Appendix- I

MINISTRY OF ENVIRONMENT & FORESTS
(IA DIVISION)

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SUMMARY RECORD OF 18th MEETING OF THE RECONSTITUTED COMMITTEE OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENTAL APPRAISAL OF MINING PROJECTS CONSTITUTED UNDER EIA NOTIFICATION, 2006.

The 18th Meeting of the Reconstituted Expert Appraisal Committee for Environmental Appraisal of Mining Projects (Non-Coal) of the Ministry of Environment and Forests was held during **March 20-21, 2014**. The list of participants is annexed.

After welcoming the Committee Members, discussion on each of the Agenda Items was taken up ad-seriatim.

Item No. 1:

(1.1). Confirmation of the minutes of the 17th EAC Meeting.

The Minutes of the 17th Meeting of EAC held during **February 24-25, 2014** were confirmed and circulated.

Agenda Item No. 2:

Day 1: 20th March, 2014 (Thursday)

Consideration of Environmental Clearance Proposals

(2.11)Argat Limestone mine with production capacity of 1.2 million TPA by M/s Jaiprakash Associate Ltd., located at village Thanghatia, BihriJhopa Kothari Argat and Jigna Tehsil Ramnagar, District-Satna, Madhya Pradesh (363.070ha) (Consultants: Vimta Labs Ltd., Hyderabad)-Reconsideration of EC

The proposal of M/s Jaiprakash Associate Ltd. is for Argat Limestone Minewith production capacity of 1.2 million TPA and the mine is located at village Thanghatia, BihriJhopa Kothari Argat and Jigna Tehsil-Ramnagar, District-Satna, Madhya Pradesh.

The proposal for EC was earlier considered by the Committee in its 2nd Meeting of EAC held during December 19th-21st, 2012 wherein the Committee sought additional information. Further, the proposal was reconsidered in the EAC meeting held during June 26-28, 2013 wherein the Committee recommended the proposal for environmental clearance for the production of 1.2 million TPA of limestone (ROM)with additional specific conditions (i) welfare measures and R&R Policy to be adopted, (ii)There shall be a brick wall within the boundary of mine lease with a minimum height of 6ft and 10 rows of plantation of trees to protect the villagers; (iii) The mining operation will not take place at the same time where the villages are sandwiched between the mining pits on either side, though not falling within the lease area.

The matter was examined in the Ministry and it is noted that as per the EIA/EMP report, Schedule I species i.e. Peacock is reported in the Core Area of the mine lease and Python is reported in the Study area. However, the species specific conservation plan has not been prepared by the Proponent. Accordingly, MoEF has asked Proponent to submit the species specific conservation plan. Proponent had prepared the conservation plan in October 2013 and submitted to the Ministry on 02.12.2013.

The Committee discussed the conservation plan in the EAC meeting held during January 27-28, 2014 and advised the Project Proponent that conservation plan be authenticated by a subject Expert and submitted after due signature for owning the report and commitment for implementation. The above information may be circulated among the members for taking an appropriate view on the proposal for EC.

The Committee deliberated the site specific Wildlife Conservation Planin this present meeting and was of the view that the site specific Wildlife Conservation Plan is now adequate to protect the Schedule-I species.The Committee also noted that EAC had earlier recommended the proposal for environmental clearance in the meeting held during June 26-28, 2013, however deficiencies in the documents submitted by PP was observed by the Committee as PP did not prepare the site specific Wildlife Conservation Plan for protection of Schedule-I species at the time of appraisal of project with due compliance of manuals, standards, Office memorandum and guidelines issued by the Ministry from time to time. The Committee noted that due to such deficiencies and PP/Consultant not adhering to guidelines fully, the appraisal of projects was delayed.

Based on the information submitted by the Proponent and discussion held in the meeting, the Committee **recommended** the proposal for environmental clearance for Argat Limestone mine with production capacity of 1.2 million TPA with additional specific condition to implement the site species specific conservation plan for the core & buffer zone.

COMPREHENSIVE ENVIRONMENTAL COMPLIANCE REPORT FOR INTEGRATED JAPYEE SIDHI CEMENT PLANT AND CAPTIVE MINES OF JAIPRAKASH ASSOCIATES LIMITED AT MAJHGAWAN VILLAGE, RAMPUR NAIKIN TEHSIL, SIDHI DISTRICT, MADHYA PRADESH

Project Proponent:

M/s. Jaiprakash Associates Limited
P.O. Jaypee Nagar
District: Rewa, Madhya Pradesh

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January, 2015

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1.0 INTRODUCTION

1.1 Proponent

Jaiprakash Associates Limited (JAL) is the well diversified conglomerate of Jaypee Group with interest in engineering, construction, power, information technology, hospitality, education & real estates. Till 2006 cement division had 3 modern computerized process control cement plants of 7.0 million tonnes of aggregate per annum capacity near Rewa in Madhya Pradesh, the largest cement complex at a single location in India. The group has since constructed cement plants in most of the states in India (Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Himachal Pradesh, Andhra Pradesh, Uttarakhand & Karnataka). It is 3rd largest cement producer in the country with a cumulative capacity of 27.90 MTPA.

1.2 Industries and its Positive & Negative Impacts

Industrial development significantly contributes towards economic growth. However, industrial progress brings along with it a host of environmental problems. The particulate and gaseous emissions from industries primarily and directly pollute air. Depending on the fuel employed amount of pollutants become entrained in the exhaust gases which need to be monitored and mitigated by implementing industrial eco-system which is a new paradigm for achieving in business and environmental performance.

The assimilative capacity of the atmosphere over a place depends on the dilution and dispersion of pollutants, which are released into the atmosphere from different sources. The concentration of the pollutants accumulating at a particular site depends largely on meteorological conditions. It is the weather that triggers an air pollution episode even though the emission of pollutants may be same at particular place. Era of rapid industrialisation has resulted in steep air pollution loads in India.

Hence, it is important to quantify both the sources of emissions, the state of atmosphere and sink mechanisms of air pollutants for making impact assessment.

2.0 PRESENT STUDY

2.1 Background

Jaypee Sidhi Cement Plant was set up at Majhgawan village, Rampur tehsil in Sidhi district as an integrated cement plant with 1.5 MTPA clinker, 2.0 MTPA cement capacity and 35 MW CPP after obtaining Environment Clearance from MoEF vide letter no. J-11011/51/2007-IA II (I) dated 9th August' 2007.

Subsequently, the cement plant capacity was taken up for expansion by setting up an additional production line with clinker manufacturing capacity at 1.5 MTPA and cement of 1.5 MTPA capacity within the same premises making cumulative clinker manufacturing capacity at 3.0 MTPA and Cement capacity at 3.5 MTPA. MoEF had accorded Environmental Clearance vide letter no. J-11011/546/2010-IA II (I) dated 8th November' 2011 for expansion. The premises also houses 2x60 MW Captive Power Plant, set up after obtaining Environmental Clearance from MoEF vide letter no: J/13012/94/2009-IA-II(T) dated: 30th January 2012.

Lime stone Requirement

In order to meet the limestone requirement to Unit-1, six mining leases were granted with cumulative capacity at 3.82 MTPA. Environment Clearances for all the 6 mines were processed and obtained.

Requirement of limestone shall increase from 2.52 MTPA to 5.02 MTPA with expansion of plant capacity. JAL proposes to develop and operate captive limestone mines with mineable reserves of 111.38 MT.

To meet the additional limestone requirement due to expanded capacity at clinker manufacturing at 3.0 MTPA, Environment Clearance for 7th mine namely Argat limestone mine was planned and the project has been recommended by EAC for Environmental Clearance. With Argat Mine production capacity at 1.2 MTPA and mineable reserves of 9.315 MTPA, the cumulative production capacity shall come up to 5.02 MTPA.

However, since the ECs for above mentioned 6 limestone mines were granted during the implementation of cement plant Unit-1. **MoEF restricted the cumulative mining production capacity of all the 6 mines to 2.52 MTPA, whereas the individual mining capacity was not affected.** For all the captive limestone mining projects, the Environmental Clearance was granted, individually as per Environment Protection Notification 2006, after conducting Public Hearings. Forest clearances and Wildlife clearances were also taken.

2.2 Aim & Objective

The present study is intended to assess and predict the cumulative incremental concentration of air quality pollutants due to the cluster of industries nearby Jaypee Sidhi Cement Plant located at Majhgawan village, Rampur Naikin tehsil, Sidhi district, Madhya Pradesh. All the statutory clearances has been obtained for all the projects under study consideration. The aim and objective of the report is given below:

- To predict the cumulative impact of the industries and mines when all are in operation in surroundings covering 10 km radius around the Jaypee Sidhi Cement Plant and 7 captive mines; and

- To understand the cumulative incremental levels of air pollutants by dispersion considering the existing meteorological conditions due to the operation of industries by the application of AERMOD emission dispersion model.

This report intends to show the cumulative impact of the mining due to operation of all the 7 mines. Jaypee Sidhi Cement plant now proposes to operate all the seven mines in order to meet the limestone requirement of Sidhi Cement Plant with clinker capacity 3.0 MTPA and cement plant capacity 3.5 MTPA for lifting the cap at cumulative capacity of mining leases making it possible to operate these mines with overall production capacity of 5.02 MTPA.

2.3 Scope of Study

The scope of the study includes technological details of the industries nearby and the potential contributors of the air pollution. Hence, the emission with respect to gaseous and dust has been considered under this study which includes:

- Description of the location and type of industry;
- Identification of various sources of pollution;
- Prediction of the cumulative impacts and incremental concentration of air quality due to the cluster of industries at region and various activities by using simulation models considering the existing meteorological conditions at the study area.

- **Study Limitations**

  - Particulate & gaseous emission from point sources (like stacks), line, volume and area sources are considered; and
  - The emission details of various industries have been calculated based on production details.

2.4 Significance of Study

Evaluating the significance of effect of environmental attribute ie; air quality in the present study is perhaps the most critical component. So, information about the background air concentrations in the area of interest and predicted values are considered for assigning the impact significance. In the present case cumulative modelling which is one of the technical tools applied for impact prediction due to the cluster of industries in the study area.

Cumulative impact analysis is required for those areas where it is assumed that pollutants for which the source under consideration has impact above the impact levels. The cumulative analysis must be performed over the entire receptor grid defined in the circular significant impact area of the source under review. Significant impact area which extends from the source to the farthest receptor distance at which the source has a significant impact.

3.0 DETAILS OF THE LOCATION

3.1 Study Area

The study area considered is 20 km radius from the Jaypee Sidhi Cement Plant where it is taken as a centre point. The study area is selected so that all the mine are covered. The project site geographically extends from Latitude: 24° 19' 35" N and Longitude: 81° 19' 08" E. The study area represents 10 km radius covering all the 7 mine lease boundaries.

3.2 Environment Setting

The environmental setting has been given taking the Jaypee Sidhi Cement Plant as centre and 10 km has been taken from boundaries of all the mine lease boundaries under study consideration. The details of environmental setting are given in **Table-1.0**. The index map showing the project locations is shown in **Figure-1.0** and the study area is given in **Figure-2.0**.

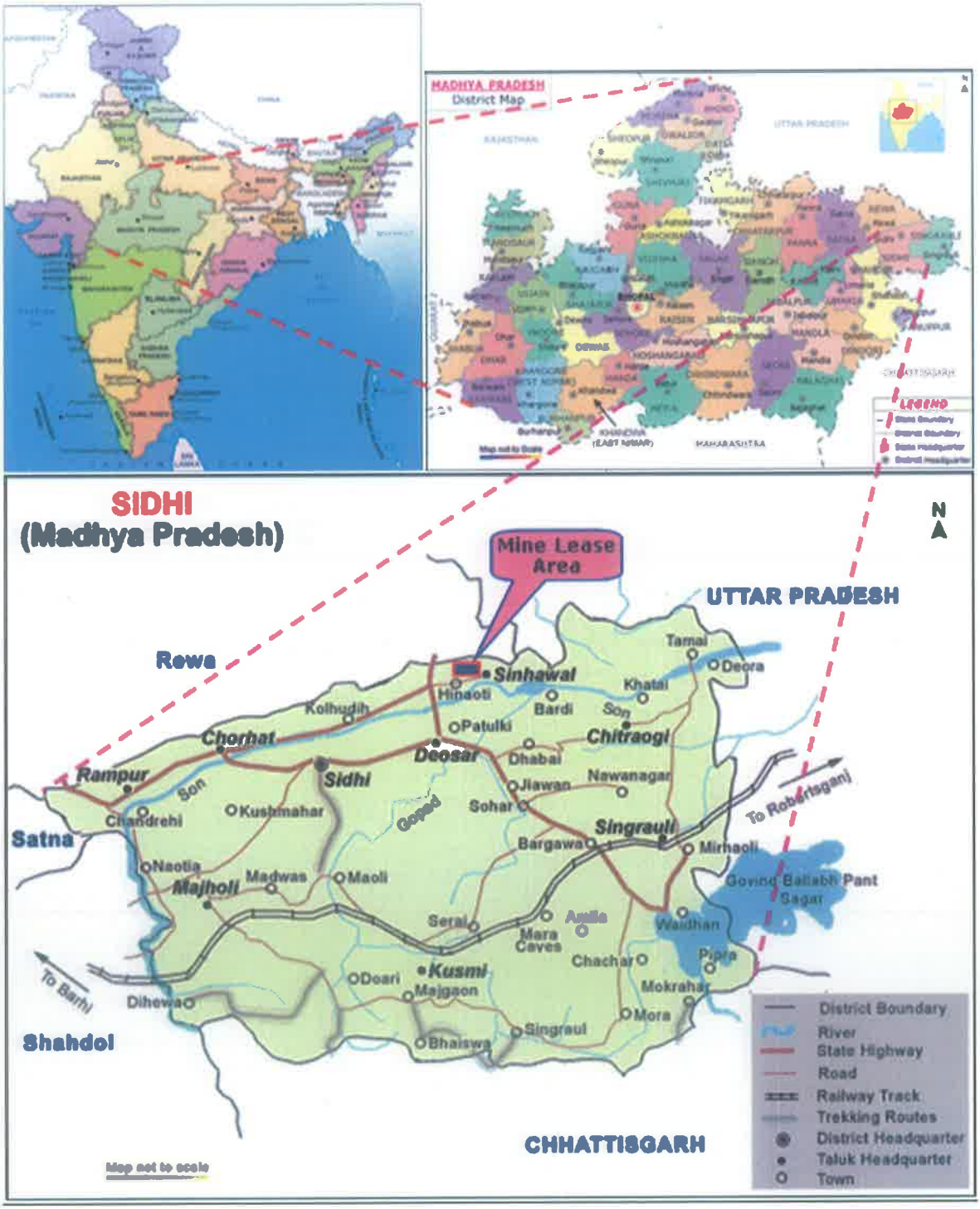


FIGURE-1
INDEX MAP

TABLE-1.0
ENVIRONMENTAL SETTING OF THE SITE

Sr. No.	Particulars	Integrated Plant (SUN-I & SUN-II) and 2x60 MW CPP	Majhgawan Limestone Mine	Majhagawan Limestone Mine Extension
1	Plant Location	Majhgawan village, Rampur Naikin tehsil, Sidhi district, Madhya Pradesh	Majhgawan village, Rampur Naikin tehsil, Sidhi district, Madhya Pradesh	Sarda and Majhgawan, Rampur naikin tehsil, Sidhi district
2	Coordinates	Lat: 24°19'35" N Lon:81°19'08 E	Lat: 24°18'35" to 24°20'00" N Lon:81°17'50" to 81°22'45" E	Lat: 24°18'51" to 24°19'25" N Lon:81°18'40" to 81°19'27" E
3	Site Elevation above MSL	325 m	314 – 347 m	327-461 m
4	Topography	Flat terrain	Undulated	Undulated and hilly
5	Nearest highway	NH-7 (24 km, NW) NH-75 (2.3 km, E)	NH-7 (24 km, NW) NH-75 (2.3 km, E)	NH-7 (24 km, NW) NH-75 (4.0 km, E)
6	Nearest railway station	Rewa (24 km, N)	Rewa (24 km, N)	Rewa (24 km, N)
7	Nearest airport	Khajuraho (150 km, W)	Khajuraho (150 km, W)	Khajuraho (150 km, W)
8	Nearest sea port	Nil	Nil	Nil
9	Nearest major water bodies	- Bansagar canal - Son river - Govindgarh lake	- Bansagar canal (within ML area) - Son river (7.6 km, SE) - Govindgarh lake (6.0 km, NW)	- Son river (9.8 km, SE) - Govindgarh lake (6.0 km, NW)
10	Nearest town/City	Rewa (24 km, N)	Rewa (24 km, N)	Rewa (24 km, N)
11	Nearest village	Majhgawan (1 km, SW)	Majhgawan, Patna, Sarda, Kariajhar, Piprav, Malgoan, Dhorahra (1 km)	Majhgawan, Patna, Sarda, Kariajhar, Piprav, Malgoan, Dhorahra (1 km)
12	Hills/valleys	Govindgarh (325-680 MSL)	Govindgarh (325-680 MSL)	Govindgarh (325-680 MSL)
13	Archaeologically important places	Nil	Nil	Nil
14	Protected areas as per Wildlife Protection Act,1972 (Tiger reserve, Elephant reserve,	Son Gharial Sanctuary (9.0 km, SE)	Son Gharial Sanctuary (7.6 km, SE)	Son Gharial Sanctuary (9.5 km, SE)

Sr. No.	Particulars	Integrated Plant (SUN-I & SUN-II) and 2x60 MW CPP	Majhgawan Limestone Mine	Majhagawan Limestone Mine Extension
	Biospheres, National parks, Wildlife sanctuaries, community reserves and conservation reserves)			
15	Reserved / Protected Forests	Govindgarh RF (0.2 km, NW) Bardaila RF (9.0 km, ESE) Shikarganj RF (8.8 km, ESE)	Govindgarh RF (0.1 km, N)	Govindgarh RF (0.1 km, N)
16	Seismicity	Zone-II as per IS 1983 (Part-I)	Zone-II as per IS 1983 (Part-I)	Zone-II as per IS 1983 (Part-I)
17	*Defence Installations*	Nil	Nil	Nil

Note: All distances mentioned above are aerial distances

TABLE-1.0 (Contd..)
ENVIRONMENTAL SETTING OF THE SITE

Sr. No.	Particulars	Hinauti Mine	Hinauti Extension	Budagawan mine
1	Plant Location	Hinauti, Dengraha, Biharganj and Jurmani villages, Ramnagar tehsil, Satna district	Hinauti, Dengraha, Biharganj and Jurmani villages, Ramnagar tehsil, Satna district	Budagawan, Baghwar and Gorhatola, Rampur Naikin tehsil, Sidhi district
2	Coordinates	Lat: 24°17'35" to 24°18'50" N Lon:81°15'30" to 81°18'50" E	Lat: 24°17'30" to 24°17'58" N Lon:81°15'38" to 81°18'25" E	Lat: 24°20'30" to 24°20'50" N Lon:81°21'10" to 81°22'25" E
3	Site Elevation above MSL	322 -354 m	333-518 m	315-334 m
4	Topography	Undulated	Hilly	Undulated
5	Nearest highway	NH-7 (25 km, N) NH-75 (5.4 km, E)	NH-7 (25 km, N) NH-75 (5.4 km, E)	NH-7 (25 km, NW) NH-75 (0.3 km, W)
6	Nearest railway station	Rewa (25 km, N)	Rewa (25 km, N)	Rewa (24 km, NW)
7	Nearest airport	Khajuraho (150 km, W)	Khajuraho (150 km, W)	Khajuraho (150 km, W)
8	Nearest sea port	Nil	Nil	Nil
9	Nearest major water bodies	Bansagar canal (280 m, E) Govindgarh lake (6.0 km, N) Son river (9.5 km, SE)	Govindgarh lake (6.0 km, N) Son river (9.0 km, SE)	- Bansagar canal (within ML area, SE) - Govindgarh lake (6.5 km, NW) - Son river (8.5 km, SE)
10	Nearest town/City	Rewa (24 km, NW)	Rewa (25 km, N)	Rewa (24 km, NW)
11	Nearest village	Hinauti, Dengraha, Biharganj, Jurmani, Majhgawan, (1 km)	Hinauti, Dengraha, Biharganj, Jurmani, Majhgawan, Khorari and Patna (1 km)	Budagawan, Baghwar, Gorhatola & Majagawana (1 km)
12	Hills/valleys	Govindgarh (325-680 MSL)	Govindgarh (325-680 MSL)	Govindgarh (325-680 MSL)
13	Archaeologically important places	Nil	Nil	Nil
14	Protected areas as per Wildlife Protection Act,1972 (Tiger reserve, Elephant reserve, Biospheres, National parks, Wildlife sanctuaries, community reserves and conservation reserves)	Son Gharial Sanctuary (9.5 km, SE)	Son Gharial Sanctuary (9.0 km, SE)	Son Gharial Sanctuary (8.5 km, SE)
15	Reserved / Protected Forests	Govindgarh RF (0.2 km, NW)	Govindgarh RF (0.1 km, N)	Govindgarh RF (0.1 km, NW)
16	Seismicity	Zone-II as per IS 1983 (Part-I)	Zone-II as per IS 1983 (Part-I)	Zone-II as per IS 1983 (Part-I)
17	*Defence Installations*	Nil	Nil	Nil

TABLE-1.0 (Contd..)
ENVIRONMENTAL SETTING OF THE SITE

Sr. No.	Particulars	Budagawana Extension	Argat Limestone Mine
1	Plant Location	Bhagawar & Gharhatola village, Rampur Naikin tehsil, Sidhi district, Madhya Pradesh	Spread over parts of Thanghatiya, Bijuri, Jhopa, Kothar, Khodari, Argat & Jigna villages in Ramnagar tehsil, Satna district, Madhya Pradesh
2	Coordinates	Lat: 24°20'22 to 24°21'14 N Lon:81°21'03" to 81°22'04" E	Lat: 24°17'7.6 to 24°18'24.9" N Lon:81°13'16" to 81°14'51.6" E
3	Site Elevation above MSL	320-381 m	341-359 m
4	Topography	Undulated and hilly	Flat terrain
5	Nearest highway	NH-7 (24 km, NW) NH-75 (0.2 km, E)	NH-7 (18 km, NW)
6	Nearest railway station	Rewa (24 km, NW)	Rewa (39 km, NNE)
7	Nearest airport	Khajuraho (150 km, W)	Khajuraho (150 km, NW)
8	Nearest sea port	Nil	Nil
9	Nearest major water bodies	- Son river (8.5 km, E) - Govindgarh lake (6.2 km, NW)	- Maranawala nalla (2.5 km, N) - Govindgarh lake (7.0 km, NNE) - Kudna nalla (7.8 km, SSE)
10	Nearest town/City	Rewa (24 km, NW)	Rewa (39 km, NNE)
11	Nearest village	Majhgawan (1 km, SW)	Argat (0.1km, ESE) Jhopa (0.1 km, NNE)
12	Hills/valleys	Govindgarh (325-680 MSL)	Govindgarh
13	Archaeologically important places	Nil	Nil
14	Protected areas as per Wildlife Protection Act,1972 (Tiger reserve, Elephant reserve, Biospheres, National parks, Wildlife sanctuaries, community reserves and conservation reserves)	Son Gharial Sanctuary (8.5 km, SE)	Son Gharial Sanctuary (10.8 km, SE)
15	Reserved / Protected Forests	Govindgarh RF (0.1 km, NW)	Govindgarh RF (0.3 km, NE) Papra RF (0.4 km, N) Gidhaila RF (4.2 km, WSW) Mand RF (10.7 km, N)
16	Seismicity	Zone-II as per IS 1983 (Part-I)	Zone-II as per IS 1983 (Part-I)
17	*Defence Installations*	Nil	Nil

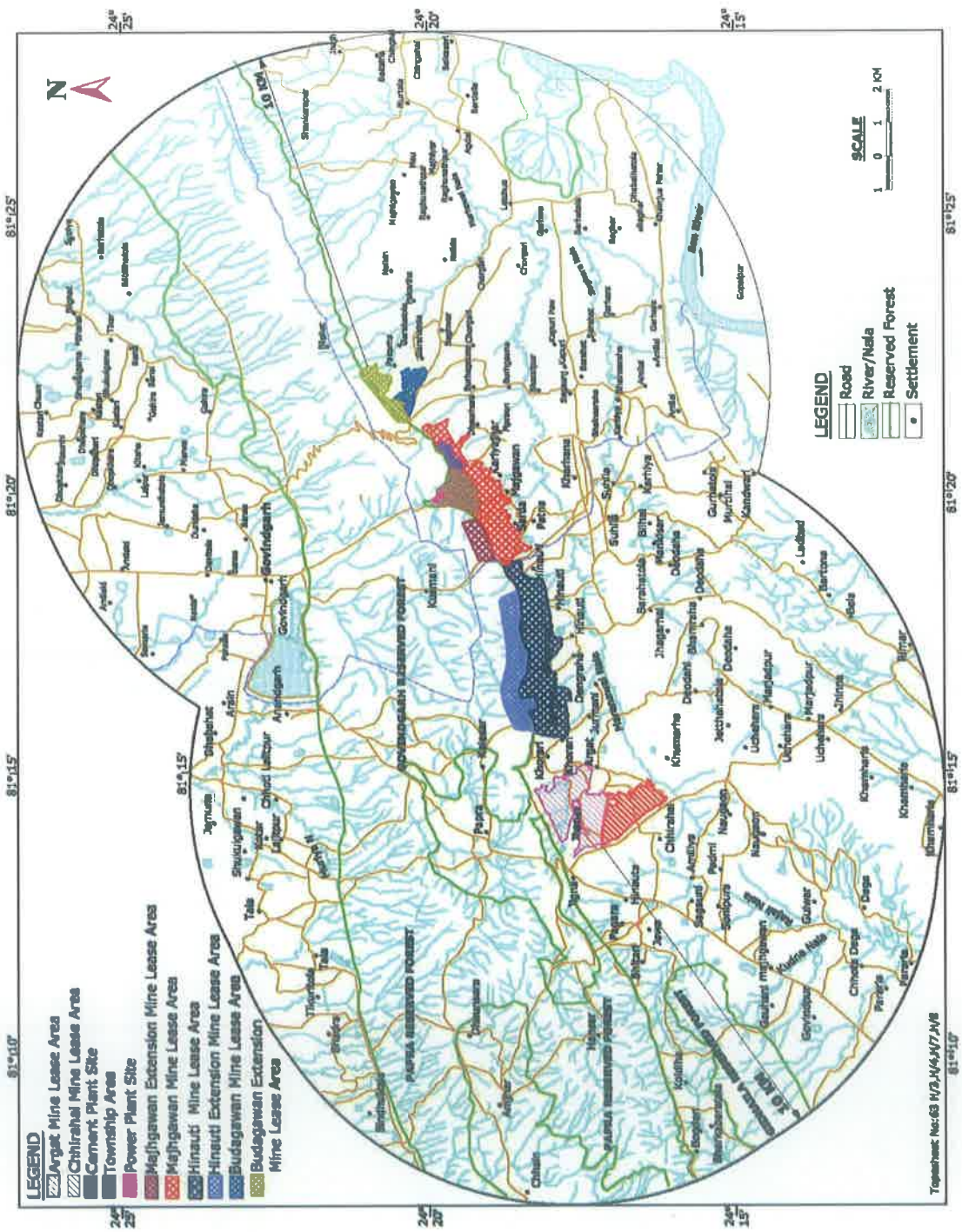


FIGURE-2
TOPOSHEET SHOWING CAPTIVE MINES

4.0 DETAILS OF INDUSTRIES & MINES IN STUDY AREA

4.1 Brief Description on Integrated Cement Plant & Captive Mines

✓ Jaypee Sidhi Cement Plant (SUN-I & SUN-II)

M/s. Jaiprakash Associates Limited (JAL) is operating a cement plant with capacity of 1.5 MTPA clinker and 2.0 MTPA cement at Majhgawan village, Sidhi district, Madhya Pradesh since 2009. JAL has expanded the cement plant capacity by addition of new line (SUN-II) within the existing cement plant premises for expansion of clinker from 1.5 MTPA to 3.0 MTPA and cement from 2.0 MTPA to 3.5 MTPA.

✓ Captive Limestone Mines

Requirement of limestone for the above integrated Jaypee Sidhi Cement Plant (JSCP) shall increase from 2.52 MTPA to 5.02 MTPA with expansion of plant capacity. The total requirement of the limestone mine for 3.0 MTPA clinker plant for 35 years is 175.7 MT. Limestone available from existing and applied mine lease is 127.746 MT. The details of industries under study considered are given in **Table-2.0**.

TABLE-2.0
DETAILS OF INTEGRATED PROJECT UNDER STUDY

Sr. No.	Project	Capacity	Location	Area (ha)
I	**Integrated Cement Plant (SUN-I & SUN-II)**			
A	**SUN-I**		Majhgawan village, Sidhi district, Madhya Pradesh	120.626 ha
	Clinker	1.5 MTPA		
	Cement	2.0 MTPA		
	Captive Power Plant	35 MW		
B	**SUN-II (Expansion)**			
	Clinker	1.5 to 3.0 MTPA	Majhgawan village, Sidhi district, Madhya Pradesh	Within the existing cement plant premises of 120.626 ha
	Cement	2.0 to 3.5 MTPA		
C	Sidhi CPP	2x60 MW		
II	**Captive Mines under operation**			
	Majhagawan Limestone	1.25 MTPA	Majhgawan village, Sidhi district, Madhya Pradesh	362.680 ha ML area
	Majhgawan Limestone mine extension	0.50 MTPA		54.825 ha ML area

4.2 Status of Statutory Clearances

The particulars of the integrated plant along with captive mines are given below in the **Table-3.0** and statutory clearance in **Table-4.0**.

TABLE-3.0
IMPLEMENTATION STATUS OF PROJECTS

Sr. No.	Mine	Production Capacity (in MTPA)	Area (in ha)	Status
1	Jaypee Sidhi Cement Plant (SUN-I & SUN-II)	**SUN-I:** 1.5 MTPA Clinker, 2.0 MTPA Cement **SUN-II:** 1.5 MTPA Clinker, 1.5 MTPA Cement Total : 3.0 MTPA Clinker 3.5 MTPA Cement	120.626	Operating plant
Captive Mines (Operating & Proposed)				
1	Majhgawan Limestone Mine	1.25	362.680	Operating mine
2	Hinauti Limestone Mine	1.00	378.261	Under Development
3	Budgawan Limestone Mine	0.27	60.671	Under Development
4	Majhgawan Extension Limestone Mine	0.50	54.825	Operating mine
5	Hinauti Extension Limestone Mine	0.50	258.867	Under Development
6	Budgawana Extension Limestone Mine	0.30	87.992	Under Development
7	Argat Limestone Mine (Under Process)	1.20	363.070	EAC has recommended the project
		5.02	--	

Note: Statutory clearances for Chirai limestone mines (145.84 ha) with 16.366 MT reserves are in progress

TABLE-4.0
PROGRESS ON STATUTORY CLEARANCES

Sr. No.	Mine	Environmental Clearance	Wildlife Clearance	Forest Clearance
1	Majhgawan Limestone Mine (430.952 Ha) capacity - 1.25 MTPA	F.No.J-11015/257/2007-IA-II(M) dtd. 15.12.2008	NOC granted on 13.08.2008	No Forest Land involved.
2	Hinauti Limestone Mine (378.261 Ha) capacity - 1.0 MTPA	F.No.J-11015/258/2007-IA-II(M) dtd. 20.02.2009	Not applicable, as located beyond 10 km radius from Son Ghariyal Wildlife sanctuary	No Forest Land involved.
3	Budhgawan Limestone Mine (68.91 Ha) capacity - 0.27 MTPA	F.No.J-11015/248/2007-IA.II(M) dtd. 13.05.2009	State Wildlife Department has since granted the Wild Life Clearance vide ref: V.P.MA.CHI/JP/80/566 dated 22,01.2015, I compliance to recommendations of the standing committee of NBWL, vide MOM dated 25.04.2011	No Forest Land involved.
4	Majhgawan Extension (54.825 Ha) capacity - 0.5 MTPA	F.No.J-11015/755/2007-IA.II(M) dtd. 04.06.2009	State Wild Life has since granted the Wild Life Clearance vide ref: V.P/MA.CHI/JP/80/566 dated 22.01.2015, in compliance to recommendations of the standing committee of NBWL, vide MOM dated: 25.04.2011.	F. No.8-66/2007-FC dtd. 12.11.2012

Sr. No.	Mine	Environmental Clearance	Wildlife Clearance	Forest Clearance
5	Hinauti Extension (258.867 Ha) capacity - 0.5 MTPA	F.No.J-11015/700/2007-IA.II(M) dtd. 04.06.2009	State Wild Department has since granted the Wild Life Clearance vide ref: v.p./ma.chi./jp/80/566 dated 22.01.2015, in compliance to recommendations of the Standing Committee of NBWL, vide MOM dated 25.04.2011.	F. No.8-80/2008-FC dtd. 29.05.2013
6	Budgawan Extension (87.992 Ha) capacity - 0.3 MTPA	F.No.J-11015/105/2008-IA.II(M) dtd. 31.07.2009	State Wild Department has since granted the Wild Life Clearance vide ref: v.p./ma.chi./jp/80/568 dated 22.01.2015, in compliance to recommendations of the Standing Committee of NBWL, vide MOM dated 25.04.2011.	F. No.8-67/2007-FC dtd. 12.11.2012
7	Argat Limestone Mines (363.07 Ha) capacity - 1.2 MTPA	EAC has recommended the project for Environmental Clearance.	Not applicable, as located beyond 10 km radius from Son Ghariyal Wildlife sanctuary	Not applicable

Details on the limestone reserves and production status as approved/under process are also given in **Table-5.0**.

TABLE-5.0
DETAILS OF CAPTIVE MINES

Sr. No.	Mine	ML Area (In ha)	Reserve as on 01.12.2012 (In MT)	Production Capacity (In MTPA)
1	Majhgawan Limestone Mine	362.680	27.725	1.25
2	Hinauti Limestone Mine	378.261	22.54	1.00
3	Budgawana Limestone Mine	60.671	13.83	0.27
4	Majhgawan Extension	54.825	12.48	0.50
5	Hinauti Extension	258.867	15.34	0.50
6	Budgawana Extension	87.992	10.15	0.30
7	Argat Limestone Mine (Under Process)	363.070	9.315	1.20
			Total Capacity (In MTPA)	**5.02**
8	Chhirhai Limestone Deposit	145.484	16.366	-
		Grand Total	**127.746**	-

4.2.1 Description of Industrial Activities

This section details with the type of air pollutants likely to be generated from various activities in cement plant, captive power plant and limestone mines.

- **Cement Plant**

In the integrated cement plant and CPP the main sources of emissions will be from stacks attached to raw grinding units, clinker production, coal grinding, cement grinding, packing of cement and boiler from CPP. The emissions of particulate matters from all the stacks have been limited to 50 mg/Nm^3 as per Environmental Clearance. State of technology have been adapted to ensure energy efficient

production and installed most modern environment friendly pollution control equipment. Apart from above further studies are also being conducted for carrying modification in the plants to limit the emission levels as prescribed in Gazette Notification No. 612 E of MoEF dated 25.08.2014. The below mentioned sources are the contributors of pollutants like PM where as Raw mill & CPP are the contributors of gaseous pollutants like SO_2 & NOx. The potential sources of emission from integrated cement plant are given in **Table-6.0**.

TABLE- 6.0
EMSSION SOURCES CONSIDERED: PLANT OPERATIONS

Sr. No.	Activities / Operations	Type of Source	Type of Pollutant
1	Crusher	Point	PM
2	Kiln	Point	PM, SO_2 & NO_x
3	Clinker cooler	Point	PM
4	Cement mill	Point	PM
5	Coal mill	Point	PM
6	Packing section	Point	PM
7	Captive Power plant	Point	PM, SO_2 & NO_x

➢ **Mines**

Fugitive dust emission sources from the captive mines are associated with various activities which are summarized as follows:

- ❖ Extraction of raw materials from the quarries;
- ❖ Transfer of raw materials from the point of extraction to storage, handling and processing locations along haul roads;
- ❖ Unloading of hauled materials;
- ❖ Crushing and screening operations;
- ❖ Material conveying between processing stages;
- ❖ Wind blow across exposed surfaces – inactive or undisturbed wind erosion; and
- ❖ Transfer towers in the material handling system.

The details of emission sources are provided below in **Table-7.0**.

TABLE- 7.0
EMISSION SOURCES CONSIDERED: MINING OPERATIONS

Sr .No.	Activities / Operations	Type of source	Type of Pollutant
1	Top soil removal by ripper	Line	PM
2	Drilling	Point	PM
3	Blasting	Point	PM
4	Loading OB to dumper/ tipper truck by excavator/shovel/fel	Point	PM
5	Dumper/ tipper unloading ob (rear dumping)	Point	PM
6	Bulldozing of OB	Point	PM
7	Loading ore to dumper/ tipper by excavator/shovel	Point	PM
8	Dumper/ tipper unloading ore (rear dumping)	Point	PM
9	Wheel generated dust haul road	Line	PM
10	Wind erosion	Area	PM

➢ Transportation & Traffic Impact

Project traffic impacts have been analyzed in terms of generally acceptable procedures for trip generation, trip distribution, and traffic assignment. Adequate road transport facility is already available in the area which will be sufficient to cater the needs of excess vehicular movement. On account of various associated activities, there will be increased vehicular traffic on these areas. Generation of particulate emissions is therefore, of primary concern in this project.

The extent of these impacts, at any given time depends upon

➢ The rate of vehicular emission within a given stretch of the road; and
➢ The prevailing meteorological conditions.

The impacts have strong temporal dependence as both of these factors vary with time. The temporal dependence would have diurnal, seasonal as well as long term components.

The industrial activities will involve transport of raw materials and final products near to and from the site. The transportation of raw materials/finished products will involve generation of additional traffic. The traffic projection is estimated considering all the mine under operation and cement plant. The details in brief are provided below in **Table-8.0.**

TABLE-8.0
INCREASE IN TRAFFIC DUE TO INDUSTRIES

Sr. No.	Type of material	Transport	Quantity per annum MTPA	No. of trucks per day	Remarks
1	Limestone from Hinauti ML area (incl. its extension lease)	Dumpers of 30T each	1.50	152	Traffic will be on village road/haul road only. No impact on National Highway
2	Limestone from Budgawan ML area (incl. its extension lease)	Dumpers of 30T each	0.57	58	Dumpers will cross the National Highway only for a shorter distance
3	Limestone from Majhgawan ML area (incl. its extension lease)	Trucks of 30T each	1.75	177 Plying within ML area only	No impact on external roads/Highway
4	Argat Mine	Dumpers of 30T each	1.20	121	Traffic will be on village road/haul road.
5	Coal for CPP	Trucks of 15 t each	0.31	63	Transportation using National Highway
6	Coal for cement plant	Trucks of 15 t each	0.23	46	Transportation using National Highway
7	Cement/Clinker dispatch	Trucks of 45 t each	3.5	236	Transportation using National Highway
	Total no. of vehicles per day			852	
	To & fro			1704	
	Passenger Car Units (PCU factor 3)			5112	

**Note: 330 working days

➢ **Traffic Density**

The traffic contribution to the highway from the plant will be due to the transportation of coal, gypsum, bauxite, iron ore, limestone and the cement along with 7 captive limestone mines. Heavy vehicle traffic is considered in assessing the impact of traffic. As worst case 100% transportation by road additional daily traffic will be about 852 vehicles per day. To & fro will be 1704 with 5112 PCU. The existing road will suffice the additional traffic density.

➢ **Pollution load due to traffic**

The impact on air quality have been predicted only for the traffic density of integrated cement plant & 7 captive mines as the concentration of CO and NOx due to the present traffic have been accounted in the baseline ambient air quality.

- Details of Mathematical Modeling

For prediction of maximum Ground Level Concentrations (GLC's), the air dispersion modeling software (AERMOD version 7.1.0) was used. AERMOD is steady state advanced Gaussian plume model that simulates air quality and deposition fields upto 50 km radius. AERMOD is approved by USEPA and is widely used software. It is an advanced version of Industrial Source Complex (ISCST3) model, utilizes similar input and output structure to ISCST3 sharing many of the same features, as well as offering additional features. The model is applicable to rural and urban areas, flat and complex terrain, surface and elevated releases and multiple sources including point, area, flare, line and volume sources. Dispersion modelling using AERMOD requires hourly meteorological data. Site specific data is used for executing modeling studies. The site specific meteorological data is processed using AERMET processor.

➢ Model Input Data

The predictions of traffic volume incremental concentrations of CO and NOX due to traffic assumed are estimated based on site specific meteorological conditions and line source. The line source is taken based on nearest road transportation route from limestone mine lease boundary to plant boundary of JSCP. The emission rates as inputs to the line source model are calculated based on "Emission factor development for Indian Vehicles", a project executed by Automative Research Association of India, Pune, 2008. The inputs used for modelling area given in **Table-9.0.**

TABLE-9.0
PARAMETERS CONSIDERED FOR MODELLING

Sr. No.	Parameter	Description
1	No of days considered	330 working days
2	No. of trucks	852 trucks/day
		1704 trucks to & fro
3	Emission factors	
	CO (g/km/vehicle)	6.0
	NOx (g/km/vehicle)	9.3
4	Emission rate	
	CO (g/s)	7.3
	NOx (g/s)	11.2

➢ Model Predictions

The predicted CO and NOx concentrations from vehicular traffic are presented in **Table-10.0.**

TABLE-10.0
PREDICTED INCREMENTAL CONCENTRATIONS DUE TO ADDITIONAL TRAFFIC

Sr. No.	Parameter	Concentration (µg/m3)
1	Carbon Monoxide	27.9
2	Oxides of Nitrogen	43.2

The observation from predictions reveal that the maximum NOx and CO concentration of 43.2 µg/m³ and 27.9 µg/m³ likely to occur at 20 m from the centre of the road. The CO and NOx concentrations are likely to be very low when compared with NAAQS for CO (4000 µg/m³) and WHO standard of 400 µg/m³ for hourly average for NOx. Hence, it is assumed that the no major impact on the present ambient air quality.

Impact of Enhanced Traffic on Road Adequacy

With present level of traffic and the increase in traffic due to the industries has been estimated by comparison with the recommendations stipulated by Indian Road Congress (IRC). The IRC recommendations on traffic capacity are presented below in **Table-11.0.**

TABLE-11.0
RECOMMENDATIONS ON TRAFFIC CAPACITY - IRC

Sr. No.	Category of Road	Maximum PCU/day
1	Two lane roads (7-m) with earthen shoulders	15,000
2	4-lane highway with earthen shoulders	35,000

As per the above standards the roads are two lane roads having maximum capacity of 15000 PCU/day. The estimated peak traffic in terms of PCUs are compared with the stipulated standards by IRC for traffic capacity of the existing road network. The highway connecting to the site is adequate to handle the traffic load due to the project activities.

✓ Instantaneous Emission Sources and their Impact

Blasting is the major source of instantaneous emission sources. Blasting in the mining will be conducted through deep blast holes and will be carried out between 2 pm to 3 pm only.

PM and NOx emissions are envisaged during these blasting operations. But these are kept under control by sprinkling of water on haul roads and monitoring regularly the emissions from exhaust etc.

The large quantity of dust will be wind borne due to blasting but due to the greenbelt around the mine, the spread of dust will be arrested. Even though blasting generates NOx, it will be instantaneous and intermittent.

5.0 EXISTING ENVIRONMENTAL & SOCIO ECONOMIC ACTIVITIES

5.1 Environment Clearance

The environmental clearances of the projects under study are obtained as per details given below in **Table-12.0.** The letters Environmental clearances granted are enclosed as **Annexure-III.**

TABLE-12.0
ENVIRONMENT CLEARANCES

Sr. No.	Plant/CPP/Mines	Environmental Clearance
1	Cement plant (2.0 MTPA), clinker plant (1.5 MTPA) and Captive power plant (35 MW)	F.No.J-11011/51/2007-IA-II(I) dtd. 09.08.2007
2	Expansion of cement plant from 2.0 MTPA to 3.50 MTPA	F.No.J-11015/546/2010-IA-II(I) dtd. 08.11.2011
3	2x60 MW Captive power plant	F.No.J-13012/94/2009-IA-II(T) dtd. 30.01 2012
4	Majhgawan Limestone Mine (362.680 Ha) capacity - 1.25 MTPA	F.No.J-11015/257/2007-IA-II(M) dtd. 15.12.2008
5	Hinauti Limestone Mine (378.261 Ha) capacity - 1.0 MTPA	F.No.J-11015/258/2007-IA-II(M) dtd. 20.02.2009
6	Budhgawan Limestone Mine (60.671 Ha) capacity - 0.27 MTPA	F.No.J-11015/248/2007-IA.II(M) dtd. 13.05.2009
7	Majhgawan Extension Limestone Mine (54.825 Ha) capacity - 0.5 MTPA	F.No.J-11015/755/2007-IA.II(M) dtd. 04.06.2009
8	Hinauti Extension Limestone mine(258.867 Ha) capacity - 0.5 MTPA	F.No.J-11015/700/2007-IA.II(M) dtd. 04.06.2009
9	Budgawan Extension Limestone Mine (87.992 Ha) capacity - 0.3 MTPA	F.No.J-11015/105/2008-IA.II(M) dtd. 31.07.2009
10	Argat Limestone Mines (363.07 Ha) capacity - 1.2 MTPA	EAC has recommended the project for Environmental Clearance.

5.1.1 Environment Management Practices at Operating Integrated Cement Plant & Mines

The environment management practices at operating plant and mines are given below:

- ✓ Majhgawan Limestone Mine

Effective safeguard measures such as dust containment and suppression by water sprinkling through tankers are being taken for control of air emission at haul road, loading and unloading point and transfer points. The dust suppression system installed at crusher hopper.

Catchment drains and siltation ponds have been provided around the working pit, top soil, mineral and temporary OB dumps prevent run off of water and flow of sediments directly into the seasonal nallahs, Bansagar canal and other water bodies. The collected water is being utilized as suggested for watering the mine area, drains, settling tanks and check dams of appropriate size, gradient and length are being

constructed both around the mine pit and temporary overburden dumps as per guidance.

✓ Majhgawan Limestone Mine Extension

Effective safeguard measures such as dust containment and suppression by water sprinkling through tankers are being taken for control of air emission at haul road, loading and unloading point and transfer points. The dust suppression system installed at crusher hopper.

Catchment drains and siltation ponds have been provided around the working pit, top soil, mineral and temporary OB dumps prevent run off of water and flow of sediments directly into the seasonal nallahs, Bansagar canal and other water bodies. The collected water is being utilized as suggested for watering the mine area, roads, green belt development etc. Garland drains, setting tanks and checkdams of appropriate size gradient and length are being constructed both around the mine pit and temporary over burden dumps as per guidance.

✓ Jaypee Sidhi Cement Plat (SUN-I)

Continuous monitoring system (opacity meter) has already been provided in all major stacks i.e; Raw Mill & Kiln, Coal mill, Cooler, Cement mill & CPP. ESP provided at CPP and Clinker cooler. Baghouse have been provided at Raw mill, coal mill & cement mill and bag filter provided at limestone crusher, cement packer and at all transfer points.

✓ Jaypee Sidhi Cement Plat (SUN-II)

Continuous monitoring system (opacity meter) has already been provided in all major stacks i.e; Raw Mill & Kiln, Coal mill, Cooler, Cement mill & CPP. ESP provided at CPP and Clinker cooler. Baghouse have been provided at Raw mill, coal mill & cement mill and bag filter provided at limestone crusher, cement packer and at all transfer points.

All the dust collected from pollution control equipment and reused in process of cement manufacturing. The sources of high calorific hazardous waste are under exploration to find out the sources of waste in the vicinity of plant. After ensuring the availability of the waste the process of co-processing will be initiated. Co-processing facilities are provided in cement kiln.

✓ Sidhi Captive Power Plant (2x60 MW)

ESPs provided at captive power plant to limit the emissions below norms. Fly ash is stored in fly ash silo and 100% utilized in the cement plant. The dust collected in the air pollution control equipment is being recycled and reutilized in the cement plant.

5.1.2 Greenbelt development Details

Extensive green belt has been maintained in the existing cement plant. The year wise plantation details are given in Table- and layout showing the year wise planning is given in **Table-13.0.**

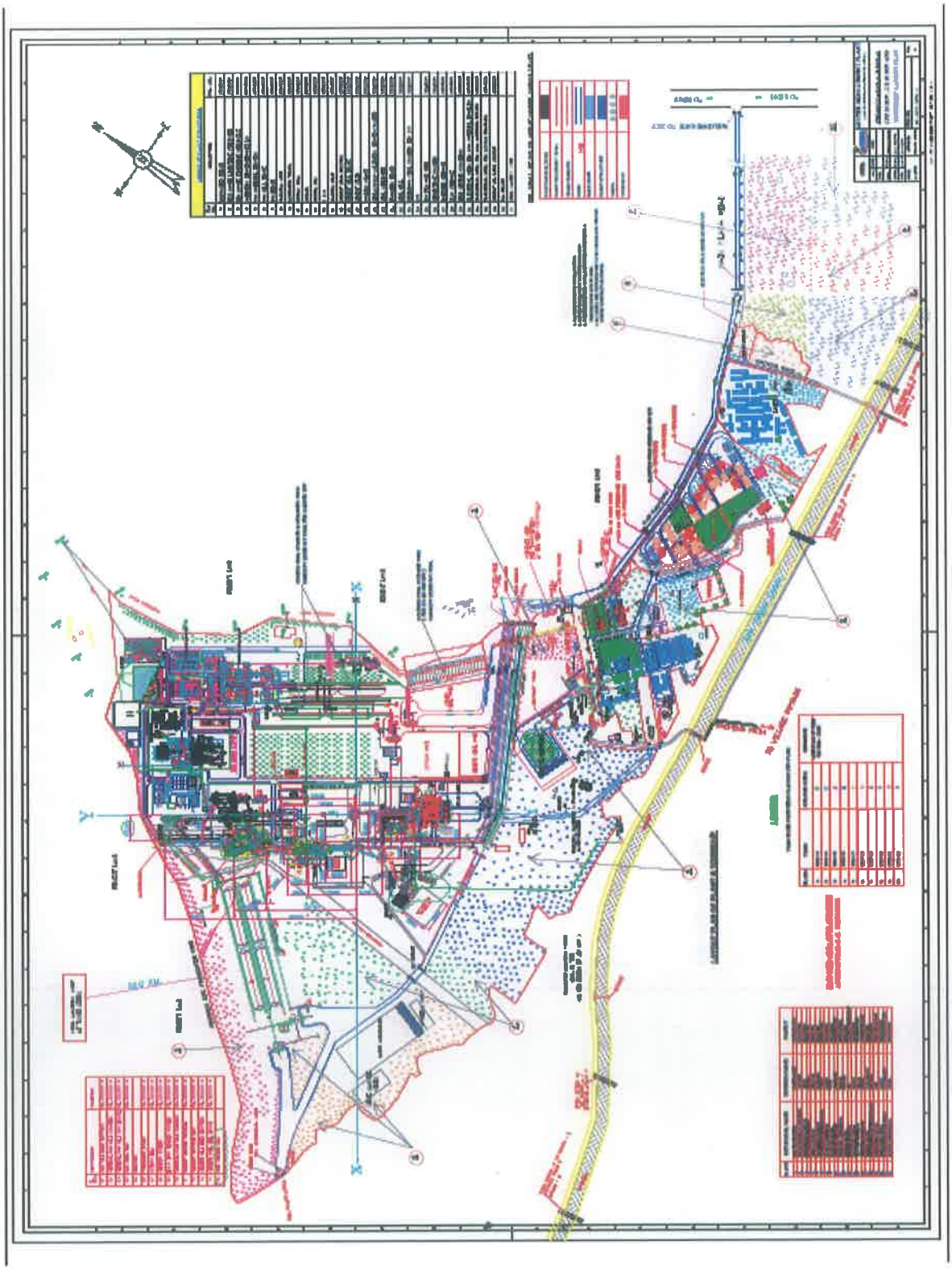


FIGURE-3.0 (A)
ENVIRONMENT MANAGEMENT PLAN

FIGURE-3.0 (B)
PHOTOGRAPHS SHOWING GREENBELT DEVELOPMENT

TABLE-13.0
YEAR WISE PLANTATION DETAILS

Year	Total no. of plants
2009	8869
2010	8620
2011	2585
2012	9293
2013	5977
2014 till December	9687
Total	**45031**
**** Nearly Rs.8.39 lakh is the expenditure spent on plantation**	

5.2 Water Requirement

The water requirement details of the projects under consideration of study is given in **Table-14.0**. All the cement plant and mines are operating on zero discharge concept.

TABLE-14.0
WATER REQUIREMENT

S. No.	Projects	Water Requirement	Availability/Source
1	SUN-I	4506 m^3/day	Permission granted by Water resource dept. Govt. of MP for withdrawal of water from Bansagar Canal
2	SUN-II	2400 m^3/day	Permission granted by Water resource dept. Govt. of MP for withdrawal of 4575 m^3/day water from Bansagar Canal
3	Majhgawan Limestone Mine	200 m^3/day	Mine sump
4	Hinauti Limestone Mine	155 m^3/day	Bansagar Canal and mine sump
5	Budhgawan Limestone Mine	90 m^3/day	Bansagar Canal and mine sump
6	Majhgawan Extn. Mine	225 m^3/day	Bansagar Canal and mine sump
7	Hinauti Extn. Mine	155 m^3/day	Bansagar Canal and mine sump
8	Budhgawan Extn. Mine	105 m^3/day	Bansagar Canal and mine sump
9	2x60 MW CPP	1566 m^3/day	Bansagar Canal and rainwater sump as mines
10	Argat Limestone Mine	150 m^3/day	Mine Sump

5.3 Compliance to EC Conditions

The compliance reports for all the projects granted EC are regularly submitted to regulatory authorities. The latest compliance reports of all the Limestone Mines are enclosed in **Annexure-IV (a) to Annexure-IV (f).**

5.4 Corporate Social Responsibility

M/s Jaiprakash Associates Limited pursues the policy of looking after the welfare of the populace who are located in the vicinity of the plant area by adopting the villages. A total of 26 villages have been adopted. A welfare society by the name of

Jaiprakash Seva Sansthan which functions under the agencies of Jaiprakash Associates Ltd. is actively involved in providing various welfare facilities in these villages. Following CSR activities are being implemented:

Educational Institutions

- Sardar Patel Uchhatar Madhymik Vidyalaya - Functional upto Class- XII for the local villagers. The total strength of 457 children.
- Jay Jyoti English Medium School is functional upto Class X. The total strength of 529 children.
- Industrial Training Institute started from academic session 2011-12 with three disciplines i.e. Electrical, Fitter, & Diesel Mechanic to facilitate technical qualification for the nearby villages. Opportunity to work within Company's Plants is created. The total strength of 102 student.
- Balwadi Education Center for Villagers - Already 4 such Centers are running and 4 more will be added from next year
- Adult Education - Two centers are already running and 2 more will be added from next year.
- Cutting & Tailoring Classes - Exclusively for ladies of the adopted villagers and 4 more will be added from 2012-13.

Balwadi Education Center for Villages

- ✓ There are two Balwadi centers started at Hinauti & Majhgawan village in Jan, 2010. There were 90 number of students in the Balwadis.
- ✓ Four more balwadis are planned to be established in the next year

Adult Education

- ✓ There are two adult education centers at Majhgawan & Hinauti Village operating since March-2010.
- ✓ There are 50 numbers of women getting education in these centers.

Medical Facilities

- ✓ A Hospital with 4 Doctors and 10 Nursing Assistants (both males & females) is fully functional at the plant site.
- ✓ Free medical treatment and medicines are being distributed to the villagers.
- ✓ Those who cannot be treated in plant hospital are sent in Company Ambulance to Hospitals in Rewa & Rampur Naikin.
- ✓ The ambulance with Doctor/Compounder (as per the requirement) is provided to all pregnant ladies & serious patients from villages to hospital at Rewa/ Rampur Naikin.
- ✓ In addition to above, medical camps are also regularly being organized in village locations especially for those patients who cannot come to hospital at plant site .
- ✓ 120 Medical camps have so far been organized.

Community Welfare Camp

- ✓ Aim of this camp is to make villagers aware of hygiene, sanitation and other health related matters of daily life.
- ✓ Qualified doctors accompanied by CRDP, team visit adopted villages by turn.

Sports Activities & General Knowledge Competition

- ✓ As a part of our endeavor to maintain harmony, among villagers and help both young and old to become responsive people, Inter School vs Panchayat sports competitions like Cricket, Volleyball, football & Cultural competitions are being organized and prizes are distributed to winners and runners up.
- ✓ So far, awarded 152 Prizes. Rs. 5.00 Lakh have been paid in 2008 for National Level volley-ball competition organised
- ✓ So far awarded 105 prizes Rs. 02.00 Lakh have been paid in 2011 for State Level Basketball, Kho-Kho, Cultural Programme organised.

Budget allocation on CSR activities is given below in **Table-15.0** and CSR photographs are shown in **Figure-4.0**.

TABLE-15.0
JAYPEE SIDHI CEMENT PLANT
NEED BASED ASSESSMENT OF CORPORATE SOCIAL RESPONSBILITIES (CSR)
(PROPOSED NEXT 2 F.Y. PLAN)

Sr. No	Activity	Approx Cost (Rs.)	Year
1	Improvement of Village Roads/ Tracks at Inter Village Movement so also link up with nearest Highway INear Piprowan to Bhratpur).	25.00 Lacs	2014-2015
2	Renovation/ construction of 12 Nos Temples at Surrounding areas.	60.00 Lacs	2014-2015
3	Training Technical Institute(ITG)	25.00 Lacs	2014-2015
4	Balwadi Education Centres - 8 Nos. (One each at Village Piprowan,Buduwana,Patna,Srda,Baghwar,Biharganj, Argat,Jurmani)	0.8 Lacs	2014-2015
5	Adult Education Centre - 10 Nos. (One each at Village Malgowan,Gorhatola,Dengrha ,Jhopa,Bijuri,Khothar,Ranitap,Hinauti,Khara,Kharahana)	0.9 Lacs	2014-2015
6	Organising Community Health Awareness Camps. A total of 45 proposed in FY-2014-2015	3.5 Lacs	2014-2015
7	Proposed Construction of Water Pond for Water harvesting 5 Nos (one each at village Baghwar,Hinauti,Jurmani,Agrat,Gohratola and Budwana).	35.00 Lacs	2015-2016
8	25 Hand pumps with Bore have been proposed at Village Hinauti, Biharganj, Dengraha & Jurmani,Baghwar,Budgawana,Gorhatola,Saguni, Khara,Kharahana, Argat).	7.50 Lacs	20105-2016
9	One pond each in village Degraha and Jurmani,Hinauti,Argat for an amount of 50.00 Lacs have been proposed.	50.00 Lacs	2015-2016
10	6 nos. Proposed Cutting & Tailoring Classes at Village Piprowan,Mahjigwan,Patna,Dengrha,Jurmani, Argat	1.00 Lacs	2015-2016
11	Construction of Shelter for waiting passenger at Bus Stop, Baghwar have been proposed	3.50 Lacs	2015-2016
12	Proposed An Eco-Club of the company executive, Environment Awareness Programs for the nearby Schools & Villagers such as poster Competition, debates, discussion of various environmental issues of the local area, water & air pollution, tree plantation etc.	1.00 Lacs	2015-2016
13	Free Provision of Company buses for social functions.	1.00 Lacs	2015-2016
14	Free Provision of Water Tankers for functions/ Marriage in Villages.	2.00 Lacs	2015-2016
15	Help in Fire fighting by providing fire Tenders and water Tankers to fight Vilalge/ crop/ Jungle fire.	5.00 Lacs	2015-2016
16	Construction of Shelter with drinking water facilities for waiting Hall research scholar in local university at Hanuman temple, Baghwar have been proposed	1.00 Lacs	2015-2016
17	20 nos. of Veterinary Camp at village Hinauti, Argat, Jurmani, Majhigawan,Patna, Khara,Kharahana)	1.00 Lacs	2015-2016

FIGURE-4.0A
CSR PHOTOGRAPHS

FIGURE-4.0B
CSR PHOTOGRAPHS

6.0 CUMULATIVE IMPACT DUE TO INDUSTRIAL CLUSTER ON AIR QUALITY

Air dispersion model is a set of mathematical equations that relates the release of air pollutants from emission sources to the corresponding concentration of pollutants in the ambient air arising out of developmental activities. The models are tools used to determine if the emissions from source can meet a specific ambient standard. A modelled prediction alone does not mean that there will be a condition of air pollution but is one of many indicators that determine the exceedence of a standard guideline value which will be the basis to modify permit allowable emission rates, stack parameters or operating conditions or to require a state implementation plan review for criteria pollutants.

Cumulative impact consists of an impact that is created as a result of the combination of the project evaluated together with other projects in the vicinity causing related impacts. These impacts occur when the incremental impact of the project is combined with the cumulative effects of other past, present and reasonably foreseeable future projects. Discrimination of impact may vary due to local/regional meteorological conditions.

The cumulative impacts can be due to induced actions of projects and activities that may occur if the action under assessment is implemented such as growth-inducing impacts and other effects related to induced changes to the pattern of future land use or additional road network, population density or growth rate (excess growth may be induced in the zone of influence around the industry, and in the process causing additional effects on air, water and other natural ecosystem).

Air quality modelling has been done by taking the site specific meteorological data from secondary sources and baseline ambient air quality levels with respect to study area from field investigations which will be utilised as an input data for modelling. Three different models have been used for determining the combined impact due to the integrated cement plant, CPP and three captive mines and details of the same are given below in **Table-16.0**.

TABLE-16.0
MODELLING FOR PREDICTION OF COMBINED IMPACT

Sr .No.	Project Activity	Modelling Application	Pollutants
1	Stack Emission from Cement Plant & CPP	AERMOD	PM, SO_2, NOx
2	Mining activities		PM
3	Transportation		CO & NOx

6.1 Emission Dispersion Model (AERMOD)

Air Pollution Impact Prediction through Modelling

a. Aermod View

AERMOD is an air dispersion-modeling package, which seamlessly incorporates the popular USEPA Models, ISCST3, ISC-PRIME and AERMOD into one interface without any modifications to the models. These models are used extensively to assess pollution concentration and deposition from a wide variety of sources.

b. Aermod Model

The AMS/EPA REGULATORY MODEL (AERMOD) was specially designed to support the Environmental Regulatory Modeling Programs. AERMOD is a regulatory steady – state-modeling system with three separate components:

- AERMOD (AERMIC Dispersion Model);
- AERMAP (AERMOD Terrain Preprocessor); and
- AERMET (AERMOD) Meteorological Preprocessor.

The AERMOD model includes a wide range of options for modeling air quality impacts of pollution sources, making it popular choice among the modeling community for a variety of applications. AERMOD requires two types of meteorological data files, a file containing surface scalar parameters and a file containing vertical profiles. These two files are provided by AERMET meteorological preprocessor program.

- PRIME building downwash algorithms based on the ISC – PRIME model have been added to the AERMOD model;
- Use of arrays for data storage;
- Incorporation of EVENT processing for analyzing short-term source culpability;
- Explicit treatment of multiple – year meteorological data files and the annual average; and
- Options to specify emissions that vary by season, hour-of-day and day-of-week.

Deposition algorithms have been implemented in the AERMOD model – results can be output for concentration, total deposition flux, dry deposition flux, and / or wet deposition flux. The model contains algorithms for modelling the effects of settling and removal of large particulates and for modelling the effects of precipitation scavenging for gases or particulates.

c. Aermet

In order to conduct a refined air dispersion modelling project using the AERMOD short-term air quality dispersion model, it is necessary to process the meteorological data representative of the study area being modelled. The collected meteorological data is not always in the format supported by the model, therefore the meteorological data needs to be pre-processed using AERMET program.

The AERMET program is a meteorological preprocessor, which prepares hourly surface data and upper air data for use in the AERMOD air quality dispersion model. AERMET is designed to allow future enhancements to process other types of data and to compute boundary layer parameters with different algorithms. AERMET processes meteorological data in three stages and from this process two files are generated for use with the AERMOD model.

A surface file of hourly boundary layer parameters estimates a profile file of multiple-level observations of wind speed, wind direction, temperature and standard deviation of the fluctuating wind components.

d. Application of AERMOD

AERMOD model with the following options has been employed to predict the cumulative ground level concentrations due to emissions from the activity.

- All terrain dispersion parameters are considered;
- Predictions have been carried out to estimate concentration values over radial distance of 10 km around the project area;
- Uniform polar receptor network has been considered;
- Emission rates from the sources were considered as constant during the entire period;
- The ground level concentrations computed without any consideration of decay coefficient;
- Calm winds recorded during the study period were also taken into consideration;
- 24 hourly mean ground level concentrations were estimated using the entire meteorological data collected during the study period; and
- The study area is used to represent the graphical output of the GLC's using the terrain processor.

e. Meteorological Data

The hourly meteorological data recorded at site is converted to the mean hourly meteorological data as specified by CPCB and the same has been used in the model. Hourly mixing heights are taken from the "Atlas of Hourly Mixing Height and Assimilative Capacity of Atmosphere in India" published by India meteorological department, 2008, New Delhi.

The meteorological data recorded during the pre-monsoon season continuously on wind speed, wind direction, temperature etc., have been processed to extract the data required for simulation by AERMOD using AERMET.

- *Wind Pattern*

And the prevailing and predominant wind directions observed during the pre monsoon season in study area is west and the second predominant direction ie east.

- *Stability Class*

The stability class has been calculated using sigma theta method.

✓ Pasquill Stability Class Through Sigma Theta Method

Hourly data recorded at the continuous weather monitoring station on wind speed and direction has been used for calculating the stability by using Sigma-Theta method (Ref: On Site Meteorological Program Guidance for Regulatory Modelling Applications, US-EPA).

✓ Calculation of Standard Deviation of Wind Direction

One hourly average wind direction has been recorded using the automatic meteorological recording equipment. The wind direction data is logged in a data logger at every 5 seconds and at the same instance the logger calculates the SIN and COS values of wind direction and these values are stored in the memory and it continuous to do so till the end of the set interval (present case it is one hour averaging time). At the set interval the average of SIN and COS is calculated. From these values, the Tan value is calculated and looking at the quadrant position and Tan value the logger finds out the standard deviation of wind direction fluctuations (average over a period of one hour). These one hourly average wind direction data (standard deviation; σA) in degrees has been used for determining the hourly stability.

✓ Lateral Turbulence (σA) and Wind Speed or Sigma Theta Method

The hourly σA values calculated by the data logger are used for arriving at the hourly stability's by the following procedure.

The following section describes the method for estimating stability categories in terms of standard deviation of the lateral wind direction fluctuations (σA) and the scaler mean wind speed (us). The lateral wind direction turbulence criteria for initial estimation of PG stability category are given in **Table-17.0**. The wind speed adjustments for determining final estimate of PG stability category from σA are given in **Table-18.0**. The criteria laid down in the tables below are for the data collected at 10 m and roughness length of 15 cm. Night time is defined as the period from one hour before sunset to one hour after sunrise. The method specifies that the data need to be collected at 10-m height. The relationship employed in the estimation methods assumes conditions are steady state.

TABLE-17.0
LATERAL TURBULENCE CRITERIA
FOR INITIAL ESTIMATE OF STABILITY

Initial Estimate of Pasquil Stability Category	Standard deviation of horizontal wind direction fluctuations, σA, In degrees
A	$22.5 \leq \sigma A$
B	$17.5 \leq \sigma A < 22.5$
C	$12.5 \leq \sigma A < 17.5$
D	$7.5 \leq \sigma A < 12.5$
E	$3.8 \leq \sigma A < 7.5$
F	$\sigma A < 3.8$

TABLE-18.0
WIND SPEED ADJUSTMENTS FOR DETERMINING
FINAL ESTIMATE OF PG STABILITY CATEGORY FROM σA

Time Period	Initial Estimated Category	10 m Scalar Wind Speed (US) (m/s)	Final Estimate of Stability Category
Daytime	A	US<3 3<US<4 4<US<6 6<US	A B C D
	B	US<4 4<US<6 6<US	B C D
	C	US<6 6<US	C D
	D, E OR F	ANY	D
	A	US<2.9 2.9<US<3.6 3.6<US	F E D
Night time	B	US<2.4 2.4<US<3.0 3.0<US	F E D

Time Period	Initial Estimated Category	10 m Scalar Wind Speed (US) (m/s)	Final Estimate of Stability Category
	C	US<2.4 2.4<US	E D
	D	ANY	D
	E	US<5.0 5.0<US	E D
	F	US<3.0 3.0<US<5.0 5.0<US	F E D

6.2 Model Input/Output Data

6.2.1 Model Input Data

- ***Model Input Data - Mines***

The main sources of emissions will be from stacks attached to raw grinding units, clinker burning, coal grinding, cement grinding and packing of cement. The potential source of emission generation from JSCP Integrated Cement Plant & CPP is given below in **Table-19.0**.

TABLE-19.0
EMISSION RATES - INTEGRATED CEMENT PLANT

Sr. No.	Stack Attached to	Height (m)	Diameter (m)	Exit Velocity (m/s)	Temperature (°C)	Volumetric Flow (Nm^3/sec)	Emission Rate (gm/s)		
							PM	SO_2	NOx
Cement Plant (SUN-I)									
1	Crusher	40	2.0	10	30	7.7	0.4	Nil	Nil
2	Kiln	110	4.2	18	260	139.0	7.0	Nil	21.4
3	Clinker cooler	45	4.2	11	250	86.6	4.3	Nil	Nil
4	Cement mill	35	1.12	10	90	8.1	0.4	Nil	Nil
5	Coal mill	120	1.7	12	75	23.3	1.2	Nil	Nil
6	Packers-1	35	0.8	7.0	95	2.8	0.1	Nil	Nil
7	Packer-2	35	0.8	7.0	95	2.8	0.1	Nil	Nil
8	Packer-3	35	0.8	7.0	95	2.8	0.1	Nil	Nil
9	DG set-1	60	2.1	8.0	360	13.7	0.7	25.7	4.8
10	DG set-2	60	2.1	8.0	360	13.7	0.7	25.7	4.8
11	CPP (35 MW)	84	2.0	17	150	37.5	1.9	27.5	13.1
2X60 MW CPP									
12	CPP (bi-flue)	125	6.5	20.0	413	283.2	14.15	176	158.7
1.5 MTPA Cement Plant Expansion (SUN-II)									
13	Kiln	169.7	4.0	18	260	126.4	6.32	Nil	9.48
14	Clinker cooler	50	3.55	11	250	62.0	3.10	Nil	Nil
15	Cement mill	50	1.50	10	90	12.44	0.62	Nil	Nil
16	Coal mill	50	1.40	12	75	15.8	0.79	Nil	Nil
17	Packers	35	0.8	7.0	95	2.8	0.14	Nil	Nil

Note:

1 *In all the stacks of cement plant, emission of particulate matter is estimated based 50 mg/Nm^3 limit*
2 *SO_2 emissions are calculated based on the sulphur content in coal; 80% absorption of SO_2 is envisaged upon injection of lime in boiler bed*
3 *NOx emission is estimated based on 75ppm (153.7 mg/Nm^3)*
4 *DG sets will be operated only in case of emergency situations. In normal practices, DG sets will not be operated.*

- ***Model Input Data - Mines***

The modelling has been carried out to predict the impacts of the proposed/existing mining operations of all mine leases with a total production capacity of 5.02 million tonnes per annum (MTPA) on the existing environment, using emission factors arrived for the worst case i.e. without control measures.

The emission factors have been estimated for 7 Nos. of mine. The arrived emission factors for various mining operations used for modelling are given in **Table- 20.0 & Table-21** gives details of mine leases.

TABLE- 20.0
EMISSION FACTORS FOR MINING OPERATIONS USED FOR MODELLING

Sr. No.	Activity	Emission Factor	Particulars of Activity	Emission (g/s)						
				1	2	3	4	5	6	7
1	Drilling Activity	0.59 Kg/hole	40 holes/day	0.27	0.11	0.19	0.27	0.27	0.27	1.2
2	Blasting	9.1 Kg/blast	1 blast/day	0.11	0.14	0.13	0.11	0.11	0.11	0.6
3	Excavators on OB	0.025 Kg/t	250 t/day	0.37	0.04	0.068	0.07	0.29	0.09	1.0
4	Excavators on limestone	0.029 Kg/t	1500 t/day	1.27	0.14	0.14	0.50	0.56	0.51	0.5
5	Bulldozing	17.0 Kg/hr	3 hr/day	0.59	0.11	0.1	0.59	0.59	0.59	2.2
6	Loading into Dumpers/ excavator	0.004 Kg/t	1750 t/day	0.24	0.49	0.4	0.08	0.07	0.07	0.7
7	Wheel generated dust on unpaved roads	3.88 Kg/VKT	42 km/day	1.89	0.17	0.29	1.89	1.12	1.80	1.2
8	Dumping of OB	0.012 Kg/t	250 t/day	0.18	0.28	0.47	0.03	0.14	0.04	0.5
9	Wind erosion	0.4 Kg/ha/hr	5.0 ha	0.56	0.56	0.55	0.56	0.56	0.56	0.6

TABLE- 21.0
MINING LEASES

Sr.No	Mining Leases	Sr.No.	Mining Leases
1	Majhgawan Limestone Mines	5	Hinauti Extension
2	Hinauti Limestone Mines	6	Budgawan Extension
3	Budhgawan Limestone Mines	7	Argat Limestone Mines (Under Process)
4	Majhgawan Extension		
Out of these 7 mining leases only two mines are under operation (Sr. no-1 & 4) & remaining mines are under development stage (Sr.No: 2,3,5,6) and EC awaited for the mine at Sr.no- 7			

6.2.2 Model Output Data

✓ **Presentation of Results**

In the present case, model simulations have been carried for pre-monsoon season using the hourly Joint Frequency data viz. stability, wind speed, mixing height and temperature. For the short-term simulations, the Ground Level Concentrations (GLCs) were estimated around 441 receptors to obtain an optimum description of variations in GLCs over the site within 10 km radius covering 16 directions. The predicted 24

hourly short term concentrations are given in **Table-22.0.** The isopleths are presented in **Annexure-II**.

TABLE-22.0
SHORT TERM MAXIMUM INCREMENTAL CONCENTRATIONS

Parameters	Concentration (µg/m3)	Distance (km)	Direction
Scenario-I : Operating Industries (SUN-I, SUN-II & 2x60 MW CPP)			
PM	1.3	0.5	E
SO_2	5.5	0.5	E
NOx	1.9	0.5	E
Scenario-II : Captive Mines (with 100% implementation ie; 5.02 MTPA production)			
PM	14.0	From ML boundary	E
SO_2	3.4	0.5 km from cement plant	E
NOx	2.5	0.5 km from cement plant	E

- Comments on Predicted Concentrations

✓ Scenario-I : (**Operating Industries**)

A perusal of Table-17.0 reveals that the maximum incremental short term 24 hourly ground level concentrations for PM, SO_2 and NOx likely to be encountered are 1.3 µg/m³, 5.5 µg/ m³, 1.9 µg/m³ respectively occurring at a distance of about 0.5 km in the E direction.

✓ Scenario-II : **Captive Mines (with 100% implementation ie; 5.02 MTPA production)**

A perusal of Table-17.0 reveals that the maximum cumulative incremental short term 24 hourly ground level concentrations for PM likely to be encountered at mine pit area is about 124.2 and 14.0 µg/m³ at mine boundary, SO_2 - 3.4 µg/ m³, NOx - 2.5 µg/m³ respectively occurring at a distance of about 0.5 km in the E direction from JSCP for gaseous pollutants.

6.3 Background Air Quality Concentrations at Study Area

The components of background concentrations are calculated nearby source impacts and regional background level. Regional background concentrations are determined using available monitoring data. In the present study the available monitored regional background data have been utilised for computations. The ambient air quality levels representing pre-monsoon season at study area representing 10 km radius have been obtained from the data available from monitoring studies. The observations of the same are given below in **Table-23.0.**

TABLE-23.0
BACKGROUND CONCENTRATIONS OF AIR POLLUTANTS IN THE STUDY AREA

Parameters	Baseline (Pre-Monsoon Data) Range of Conc., µg/m³	NAAQM Standards, µg/m³
PM	62.5	100
SO_2	14.6	80
NO_x	16.8	80

The range of particulate matter (PM_{10}) and gaseous pollutants SO_2 and NO_x observed in the study area reveal that all the values are varying according to the wind pattern and direction. Also the results depicted state that all the values are well with the NAAQM standards. These concentrations also include the contribution from the currently operating and approved industries.

6.3.1 Resultant Concentrations after Implementation of the Project

Cumulative impact on baseline ambient air quality, after the plant has been arrived by superimposing incremental concentration over the present baseline maximum air quality levels of each pollutant. The resultant ambient air quality due to the cumulative impact of the industries in the study area are given in **Table-24.0.**

TABLE-24.0
RESULTANT CONCENTRATIONS

Pollutant	Concentration (µg/m³)			
	Maximum Baseline	Incremental	Resultant	NAAQ Standards
PM	62.5	14.0 : at ML boundary	76.5	100
SO_2	14.6	3.4	18.0	80
NO_x	16.8	2.5	19.3	80

7.0 CONCLUSION WITH JUSTIFICATION

The overall impact of integrated cement plant and limestone mine leases and its incremental concentrations considering two different scenarios given in **Table- 25.0.**

TABLE-25.0
AIR QUALITY IMPACT DUE TO ADJOINING INDUSTRIES

Scenario	Sources of Pollution	PM (µg/m³)	SO_2 (µg/m³)	NOx (µg/m³)
Scenario-I : Operating Industries				
Jaypee Sidhi Cement Plants (SUN-I & SUN-II) including CPP	Source Emissions from Cement Plant & CPP	1.4	5.5	1.9
Majagawan mine + Majagawan Extension	Dust emissions due to the mining, blasting and dumper movement			
Scenario-II: Captive Mines (with 100% Implementation ie: 5.02 MTPA production)				
JSCP (SUN-I & SUN-II) including CPP	Source Emissions from Cement Plant & CPP	14.0	3.4	2.5
Majhgawan	Dust emissions due to the mining, blasting and dumper movement			
Hinauti				
Budhgawan				
Majhgawan Extension				
Hinauti Extension				
Budgawan Extension				
Argat				

As discussed above under each activity, there will be marginal increase in terms of dust load and gaseous emissions. However, it can be observed that these incremental contributions will be confined to the mine area only and will not have any adverse impact on the outside community.

The incremental concentrations when superimposed over the existing baseline concentrations, the resultant concentrations are well within the permissible limit stipulated by NAAQS. The isopleths showing the cumulative incremental ground level concentrations due to the industries in the study area are given in **Annexure-II**.

The computer model was simulated to generate short term (24 hour average incremental ground level concentrations {GLCs} of Particulate Matter, Sulphur dioxide and Oxides of Nitrogen due to operations of the project. A perusal of the table above reveals that the predictions indicated that the habitations will have insignificant impact due to the project activity.

The ambient air quality in the region with respect to the site specific meteorological conditions taken during the study period representing pre monsoon season indicates that the predictions of cumulative incremental concentrations of the air quality is less when compared to National Ambient Air Quality Standards 2009 from industrial pollution and has sufficient carrying capacity to accommodate the industrial development.

The present study thus confirms that the operation of all the six mines as per approved cumulative capacity of 3.82 MTPA and additional capacity of 1.2 MTPA of Argat Mine (under consideration), to cater to the limestone requirement of 3.0 MTPA of Clinker capacity will not cause major adverse environmental impact on the surroundings.

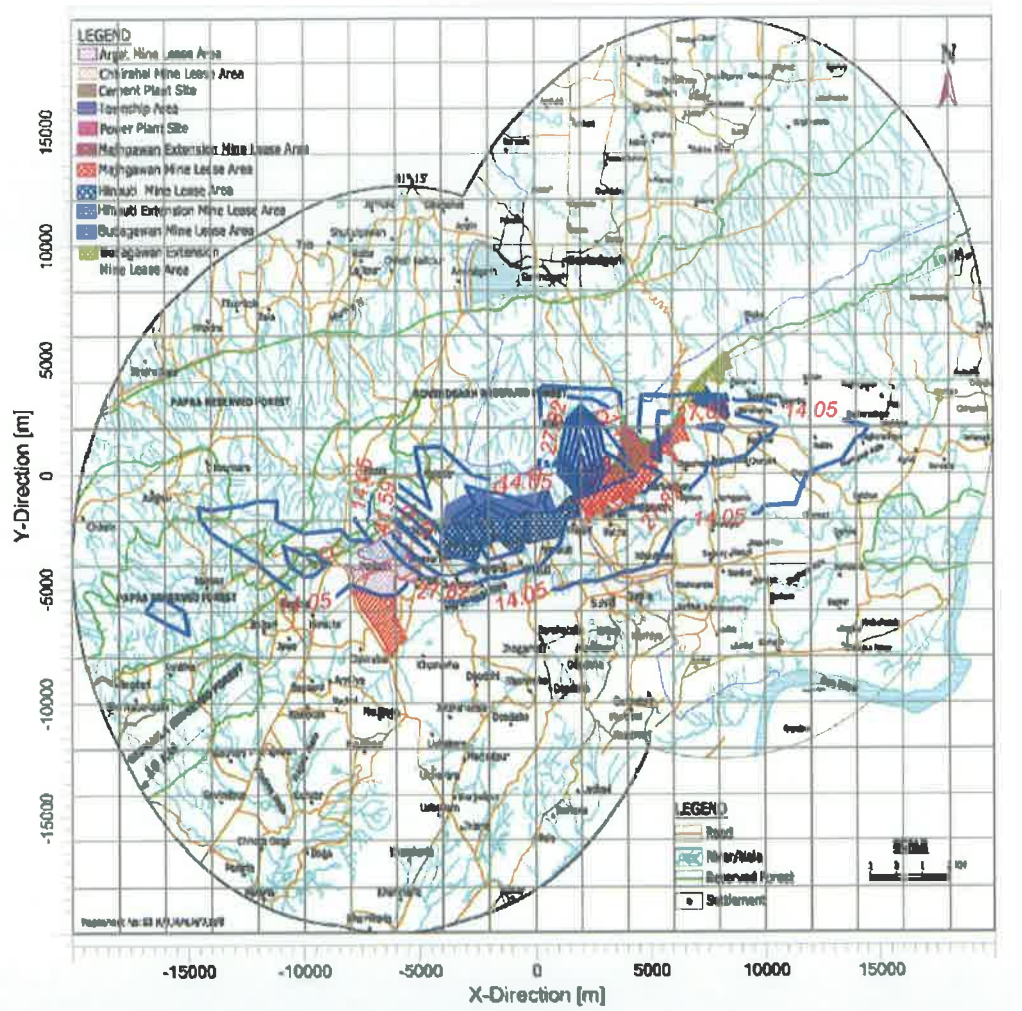
ANNEXURE-I
METEOROLOGY- PRE MONSOON SEASON

Hours	Wind Direction (Degrees)	Wind Speed (m/s)	Temperature (°K)	Stability Class	Mixing Height (m)
1	270	1.6	286.1	6	100
2	270	1.62	285.8	6	100
3	45	1.56	285.7	6	100
4	67	1.58	285.3	6	100
5	270	1.69	285.4	6	100
6	112.5	1.79	285.3	6	80
7	270	1.81	285.1	2	110
8	67	1.87	285.0	2	350
9	270	1.95	286.1	2	770
10	270	1.38	288.6	2	1220
11	112.5	1.85	290.4	2	1300
12	270	2.8	296.8	2	1750
13	270	3.23	305.7	1	2100
14	67.5	2.6	310.3	1	2350
15	270	2.5	312.2	1	2150
16	112.5	2.11	316.8	2	2000
17	67	2.07	307.6	2	2225
18	270	1.65	298.8	2	1800
19	112.5	1.92	291.1	2	1100
20	270	1.57	289.6	5	725
21	67.5	1.59	288.5	6	650
22	270	1.65	287.8	6	400
23	67.5	1.63	287.3	6	200
24	270	1.58	286.6	6	200

ANNEXURE-II
GROUND LEVEL CONCENTRATIONS OF PM :
SCENARIO-II

PROJECT TITLE

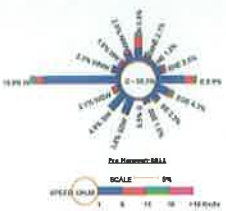
Jaypee Captive Mines



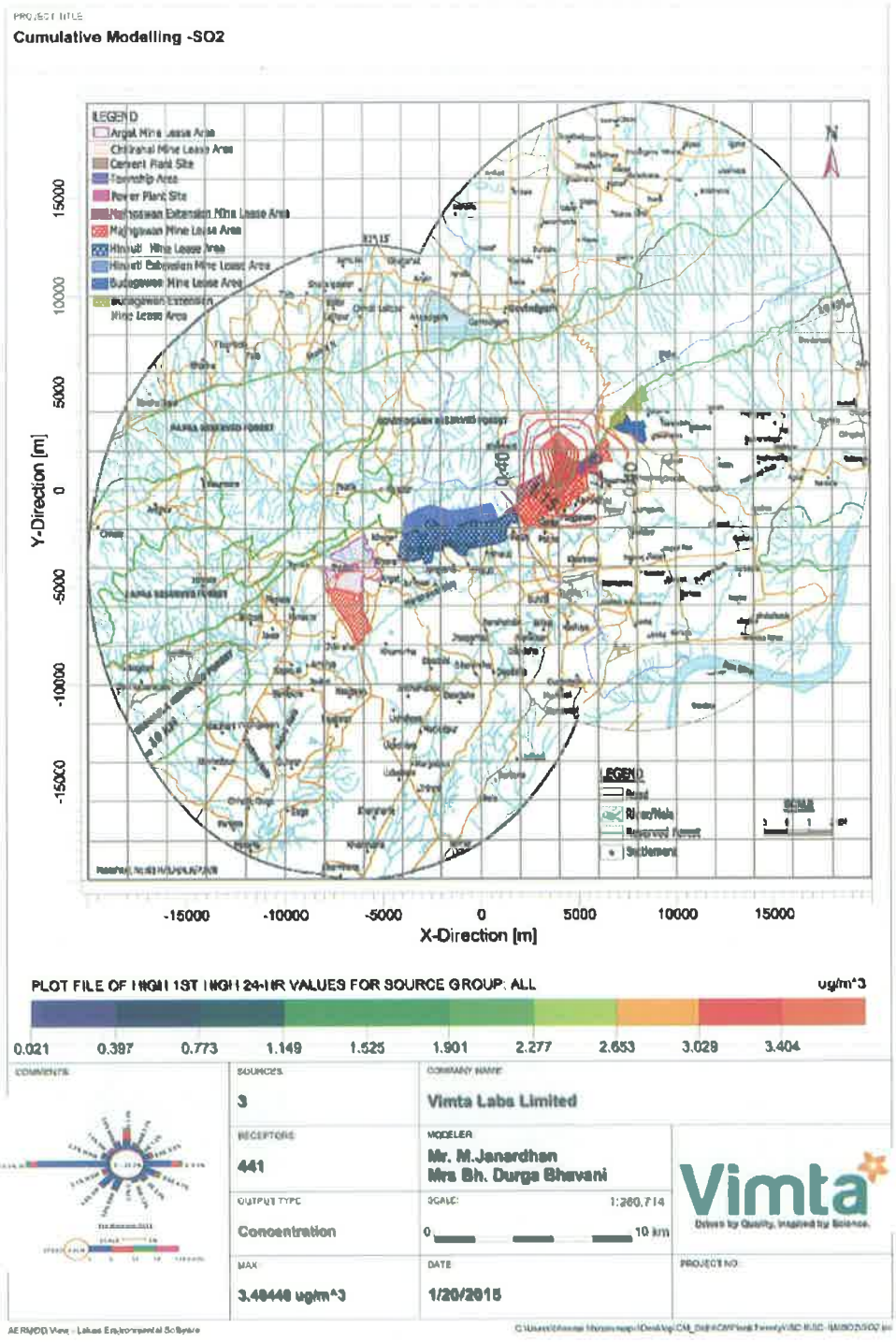
PLOT FILE OF HIGH 1ST HIGH 24-HR VALUES FOR SOURCE GROUP: ALL

ug/m^3

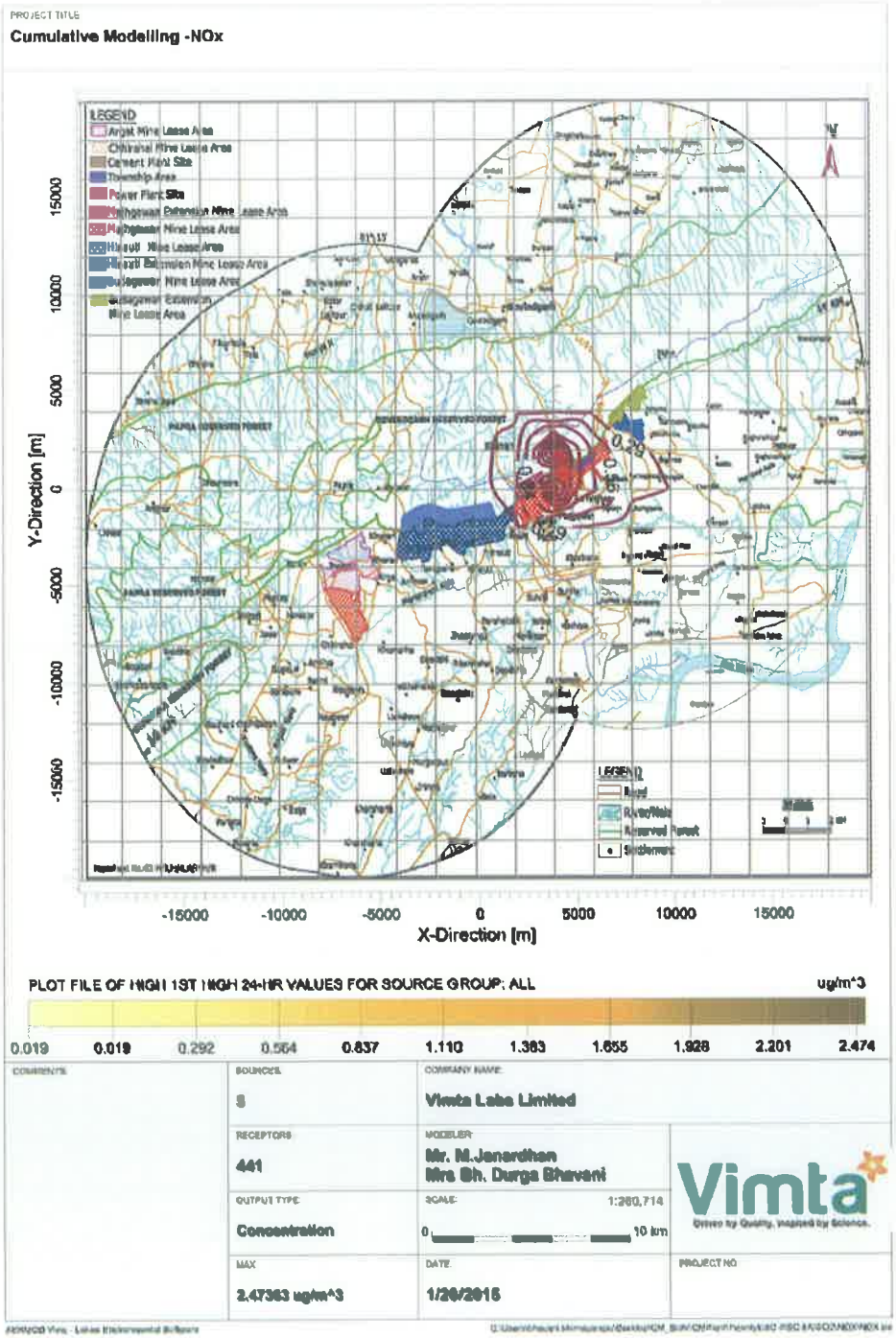
0.279 | 14.051 | 27.823 | 41.594 | 55.366 | 69.138 | 82.910 | 96.682 | 110.454 | 124.226

COMMENTS: 	SOURCES: 7	COMPANY NAME: Vimta Labs Limited	
	RECEPTORS: 441	MODELER: Mr. M.Janardhan, Mrs Bh. Durga Bhavani	Vimta — Driven by Quality, Inspired by Science.
	OUTPUT TYPE: Concentration	SCALE: 1:208,672 (0 — 5 km)	
	MAX: 124.22557 ug/m^3	DATE: 1/24/2015	PROJECT NO.

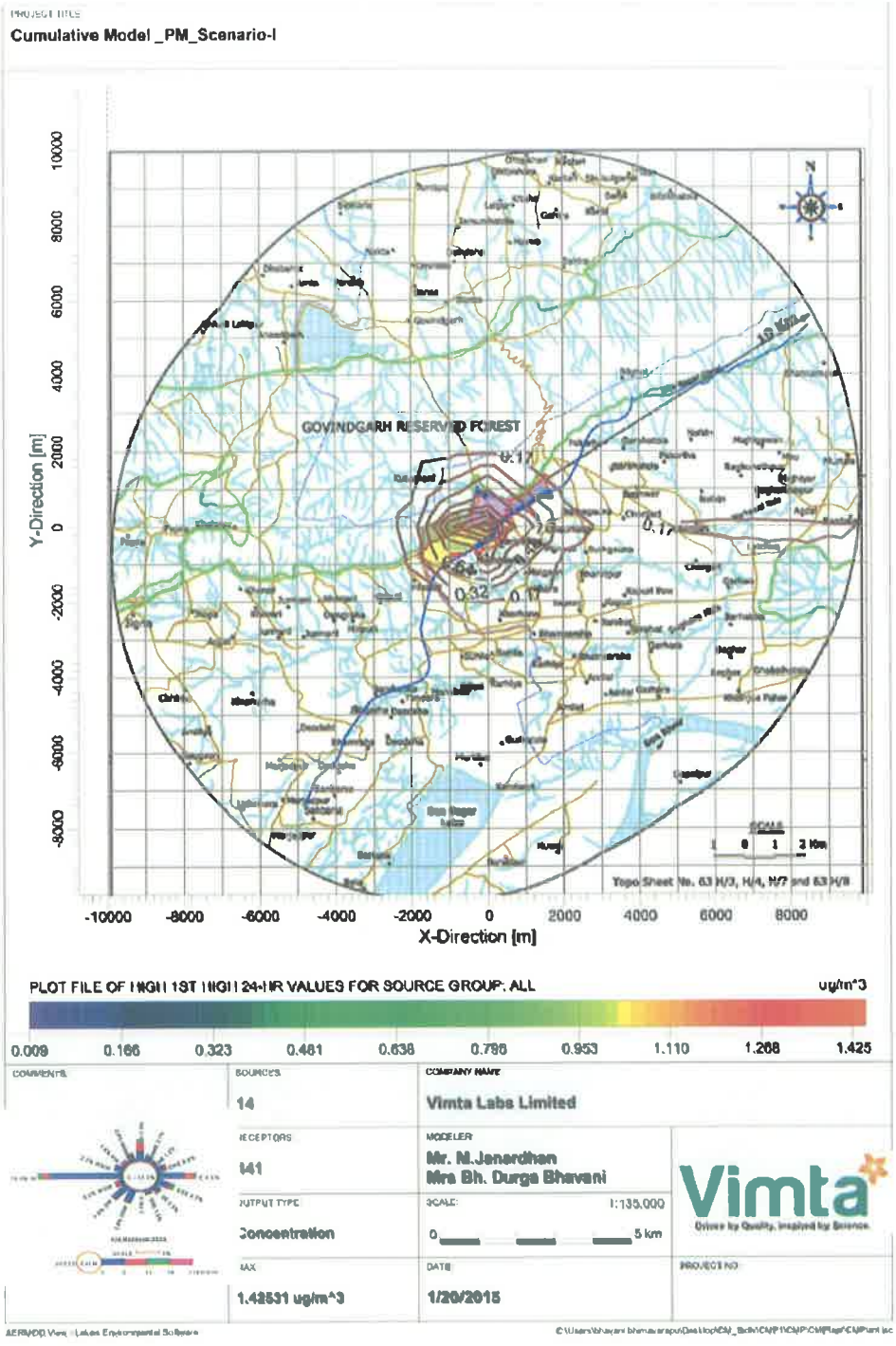
GROUND LEVEL CONCENTRATIONS OF SO_2
SCENARIO-II



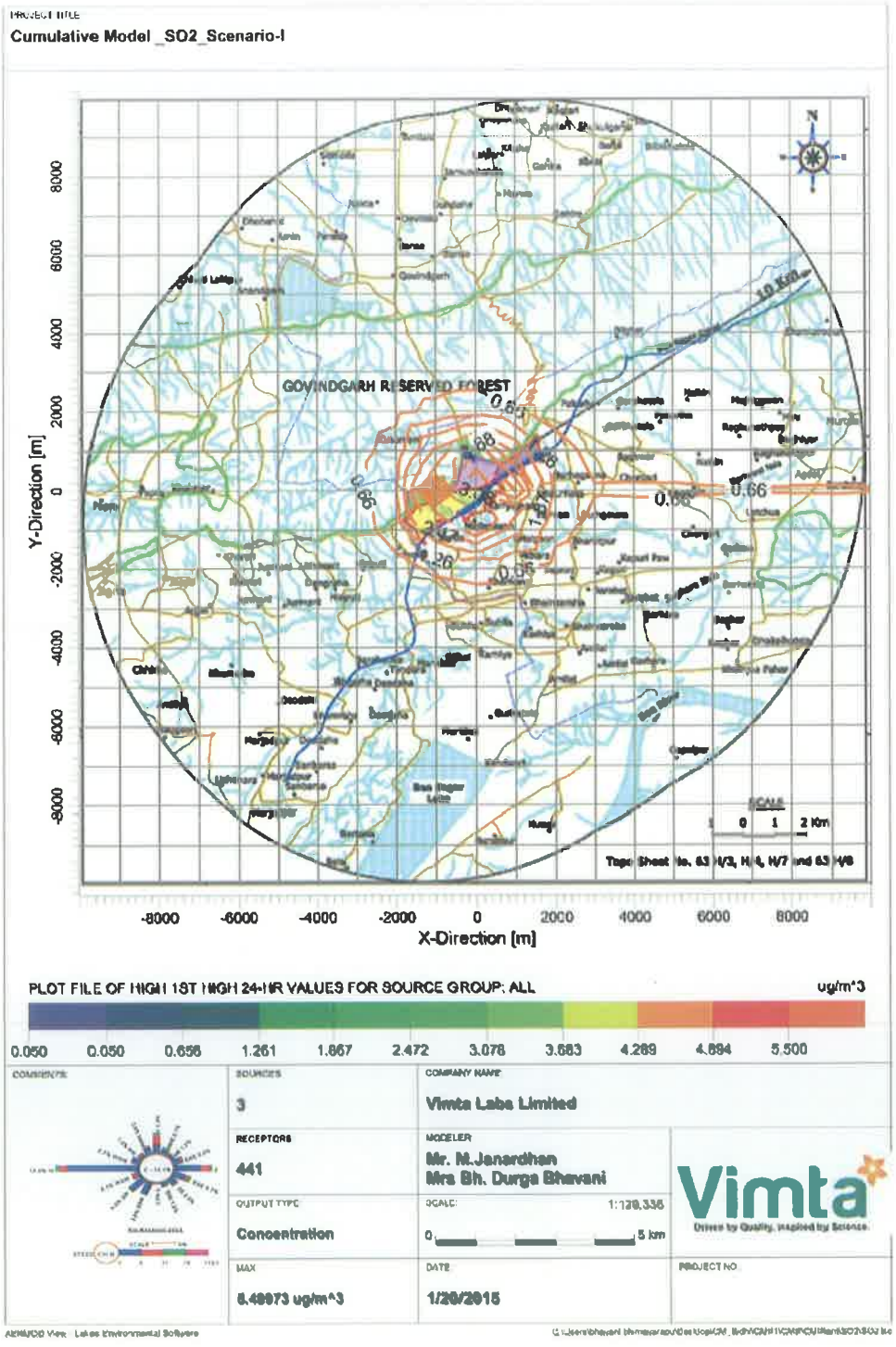
GROUND LEVEL CONCENTRATIONS OF NOx
SCENARIO-II



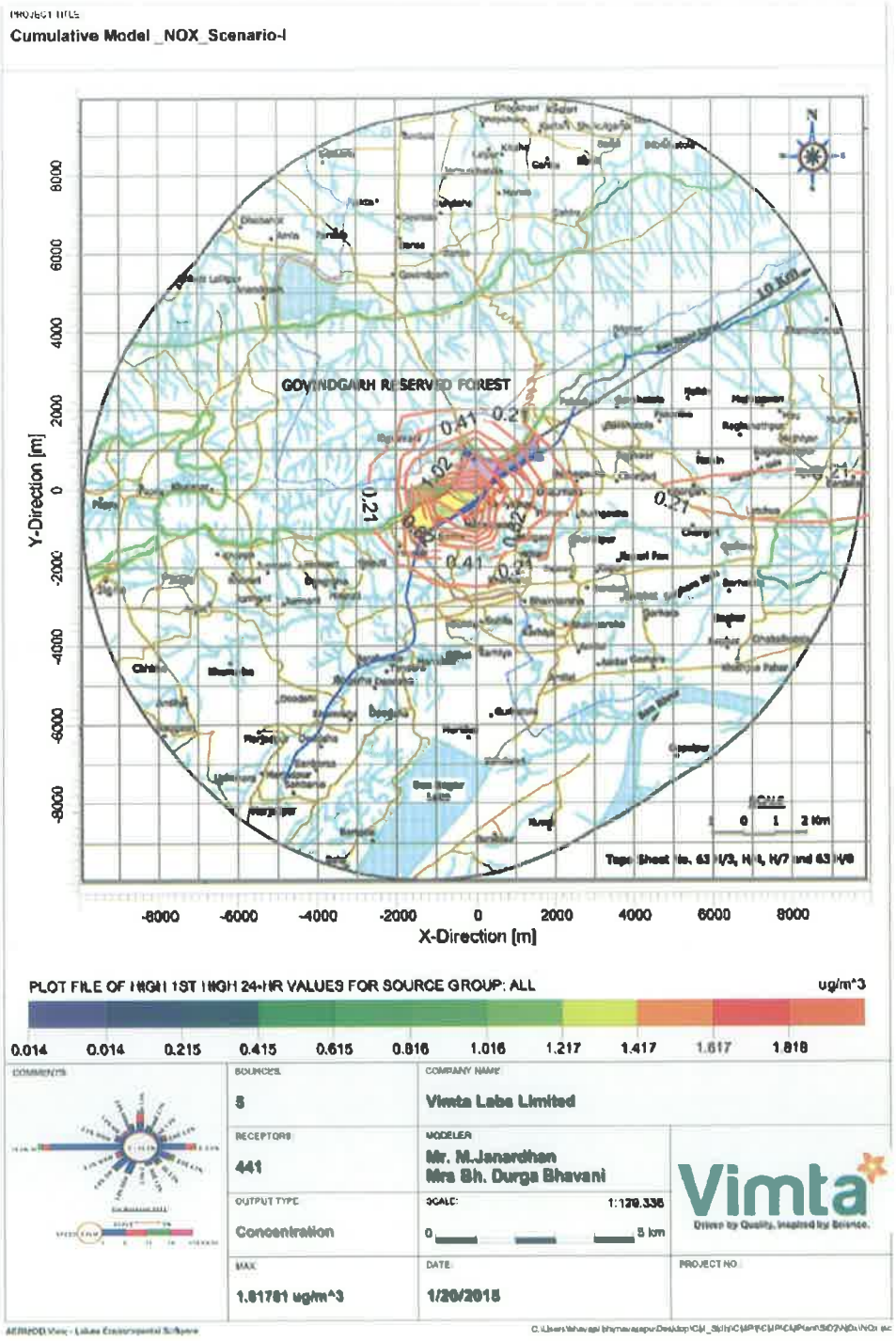
GROUND LEVEL CONCENTRATIONS OF PM
SCENARIO-I



GROUND LEVEL CONCENTRATIONS OF S02
SCENARIO-I



GROUND LEVEL CONCENTRATIONS OF NOX
SCENARIO-I



ANNEXURE-III

ENVIRONMENTAL CLEARANCE LETTERS

FAX: To Sh. Prafull Dixit
Bhopal Office
from Ajay Tiwari

1 of 15

FAXED
DATE 17/08 TIME 1910

F. No. J-11011/51/2007- IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi – 110 003

E-mail : pb.rastogi@nic.in
Telefax : 011: 2436 7668

Dated 9th August, 2007

To,

M/s Jaiprakash Associates Ltd.
Jaypee Vihar, Majhgawn
Rampur Naikin, Sidhi, M. P.

E-mail : vs.bajaj@jalindia.co.in ; Fax No. : 07802-280212

Subject : Cement Plant (2.0 MTPA), Clinker Plant (1.5 MTPA) and Captive Power Plant (35 MW) at Majhgawn, Rampur Naikin, Sidhi, M.P. by M/s Jaiprakash Associates Ltd. – Environmental clearance reg.

Sir,

Kindly refer your letter no. JAL/JSCP/2006-7 dated 15th March, 2007 alongwith project documents including Application in Schedule II, Questionnaire, EIA/EMP seeking environmental clearance under the EIA Notification, 1994 and subsequent clarifications furnished vide communications dated 16th April, 2007 and 5th May, 2007 regarding above mentioned cement project.

2.0 The Ministry of Environment and Forests has examined your application. It is noted that the proposal is for Cement Plant (2.0 MTPA), Clinker Plant (1.5 MTPA) and Captive Power Plant (35 MW) at Majhgawan, Sidhi, M. P. by M/s Jaiprakash Associates Limited. No national park, wildlife sanctuaries are located within 10 km. radius of the project site. Govindgarh Reserve forest is located at 0.2 km. distance in NW direction. No R & R and forest land is involved. Total 120.6 ha land is acquired. Total cost of the project is Rs. 550 Crores and a sum of Rs. 72.81 Crores is allocated for environmental protection measures.

3.0 Limestone (2,50,000 TPA) will be sourced from Captive mine and have applied for the environmental clearance. Clay (25,500 TPA) and Laterite (10,350 TPA) will be sourced from nearby areas. Coal (50,000 TPA) for cement plant and Captive Power Plant (CPP) will be sourced from Central Coal fields. Gypsum (4,380 TPA) will be sourced from nearby areas. Fly ash (32,700 TPA) generated by CPP will be used for manufacturing Pozzolona Portland Cement (PPC).

4.0 Public hearing meeting was held on 1st April, 2007.

5.0 The Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14th September, 2006 subject to strict compliance to the following specific and general conditions:

A. SPECIFIC CONDITIONS :

i. Continuous monitoring system to monitor gaseous emissions shall be provided and limit of SPM shall be controlled within 50 mg/Nm^3 by installing adequate air pollution control system. On-line monitoring data shall be submitted to the MPPCB and CPCB regularly.

ii. Electrostatic precipitator (ESP) to Captive Power Plant (CPP) and clinker cooler ; Bag house to kiln/raw mill and coal mill; air jet type bag filters at transfer points and bag filters to raw mill hopper, crushing plant, blending silo, cement silo and clinker storage shall be provided.

iii. Secondary fugitive emissions shall be controlled as per the CPCB guidelines.

iv. Total water requirement from Bansagar Canal shall not exceed 4,506 m^3/day as per the permission accorded by the Water Resource Department, Govt. of M.P. vide letter dated 8th March, 2007. The wastewater from CPP and domestic effluent shall not exceed 897 m^3/day and 555 m^3/day and all the treated wastewater shall be recycled and reused in green belt development, dust suppression in raw material area, coal yard and for ash quenching. 'Zero' discharge shall be strictly adopted and no effluent from the process shall be discharged outside the premises. Domestic effluent shall be properly treated and used for green belt development and dust suppression.

v. The fly ash shall be stored in fly ash silo and 100% utilized in cement plant to manufacture PPC. Bottom ash shall be used for back filling of mines. The dust generated shall be properly recycled and reutilized in the cement plant itself. STP sludge shall be utilized as manure for green belt development within the premises. Used oil and grease shall be sold to the authorized recyclers/ reprocessors.

vi. As proposed in EIA/EMP, green belt shall be developed in 40 ha. (33 %) out of total 120.626 ha. as per the CPCB guidelines to mitigate the effects of the gaseous emissions.

vii. All the recommendations of the Corporate Responsibility or Environmental Protection (CREP) shall be strictly followed and SPM concentrations below 50 mg/Nm^3 shall be maintained in kiln, coal mill, cement mill and clinker cooler.

viii. A provision shall be made for the use of high calorific value waste in the cement kiln.

ix. Prior permission from the State Forest Department regarding impact of the proposed cement plant on the Govindgarh Reserve Forest shall be obtained and ccompliance to all the recommendations shall be ensured.

B. GENERAL CONDITIONS :

i. The project authority shall adhere to the stipulations made by M.P. Pollution Control Board (MPPCB) and State Government.

ii. No further expansion or modification of the plant shall be carried out without prior approval of this Ministry.

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iii. The gaseous and particulate matter emissions from various units shall conform to the standards prescribed by the MPPCB. At no time, particulate emissions from the cement plant including kiln, coal mill, cement mill, cooler shall exceed beyond the permissible limit. Interlocking facility shall be provided in the pollution control equipment so that in the event of the pollution control equipment not working, the respective unit (s) is shut down automatically.

iv. At least four ambient air quality monitoring stations shall be established in the down wind direction as well as where maximum ground level concentration of SPM, SO_2 and NO_x are anticipated in consultation with the MPPCB. Ambient air quality including ambient noise levels shall not exceed the standards stipulated under EPA or by the State Authorities. Monitoring of ambient air quality and shall be carried out regularly in consultation with MPPCB and data on ambient air quality and stack emissions shall be regularly submitted to this Ministry including its Regional Office at Bhopal, MPPCB and CPCB once in six months. The instruments used for ambient air quality monitoring, shall be calibrated time to time.

v. The company shall install adequate dust collection and extraction system to control fugitive dust emissions at material transfer points by concreting/asphalting the roads, providing water spray system, covered stock pile for clinker storage and gypsum, storage of fly ash in silo, water sprinkling at limestone and coal handling area. Storage of other raw materials shall be in closed roof sheds. Covered conveyer belts shall be used to reduce fugitive emissions within permissible limit.

vi. Industrial wastewater shall be properly collected and treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.

vii. The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environmental (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).

viii. Proper housekeeping and adequate occupational health programmes shall be taken up. Occupational Health Surveillance programme shall be done on a regular basis and records maintained properly for at least 30-40 years. The programme shall include lung function and sputum analysis tests once in six months. Sufficient preventive measures shall be adopted to avoid direct exposure to dust etc.

ix. The company shall harvest the rainwater from the roof tops and storm water drains to recharge the ground water and use the same water for the various activities of the project to conserve fresh water.

x. The company shall undertake eco-development measures including community welfare measures in the project area.

xi. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP.

40, 15

xii. A separate environmental management cell with full fledged laboratory facilities to carry out various management and monitoring functions shall be set up under the control of Senior Executive.

xiii. As mentioned in the EIA/EMP, Rs. 72.81 Cr. and Rs. 2.43 Crores earmarked towards the capital cost and recurring cost/annum for environment pollution control measures shall be used exclusively to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. Time bound implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Ministry. The funds so provided shall not be diverted for any other purpose.

xiv. The Regional Office of this Ministry at Bhopal / CPCB / MPPCB shall monitor the stipulated conditions. A six monthly compliance report and the monitored data alongwith statistical interpretation shall be submitted to them regularly.

xv. The Project Authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.

xvi. The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the M.P. Pollution Control Board / Committee and may also be seen at Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office at Bhopal.

6.0 The Ministry or any other competent authority may stipulate any further condition(s) on receiving reports from the project authorities. The above conditions shall be monitored by the Regional Office of this Ministry located at Bhopal.

7.0 The Ministry may revoke or suspend the clearance if implementation of any of the above conditions is not satisfactory.

8.0 Any other conditions or alteration in the above conditions shall have to be implemented by the project authorities in a time bound manner.

9.0 The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 the Air (Prevention and Control of Pollution) Act, 1981 the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

(Dr. P. B. Rastogi)
Additional Director

Copy to:

1. The Secretary, Department of Environment, Govt. of Madhya Pradesh, Bhopal, M.P.
2. The Chief Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office, Link Road No.3, E - 5, Arera Colony, Bhopal - 462 016, M.P.
3. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi – 110 032.
4. The Chairman, Madhya Pradesh Pollution Control Board, Paryavaran Parisar, Arera Colony, Bhopal - 462 016, M.P.
5. Adviser (IA) Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
7. Guard File.
8. Monitoring File.
9. Record File.

9/8/07

(Dr. P. B. Rastogi)
Additional Director

F. No. J-11011/546/2010-IA-II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi – 110 003
E-mail: ms.industry-mef@nic.in
Tele/fax: 011 – 2436 3973
Dated: 8th November, 2011

To,

The President,
M/s Jaiprakash Associates Limited
Sector- 134, Noida - 201 304,
Uttar Pradesh

Ph: 0120- 4516000 Fax: 0120- 4516101 / 4516201
E-mail: vs.bajaj@jalindia.co.in

Sub: Expansion of Cement Plant from 2.0 MTPA to 3.50 MTPA at Village Majhgawan, Tehsil Rampur Naikin, District Siddhi, Madhya Pradesh by **M/s Jaiprakash Associates Limited – regarding Environmental Clearance**

Sir,

This has reference to your letter no. JAL/MoEF/SUN-II/EIA/2011 dated 09.06.2011 along with copies of EIA/EMP and public hearing report and subsequent communication dated 30.07.2011 seeking environment clearance under the provisions of EIA Notification, 2006.

2. The Ministry of Environment and Forests has examined the application for the above project. It is noted that M/s Jaiprakash Associates Limited (JAL) have proposed to augment the existing capacity of 2.0 MTPA cement plant to 3.5 MTPA by installing one additional unit of 1.5 MTPA under Phase-II within the existing plant premises located at Majhgawan village, Rampur Naikin Tehsil, Sidhi District, Madhya Pradesh. Existing plant of 2.0 MTPA is operating since February 2009. Environmental Clearance for 2.0 MTPA Cement Plant and 35 CPP was accorded vide letter no. J-11011/51/2007 -IA.II (I) dated 9th August, 2007. The proposed plant will be developed in an area of 10 Ha. The required land is part of the 120.626 ha of existing plant area which is under possession of M/s JAL. No additional land will be acquired. An area of 40 ha of the total plant area is earmarked for greenbelt development, which is about 33 % total plant area. Son-Ghariyal wild life sanctuary is located at a distance of 9 km in the SE direction. The National Board for Wild life in its meeting held on 25.04.2011 has recommended the proposal for expansion of cement plant. Govindgarh RF is at a distance of 0.2 km and Son River flows at a distance of 9 km. The estimated total cost of the proposed project is about Rs.450.0 Crores. The total capital cost for the proposed pollution control measures is about Rs. 59.4 crores.

3. Bag Filter/ Bag house will be provided for Raw Mill Hopper, Raw Mill/kiln system, Blending silo/kiln feed, Clinker Storage, Coal/Mill system, Cement Mill, Packing Plant, and transfer points etc. ESP will be provided to Clinker Cooler. Bag filters will be provided at all the transfer points for dust extraction. Closed belt conveyors for transferring raw material will be installed. Regular water sprinkling will be carried during unloading of the coal. Dust extraction system with bag filters will be installed at the cement packing section.

4. The total water requirement for proposed project is about 2,400 m^3/day. Water Resource Dept., Govt. of MP has accorded water allocation from Bansagar canal to draw 4,575 m^3/day of water. No additional water allocation is being sought. The proposed expansion of cement plant will be based on dry process. The company has implemented the rain water harvesting scheme. It is proposed to create a water reservoir in the adjoining

limestone mine with ultimate capacity of 8 million cubic meter, to collect the rain water to fulfill the water requirement during the rainy season and to minimize the dependency on Bansagar canal. No wastewater is expected to be generated from the proposed cement plant. About 40 m^3/day of waste water will be generated from the domestic uses and will be treated in STP. The treated waste water will be used for green belt development. No wastewater will be discharged outside the plant premises as the entire wastewater would be reused. The power requirement for the entire plant complex will be 22 MW and will be met from the CPP.

5. No solid waste will be generated either in the process or in pollution control facilities. Dust collected from the air pollution control equipment will be 100% recycled in process and there will be no solid wastes generation in cement plant. Solid waste in the form of sludge will be generated from the sewage treatment plant which will be used as manure for green belt development.

6. All the Cement Plants ($\geq$ 1.0 MTPA) are listed at S.No. 3(b) under Category 'A' of the schedule of EIA Notification, 2006 and appraised at the Central level.

7. The proposal was considered by the Expert Appraisal Committee-1 (Industry) in its 26th meeting held during 22nd - 23rd July, 2011. The Committee recommended the proposal for environmental clearance subject to stipulation of specific conditions along with other environmental conditions. Public hearing for the project was held on 16.03.2011.

8. Based on the information submitted by you, presentation made by you and consultant, M/s Vimta Labs, Hyderabad, the Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14th September 2006 subject to strict compliance of the following Specific and General conditions:

A. SPECIFIC CONDITIONS :

i. Continuous stack monitoring facilities to monitor gaseous emissions from all the stacks shall be provided. After expansion, limit of PM shall be controlled within 50 mg/Nm^3 by installing adequate air pollution control system. Electrostatic precipitators to clinker cooler, bag house to raw mill/kiln and bag filters to coal mill and cement mill.

ii. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed. Arsenic monitoring in RSPM shall be done.

iii. Secondary fugitive emissions shall be controlled and shall be within the prescribed limits and regularly monitored. Guidelines / Code of Practice issued by the CPCB in this regard should be followed.

iv. Efforts shall be made to mitigate impact of the transport of the raw materials and end products on the surrounding environment including agricultural land. All the raw materials including fly ash should be transported in the closed containers only and shall not be overloaded. The company shall have separate truck parking area. Vehicular emissions should be regularly monitored.

v. Total water requirement for proposed expansion shall not exceed 2,400m^3/day. All the treated wastewater shall be recycled and reused in the process and/or for dust suppression and green belt development and other plant related activities etc. No process wastewater shall be discharged outside the factory premises and 'zero' discharge should be adopted.

vi. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.

vii. Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater should meet the norms prescribed by the State Pollution Control Board or described under the Environment (Protection) Act, 1986 whichever are more stringent. Leachate study for the effluent generated and analysis should also be regularly carried out and report submitted to the Ministry's Regional Office at Bhopal, SPCB and CPCB.

viii. All the bag filter dust, raw mill dust, coal dust, clinker dust and cement dust from pollution control devices shall be recycled and reused in the process and used for cement manufacturing. Spent oil and batteries shall be sold to authorized recyclers / reprocessors only.

ix. Efforts shall be made to use low-grade lime, more fly ash and solid waste in the cement manufacturing.

x. An effort shall be made to use of high calorific hazardous waste in the cement kiln and necessary provision should be made accordingly.

xi. As proposed, green belt shall be developed in at least 33 % area in and around the cement plant as per the CPCB guidelines to mitigate the effects of air emissions in consultation with local DFO.

xii. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants should be implemented.

xiii. All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 16th March, 2011 shall be satisfactorily implemented and a separate budget for implementing the same shall be allocated and information submitted to the Ministry's Regional Office at Bhopal.

xiv. At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing Issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Bhopal. Implementation of such program shall be ensured accordingly in a time bound manner.

xv. The Company shall submit within three months their policy towards Corporate Environment Responsibility which should inter-alia address (i) Standard operating process/ procedure to being into focus any infringement/deviation/violation of environmental or forest norms/conditions, (ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and (iii) System of reporting of non compliance/violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders.

B. GENERAL CONDITIONS:

i. The project authority shall adhere to the stipulations made by Madhya Pradesh Pollution Board (MPSPCB) and State Government.

ii. No further expansion or modification of the plant shall be carried out without prior approval of this Ministry.

iii. At least four ambient air quality monitoring stations shall be established in the down wind direction as well as where maximum ground level concentration of PM^{10}, SO_2 and NO_x are anticipated in consultation with the SPCB. Data on ambient air quality and stack emissions shall be regularly submitted to this Ministry including its Regional Office and SPCB / CPCB once in six months.

iv. Industrial wastewater shall be properly collected and treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.

v. The overall noise levels in and around the plant area shall be kept well within the standards 85 dB(A) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environmental (Protection) Act, 1986 Rules, 1989 viz. 75 dB(A) (day time) and 70 dB(A) (night time).

vi. Proper housekeeping and adequate occupational health programmes shall be taken up. Occupational Health Surveillance programme shall be done on a regular basis and records maintained properly for at least 30-40 years. The programme shall include lung function and sputum analysis tests once in six months. Sufficient preventive measures shall be adopted to avoid direct exposure to dust etc.

vii. The company shall undertake eco-development measures including community welfare measures in the project area.

viii. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/ EMP and public hearing reports.

ix. A separate environmental management cell with full fledged laboratory facilities to carry out various management and monitoring functions shall be set up under the control of Senior Executive.

x. Adequate funds shall be allocated to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. Time bound implementation schedule for implementing all the conditions stipulated herein shall be submitted. The funds so provided shall not be diverted for any other purpose.

xi. The Regional Office of this Ministry / CPCB / MPPCB shall monitor the stipulated conditions. The project authorities shall extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports. A six monthly compliance report and the monitored data alongwith statistical interpretation shall be submitted to them regularly.

xii. The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both on hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the MPPCB.

xiii. The Project Authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.

xiv. Measures shall be taken for control of noise levels below 85 dB(A) in the work environment. Workers engaged in operations of HEMM etc. shall be provided with ear plugs/ muffs.

xv. Industrial waste water (workshop and waste water from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.

xvi. Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.

xvii. The project authorities shall inform to the Regional Office located regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

xviii. A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/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 put up on the website of the Company by the proponent.

xix. The project authorities shall advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within seven 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 Madhya Pradesh Pollution Control Board and also at web site of the Ministry of Environment and Forests at "http://envfor.nic.in and a copy of the same shall be forwarded to the Regional Office of this Ministry.

xx. The environmental statement for each financial year ending 31st 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 alongwith the status of compliance of EC conditions and shall also be sent to the respective regional Office of the MoEF by e-mail.

9. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

10. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

11. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 and the Public (Insurance) Liabillty Act, 1991 along with their amendments and rules.

(Dr. P.L. Ahujarai)
Scientist 'F'

Copy to: -

1. The Secretary (Environment), Govt. of Madhya Pradesh, Mantralaya, Ballabh Bhavan, Bhopal, MP.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110032.
3. The Chairman, Madhya Pradesh Pollution Control Board, Paryavaran Parishar , E-5, Arera Colony, Bhopal - 462016
4. The Chief Conservator of Forests (Central), Ministry of Environment, and Forests, Western Regional Office, Kendriya Paryavaran Bhavan, Link Road No. 3, Ravi Shankar Nagar, Bhopal - 462016
5. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi-110003.
6. Guard file / Record file

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(Dr. P.L. Ahujarai)
Scientist 'F'

F. No. J-13012/94/2009-IA-II (T)
Government of India
Ministry of Environment and Forests
(I.A. Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi – 110 003
E-mail: ahuja.rai@nic.in
Tele/Fax: 011-2436 3973
Dated: 30th January, 2012

To

The Managing Director
M/s Jaiprakash Associates Limited
Sector 128, NOIDA – 201 304
Uttar Pradesh

Sub: 2x60 MW Imported Coal Based Captive Thermal Power Plant of M/s Jaiprakash Associates Ltd. at village Kariajhar/Majhgawan, in Rampur Naikin Taluk, in Sidhi Distt., in Madhya Pradesh - reg. Environmental Clearance

Sir,

This has reference to your letter no. JAL/MOEF/SIDHI/CPP/ 2011 dated 3.02.2011 along with copies of EIA/EMP and public hearing reports and subsequent communications dated 20.06.2011, 22.07.2011, 6.01.2012 and 20.01.2012 seeking environmental clearance under the provisions of EIA Notification, 2006.

2. The Ministry of Environment & Forests has examined the application. It has been noted that the proposal is for setting up of 2x60 MW Imported Coal based Captive Thermal Power Plant at Village Kariajhar/Majhgawan, in Rampur Naikin Taluk, in Sidhi Distt., in Madhya Pradesh. Land requirement will be 63.50 acres (25 ha), which is within the existing cement plant under the possession of the proponent. Out of 25 ha of land requirement for the power plant, 16 ha will be used for main plant; 1.0 ha will be used for fuel storage area and 8 ha will be used for green belt. The co-ordinates of the site are at Latitude 24'19'41"N to 24'19'54"N and Longitude 81°19'45" E to 81°19'59" E. Coal requirements will be 1.0 MTPA. Sulphur and ash contents in imported coal will be about 0.6% and 12-14 % respectively. Fly ash generated will be supplied to adjoining M/s Jaypee Sidhi Cement plant. About 1440 TPD fly ash and 360 TPD of bottom ash respectively will be generated. Stack height (bi-flue) will be 125 m. Water requirement of 1566 m^3/day will be sourced from the Bansagar Canal and rain water collected in mine void located near the proposed site. Water from Bansagar will be conveyed by pipeline over a distance of 7.6 Km. Air cooled condenser will be installed. Son Ghariyal Sanctuary is situated at 9.0 km south form project site. The Standing Committee of National Board for Wildlife in its 22nd meeting held during 25th April, 2011 has recommended the proposal with standard conditions. Cost of the project will be Rs 519.0 Crores. Public hearing for the project was held on 27.09.2010.

3. The proposal was considered by the Expert Appraisal Committee (Thermal) in its 30th meeting held on 8th - 9th August, 2011. The Committee recommended the project for environmental clearance. Subsequently, it was brought to the notice of the Ministry that M/s Jaiprakash Associates Limited have completed substantial construction of the coal based captive power plant in Sidhi District in Madhya Pradesh without obtaining prior environmental clearance. This was brought to notice of the Expert Appraisal Committee (Thermal) in its 32nd meeting held during 12th - 13th September, 2011. The Committee decided that the Ministry may take the matter in accordance with the procedures and policy decision taken in such matters.

4. The Ministry therefore received the resolution passed by the Board of Directors of M/s Jaiprakash Associates Limited by circulation on 11.01.2012 and submitted vide letter no. JAL/MOEF/Sidhi/CPP/2012 dated 12.01.2012 placed at **Annexure-I** of this environmental clearance and the corporate environment and energy policy at **Annexure-II**, adopted by the company as per the resolution passed by the Board of Directors of M/s Jaiprakash Associates Limited in its meeting held on 11th January, 2012 submitted to the Ministry vide letter dated 12th January, 2012. Further as per the O.M. of MoEF dated 16.11.2010 for consideration of cases of violation, the M.P. State Pollution Control Board has filed a petition with the Chief Judicial Magistrate on 14.12.2011 (Copy enclosed).

5. Based on the information submitted by you, presentations made by you and your consultant, M/s Vimta Labs, Hyderabad, before the Expert Appraisal Committee, the Ministry of Environment and Forests hereby accords environmental clearance for 2X60 MW Imported Coal Based Thermal Power Plant at Village Karjha-Majhgawan, Taluk Rampur Naikin, Dist. Sidhi, Madhya Pradesh under the provisions of EIA Notification dated 14th September 2006 subject to strict compliance of the following Specific and General conditions:

A. Specific Conditions:

i) A study shall be undertaken through a reputed Govt. organization / Agriculture University on the impact of captive power plant on vegetation within 10 km radius of the plant due to fly ash generated and action taken shall be submitted to the Ministry. The study shall be completed within one year of operation of the proposed plant.

ii) Status of implementation of wildlife conservation plan vetted by the Office of the concerned Chief Wildlife Warden shall be submitted to the Ministry's Regional Office within **six months**.

iii) In case source of fuel supply is to be changed at a later stage for the proposed 2x60 MW now proposed to be run on imported coal, the project proponent shall intimate the Ministry well in advance along with necessary requisite documents for its concurrence for allowing the change.

iv) Coal transportation shall be undertaken by rail and no road transportation shall be permitted.

2/11

v) High Efficiency Electrostatic Precipitators (ESPs) with six fields shall be installed to ensure that particulate emission does not exceed 50 mg/Nm^3. SO_2 capture shall not be less than 95%. Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.

vi) Sulphur and ash contents in the coal to be used in the project shall not exceed 0.6 % and 12-14 % respectively at any given time. In case of variation of coal quality at any point of time fresh reference shall be made to MoEF for suitable amendments to environmental clearance condition wherever necessary.

vii) Stack of 125 m height shall be installed and provided with continuous online monitoring equipments for SO_x, NO_x and Particulate Matter. Exit velocity of flue gases shall not be less than 22 m/sec.

viii) The project proponent shall undertake rain water harvesting measures and shall develop water storage for use in operation of the plant. Rain water harvesting system shall be put in place which shall comprise of rain water collection from the built up and open area in the plant premises.

ix) COC of 5.0 shall be adopted.

x) Monitoring of surface water quantity shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.

xi) Waste water generated from the plant shall be treated before discharge to comply limits prescribed by the SPCB.

xii) Fly ash shall be used as per the Fly Ash Utilization Notification, 1999 and as amended in 2003 and 2009.

xiii) Ash pond water shall be re-circulated and utilized. Ash pond shall be lined with HDPE/LDPE lining or any other suitable impermeable media so that no leachate takes place at any point of time. Adequate safety measures shall also be undertaken to protect the ash dyke from getting breached.

xiv) An amount of Rs 3.0 Crores as one time investment shall be earmarked for activities to be taken up under CSR. Recurring expenditure for CSR shall be Rs 1.0 Crores till the life of the plant.

xv) CSR schemes shall be undertaken based on need assessment in and around the villages within 5 km of the site and in constant consultation with the village Panchayat and the District Administration. As part of CSR employment of local youth after

imparting relevant training as may be necessary shall be undertaken as committed.

xvi) It shall be ensured that an in-built monitoring mechanism for the CSR schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time besides putting their programs along with budgetary allocation on company's website.

xvii) Green Belt consisting of 3 tiers of plantations of native species around the plant of atleast 50 m width shall be raised (except in areas not feasible). The density of trees shall not be less than 2500 per Ha and rate of survival atleast 80%. The thickness of the green belt shall be increased towards the Govindgarh reserve forests to prevent impact of particulate emissions.

xviii) An Environmental Cell shall be created at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the head of the Cell shall directly report to the Head of the organization.

A. General Conditions:

(i) Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.

(ii) Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.

(iii) First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.

(iv) Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipment like earplugs/ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non- noisy/less noisy areas.

(v) Regular monitoring of ground level concentration of SO_2, NOx, $PM_{2.5}$ & PM_{10} and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided

immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the website of the company.

(vi) Provision shall be made for the housing of construction labour (as applicable) 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.

(vii) The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in.

(viii) 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, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.

(ix) A separate Environment Management Cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.

(x) The environment statement for each financial year ending 31st 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 Offices of the Ministry by e-mail.

(xi) The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests.

(xii) Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office

for their use during monitoring. Project proponent will up-load the compliance status in their website and up-date the same from time to time at least six monthly basis.

(xiii) Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry'

(xiv) The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.

(xv) Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry at Bhopal / CPCB/ SPCB who would be monitoring the compliance of environmental status.

6. The Ministry of Environment and Forests reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry. The Ministry may also impose additional environmental conditions or modify the existing ones, if necessary.

7. The environmental clearance accorded shall be valid for a period of 5 years to start operations by the power plant.

8. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

9. In case of any deviation or alteration in the project proposed including coal transportation system from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to add additional environmental protection measures required, if any.

10. The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 and its amendments, the Public Liability Insurance Act, 1991 and its amendments.

P. Ahujarai

(Dr. P.L. Ahujarai)
Scientist 'F'

6/11

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Secretary (Environment), Environment Department, Government of Chhattisgarh.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Chairman, Madhya Pradesh State Pollution Control Board, Paryavaran Prisar, E-5 Arera Colony, Bhopal - 462 016
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
6. The Chief Conservator of Forests, Ministry of Environment and Forests, Regional Office(WZ), E-5, Kendriya Paryavaran Bhawan, E-5 Area Colony, Link Road-3, Ravishankar Nagar, Bhopal -462016
7. The District Collector, Annupur District, Govt. of Madhya Pradesh.
8. Guard file / Monitoring file.

(**Dr. P.L. Ahujarai**)
Scientist 'F'

7/11

No.J-11015/257/2007-IA.II(M)
Government of India
Ministry of Environment and Forests

Paryavaran Bhawan
CGO Complex, Lodi Road,
New Delhi-110 003

Dated the 15th December, 2008

To

M/s Jaiprakash Associates Limited(JAL)
P.O. Jaypee Nagar,
District Rewa,
Madhya Pradesh
E-mail: ajaytewary@jalindia.co.in

Subject: Majhgawan Limestone Mining Project of M/s Jaiprakash Associates Limited located in village(s) Majhgawan, Patna, Sarda, Kariyajhar, Piprav, Malgaon, Dhorahra, Tehsil Rampur Naikin, District Sidhi, Madhya Pradesh-environmental clearance regarding

Sir,

This has reference to your letter No. JAL/JSCP/2007-08 dated 16.10.2007 and subsequent letters dated 10.04.2008, 06.05.2008, 14.08.2008, 28.08.2008 and 10.09.2008 on the subject mentioned above. The proposal is for opening of a new mine for extraction of 1.25 million tonnes per annum (million TPA) of limestone to meet the captive requirement of their cement plant at Sidhi, which has a production capacity of 2 million TPA of cement. The terms of reference for this project were prescribed on 18.6.2007. The total mine lease area of the project is 430.952ha, out of which 322.49ha is an agricultural land and 108.462ha is wasteland. No forestland is involved. Area proposed for mining is 202.252ha, an area of 27.85ha is kept for temporary waste storage, 103.1ha for infrastructure, 34.9ha for safety barrier and 62.85ha is part of Bansagar Canal. The Son River is located at a distance of 9.5km from the mine lease boundary. The Bansagar Canal passes through the mine lease area. In addition, first order streams exist in the northern side of the mine lease area, which will be suitably diverted by providing garland drainage system and also protective bund will be provided on the banks of the garland drainage system. The flow of all streams after diversion will meet to the original discharge point of the mine lease area from where it will let into drainage system network. The Son River which is notified as Crocodile Sanctuary falls within 10 km of the mine lease boundary and the Chief Wildlife Warden, Madhya Pradesh issued NOC to the project on 13.08.2008 and stated that it is unlikely to have adverse impact due to mining on the sanctuary, however, as an abundant caution they have suggested two conditions relating to monitoring of the water quality of Son River and removal of silt load from going into the Son River. It has been reported that the project area does not

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report to form corridor for Schedule-I fauna. The Govindgarh RF is located adjacent to mine lease area at a distance of 0.2km from the mine lease boundary. The mine working will be opencast by mechanized method involving drilling and blasting. The targetted production capacity of the mine is 12,50,000TPA(1.25million TPA) of limestone and the life of mine will be 26years. Approximately 3790TPD of limestone will be transported through road. The topography of the area is undulated at an elevation ranging from 3314m-347m RL. The ultimate working depth of mine will be 285m AMSL and the groundwater table during post monsoon is reported at 385m AMSL. The mine working will intersect groundwater table. The peak water requirement of the project is estimated as 200m^3 per day, which will be met from the mine sump water. There are 32 households in the core zone of the mine, displacement of population and R&R is involved. Approximately 38,700m^3 per month of solid waste comprising 3,300m^3 per month of top soil (murrum, loamy) and 35,400m^3 per month of over burden (soil mixed with scree material) will be generated. It is estimated that 9.88 million tonnes (8.34 million m^3) of OB will be generated during the life of the mine, which will be temporarily dumped externally during the initial 5 years. Backfilling will commence from the 6th year onwards. There will be no external OB dump at the end of the mine life. An area of 182.252 ha will be backfilled and an area of 20 ha of area will be developed as water body during the post mining stage. Plantation will be raised in an area of 286.102ha. The public hearing of the project was held on 10.09.2007 for production of 1.25 million TPA of limestone for lease area of 430.952ha. The Indian Bureau of Mines had approved mining plan alongwith progressive mine closure plan of the project on 27.11.2006 for lease area of 430.952ha. The capital cost of the project is Rs.20Crores. The capital investment towards the cost of environmental protection measures is proposed as Rs.36Lakhs and the annual recurring expenditure towards the cost of environmental protection measures is proposed as Rs.35lakhs.

2. The Ministry of Environment and Forests has examined the application in accordance with the EIA Notification 2006 and hereby accords environmental clearance under the provisions thereof to the above mentioned Majhgawan Limestone Mining Project of M/s Jaiprakash Associates Limited for an annual production capacity of 12,50,000tonnes(1.25million tonnes) of limestone by opencast mechanised method involving total lease area of 430.952ha, subject to implementation of the following conditions and environmental safeguards.

A. Specific conditions

(i) The project proponent shall obtain Consent to Establish from the Madhya Pradesh Pollution Control Board and effectively implement all the conditions stipulated therein.

(ii) The environmental clearance is subject to approval of the State Landuse Department, Government of Madhya Pradesh for diversion of 322.49ha agricultural land for non-agricultural use.

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(iii) The project proponent shall effectively implement all the conditions stipulated by the Chief Wildlife Warden in their NOC dated 13.08.2008 issued to this project.

(iv) The project proponent shall ensure that no natural watercourse and/or water resources are obstructed due to any mining operations. Adequate measures shall be taken while diverting the 1st order streams during the course of mining operation.

(v) The top soil shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for a long. The topsoil shall be used for land reclamation and plantation.

(vi) The over burden generated during the initial years due to mining operation shall temporarily be stacked at earmarked dump site(s) only and thereafter concurrently backfilled. Backfilling shall start from the 6th year onwards and there shall be no external over burden dump after the 10th year. The backfilled area of 182.258ha shall be reclaimed and rehabilitated by plantation. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhopal on six monthly basis.

(vii) The void left unfilled in an area of 20ha 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 along the excavated area.

(viii) Catch drains and siltation ponds of appropriate size shall be constructed around the working pit, soil, mineral and temporary OB dumps to prevent run off of water and flow of sediments directly into the seasonal nallahs, Bansagar Canal 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 desilted particularly after the monsoon and maintained properly.

Garland drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and temporary over burden dumps to prevent run off of water and flow of sediments directly into the seasonal nallahs, Bansagar Canal 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 should be constructed at the corners of the garland drains and desilted at regular intervals.

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(ix) Dimension of the retaining wall at the toe of the temporary dumps and the OB benches within the mine to check run-off and siltation should be based on the rain fall data.

(x) Plantation shall be raised in an area of 286.102ha including a 7.5m wide green belt in the safety zone around the mining lease in an area of 10ha by planting the native species around ML area, backfilled and reclaimed area, around water body and benches of the excavated pit, roads etc. in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2000 plants per ha.

(xi) Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RSPM such as haul road, loading and unloading point and transfer points. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

(xii) Regular monitoring of water quality upstream and downstream of Bansagar Canal and seasonal streams passing through the mine lease shall be carried out and record of monitoring data should be maintained and submitted to the Ministry of Environment and Forests, its Regional Office, Bhopal, the Central Groundwater Authority, the Regional Director, Central Ground Water Board, the State Pollution Control Board and the Central Pollution Control Board.

(xiii) The project authority shall implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.

(xiv) Regular monitoring of ground water level and quality should be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out four times in a year - pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office Bhopal, 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.

(xv) Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.

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(xvi) Appropriate mitigative measures should be taken to prevent pollution of the Son River in consultation with the State Pollution Control Board.

(xvii) Prior Permission from the competent authority shall be obtained for drawal of ground water, if any, required for the project.

(xviii) Minerals 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.

(xix) Vehicular emissions should 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 vehicles should be covered with a tarpaulin and shall not be overloaded.

(xx) Blasting operation shall be carried out only during the daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.

(xxi) Drills shall either be operated with dust extractors or equipped with water injection system.

(xxii) Consent to operate shall be obtained from the State Pollution Control Board prior to start of production from the mine.

(xxiii) Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operation.

(xxiv) 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, Bhopal.

(xxv) The project authorities shall undertake sample survey to generate data on pre-project community health status within a radius of 1 km from proposed mine.

(xxvi) 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.

(xxvii) Land oustees and land losers/affected people shall be compensated and rehabilitated as per the National Policy on Resettlement and Rehabilitation of project Affected Families (NPRR).

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(xxviii) 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.

(xxix) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna such as python, peacock etc. spotted in the study area. Action plan for conservation of flora and fauna shall be prepared 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 allocated shall be included in the project cost. A copy of action plan shall be submitted to the Ministry of Environment and Forests and its Regional Office, Bhopal.

(xxx) 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.

B. General conditions

(i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.

(ii) No change in the calendar plan including excavation, quantum of mineral limestone and waste should be made.

(iii) Atleast four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM, SPM, SO_2 & 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.

(iv) Data on ambient air quality (RSPM, SPM, SO_2 & NOx) should be regularly submitted to the Ministry including its Regional office located at Bhopal and the State Pollution Control Board / Central Pollution Control Board once in six months.

(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.

(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.

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(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 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.

(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.

(ix) The project authorities should inform to the Regional Office located at Bhopal regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

(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.

(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 Bhopal.

(xii) The Regional Office of this Ministry located at Bhopal 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 report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Bhopal, Central Pollution Control Board and State Pollution Control Board.

(xiv) A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation, if any, was received while processing the proposal.

(xv) State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/ Tehsildar's Office for 30 days.

(xvi) The project authorities should advertise at least in two local newspapers

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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 web site of the Ministry of Environment and Forests at **http://envfor.nic.in** and a copy of the same should be forwarded to the Regional Office of this Ministry located Bhopal.

3. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

4. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

5. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & 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 Hon'ble Supreme Court of India/ High Court of Madhya Pradesh and any other Court of Law relating to the subject matter.

6. 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 Act, 1997.

(SATISH C. GARKOTI)
Additional Director (S)

Copy to:

(i) The Secretary, Ministry of Mines, Government of India, Shastri Bhavan, New Delhi.

(ii) The Secretary, Department of Mines & Geology, Government of Madhya Pradesh, Secretariat, Bhopal.

(iii) The Secretary, Department of Environment, Government of Madhya Pradesh, Secretariat, Bhopal.

(iv) The Chief Wildlife Warden, Government of Madhya Pradesh, Van Bhavan1st FloorTulsi Nagar, Bhopal - 462 003.

...9/-

No.J-11015/258/2007-IA.II (M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
C.G.O. Complex, Lodi Road,
New Delhi – 110 003

Dated the 20th February, 2009

To

M/s Jaiprakash Associates Limited (JAL)
P.O. Jaypee Nagar,
District Rewa,
Madhya Pradesh
E-mail: ajaytewary@jalindia.co.in
Jscp.mines@jalindia.com
ds.deepak@jalindia.com

Subject: Hinauti Limestone Mining Project of M/s Jaiprakash Associates Limited, located in Village (s) Hinauti, Dengarhat, Biharganj and Jurmani, Tehsil Ramnagar, District Satna, Madhya Pradesh -environmental clearance regarding.

Sir,

This has reference to your letter No. JAL/CO-ORD/2007-08 dated 28.12.2007 and subsequent letters dated 05.02.2008, 10.10.2008 and 07.11.2008 on the subject mentioned above. The Ministry of Environment and Forests had earlier prescribed additional TORs to the project on 31.07.2007 for inclusion in the already prepared EIA and EMP report. The proposal is for opening of a new mine for production of one million tonnes per annum (million TPA) of limestone to meet the requirement of their captive cement plant located at a distance of about 2.5 km. The production from this mine will be mixed with limestone obtained from other mines. The total quantity of limestone to be produced from all the mines put together for the said cement plant will be limited to 2.52million TPA. The total mine lease area of the project is 378.261ha, out of which 300.268ha is an agricultural land and 77.993ha is waste land. No forest land is involved. Area proposed for mining 270ha, an area of 2ha is kept for infrastructure, 5ha for roads, 89.5ha for green belt and 11.761ha is others (non-mineralised area, safety zone). The Son River is flowing in the buffer zone of the mine at a distance of 9.5km from the mine lease boundary. The Bansagar canal is passing through at a distance of 280m from the Eastern most corner of the mine lease. In addition, small village ponds and seasonal nallahs are located in villages surrounding the project area. The 1st order streams originating from the North of the mine lease area will be suitably diverted by providing garland drains and protected bunds. These streams will finally be made to discharge into the existing natural drainage system. The Son River, notified as Crocodile Sanctuary falls within 10 km of the mine lease. The area does not report to form corridor for Schedule-I fauna. The Govindgarh Reserve Forest is located in the buffer zone of the mine at a distance of 0.2Km from the mine lease boundary. The mine working will be opencast by mechanized method involving drilling and blasting. Blast vibration prediction for the safety of nearby canal from the proposed mining was carried

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out through the Central Institute of Mining and Fuel Research, Dhanbad. The targetted production capacity of the mine is 1million TPA of limestone and the life of mine is 25years. Approximately 3,030TPD of mineral will be transported through the road. The topography of the area is flat. The ground level of the area reported to vary from 322m RL to 354m RL. The ultimate working depth of mine will be 295m RL. The groundwater table reported to vary from 285m RL to 290m RL during pre-monsoon and the post-monsoon. The mine working will not intersect the ground water table. The peak water requirement of the project is estimated as 155m^3 per day, which will initially for two years be obtained from the neighbouring canal and thereafter from the rain water collected in the mine sump. It has been reported that 65households comprising a population of 202 people will be affected due to the project. Approximately 27,000m^3 per month of solid waste comprising 3,000m^3 per month of top soil and 24,000m^3 per month of over burden (soil mixed with scree material) will be generated. The top soil will be used for green belt development and the over burden will be temporarily stacked in the earmarked area for backfilling. It is estimated that 16.1million m^3 of over burden will be generated during the life of mine, which will be backfilled. Backfilling will commence from the 6th year onwards and the entire waste will be backfilled in an area of 170ha. There will be no external over burden dump at the end of the mine life. Out of the total excavated area of 270ha, an area of 170ha will be backfilled and the remaining area of 100ha will be developed as water body during the post mining stage. Plantation will be raised in an area of 259.5ha at the end of the mine life. The Public hearing of the project was held on 25.11.2007, as per the EIA Notification 2006, for production of 1million TPA of limestone over an area of 378.261ha. The Indian Bureau of Mines had approved the mining plan alongwith progressive mine closure plan of the project on 27.11.2006 for lease area of 378.261ha.The capital cost of the project is Rs.2,000Lakhs and the capital cost for the environmental protection measures is proposed as Rs.36Lakhs. The annual recurring cost towards the environmental protection measures is proposed as Rs.35Lakhs.

2. The Ministry of Environment and Forests has examined the application in accordance with the EIA Notification 2006 and hereby accords environmental clearance under the provisions thereof to the above mentioned Hinauti Limestone Mining Project of M/s Jaiprakash Associates Limited for an annual production capacity of 10,00,000tonnes(one million tonne) of limestone by opencast mechanised method involving total mine lease area of 378.261ha, subject to implementation of the following conditions and environmental safeguards.

A. Specific conditions

(i) The project proponent shall obtain Consent to Establish from the Madhya Pradesh Pollution Control Board and effectively implement all the conditions stipulated therein.

(ii) Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project.

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(iii) The environmental clearance is subject to approval of the State Landuse Department, Government of Madhya Pradesh for diversion of 300.268ha agricultural land for non-agricultural use.

(iv) The project proponent shall ensure that no natural watercourse and/or water resources are obstructed due to any mining operations. Adequate measures shall be taken while diverting the 1st order streams emanating from the mine lease during the course of mining operation.

(v) The top soil shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for a long. The topsoil shall be used for land reclamation and plantation.

(vi) The over burden generated during the initial years of mining operation shall temporarily be stacked at earmarked dump site(s) only and thereafter it shall be concurrently backfilled. Backfilling shall start from the 6th year onwards. There shall be no external over burden dump. The backfilled area of 170ha shall be reclaimed and rehabilitated by plantation. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhopal on six monthly basis.

(vii) The void left unfilled in an area of 100ha 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.

(viii) Catch drains and siltation ponds of appropriate size shall be constructed around the working pit, soil, mineral and temporary OB dumps to prevent run off of water and flow of sediments directly into the seasonal nallahs, the Bansagar Canal 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 desilted particularly after the monsoon and maintained properly.

Garland drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and temporary over burden dumps to prevent run off of water and flow of sediments directly into the seasonal nallahs, the Bansagar Canal 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 should be constructed at the corners of the garland drains and desilted at regular intervals.

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(ix) Dimension of the retaining wall at the toe of the temporary dumps and the OB benches within the mine to check run-off and siltation should be based on the rainfall data.

(x) Plantation shall be raised in an area of 259.5ha including a 7.5m wide green belt in the safety zone around the mining lease in an area of 10ha by planting the native species around ML area, backfilled and reclaimed area, around water body and benches of the excavated pit, roads etc. in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2000 plants per ha. The green belt around the mine lease area shall be developed within five years.

(xi) Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RSPM such as haul road, loading and unloading point and all transfer points. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

(xii) Regular monitoring of water quality upstream and downstream of the Bansagar Canal and seasonal streams passing through the mine lease shall be carried out and record of monitoring data should be maintained and submitted to the Ministry of Environment and Forests, its Regional Office, Bhopal, the Central Groundwater Authority, the Regional Director, Central Ground Water Board, the State Pollution Control Board and the Central Pollution Control Board.

(xiii) The project authority shall implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.

(xiv) Regular monitoring of ground water level and quality should be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out four times in a year, pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office Bhopal, 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.

(xv) Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.

(xvi) Appropriate mitigative measures should be taken to prevent pollution of the Son River in consultation with the State Pollution Control Board.

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(xvii) The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water from the Bansagar Canal, required for the project.

(xviii) Minerals 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.

(xix) Vehicular emissions should 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 vehicles should be covered with a tarpaulin and shall not be overloaded.

(xx) Blasting operation shall be carried out only during the daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.

(xxi) Drills shall either be operated with dust extractors or equipped with water injection system.

(xxii) Consent to operate shall be obtained from the State Pollution Control Board prior to start of production from the mine.

(xxiii) Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operation.

(xxiv) Digital processing of the entire lease area using remote sensing technique shall be carried out regularly once in three years for monitoring land use pattern and report submitted to the Ministry of Environment and Forests and its Regional Office, Bhopal.

(xxv) The project authorities shall undertake sample survey to generate data on pre-project community health status within a radius of 1km from proposed mine.

(xxvi) 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.

(xxvii) Land oustees and land losers/affected people shall be compensated and rehabilitated as per the National Policy on Resettlement and Rehabilitation of project Affected Families (NPRR).

(xxviii) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking,

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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.

(xxix) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna such as python, peacock etc. spotted in the study area. Action plan for conservation of flora and fauna shall be prepared 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 allocated shall be included in the project cost. A copy of action plan shall be submitted to the Ministry of Environment and Forests and its Regional Office, Bhopal.

(xxx) 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.

B. General conditions

(i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.

(ii) No change in the calendar plan including excavation, quantum of mineral limestone and waste should be made.

(iii) Atleast four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM, SPM, SO_2 & 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.

(iv) Data on ambient air quality (RSPM, SPM, SO_2 & NOx) should be regularly submitted to the Ministry including its Regional office located at Bhopal and the State Pollution Control Board / Central Pollution Control Board once in six months.

(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.

(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.

(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 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.

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(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.

(ix) The project authorities should inform to the Regional Office located at Bhopal regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

(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.

(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 Bhopal.

(xii) The Regional Office of this Ministry located at Bhopal 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 report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Bhubaneswar, Central Pollution Control Board and State Pollution Control Board. The proponent shall upload the status of compliance of environmental clearance conditions on their website and shall update the same periodically.

(xiv) A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation, if any, was received while processing the proposal.

(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 project authorities should advertise at least in two local newspapers 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 web site of the Ministry of Environment and Forests at **http://envfor.nic.in** and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhopal.

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3. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

4. 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.

5. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & 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 Hon'ble Supreme Court of India/ High Court of Madhya Pradesh and any other Court of Law relating to the subject matter.

6. 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.

(SATISH C. GARKOTI)
Additional Director (S)

Copy to:

(i) The Secretary, Ministry of Mines, Government of India, Shastri Bhavan, New Delhi.

(ii) The Secretary, Department of Mines & Geology, Government of Madhya Pradesh, Secretariat, Bhopal.

(iii) The Secretary, Department of Agriculture, Government of Madhya Pradesh, Secretariat, Bhopal.

(iv) The Secretary, Department of Environment, Government of Madhya Pradesh, Secretariat, Bhopal.

(v) The Chief Wildlife Warden, Government of Madhya Pradesh, Van Bhavan 1st Floor, Tulsi Nagar, Bhopal - 462 003.

(vi) The Chief Conservator of Forests, Regional Office (WZ), Ministry of Environment & Forests, Kendriya Paryavaran Bhawan, Link Road No.3, Ravi Shankar Nagar, Bhopal –462 016.

(vii) The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office complex, East Arjun Nagar, New Delhi-1100032.

...9/-

(viii) The Member Secretary, Central Ground Water Authority, A-2, W3, Curzon Road Barracks, K.G. Marg, New Delhi-110001.

(ix) The Chairman, Madhya Pradesh State Pollution Control Board, Paryavaran Parisar,E-5, Arera Colony, Bhopal - 462016

(x) The Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.

(xi) The District Collector, Sidhi District, Madhya Pradesh.

(xii) EI Division, Ministry of Environment and Forests, Paryavaran Bhavan, C. G. O. Complex, Lodi Road, New Delhi-110 003.

(xiii) Monitoring File.

(xiv) Guard File.

(xv) Record File.

No.J-11015/248/2007-IA.II(M)
Government of India
Ministry of Environment and Forests

Paryavaran Bhawan
CGO Complex, Lodi Road,
New Delhi-110 003

Dated the 13th May, 2009

To

M/s Jaiprakash Associates Limited
Jaypee Sidhi Cement Plant,
Jaypee Vihar, P.O. Bharatpur
Distt. Sidhi (M.P.) - 486776
E-mail: Jscp.mines@jalindia.com
Ds.deepak@jalindia.com

Subject: Budgawana Limestone Mining Project of M/s Jaiprakash Associates Limited, located in Village(s) Budgawana, Baghwar and Gorhatola, Tehsil Rampur Naikin, District Sidhi, Madhya Pradesh- environmental clearance regarding.

Sir,

This has reference to your letter No. JAL/JSCP/2007-08 dated 16.10.2007 and subsequent letters dated 06.05.2008, 14.08.2008, 28.08.2008 and 10.09.2008 on the subject mentioned above. The Ministry of Environment and Forests had earlier prescribed additional terms of reference (TORs) to the project on 18.06.2007 for including in the already prepared EIA report. The proposal is for opening of a new mine for production of 0.27 million TPA of limestone to meet the captive requirement of their cement plant located at Sidhi, which has a capacity of 2 million TPA of cement. The cement plant and the captive power plant have been granted environmental clearance by the Industry Sector on 9th August, 2007. The total mine lease area of the project is 68.91ha, out of which 46.11ha is an agricultural land (Revenue land) and 22.8ha is wasteland. No forestland is involved. Area proposed for mining is 44.75ha, an area of 5.24ha is kept for temporary waste storage, 12.98ha is undisturbed area (safety zone covered under green belt), 4.92ha safety barrier (7.5m wide along mine lease periphery), 1ha for infrastructure and 5.26ha is undisturbed area. An area of 5.24ha earmarked for temporarily waste storage will be re-handled from the 6th year onwards. The township will be in the cement plant. The Son River is flowing in the buffer zone of the mine at a distance of 8.5km from the mine lease boundary. The Bansagar canal passes adjacent to the mine lease area. In addition, small ponds and seasonal nallahs are reported to be located in the buffer zone surrounding the project area. Modification/diversion in the existing natural drainage pattern at any stage has not been proposed. The Son river which is notified as Crocodile Sanctuary falls within 10 km of the mine lease (about 8.5km) and the Chief Wildlife Warden, Madhya Pradesh issued NOC to the project on 13.08.2008, stating that it is unlikely to have adverse impact due to mining on the sanctuary, however, as an abundant caution they have suggested two conditions relating to

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monitoring of the water quality of Son river and removal of silt load from going into the Son river. It has been reported that the project area does not report to form corridor for Schedule-I fauna. The Govindgarh RF is located in the buffer zone of the mine at a distance of 0.2km from the mine lease boundary. The mine working will be opencast by mechanized method involving drilling and blasting. The targetted production capacity of the mine is 2,70,000TPA(0.27million TPA) of limestone and the life of mine is 50years. Approximately 820TPD of mineral will be transported through the road. The blast vibration study has been carried out by Central Institute of Mining and Fuel Research (CIMFR), Dhanbad. The topography of the area is undulated at an elevation above mean sea level ranging from 315m -334m. The ultimate working depth of mine will be 280m AMSL. The ground water table in the core zone reported to vary from 280m RL (pre-monsoon) to 300m RL (post-monsoon). The mine working will intersect the groundwater table. The peak water requirement of the project is estimated as $90m^3$ per day, which will be initially for two years obtained from the canal water and subsequently from the mine sump water. It has been reported that 47 land owners from 3 villages namely Baghwar, Gudhatola and Budhgawana are in the core zone of the mine, displacement of population and R&R has been envisaged for which detailed R&R plan provided. Approximately 9600tonnes per month of solid waste comprising 1500tonnes per month of top soil (murrum, loamy) and 8100tonnes per month of over burden (soil mixed with scree material) will be generated. It is estimated that 3.61million tonnes of OB will be generated during the life of the mine, which will be dumped externally for the initial 5 years in an area of 5.24ha. Backfilling will commence from the 6^{th} year onwards and there will be no external OB dump after the 7^{th} years of operation. Out of the total excavated area of 44.75ha, an area of 36.75ha will be backfilled and the remaining 8ha of area will be developed as water body during the post mining stage. Plantation will be raised in an area of 62.65ha at the end of the mine life. The public hearing of the project was held on 10.09.2007 as per the EIA Notification, 2006 for production of 0.27million TPA of limestone for lease area of 68.91. The Indian Bureau of Mines had approved modified mining plan along with the progressive mine closure plan of the project on 19.12.2008 for lease area of 68.91ha. The capital cost of the project is Rs.800Lakhs and the capital cost for the environmental protection measures is proposed as Rs.24Lakhs. The annual recurring cost towards the environmental protection measures is proposed as Rs.24Lakhs.

2. The Ministry of Environment and Forests has examined the application in accordance with the EIA Notification 2006 and hereby accords environmental clearance under the provisions thereof to the above mentioned Budgawana Limestone Mining Project of M/s Jaiprakash Associates Limited for an annual production capacity of 2,70,000tonnes(0.27million tonnes) of limestone by opencast mechanised method involving total lease area of 68.91 ha, subject to implementation of the following conditions and environmental safeguards.

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A. Specific conditions

(i) The project proponent shall obtain Consent to Establish from the Madhya Pradesh Pollution Control Board and effectively implement all the conditions stipulated therein.

(ii) Prior approval from the Standing Committee of National Board for Wildlife shall be obtained due to location of the Crocodile Sanctuary within 10km of the mine lease, before starting any activity relating to the project at site. All the conditions stipulated by the Standing Committee shall be effectively implemented in the project.

(iii) The environmental clearance is subject to approval of the State Landuse Department, Government of Madhya Pradesh for diversion of 322.49ha agricultural land for non-agricultural use.

(iv) Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004, as may be applicable to this project.

(v) The project proponent shall effectively implement all the conditions stipulated by the Chief Wildlife Warden in their NOC dated 13.08.2008 issued to this project.

(vi) The project proponent shall ensure that no natural watercourse and/or water resources are obstructed due to any mining operations. Adequate measures shall be taken while diverting the 1st order streams, if any, during the course of mining operation.

(vii) The top soil shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for a long. The topsoil shall be used for land reclamation and plantation.

(viii) The over burden generated during the initial years due to mining operation shall temporarily be stacked at earmarked dump site(s) only and thereafter concurrently backfilled. Backfilling shall commence from the 6th year onwards and there shall be no external over burden dump after the 7th year. The backfilled area of 36.75ha shall be reclaimed and rehabilitated by plantation. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhopal on six monthly basis.

(ix) The void left unfilled in an area of 8ha 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 along the excavated area.

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(x) Catch drains and siltation ponds of appropriate size shall be constructed around the working pit, soil, mineral and temporary OB dumps to prevent run off of water and flow of sediments directly into the seasonal Nallahs, ponds, the Bansagar Canal 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 desilted particularly after the monsoon and maintained properly.

Garland drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and temporary over burden dumps to prevent run off of water and flow of sediments directly into the seasonal Nallahs, ponds, the Bansagar Canal 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 should be constructed at the corners of the garland drains and desilted at regular intervals.

(xi) Dimension of the retaining wall at the toe of the temporary dumps and the OB benches within the mine to check run-off and siltation should be based on the rain fall data.

(xii) Plantation shall be raised in an area of 62.65ha including a 7.5m wide green belt in the safety zone around the mining lease by planting the native species around ML area, backfilled and reclaimed area, around water body and benches of the excavated pit, roads etc. in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2000 plants per ha.

(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 SPM and RSPM such as haul road, loading and unloading point and all transfer points. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

(xiv) Regular monitoring of water quality upstream and downstream of Bansagar Canal shall be carried out and record of monitoring data should be maintained and submitted to the Ministry of Environment and Forests, its Regional Office, Bhopal, the Central Groundwater Authority, the Regional Director, Central Ground Water Board, the State Pollution Control Board and the Central Pollution Control Board.

(xv) The project authority shall implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.

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(xvi) Regular monitoring of ground water level and quality should be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out four times in a year , pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office Bhopal, 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.

(xvii) Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.

(xviii) Appropriate mitigative measures should be taken to prevent pollution of the Son River in consultation with the State Pollution Control Board.

(xix) Prior Permission from the competent authority shall be obtained for drawal of water (surface water and ground water), if any, required for the project.

(xx) Minerals 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.

(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.

(xxii) Blasting operation shall be carried out only during the daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.

(xxiii) Drills shall either be operated with dust extractors or equipped with water injection system.

(xxiv) Consent to operate shall be obtained from the State Pollution Control Board prior to start of production from the mine.

(xxv) Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operation.

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(xxvi) The project authorities shall undertake sample survey to generate data on pre-project community health status within a radius of 1 km from proposed mine.

(xxvii) 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.

(xxviii) Land oustees and land losers/affected people shall be compensated and rehabilitated as per the National Policy on Resettlement and Rehabilitation of project Affected Families (NPRR).

(xxix) 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.

(xxx) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna such as python, peacock etc. spotted in the study area. Action plan for conservation of flora and fauna shall be prepared 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 allocated shall be included in the project cost. A copy of action plan shall be submitted to the Ministry of Environment and Forests and its Regional Office, Bhopal.

(xxxi) 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.

B. General conditions

(i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.

(ii) No change in the calendar plan including excavation, quantum of mineral limestone and waste should be made.

(iii) Atleast four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM, SPM, SO_2 & 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.

(iv) Data on ambient air quality (RSPM, SPM, SO_2 & NOx) should be regularly submitted to the Ministry including its Regional office located at Bhopal and the State Pollution Control Board / Central Pollution Control Board once in six months.

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(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.

(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.

(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 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.

(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.

(ix) The project authorities should inform to the Regional Office located at Bhopal regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

(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.

(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 Bhopal.

(xii) The Regional Office of this Ministry located at Bhopal 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 report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Bhopal, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment clearance conditions on their website, display at project location and update the same periodically and simultaneously send the same by e-mail to the Regional Office of the Ministry of Environment and Forests at Bhopal.

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(xiv) A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion/representation has been received while processing the proposal. The clearance letter shall also be put on the web site of the company.

(xv) State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/ Tehsildar's Office for 30 days.

(xvi) The project authorities should advertise at least in two local newspapers 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 web site of the Ministry of Environment and Forests at http://envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this Ministry located Bhopal.

3. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

4. 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.

5. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & 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 Hon'ble Supreme Court of India/ High Court of Madhya Pradesh and any other Court of Law relating to the subject matter.

6. 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.

13/5/09

(SATISH C. GARKOTI)
Additional Director (S)

Copy to:

(i) The Secretary, Ministry of Mines, Government of India, Shastri Bhavan, New Delhi.

(ii) The Secretary, Department of Mines & Geology, Government of Madhya Pradesh, Secretariat, Bhopal.

..9/-

(iii) The Secretary, Department of Environment, Government of Madhya Pradesh, Secretariat, Bhopal.

(iv) The Chief Wildlife Warden, Government of Madhya Pradesh, Van Bhavan1st FloorTulsi Nagar, Bhopal - 462 003.

(v) The Chief Conservator of Forests, Regional Office (WZ), Ministry of Environment & Forests, Kendriya Paryavaran Bhawan, Link Road No.3, Ravi Shankar Nagar, Bhopal –462 016

(vi) The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office complex, East Arjun Nagar, New Delhi-1100032.

(vii) The Member Secretary, Central Ground Water Authority, A-2, W3, Curzon Road Barracks, K.G. Marg, New Delhi-110001.

(viii) The Chairman, Madhya Pradesh State Pollution Control Board, Paryavaran Parisar,E-5, Arera Colony, Bhopal - 462016

(ix) The Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.

(x) The District Collector, Sidhi District, Madhya Pradesh.

(xi) EI Division, Ministry of Environment and Forests, Paryavaran Bhavan , C. G. O. Complex, Lodi Road, New Delhi-110 003 .

(xii) Monitoring File.

(xiii) Guard File.

(xiv) Record File.

No.J-11015/755/2007-IA.II(M)
Government of India
Ministry of Environment and Forests

Paryavaran Bhawan
CGO Complex, Lodi Road,
New Delhi-110 003

Dated the 4th June, 2009

To

M/s Jaiprakash Associates Limited (JAL)
P.O. Jaypee Nagar,
District Rewa,
Madhya Pradesh
E-mail: ajaytewary@jalindia.co.in
Jscp.mines@jalindia.com
ds.deepak@jalindia.com

Subject: Majhgawan Extension Limestone Mining Project (54.825ha) of M/s Jaiprakash Associates Limited located in Village(s) Majhgawan & Sarda, Tehsil Rampur Naikin, District Sidhi, Madhya Pradesh-environmental clearance regarding.

Sir,

This has reference to your letter No. JAL/CO-ORD/2008-09 dated 07.01.2009 and subsequent letter dated 19.03.2009 on the subject mentioned above. The Ministry of Environment and Forests had earlier prescribed additional TORs to the project on 23.04.2008 for inclusion in the already prepared EIA and EMP report. The proposal is for opening of a new mine for extraction of 0.5 million tonnes per annum (million TPA) of limestone as an extension of the existing Majhgaon Limestone Mine of 1.25 million TPA, for which the environmental clearance was accorded on 15.12.2008. The limestone extracted from this mine will be used for their captive cement plant along with other mines. It has been reported that there are six mines linked to the cement plant and the total limestone production from all the six mines put together will not exceed 2.52million TPA. The total mine lease area of the project is 54.825ha, which is a forestland falling in the Govindgarh Reserve Forest. Area proposed for mining is 38ha, an area of 6ha is kept for temporary storage of top soil and overburden, 1ha for infrastructure, 5ha for green belt and 4.825ha is others (non mineralized area as safety zone). The township will be outside the mining lease in the cement plant complex. The Son River is flowing in the buffer zone of the mine at a distance of 9.5km from the mine lease boundary. A few seasonal first order and second order streams originate from the North of the mine lease area, which will be suitably diverted by providing proper garland drainage as well as protected bund on the banks of the garland drains. The flow of diverted streams will meet the original discharge point from where it will follow the existing natural drainage system. In addition, the Govindgarh Lake is reported to be located in the buffer zone of the mine at a distance of 6km from mine lease boundary. There are some small village ponds and seasonal nallahs in the villages surrounding the project

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area. The notified Son Ghariyal Sanctuary is reported to be located in the buffer zone of the mine at a distance of 9.5km from the mine lease boundary. In support of this, a combined NOC under Wildlife (Protection) Act, 1972 has been issued by the Additional Principal Chief Conservator of Forests (Wildlife), Madhya Pradesh, Bhopal vide letter No. 4233 dated 13.08.2008 stating that it is unlikely to have adverse impact due to mining on the sanctuary, however, as an abundant caution they have suggested two conditions relating to monitoring of the water quality of Son river and removal of silt load from going into the Son river. The area does not report to form corridor for Schedule-I fauna. The mine working will be opencast by mechanized method involving drilling and blasting. The targetted production capacity of the mine is 500,000TPA (0.5million TPA) of limestone and the life of mine is 25years. There will be no crusher in this mine and the crusher located in Majhgaon lease will be used for this project. The limestone from this mine will be transported by road to the crusher located in Majhgaon lease and from crusher to the cement plant; it will be transported by conveyor. The topography of the area is undulated and hilly at an elevation above mean sea level ranging from 327m to 461m. The ultimate working depth of mine will be 290m AMSL. The groundwater table in the core zone reported to vary from 308m RL to 310m RL during pre-monsoon and post monsoon. The mine working will intersect the ground water table. A hydrology and hydro-geological report has been provided reporting that there are adequate surface and ground water resources, which are being utilized for irrigation, drinking and industrial purposes in the buffer zone. There is moderate ground water development in the buffer zone. The ground water development is within safe limits in both the core and buffer zone and there is surplus ground water potential for future ground water development. It has been reported that 110 m^3 per day of mine water discharge will result from the mine, which will be used for dust suppression and greenbelt as part of the water requirement for the project. The peak water requirement of the project is estimated as 225 m^3 per day, which will be met from the mine sump water and neighboring Ban Sagar Canal. There is no population in the core zone, therefore, displacement of population and R&R has not been envisaged. The nearest habitation is reported to be located at a distance of 750m from the mine and that based on the ground vibration study, the peak particulate blasting will be 1.26 mm/sec at a distance of 750m using 50kg of explosives, which is much below the prescribed limit by DGMS and therefore no adverse impact due to ground vibration is expected in the habitation due to the proposed mine. Approximately 7,750m^3 per month of solid waste comprising 6001 m^3 per month of top soil (morrum, loamy) and 7,150 m^3 per month of over burden (dolomitic limestone) will be generated. The top soil will be used for green belt development and the over burden will be stacked in the earmarked area for backfilling. It is estimated that 2.14million tonnes of overburden will be generated during the mine life, which will be backfilled. The dump created during the initial six years will be liquidated by the end of 7th year and at the end of the mine life there will be no external dump. Out of the total excavated area of 38ha, an area of 30ha will be backfilled and affiorested. Plantation will be raised in an area of 41ha at the end of the mine life and an area of 8ha will

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be developed as water body during the post mining stage. The public hearing of the project was held on 02.09.2008, as per the EIA Notification, 2006 for production of 0.5 million TPA of limestone over an area of 54.825ha. The Indian Bureau of Mines had approved mining plan along with progressive mine closure plan for the project on 24.05.2007 for lease area of 54.825ha. The capital cost of the project is Rs.800Lakh and the capital cost for the environmental protection measures is proposed as Rs.12Lakhs. The annual recurring cost towards the environmental protection measures is proposed as Rs.14.54lakhs.

2. The Ministry of Environment and Forests has examined the application in accordance with the EIA Notification 2006 and hereby accords environmental clearance under the provisions thereof to the above mentioned Majhgawan Extension Limestone Mining Project of M/s Jaiprakash Associates Limited for an annual production capacity of 500,000tonnes(0.5million tonnes) of limestone by opencast mechanised method involving total mining lease area of 54.825ha, subject to implementation of the following conditions and environmental safeguards.

A. Specific conditions

(i) The project proponent shall obtain Consent to Establish and Consent to Operate from the Madhya Pradesh Pollution Control Board and effectively implement all the conditions stipulated therein.

(ii) Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004, as may be applicable to this project.

(iii) Prior clearance from the Standing Committee of National Board for Wildlife shall be obtained before commencement of work at site due to location of the mine lease within 10km of the Crocodile Sanctuary. The conditions/safeguards as stipulated by the Standing Committee of the National Board for Wildlife shall be implementing in the project.

(iv) Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project.

(v) Necessary forestry clearance under the Forest (Conservation) Act, 1980 for an area of 54.825ha forestland involved in the project shall be obtained before starting mining operation in that area. Environmental clearance is subject to grant of forestry clearance. No mining shall be undertaken in the forest area without obtaining requisite prior forestry clearance.

(vi) The project proponent shall effectively implement all the conditions stipulated by the Additional Principal Chief Conservator of Forests (Wildlife), Madhya Pradesh, Bhopal in their NOC dated 13.08.2008 issued to this project.

P.4/-

(vii) The project proponent shall ensure that no natural watercourse and/or water resources are obstructed due to any mining operations. Adequate measures shall be taken while diverting the 1st order and 2nd order streams emanating from the mine lease during the course of mining operation.

(viii) The top soil shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for a long. The topsoil shall be used for land reclamation and plantation.

(ix) The over burden (OB) generated during the initial years of mining operation shall temporarily be stacked at earmarked dump site(s) only and thereafter concurrently backfilled. Backfilling shall start from the 6th year onwards and there shall be no external over burden dump after the 7th year. The backfilled area of 30ha shall be reclaimed and rehabilitated by plantation. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhopal on six monthly basis.

(x) The void left unfilled in an area of 8ha 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.

(xi) Catch drains and siltation ponds of appropriate size shall be constructed around the working pit, soil, mineral and temporary OB dumps to prevent run off of water and flow of sediments directly into the seasonal nallahs, the Son River, the Govindgarh Lake, ponds 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 desilted particularly after the monsoon and maintained properly.

Garland drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and temporary over burden dumps to prevent run off of water and flow of sediments directly into the seasonal nallahs, the Son River, the Govindgarh Lake, ponds 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 should be constructed at the corners of the garland drains and desilted at regular intervals.

45/-

(xii) Dimension of the retaining wall at the toe of the temporary over burden (OB) dump(s) and the OB benches within the mine to check run-off and siltation shall be based on the rainfall data.

(xiii) Plantation shall be raised in an area of 41ha including a 7.5m wide green belt in the safety zone around the mining lease by planting the native species around ML area, backfilled and reclaimed area, around water body and benches of the excavated pit, roads etc. in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2000 plants per ha. The green belt around the mine lease area shall be developed within five years.

(xiv) Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RSPM such as haul road, loading and unloading point and all transfer points. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

(xv) The project authority shall implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.

(xvi) 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 Bhopal, 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.

(xvii) Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.

(xviii) Appropriate mitigative measures should be taken to prevent pollution of the Son River in consultation with the State Pollution Control Board.

(xix) The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water from the Bansagar Canal, required for the project.

P.6/-

(xx) Minerals 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.

(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 upto the crusher shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.

(xxii) Blasting operation shall be carried out only during the daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.

(xxiii) The project proponent shall take all mitigavtive measures during the mining operation to ensure that the buildings/ structures in the nearby areas shall not be affected due to blasting.

(xxiv) Drills shall either be operated with dust extractors or equipped with water injection system.

(xxv) Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operation.

(xxvi) The project authorities shall undertake sample survey to generate data on pre-project community health status within a radius of 1km from proposed mine.

(xxvii) 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.

(xxviii) 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.

(xxix) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna such as python, peacock etc. spotted in the study area. Action plan for conservation of flora and fauna prepared shall be implemented in consultation with the State Forest and Wildlife Department. All the safeguard measures brought out in the Wildlife Conservation Pan so prepared specific to this project site shall be effectively implemented. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. A copy of action plan shall be submitted to the Ministry of Environment and Forests and its Regional Office, Bhopal.

P.7/-

(xxx) The critical parameters such as SPM, RSPM, NO_x 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 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 www.envfor.nic.in shall also be referred in this regard for its compliance.

(xxxi) 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.

B. General conditions

(i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.

(ii) No change in the calendar plan including excavation, quantum of mineral limestone and waste should be made.

(iii) Atleast four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM, SPM, SO_2 & 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.

(iv) Data on ambient air quality (RSPM, SPM, SO_2 & NOx) should be regularly submitted to the Ministry including its Regional office located at Bhopal and the State Pollution Control Board / Central Pollution Control Board once in six months.

(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.

(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.

(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 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.

8/-

(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.

(ix) The project authorities should inform to the Regional Office located at Bhopal regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

(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.

(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 Bhopal.

(xii) The Regional Office of this Ministry located at Bhopal 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 report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Bhopal, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests, Bhopal.

(xiv) A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion/representation has been received while processing the proposal. The clearance letter shall also be put on the web site of the company.

(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 project authorities should advertise at least in two local newspapers 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 web site of the Ministry of Environment and Forests at **http://envfor.nic.in** and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhopal.

P.9/-

3. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

4. 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.

5. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & 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 Hon'ble Supreme Court of India/ High Court of Madhya Pradesh and any other Court of Law relating to the subject matter.

6. 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.

(SATISH C. GARKOTI)
Additional Director (S)

Copy to:

(i) The Secretary, Ministry of Mines, Government of India, Shastri Bhavan, New Delhi.

(ii) The Secretary, Department of Mines & Geology, Government of Madhya Pradesh, Secretariat, Bhopal.

(iii) The Secretary, Department of Agriculture, Government of Madhya Pradesh, Secretariat, Bhopal.

(iv) The Secretary, Department of Environment, Government of Madhya Pradesh, Secretariat, Bhopal.

(v) The Chief Wildlife Warden, Government of Madhya Pradesh, Van Bhavan 1st Floor, Tulsi Nagar, Bhopal - 462 003.

(vi) The Chief Conservator of Forests, Regional Office (WZ), Ministry of Environment & Forests, Kendriya Paryavaran Bhawan, Link Road No.3, Ravi Shankar Nagar, Bhopal –462 016.

(vii) The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office complex, East Arjun Nagar, New Delhi-1100032.

(viii) The Member Secretary, Central Ground Water Authority, A-2, W3, Curzon Road Barracks, K.G. Marg, New Delhi-110001.

(ix) The Chairman, Madhya Pradesh State Pollution Control Board, Paryavaran Parisar,E-5, Arera Colony, Bhopal - 462016

...10/-

(x) The Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.

(xi) The District Collector, Sidhi District, Madhya Pradesh.

(xii) EI Division, Ministry of Environment and Forests, Paryavaran Bhavan, C. G. O. Complex, Lodi Road, New Delhi-110 003.

(xiii) Monitoring File.

(xiv) Guard File.

(xv) Record File.

No.J-11015/700/2007-IA.II (M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
C.G.O. Complex, Lodi Road,
New Delhi - 110 003

Dated the 4th June, 2009

To

M/s Jaiprakash Associates Limited (JAL)
P.O. Jaypee Nagar,
District Rewa,
Madhya Pradesh
E-mail: ajaytewary@jalindia.co.in
Jscp.mines@jalindia.com
ds.deepak@jalindia.com

Subject: Hinauti Extension Limestone Mining Project(258.867ha) of M/s Jaiprakash Associates Limited located in Village(s) Hinauti, Dengrahat, Birarganj & Jurmani, Tehsil Ramnagar, District Satna, Madhya Pradesh -environmental clearance regarding.

Sir,

This has reference to your letter No. JAL/CO-ORD/2008-09 dated 05.01.2009 and subsequent letters dated 06.02.2009 and 19.02.2009 on the subject mentioned above. The Ministry of Environment and Forests had earlier prescribed additional TORs to the project on 23.04.2008 for inclusion in the already prepared EIA and EMP report. The proposal is for opening of a new mine for production of 0.5million tonnes per annum (million TPA) of limestone to meet the requirement of their captive cement plant. The production from this mine will be mixed with limestone obtained from other mines. The total quantity of limestone to be produced from all the mines put together for the said cement plant will be limited to 2.52million TPA. The total mine lease area of the project is 258.867ha, which is a forestland falling in the Govindgarh Reserve Forest. Area proposed for mining is 145ha, an area of 8ha is kept for storage of top soil and overburden, 2ha for infrastructure, 36.9ha for green belt and 66.967ha is others (non mineralized area, safety zone). The Son River is flowing in the buffer zone of the mine at distance of 9km from the mine lease boundary. The Govindgarh Lake is located in the buffer zone of the mine at a distance of 6km from the lease boundary. In addition, small village ponds and seasonal nallahs are located in villages surrounding the project area. The first order and second order streams originating from the north of the mine lease area will be suitably diverted by providing garland drains. It has been reported that the notified Son Ghariyal Sanctuary is located in the buffer zone of the mine at a distance of 9km from the mine lease boundary. In support of this a combined NOC under Wildlife (Protection) Act, 1972 has been issued by the Additional Principal Chief Conservator of Forests (Wildlife), Madhya Pradesh, Bhopal vide letter No. 4233 dated 13.08.2008 stating that it is

2/-

unlikely to have adverse impact due to mining on the sanctuary, however, as an abundant caution they have suggested two conditions relating to monitoring of the water quality of Son River and removal of silt load from going into the Son River. The area does not report to form corridor for Schedule-I fauna. The mine working will be opencast by mechanized method involving drilling and blasting. The targetted production capacity of the mine is 500,000TPA of limestone and the life of mine is 31years. Approximately 1,515TPD of mineral will be transported through the road. The topography of the area is hilly at an elevation above mean sea level ranging from 333m-518m. The ultimate working depth of mine will be 295m RL. The groundwater table reported to vary from 308m RL (pre monsoon) to 310m RL (post monsoon). The mine working will intersect the ground water table. The ground water assessment study carried out in the core zone indicates that at the conceptual stage the ground water development will be 23.55% and will remain within 'Safe' category. It has also been reported that there will not be any impact on the ground water resources of the buffer zone as it lies in the safe zone so its ground water resources are not under any stress. The peak water requirement of the project is estimated as 155m^3 per day, which will be initially for two years obtained from the Bansagar canal and thereafter from the mine sump. There is no population in the core zone, therefore, displacement of population and R&R has not been envisaged. Approximately 19,225tonnes per month (TPM) of solid waste comprising 1,833TPM of top soil (morrum, loamy) and 17,392TPM of over burden (dolomitic limestone) will be generated. The top soil will be used for green belt development and the over burden will be stacked in the earmarked area. It is estimated that 6.47million tonnes of over burden will be generated during the life of the mine, out of which about 4.8525million tonnes (75%) will be backfilled. Backfilling will commence from the 6th year onwards. There will be one external over burden dump at the end of the mine life having maximum projected height of 15m. Plantation will be raised in an area of 159.867ha at the end of the mine life and an area of 30ha will be developed as water body during the post mining stage. The public hearing of the project was held on 14.09.2008, as per the EIA Notification, 2006 for production of 0.5million TPA of limestone involving lease area of 258.867ha. The Indian Bureau of Mines had approved mining plan along with progressive mine closure plan of the project on 24.05.2007 for lease area of 258.867ha. The capital cost of the project is Rs.1500Lakhs and the capital cost for the environmental protection measures is proposed as Rs.10.8Lakhs. The annual recurring cost towards the environmental protection measures is proposed as Rs.18.36Lakhs.

2. The Ministry of Environment and Forests has examined the application in accordance with the EIA Notification 2006 and hereby accords environmental clearance under the provisions thereof to the above mentioned Hinauti Extension Limestone Mining Project(258.867ha) of M/s Jaiprakash Associates Limited for an annual production capacity of 500,000tonnes (0.5million tonnes) of limestone by opencast mechanised method involving total mine lease area of 258.867ha, subject to implementation of the following conditions and environmental safeguards.

P.3/-

A. Specific conditions

(i) The project proponent shall obtain Consent to Establish from the Madhya Pradesh Pollution Control Board and effectively implement all the conditions stipulated therein.

(ii) Prior environmental clearance from the Standing Committee of the National Board for Wildlife shall be obtained due to location of the crocodile sanctuary within 10km of the mine lease, before starting any activity relating to the project at site. All the conditions stipulated by the Standing Committee shall be effectively implemented in the project.

(iii) Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004, as may be applicable to this project.

(iv) Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project.

(v) Necessary forestry clearance under the Forest (Conservation) Act, 1980 for an area of 258.867ha forestland involved in the project shall be obtained before starting mining operation in that area. Environmental clearance is subject to grant of forestry clearance. No mining shall be undertaken in the forest area without obtaining requisite prior forestry clearance.

(vi) The project proponent shall effectively implement all the conditions stipulated by the Additional Principal Chief Conservator of Forests (Wildlife), Madhya Pradesh, Bhopal in their NOC dated 13.08.2008 issued to this project.

(vii) The project proponent shall effectively address the concerns raised by the locals in the public hearing as well as during consideration of this project, while implementing this project.

(viii) The project proponent shall ensure that no natural watercourse and/or water resources are obstructed due to any mining operations. Adequate measures shall be taken while diverting the 1st order and 2nd order streams emanating from the mine lease during the course of mining operation.

(ix) The top soil shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for a long. The topsoil shall be used for land reclamation and plantation.

(x) 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

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for a long period of time and its phase-wise stabilization shall be carried out. Backfilling shall commence from the 6th year onwards and there shall be only one external over burden dump. Proper terracing of OB dump shall be carried out so that the overall slope shall not exceed 28^0. The over burden dump shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhopal on six monthly basis.

(xi) The void left unfilled in an area of 30ha 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.

(xii) Catch drains and siltation ponds of appropriate size shall be constructed around the working pit, soil, mineral and OB dumps to prevent run off of water and flow of sediments directly into the seasonal nallahs, the Son River, the Govindgarh Lake, ponds 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 desilted particularly after the monsoon and maintained properly.

Garland drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and over burden dump to prevent run off of water and flow of sediments directly into the seasonal nallahs, the Son River, the Govindgarh Lake, ponds 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 should be constructed at the corners of the garland drains and desilted at regular intervals.

(xiii) Dimension of the retaining wall at the toe of the over burden (OB) dump and the OB benches within the mine to check run-off and siltation shall be based on the rainfall data.

(xiv) Plantation shall be raised in an area of 159.867ha including a 7.5m wide green belt in the safety zone around the mining lease by planting the native species around ML area, backfilled and reclaimed area, OB dump, around water body and benches of the excavated pit, roads etc. in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2000 plants per ha. The green belt around the mine lease area shall be developed within five years.

45/-

(xv) Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RSPM such as haul road, loading and unloading point and all transfer points. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

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(xvii) 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 Bhopal, 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.

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(xx) The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water from the Bansagar Canal, required for the project.

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6/-

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(xxv) Drills shall either be operated with dust extractors or equipped with water injection system.

(xxvi) Consent to operate shall be obtained from the State Pollution Control Board prior to start of production from the mine.

(xxvii) Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operation.

(xxviii) Digital processing of the entire lease area using remote sensing technique shall be carried out regularly once in three years for monitoring land use pattern and report submitted to the Ministry of Environment and Forests and its Regional Office, Bhopal.

(xxix) The project authorities shall undertake sample survey to generate data on pre-project community health status within a radius of 1km from proposed mine.

(xxx) 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.

(xxxi) 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.

(xxxii) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna such as python, peacock etc. spotted in the study area. Action plan for conservation of flora and fauna prepared shall be implemented in consultation with the State Forest and Wildlife Department. All the safeguard measures brought out in the Wildlife Conservation Pan so prepared specific of funds for implementation of the conservation plan shall be made and to this project site shall be effectively implemented.

7/-

Necessary allocation the funds so allocated shall be included in the project cost. A copy of action plan shall be submitted to the Ministry of Environment and Forests and its Regional Office, Bhopal.

(xxxiii) The critical parameters such as SPM, RSPM, NO_x 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 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 www.envfor.nic.in shall also be referred in this regard for its compliance.

(xxxiv) 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.

B. General conditions

(i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.

(ii) No change in the calendar plan including excavation, quantum of mineral limestone and waste should be made.

(iii) Atleast four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM, SPM, SO_2 & 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.

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8/-

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(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.

(ix) The project authorities should inform to the Regional Office located at Bhopal regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

(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.

(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 Bhopal.

(xii) The Regional Office of this Ministry located at Bhopal 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 report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Bhopal, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests, Bhopal.

(xiv) A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion/representation has been received while processing the proposal. The clearance letter shall also be put on the web site of the company.

(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.

1.9/-

(xvi) The project authorities should advertise at least in two local newspapers 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 web site of the Ministry of Environment and Forests at **http://envfor.nic.in** and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhopal.

3. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

4. 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.

5. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & 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 Hon'ble Supreme Court of India/ High Court of Madhya Pradesh and any other Court of Law relating to the subject matter.

6. 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.

(SATISH C. GARKOTI)
Additional Director (S)

Copy to:

(i) The Secretary, Ministry of Mines, Government of India, Shastri Bhavan, New Delhi.

(ii) The Secretary, Department of Mines & Geology, Government of Madhya Pradesh, Secretariat, Bhopal.

(iii) The Secretary, Department of Agriculture, Government of Madhya Pradesh, Secretariat, Bhopal.

(iv) The Secretary, Department of Environment, Government of Madhya Pradesh, Secretariat, Bhopal.

(v) The Chief Wildlife Warden, Government of Madhya Pradesh, Van Bhavan 1st Floor, Tulsi Nagar, Bhopal - 462 003.

..10/-

(vi) The Chief Conservator of Forests, Regional Office (WZ), Ministry of Environment & Forests, Kendriya Paryavaran Bhawan, Link Road No.3, Ravi Shankar Nagar, Bhopal –462 016.

(vii) The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office complex, East Arjun Nagar, New Delhi-1100032.

(viii) The Member Secretary, Central Ground Water Authority, A-2, W3, Curzon Road Barracks, K.G. Marg, New Delhi-110001.

(ix) The Chairman, Madhya Pradesh State Pollution Control Board, Paryavaran Parisar,E-5, Arera Colony, Bhopal - 462016

(x) The Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.

(xi) The District Collector, Sidhi District, Madhya Pradesh.

(xii) EI Division, Ministry of Environment and Forests, Paryavaran Bhavan, C. G. O. Complex, Lodi Road, New Delhi-110 003.

(xiii) Monitoring File.

(xiv) Guard File.

(xv) Record File.

No.J-11015/105/2008-IA.II(M)
Government of India
Ministry of Environment and Forests

Paryavaran Bhawan
CGO Complex, Lodi Road,
New Delhi-110 003

Dated the 31st July, 2009

To

M/s Jaypee Sidhi Cement Plant
(Unit of Jaiprakash Associates Ltd.),
Jaypee Vihar, P.O. Bharatpur,
District Sidhi,
Madhya Pradesh-486 776
E-mail: Jscp.mines@jalindia.com
ds.deepak@jalindia.com

Subject: Budgawana Extension Limestone Mining Project of M/s Jaypee Sidhee Cement Plant(Unit of Jaiprakash Associates Limited) located in Village(s) Baghwar & Gorhatola, Tehsil Rampur Naikin, District Sidhi, Madhya Pradesh- environmental clearance regarding.

Sir,

This has reference to your letter No. JAL/CO-ORD/2008-09 dated 27.03.2009 and subsequent letters dated 06.06.2009 and 18.06.2009 on the subject mentioned above. The Ministry of Environment and Forests had earlier prescribed additional TORs to the project on 23.04.2008 for inclusion in the already prepared EIA and EMP report. The proposal is for opening of a new mine for production of 3,00,000tonnes per annum(TPA)(0.3 million TPA) of limestone to meet the requirement of their captive cement plant, which is located at a distance of about 2.5 km from the mine. It will be one of the six captive mines to feed the cement plant. The total production from all the six mines put together will not exceed 2.52 million TPA. The total mine lease area of the project is 87.992ha, out of which 66.949ha is forestland and 21.043ha is wasteland. Area proposed for mining is 48ha, an area of 4.5ha is kept for temporary storage of topsoil and over burden, 1ha for infrastructure, 13.5ha for green belt and 20.992ha is others (non-mineralised area). The Son River is flowing in the buffer zone of the mine at a distance of 8.5km from the mine lease boundary. The Govindgarh Lake is located in the buffer zone of the mine at a distance of 6.2km from the lease boundary. In addition, small village ponds and seasonal nallahs are located in villages surrounding the project area. The first order and second order streams originating from the north of the mine lease area will be suitably diverted along the barrier and connected to streams in the south of the lease area. It has been reported that the notified Son Ghariyal Sanctuary is located in the buffer zone of the mine at a distance of 8.5km from the mine lease boundary. In support of this, a combined NOC under Wildlife (Protection) Act, 1972 has been issued by the Additional Principal Chief Conservator of Forests (Wildlife), Madhya Pradesh,

..2/-

Bhopal vide letter No. 4233 dated 13.08.2008 stating that it is unlikely to have adverse impact due to mining on the sanctuary, however, as an abundant caution they have suggested two conditions relating to monitoring of the water quality of Son river and removal of silt load from going into the Son river. The area also does not report to form corridor for Schedule-I fauna. The mine working will be opencast by mechanized method involving drilling and blasting. The targetted production capacity of the mine is 3,00,000TPA of limestone and the life of mine is 35years. Approximately 910TPD of mineral will be transported through the road. The topography of the area is undulated and hilly at an elevation above means sea level ranging from 320m-381m. The Ultimate working depth of mine will be 295m RL. The ground water table in the core zone reported to vary from 308m RL (pre-monsoon) to 310m RL (post-monsoon). The mine working will intersect the groundwater table. Based on the hydro-geological studies, it was shown that pumping of water from the sump will create a radius of influence of 30 meters. No adverse impact is anticipated on the competing users due to the mine discharge. The stage of groundwater development was reported to be 38.54%. The peak water requirement of the project is estimated as 105m^3 per day, which will be initially obtained from the canal water and subsequently from the mine sump water. There is no population in the core zone, therefore, displacement of population and R&R has not been envisaged. Approximately 4950m^3 per month of solid waste comprising 850 m^3 per month of top soil (morrum, loamy and scree) and 4100 m^3 per month of over burden(dolomitic limestone) will be generated, which will be stored temporarily in the earmarked areas for backfilling. The excavated material from the drain proposed to be made for modifying the drainage of the area will also be disposed in the dumps/ backfilled area. The waste from the dump will be re-handled from the 6th year onwards and there will be no external OB dump after the 7th year of operation. Plantation will be raised in an area of 50ha at the end of the mine life and an area of 16ha will be developed as water body during the post mining stage. The public hearing of the project was held on 02.09.2008 as per the EIA Notification, 2006 for production of 0.3millon TPA of limestone over lease area of 87.992. The Indian Bureau of Mines had approved Mining Plan along with the progressive mine closure plan of the project on 22.05.2007 for lease area of 87.992ha. The capital cost of the project is Rs.700Lakhs and the capital cost for the environmental protection measures is proposed as Rs.18.5Lakhs. The annual recurring cost towards the environmental protection measures is proposed as Rs.25.2Lakhs.

2. The Ministry of Environment and Forests has examined the application in accordance with the EIA Notification 2006 and hereby accords environmental clearance under the provisions thereof to the above mentioned Budgawana Extension Limestone Mining Project of M/s Jaypee Sidhee Cement Plant(Unit of Jaiprakash Associates Limited) for an annual production capacity of 3,00,000tonnes(0.3million tonnes) of limestone by opencast mechanised method involving total mining lease area of 87.992, subject to implementation of the following conditions and environmental safeguards.

P.3/-

A. Specific conditions

(i) The project proponent shall obtain Consent to Establish and Consent to Operate from the Madhya Pradesh Pollution Control Board and effectively implement all the conditions stipulated therein.

(ii) Prior approval from the Standing Committee of National Board for Wildlife shall be obtained due to location of the Crocodile Sanctuary within 10km of the mine lease, before starting any activity relating to the project at site. All the conditions stipulated by the Standing Committee shall be effectively implemented in the project.

(iii) Necessary forestry clearance under the Forest (Conservation) Act, 1980 for an area of 66.949ha forestland involved in the project shall be obtained before starting mining operation in that area. Environmental clearance is subject to grant of forestry clearance. No mining shall be undertaken in the forest area without obtaining requisite prior forestry clearance.

(iv) Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004, as may be applicable to this project.

(v) The project proponent shall effectively implement all the conditions stipulated by the Chief Wildlife Warden in their NOC dated 13.08.2008 issued to this project.

(vi) The project proponent shall ensure that no natural watercourse and/or water resources are obstructed due to any mining operations. Adequate measures shall be taken while diverting the 1st order and 2nd order streams, during the course of mining operation.

(vii) The top soil shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for a long. The topsoil shall be used for land reclamation and plantation.

(viii) The over burden generated during the initial years due to mining operation shall temporarily be stacked at earmarked dump site(s) only and thereafter concurrently backfilled. Backfilling shall commence from the 6th year onwards and there shall be no external over burden dump after the 7th year. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhopal on six monthly basis.

(ix) The void left unfilled in an area of 16ha 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

84/-

water body. Peripheral fencing shall be carried out along the excavated area.

(x) Catch drains and siltation ponds of appropriate size shall be constructed around the working pit, soil, mineral and temporary OB dumps to prevent run off of water and flow of sediments directly into the seasonal Nallahs, ponds 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 desilted particularly after the monsoon and maintained properly.

Garland drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and temporary over burden dumps to prevent run off of water and flow of sediments directly into the seasonal Nallahs, ponds 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 should be constructed at the corners of the garland drains and desilted at regular intervals.

(xi) Dimension of the retaining wall at the toe of the temporary dumps and the OB benches within the mine to check run-off and siltation should be based on the rain fall data.

(xii) Plantation shall be raised in an area of 50ha including a 7.5m wide green belt in the safety zone around the mining lease by planting the native species around ML area, backfilled and reclaimed area, around water body and benches of the excavated pit, roads etc. in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2000 plants per ha.

(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 SPM and RSPM such as haul road, loading and unloading point and all transfer points. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

(xiv) The project authority shall implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.

(xv) 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);

P.5/-

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 Bhopal, 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.

(xvi) Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.

(xvii) Appropriate mitigative measures should be taken to prevent pollution of the Son River in consultation with the State Pollution Control Board.

(xviii) Prior Permission from the competent authority shall be obtained for drawal of surface water, required for the project.

(xix) Minerals 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.

(xx) 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.

(xxi) Blasting operation shall be carried out only during the daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.

(xxii) Drills shall either be operated with dust extractors or equipped with water injection system.

(xxiii) Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operation.

(xxiv) The project authorities shall undertake sample survey to generate data on pre-project community health status within a radius of 1 km from proposed mine.

(xxv) 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.

6/-

(xxvi) 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.

(xxvii) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna such as python, peacock etc. spotted in the study area. Action plan for conservation of flora and fauna shall be prepared 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 allocated shall be included in the project cost. A copy of action plan shall be submitted to the Ministry of Environment and Forests and its Regional Office, Bhopal.

(xxviii) The critical parameters such as SPM, RSPM, 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.II(M) dated 27.05.2009 issued by Ministry of Environment and Forests, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance.

(xxix) 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.

B. General conditions

(i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.

(ii) No change in the calendar plan including excavation, quantum of mineral limestone and waste should be made.

(iii) Atleast four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM, SPM, SO_2 & 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.

(iv) Data on ambient air quality (RSPM, SPM, SO_2 & NOx) should be regularly submitted to the Ministry including its Regional office located at Bhopal and the State Pollution Control Board / Central Pollution Control Board once in six months.

7/-

(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.

(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.

(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 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.

(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.

(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.

(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 and its Regional Office located at Bhopal.

(xi) The project authorities should inform to the Regional Office located at Bhopal regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

(xii) The Regional Office of this Ministry located at Bhopal 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 EC 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 Bhopal, the respective Zonal Office of CPCB and the SPCB. The proponent shall upload the status of compliance of the EC conditions, including results

8/-

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, Bhopal, the respective Zonal Officer of CPCB and the SPCB.

(xiv) 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.

(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 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Polluti on 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 EC conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, at Bhopal by e-mail.

(xvii) The project authorities should advertise at least in two local newspapers 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 web site of the Ministry of Environment and Forests at http://envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhopal.

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5. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & 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 Hon'ble Supreme Court of India/ High Court of Madhya Pradesh and any other Court of Law relating to the subject matter.

9/-

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31/7/09

(SATISH C. GARKOTI)
Additional Director (S)

Copy to:

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