine for the requirement of the Plant for which Environmental Clearance was obtained. The Mine Lease expires on 21-2-2013. As per the statutory requirement for renewal of Mining Lease, UTCL proposes to obtain Environmental Clearance from MOEF.

1.2 PRESENT PROPOSAL

Hirmi Cement Works is a unit of UltraTech Cement Ltd which is one of the largest cement plants of India having single kiln of 8200 tpd. The plant is located at Hirmi village of Baloda Bazar - Bhatapara District of Chattishgarh State (Location Map shown in Fig – 1). The plant is supported by their Captive Limestone Mines- Paraswani Limestone Mine, spreading in about 997.355 Ha having sizeable reserves of Limestone. The mine lies adjacent to the Cement Plant.

At present, the Limestone is produced at the rate of 4.2 million tonnes per Annum from this mine for meeting the Limestone requirement of the Plant.

The Environmental Clearance was obtained for this 4.2 MTPA production on 16-3-2006.

The limestone production after renewal of the mining lease will remain at 4.2 MTPA.

1.3 DESCRIPTION OF THE ENVIRONMENT

The study area covers 10 km radius of Paraswani Limestone Mine located at Hirmi Village, Shimga Taluk, Baloda Bazar - Bhatapara District, Chhatisgarh State. Cement Plant of UTCL is located adjacent to the Mining Lease area. Other industries in 10 km radius include Cement Plant of Grasim at Rawn located at 4.5 km in NE direction.

The baseline environmental quality represents the background scenario of various environmental components in the study area.

UTCL has initiated steps to carry out Environmental Impact Assessment over a radial distance of 10 km around the mine during Postmonsoon season - 2012 covering the months of September '12 to November'12.

The predominant wind directions during these hours were from NNE-NE sector accounting to about 23.95% of the time. Calm winds of less than 1.7 kmph prevailed for 21.98% of the time. Wind speed during this period was mostly above 15 kmph.

Ambient air quality of the study area has been assessed through a network of eight ambient air quality locations.

Results of the ambient air quality at all the above locations were found to be well within the limits of National Ambient Air Quality (NAAQ) standards specified for Industrial, Residential, Rural and other areas.

The 98th percentile values of PM_{10}, $PM_{2.5}$, SO_2, NOx and CO during Postmonsoon Season '12 are given in below

Summary Of Ambient Air Quality (μg/m^3) – Postmonsoon Season - 2012

Code No	Location Name	98th Percentile values			
		PM_{10}	$PM_{2.5}$	SO_2	NO_x
CORE ZONE (within mining lease area)		61	23	10.2	11.5
BUFFER ZONE		60-65	23-27	10.0-10.4	11.1-11.5

Note: CO values are observed less than 1 ppm during study period.
Free silica was found to be nil in respirable particulate matter

Noise levels were levels recorded at six locations within the core zone for spot noise levels and eight locations in the buffer zone for 24 hrs duration at each location.

Noise levels recorded in buffer zone were found to be in the range of 51-52 dB (A) during day time and in the range of 41-44 dB (A) during night time in the study area.

Eight Ground water and four surface water samples were collected. The water quality of the samples showed compliance of all parameters with the drinking water standard of IS 10500.

Eight soil samples were analyzed to study the soil quality. The soil samples revealed average fertility.

There are no wild life sanctuaries, national parks, elephant/tiger reserves within 10-km radius of the study area. There are no endangered, threatened, rare plant species observed or recorded during study period

Total population within the study area is 228574. Of the total population, 52.9% (120910) belong to literate category. The company have in its employment 136 officers, 279 cement wage Board Workers and 831 contract labourers, totalling direct employment to 1246 persons. Within the radius of 3 km, 700 persons and from 4 to 10 km radius 221 persons have been employed by the HCW. Rests of the workers are beyond 10 km radius mostly out of the State. HCW pays handsome wages to the worker which has increased their income level, due to which the standard of living of people in adjoining villages has improved substantially.

1.4 ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

1.4.1 AIR ENVIRONMENT

The air borne particulate matter is the main air pollutant contributed by opencast mining.

The baseline air environment quality monitored during the study period of Post monsoon, 2012 reflect the emissions from the mine at production rate of 4.2 MTPA.

There will not be any increase in groundlevel concentrations of suspended particulate matter / fugitive dust as no increase in limestone production is proposed. The mine will operate at the same production capacity of 4.2 MTPA.

AIR POLLUTION CONTROL MEASURES

The air pollution control measures which are implemented and would continue are given below:

- Fugitive dust from drilling, excavation and transportation upto crusher is controlled by water sprinkling
- Crusher is provided with Bag Filter
- Limestone is transported by closed conveyor

Drill is operating with water injection system for complete suppression of fugitive dust.

Use of sharp drill bits for drilling holes and arrangements for bit regrinding. Charging the holes by optimum charge and using millisecond delay detonator.

Fugitive dust emissions are monitored quarterly at haul road, loading and unloading points, drilling & near transfer house and records are maintaining properly.

Water spraying arrangements were made on haul road, loading and unloading points.

Regular water sprinkling on haulage roads and blasted heaps with water tankers of 4kl, 10 kl and 28 kl capacity

290 m^3/day of water is for dust suppression operations at mines. This water is drawn from the mine pit, where the rain water is stored.

Regular grading of haul roads and service roads to clear accumulation of loose material.

Health of vehicle are checked regularly The vehicular emissions are kept under control. The emissions are regularly monitored.

Vehicle used for transporting of mineral is running within lease area and loaded within the capacity hence tarpaulins not required.

AC Cabin have been provided in all the HEMM working in mines hence there is no direct exposure of fugitive emissions to operator.

Limestone Crusher is provided with bag Filters and water sprinkling system and are maintained to get high efficiency to control dust. Particulate emission from crusher is below 50 mg/Nm^3. Water

sprinkling system is adopted at transfer points of belt conveyors to arrest the fugitive emissions.

Afforestation has been takenup for control of dust. The total area covered under greenbelt is 52.94 Ha. Number of saplings planted till date are 166312. (Density appox 3000/Ha)

Plantation on matured part of the overburden has been done.

All the persons employed in mines have been undergone the Medical examination as per standard prescribed by DGMS which also covers the impact of exposure to dust. Periodical Medical Checkup is also being done at the interval of 3 years.

1.4.2 NOISE ENVIRONMENT

Noise is produced due to movement of machinery, drilling, blasting etc., but the pronounced effect of noise is felt only near the active working area.

The mine will continue to operate at 4.2 MTPA with the same existing machinery no additional machinery will be deployed.

1.4.3 WATER ENVIRONMENT

No perennial nallas are located within the mine area. A first order seasonal nalla originating within the mining lease area having catchment of 30 ha within the mining lease area is existing. This nalla will be disturbed during the course of mining. Disturbing this nalla will not have any impact on hydrology of the area as the catchment area for this nalla is from the mining lease area only

UTCL mining activity has reached ultimate depth of 242 m RL ie. 37 m below the ground level at the present point. UTCL has not encountered water table till date and since there is no proposal of mining beyond 242 m RL, no interference of ground water table.

Since there is no production increase, no additional water consumption is required. No additional wastewater would be generated in future

Garland drains with sedimentation pits are provided all along the OB dump.

The surface run-off collected through garland drains is diverted to mine sump for desiltation and reuse. The water so collected is being used for green belt development and plant requirement.

The drains are desilted and maintained properly before every monsoon.

The garland drains (1700 X 1.5 Mtrs. at gradient 1:200) have been provided. The runoff from the OB dump area is estimated to be about 0.80 Lakh cum and sump capacity provided is 21 lakh cum. Sump provides adequate retention period to allow proper settling of silt material.

UTCL have taken up measures for rain water harvesting and ground water recharging in consultation with Central Ground Water Authority (CGWA). As per the recommendations of CGWA, under Watershed management project, UTCL have constructed 20000 m contour bunding in mine lease area in 2010.

The storm water from the upstream catchment area is collected in the mine pit as part of rainwater harvesting scheme. The collected water is used by cement plant during the lean season.

At the end of the mine operation, part of the mined-out pit will be converted into artificial pond to store rain water. The area is arid and has a rainfall of about 1288 mm /annum. UTCL proposes to store surface runoff water from the area. This reservoir will be a water source and help recharging the groundwater. The reservoir will have a potential to store 144 million cum of water over reservoir area of 565 ha. The reservoir helps in improving the water table in the vicinity.

1.4.4 LAND ENVIRONMENT

The mine will continue to operate at 4.2 MTPA. No adverse impacts are anticipated as no increase of production is proposed.

The solid waste generated from the mine area Over burden waste (murram, clay and yellow clay) which is capping the limestone with

varying in thickness from 0 to 3.5 mtr is totally waste material and not used for the manufacture of cement.

The total OB to be handled for unveiling the underlying limestone is about 172 million tonnes approximately for the life of the mine. And will be utilized to backfill about 306.65 Ha of mined out pit.

UTCL proposes to carryout the mining activity in an area of 872.08 ha till the life of the mine. Waste generated will be backfilled to restore an area of 306.35 Ha. The part of the ROM is screened to separate waste and limestone. The screen reject is stored in the dump and the same will be backfilled.

565.658 Ha of Mined out area will be developed as water reservoir

1.4.5 AFFORESTATION

UTCL has identified the following areas for greenbelt development upto the life of mine

- 26.875 Ha covering barrier and safety Zones
- 306.35 Ha Backfilled area
- 9.945 ha of dump area

Totally about 343.17 Ha of the reclaimed or the barrier zone of the mine will come under green belt for the life of the mine.

1.4.6 CONTROL OF GROUND VIBRATIONS

UTCL is carryingout controlled blasting to contain the PPV due to blasting within the permissible limits based on operational experience and ground vibration studies carried out at the mine:

Almost every blast is being monitored for measuring the intensity and frequency of the vibrations induced due to blasting with the help of Minimate as per the D.G.M.S. circular 7/1997. The results of vibration monitoring are analyzed further to arrive at the optimum figures of charge weight per delay and the distribution pattern of explosives in the blasting.

1.4.7 SOCIO ECONOMIC ENVIRONMENT

Out of the total Mining lease area of 997.355 Ha, 842.188 Ha of barren has been acquired and 155.167 Ha which is rain fed single crop will be acquired. No R & R is involved as no habitation is existing within the mining lease area.

1.5 PROJECT BENEFITS

CSR activities are carried out under the aegis of the "Aditya Birla Centre for Community Initiatives and Rural Development", led by Mrs. Rajashree Birla

The beneficial aspects of the projects on the socio-economic environment of the area are in areas of employment, service, trade, commerce, public utility, literacy, social awareness, health care facilities; recreation etc. M/s. UltraTech Cement Ltd (Unit: Hirmi Cement Works) management has contributed substantially to the overall economy and social development of the area through CSR activities.

The operation zone of the CSR activities for the proposed project will be extended to the nearby villages of plant site. The company will propose plans to supplement the existing governmental programs among the local population. Environmental awareness will be created among people by organizing awareness camps.

Since its inception on 12th July 1995, Community Initiative & Rural Development Department has been instrumental in cherishing vision of holistic development of Hirmi, Saklor, Kuthrod and Paraswani villages situated in the vicinity of cement plant. Residents of nearby 28 villages have been benefited from the different development initiatives implemented by Gramin Vikas.

Community Initiative & Rural Development Department for promising improved quality of life of rural poor focuses on following thrust areas:

1. Education
2. Health and Family Welfare
3. Infrastructure Development
4. Sustainable Livelihood
5. Social Causes

Following table shows the details of Expenditure done for CSR activities undertaken by Hirmi Cement Works from 2006-07 to 2011-12.

Details of Expenditure 2006-07 to 2011-12

FINANCIAL YEAR	TOTAL (LAKHS)
2006-07	42.69
2007-08	48.26
2008-09	26.45
2009-10	35.5
2010-11	50
2011-12	73.2

_Proposed budget for CSR (Amount in Rs. Crores)

Area	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year
Education	3.00	2.50	2.00	2.00	2.00	1.50	1.00	2.00	2.00	2.00
Health	2.00	1.50	1.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sustainable Live hood	1.50	2.00	2.00	2.00	2.00	2.50	3.00	3.50	3.50	3.50
Infrastructure	3.00	3.50	4.00	4.50	4.50	4.50	4.00	3.00	3.00	2.50
Social Issue	0.50	0.50	0.50	0.50	0.50	0.50	1.00	0.50	0.50	1.00
Total (Crore)	**10.00**	**10.00**	**10.00**	**10.00**	**10.00**	**10.00**	**10.00**	**10.00**	**10.00**	**10.00**

Hirmi Cement Works will generate a fair amount of direct and indirect employment in the study region. The local economy will receive a boost due to employee spending and services generated by the company. The overall effect will be improve the buying power of employees and thus a higher standard of living viz. better education, improved health and sanitation facilities housing and acquisition of consumer durable. This is envisaged as a major positive benefit.

1.6 BUDGET FOR ENVIRONMENTAL MANAGEMENT PLAN

UTCL is incurring an amount of Rs 13.5 Lakhs /year towards implementation of Environmental Management Plan.

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