

EXECUTIVE SUMMARY OF DRAFT EIA REPORT

FOR

*Environmental Clearance for Proposed & Existing Akoldihkhapri,
Bahnakadi, and Dhansuli Limestone Mining Project*

(Minor mineral)

Total Mine area is 39.317 Hect.

At

**Village:- Akoldihkhapri, Bahnakadi & Dhansuli, Tehsil-
Arang, District-Raipur, State- Chhattisgarh**

APPLICANTS

FOR

**Mining Lease Cluster Area :177.56 Ha.
Category –B1**

ENVIRONMENTAL CONSULTANT



Environmental Consultancy & Laboratory
(Lab. Gazetted by MoEF-Govt. of India)

M/s. ULTRA-TECH

ENVIRONMENTAL LABORATORY AND CONSULTANCY

NABET Accredited EIA Consulting Organization

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Valid Upto - Oct 18, 2024

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EXECUTIVE SUMMARY

1.1 Introduction

The proposed project is a limestone mining project (total lease area in the cluster, including 13 applied mines, is 177.56 Ha of mineral limestone) at villages - Akoldihkhapri, Bahnakadi, and Dhansuli, Tehsil - Arang, District - Raipur, State - Chattishgarh. Details of the entire lease are discussed in the further chapters. The lease holders of the cluster their respectively TOR issued in favor of the project proponent are as follows-

Details of TOR		
S.no.	Name of Applicant	TOR letter no.
1.	M/s. Shri Maa Mahasar Limestone (Prop. Smt. Krishna Agrawal)	Vide letter no. 2446/S.E.A.C.C.G/Mine/ 2536 Nawa Raipur Atal Nagar, Dated 03/01/2024
2.	M/s. Narsingh Minerals (Partner – Alok Agrawal)	Vide letter no. 256/S.E.A.C.C.G/Mine/2671, Nawa Raipur Atal Nagar, Dated 12/04/2024
3.	M/s. Goyal Construction Company (Partner Shri Ram Avtar Agrawal)	Vide letter no. 252/S.E.A.C.C.G./Mine / 2679, Nawa Raipur Atal Nagar , Dated 12/04/2024
4.	M/s. Goyal Construction Company (Partner Shri Shiv Kumar Agrawal)	Vide letter no. 219/S.E.A.C.C.G./Mine/ 2680 Nawa Raipur Atal Nagar , Dated 09/04/2024
5.	M/s Bajrang Bali Crusher (Partner Deepak Agrawal)	Vide letter no. 494/S.E.A.C.C.G./Mine / 2978 Nawa Raipur Atal Nagar , Dated 13/05/2024
6.	Kamlesh Bhawnani	Vide letter no. 223/S.E.A.C.C.G/Mine/ 2299 Nawa Raipur Atal Nagar, Dated 09/04/2024
7.	Shri Krishna Metal Works (Partner – Anand Gopal Agrawal)	TO24B0108CG5939168N, Dated 11/09/2024
8.	Shri Krishna Metal Works (Partner – Anand Gopal Agrawal)	TO24B0108CG5618702N, Dated 11/09/2024
9.	Vijay Jadwani	Vide letter no. 3318/S.E.A.C.C.G/Mine/ 2639 Nawa Raipur Atal Nagar, Dated 20/03/2024
10.	Satinder Kaur Arora	Vide letter no. 3288/S.E.A.C.C.G./Mine/ 2612 Nawa Raipur Atal Nagar , Dated 19/03/2024
11.	Smt. Durgesh Shukla	Vide letter no. 225/S.E.A.C.C.G./Mine / 2697 Nawa Raipur Atal Nagar , Dated 09/04/2024
12.	Shri Ganapati Minerals (Partner – Subhash Chand Agrawal)	TO24B0108CG5645373N, Dated 29/09/2024
13.	Vinay Kumar Bajaj	TO24B0108CG5934592N, Dated 27/09/2024

This mining project comes under Category ‘B1’ (Cluster situation) Project or activity 1(a) as per EIA Notifications 2006, and its subsequent amendments and will be appraised at SEAC, Chattisgarh. The lease is falling in the cluster as per 15th January 2016 EIA Notification of MoEF&CC and NGT order dated 13th September 2018.

Executive Summary of Draft EIA Report for Akoldihkhapri, Bahnakadi & Dhansuli Limestone Mine at Village- Akoldihkhapri, Bahnakadi & Dhansuli, Tehsil-Arang , District- Raipur , State- Chhattishgarh .

1.1.1 Project Location -

In some cases Letter of Intent (LOI) has been granted for fresh grant of limestone mining lease by office of Collector Mining Branch District Raipur. Details of letter of intent along with name, khasra & lease area are given in table below

Quarry plan for the mining of applied lease area has been approved authorized officer of mining department of the State. Details of mine plan approval letter and date are given in table below in Table

Copy of lease deed, letter of intent and extension of validity of LOI and other relevant documents are enclosed as Annexure 2 and copy of Mine Plan Approval letter are enclosed in Annexure – 3.

Applicant wise name of lease holders their Khasra numbers & lease area, lease period / and Mine Plan Approval letter Number and date are as follow –

Lease Area Details

SN	Name of the Applicant	Mine Village	Type of Land	Khasra Details	Area (Ha)	LOI No./Lease Period	Approval letter No.
1.	M/s. Shri Maa Mahasar Limestone (Prop. Smt. Krishna Agrawal)	Akoldih Khapri	Private Land	671, 672, 673	3.19	Vide letter no. 1791/ Kha.li. /Teen – 6 /U.P / 2022 Raipur, Date 09/11/2022.	Vide letter no 4018/ Khani 02/ Ma. Pla. Anumodan/Na.Kra.04/ 2019(4)Nawa Raipur, Dated 13/06/2023.
2.	M/s. Narsingh Minerals (Partner – Alok Agrawal)	Akoldih Khapri	Private Land	657, 658/1	3.680	07/05/2018 to 06/05/2048	Vide letter no 4415/ Khani 02/ Ma. Pla. Anumodan/Na.Kra.04/ 2019(4)Nawa Raipur, Dated 03/07/2023.
3.	M/s. Goyal Construction Company (Partner Shri Ram Avtar Agrawal)	Akoldih Khapri	Private Land	650/1,2,3,4, 5	4.00	27/03/2018 to 26/03/2048	Vide letter no 1238/ Khani 02/ Ma. Pla. Anumodan/Na.Kra.04/ 2019(4)Nawa Raipur, Dated 15/02/2023.
4.	M/s. Goyal Construction Company (Partner Shri Shiv Kumar Agrawal)	Akoldih Khapri- Bahnakadi	Private Land	652, 653, 4/1, 4/2, 3, 655	4.40	27/03/2018 to 26/03/2048	Vide letter no 1240/ Khani 02/ Ma. Pla. Anumodan/Na.Kra.04/ 2019(4)Nawa Raipur, Dated 15/02/2023.
5.	M/s. Bajrang Bali Crusher	Akoldih Khapri	Private Land	645 & 646	3.62	27/03/2018 to 26/03/2048	Vide letter no. 16/ Khani.Li. 1/ Na.kra./ Ma.Plan.Anumo./ 23-24 Raipur dated 07/12/2023.

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SN	Name of the Applicant	Mine Village	Type of Land	Khasra Details	Area (Ha)	LOI No./Lease Period	Approval letter No.
6.	Kamlesh Bhawnani	Akoldih Khapri	Private Land	118, 119, 120, 121, 122, 125/1, 127/2, 128/2, 133, 134, 135, 136, 137, 146, 147/1,	3.925	24/03/2018 to 23/03/2048	Vide letter no. Kha.Li Teen-6/ E-Nivida /2017/1037 Raipur, Dated 17/11/2017.
7.	Krishna Metal Works (Partner-Anand Gopal Agrawal)	Akoldih Khapri	Private Land	345, 377, 378 (Part)	1.69	Vide letter no. 789/Kha.li./Teen-6 /U.P./2022 , Raipur, dated 01/07/2022	Vide Letter No. 25/ Khani.li. 1 /Na.kra / Ma.pla. anumodan. /23-24 Raipur, Dated 05/01/2024.
8.	Krishna Metal Works (Partner-Anand Gopal Agrawal)	Akoldih Khapri	Private Land	347, 348, 358, 359, 360, 361, 362, 363, & 375	2.43	'13/02/2018 to 12/02/2048	26/Khani.Li.1/Na.Kra. /Ma.Pla.Anumodan./23-24,Raipur,Dated 05/01/2024.
9.	Vijay Jadwani	Bahnakadi	Private Land	31, 32/1, 33, 34, & 46/2	3.664	18/11/2012 to 17/11/2032	Vide letter no. Ka. /Kha. Li/ U.P. /20... Raipur, Dated 08/03/2017.
10.	Satinder Kaur Arora	Dhansuli	Private Land	703 (Part)	0.971	29/11/2002 to 28/11/2032	Vide letter no. 5039/Khani 02/ Ma. Pla. Anumodan/ Na. Kra. 04 /2019(4) Nawa Raipur, Date 29/09/2022.
11.	Smt. Durgesh Shukla	Dhansuli	Private Land	984/1(Part)	2.832	01/12/2011 to 30/11/2041	vide letter no. Ka / Kha. Li./Teen6/U.P.83 /2011 Raipur, Dated 30/01/2018.
12.	Shri Ganapati Minerals Partner - Subhash Chand Agrawal	Dhansuli	Private Land	919/5, 920/1	3.75	'2874/Kha.Li./Na. Kra./U.P/2023 , Raipur dated 09/10/2023	Vide Letter No. 42/ Khani.li.1/Na.Kra./Ma. Pla.Anumodan./23-24, Raipur, Dated 05/03/2024.
13.	Vinay Kumar Bajaj	Dhansuli	Private Land	916/3, 917/1	1.09	16 /01/2014 to 15/01/2044	Vide Letter No. Kha.li. /Teen – 6 /U.P. /2016 /2400 Raipur, Dated 26/11/2016.

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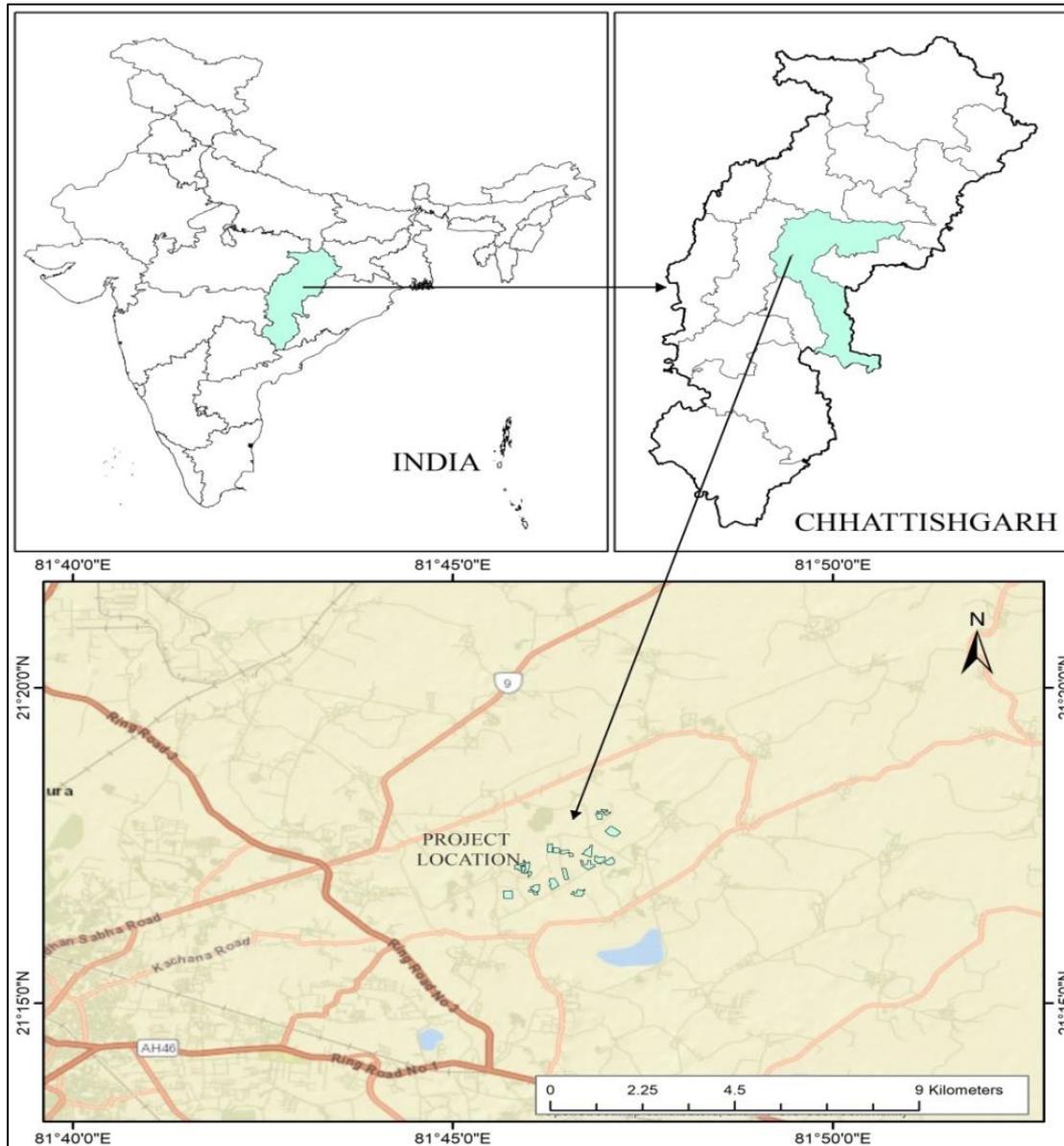


Figure 1.1: Location Map of Proposed Project Site

Table 1.1A: Environmental Setting of Proposed limestone Mining Projects

S.N.	Applicant / Lessee Name	Address of party	Mine Village	Khasra No.	Toposheet no.	Type of Land
1.	M/s. Shri Maa Mahasar Limestone (Prop. Smt. Krishna Agrawal)	Kool Home Complex, B302 Mowa , City- Raipur, Tehsil & District – Raipur	Akoldih Khapri	671, 672, 673	64 G/11, 64G/12, 64 G/15, 64G/16	Private Land
2.	M/s. Narsingh Minerals (Partner – Alok Agrawal)	City –Samta Colony,Raipur	Akoldih Khapri	657, 658/1		Private Land
3.	Goyal Construction Company (Partner: Ram Avtar Agrawal)	City– Vishal Nagar Raipur, Tehsil- Raipur, District- Raipur (C.G.)	Akoldih Khapri	650/1,2,3,4, 5		Private Land
4.	Goyal Construction Company (Partner–Shiv Kumar Agrawal)	City– Vishal Nagar Raipur, Tehsil- Raipur, District- Raipur (C.G.)	Akoldih Khapri	652, 653, 4/1, 4/2, 3, 655		Private Land
5.	M/s Bajrang Bali Crusher (Partner Deepak Agrawal)	R.O– Palm Bellagaio, Block-B, 2nd Floor, 205 near BSNL Office, Khamhardih Shankar Nagar,Tehsil & District- Raipur (C.G.),	Akoldih Khapri	645 & 646		Private Land
6.	Kamlesh Bhawnani	City- Devendra Nagar, Raipur Tehsil & District – Raipur (C.G)	Akoldih Khapri	118, 119, 120, 121, 122,125/1, 127/2, 128/2, 133, 134, 135, 136, 137, 146, 147/1,		Private Land
7.	Krishna Metal Works (Partner- Anand Gopal Agrawal)	R.O.:- B -204 , Ashoka Impression Mowa, Tehsil & District- Raipur (C.G.)	Akoldih Khapri	345, 377, 378 (Part)		Private Land
8.	Krishna Metal Works (Partner- Anand Gopal Agrawal)	R.O.:- B -204 , Ashoka Impression Mowa, Tehsil & District- Raipur (C.G.)	Akoldih Khapri	347, 348, 358, 359, 360, 361, 362, 363, & 375		Private Land
9.	Vijay Jadwani	Villa no.15,Banyan Tree Enclave, Khamhardih City-Shankar Nagar,Raipur, Tehsil & District- Raipur(C.G)	Bahnakadi	31, 32/1, 33, 34, & 46/2		Private Land
10.	Satinder Kaur Arora	City – Telibandha, Raipur, Tehsil & District-	Dhansuli	703 (Part)		Private Land

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		Raipur (C.G)			
11.	Smt. Durgesh Shukla	City-H-23, Subhash Chandra bosh Ward, Anupam Nagar, Beside T.V. Tower, Raipur Tehsil & District- Raipur	Dhansuli	984/1 (Part)	Private Land
12.	Shri Ganpati Minerals Partner - Subhash Chand Agrawal	R./o. City- G2, Shiva Ji Park Saddu, Raipur, Tehsil & District- Raipur(C.G.)	Dhansuli	919/5, 920/1	Private Land
13.	Vinay Kumar Bajaj	R.O - Apt- 6, Gali No- 03, Ward No- 22, Fafadih Tehsil – Raipur - District Raipur	Dhansuli	916/3, 917/1	Private Land

Table 1.2B: Details of the Project Proponent and Project Coordinates

S. N.	Co-Ordinates	M/s. Shri Maa Mahasar Limestone (Prop. Smt. Krishna Agrawal)	M/s. Narsingh Minerals (Partner – Alok Agrawal)	Goyal Construction Company (Partner: Ram Avtar Agrawal)0	Goyal Construction Company (Partner–Shiv Kumar Agrawal)	M/s Bajrang Bali Crusher (Partner Deepak Agrawal)	Vijay Jadwani	Kamlesh Bhawnani	Krishna Metal Works (Partner-Anand Gopal Agrawal)-1.69Ha	Krishna Metal Works (Partner-Anand Gopal Agrawal)-2.43Ha	Satinder Kaur Arora-0.971Ha	Smt. Durgesh Shukla	Shri Ganapati Minerals (Partner – Subhash Chand Agrawal)	Vinay Kumar Bajaj
1	BL 1	21°17'19.10"N/ 81°47'5.51"E	21°17'20.44"N/ 81°46'52.99"E	21°17'30.38"N/ 81°46'45.96"E	21°17'6.96"N/ 81°46'46.46"E	21°17'20.30"N/ 81°46'58.44"E	21°16'47.45"N/ 81°46'44.52"E	21°18'08.44"N/ 81°46'57.55"E	21°18'0.08"N/ 81°46'58.20"E	21°18'0.11"N / 81°46'58.06"E	21°17'01.57"N/ 81°45'52.89"E	21°16'41.9"N/ 81°46'28.9"E	21°16'46.62"N/ 81°46'18.56"E	21°16'52.1"N/ 81°46'08.50"E
2	BL 2	21°17'17.76"N/ 81°47'5.95"E	21°17'20.59"N/ 81°46'55.21"E	21°17'30.34"N/ 81°46'47.66"E	21°17'8.56"N/ 81°46'44.84"E	21°17'29.61"N/ 81°46'56.68"E	21°16'48.33"N/ 81°46'44.39"E	21°18'08.39"N/ 81°46'54.87"E	21°17'55.10"N/ 81°46'58.07"E	21°17'55.20"N / 81°46'57.93"E	21°17'01.49"N/ 81°45'57.36"E	21°16'46.5"N/ 81°46'31.4"E	21°16'52.30"N/ 81°46'15.62"E	21°16'51.9"N/ 81°46'10.4"E
3	BL 3	21°17'17.79"N/ 81°47'6.86"E	21°17'19.43"N/ 81°46'55.28"E	21°17'17.92"N/ 81°46'46.80"E	21°17'11.34"N/ 81°46'41.49"E	21°17'29.64"N/ 81°46'58.24"E	21°16'47.24"N/ 81°46'40.18"E	21°18'11.10"N/ 81°46'51.69"E	21°17'54.75"N/ 81°46'57.20"E	21°17'54.86"N / 81°46'54.49"E	21°17'03.67"N/ 81°45'57.51"E	21°16'48.0"N/ 81°46'31.4"E	21°16'54.74"N/ 81°46'23.11"E	21°16'50.7"N/ 81°46'11.9"E
4	BL 4	21°17'13.75"N/ 81°47'7.60"E	21°17'20.36"N/ 81°47'00.93"E	21°17'21.59"N/ 81°46'39.88"E	21°17'11.50"N/ 81°46'41.81"E	21°17'27.24"N/ 81°47'2.05"E	21°16'48.45"N/ 81°46'39.81"E	21°18'11.79"N/ 81°46'51.87"E	21°17'54.79"N/ 81°46'55.11"E	21°18'0.14"N / 81°46'52.57"E	21°17'04.08"N/ 81°45'53.00"E	21°16'47.7"N/ 81°46'29.4"E	21°16'51.00"N/ 81°46'25.42"E	21°16'48.0"N/ 81°46'12.6"E
5	BL 5	21°17'12.72"N/ 81°47'6.45"E	21°17'17.87"N/ 81°47'1.69"E	21°17'21.52"N/ 81°46'41.06"E	21°17'16.36"N/ 81°46'40.45"E	21°17'20.02"N/ 81°47'3.36"E	21°16'47.97"N/ 81°46'37.93"E	21°18'11.68"N/ 81°46'52.74"E	21°17'51.99"N/ 81°46'56.18"E	21°18'00.03"N / 81°46'55.35"E		21°16'46.6"N/ 81°46'29.5"E		21°16'47.8"N/ 81°46'9.4"E
6	BL 6	21°17'12.30"N/ 81°47'4.92"E	21°17'13.26"N/ 81°46'57.02"E	21°17'24.15"N/ 81°46'42.42"E	21°17'16.04"N/ 81°46'41.59"E	21°17'19.24"N/ 81°47'2.25"E	21°16'45.04"N/ 81°46'38.02"E	21°18'13.02"N/ 81°46'53.16"E	21°17'55.46"N/ 81°46'59.21"E	21°18'1.59"N/ 81°46'55.32"E		21°16'46.4"N/ 81°46'27.1"E		21°16'48.5"N/ 81°46'9.3"E
7	BL 7	21°17'11.94"N/ 81°47'4.95"E	21°17'14.95"N/ 81°46'56.43"E	21°17'24.08"N/ 81°46'42.01"E	21°17'16.01"N/ 81°46'42.41"E	21°17'21.10"N/ 81°47'2.12"E	21°16'44.82"N/ 81°46'35.52"E	21°18'12.81"N/ 81°46'55.28"E	21°17'57.95"N/ 81°47'1.38"E	21°18'1.86"N/ 81°46'53.62"E		21°16'49.0"N/ 81°46'25.6"E		21°16'48.1"N/ 81°46'9.0"E
8	BL 8	21°17'11.66"N/ 81°47'3.15"E	21°17'13.58"N/ 81°46'54.97"E	21°17'24.92"N/ 81°46'42.20"E	21°17'12.03"N/ 81°46'43.13"E	-	21°16'46.61"N/ 81°46'35.70"E	21°18'13.33"N/ 81°46'54.93"E	21°17'59.97"N/ 81°46'59.79"E	21°18'2.99"N/ 81°46'54.05"E		21°16'45.9"N/ 81°46'21.2"E		
9	BL 9	21°17'12.02"N/ 81°47'1.90"E	21°17'14.02"N/ 81°46'54.45"E	21°17'25.12"N/ 81°46'43.78"E	21°17'11.99"N/ 81°46'45.95"E	-	21°16'46.49"N/ 81°46'34.45"E	21°18'14.31"N/ 81°46'55.01"E	21°18'0.04"N/ 81°46'59.48"E	21°18'2.43"N/ 81°46'56.65"E		21°16'41.9"N/ 81°46'21.8"E		
10	BL 10	21°17'14.05"N/ 81°46'59.20"E	21°17'15.56"N/ 81°46'54.58"E	21°17'26.08"N/ 81°46'43.86"E	21°17'16.19"N/ 81°46'46.57"E	-	21°16'43.70"N/ 81°46'33.08"E	21°18'14.41"N/ 81°46'53.62"E	21°18'0.72"N/ 81°46'59.73"E	21°18'00.18"N/ 81°46'56.63"E		21°16'44.8"N/ 81°46'21.9"E		
11	BL 11	-	21°17'15.48"N/ 81°46'53.28"E	21°17'26.09"N/ 81°46'44.52"E	21°17'15.86"N/ 81°46'48.90"E	-	21°16'43.46"N/ 81°46'35.51"E	21°18'15.00"N/ 81°46'53.83"E	21°18'1.08"N/ 81°46'59.59"E			21°16'44.1"N/ 81°46'22.8"E		
12	BL 12	-	-	21°17'26.71"N/ 81°46'44.55"E	21°17'12.08"N/ 81°46'48.92"E	-	21°16'42.58"N/ 81°46'35.47"E	21°18'15.47"N/ 81°46'50.47"E	21°18'1.08"N/ 81°46'59.03"E					

13	BL 13	-	-	21°17'26.80"N/ 81°46'44.76"E	21°17'11.94"N/ 81°46'51.76"E	-	21°16'41.87"N/ 81°46'42.27"E	21°18'16.25"N/ 81°46'50.54"E	21°18'0.56"N/ 81°46'58.96"E				
14	BL 14	-	-	21°17'27.03"N/ 81°46'44.90"E	21°17'10.38"N/ 81°46'52.21"E	-	21°16'43.49"N/ 81°46'42.17"E	21°18'16.38"N/ 81°46'49.88"E	21°18'0.44"N/ 81°46'58.27"E				
15	BL 15	-	-	21°17'27.16"N/ 81°46'45.56"E	-	-	21°16'44.10"N/ 81°46'43.74"E	21°18'18.10"N/ 81°46'50.17"E	21°18'1.02"N/ 81°46'58.30"E				
16	BL 16	-	-	-	-	-	21°16'47.23"N/ 81°46'42.82"E	21°18'18.09"N/ 81°46'52.04"E	21°18'0.96"N/ 81°46'57.58"E				
17	BL 17	-	-	-	-	-	-	21°18'17.93"N/ 81°46'53.26"E	21°18'0.21"N/ 81°46'57.57"E				
18	BL18	-	-	-	-	-	-	21°18'17.26"N/ 81°46'55.72"E	-				
19	BL19	-	-	-	-	-	-	21°18'15.67"N/ 81°46'55.26"E	-				
20	BL20	-	-	-	-	-	-	21°18'15.36"N/ 81°46'59.25"E	-				
21	BL21	--	-	-	-	-	-	21°18'13.64"N/ 81°46'59.07"E	-				
22	BL22	-	-	-	-	-	-	21°18'13.80"N/ 81°46'58.44"E	-				
23	BL23	-	-	-	-	-	-	21°18'12.44"N/ 81°46'58.26"E	-				
24	BL24	-	-	-	-	-	-	21°18'11.69"N/ 81°46'58.71"E	-				
25	BL25	-	-	-	-	-	-	21°18'11.69"N/ 81°46'58.08"E	-				
26	BL26	-	-	-	-	-	-	21°18'11.14"N/ 81°46'58.08"E	-				
27	BL27	-	-	-	-	-	-	21°18'11.18"N/ 81°46'57.18"E	-				
28	BL28	-	-	-	-	-	-	21°18'10.27"N/ 81°46'56.93"E	-				

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Table 0.1C: Details of Distance of Sensitive Structure from Project location

SN	Name of the Applicant	Nearest Highway	Nearest Railway station	Nearest Airport	Nearest town/City/ Nearest Densely populated or built-up area	Nearest Water Body	Major water bodies within 10 km radius
1.	M/s. Shri Maa Mahasar Limestone (Prop. Smt. Krishna Agrawal)	NH- 53 at 6.50 km towards south (Raipur- Arang Road)	Mandir Hasaud 6.80 km	Raipur 12.00 km	Raipur 11.30 km	430 m (Canal towards east)	1.65 km (Nalla toward north-west)
2.	M/s. Narsingh Minerals (Partner – Alok Agrawal)	NH 53 at 6.50 km towards south (Raipur-Pithora Road)	Mandir Hasaud 6.60 km	Raipur 12.00 km	Raipur 12.00 km	230 m towards west (Canal)	1.40 km (Nalla toward north-west)
3.	Goyal Construction Company (Partner: Ram Avtar Agrawal)	NH 53 at 6.65 km towards south (Raipur-Arang Road)	Mandir Hasaud 6.90 km.	Raipur 12.00 km	Raipur 12.00 km	310 m towards east (Canal)	1.30 km (Pond toward south-west)
4.	Goyal Construction Company (Partner–Shiv Kumar Agrawal)	NH 53 at 6.25 km towards south (Raipur-Arang Road)	Mandir Hasaud 6.60 km.	Raipur 12.00 km	Raipur 10.55 km	500 m towards north-east(Canal)	1.30 km (pond towards south)
5.	M/s Bajrang Bali Crusher (Partner Deepak Agrawal)	NH 53 at 6.70 km towards south (Raipur - Arang Road)	Mandir Hasaud 7.00 km.	Raipur 12.00 km	Raipur 11.50 km	1.00 Km Village Pond towards north	1.50 Km (Canal towards south))
6.	Kamlesh Bhawnani	NH-53 at 5.80 km toward South (Raipur – Arang Road),	Mandir Hasaud 8.50 km	Raipur – 12.00 km	Raipur 12.00 km	220 m Canal towards east)	550 m (Nalla towards west)

7.	Krishna Metal Works (Partner- Anand Gopal Agrawal – 1.690 ha.)	NH 53 at 7.65 km towards south (Raipur - Mahasamund Road)	Mandir Hasaud 8.00 km	Raipur 13.00 km	Raipur 13.20 km	250 m (village Pond towards west)	750 m (Nalla towards west)
8.	Krishna Metal Works (Partner- Anand Gopal Agrawal – 2.43 ha)	NH 53 at 7.75 km towards south (Raipur – Saraipali Road)	Mandir Hasaud 8.00 km	Raipur 13.00 km	Raipur 13.20 km	100 m (village Pond) towards north-west	670 m (Nalla towards south)
9.	Vijay Jadwani	NH 53 at 5.45 km towards south (Raipur-Arang Road)	Mandir Hasaud 5.80 km.	Raipur 11.00km	Raipur 10.40 km	780m (Pond towards south-east)	600 m (Canal towards south)
10.	Satinder Kaur Arora (0.971 ha.)	NH 53 at 5.70 km towards south.	Mandir Hasaud 6.35 km	Raipur 10.00 km	Raipur 10.00 km	640 toward north-west	440m (pond towards west)
11.	Smt. Durgesh Shukla	NH 53 at 5.35 km towards south (Raipur-Arang Road)	Mandir Hasaud 5.80 km	Raipur 10.80 km	Raipur 9.95 km	Canal at 665 m towards south.	1.10 km towards south-east.(Pond)
12.	Shri Ganpati Minerals Partner - Subhash Chand Agrawal	NH 53 at 5.40 km towards south-west. (Raipur - Saraipali Road)	Mandir Hasaud 5.95 km	Raipur – 11.00 km	Raipur 10.55km	1.20 Km. (Pond towards north west)	200 m (Nalla towards north)
13.	Vinay Kumar Bajaj	NH 53 at 5.40 km towards south (Raipur- Arang road)	Mandir Hasaud 6.00 km	Raipur – 10.80km	Raipur 9.65 km	Canal 950 m towards south)	2.00 Km (towards south east)

Table 0.1D: Details of Distance of Sensitive Structure from Project location

Particulars	Descriptions
Seismicity	Since project site comes under Seismic zone II, which is least active zone for earthquakes as per IS: 1893 (Part 1: 2002).
Reserved / Protected Forests	None within 10 km radius from all of the applied mines
Wildlife Sanctuary	None within 10 km radius from all of the applied mines
National Park	None within 10 km radius from all of the applied mines
Protected areas as per Wildlife Protection Act (Tiger reserve, Elephant reserve, Biospheres, National parks, Wildlife sanctuaries, community reserves and conservation reserves)	None within 10 km radius from all of the applied mines
Archaeologically important places	None within 10 km radius from all of the applied mines
Defense Installations	None within 10 km radius from all of the applied mines
Biosphere reserves	None within 10 km radius from all of the applied mines
Important migration routes of birds	None within 10 km radius from all of the applied mines
Ramsar sites (Wetlands of International Importance)	None within 10 km radius from all of the applied mines
Unique or threatened ecosystems	None within 10 km radius from all of the applied mines
Important topographical features, including ridges, river valleys, shorelines, and riparian areas	None within 10 km radius from all of the applied mines
Mangrooves	None within 10 km radius from all of the applied mines
Physical Sensitive Receptors	None within 10 km radius from all of the applied mines
Notified Ground Water Zone by CGWA	None within 10 km radius from all of the applied mines
Critically Environmental polluted Area	None within 10 km radius from all of the applied mines
Pollution Sources	None within 10 km radius from all of the applied mines

1.2 Project Description

The proposed project of Akoldihkhapri, Bahnakadi & Dhansuli Limestone quarry of 39.317 ha situated at Village– Akoldihkhapri, Bahnakadi & Dhansuli, Tehsil–Arang, District:- Raipur , State:-Chhattishgarh The proposed method of mining is open cast semi mechanized mining.

Table 0.2A:Salient Features of the Proposed Mining Project

SN	Name of the Applicant	Status of Operation (New Project or Existing Project)	Name of the Mineral to be mined	Type of land	Method of Mining	No. of working days
1.	M/s. Shri Maa Mahasar Limestone (Prop. Smt. Krishna Agrawal)	New Project	Limestone	Private	Open-cast semi mechanized method	300
2.	M/s. Narsingh Minerals (Partner – Alok Agrawal)	Existing Project	Limestone	Private	Open-cast semi mechanized method	300
3.	M/s. Goyal Construction Company (Partner Shri Ram Avtar Agrawal)	Existing Project	Limestone	Private	Open-cast semi mechanized method	300
4.	M/s. Goyal Construction Company (Partner Shri Shiv Kumar Agrawal)	Existing Project	Limestone	Private	Open-cast semi mechanized method	300
5.	M/s Bajrang Bali Crusher (Partner Deepak Agrawal)	Existing Project	Limestone	Private	Open-cast semi mechanized method	300
6.	Kamlesh Bhawnani	Existing Project	Limestone	Private	Open-cast semi mechanized method	300
7.	Krishna Metal Works (Partner- Anand Gopal Agrawal)-1.690Ha	New Project	Limestone	Private	Open-cast semi mechanized method	300
8.	Krishna Metal Works (Partner- Anand Gopal Agrawal)-2.43 Ha	Existing Project	Limestone	Private	Open-cast semi mechanized method	300
9.	Vijay Jadwani	Existing Project	Limestone	Private	Open-cast semi mechanized method	300
10.	Satinder Kaur Arora - 0.971 ha.	New Project	Limestone	Private	Open-cast semi mechanized method	300
11.	Smt. Durgesh Shukla	Existing Project	Limestone	Private	Open-cast semi mechanized method	300
12.	Shri Ganpati Minerals Partner - Subhash Chand Agrawal	New Project	Limestone	Private	Open-cast semi mechanized method	300
13.	Vinay Kumar Bajaj	Existing Project	Limestone	Private	Open-cast semi mechanized method	300

Table 1.2B: Salient Feature of the Project

SN	Name of the Applicant	Mine Area (Ha.)	Ultimate depth of mining	Ground Water Table	Mineable Reserves (MT)	Applied Annual Production Capacity(TPY)	Balance lease period in year
1.	M/s. Shri Maa Mahasar Limestone (Prop. Smt. Krishna Agrawal)	3.19	30 m	45 m	12,91,362.50	1,50,088.00	30
2.	M/s. Narsingh Minerals (Partner – Alok Agrawal)	3.68	30 m	30 m	9,89,622.29	1,50,000.25	24
3.	Goyal Construction Company (Partner: Ram Avtar Agrawal)	4.00	30 m	30 m	13,69,526.25	69,997.78	24
4.	Goyal Construction Company (Partner–Shiv Kumar Agrawal)	4.40	30 m	30 m	12,16,884.38	79,978.13	24
5.	M/s Bajrang Bali Crusher (Partner Deepak Agrawal)	3.62	30 m	40 m	11,64,695.00	85,000.00	24
6.	Kamlesh Bhawnani	4.00	25 m	25 m	10,81,074.27	1,00,000.00	24
7.	Krishna Metal Works (Partner- Anand Gopal Agrawal)	1.69	30 m	45 m	2,50,735.00	2,00,281.00	30
8.	Krishna Metal Works (Partner- Anand Gopal Agrawal)	2.43	30 m	40 m	4,69,212.50	25,909.00	24
9.	Vijay Jadwani	3.664	30 m	40 m	6,83,485.57	50,160.00	14
10.	Satinder Kaur Arora	0.971	18 m	40 m	49,653.75	14,977.50	8
11.	Smt. Durgesh Shukla	2.832	30 m	40 m	14,04,909.00	85,250	17
12.	Shri Ganpati Minerals (Partner - Subhash Chand Agrawal)	3.75	30 m	65 m	16,00,262.50	1,25,115	30
13.	Vinay Kumar Bajaj	1.090	25 m	30 m	3,99,719.00	41,080	20

1.2.1 Water Requirement

The total water requirement shall be 94.00 KLD for Akoldi Khapri, Bahnakadi & Dhansuli Limestone Mine respectively for domestic, green belt and sprinkling purpose, which will be sourced from Water Tankers from nearby village. Detail of water requirement is given below:

Table 1.3 A: Water Requirement for Plantation

SN	Name of the Applicant	Lease Area in hect	Number of saplings	Water required per day per Saplings	Total water need for Sprinkling on plantation (KLD)
1.	M/s. Shri Maa Mahasar Limestone (Prop. Smt. Krishna Agrawal)	3.19	1041	2.5	3.00
2.	M/s. Narsingh Minerals (Partner – Alok Agrawal)	3.68	1320	2.5	3.50
3.	Goyal Construction Company (Partner: Ram Avtar Agrawal)	4.00	1515	2.5	4.00
4.	Goyal Construction Company (Partner–Shiv Kumar Agrawal)	4.40	1863	2.5	4.00
5.	M/s Bajrang Bali Crusher (Partner Deepak Agrawal)	3.62	1290	2.5	3.50
6.	Kamlesh Bhawnani	4.00	1901	2.5	5.00
7.	Krishna Metal Works Partner- Anand Gopal Agrawal	1.69	1206	2.5	3.00
8.	Krishna Metal Works Partner- Anand Gopal Agrawal	2.43	1194	2.5	3.00
9.	Vijay Jadwani	3.664	1590	2.5	4.00
10.	Satinder Kaur Arora	0.971	483	2.5	1.50
11.	Smt. Durgesh Shukla	2.832	1341	2.5	3.50
12.	Shri Ganpati Minerals (Partner - Subhash Chand Agrawal)	3.75	1113	2.5	3.00
13.	Vinay Kumar Bajaj	1.090	606	2.5	2.00

Table 1.3 B : Water Requirement for Dust Suppression

SN	Name of the Applicant	Lease Area in hect	Length of Remp & Haul Road	Width of Road/ Remp	Requirement per Squire Meter	Number of Rounds Per Day	Total Water Need for Dust Suppression
1.	M/s. Shri Maa Mahasar Limestone (Prop. Smt. Krishna Agrawal)	3.19	750	4	0.50	2.00	3.00
2.	M/s. Narsingh Minerals (Partner – Alok Agrawal)	3.68	750	4	0.50	2.00	3.00
3.	Goyal Construction Company (Partner: Ram Avtar Agrawal)	4.00	1000	4	0.50	2.00	4.00
4.	Goyal Construction Company (Partner–Shiv Kumar Agrawal)	4.40	1000	4	0.50	2.00	4.00
5.	M/s Bajrang Bali Crusher (Partner Deepak Agrawal)	3.62	750	4	0.50	2.00	3.00
6.	Kamlesh Bhawnani	4.00	750	4	0.50	2.00	3.00
7.	Krishna Metal Works Partner- Anand Gopal Agrawal	1.69	750	4	0.50	2.00	3.00
8.	Krishna Metal Works Partner- Anand Gopal Agrawal	2.43	1000	4	0.50	1.00	2.00

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9.	Vijay Jadwani	3.664	1000	4	0.50	2.00	4.00
10.	Satinder Kaur Arora	0.971	500	4	0.50	2.00	2.00
11.	Smt. Durgesh Shukla	2.832	500	4	0.50	2.00	2.00
12.	Shri Ganpati Minerals (Partner - Subhash Chand Agrawal)	3.75	1000	4	0.50	2.00	4.00
13.	Vinay Kumar Bajaj	1.090	500	4	0.50	2.00	2.00

Table 1.3 C : Detailed Water Requirement for Each Mine

SN	Name of the Applicant	Lease Area in hect	For Greenbelt Development	For Dust Suppression	For Domestic Purpose	Total in KLD
1.	M/s. Shri Maa Mahasar Limestone (Prop. Smt. Krishna Agrawal)	3.19	3.00	3.00	1.00	7.00
2.	M/s. Narsingh Minerals (Partner – Alok Agrawal)	3.68	3.50	3.00	1.00	7.50
3.	Goyal Construction Company (Partner: Ram Avtar Agrawal)	4.00	4.00	4.00	1.00	9.00
4.	Goyal Construction Company (Partner–Shiv Kumar Agrawal)	4.40	4.00	4.00	1.00	9.00
5.	M/s Bajrang Bali Crusher (Partner Deepak Agrawal)	3.62	3.50	3.00	1.00	7.50
6.	Kamlesh Bhawnani	4.00	5.00	3.00	1.00	9.00
7.	Krishna Metal Works Partner- Anand Gopal Agrawal	1.69	3.00	3.00	1.00	7.00
8.	Krishna Metal Works Partner- Anand Gopal Agrawal	2.43	3.00	2.00	0.50	6.50
9.	Vijay Jadwani	3.664	4.00	4.00	1.00	9.00
10.	Satinder Kaur Arora	0.971	1.50	2.00	1.00	4.50
11.	Smt. Durgesh Shukla	2.832	3.50	2.00	1.00	6.50
12.	Shri Ganpati Minerals (Partner - Subhash Chand Agrawal)	3.75	3.00	4.00	0.50	7.50
13.	Vinay Kumar Bajaj	1.090	2.00	2.00	1.00	5.00
	Total:	39.317	43.00	39.00	12.00	94.00

1.2.2 Power Requirement

No power is required for mining purpose only for labour, admin building and for crusher plant. State electricity board will supply the electricity. Electric power is available in the lease area.

1.2.3 Manpower Requirement

The mining project will generate direct & indirect employment. Local people will get direct employment, and some persons will also be affected indirectly and employed with allied and related industries, such as transportation, maintenance, etc. Following staff & workers are proposed to be employed:-

Table 1.4 : Manpower Details of Akoldihkhapri, Bahnakadi & Dhansuli Limestone

SN.	Name of Applicant	Mine manager	Mining mate	Supervisor	Skilled Labour	Un Skilled Labour	Machine Operator	Crusher Supervisor	Crusher Operator & Assistant	Total
1.	M/s. Shri Maa Mahasar Limestone (Prop. Smt. Krishna Agrawal)	-	1	1	4	-	9	1	1	17
2.	M/s. Narsingh Minerals (Partner – Alok Agrawal)	1	1	1	12	10	1	-	-	26
3.	Goyal Construction Company (Partner: Ram Avtar Agrawal)	-	1	1	12	-	7	-	-	21
4.	Goyal Construction Company (Partner– Shiv Kumar Agrawal)	-	1	1	14	-	7	1	2	26
5.	M/s Bajrang Bali Crusher (Partner Deepak Agrawal)	-	1	1	10	-	7	-	-	19
6.	Kamlesh Bhawnani	-	1	1	34	-	-	-	-	36
7.	Krishna Metal Works Partner- Anand Gopal Agrawal (1.690 ha.)	-	1	1	7	-	7	-	-	16
8.	Krishna Metal Works Partner- Anand Gopal Agrawal (2.43 ha.)	-	1	1	1	2	-	1	1	7
9.	Vijay Jadwani	-	1	-	22	1	-	-	-	24
10.	Satinder Kaur Arora (Area- 0.971 ha.)	-	-	-	1	20	-	-	-	21
11.	Smt. Durgesh Shukla	1	1	2	5	30	1	-	-	40
12.	Shri Ganpati Minerals (Partner - Subhash Chand Agrawal)	-	1	1	5	-	8	1	1	17
13.	Vinay Kumar Bajaj	1	1	2	5	30	-	-	-	39
Total:									309	

1.3 Description of Environment

The area around the proposed mining site has been surveyed for physical features and existing environmental scenario. The field survey and baseline monitoring has been done from the period of **05th December 2023 to 05th March 2024** (Winter Season).

The observations for Winter season-(**05th December 2023 to 05th March 2024**) are summarized below:

1.3.1 Meteorology

The secondary meteorological data of the study period collected from www.imdpune.gov.in/. The month wise meteorological data is given in Table 3.4B. The wind rose during the study period

Table 1.5 Meteorological Data of the study area (IMD – Raipur)

Period	Wind speed (m/s)			Temp (⁰ C)			Relative Humidity (%)			Rainfall (mm)			Solar radiation (W/m ²)		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
Dec-Jan 2023-24	7.59	0.52	2.51	25.46	7.73	16.5	100	40.56	80.01	1.47	0	0.03	733.9	0	152.7
Jan-Feb 2024	4.16	0.13	2.31	27.73	8.26	18.0	100	29	73.40	0.25	0	0.005	792.0	0	145.8
Feb-Mar 2024	4.89	0.82	2.38	31.08	13.05	20.7	95.5	30.19	63.17	0.02	0	0.001	812.5	0	192.1

1.3.2 Air Environment

The ambient air quality is carried out at 12 locations in and around the project site and studies are carried out as per CPCB standards. It is observed that, all the values are within the prescribed limits as per National Ambient Air Quality Standards (NAAQS), 2009.

Particulate Matter (PM₁₀):

A maximum concentration of PM₁₀ is 71 µg/m³ was observed at the AAQM-1 and minimum value of 43µg/m³ was observed at AAQM-8 & 9.

Respirable Particulate Matter (PM_{2.5}):

A maximum concentration of PM_{2.5} is recorded to be 27µg/m³ at AAQM- 1and minimum value of 11 µg/m³ was observed at AAQM-11

Sulphur Dioxide (SO₂):

Maximum concentration of SO₂ is observed to be 17 µg/m³ atAAQM -1 and minimum value of 5µg/m³ observed at AAQM- 3,4,6,7 &11

Oxides of Nitrogen (NO_x):

Maximum concentration of NO_x is observed to be $24\mu\text{g}/\text{m}^3$ at AAQM – 1 & minimum value of $6\mu\text{g}/\text{m}^3$ observed at AAQM-8

Carbon Monoxide (CO):

Maximum concentrations in the region are observed to be $1.1\text{ mg}/\text{m}^3$ at AAQM-7 and minimum value of $0.3\text{mg}/\text{m}^3$ observed at AAQM-.2, 8, 10, 12

Silica

Silica in the ambient air of the 10 Km radius of the study area of the project site has been analysed from the PM_{10} filter paper of the Ambient Air quality monitoring stations. The result indicates that silica concentration in the surrounding of project site was found to be in the range of $0.02\mu\text{g}/\text{m}^3$ to $0.07\mu\text{g}/\text{m}^3$.

The results are compared with the standards prescribed by Central Pollution Control Board (CPCB). The overall ambient air quality around the proposed mine lease is within the limits of ambient air quality standards prescribed by CPCB.

1. 3.3 Noise Environment

Noise levels were monitored in twelve locations including project within the study area. The noise levels ranged between 54.7 to 71.8 dB (A) during day time and noise levels ranged between 42.3 to 59.1 dB (A) during night time. Over all the monitored noise levels are found to be within the stipulated standards set by CPCB.

1.3.4 Water Environment

In order to establish the baseline water quality, 6 ground water and 6 surface water samples were collected and analyzed in the study area. The quality of surface water samples was compared with surface water specification IS 2296:1982 and the surface water quality comes under Class D (Propagation of wildlife and fisheries). The ground water samples were compared with drinking water specification IS 10500:2012 standards.

1. 3.5 Soil Quality

A total of 12 samples in and around the project site are collected and analysed. It has been observed that the pH of the soil quality ranged from 7.2 (S1) to 7.7 (S4) indicating that the soil is slightly alkaline in nature.

Particular	Number of Locations	Description
Background Ambient Air Quality Monitoring	Sampling was done at 12 Locations	PM ₁₀ :-43 to 71 µg/m ³ PM _{2.5} :-11 to 27 µg/ m ³ SO ₂ :- 5 ug/m ³ to 17 µg/ m ³ NOx:- 6 to 24 µg/ m ³ CO:-0.3 to 1.1 mg/ m ³
Noise Level Monitoring	Monitored at 12 Locations	Noise Level During Day Time :- 54.7 to 71.8 dB(A) Noise Level During Night Time:-42.3 to 59.1 dB(A)
Water Sampling	Ground water sampling was done at 6 Locations	pH :- 6.2 to 7.1 TDS :- 452 -792 mg/l ; Total Hardness :- 172 -364mg/l SO ₄ :-46 mg/l to 112 mg/l; Chloride :- 120 mg/l to 225 mg/l; Zn & Fe:- Below detectable limit.
	Sampling:- 6 at Surface water	pH :- 7.1 to 7.5 ; TDS :- 256 mg/l to 568 mg/l; Dissolve oxygen: - 5.6 to 5.9 mg/l. Chloride :- 73 mg/l to 168 mg/l; Calcium :- 26 mg/l to 55 mg/l; Magnesium :- 13 mg/l to 31 mg/l; Total Hardness :- 118 to 266 mg/l ;
Soil Sampling	Sampling was done at 12 Locations	pH :- 7.2 to 7.7 Nitrogen:- 118 to 150 kg/ha Phosphorus:- 58 to 80 kg/ha Potassium :- 251 to 326 kg/ha Electric Conductivity:- 0.305 to 0.503 ms/cm

1.3.6 Land Use/Land Cover of the Study Area

The location of the project is situated near Akoldih Khapri village is located in Raipur district in Chhattisgarh, India. As per 2009 stats, Akoldih Khapri village is also a gram panchayat. In this village, agriculture is the primary industry. This village is still in need of industrial growth. The LULC map in Figure 1.2 indicates that the analysis consists of 7 areal classes (Water Body, Canal, Crop Land, Settlement, Vegetation, and Fallow Land). Table 3.16 reveals that between the area, cropland and vegetation are the two major patches that occupy a significant part of the study area.

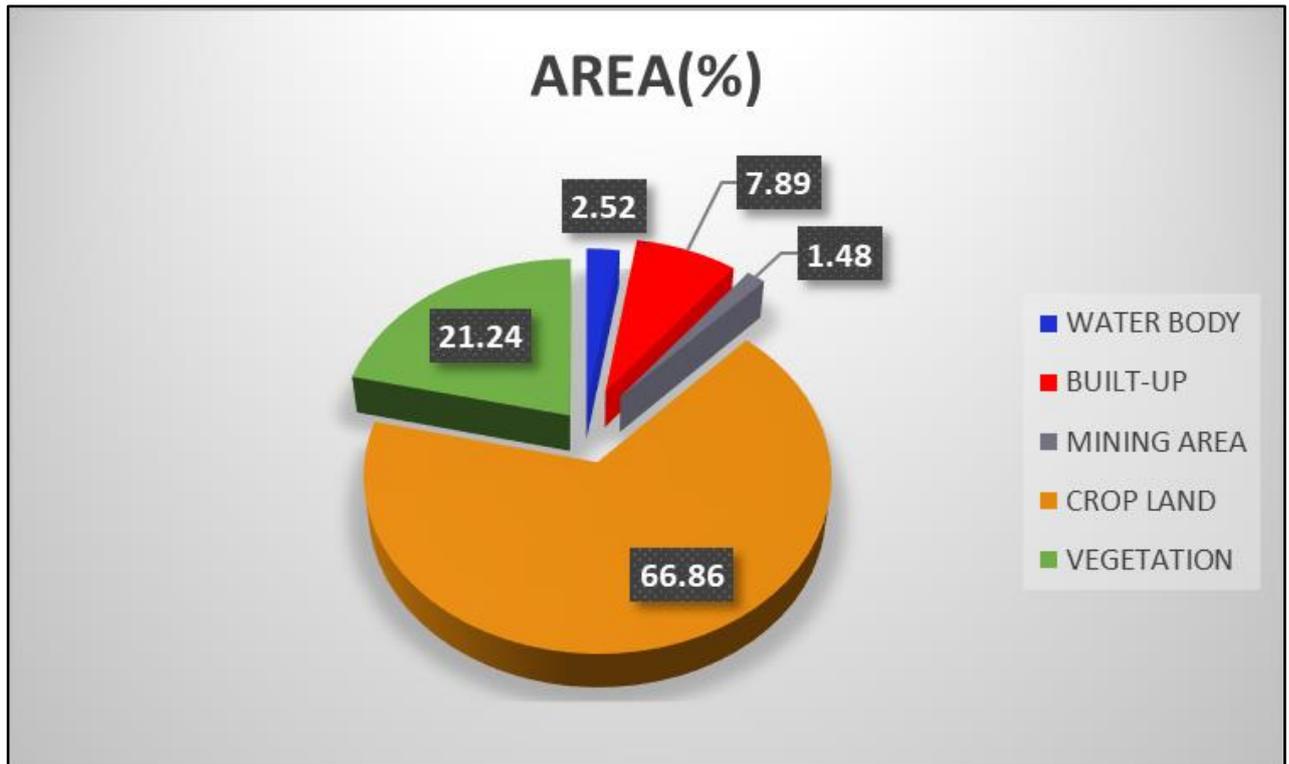


Figure1.2: LULC Classification (10 km radius Proposed Project Area)

1.3.7 Biological Environment

Study of biological environment is one of the most important aspects for Environmental Impact Assessment. In view of the need for conservation of environmental quality and biodiversity study, biological environment is one of the most important aspects for Environmental Impact Assessment. Ecological systems show complex inter-relationships between biotic and abiotic components including dependence, competition and mutualism. Biotic components comprise of both plant and animal communities, which interact not only within and between them but also with the abiotic components viz. physical and chemical components of the environment. Generally, biological communities are the indicators of climatic and edaphic factors. The biological environment includes mainly terrestrial ecosystem and aquatic ecosystem. The mining activities are one such external influence, which might affect the ecology of an area, if proper management measures are not taken.

1.3.8 Socio-economic Environment

According to recent census (2011), Population of the study area is within (a 10 Km radius of the project site) 160195 in 28447 households. The male population is 81603, and the female population is 78592. The highest population in the study area is Mandir Hasaud 9235). There are 15256 households in the study area, and the average size of household is 5 members per household. The dependent population below 6 years old is 30474 in the study area Population Density in the study area: 403 people per sq. Km. (Population Density = Number of People in study area / total study area (10 Km radius from mining cluster)).

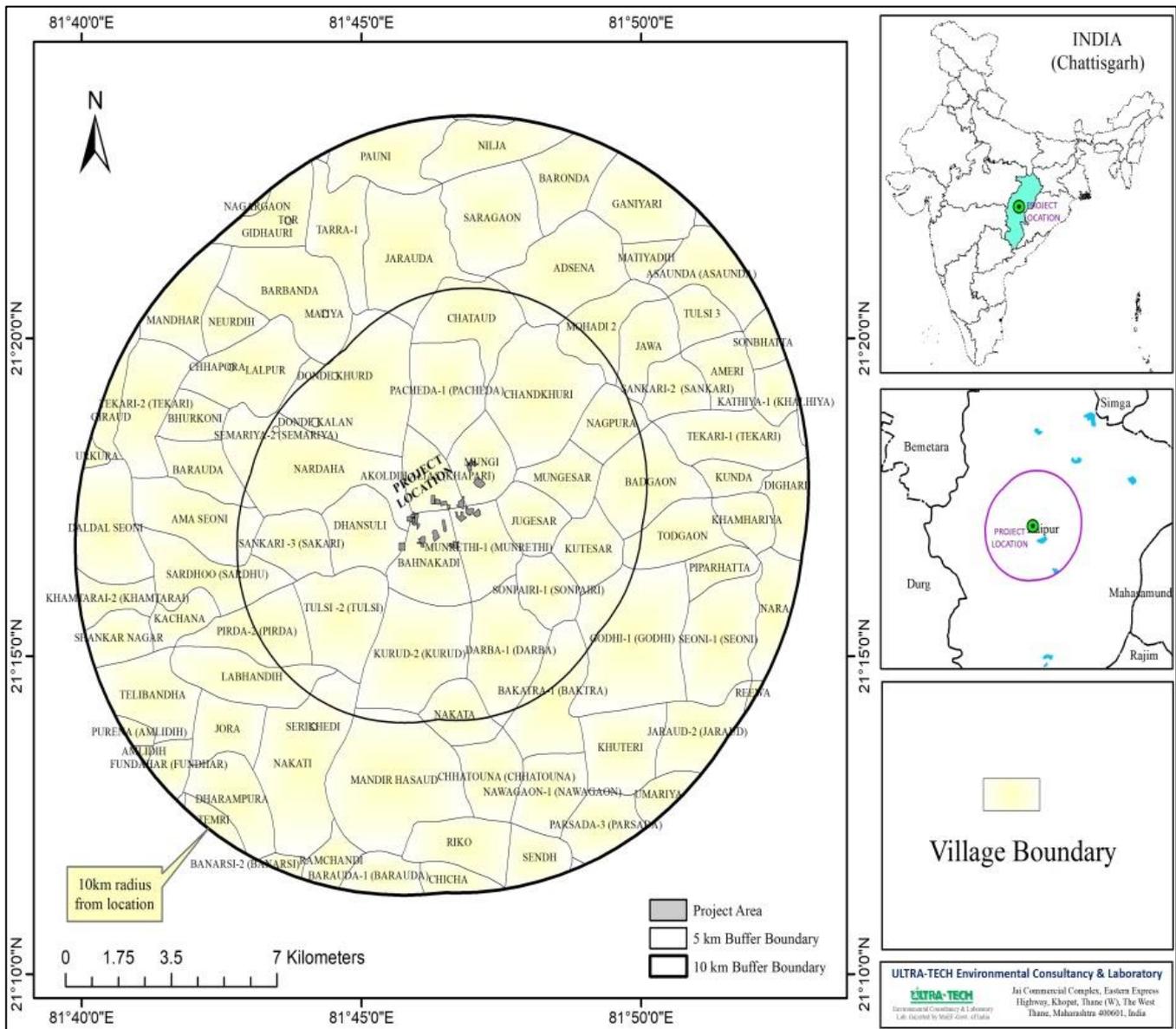


Figure . 1.3: Villages within 10 Km. Radius Area from Project Site.

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1.4 Anticipated Environment Impacts and Environment Management Plan

Land/Soil Environment Impact Mitigation

The mitigation measure of the land environment includes:

- Before the mining activity the top soil will be scrapped and stored in the lease area and will be utilized for plantation purpose. Balance top soil if any preserved separately will be used to spread over partially reclaimed land.
- The limestone excavated from the lease area will be completely sellable resulting no dump within the lease area
- At the end of conceptual period the excavated quarry will converted into water reservoir to supply water for local use like irrigation and pisciculture.
- Due to manual mining operation emission from the Limestone mines are very less, there will be no impact on the surrounding soil quality and cropping pattern of the area.
- The propose project falls under the seismic zone –II (Low Hazard Risk Zone). Since this project will not have physical infrastructure to be constructed, no impact of seismicity is envisaged in this project. Further, this project will not change/alter the seismic behaviour of the area.

Air Impact Mitigation

The mitigation measures undertaken in the mine for control of air pollution are:

- Checking of vehicles and machinery to ensure compliance to Indian Emission Standards Transportation vehicles and machinery to be properly and timely maintained and serviced regularly to control the emission of air pollutants in order to maintain the emissions of NO_x and SO_x within the limits established by CPCB.
- Total 4 KLD water required for two mines towards dust suppression purpose for which 2 no. of water tanker with 2000 liter capacity will be hired and used for water sprinkling twice in a day in haul roads, dumping site, loading and unloading site of each lease within the cluster and this will be regularly monitored by the cluster management. Water sprinkling on transport road side, stock yard (if any) etc. will be done by tractor mounted water sprinkler.
- Regular compaction and grading of haul roads will be done to clear the accumulation of loose material
- All the mines workers will be provided with the dust masks.
- Trees can act as efficient biological filters. As this is a small lease, the area available for plantation is very less. However a well planned plantation programme has been proposed

for the mining area to arrest the dust pollution within the lease boundary. There is the proposal for continuous plantation along the cluster boundary and both side of the road connecting the cluster.

- Vehicles with valid PUC shall be used for transporting the minerals to avoid the exhaust emission.
- A greenbelt development plan is prepared with local species. The greenbelt on the periphery will reduce the dust level sits.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce generation of dust.
- Fugitive emission by stone crusher plant will be suppressed by adopting following measures as per norms:-
 - ✓ Construction of tin walls around the crusher plant and equipment.
 - ✓ Regular cleaning and wetting of the ground within the premises.
 - ✓ Better maintenance of crusher plant and equipment will help to reduce such emissions.
 - ✓ water spray at dust generating points on crusher plant.
- Regular monitoring of the air quality as per the monitoring plan detailed in Chapter 6 of this EIA report, shall be adopted during the operation phase, to ensure that, the air quality is within the desired limits prescribed by CPCB.

Noise Impact Mitigation

- No noise polluting work shall be carried out in the night hours.
- Provision of PPE's for the workers.
- Vehicles to be serviced regularly and maintained properly to avoid any unwanted generation of noise or vibration from them.
- Green belt plantation and garden trees will help in reducing the noise, traffic related pollution and heat island effects.
- Proper lubrication, muffling and modernization of equipment shall be used to reduce the noise during operation phase.
- Vibration and noise due to blasting will be reduced by adopting controlled blasting technique.
- Blasting will be avoided under unfavourable conditions.
- Rock breakers is being/ will be used instead of secondary blasting.
- Regular monitoring of the noise levels as per the monitoring plan detailed in Chapter 6 of this EIA report, shall be adopted during the operation phase, to ensure that, the noise levels are within the limits prescribed by CPCB.

Water Impact Mitigation

- Provision of temporary toilets for labours
- Domestic waste water will be treated into septic tank followed by soak pit outside of the proposed cluster project with a safe distance and no wastewater will be allowed to be get discharged into the water body
- All stacking and loading areas should be provided with proper garland drains
- Check dams should be provided to prevent solids from wash off.
- Construction of garland drains around freshly excavated and dumped areas so that flow of water with loose material is prevented.
- The mine water should be passed through specially constructed catch pits to arrest any loose material being carried away with water.
- Any areas with loose debris within the leasehold should be planted.
- Garland drains should be constructed surrounding the waste dumps and should be connected to the surface water reservoir to avoid the run-off mixing directly to natural water channels before settling.
- Ground water table will not be intersected during the mining activity

Biological Impact Mitigation

- Green belt will be developed along the core zone boundary which will act as a pollution barrier for the biological environment.
- The drilling and transportation will be carried out during the day time only minimizing the impact on the wild fauna movement.
- Fencing around the entire mine lease area is recommended in order to restrict the entry of stray animals into the mining area.

Socio-Economic Environment Impact Mitigation

In order to mitigate the adverse impacts likely to arise in the surrounding area due to proposed project activity, it is necessary to formulate an effective mitigation plan. The suggestions are as follows:

Before Commencing and During Initial Phase:

- Communication with the local community should be institutionalized and done on a regular basis. The forum could provide opportunities to discuss local critical issues and prepare programmes of mutual benefits.
- Information regarding the proposed development plan, community programmes etc. should be communicated to the local community.

1.5 Environmental Monitoring Program

Environmental monitoring shall be carried out at the locations to assess the environmental health in the post period. A post study monitoring programme is important as it provides useful information on the following aspects.

- It helps to verify the predictions on environmental impacts presented in this study.
- It helps to indicate warnings of the development of any alarming environmental situations, and thus, provides opportunities for adopting appropriate control measures in advance.

Detailed EMP plan during the operation phase is given chapter 6 of EIA report.

1.6 Risk Assessment

The hazards and its risk assessed during the operation phase of the proposed limestone mining project are low, medium & high. The project proponents are proposed to implement all the mitigation measures to prevent the impact or consequences of the risk expected to be happened in both the project sites. The level of impact after implementing the mitigation measures will be low/medium in all the hazards identified.

1.7 Emergency Response and Disaster Management Plan

Impact of disaster can be significantly reduced through attempts at preparedness, mitigation, and post-event rehabilitation work. Based on hazard identification in the proposed project, an emergency plan has been prepared and the same plan will be implemented by the project implementing agency with the coordination of District Authorities to minimize the damage. The risk assessment and disaster management plan is detailed in Chapter 7 of the EIA report.

1.8 Project Benefits

Mining is back bone of infra-structure development of country. Proposed project has following benefits as given below:

- Employment for local people.
- Revenue for the State Government in form of excise duties, GST, taxes, levies etc.
- Generate business opportunity for the people.
- Need based funds will be used for welfare of people in villages.

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- EMP funds will improve environmental quality.
- The operation of the limestone mining would help to improve socio-economic condition of people in villages through separate fund allocated for Need Based Activity.

1.9 Budget for Social Development

The total estimated cost of the project is Akoldih Khapri & Bahnakadi & Dhansuli – 1620.89 lacs . Rs 32.91 lac will be allocated for Need based activity for causes of village for drinking water, sanitation, education, health.

1.10 Environment Management Plan (EMP)

The detailed Environment Management Plan has been prepared based on the mining activities and the impacts imparting on land/soil, air, noise, water by the activities. The EMP and the cost for the environment protection measures are detailed in Chapter 10 of EIA report.

Expenditure Proposed for Environmental Protection Activities:

S.N.	Name of Project Proponent	Air Pollution Control (Recurring Annual Cost)		Green belt development and maintainance		Maintenance of Ramp and haul road (Recurring Annual Cost)		Facilities for Mine workers (Recurring Annual Cost)		Total	
		Capital Cost	Recurring Cost 1st to 5th Year	Capital Cost	Recurring Cost 1st to 5th Year	Capital Cost	Recurring Cost 1st to 5th Year	Capital Cost	Recurring Cost 1st to 5th Year	Capital Cost	Recurring Cost 1st to 5th Year
1.	M/s. Shri Maa Mahasar Limestone (Prop. Smt. Krishna Agrawal)	-	90,000	3,66,200	2,18,475	-	40,000	50,000	76,500	4,16,200	4,24,975
2.	M/s. Narsingh Minerals (Partner – Alok Agrawal)	-	90,000	3,68,505	2,42,200	-	40,000	50,000	1,17,000	4,18,505	4,89,200
3.	Goyal Construction Company (Partner: Ram Avtar Agrawal)	-	90,000	4,30,500	2,58,825	-	40,000	50,000	94,500	4,80,500	4,83,325
4.	Goyal Construction Company (Partner– Shiv Kumar Agrawal)	-	90,000	5,46,400	2,88,325	-	40,000	50,000	1,17,000	5,96,400	5,35,325
5.	M/s Bajrang Bali Crusher (Partner Deepak Agrawal)	-	90,000	4,05,700	2,79,275	-	40,000	50,000	85,500	4,55,700	4,94,775
6.	Kamlesh Bhawnani	-	90,000	5,21,850	2,91,575	-	40,000	50,000	1,62,000	5,71,850	5,83,575
7.	Krishna Metal Works (Partner- Anand Gopal Agrawal)	-	90,000	4,11,200	2,32,510	-	40,000	50,000	72,000	4,61,200	4,34,510
8.	Krishna Metal Works (Partner- Anand Gopal Agrawal)	-	90,000	3,59,400	2,31,490	-	40,000	50,000	31,500	4,09,400	3,92,990

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9.	Vijay Jadwani	-	90,000	3,80,250	2,65,150	-	40,000	50,000	1,08,000	4,30,250	5,03,150
10.	Satinder Kaur Arora	-	90,000	1,91,810	1,71,025	-	40,000	50,000	94,500	2,41,810	3,95,525
11.	Smt Durgesh Shukla	-	90,000	3,93,100	2,43,975	-	40,000	50,000	1,80,000	4,43,100	5,53,975
12.	Shri Ganpati Minerals (Partner - Subhash Chand Agrawal)	-	90,000	3,78,200	2,24,605	-	40,000	50,000	76,500	4,28,200	4,31,105
13.	Vinay Kumar Bajaj	-	90,000	2,23,800	2,36,050	-	40,000	50,000	1,75,500	2,73,800	5,41,550
	TOTAL::	-	11,70,000	49,76,915	31,83,480	-	5,20,000	6,50,000	13,90,500	56,26,915	62,63,980
	Total Capital Cost in Rs.	56,26,915									
	Total Recuring Cost in Rs.	62,63,980									
	Total Cost of EMP in Rs	1,18,90,895									

1.11 Conclusion

As discussed, it is safe to say that the collection of minor minerals from the proposed lease area is not likely to cause any significant impact on the ecology of the area as the mineral is and waste generated is non-toxic and does not harm the surrounding environment.

Adequate measures will be taken to control the fugitive emissions to be generating during mining operation. Socio-economic condition of the surrounding villages will improve in long run due to involvement of local population and improvement of infrastructure facilities. Green belt development in the statutory boundary, approach roads, schools area proposed with the participation of local people. This proposed plantation in the area will improve the aesthetic look along with betterment of ecology and environment of the locality.