Chhelphora Dolomite Quarry

Shri Pratsih Kumar Goyal

To,

The Member Secretary,
Chhattisgarh Environment Conservation Board
Paryavas Bhavan, North Block, Sector-19,
Naya Raipur, Chhattisgarh 490099,

Subject: Submission of Draft EIA Report for getting Environment Clearance for the Chhelphora Dolomite Quarry Total area -1.683 ha, at Village: Chhelphora , Tehsil: Baramkela, District- Raigarh, State: Chhattisgarh.

Sir,

With Reference to the above, we are submitting the Draft EIA Report along with the annexure for public hearing in 11 copies in both Hard and Soft and DD of Rs. 10,000 of PNB Bank DD.No. 303643 for Environment Clearance for mining project-

Project Name	**Block/ Khasra**	**Area (Acres) /(Ha)**	**TOR Vide Letter No**	**TOR Granted Date**	**Proposed Capacity** (TPA)	**Signature**
chhelphora Dolomite Quarry (Shri Pratsih Kumar Goyal)	206, 207/3, 208, 210/1, 211, 212, 214/3, 214/4	1.683	2598/S.E.A.C., C.G./MINE/257 9Nava Raipur Atal Nagar, Dated 19/01/2024	Dated 19/01/2024	1,00,000 TPA	

We request you to please acknowledge the same at earliest.



Thanking You

ENVIRONMENTAL IMPACT ASSESSMENT REPORT & ENVIRONMENT MANAGEMENT PLAN of

Chhelphora Dolomite Quarry
at
Village: Chhelphora, Tehsil: Baramkela , Dist:Raigarh , C.G.,
Area: 1.683 ha

at
Khasra no. 206, 207/3, 208, 210/1, 211, 212, 214/3, 214/4
Capacity –1,00,000 Tons per annum.

Executive Summary English

Applicant

M/s Subh Minerals Pvt. Ltd
(Chhelphora Dolomite Quarry)

Pro - Shri Pratish Kumar Goyal

राज्य स्तरीय विशेषज्ञ मूल्यांकन समिति, छत्तीसगढ़
भारत सरकार
पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

पर्यावास भवन, सेक्टर– 19,
नवा रायपुर अटल नगर, जिला– रायपुर (छ.ग.) 492002
E-mail:seaccg@gmail.com

क.2598/एस.ई.ए.सी.,छ.ग./माईन/2579 नवा रायपुर अटल नगर, दिनांक 19/01/2024

प्रति,

मेसर्स शुभ मिनरल्स प्राइवेट लिमिटेड
(छेलफोरा डोलोमाईट क्वारी,
प्रो.– श्री प्रतीश कुमार गोयल),
ग्राम–छेलफोरा (ब्लॉक–1),
तहसील–सरिया (बरमकेला),
जिला–सारंगढ़–बिलाईगढ़ (छ.ग.)

विषय :– मेसर्स शुभ मिनरल्स प्राइवेट लिमिटेड (छेलफोरा डोलोमाईट क्वारी, प्रो.– श्री प्रतीश कुमार गोयल), ग्राम–छेलफोरा (ब्लॉक–1), तहसील–सरिया (बरमकेला), जिला–सारंगढ़–बिलाईगढ़ (छ.ग.) स्थित खसरा क्रमांक 206, 207/3, 208, 210/1, 211, 212, 214/3 एवं 214/4, कुल क्षेत्रफल–1.683 हेक्टेयर में प्रस्तावित डोलोमाईट (गौण खनिज) खदान उत्खनन क्षमता–1,00,000 टन प्रतिवर्ष के पर्यावरणीय स्वीकृति प्राप्त करने हेतु टर्म्स ऑफ रेफरेन्स (टीओआर) जारी करने के संबंध में।

संदर्भ :– आपका ऑनलाईन आवेदन प्रपोजल नम्बर – सआईए /सीजी /एमआईएन / 436573/2023, दिनांक 14/07/2023 एवं अनुवर्ती पत्रचार पत्र दिनांक 25/09/2023.

——:: 00 ::——

उपरोक्त विषयांतर्गत कृपया आपके संदर्भित पत्र दिनांक 14/07/2023 एवं अनुवर्ती पत्रचार पत्र दिनांक 25/09/2023 का अवलोकन हो।

ऑनलाईन आवेदन – प्रपोजल नम्बर – एसआईए /सीजी /एमआईएन / 436573/2023, दिनांक 14/07/2023 द्वारा टी.ओ.आर. हेतु आवेदन किया गया है।

प्रस्ताव का विवरण – यह प्रस्तावित डोलोमाईट (गौण खनिज) खदान है। खदान ग्राम–छेलफोरा (ब्लॉक–1), तहसील–सरिया (बरमकेला), जिला–सारंगढ़–बिलाईगढ़ स्थित खसरा क्रमांक 206, 207/3, 208, 210/1, 211, 212, 214/3 एवं 214/4, कुल क्षेत्रफल–1.683 हेक्टेयर में प्रस्तावित है। खदान की आवेदित उत्खनन क्षमता–1,00,000 टन प्रतिवर्ष है।

तदानुसार परियोजना प्रस्तावक को एस.ई.ए.सी., छत्तीसगढ़ के ज्ञापन दिनांक 21/09/2023 द्वारा प्रस्तुतीकरण हेतु सूचित किया गया।

बैठक का विवरण –

(अ) समिति की 488वीं बैठक दिनांक 25/09/2023:

प्रस्तुतीकरण हेतु श्री दीपक गुप्ता, अधिकृत प्रतिनिधि उपस्थित हुए। समिति द्वारा नस्ती, प्रस्तुत जानकारी का अवलोकन एवं परीक्षण करने पर निम्न स्थिति पाई गई:–

1. **पूर्व में जारी पर्यावरणीय स्वीकृति संबंधी विवरणः–** इस खदान को पूर्व में पर्यावरणीय स्वीकृति जारी नहीं की गई है।

2. **ग्राम पंचायत का अनापत्ति प्रमाण पत्र** – डोलोमाईट उत्खनन एवं क्रशर की स्थापना के संबंध में ग्राम पंचायत नौघटा का दिनांक 21/03/2016 का अनापत्ति प्रमाण पत्र प्रस्तुत किया गया है।

3. **उत्खनन योजना** – क्वारी प्लान अलॉग विथ क्वॉरी क्लोजर प्लान प्रस्तुत किया गया है, जो संयुक्त संचालक (ख.प्र.), संचालनालय, भौमिकी तथा खनिकर्म, नवा रायपुर अटल नगर के ज्ञापन क्रमांक 4034/माईनिग–2/क्यू. पी./एफ. नं. 02/2013 नवा रायपुर अटल नगर, दिनांक 14/06/2023 द्वारा अनुमोदित है।

4. **500 मीटर की परिधि में स्थित खदान** – कार्यालय कलेक्टर (खनिज शाखा), जिला– सारंगढ़–बिलाईगढ़ के ज्ञापन क्रमांक 108/ख.लि.–02/2023./2023 सारंगढ, दिनांक 22/05/2023 के अनुसार आवेदित खदान से 500 मीटर के भीतर अवस्थित 16 खदानें, क्षेत्रफल 65.287 हेक्टेयर है।

5. **200 मीटर की परिधि में स्थित सार्वजनिक क्षेत्र/संरचनाए** – कार्यालय कलेक्टर (खनिज शाखा), जिला–सारंगढ़–बिलाईगढ़ के ज्ञापन क्रमांक 125/ख.लि. –02/2023 सारंगढ, दिनांक 16/06/2023 द्वारा जारी प्रमाण पत्र अनुसार उक्त खदान से 200 मीटर की परिधि में कोई भी सार्वजनिक क्षेत्र जैसे मंदिर, मस्जिद, मरघट, बांध, एनीकट एवं जल आपूर्ति स्त्रोत आदि प्रतिबंधित क्षेत्र निर्मित नहीं है।

6. **भू–स्वामित्व** – भूमि मेसर्स मंगल मेटल (पार्टनर– श्री महेश कुमार गर्ग) एवं श्री अशोक चंदवानी के नाम पर है। उत्खनन हेतु भू–स्वामी मेसर्स मंगल मेटल (पार्टनर– श्री महेश कुमार गर्ग) का सहमति पत्र प्रस्तुत किया गया है। समिति का मत है कि उत्खनन हेतु भू–स्वामी श्री अशोक चंदवानी का सहमति पत्र प्रस्तुत किया जाना आवश्यक है।

7. **एल.ओ.आई. संबंधी विवरण** – एल.ओ.आई मेसर्स शुभ मिनरल्स प्राइवेट लिमिटेडके नाम पर है जो छत्तीसगढ़ शासन, खनिज साधन विभाग मंत्रालय, नवा रायपुर अटल नगर के पत्र क्रमांक/एफ 2–6/2018/12 अटल नगर, दिनांक 14/10/2019 द्वारा 6 माह हेतु जारी की गई थी। तत्पश्चात् एल.ओ. आई की वैधता वृद्धि छत्तीसगढ़ शासन, खनिज साधन विभाग मंत्रालय, नवा रायपुर अटल नगर के पत्र क्रमांक एफ 3–17/2021/12 अटल नगर, दिनांक 07/04/2022 के पैरा 9 अनुसार "उत्खनन पट्टा क्षेत्र में खनन कार्य हेतु पर्यावरण संरक्षण अधिनियम, 1986 के तहत् खनन कार्य हेतु आवश्यक पर्यावरण अनुमति प्राप्त कर इस विभाग को प्रस्तुत करें।" के अधीन जारी की गई है।

8. **डिस्ट्रीक्ट सर्वे रिपोर्ट** – वर्ष 2019 की डिस्ट्रीक्ट सर्वे रिपोर्ट (District Survey Report) की प्रति प्रस्तुत की गई है।

9. **वन विभाग का अनापत्ति प्रमाण पत्र** – कार्यालय वनमंडलाधिकारी, रायगढ़ वनमंडल, जिला–रायगढ़ के ज्ञापन क्रमांक/तक.अधि/1745/2017 रायगढ़, दिनांक 20/02/2017 से जारी अनापत्ति प्रमाण पत्र के अनुसार आवेदित क्षेत्र वन क्षेत्र की सीमा से 5 कि.मी. एवं गोमर्डा अभ्यारण्य बरमकेला से 12 कि.मी. दूर है।

10. **महत्वपूर्ण संरचनाओं की दूरी** – निकटतम आबादी एवं स्कूल ग्राम–कटंगपाली 1 कि.मी. एवं अस्पताल 10 कि.मी. की दूरी पर स्थित है। राष्ट्रीय राजमार्ग 6 कि.मी. एवं राज्यमार्ग 500 मीटर दूर है। महानदी 2 कि.मी. दूर है।

11. **पारिस्थितिकीय/जैवविविधता संवेदनशील क्षेत्र** – परियोजना प्रस्तावक द्वारा 10 कि.मी. की परिधि में अंतर्राज्जीय सीमा, राष्ट्रीय उद्यान, अभयारण्य, केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा घोषित क्रिटिकली पॉल्युटेड एरिया, पारिस्थितिकीय संवेदनशील क्षेत्र या घोषित जैवविविधता क्षेत्र स्थित नहीं होना प्रतिवेदित किया है।

12. **खनन संपदा एवं खनन का विवरण** – जियोलॉजिकल रिजर्व 12,50,694 टन, माईनेबल रिजर्व 5,43,457 टन एवं रिकव्हरेबल रिजर्व 5,16,284 टन है। लीज की 7.5 मीटर चौड़ी सीमा पट्टी (उत्खनन के लिए प्रतिबंधित क्षेत्र) का क्षेत्रफल 3,210 वर्गमीटर है। ओपन कास्ट मेकेनाइज्ड विधि से उत्खनन किया जाएगा। उत्खनन की प्रस्तावित अधिकतम गहराई 30 मीटर है। लीज क्षेत्र में ऊपरी मिट्टी की मोटाई 0.5 मीटर तथा ओव्हर बर्डन की मोटाई 3.5 मीटर है। बेंच की ऊंचाई 3 मीटर एवं चौड़ाई 3 मीटर है। खदान की संभावित आयु 50 वर्ष है। लीज क्षेत्र में क्रशर स्थापित किया जाना प्रस्तावित नहीं है। जैक हैमर से ड्रिलिंग एवं कंट्रोल ब्लास्टिंग किया जाएगा। खदान में वायु प्रदूषण नियंत्रण हेतु जल का छिड़काव किया जाएगा। वर्षवार प्रस्तावित उत्खनन का विवरण निम्नानुसार है:–

वर्ष	प्रस्तावित उत्खनन (टन)
प्रथम	60,000
द्वितीय	60,000
तृतीय	1,00,000
चतुर्थ	1,00,000
पंचम	1,00,000

13. **जल आपूर्ति** – परियोजना हेतु आवश्यक जल की मात्रा 5 घनमीटर प्रतिदिन होगी। जल की आपूर्ति ग्राम पंचायत के द्वारा टैंकर के माध्यम से की जायेगी। इस बाबत् ग्राम–पंचायत का अनापत्ति प्रमाण पत्र प्रस्तुत किया गया है।

14. **वृक्षारोपण कार्य** – लीज क्षेत्र की सीमा में चारों ओर 7.5 मीटर की पट्टी में 642 नग वृक्षारोपण किया जाएगा।

15. **खदान की 7.5 मीटर की चौड़ी सीमा पट्टी में उत्खनन** – लीज क्षेत्र के चारों ओर 7.5 मीटर की सीमा पट्टी में उत्खनन कार्य नहीं किया गया है।

16. माननीय एन.जी.टी., प्रिंसिपल बेंच, नई दिल्ली द्वारा सत्येंद्र पाण्डेय विरूद्ध भारत सरकार, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय, नई दिल्ली एवं अन्य (ओरिजनल एप्लिकेशन नं. 186 ऑफ 2016 एवं अन्य) में दिनांक 13/09/2018 को पारित आदेश में मुख्य रुप से निम्नानुसार निर्देशित किया गया है:–

    a) Providing for EIA, EMP and therefore, Public consultation for all areas from 5 to 25 ha. falling under category B-2 at par with category B-1 by SEAC / SEIAA as well as for cluster situation where ever it is not provided.

    b) If a cluster or an individual lease size exceed 5 ha. EIA / EMP be made applicable in the process of grant of prior environment clearance.

समिति द्वारा विचार विमर्श उपरांत सर्वसम्मति से निम्नानुसार निर्णय लिया गया कि:–

1. कार्यालय कलेक्टर (खनिज शाखा), जिला–सारंगढ़–बिलाईगढ़ के ज्ञापन क्रमांक 108/ख.लि.–02/2023./2023 सारंगढ, दिनांक 22/05/2023 के अनुसार आवेदित खदान से 500 मीटर के भीतर अवस्थित 16 खदानें, क्षेत्रफल 65.287 हेक्टेयर है। आवेदित खदान (ग्राम–छेलफोरा (ब्लॉक–1)) का रकबा 1.683 हेक्टेयर है। इस प्रकार आवेदित खदान (ग्राम–छेलफोरा (ब्लॉक–1)) को मिलाकर कुल रकबा 66.97 हेक्टेयर है। खदान की सीमा से 500 मीटर की परिधि में स्वीकृत/संचालित खदानों का कुल क्षेत्रफल 5 हेक्टेयर से अधिक का क्लस्टर निर्मित होने के कारण यह खदान 'बी1' श्रेणी की मानी गयी।

2. समिति द्वारा विचार विमर्श उपरांत सर्वसम्मति से प्रकरण 'बी1' केटेगरी का होने के कारण भारत सरकार, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय द्वारा अप्रैल, 2015 में प्रकाशित स्टैण्डर्ड टर्म्स ऑफ रिफरेंस (टीओआर) फॉर ई.आई.ए./ई.एम.पी. रिपोर्ट फॉर प्रोजेक्ट्स/एक्टीविटीज रिक्वायरिंग इन्वायरमेंट क्लीयरेंस अण्डर ई.आई.ए. नोटिफिकेशन, 2006 में वर्णित श्रेणी 1(ए) का स्टैण्डर्ड टीओआर (लोक सुनवाई सहित) नॉन कोल माईनिंग प्रोजेक्ट्स हेतु निम्न अतिरिक्त टीओआर के साथ जारी किये जाने की अनुशंसा की गई:–

   i. Project proponent shall inform SEIAA & S.E.A.C. Chhattisgarh before commencement of Baseline Data Generation and start of monitoring work for preparation of EIA Study Report.

   ii. Project proponent shall submit the Individual Environment Management Plan and Common Environment Management Plan.

   iii. Project proponent shall submit the details of monitoring equipments alongwith its specification. Project proponent shall monitor as per the Methodology issued by MoEF&CC.

   iv. Project proponent shall submit the copy of panchnama and photographs of every monitoring station, depicted on Topo Sheet of Survey of India.

   v. Project proponent shall submit the top soil management plan and over burden & incorporate the details in the EIA report.

   vi. Project Proponent shall submit an undertaking that the top soil & over burden would be stacked at the earmarked place and shall use the same in plantation and backfilling of the mined out area.

   vii. Project proponent shall submit the consent letter of the land owner (shri Ashok Chandwani) regarding the mining.

   viii. Project proponent shall submit an affidavit for compliance of commitments made to the public (Objections/suggestions raised by public) during Public Hearing.

   ix. Project proponent shall ensure that mining lease area to be demarcated by erection of boundary pillars at all corner and area to be fenced.

   x. EIA study shall be done at minimum 10 no. of stations for data collection considering the pre-dominant wind direction.

   xi. Project proponent shall submit the copy of panchnama and photographs of every monitoring station.

   xii. Project proponent shall submit a Cumulative Environment Impact Assessment Study (Air, Water, Noise, Soil, Traffic etc) of the mines located in the nearby area and Ecology of the buffer zone of study area and shall incorporate the same in the EIA report.

xiii. The project proponent shall submit an undertaking that there is no court case pending relating to this project before any Court of Law in India.

xiv. The project proponent shall submit an undertaking in the form of an affidavit stating that there is no violation of Notification S.O. 804(E) dated 14/03/2017 issued by Ministry of Environment, Forest and Climate Change, Government of India and the direction given by Hon'ble Supreme Court of India in the matter of Common Cause vs Union of India order dated 02.08.2017.

xv. Project proponent shall undertake plantation & incorporate in the EIA report.

xvi. Project proponent shall submit the 7.5 meter width of mine lease periphery & do plantation during the current year incorporating the plant cost, fertilizer cost, irrigation cost, maintainance cost for atleast 5 years and the details alongwith photographs in the EIA report.

xvii. Project proponent shall undertake plantation (as far as possible tree bearing species) within the mining lease area as per guidelines issued from time to time and particularly in the 7.5 meter safety zone area of minimum 05 feet height and shall maintain minimum 90% survival rate. The plantation shall be maintained by project proponent for atleast 5 years. Project proponent shall submit half yearly reports regarding compliance to the Authority. The details to be submitted alongwith Geotag photographs in the EIA report.

xviii. Project proponent shall submit CER proposals with details of works alongwith their estimates including land cost and incorporating the plant cost, fertilizer cost, irrigation cost and maintainance cost for atleast 5 years & incorporate the details in the EIA report.

प्राधिकरण द्वारा बैठक में विचार – उपरोक्त प्रकरण पर प्राधिकरण की दिनांक 04/01/2024 को संपन्न 160वीं बैठक में विचार किया गया। प्राधिकरण द्वारा नस्ती का अवलोकन किया गया। **प्राधिकरण द्वारा विचार विमर्श उपरांत सर्वसम्मति से** समिति की अनुशंसा को स्वीकार करते हुये उपरोक्तानुसार स्टैण्डर्ड टर्म्स ऑफ रेफरेन्स (टी.ओ.आर.) (लोक सुनवाई सहित) जारी करने का निर्णय लिया गया।

तदानुसार मेसर्स शुभ मिनरल्स प्राइवेट लिमिटेड (छेलफोरा डोलोमाईट क्वारी, प्रो.– श्री प्रतीश कुमार गोयल), ग्राम–छेलफोरा (ब्लॉक–1), तहसील–सरिया (बरमकेला), जिला–सारंगढ़–बिलाईगढ़ (छ.ग.) स्थित खसरा क्रमांक 206, 207/3, 208, 210/1, 211, 212, 214/3 एवं 214/4, कुल क्षेत्रफल–1.683 हेक्टेयर में प्रस्तावित डोलोमाईट (गौण खनिज) खदान उत्खनन क्षमता–1,00,000 टन प्रतिवर्ष हेतु भारत सरकार, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय द्वारा अप्रैल, 2015 में प्रकाशित स्टैण्डर्ड टर्म्स ऑफ रिफरेंस (टीओआर) फॉर ई.आई.ए./ई.एम.पी. रिपोर्ट फॉर प्रोजेक्ट्स/एक्टीविटीज रिक्वायरिंग इन्वायरमेंट क्लीयरेंस अण्डर ई.आई.ए. नोटिफिकेशन, 2006 में वर्णित श्रेणी 1(ए) का स्टैण्डर्ड टीओआर (लोक सुनवाई सहित) नॉन कोल माईनिंग प्रोजेक्ट्स हेतु निर्धारित स्टैण्डर्ड टीओआर **संलग्नक –01** अनुसार जारी किया जाता है।

निर्धारित स्टैण्डर्ड टीओआर सहपठित अतिरिक्त टीओआर के आधार पर ई.आई.ए. अधिसूचना 2006 (यथा संशोधित) के प्रावधानों के अनुसार ई.आई.ए. रिपोर्ट (ई.आई.ए. नोटिफिकेशन, 2006 के **परिशिष्ट – 3** में निर्धारित जनरिक स्ट्रक्चर के अनुसार) तैयार कर एस.ई.आई.ए.ए., छत्तीसगढ़ को निर्धारित समयावधि के अंदर प्रस्तुत करें।

सदस्य सचिव
एस.ई.ए.सी. छत्तीसगढ़

पृ. क.2599/एस.ई.ए.सी.,छ.ग./माईन/2579 नवा रायपुर अटल नगर, दिनांक 19/01/2024

प्रतिलिपि :–

1. एकीकृत, क्षेत्रीय कार्यालय, पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, रायपुर (छत्तीसगढ़)
2. सदस्य सचिव, छत्तीसगढ़ पर्यावरण संरक्षण मंडल, पर्यावास भवन, सेक्टर – 19, नवा रायपुर अटल नगर, जिला–रायपुर (छ.ग.)

सदस्य सचिव
एस.ई.ए.सी. छत्तीसगढ़

ok

Terms of Reference For M/s Shubh Minerals Private Limited at Village-Chhelphora (Clock-1), Tehsil-Sariya (Baramkela), District-Sarangarh-Bilaigarh (C.G.) for Dolomite Quarry Capacity of 1,00,000 Tonne Per Year

1(a): STANDARD TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY FOR NON-COAL MINING PROJECTS AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT

A. STANDARD TERMS OF REFERENCE (TOR)

1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
4) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the areashould be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
5) Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
6) Details about the land proposed for mining activities should be givenwith information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
7) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.
8) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.
9) The study rea will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.

10) Land use of the study rea delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
11) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.
12) A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
13) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
14) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
15) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
16) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.
17) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
18) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.
19) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.

20) Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would lso need to obtain approval of the concerned Coastal Zone Management Authority).
21) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.
22) One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)]primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM_{10}, particularly for free silica, should be given.
23) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.
24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

29) Details of any stream, seasonal or otherwise, passing through the lease area and modification /diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
30) Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.
31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given.The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.
32) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
33) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
34) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
35) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
36) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
37) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
38) Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
39) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
40) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
41) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

42) A Disaster management Plan shall be prepared and included in the EIA/EMP Report.

43) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.

44) Besides The Above, The Below Mentioned General Points Are Also To Be Followed:-

a. Executive Summary of the EIA/EMP Report.
b. All documents to be properly referenced with index and continuous page numbering.
c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.
d. Project proponent shall enclose all the analysis / testing reports of water, air, soil, noise etc. using the MoEF&CC / NABL accredited laboratories. All the original analysis / testing reports should be available during appraisal of the project.
e. Where the documents provided are in a language other than English, an English translation should be provided.
f. The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.
g. While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF&CC vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.
h. Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of SEIAA and SEAC, Chhattisgarh with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

i) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

ii) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

B. BESIDES THE ABOVE, THE BELOW MENTIONED GENERAL POINTS ARE ALSO TO BE FOLLOWED:-

A. Project proponent shall submit detail action plan regarding plantation including list of plant of local species to be planted.
B. Executive Summary of the EIA/EMP Report.
C. All documents to be properly referenced with index and continuous page numbering.
D. Period / date of data collection shall be clearly indicated. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.
E. Project proponent shall enclose all the analysis / testing reports of water, air, soil, noise etc. using the MoEF&CC / NABL accredited laboratories. All the original analysis / testing reports should be available during appraisal of the project.

F. Where the documents provided are in a language other than English, an English translation should be provided.

G. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF&CC vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry of Environment, Forests and Climate Change, Government of India should also be followed.

H. Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of SEIAA and SEAC, Chhattisgarh with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

I. The copy of the letter received from SEAC, Chhattisgarh on the TOR prescribed for the project should be attached as an annexure to the final EIA-EMP report. The compliance statement of TOR prescribed should also be incorporated.

J. The consultants involved in the preparation of EIA-EMP report after accreditation with Quality Council of India (QCI) / National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA-EMP reports prepared by them and data provided by other organization / Laboratories including their status of approvals etc. Name of the Consultant and the Accreditation details shall be posted on the EIA-EMP Report as well as on the cover of the Hard Copy of the Presentation material for EC presentation.

K. The TORs are valid for a period of three years from the date issue of this letter. However, this period could be further extended by a maximum period of one year provided an application is made by the project proponent at least three months before the expiry of the validity period, together with updated Form – I based on proper justification.

C. ADDITIONAL TERMS AND REFERENCE:-

i. Project proponent shall inform SEIAA & S.E.A.C. Chhattisgarh before commencement of Baseline Data Generation and start of monitoring work for preparation of EIA Study Report.

ii. Project proponent shall submit the Individual Environment Management Plan and Common Environment Management Plan.

iii. Project proponent shall submit the details of monitoring equipments alongwith its specification. Project proponent shall monitor as per the Methodology issued by MoEF&CC.

iv. Project proponent shall submit the copy of panchnama and photographs of every monitoring station, depicted on Topo Sheet of Survey of India.

v. Project proponent shall submit the top soil management plan and over burden & incorporate the details in the EIA report.

vi. Project Proponent shall submit an undertaking that the top soil & over burden would be stacked at the earmarked place and shall use the same in plantation and backfilling of the mined out area.

vii. Project proponent shall submit the consent letter of the land owner (shri Ashok Chandwani) regarding the mining.

viii. Project proponent shall submit an affidavit for compliance of commitments made to the public (Objections/suggestions raised by public) during Public Hearing.

ix. Project proponent shall ensure that mining lease area to be demarcated by erection of boundary pillars at all corner and area to be fenced.

x. EIA study shall be done at minimum 10 no. of stations for data collection considering the pre-dominant wind direction.

xi. Project proponent shall submit the copy of panchnama and photographs of every monitoring station.

xii. Project proponent shall submit a Cumulative Environment Impact Assessment Study (Air, Water, Noise, Soil, Traffic etc) of the mines located in the nearby area and Ecology of the buffer zone of study area and shall incorporate the same in the EIA report.

xiii. The project proponent shall submit an undertaking that there is no court case pending relating to this project before any Court of Law in India.

xiv. The project proponent shall submit an undertaking in the form of an affidavit stating that there is no violation of Notification S.O. 804(E) dated 14/03/2017 issued by Ministry of Environment, Forest and Climate Change, Government of India and the direction given by Hon'ble Supreme Court of India in the matter of Common Cause vs Union of India order dated 02.08.2017.

xv. Project proponent shall undertake plantation & incorporate in the EIA report.

xvi. Project proponent shall submit the 7.5 meter width of mine lease periphery & do plantation during the current year incorporating the plant cost, fertilizer cost, irrigation cost, maintainance cost for atleast 5 years and the details alongwith photographs in the EIA report.

xvii. Project proponent shall undertake plantation (as far as possible tree bearing species) within the mining lease area as per guidelines issued from time to time and particularly in the 7.5 meter safety zone area of minimum 05 feet height and shall maintain minimum 90% survival rate. The plantation shall be maintained by project proponent for atleast 5 years. Project proponent shall submit half yearly reports regarding compliance to the Authority. The details to be submitted alongwith Geotag photographs in the EIA report.

xviii. Project proponent shall submit CER proposals with details of works alongwith their estimates including land cost and incorporating the plant cost, fertilizer cost, irrigation cost and maintainance cost for atleast 5 years & incorporate the details in the EIA report.

सदस्य सचिव
एस.ई.ए.सी. छत्तीसगढ़

1.0 Preamble

India is endowed with vast mineral resources. The tradition of mining in India is ancient and underwent modernization since India gained independence. The Mining industry in India is a major economic activity which contributes about 2.5 per cent of the gross domestic product (GDP).

1.1. Benefits of Sustainable Mining

Mining can become environmentally sustainable by developing and integrating practices that reduce the environmental impact of mining operations. These practices include measures such as

- Reduces water and energy consumption.
- Minimize land disturbance which can avoid the damage of flora, fauna, agriculture land and settlements.
- Waste production.
- Preventing soil, water and air pollution at mine sites.
- By conducting successful mine closure and reclamation activities.
- By generating employment in local areas.

1.2 Purpose of this Report

Environmental Impact Assessment (EIA) study is a process, used to identify the environmental, social and economic impacts of a project prior to decision-making. It is a decision making tool, which guides the decision makers in taking appropriate decisions for proposed projects. It aims at predicting environmental impacts at an early stage of project planning and design, find measures to reduce adverse impacts, shape projects to suit the local environmental and present the predictions and options to decision makers.

The Ministry of Environment, Forests & Climate Change (MoEFCC), Government of India, The Ministry of Environment, Forests & Climate Change (MoEF&CC), Government of India, made Environmental Clearance (EC) mandatory through its Notification of 27th January, 1994 and SO 1533 (E), dated 14th September 2006.

The Draft Environmental Impact Assessment report is being prepared in order to comply with the Terms of Reference (TOR) received from SEAC, Chhattisgarh TOR letter no. **2598/SEAC, C.G./MINE/2579 Nawa Raipur Atal Nagar, dated 19/01/2024** under EIA notification of the MoEF dated 07-9-2019, for seeking environmental clearance for mining of mineral.

1.3 Environment Clearance or EIA Process for this Project

The Environmental Impact Assessment and Management plan has been prepared in accordance with EIA notification of the MoEF.

As per the MoEF, New Delhi Gazette dated 14th September 2006, this mining project falls under category "B" Because no National Park, Biosphere reserve, Migratory routes of fauna and National Monument within 5 km radius from the project site under 1(a) activity of EIA Notification. The EIA-EMP is prepared as per the TOR granted vide TOR letter no. **2598/SEAC, C.G./MINE/2579 Nawa Raipur Atal Nagar, Dated 19/01/2024** under the EIA Notification. The Environmental Clearance process for the proposed project will comprise of three stages. These stages in sequential order are: -

- Screening
- Scoping
- Public Consultation or Public Hearing
- Appraisal

The flow chart depicting these stages to obtain the prior Environmental Clearance for the project is as given below in Figure 1.1.

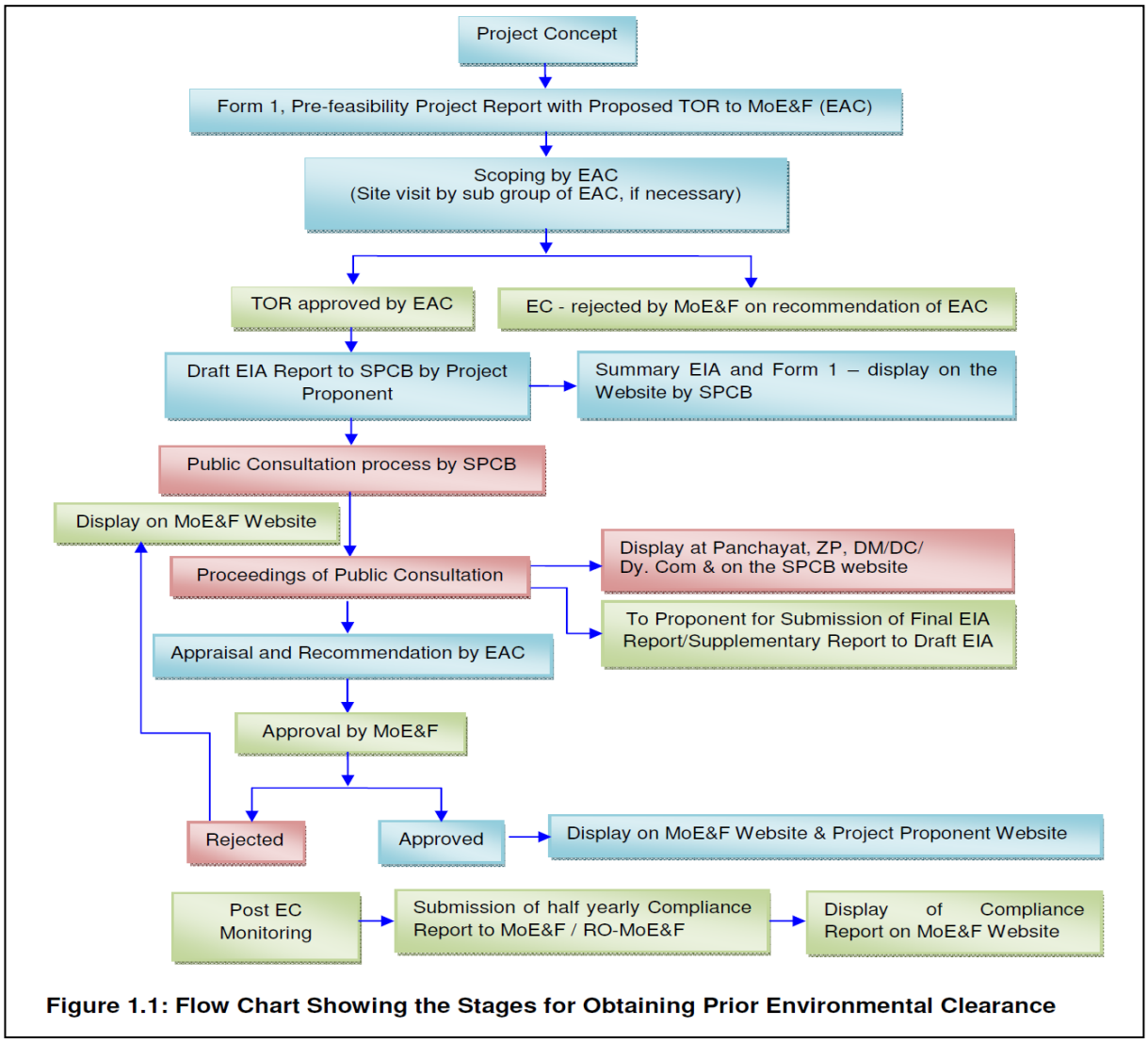


Figure 1.1: Flow Chart Showing the Stages for Obtaining Prior Environmental Clearance

1.4 Identification of Project Proponent

The lessee M**/s Shubh Minerals Pvt. Ltd.**

Mailing/ Correspondence Address of Project Proponent:

M/s Shubh Minerals Pvt. Ltd.,

Goyal Automobile, Jagatpur, Dhimarapur, Raigarh

P.O. & Tehsil- Raigarh

496001

1.5 Brief Description of Project

1.5.1 Nature of the Project:

Opencast mechanized method of mining is proposed in the lease area.

1.5.2 Size of the Project

The total Mine Lease areas considered is 1.683 ha. The proposed production is 1,00,000 Tones/Year.

1.5.3 Anticipated Life of Mine and Cost of the Project

The life of the mine is anticipated at 50 years based on the level of exploration and reserve established as per UNFC classification and expecting the market demand will remain at 1,00,000Tones/Year. Total cost of the project is approx. 110 Lacs.

1.5.4 Location of the Project

The mining lease is located in Village of Chhelphora, Tehsil- Baramkela District- Raigarh (C.G.) Geo-graphically the ML area extends from Longitude - 83° 17' 02.02"E to 83° 17' 09.66"E Latitude 21° 39' 21.55"N to 21° 39' 25.67"N

The study area of the proposed project comprises of 10 km radius around the mining lease boundary, the map showing the core zone (ML area) and buffer zone (10 km radius from the lease boundary).

Table No: 1.1: Geographical Co-ordinates of the Mine lease area

Pillar No.	LATITUDE	LONGITUDE
1	21° 39' 25.67"N	83° 17' 02.12"E
2	21° 39' 25.40"N	83° 17' 03.52"E
3	21° 39' 24.35"N	83° 17' 03.38"E
4	21° 39' 24.02"N	83° 17' 05.55"E
5	21° 39' 25.61"N	83° 17' 06.19"E
6	21° 39' 25.47"N	83° 17' 07.22"E
7	21° 39' 24.16"N	83° 17' 06.77"E
8	21° 39' 23.95"N	83° 17' 07.51"E
9	21° 39' 25.23"N	83° 17' 07.91"E
10	21° 39' 25.67"N	83° 17' 09.66"E
11	21° 39' 25.67"N	83° 17' 08.94"E
12	21° 39' 25.67"N	83° 17' 08.32"E
13	21° 39' 25.67"N	83° 17' 08.08"E
14	21° 39' 25.67"N	83° 17' 04.94"E
15	21° 39' 25.67"N	83° 17' 02.02"E

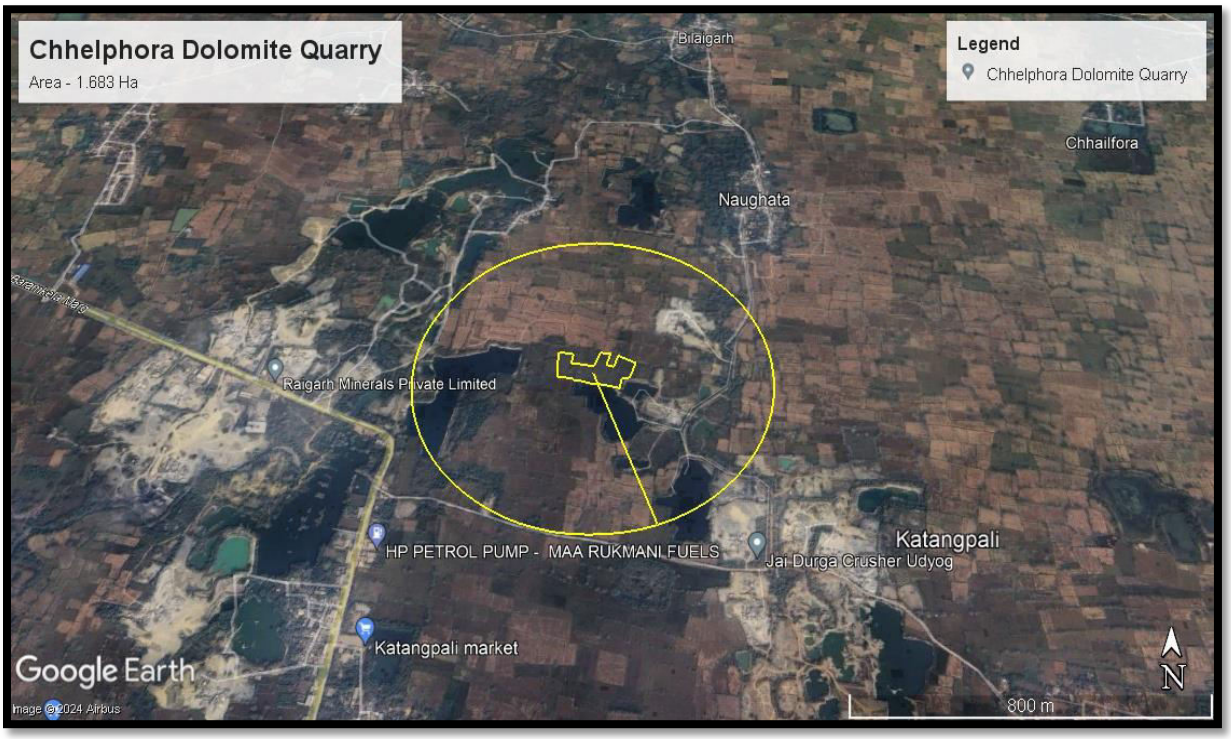


Fig1.2: Pillar Coordinates Map

1.5.5 Brief Description of Project

Table1.2: Description of the Project

Project Name	Chhelphora Dolomite Quarry	
Location of the Project	Village: Chhelphora, Tehsil- Baramkela District- Raigarh (C.G.)	
Mine Lease Area	1.683 Ha	Khasra No: Above mentioned khasra
Latitude & Longitude	**Latitude**	**Longitude**
	21° 39' 21.55"N to 21° 39' 25.67"N	83° 17' 02.02"E to 83° 17' 09.66"E”
Toposheet Number	64 O/6	
Type of Land	Non forest Private land	
Elevation	Highest Elevation: 250 m AMSL Lowest Elevation : 246 m AMSL	
Project Cost	110 Lacs	
Man Power & No. of Working days	10 person /300 Working Days	
Total Geological Reserve	1250694 T	

Total Mineable Reserve	543457.67 T
Targeted Production	Production from mine largely depends on market demand presently it is fixed at 1,00,000T. as per present market scenario.
Validity of Lease	50 years
Seismic Zone	Seismic Zone II as per IS-1893 (Part-1)-2002
End use of Product	In Chhattisgarh dolomite is mostly used in iron and steel industries. Most of the dolomite is used in Steel plant.
Nearest Town	Raigarh 48 km
Nearest Airport	Raigarh Airport approx 39 km
Nearest Railway Station	Raigarh Station 48 Km
Nearest Highway	National Highway 200 at 6 km
Nearest Water Bodies	2 Km
Historical Monuments (in 10 km Buffer)	None with in the study Area.
Status of Protected/ Other Areas (in 10 Km Buffer)	None within the study Area.
Nearest Dispensary & Govt. Hospital	10 Km

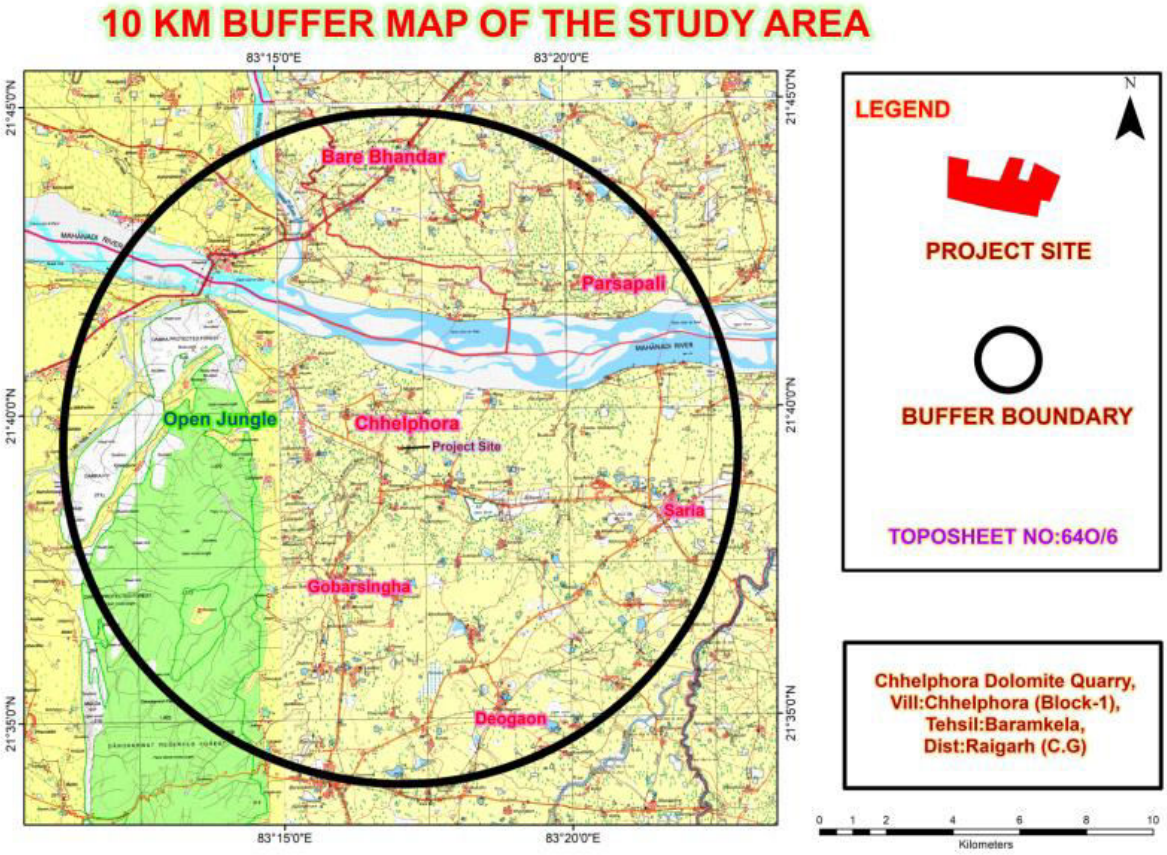


Fig.1.3: Geographical Location of the Project

1.6 REGULATORY COMPLIANCES

TOR was granted by SEAC, Chhattisgarh, vide letter no. TOR letter no. 2598/SEAC, C.G./MINE/2579 Nawa Raipur Atal Nagar, Dated 19/01/2024. There is no litigation pending against the project/ proposed site and no direction has been passed by the court of law against the project.

1.7 Post – Environmental Clearance Monitoring

The project proponent will submit half yearly compliance report in respect of stipulated prior Environmental Clearance terms and conditions on 1st June and 1st Dec. of each calendar year.

1.8 COMPLIANCE OF TOR CONDITION

(Ref. No: (2598/SEAC, C.G./MINE/2579 Nawa Raipur Atal Nagar, Dated 19/01/2024). Point wise Tor compliance as per Standard Terms of Reference (TOR) For EIA/EMP Report for Projects/ Activities Requiring Environment Clearance issued by MoEF & CC

S. No	TOR Points	Implementation / Plan / Status covered in EIA report.
A1.	Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification, 1994 came into force w. r. t. the highest production achieved prior to 1994.	This is a new mine so Year-wise production details will be submitted after starting of mining
2.	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.	LOI has been issued in favo/8q\r of (M/s. Subh Minerals Pvt. Ltd. Resident of goyal automobile, raigarh Dist: Raigarh for extraction of Dolomite Mine at Khasra No mentioned above Village: Chhelphora Tehsil: Baramkela, District- Raigarh (C.G.) having total area of 1.683 ha
3.	All documents including approved mine plan, EIA report and Public hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of lessee.	All documents including approved mine plan /mining scheme and DEIA-EMP Report are compatible with one another in terms of the mine lease area, production levels, waste generation and its management and mining technology.
4.	All corner coordinates of the mine lease area, super imposed on a High Resolution Imagery/ Toposheet by, topographic sheet, geomorphology and geology of the area should be provided. Such as imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	All corner coordinates of QL area are superimposed on survey of India (Toposheet No. 64 O/6). Land use are prepared with use a RS–GIS technique and is incorporated in Chapter 4 (4.1)
5.	Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing	The land use & land cover map of the area is superimposed on survey of India Toposheet in 1:50,000 scale and same has been furnished in Chapter 4 of DEIA-EMP Report.

	minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.	
6	Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.	The State Government of Chhattisgarh has allotted the Mine Lease area to the Lessee. The copy of Lease deed has been attached as **Annexure I.**
7	It should be clearly stated whether the proponent company has a well laid down Environment policy approved by its Board of directors? If so, it may be spelt out in the EIA report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/conditions? The hierarchical system or administrative order of the company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances/ violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large may also be detailed in the EIA report.	The project proponent has a well laid Environmental policy which has been approved by the project proponent. The operation process has been incorporated in the chapter 6 of EIA/EMP report. The Policy contains the hierarchical system of the company to deal with the environmental issues and for ensuring the compliance with EC conditions. All the non-compliances/violations of environmental laws will be reported to the Project Proponent. The Environmental policy of the company has been elaborated in Chapter 5.
8	Issues relating to mine safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also	Opencast mechanized method of mining will be adopted in the lease area in future. However, if required for breaking of harder strata Jack Hammer, may be used. Blasting may be used as and when required by licensed contractor.

	be provided.	The details of the safeguard measures are given Chapter no 4, under Occupational Health and safety.
9.	The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.	Topographical map showing the study area comprising 10 km zone and the mine lease is enclosed in the DEIA-EMP Report. Over burden will be stacked outside in SE part of the lease area. Copy of Permission for that has been attached as per rule 247 of MP & Chhattisgarh Land Revenue code 1959, as **Annexure.** The generated topsoil will be used for plantation purpose at safety zone. The details of the waste generation is given in the EIA report in Chapter 2
10.	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary and national park, migratory routes of fauna, water bodies, human settlements & other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	➢ The land use of the study area which shows forest area, agriculture land, water bodies, human settlement etc. has been given at Chapter 4 of DEIA-EMP Report. No Reserve Forest and Protected Forest are found within the radius of 10 km of Study area. **<u>Change of Land use:-</u>** The lease area will be reclaimed and re habilitated by afforestation.
11.	Details of the land for any overburden dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.	Over burden will be stacked outside in SE part of the lease area. Copy of Permission for that has been attached as per rule 247 of MP & Chhattisgarh Land Revenue code 1959, as **Annexure.** The generated topsoil will be used for plantation purpose at safety zone.
12.	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary	The Mining Lease area does not involve any forest land. The land of the Mining lease area is proponent owned land and this area is free from any reservation of forest department of Chhattisgarh Government. NOC from forest Department is Attached as

	claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.	**Annexure IV**
13.	Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.	No Forest land is involved in the Mine Lease Area. Hence Forest Clearance is Not Applicable.
14.	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.	The area is not covered under Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006. Hence, it is not applicable.
15.	The vegetation in the RF / PF areas in the study area, with necessary details, Should be given.	The details of flora has been given in Para 4.6.
16.	A study shall be got done to ascertain the impact of the Mining project on Wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly detailed mitigative measures required, should be worked out with cost implications and submitted.	The mitigating measures are given in the Chapter 7 of DEIA-EMP Report.
17.	Location of National parks, Sanctuaries, Biosphere Reserves, Wildlife corridors, Ramsar site	No National Park, Biosphere Reserve, Wild life Corridors, Tiger/Elephant reserves (existing as well as proposed) are Present within the Study

	Tiger/Elephant reserves (existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.	area. The location Map is Attached as **Map no 1.**
18.	A detailed biological study for the study area [core zone & buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora & fauna, endangered, endemic and Ret Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the schedule of the fauna present. In case of any Scheduled-I fauna found in the study area, the necessary plan along with budgetary provision for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.	A detailed Biological study of the study area [core zone & buffer zone (10 km radius of the periphery of the mine lease)] has been carried out by Ecology & Biodiversity Expert during the monitoring season (Oct 2023 –Dec 2023). Details of flora & fauna, endangered, endemic and RET Species core & buffer zone are given in Chapter IV. No Schedule – I species has been found in the study area.
19.	Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining	The project site is neither falling under Aravali range nor it is located in proximity to area declared as Critically Polluted. Hence not applicable.

	Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.	
20.	Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w. r. t. CRZ, coastal features such as mangroves, If any, should be furnished.(Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).	Not Applicable, since the project site does not comes under coastal area.
21.	R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmers prepared and submitted accordingly, integrating the sectoral programmers of line departments of the State Government. It may be clearly brought out whether the village located in the mine lease area will be shifted or not. The issues relating to shifting of Village including their R&R and socio economic aspects should be discussed in the report.	No R&R is Involved.
22.	One season (non-monsoon) (i.e. March-May (Summer Season); October-December (Post monsoon	The primary baseline data for Ambient air quality, noise levels, water quality, soil quality, flora and fauna was collected during Post

	season); December-February (Winter Season) primary baseline data on ambient air quality as per CPCB notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so complied presented date-wise in the EIA and EMP report. Site specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10 particularly for free silica should be given.	monsoon season (Oct. 2023- Dec 2023) and is given in detail in Chapter 4. The site specific meteorological data was collected for the monitoring period and is summarized in Chapter 4. The mineralogical composition of PM_{10} is given in Table 4. In chapter 4.
23.	Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and the input parameters used for modeling should be provided. The Air quality contours may be shown on the location map clearly indicating the location of site, location of sensitive receptors, if any, and habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.	ISCST3 version 3: Perpetual Dispersion model, based on steady state Gaussian plume dispersion, was used for the prediction of ground level concentrations. Meteorological data generated at site during study period has been used for onsite input met data. The wind rose diagram showing that the predominant direction. The details are given in Chapter 5 of DEIA-EMP Report.

24	The water requirement for the project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the project should be indicated.	Proposed water requirement of the project along with the water balance diagram is discussed in Chapter 2.
25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.	Total water requirement for the project is 4 KLD which will be sourced from the bore well and sump in the area. The permission letter is attached as **Annexure V.**
26	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	Water conservation measures proposed to be adopted are as given below: - • Optimum utilization avoiding unnecessary wastage of water will be done. • Awareness programs will be taken up to educate public for conservation of water. • Mobile toilets with modular septic tank having efficient water utilization capacity (low facets water requirement for flushing) will be used. • Dust sprinklers will be used to minimize the air borne dust emissions on haul roads. • Post-monsoon and Pre-monsoon groundwater level will be monitored regularly.
27	Impact of the project on the water quality, both surface and groundwater should be assesses and necessary safeguard measures, if any required, should be provided.	Impact of the project on the water quality & its mitigation measures has been incorporated in Chapter-5 of DEIA-EMP Report.
28	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro	In the ML area the groundwater table exists at an average depth of 30 m – 40m bgl. The mining is proposed much above ground water table. Hence it will not intersect the ground water table. No pumping is proposed.

	Geological Study should be undertaken and report furnished. The Report inter-alia shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.	
29	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.	No stream passes through the QL area. The drainage pattern of the study area is given in Chapter II of DEIA-EMP Report.
30	Information on site elevation, working depth, groundwater table etc. should be provided both in AMSL and bgl. A schematic diagram should also be provided for the same.	The site elevation is from 204-205m AMSL. Ground Water table is 30-40 m bgl Information about site elevation; working depth has been incorporated in Chapter 2.
31.	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local	The detail of the Progressive Greenbelt Development Plan is given in chapter Environment Management Plan.

	and native species and the species which are tolerant to pollution.	
32.	Impact on local transport infrastructure due to the project should be indicated. Projected increase in truck traffic as result of the project in the present road network (including those outside the project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project proponent shall conduct impact of Transportation study as per Indian road Congress Guidelines.	The transportation of Mineral will be done by vehicles through existing roads and highways. Traffic density from the proposed mining activity has been incorporated in Chapter 7 of DEIA-EMP Report.
33.	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA report.	➢ Onsite shelter and facilities has been provided to the mine workers as per Approved Mining Plan & as per Mines Rules. ➢ Following are the infrastructural facilities which provided to the workers: 1. Rest Shelter, drinking water facilities, washrooms separately for male & female workers, sanitary facility, first aid facilities, etc. 2. Personal protective equipment as ear muffs, gloves etc. will be provided to the workers.
34.	Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.	The present and proposed land use of the mine lease area is given in Chapter 9.
35.	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and	The occupational health impacts of the project and corresponding preventive measures are discussed in Chapter 5 on DEIA-EMP Report.

	periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area May be detailed.	
36.	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	Impact on the health of public has been assessed in Impact Assessment and the remedial measures have been proposed.
37	Measures of socio economic significance and influence to the local community proposed to be provided by project Applicant should be indicated. As far as possible, quantitative dimension may be given with time frame for implementation.	The proposal for Social welfare activities by the mine management along with necessary budget allocation are discussed in DEIA-EMP Report Chapter 8 under Corporate Environment Responsibility.
38	Detailed environmental management plan to mitigate the environmental impact which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts pacific to the proposed project.	The impacts of the increase in mineral production from the proposed mine lease area on various environmental parameters has been discussed and mitigation measures have been discussed in detail in Chapter Environmental Management Plan.
39	Public hearing points raised and commitment of the project Applicant on the same along with time bound action plan to implement the same should be provided and also incorporated in the final EIA/EMP report of the project.	Public hearing will be incorporated in Final EIA /EMP Report.
40	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the project should be given.	There is no litigation against the project.

41	The cost of the project (capital cost and recurring cost) as well as the cost towards implementation of EMP should clearly be spelt out.	**Cost for Project:** Rs.110 Lacs Capital Cost for EMP: Rs. 5,00,000 Rupees Recurring expenses/annum: Rs. 1,00,000/- 2 % of CER Cost:2,20,000/-
42	A Disaster Management Plan shall be prepared and included in the EIA/EMP report.	Details are incorporated in Chapter No.10
43	Benefits of the project if the project is implemented should be spelt out. The benefits of the project shall clearly indicate environmental, social, economic, employment potential, etc.	Details are incorporated in Chapter 10 of DEIA-EMP Report.

44. Besides the above, the below mentioned general points are also to be followed:-

a)	Executive Summary of the EIA/EMP Report	Attached
b)	All documents to be properly referenced with index and continuous page numbering.	Agreed and complied
c)	Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.	Agreed
d)	Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.	Agreed
e)	Where the documents provided are in a language other than English, an English translation should be provided.	Agreed
f)	The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.	Agreed
g)	While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF&CC vide OM No. J-11013/41/2006 – IA II (I) dated	Agreed and complied

	4th August 2009 which are available on the website of this Ministry should be followed.	
h)	Changes, if any made in the basic scope and project parameters (as submitted in Form-1 and the PFR for securing the TOR) should be brought to the attention of SEIAA and SEAC, Chhattisgarh with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.	Agreed
i)	As per the circular no. J-11011/618/2010-IA.II (I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.	Agreed but it is a fresh mine.
j)	The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.	Agreed

B. BESIDES THE ABOVE, THE BELOW MENTIONED GENERAL POINTS ARE ALSO TO BE FOLLWED:-		
A.	Project proponent shall submit detail action plan regarding plantation including list of plant of local species to be planted.	Agreed and attached as annexure
B	Executive Summary of the EIA/EMP Report	Attached as annexure
C	All documents to be properly referenced with index and continuous page numbering.	Agreed and done
D	Period/date of data collection shall be clearly indicated. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated	Agreed and included in reports

E	Project proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the project.	Agreed
F	Where the documents provided are in a language other than English an English translation should be provided	Agreed the document is in English only
G	While preparing the EIA report the instructions for the proponents and instructions for the consultants issued by MoEF&CC vide OM No. J- 11013/41/2006-IA (II) dated 4th august 2009 which are available on the website of this ministry of environment, forests and climate change, government of India should also be followed.	Agreed
H	Changes if any made in the basic scope and project parameters (as submitted in form-I and the PFR for securing the TOR) should be brought to the attention of SEIAA and SEAC Chhattisgarh with reasons for such changes and permission should be sought, as the tor may also have to be altered post public hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation	No changes had been done
I	The copy of the letter received from SEAC Chhattisgarh on the TOR prescribed for the projects should be attached as an annexure to the final EIA-EMP report the compliance statement of TOR prescribed should also be incorporated.	Agreed and attached
J	The consultants involved in the preparation of EIA – EMP report after accreditation with quality council of India (QCI) national accreditation board of education and training (NABET) would need to include a certificate in this regard in the EIA-EMP report prepared by them and data provided by other organization/laboratories including their status of approvals etc. Name of the consultant and the accreditation details shall be posted on the EIA-EMP report as well as on the cover of the hard copy of the presentation material for EC Presentation.	Agreed
K	The TORs are valid for a period of three years from	Agreed

	the data issue of this latter. However, this period could be further extended by a maximum period of one year provided an application is made by the project proponent at least three month before the expiry of the validity period tougher with updated form –I based don proper justification.	

C. Additional TOR Point

A.	Project proponent shall inform SEIAA & S.E.A.C. Chhattisgarh before commencement of Baseline Data Generation and start of monitoring work for preparation of EIA Study Report.	Complied we had already informed in the department
B.	Project proponent shall submit the Individual Environment Management Plan and Common Environment Management Plan.	Will submit in the final EIA report
C.	Project proponent shall submit the details of monitoring equipment's along with its specification. Project proponent shall monitor as per the Methodology issued by MoEF&CC.	Agreed will submit in final EIA report
D.	Project proponent shall submit the copy of panchnama and photographs of every monitoring station, depicted on Topo Sheet of Survey of India.	Agreed will submit in final EIA report
E.	Project proponent shall submit the top soil management plan and over burden & incorporate the details in the EIA report	Agreed will submit in final EIA report
F.	Project Proponent shall submit an undertaking that the top soil & over burden would be stacked at the earmarked place and shall use the same in plantation and backfilling of the mined out area.	Agreed will submit in final EIA report
G.	Project proponent shall submit the consent letter of the land owner (shri Ashok Chandwani) regarding the mining.	Agreed will submit in final EIA report
H.	Project proponent shall submit an affidavit for	Agreed will submit in final

	compliance of commitments made to the public (Objections/suggestions raised by public) during Public Hearing.	EIA report
I.	Project proponent shall ensure that mining lease area to be demarcated by erection of boundary pillars at all corner and area to be fenced.	Agreed
J.	EIA study shall be done at minimum 10 no. of stations for data collection considering the pre-dominant wind direction.	Agreed will submit in final EIA report
K.	Project proponent shall submit the copy of panchnama and photographs of every monitoring station.	Agreed will submit in final EIA report
L.	Project proponent shall submit a Cumulative Environment Impact Assessment Study (Air, Water, Noise, Soil, Traffic etc) of the mines located in the nearby area and Ecology of the buffer zone of study area and shall incorporate the same in the EIA report.	Agreed will submit in final EIA report
M.	The project proponent shall submit an undertaking that there is no court case pending relating to this project before any Court of Law in India.	Agreed will submit in final EIA report
N.	The project proponent shall submit an undertaking in the form of an affidavit stating that there is no violation of Notification S.O. 804(E) dated 14/03/2017 issued by Ministry of Environment, Forest and Climate Change, Government of India and the direction given by Hon'ble Supreme Court of India in the matter of Common Cause vs Union of India order dated 02.08.2017.	Agreed will submit in final EIA report

O.	Project proponent shall undertake plantation & incorporate in the EIA report.	Agreed will submit in final EIA report
P.	Project proponent shall submit the 7.5 meter width of mine lease periphery & do plantation during the current year incorporating the plant cost, fertilizer cost, irrigation cost, maintenance cost for at least 5 years and the details along with photographs in the EIA report.	Agreed will submit in final EIA report
Q.	Project proponent shall undertake plantation (as far as possible tree bearing species) within the mining lease area as per guidelines issued from time to time and particularly in the 7.5-meter safety zone area of minimum 05 feet height and shall maintain minimum 90% survival rate. The plantation shall be maintained by project proponent for atleast 5 years. Project proponent shall submit half yearly reports regarding compliance to the Authority. The details to be submitted alongwith Geotag photographs in the EIA report.	Agreed will submit in final EIA report
R.	Project proponent shall submit CER proposals with details of works along with their estimates including land cost and incorporating the plant cost, fertilizer cost, irrigation cost and maintenance cost for at least 5 years & incorporate the details in the EIA report	Agreed will submit in final EIA report

2.0 GENERAL

a) Name and Address of the lessee –

Lessee: M/s Shubh Minerals Pvt. Ltd.

Mailing/ Correspondence Address of Project Proponent:
M/s Shubh Minerals Pvt. Ltd.,
Goyal Automobile, Jagatpur, Dhimarapur, Raigarh
P.O. & Tehsil- Raigarh
496001

b) Objective of the project – The mining lease of Dolomite Mine at Khasra No: 206, 207/3, 208, 210/1, 211, 212, 214/3, 214/4 at Village of Chhelphora, Tehsil- Baramkela District- Raigarh, Chhattisgarh Area- 1.683 ha ha has been granted to (Part. Shri pratish Goyal (M/s. Subh Minerals Pvt. Ltd.)) resident of Goyal Automobile, Jagatpur, Dhimarapur, Raigarh P.O. & Tehsil- Raigarh.

c) **Need of the Project**

The economy of India is the eleventh largest in the world by nominal GDP and the third largest by purchasing power parity. The primary reason for the economic growth can be attributed to the growth in infrastructural facilities as decorative material such as buildings & Infrastructural growth. With the growing infrastructural requirement of the India, the demand of raw materials has increased geometrically. The Dolomite is required in various construction activities as decorative material and will be sold to nearby markets & as per the order to fulfill the requirement of local & other people.

d) **Type of Project**

This project is for mining of mineral Dolomite Mine by Opencast Mechanized method of mining.

2.1 DESCRIPTION OF THE PROJECT

The mining lease of Dolomite Mine at Khasra No: 206, 207/3, 208, 210/1, 211, 212, 214/3, 214/4 at Village of Chhelphora, Tehsil- Baramkela District- Raigarh, Chhattisgarh Area- 1.683 ha has been granted to (Part. Shri Pratish Goyal (M/s. Subh Minerals Pvt. Ltd.)) resident of Goyal Automobile, Jagatpur, Dhimarapur, Raigarh P.O. & Tehsil- Raigarh.

Location of the project –
The mining lease is located in village of Chhelphora, Tehsil- Baramkela District- Raigarh (C.G.).

Latitude / Longitude of any boundary point-

Toposheet No.	-	64 K/13
Latitude	-	21° 39' 21.55"N to 21° 39' 25.67"N
Longitude	-	83° 17' 02.02"E to 83° 17' 09.66"E
Altitude	-	250-246 m A.M.S.L.

The lease area is about 48 km from Raigarh. The QL area can be approached from National Highway-200 which is at a distance of 4.5 km. The Nearest Railway Station at Raigarh Station 48 Km. The Nearest Airport is Raigarh Airport at a distance of 39 km.

This project is for mining of mineral Dolomite by Opencast Mechanized Method of mining.

NEARBY SENSITIVE AREAS AND EXISTING BASIC AMENITIES (in 10 Km Buffer)

Historical Monuments	None
Status of Protected/ Other Areas	None within the study Area.
Nearest Medical Facilities	10 Km
Nearest Educational Facilities	Katangpali – 1.0
Nearest Railway Station	Raigarh Station 48 Km

2.2 LEASE HOLD AREA

Mining Lease Area	1.683ha
Revenue Village Name of the ML Area	Village of Chhelphora, Tehsil- Baramkela District- Raigarh (C.G.)
Khasra No.	206, 207/3, 208, 210/1, 211, 212, 214/3, 214/4

No ancillary activity is proposed. No area other than the QL area is required for this project.

2.3 GEOLOGY

2.3.1 Regional Geology

The Dolomite and associate of the region is belonging to maniyari of Raipur Group within Chhattisgarh Supergroup. The youngest maniyari formation represents the closing phase of deposition is grey sitstone, shale followed by raddish brown calcareous/non-calcareous shale with limestone and dolomite.

The interacratonic Chhattisgarh Basin is crescent shaped and covers about 33,000 sq km area in Raipur, Durg, Rajnandgaon, Bilaspur, and Raigarh district of Chhattisgarh and adjoining parts of Orissa. The basin has a maximum length of about 300 km along ENE-WSW direction. The maximum thickeness of sedments is estimated to more than 2 km and is epicontinental or stable shelf type.

Chhattisgarh basin consists of sub horizontally disposed sedimentary succession of mostly Sandstone, Shale, Limestone and dolomite of upper Proterozoic age.

The generalized geological succession of the area is given below.

GEOLOGY IN BRIEF: Litho-stratigraphy of Chhattisgarh Basin (Source: GSI miscellaneous publication No.30, part XXI, 2nd revised edition, 2006)

Stratigraphy of the Chhattisgarh Super Group

RAIPUR GROUP	Maniari Formation (70 m)		Purple shale with dolomite, Dolomite and gypsum
	Hirri formation (70 m +)		Grey dolomite, argillaceous dolomite
	Tarenga Formation (180m)	Bilha Member	Purple dolomite argillite
		Dagauri Member	Green clay, chert and clay intercalation (tuffaceous)
		Kusmi Member	Pink to purple calcareous shale
	Chandi Formation (67m)	Nipania Member	Purple and bedded Dolomite Purple argillaceous stromatolitic dolomite
		Pendri/ Deodonger Member	Purple and grey stromatolitic Dolomite and dolomite with flaggy Dolomite-shale intercalation/ferruginous glauconitic arenite and shale
	Gunderdehi Formation (430m)	Newari Member	Pink and buff stromatolitic Dolomite and dolomite
		Andha/Dotopar Member	Predominantly pink, purple and grey shale with Dolomite intercalation / arenite / buff to green shale member in the middle
	Charmuria Formation (490 m)	Bagbura Member	Purple Dolomite (phosphatic)
		Kasdol Member	Dark grey bedded Dolomite / argillaceous Dolomite with minor shale intercalation
		Ranidhar Member	Cherty Dolomite and dolomite (phosphatic at places)
		Sirpur Member	Chert and clay intercalation

Local Geology of the Lease area:

In the prospected area the dolomite occurs belong to the Maniari formation of Raipur Group. The youngest Maniari River along which the rock is best exposed and oval shaped out crops in the central part of basin. It represents the closing phase of deposition in Chhattisgarh Basin and consists of siltstone with dolomite and limestone.

The dolomite is occurring all over the region. It is a bedded formation striking almost N 30° E to S 30° W having 2° to 3° dip towards SE direction. Dolomite is grey in colour, fine grained, hard and compact. Dolomite is a dominant rock in the area and the exposures of dolomite are seen in the nearby working pits.

The litho succession of the area and surroundings are as follows –

Raipur group	Recent	3.30 – 4.0m thick alluvial &lateritc soil
	Maniari formation	Grey to dark grey colored dolomite

The general strike of the dolomite is NE-SW. In most of the prospected area, grey dolomite is present under thick (average3.7m) over burden of alluvial and lateritic soil. In the Western part of the prospected area of Gunderdehi formation of Raipur group is present. The sub parallel drainage pattern and rectilinear flow of Mahanadi and its tributaries also suggest presence of faults and major fractures in the area.

Physical Property of the Dolomite-

Color- light grey, Form – massive, Lusture – vitreous, Streak – white, Hardness – about 3, Sp.Gr. – 2.85.

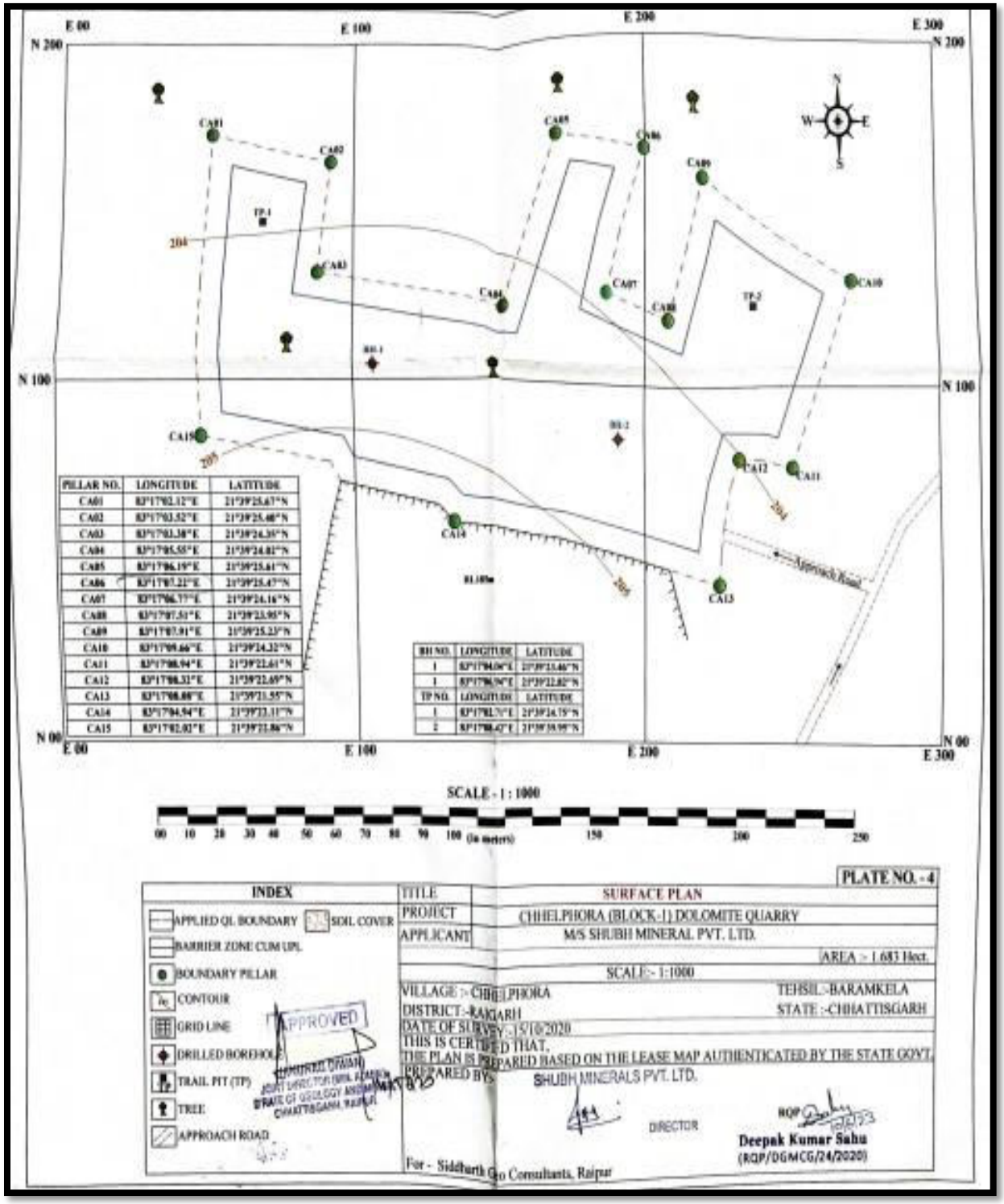


FIGURE 2.1: SURFACE PLAN

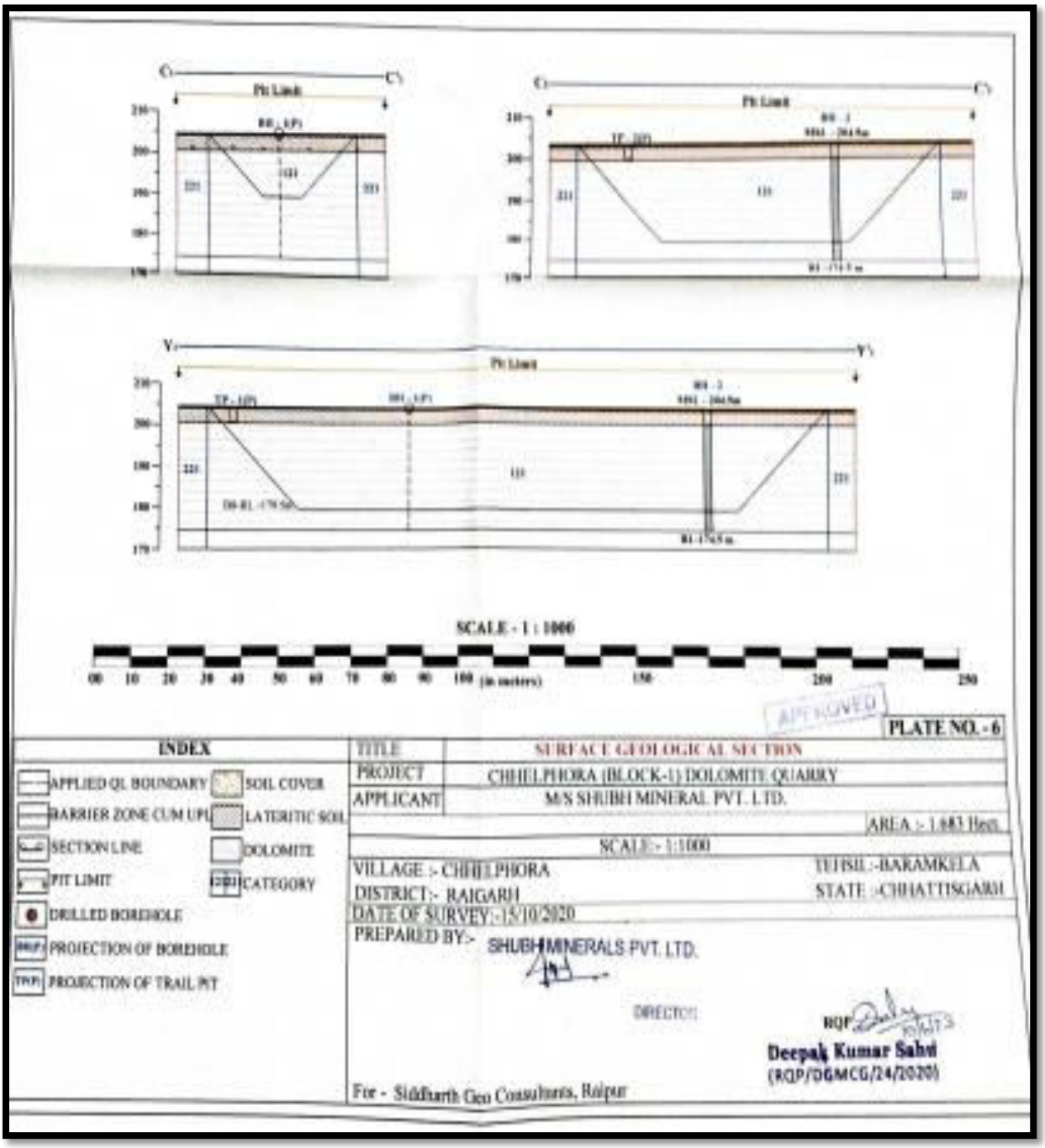


FIGURE 2.2: GEOLOGICAL PLAN

2.4 Mining

2.4.1 Opencast Working

Opencast mechanized method of mining will be adopted in the lease area. The excavation will be carried out usually by manual labor with the use of pick-axes, crowbars, jack hammer, chisels; sledge hammers, excavator, dumper, etc. and loaded into tractor/truck/tipper. The Dolomite will be suitably blended to be supplied in market. Rest is inner burden.

Method of Mining

Opencast mechanized method will be adopted. It has already mentioned that, the complete mining operation will be mechanized in nature. Some drilling and blasting will be required for removal of mineral body.

However, if, mine owner wants to increase the production in the lease area than in that condition some mechanical excavator might be used for removal and loading of top soil and the dolomite.

When production increased, machines will be deployed according to requirement of work and Mining plan will be modified accordingly.

Drilling: - Drilling machines:

The holes will be drilled by compressed air operated by 65 mm dia wagon drill with compressor/DTH or Jack hemmer (32mm dia) and spacing between two holes will be 2.0 m, the depth of each hole will be 3.0m. Total requirement of drilled equipment is as under:

S. No.	Particulars	ROM
1	Maximum proposed annual production	100000 T
2	Production per day (100000/300 day= 334)	Say 334 T
3	Output per hole = Spacing x Burden x depth x B.D. (2.0 x 1.5 x 3.0 x 2.85)	25.6 T
4	Nos. of holes per day (334/25.6 = 13)	13 nos.
5	Drill meter age required (13 x 3.0 =39)	39 m
6	Drilling capacity of a wagon/DTH drill in a hour in dolomite	7 m
7	Hours per shift	8 hours
8	Availability	85%
9	Utilization	85%
10	Effective hours per shift 8 x 0.85 x0.85	5.78 hours
11	Working capacity of jack hammer drill per day 5.78 x 7 m = 40.4	40.4 m
12	Therefore no. of wagon/DTH drills required (81/40.4 = 2)	Say 1 nos.

Type	Nos.	Die of hole	Size/ capacity	Make	Motive power	H.P.
Drifter Wagon Drill	1	65/90 mm	100	Atlas Copco	Air Compressed	-
Excavator	2	32mm	32mm	Atlas Copco	Air Compressed	-
Loader	2		0.9-1.2 cum	Nill	Diesel	220
Tipper	4					
Tractor	1		15 tons	Tata	Diesel	110-210

Blasting: - Blasting will be carried out by contractual agency in accordance with the Explosive Act and MMR, 1961.

Drilling is proposed to be done by wagon/DTH (65/90 mm dia) or Jack Hemmer (32mm dia). The drilling parameter of the wagon is as under:

Output per blast hole will be (Spacing x Burden x Depth of hole x B.D.)	2.0 x 1.5 x 3.0 x 2.85	25.6 T
Maximum production in a year (av.)		100000 T/yr
Production in a day will be (Av. 300 working days)	100000/300	Say 334 T
No of holes to be drilled per day	334/25.6=13.0	Say 13 nos.
Meter age to be drilled per day	13 x 3.0 (depth)	39 m
Charge per hole	700-900 gm approx.	Approx. 800 gm
Max. charge per day	800 x 39 = 31,200 gm	31.2 kg
Powder Factor	334/31.2 = 10.7	10.7 T/kg

The blasting will be carried out by 80% special gelatin.

OR

If the cartridges are used for blasting 65/90 mm dia or Jack Hemmer /DTH, the specification of cartridge for blasting will have the following parameters:

Diameter of cartridge	60 mm
Length of the cartridge	420 mm
Weight of the cartridge	2.2 kg

During the blasting, all Rules, Regulations and Precautionary measures will be taken. The blasting area will be covered by red flags at appropriate safety distance and operators and workers will be removed to safety distance and blasting will be conducted by a qualified blaster. The blasting will be done in twice/thrice in a week early morning or in the afternoon.

Production Plans for First Five Years

Year	Area in m^2	Bench height in m.	Tentative ROM (T)	Production of Dolomite (T) (Rec.95%)	Intercalated Waste(T) (Mining losses 5%)	Upto RL In M.
(1)	(2)	(3)	(4)=(2)x(3)x2.85	(5)=(4)x0.95	(6)=(4)x0.05	(7)
1st year	7017.55	3.0	60000	57000	3000	200.5-197.5
2nd year	7017.55	3.0	60000	57000	3000	200.5-197.5
3rd year	11695.91	3.0	100000	95000	5000	197.5-194.5
4th year	11695.91	3.0	100000	95000	5000	197.5-191.5
5th year	11695.91	3.0	100000	95000	5000	191.5-185.5
Total			**420000**	**399000**	**21000**	

Systematic working will be done by formation of benches as per M.M.R. 1961. All applicable rules of MMR 1961, Mines Act-1952, MCR-1960 and MCDR-1988 will be followed for safe,

scientific & systematic working to follow the principles of safety & conservation of human health & mineral.

2.4.2 Machinery to be deployed

List of Machine

No.	Type	Nos.
1	Compressor	1
2	Excavator	2
3	Loader	2
4	Tipper	4
5	Tractor	1

(2) Loading equipment: -

Wheel loaders and Tipper. will be used for loading of Dolomite.

(3) Haulage and transport equipment: -

Mostly Dumper/tipper/tractor will be used for transportation of loadable Dolomite from the area to the consumers.

(4) Miscellaneous: -

Sharpening and tempering of tools, cleaning the area of loose boulders, maintaining the quarry road benches. Causal labors under male/foreman's supervision will make Plantation and watering the saplings for the forestation.

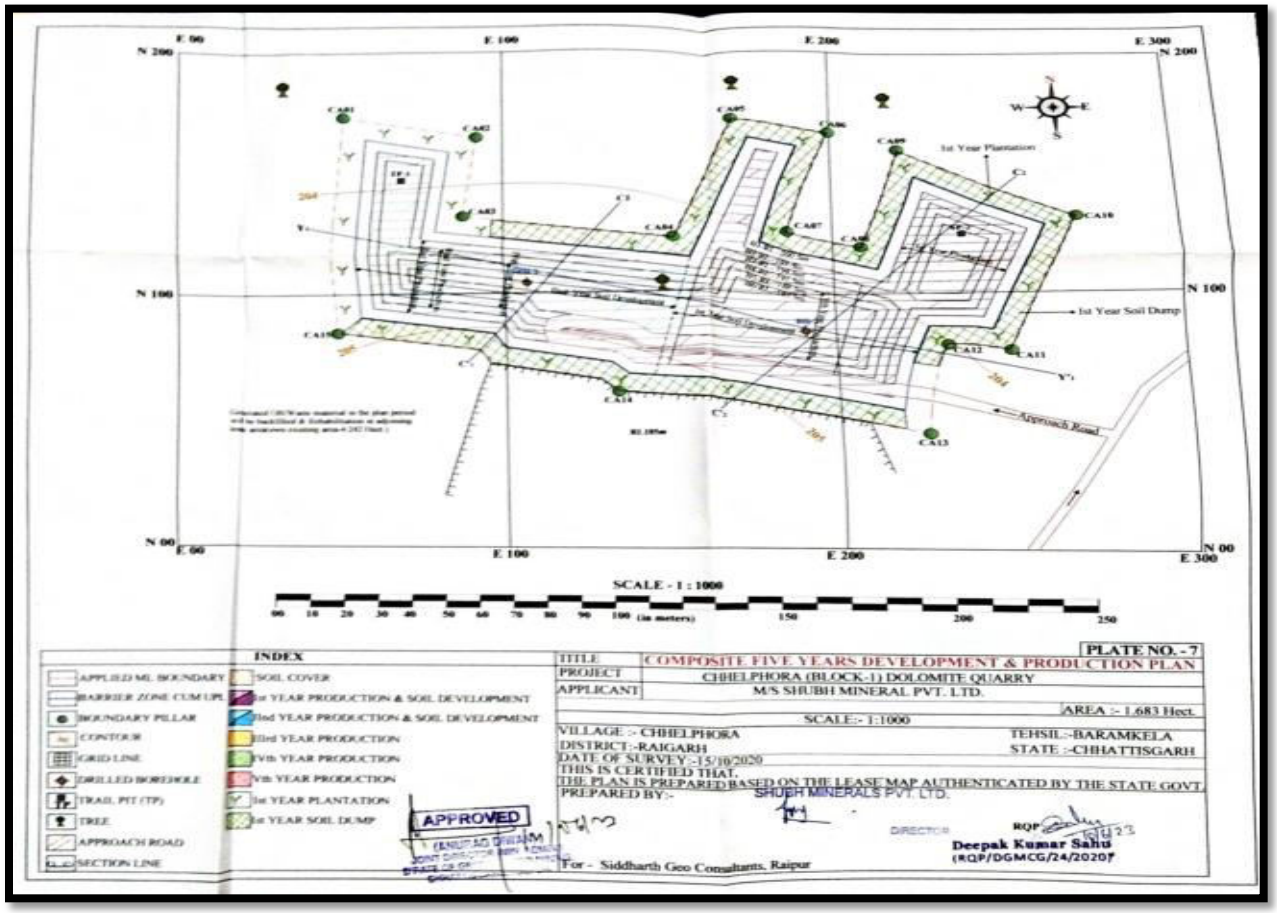


FIGURE 2.3: YEAR-WISE DEVELOPMENT PLAN

2.4.2 Disposal of Waste

Nature of waste, its rate of yearly generation and proposals for disposal of waste: The mine waste is in the form of following: -

(1) Top soil: - Top soil and Lateritic soil will be removed from the lease area. Total alluvial top soil 5609.5 m^3 top soils will be generated from the area 5609.5 cum soil /OB will be Dumped on 1 m height in the Barrier Zone at 4.5 m width of periphery.

The top soil will be used as plantation.

(2) OB and Mine waste: - Nil

Method and manner of disposal of waste: Top soil and Lateritic soil excavation details are given below table: -

(a)	**Year Wise Development Proposal**				
Year	**Area (m2)**	**Top soil CUM**	**OB/SB/IB in CUM**	**Intercalated Waste 5% of**	**Total waste in CUM**

				ROM (cum)	
(1)	(2)	(3)	(4)	(5)	(6)=(3)+(4)+(5)
1st year	6434	3217.0	22519.0	1052.6	26788.6
2nd year	4785	2392.5	16747.5	1052.6	20192.6
3rd year	0	0	0	1754.4	1754.4
4th year	0	0	0	1754.4	1754.4
5th year	0	0	0	1754.4	1754.4
Total	**11219**	**5609.5**	**39266.5**	**7368.4**	**52244.4**

Disposal of OB/waste material is given below- as per approved mining plan

Item	Previous waste quantity (cum)	Waste generation during proposal period (cum)	Total waste Handled (cum)	Quantity disposed of on (cum)		Area for disposal (ha)	
				Dumping	Reclaimed by Backfilling	Dumping	Reclaimed by Backfilling
Top Soil	NA	522444.4	39266.5	5609.5 (in 7.5m) + 22686.8 (temp. as SD1)	Nil	0.936 (in Safety barrier)+ 0.476 (SD1)	Nil
OB/Waste	NA	Nil	Nil	Nil	Nil	Nil	Nil

2.4.3 Use of Mineral

The Dolomite is being sale to various part of the India for use in steel industries as flux

2.5 General Features

I) Surface Drainage Pattern

In the Study area of 10 km radius,

ii). Vehicular Traffic Density

The lease area is about 48 km from Raigarh The QL area can be approached from National Highway-200 which is at a distance of 7.74 km. the Nearest Railway Station Raigarh Station 48 Km in. The Nearest Raigarh Airport approx 39 km.

The mode of transport of mineral and waste will be dumpers or trucks within the QL area. The mineral transportation to the destination industry outside the mining lease area will be by road.

iii). Beneficiation/Processing
No processing of mineral will be done in the mine. Only simple sizing and sorting will be done.

iv). Township
There is no scope of earmarking any land for township; local workers will be employed.

v). Power, Water Supply and other Infrastructure requirements
a. Power
The mine will be worked by Mechanized method. No power will be required. Only for site office power will be obtained from solar energy. Transportation will be done through dumpers or trucks operating on diesel. No storage for diesel is proposed.

b. Infrastructure and Basic Amenities

Basic amenities like rest room shelter/tents, first aid facility, temporary office and water for drinking and portable bio-toilets will be provided during operational phase.

vi) Water Supply
The water required is mainly for dust suppression, green belt development, drinking and other domestic purpose during mining operations. The total requirement will be 4 KLD. Water required during operation phase will be procured from bore well in the lease area and sump.

Daily water requirement

Activity	*Water requirement, KLD*	*Source*
Dust suppression /allied mining activity	2	Mine sump and bore well
Green Belt/Plantation	1	
Domestic	2	
Total	**5**	

Water Balance Chart

2.6 MANPOWER REQUIREMENT
About 21 persons will be getting direct and indirect employment in this mine. The man power will be mostly skilled and semiskilled.

Manpower requirement

S No.	Designation	Qualification	Nos.
1	Mines Manager	Mines manager's Certification of competency	1
2	Mining Engineer *	Degree in Mining Engineering	1
3	Raising and other misc. workers	Skilled, semi-skilled & Unskilled	8
	Total		10

2.7 PROPOSED SCHEDULE FOR APPROVAL AND IMPLEMENTATION

The implementation schedule

	Months																	
Activities	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**
Environment Clearance																		
Consent to establish and operate from CECB																		
Placing the Order for Mining Machinery																		
Mine Development																		
Production to enhance																		

3.0 General

Process requires the primary baseline data collection to know the information on the biophysical, social and economic backgrounds of Mine Lease Area. The criteria of the baseline data collection were based on the impact zone on both the sides of the Mine Lease Area. The stations were considered based on their sensitivity by considering the close proximity with the sensitive zones like Wild Life sanctuary and expected high pollutant concentration zones etc.

The study area of the Environment Impact Assessment comprises of core zone which is the mining lease area and 10 km. radius from the boundary limits of the mine lease area as buffer zone. The baseline data have been collected as per CPCB guidelines in the month of Oct 2023 – Dec 2023 by NABL approved laboratory M/s Noida Testing Laboratory, Noida.

a) Sources of Environmental Data

The baseline information on micro-meteorology, ambient air quality, water quality, noise levels, soil quality and floristic descriptions have largely been drawn from the data generated by M/s Noida Testing Laboratory, Noida. However, Secondary Data was sourced from Census Handbook, Revenue Records, publications of Statistical Department, Reports on soil survey and the records of Land Use Organization, District Industries Centre, Forest Department, Central Ground Water Board, etc.

b) Methodology adopted for Baseline Study

The study area of the Environment Impact Assessment comprises of core and buffer zones. The data collected was pertaining to air, water, noise, soil, geology, flora, fauna, forest types and various ecological parameters. A socio-economic study was also conducted in the study area covering large habitations. Field surveys were also conducted in the study area for the purpose of augmenting the remote sensing data. For this purpose, data on various attributes such as land features, rivers, forests and vegetation types were recorded from the ground land cover facility (GLCF).

Baseline Data had been collected & analyzed in relation to proposed mine is as follows: -

- Land Environment
- Water Environment
- Air Environment
- Noise Environment
- Biological Environment
- Socio-Economic Environment

Land Environment

Land Use/ Land Cover: Object of this study is to provide a baseline status of the study area covering 10 km radius around the proposed Mine site so that temporal changes due to the mining activities on the surroundings can be assessed. The land-use is divided into agriculture land, settlement, river / Nala and forest area as shown in the map. The area is fertile and dominated by the proportion of agriculture land.

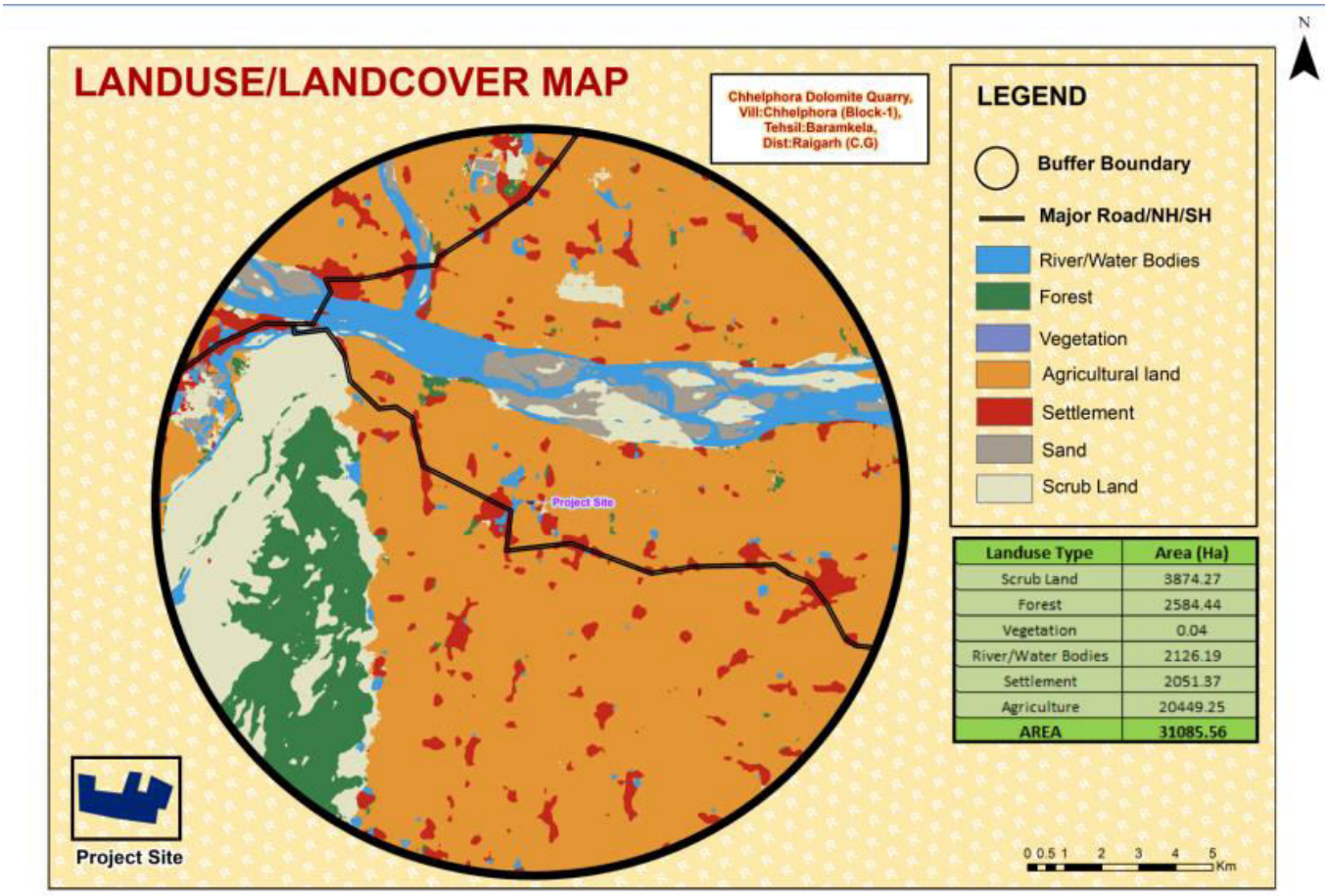
Classification scheme adopted for the preparation of land use/land cover maps on 1:50,000 scales. Land use / Land cover classification is given in the table below.

Table 3.1 Land Use Pattern of the Study Area (within 10 km Buffer)

Land use Type	Area (Ha)
Scrub Land	3874.27
Forest	2584.44
Vegetation	0.04
River/Water Bodies	2126.19
Settlement	2051.37
Agriculture	20449.25
AREA	**31085.56**

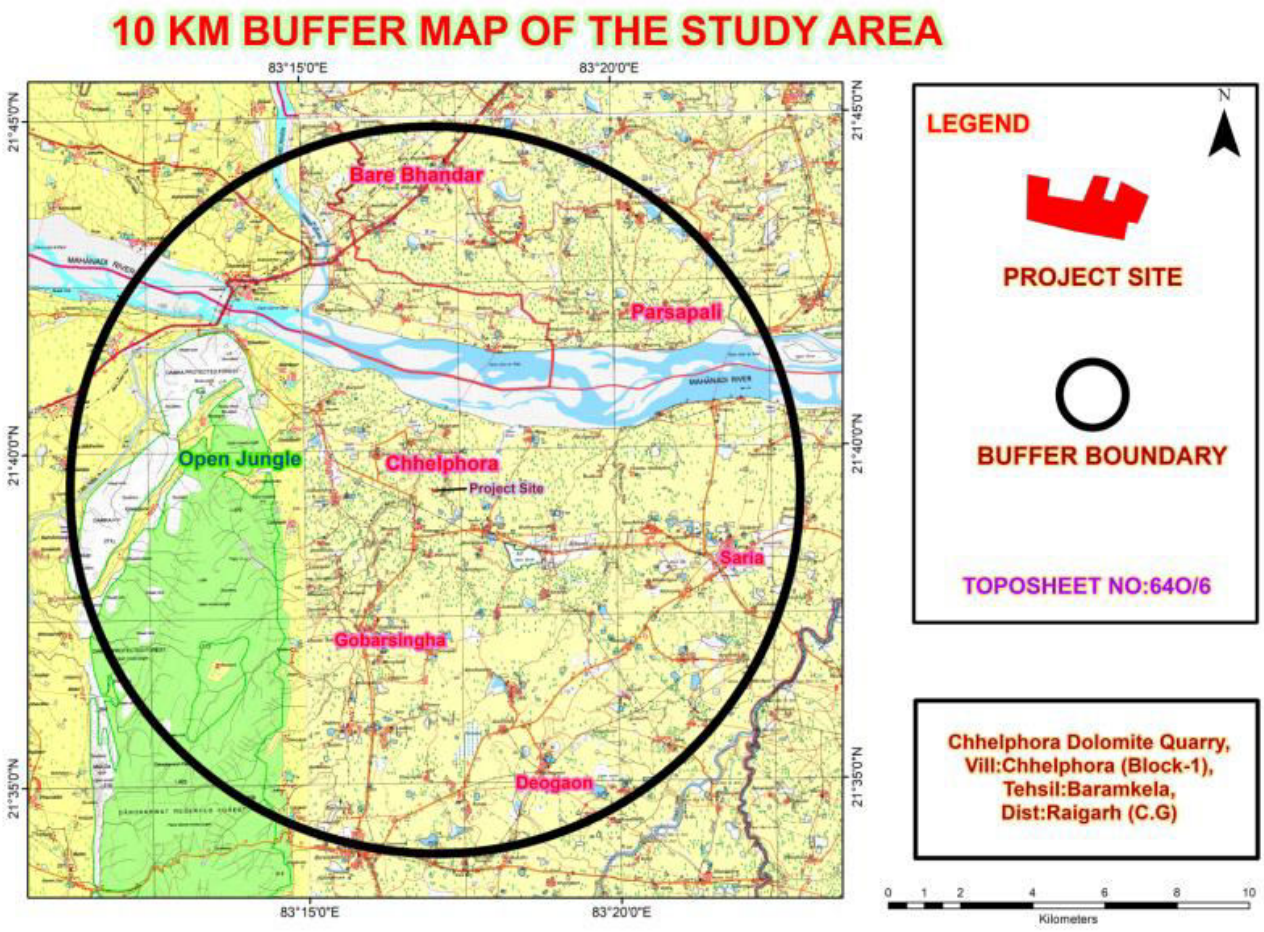
Reserve forest and Protected Forest in the study area

There is no National Park, Biosphere reserve, Migratory routes of fauna and National Monument within 10km periphery of the lease area as per secondary data available. There is no habitation within lease area.

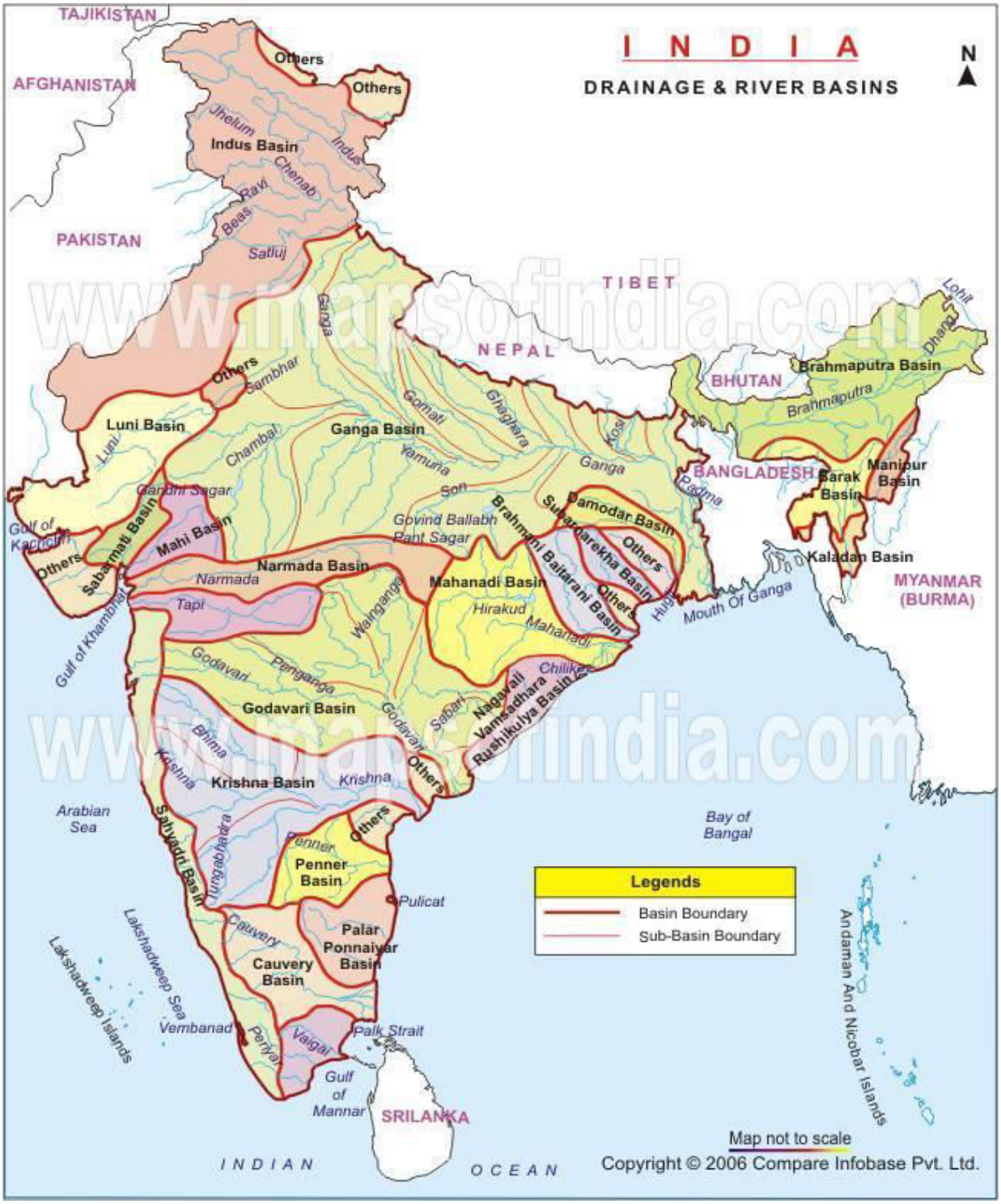


Topography of the Study area:

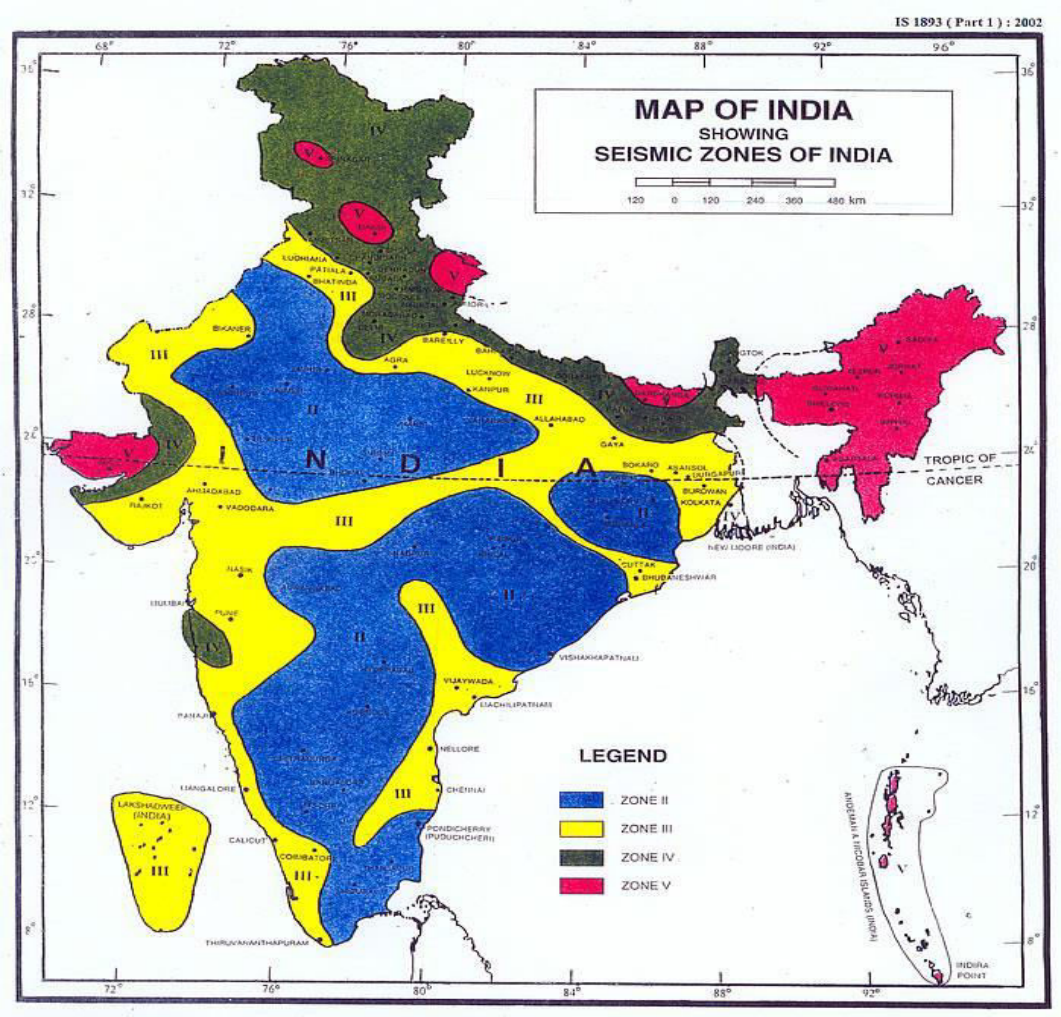
The lease area is Flat Land. The general surface level of the area is around 204-205 m R.L. towards Eastern direction. The area is surrounded by agriculture lands and working mines. The area is south to Mahanadi. The general drainage pattern is towards south- North direction.



Drainage of the Study Area: The lease area is Flat Land. The general surface level of the area is around 204-205 m R.L. towards Eastern direction. The area is surrounded by agriculture lands and working mines. The area is south to Mahanadi. The general drainage pattern is towards south- North direction.



Seismicity of Area: The project site falls under seismic zone II which is a Low damage risk zone.

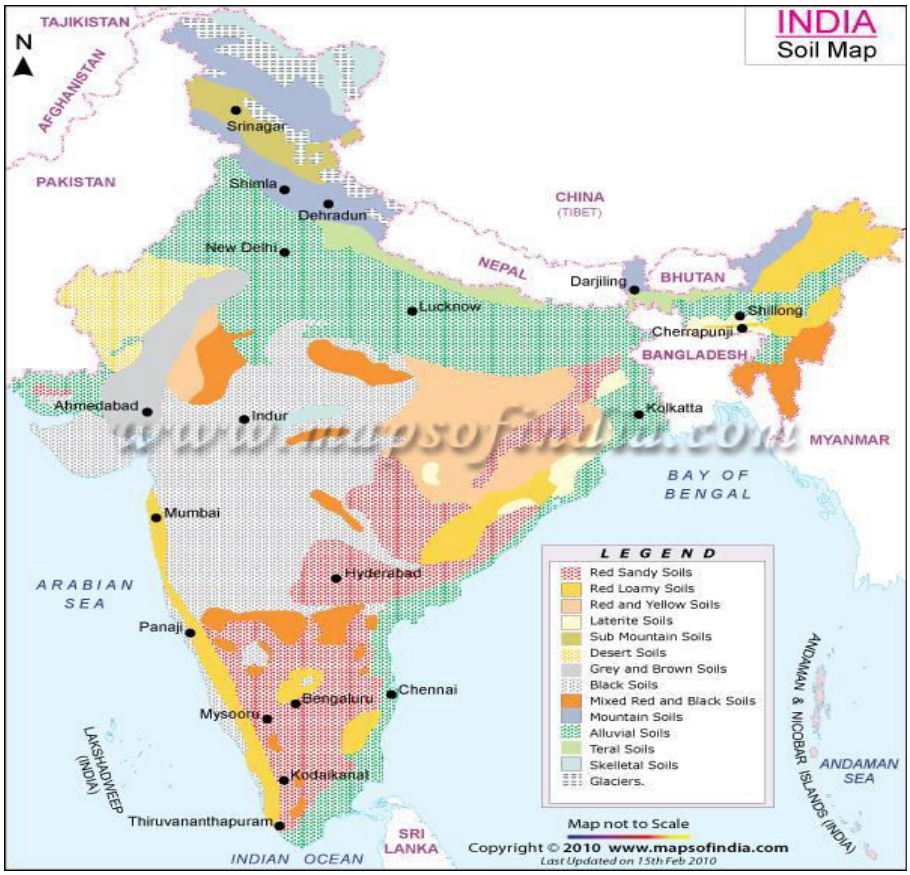


Earthquakes: Chhattisgarh is vulnerable to various natural and manmade disasters. Looking towards the vulnerability it's very important to address all in a holistic manner for sustainable development.

SOIL ENVIRONMENT

The soils are depending upon Lithology of the area. The state of Chhattisgarh has a variety of soils ranging from rich clayey to gravelly. The major groups of soils found in the state can be divided into 4 categories namely; alluvial, medium and deep black, shallow and medium black, mixed red and black.

The soil features of the proposed site are characterized by Soil Map of India as given below:



Objective of soil monitoring

The objectives of the soil sampling are: -

- To determine the baseline soil characteristics of the study area;
- To determine the impact of existing as well as proposed activity on soil characteristics and
- To determine the impact on soil with view to agriculture

Methodology:

The Soil samples were collected in the month Oct 2023 - Dec 2023 at ten locations (8 in nos.) once in season representing core and buffer area of the project. Soil was collected from 30 cm below the surface. The final samples represent homogenously mixed soil from these sub-locations for each location. The samples were filled in polythene bags, labeled in the field with number and site name and sent to laboratory for analysis. The Distance and direction of the monitoring locations are given in the table below:

Particulars	Details
Frequency	One grab sample from each station– once during the Study Period.
Methodology	Composite grab samples of the topsoil were collected from 3 depths, and mixed to provide a representative sample for analysis. They were stored in airtight Polythene Bags and analyzed at the laboratory.

Table - Soil Sampling Locations

S. No.	Monitoring code	Location	Distance (Km) & Direction from lease	
1	SQ1	Project Site	--	--
2	SQ2	Mahuapali	1.70 Km	South
3	SQ3	Girhulpali	4.45 Km	South
4	SQ4	Chhote	5.93 Km	SW
5	SQ5	Baradoli	7.00 Km	NE
6	SQ6	Chandrapur	7.36 Km	NW
7	SQ7	Ranbhata	6.75 Km	North
8	SQ8	Saria	8.05 Km	SE
9	SQ9	Salhebhona	2.76 Km	West
10	SQ10	Khaprapali	7.85 Km	South

The soil sampling locations (8 in nos.) are superimposed on the Topo sheet map and shown above. Samples are collected from the site and buffer area representing site, human settlement, up & down stream of river and highway.

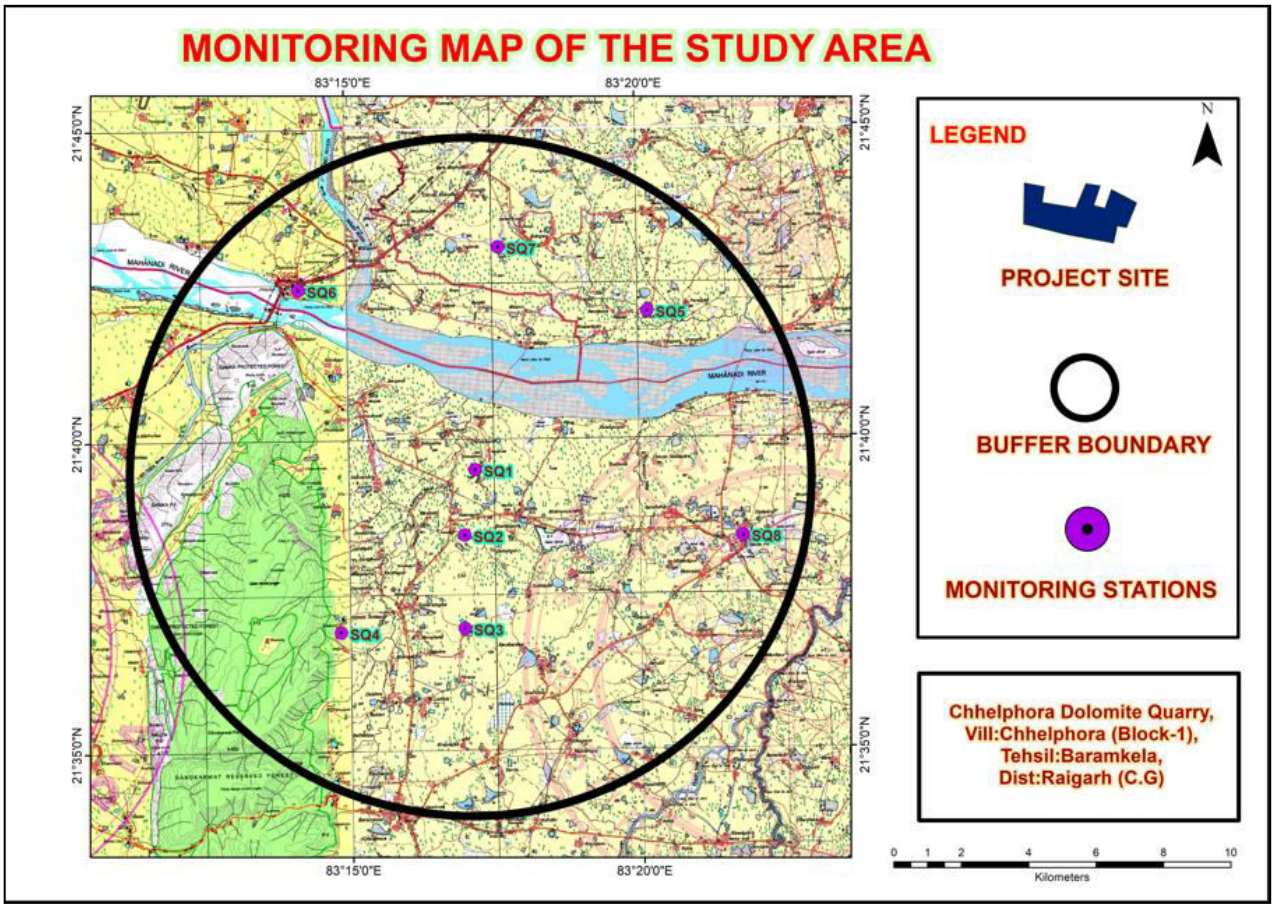


Figure 4.6(b): Soil Sampling Locations

Results and Soil Monitoring

Monitoring is carried in Post-monsoon season at the frequency of once in a season at 10 locations in Post-monsoon for physical, chemical and biological properties of the soil at these locations. Analysis results of soil are given below:

Table - Soil Analysis Results

S. No.	Parameter	Unit	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7	SQ8
1.	pH(1:5 suspension)	-	7.81	7.56	7.68	7.36	7.34	7.68	7.73	7.83
2.	Electrical Conductivity at $25^{O}C$ (1:5suspension.)	µS/cm	444	423	419	396	392	412	435	448
3.	Calcium (as Ca)	mg/kg	129.40	180.35	196.30	186.52	186.20	179.80	180.6	183.6
4.	Magnesium(as Mg)	mg/kg	129.40	134.30	114.01	138.6	138.6	141.30	143.0	145.0
5.	Sodium (as Na)	mg/kg	368.20	352.0	325.5	345.2	345.2	325.65	345.5	369.5
6.	Potassium(as K)	mg/kg	115.80	118.90	125.03	136.20	136.20	126.30	124.6	129.6
7.	Water holding Capacity	% by mass	30.64	32.58	30.89	32.60	32.60	35.30	31.20	31.55
8.	Porosity	% by mass	26.30	28.69	26.38	24.26	24.26	28.54	25.02	26.42
9.	Sand	% by mass	64.32	50.26	48.60	50.23	50.23	46.46	47.36	48.86
10.	Clay	% by mass	22.10	36.30	34.50	32.60	32.60	35.67	35.50	38.50
11.	Silt	% by mass	13.58	8.44	16.90	17.17	17.17	17.87	11.0	13.0
12.	Cation Exchange Capacity	Meq/100gm	26.85	25.84	25.84	24.56	24.56	26.37	25.03	28.03
13.	Sodium Absorption Ratio	-	5.06	4.92	4.92	5.03	5.03	5.36	4.06	4.36
14.	Nitrogen	% by mass	0.075	0.069	0.069	0.081	0.081	0.071	0.056	0.063
15.	Phosphorus (as P_2O_5)	mg/kg	22.30	28.60	28.60	33.02	33.02	29.25	25.53	26.30
16.	Total Zinc	mg/kg	26.30	33.20	33.20	36.07	36.07	35.06	32.24	36.09
17.	Bulk Density	gm /cc	1.28	1.31	1.31	1.26	1.26	1.29	1.33	1.36

S. No.	Parameter	Unit	SQ9	SQ10
1.	pH(1:5 suspension)	-	7.54	7.46
2.	Electrical Conductivity at $25^{O}C$ (1:5suspension.)	µS/cm	474	433
3.	Calcium (as Ca)	mg/kg	139.30	185.25
4.	Magnesium(as Mg)	mg/kg	120.50	133.80
5.	Sodium (as Na)	mg/kg	357.20	357.0
6.	Potassium(as K)	mg/kg	12570	123.50
7.	Water holding Capacity	% by mass	30.64	35.58
8.	Porosity	% by mass	26.30	26.69
9.	Sand	% by mass	64.32	30.26
10.	Clay	% by mass	22.10	36.30
11.	Silt	% by mass	13.58	8.24
12.	Cation Exchange Capacity	Meq/100gm	26.75	24.84
13.	Sodium Absorption Ratio	-	5.07	4.72
14.	Nitrogen	% by mass	0.075	0.069
15.	Phosphorus (as P_2O_5)	mg/kg	22.30	28.60
16.	Total Zinc	mg/kg	26.30	32.20
17.	Bulk Density	gm /cc	1.22	1.21

Observations:

The analysis results show that pH lies in ranges from 7.36 to 7.83, thus water is somewhat neutral. Nitrogen is found between 0.063% to 0.081%.

3. WATER ENVIRONMENT

Objective of Water Monitoring

Water samples are collected from Ground water (9 in nos.) and Surface water (2 in nos.) to study the water quality in the core and buffer areas. The purpose of the study is to assess the water quality characteristics and study of impact due to proposed project. The objective of analysis of water quality

is given as follows:

Objective of water analysis is discussed as follows:

To evaluate the impacts on people, agriculture productivity, habitation, recreational resources and aesthetics environment.

- To evaluate the physical, chemical and biological properties of water quality in the study area.
- To assess the water quality & characteristics;
- To predict the likely impacts on water quality due to the mining and related activities.

3.3.2 Surface Water Quality

The natural treatment of the water current takes places for a considerable length from the place of origin as the ultraviolet radiation due to sun is quite high in the upper reaches. The applied lease area is free of industrial pollutants.

3.3.3 Ground Water Quality Assessment

The sources of potable water are the hand pumps, tub-wells & dug well situated nearby villages in the study area. Samples were collected from the available water resources around the applied mine lease area. The samples were collected & tested from different sites. Total of 11 samples were taken (9 for Ground Water & 2 for Surface Water). The Distance and direction of the monitoring locations are given as follows:

Ground Water Sampling Locations

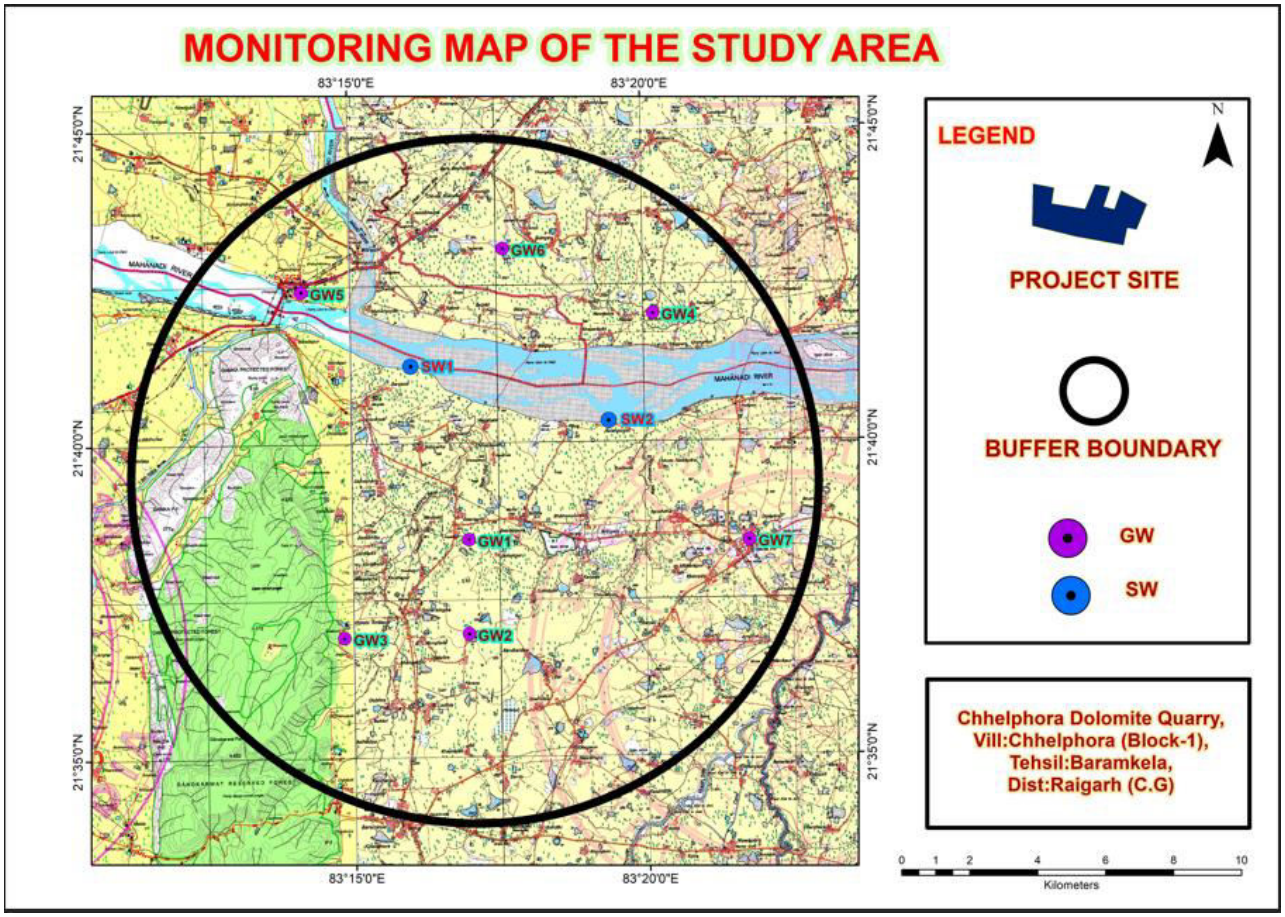
S. No.	Monitoring code	Location	Distance (Km) & Direction from lease	
1	GW1	Mahuapali	1.70	South
2	GW2	Girhulpali	4.45	South
3	GW3	Chhote Amakoni	5.93	SW
4	GW4	Baradoli	7.00	NE
5	GW5	Chandrapur	7.36	NW
6	GW6	Ranbhata	6.75	North
7	GW7	Saria	8.05	SE
8	GW8	Salhebhona	2.76	West
9	GW9	Khaprapali	7.85	South

10	GW10	Chhelphora	0.2	NE

Table 3.3 (b) Surface Water Sampling Locations

S. No.	Monitoring Code	Sampling Locations
1	SW1	Mahanadi River (Upstream)
2	SW2	Mahanadi River (Downstream)

Sampling locations of Ground and Surface water are shown on the map given below



Water samples (Ground & Surface) locations

Analysis and Results of Water Samples

Table 3.5 Results of Ground Water Analysis

S.	Parameter	Test	Ground Water Analysis	Unit	Requi	Permissible

No.		**method**	**GW-1**	**GW-2**	**GW-3 (**	**GW-4**	**GW-5**	**GW-6**	**GW-7**		**rement (Acceptable Limit)**	**Limit in absence of alternate source**
Organoleptic & Physical parameters												
1.	Colour	IS-3025 (P-04)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	Hazen Unit	15	15
2.	Odour	IS-3025 (P-05)	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025 (P-07 & 08)	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	7.99	7.13	7.31	7.63	7.37	7.58	7.84	--	6.5-8.5	--
6.	Total Dissolved Solid (TDS)	IS-3025(P-16)	806.49	1285.46	1689.18	1185.05	1032.58	1792.05	1705.32	mg/l	500	2000
General Properties -												
7.	Aluminum (as Al)	IS:3025 (P- 55)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.03	0.2
8.	Total Ammonia	IS:3025 (P- 34)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.5	No Relaxation
9.	Anionic surface Detergents(as MBAS)	Annex K of IS-13428	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.2	1.0
10.	Barium (as Ba)	IS: 15302	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.7	No Relaxation
11.	Boron (as B)	IS:3025 (P- 57)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.5	1.0
12.	Calcium (as Ca)	IS:3025 (P- 40)	189.45	143.78	170.32	151.02	148.96	181.78	189.04	mg/l	75	200
13.	Chloramines (as Cl_2)	IS:3025 (P- 26)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	4.0	No Relaxation
14.	Chloride (as Cl)	IS:3025 (P- 32)	323.10	763.18	803.14	731.02	770.31	830.45	820.36	mg/l	250	1000

15.	Copper (as Cu)	IS :3025 (P-42)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.05	1.5
16.	Fluoride (as F)	IS: 3025 (P-60)	1.02	1.02	1.09	0.98	1.13	1.31	1.23	mg/l	1.0	1.5
17.	Free Residual Chlorine	IS: 3025 (P-26)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.2	1.0
18.	Iron (as Fe)	IS: 3025(P-53)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	mg/l	0.3	No Relaxation
19.	Magnesium (as Mg)	IS: 3025 (P-46)	40.05	74.18	77.05	69.12	78.16	81.02	78.10	mg/l	30	100
20.	Manganese (as Mn)	Clause 35 of IS 3025	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.1	0.3
22.	Nitrate (as NO_3)	IS: 3025 (P- 34)	23.05	25.10	28.31	25.83	22.69	32.5	29.15	mg/l	45	No Relaxation
23.	Selenium (as Se)	IS:3025 (P- 56)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.01	No Relaxation
24	Silver (as Ag)	Annex IS:	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.1	No Relaxation
25	Sulphate (as SO_4)	IS:3025 (P- 24)	185.32	196.36	283.49	206.34	190.52	286.02	286.68	mg/l	200	400
26	Sulphide(as H_2S)	IS-3025 (P-29)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.05	No Relaxation
27	Alkalinity (as $CaCO_3$)	IS:3025 (P- 23)	106.36	105.29	196.18	109.12	100.14	280.12	200.11	mg/l	200	600
28	Total Hardness (as $CaCO_3$)	IS:3025 (P- 23)	275.02	203.34	364.09	276.18	196.66	364.08	371.09	mg/l	300	600
29	Zinc (as Zn)	IS:3025 (P- 49)	3.06	3.12	3.80	3.03	2.89	3.71	3.83	mg/l	5	15
Toxic Properties												
30.	Cadmium (as Cd)	IS-3025(P-41)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.003	No Relaxation
31.	Cyanide (as CN)	IS-3025(P-27)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.05	No Relaxation
32.	Lead (as Pb)	IS-3025(P-47)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.01	No Relaxation
33.	Mercury (as Hg)	IS-3025(P-48)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.001	No Relaxation
34.	Molybdenum (Mo)	IS-3025(P-2)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.07	No Relaxation

35.	Nickel (as Ni)	Annex L of IS-13428	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.02	No Relaxation
36.	Poly nuclear Aromatic	APHA 6440	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.0001	No Relaxation
37	Poly chlorinated biphenyl	APHA 6630	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.0005	No Relaxation
38.	Arsenic (as As)	IS-3025(P-37)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.01	0.05
39.	Total Chromium (as Cr)	Annex J of IS-13428	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/l	0.05	No Relaxation
Biological Properties												
40.	*Escherichia coli*	IS-1622	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent/250ml		
41	*Coliform Bacteria*	IS-1622	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent/250ml		

S. No.	Parameter	Test method	GW08	GW09	GW10
Organoleptic & Physical parameters					
1.	Colour	IS-3025 (P-04)	<1.0	<1.0	<1.0
2.	Odour	IS-3025 (P-05)	Agreeable	Agreeable	Agreeable
3.	Taste	IS-3025 (P-07 & 08)	Agreeable	Agreeable	Agreeable
4.	Turbidity	IS-3025(P-10)	<1.0	<1.0	<1.0
5.	pH value	IS-3025(P-04)	7.35	7.61	7.39
6.	Total Dissolved Solid (TDS)	IS-3025(P-16)	1546.18	1135.05	1463.58
General Properties -					
7.	Aluminum (as Al)	IS:3025 (P-55)	BDL	BDL	BDL

8.	Total Ammonia	IS:3025 (P-34)	BDL	BDL	BDL
9.	Anionic surface Detergents(as MBAS)	Annex K of IS-13428	BDL	BDL	BDL
10.	Barium (as Ba)	IS: 15302	BDL	BDL	BDL
11.	Boron (as B)	IS:3025 (P-57)	BDL	BDL	BDL
12.	Calcium (as Ca)	IS:3025 (P-40)	140.32	141.02	146.96
13.	Chloramines (as Cl_2)	IS:3025 (P-26)	BDL	BDL	BDL
14.	Chloride (as Cl)	IS:3025 (P-32)	802.14	771.02	750.31
15.	Copper (as Cu)	IS :3025 (P-42)	BDL	BDL	BDL
16.	Fluoride (as F)	IS: 3025 (P-60)	1.03	0.98	1.12
17.	Free Residual Chlorine	IS: 3025 (P-26)	BDL	BDL	BDL
18.	Iron (as Fe)	IS: 3025(P-53)	<0.5	<0.5	<0.5
19.	Magnesium (as Mg)	IS: 3025 (P-46)	76.05	70.12	76.16
20.	Manganese (as Mn)	Clause 35 of IS 3025	BDL	BDL	BDL
22.	Nitrate (as NO_3)	IS: 3025 (P-34)	26.31	24.93	22.79
23.	Selenium (as Se)	IS:3025 (P-56)	BDL	BDL	BDL
24	Silver (as Ag)	Annex IS: 13428	BDL	BDL	BDL
25	Sulphate (as SO_4)	IS:3025 (P-24)	263.49	204.34	180.52
26	Sulphide(as H_2S)	IS-3025 (P-29)	BDL	BDL	BDL
27	Alkalinity (as Ca CO_3)	IS:3025 (P- 23)	194.18	119.12	130.14
28	Total Hardness (as $CaCO_3$)	IS:3025 (P- 23)	362.09	275.18	198.66
29	Zinc (as Zn)	IS:3025 (P- 49)	3.60	3.07	2.9
Toxic Properties					
30.	Cadmium (as Cd)	IS-3025(P-41)	BDL	BDL	BDL

31.	Cyanide (as CN)	IS-3025(P-27)	BDL	BDL	BDL
32.	Lead (as Pb)	IS-3025(P-47)	BDL	BDL	BDL
33.	Mercury (as Hg)	IS-3025(P-48)	BDL	BDL	BDL
34.	Molybdenum (Mo)	IS-3025(P-2)	BDL	BDL	BDL
35.	Nickel (as Ni)	Annex L of IS-13428	BDL	BDL	BDL
36.	Poly nuclear Aromatic	APHA 6440	BDL	BDL	BDL
37	Poly chlorinated biphenyl	APHA 6630	BDL	BDL	BDL
38.	Arsenic (as As)	IS-3025(P-37)	BDL	BDL	BDL
39.	Total Chromium (as Cr)	Annex J of IS-13428	BDL	BDL	BDL
Biological Properties					
40.	*Escherichia coli*	IS-1622	Absent	Absent	Absent
41	*Coliform Bacteria*	IS-1622	Absent	Absent	Absent

Observation:

Analysis of results of ground water reveals the following: -

- pH varies from 7.13 to 7.99.

  The ground water from all sources remains suitable for drinking purposes as all the constituents are within the limits prescribed by drinking water standards promulgated by Indian Standards IS: 10500.

Surface Water Analysis

Table 4.6 Results of Surface Water Analysis

S.No.	Parameter	Unit	S.W. 1	S.W. 2
1	pH	-	7.25	7.39
2	Dissolved Oxygen	mg/l	7.2	6.8
3	BOD (3 Days at 27 °C)	mg/l	2	3
4	Free Ammonia (as N)	mg/l	<0.1	<0.1
5	Sodium Adsorption Ratio	-	0.24	0.25
6	Boron	mg/l	0.22	0.23
7	Conductivity	µs/cm	431	410
8	Turbidity	NTU	2	3
9	magnesium hardness (as CaCO3)	mg/l	82	89
10	Total Alkalinity (as CaCO3)	mg/l	159	155
11	Chloride (as Cl)	mg/l	29	27
12	sulphate (as SO4)	mg/l	11	12
13	Nitrate (as NO3)	mg/l	2.5	3.1
14	Fluoride (as F)	mg/l	0.29	0.28
15	Sodium (as Na)	mg/l	13.5	12.4
16	Potassium (as K)	mg/l	3.1	3.2
17	TKN (as N)	mg/l	2.2	2.5
18	Total Phosphorous (as P)	mg/l	0.12	0.13
19	COD	mg/l	10	12
20	Phenolic compounds (as C6H5OH)	mg/l	<0.001	<0.001
21	Iron (as Fe)	mg/l	0.26	0.27
22	Zinc (as Zn)	mg/l	0.06	0.06
23	Mercury (as Hg)	mg/l	<0.001	<0.001
24	Total Dissolved Solids (TDS)	mg/l	325	339
Microbiological Parameters				
1	Total Coliform	MPN /100ml	1680	1850
2	Faecal Coliform	MPN /100ml	810	770

3.3.4 Sampling frequency

Parameters for analysis of water quality were selected based on the utility of the particular source of water as per CPCB guidance. Surface water quality was monitored for parameters as per Methods of Monitoring & Analysis published by CPCB and it was rated according to the CPCB Water Quality Criteria against A, B, C, D & E class of water. Water samples were collected as Grab water sample from sampling location for complete physico-chemical and bacteriological tests respectively. The samples were analyzed as per standard procedure / method given in IS: 10500.

The surface water quality is compared with CPCB water quality criteria mentioned in **Table** below:

Water quality criteria as per Central Pollution Control Board

Designated-Best-Use	Class of water	Criteria
Drinking Water Source without conventional treatment but after disinfection	A	Total Coliforms Organism MPN/100ml shall be 50 or less pH between 6.5 and 8.5 Dissolved Oxygen 6mg/l or more Biochemical Oxygen Demand 5 days 20°C 2mg/l or less
Outdoor bathing (Organized)	B	Total Coliforms Organism MPN/100ml shall be 500 or less; pH between 6.5 and 8.5; Dissolved Oxygen 5mg/l or more Biochemical Oxygen Demand 5 days 20°C 3mg/l or less
Drinking water source after conventional treatment and disinfection	C	Total Coliforms Organism MPN/100ml shall be 5000 or less; pH between 6 to 9; Dissolved Oxygen 4mg/l or more Biochemical Oxygen Demand 5 days 20°C 3mg/l or less
Propagation of Wild life and Fisheries	D	pH between 6.5 to 8.5 Dissolved Oxygen 4mg/l or more Free Ammonia

		(as N) 1.2 mg/l or less
Irrigation, Industrial Cooling, Controlled Waste disposal	E	pH between 6.0 to 8.5 Electrical Conductivity at 25°C micro mhos/cm Max.2250 Sodium absorption Ratio Max. 26 Boron Max. 2mg/l
	Below-E	Not Meeting A, B, C, D & E Criteria

3.4 AIR ENVIRONMENT

The prime objective of the baseline air monitoring is to evaluate baseline of Ambient Air Quality in the core & buffer area of the proposed project. The Ambient Air Monitoring locations are selected considering the project layout and meteorology of the area. This is useful for assessing the conformity to standards of the ambient air quality during the operation of the mine. The baseline status is assessed though a scientifically designed ambient air quality monitoring network based on the following considerations: -

1. Meteorological conditions;

2. Topography of the study area;

3. Background of Ambient Air Quality

3.3.1 Micro-Meteorological Data

Meteorology is the key to understand the air quality. The essential relationship between meteorological condition and atmospheric dispersion involves the wind speed and direction in the broad sense. Other factors such as variation in temperature, humidity, cloud amount, atmospheric stability classes etc. also plays a direct role in dispersion and dilution of pollutants. Wind fluctuations over a wide range of time, accomplish dispersion and strongly influence other processes associated with them. An auto weather monitoring station is installed at village during the study period to record various meteorological parameters on hourly basis to understand the wind speed & direction, temperature variation, cloud amount, rainfall and relative humidity at 1-hour interval. -

The monthly mean meteorological data recorded are given as follows:-

:

Table 3.7 Micro-meteorology of the area

MONTHS	TEMPERATURE (°C)		RELATIVE HUMIDITY (%)	
	Highest	Lowest	Highest	Lowest
Oct 2023	31.2	21.5	96	25
Nov 2023	30.4	17.3	92	24
Dec 2023	28.8	13.9	93	18

Wind Rose Diagram

Wind rose is the diagrammatic representation of wind speed and frequency in a specified direction with its arms representing sixteen directions. Each arm gives a clear frequency distribution of wind speed in a particular direction for a given period of time. It is observed that dominant wind directions are from North followed by North East.

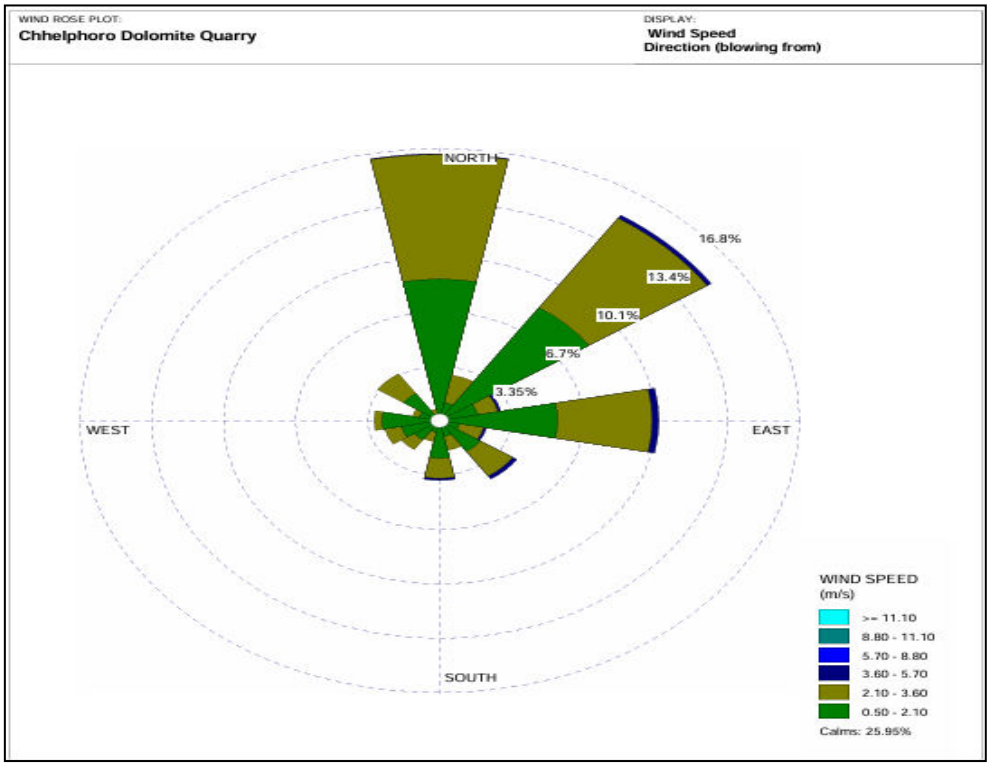


Figure 3.8: Wind rose Diagram

The prominent wind direction during this period is North.

Ambient Air Quality Monitoring Stations

Ambient air quality monitoring (AAQM) stations (10 in nos.) were selected on the basis of topography and meteorology of the area which are as follows: -

1. One (1 no.) AAQM location in Core Zone i.e. Mining site
2. Three AAQM (3 no.) station in the affected area.
3. One (1 no.) AAQM location in the upwind direction of wind supported by wind-rose of the season.
4. One AAQM station represents commercial area in the buffer zone of the project.
5. One AAQM station represents the Silent Zone within the vicinity.
6. One AAQM stations represents the haul road connecting the mining area to connecting roads where potential supply of materials.
7. Two AAQM stations at 10 km Buffer zone of the lease area.

3.3.4 Locations of Ambient Air Quality Monitoring Stations.

The Distance and Direction of the Ambient Air Quality monitoring stations are shown below.

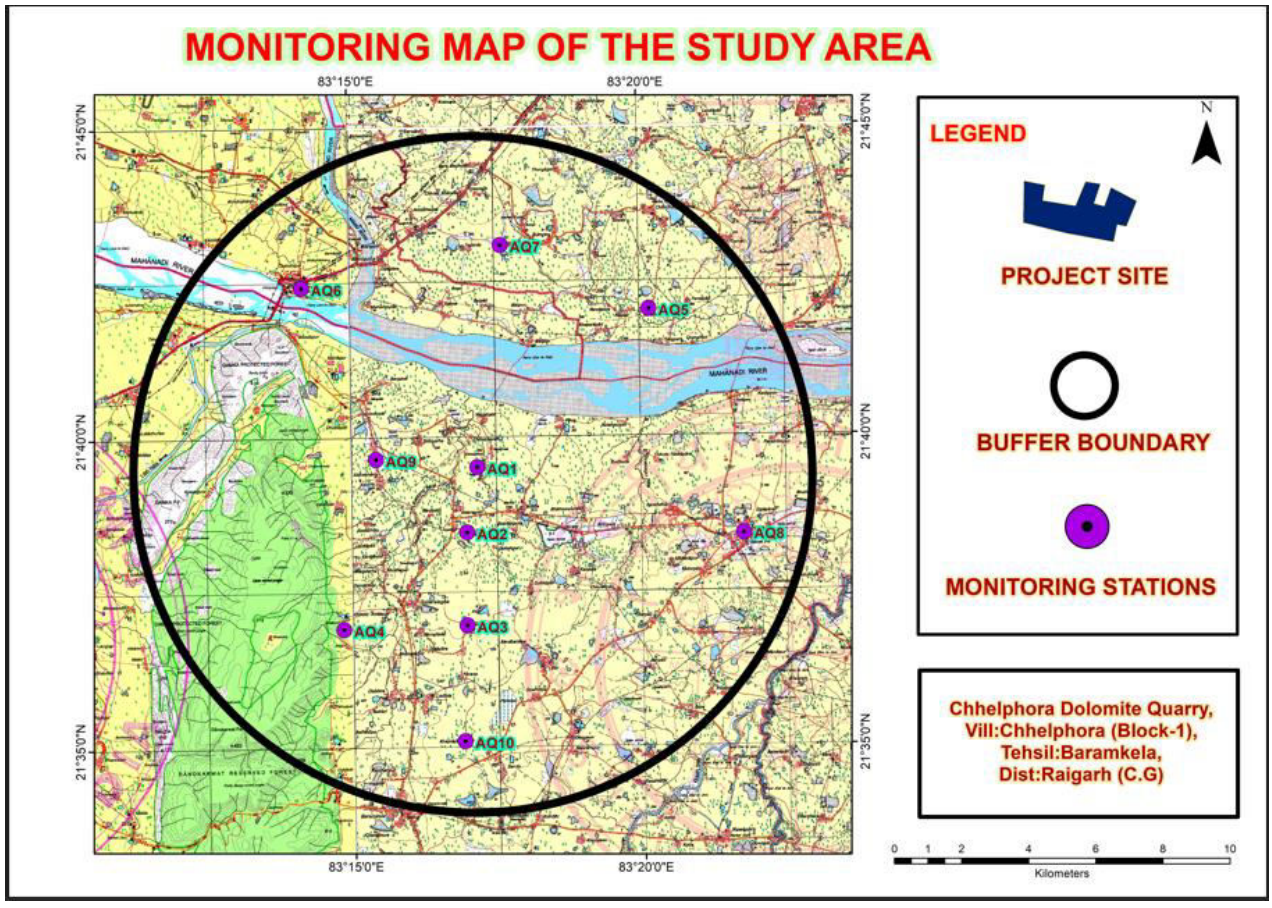
Table 3.8 Ambient Air Quality Sampling Locations

S. No.	Monitoring code	Location	Distance (Km) & Direction from Lease Area	
1	AQ1	Project Site	--	--
2	AQ2	Mahuapali	1.70 Km	South
3	AQ3	Girhulpali	4.45 Km	South
4	AQ4	Chhote Amakoni	5.93 Km	SW
5	AQ5	Baradoli	7.00 Km	NE
6	AQ6	Chandrapur	7.36 Km	NW
7	AQ7	Ranbhata	6.75 Km	North
8	AQ8	Saria	8.05 Km	SE
9	AQ9	Salhebhona	2.76 Km	West
10	AQ10	Khaprapali	7.85 Km	South

The ambient air monitoring has been carried out with a frequency of two days in a week at 10 locations covering one complete Post-monsoon Season.

Table 3.9 Environmental parameters and Frequency

Parameters	Sampling Frequency
PM_{10}	24 hourly sample twice a week
$PM_{2.5}$	24 hourly sample twice a week
SO_2	8 hourly for 24 hrs sample twice a week
NO_2	8 hourly for 24 hrs sample twice a week
Carbon Monoxide	Hourly for 24 hrs sample twice a week



Ambient Air Quality Monitoring Locations

Table 3.11 Statistical Summary of Concentration Levels (µg/m^3) of Criteria Pollutants

Ambient Air Quality in the Study Area PM2.5

Location Code	PM2.5 (µg/m^3)				
	Name of the Station	Min	Max	Average	98th Percentile
AAQ1	Project Site	38.16	52.55	45.61	51.54
AAQ2	Mahuapali	31.55	45.15	40.05	43.85
AAQ3	Girhulpali	37.19	46.84	41.75	46.09
AAQ4	Chhote Amakoni	35.67	49.93	44.81	49.09
AAQ5	Baradoli	32.88	46.02	41.29	45.24
AAQ6	Chandrapur	34.2	43.61	38.47	42.83
AAQ7	Ranbhata	32.38	41.3	36.42	40.55
AAQ8	Saria	38.53	50.0	43.83	49.30
AAQ9	Salhebhona	37.02	50.97	44.24	49.99
AAQ10	Khaprapali	32.65	46.72	41.45	45.38

Ambient Air Quality in the Study Area PM10

Location Code	PM10 (µg/m^3)				
	Name of the Station	Min	Max	Average	98th Percentile
AAQ1	Project Site	61.89	79.88	72.86	78.69
AAQ2	Mahuapali	51.47	67.46	60.01	65.28
AAQ3	Girhulpali	52.73	67.45	61.55	67.37
AAQ4	Chhote Amakoni	58.24	76.26	68.91	76.03
AAQ5	Baradoli	55.56	72.75	65.75	72.54
AAQ6	Chandrapur	56.46	69.36	64.72	68.53
AAQ7	Ranbhata	49.4	60.69	56.62	59.95
AAQ8	Saria	54.55	65.96	60.98	65.46

AAQ9	Salhebhona	60.03	77.48	70.67	76.33
AAQ10	Khaprapali	53.26	69.82	62.10	67.57

Ambient Air Quality in the Study Area SO2

Location Code	SO_2 (µg/m^3)				
	Name of the Station	Min	Max	Average	98th Percentile
AAQ1	Project Site	4.69	8.49	6.35	8.35
AAQ2	Mahuapali	4.78	8.39	6.44	8.35
AAQ3	Girhulpali	4.98	8.96	6.64	8.87
AAQ4	Chhote Amakoni	4.39	9.06	6.31	8.58
AAQ5	Baradoli	4.61	9.54	6.64	9.03
AAQ6	Chandrapur	4.95	7.61	6.07	7.47
AAQ7	Ranbhata	5.14	7.89	6.29	7.75
AAQ8	Saria	3.66	8.02	5.14	7.50
AAQ9	Salhebhona	4.55	8.24	6.16	8.10
AAQ10	Khaprapali	4.95	8.68	6.67	8.64

Ambient Air Quality in the study Area NO2

Location Code	NO_2 (µg/m^3)				
	Name of the Station	Min	Max	Average	98th Percentile
AAQ1	Project Site	6.72	13.83	9.37	12.87
AAQ2	Mahuapali	7.22	13.66	9.90	13.08
AAQ3	Girhulpali	7.86	15.83	10.56	14.82
AAQ4	Chhote Amakoni	6.94	13.97	9.61	13.25
AAQ5	Baradoli	7.0	14.09	9.69	13.36
AAQ6	Chandrapur	5.59	13.58	8.60	12.38
AAQ7	Ranbhata	11.19	15.66	12.81	14.88

AAQ8	Saria	5.19	11.96	8.39	11.83
AAQ9	Salhebhona	6.52	13.42	9.09	12.49
AAQ10	Khaprapali	7.47	14.14	10.25	13.53

Discussion of Results for Ambient Air

Ambient Air Quality Monitoring reveals that the minimum and maximum level of PM10 recorded within the study area was in the range of 49.4 µg/$m^3$to 79.88µg/m^3. The minimum & maximum concentrations of PM2.5 were found to be 31.55µg/m^3 to 52.55µg/m^3.

As far as the gaseous pollutants SO_2 and NOx are concerned, the prescribed CPCB limit of 80µg/m^3 for residential and rural areas has never surpassed at any station. The minimum & maximum concentrations of SO_2 were found to be 3.66µg/$m^3$to 9.54µg/m^3 respectively. The minimum & maximum concentrations of NO_X were found to be 5.19µg/$m^3$to 15.83µg/m^3.

3.5 NOISE ENVIRONMENT

The main objective of noise monitoring in the study area is to establish the baseline noise level and assess the impact of the noise level due to project on the ambient noise in core and buffer areas

The impact of noise on the surrounding community depends on:

Characteristics of noise sources are instantaneous, intermittent or continuous in nature. It is well known that steady noise is not as annoying as one feels compared to continuously varying noise.

High noise levels at night in residential areas are not acceptable.

Noise level is monitored in day & night and results are compared with respect to CPCB standards applicable to that area.

CPCB categories the area into

1. Industrial
2. Commercial
3. Residential and
4. Silence zone and separate noise level standard in day and night for each area.

The environmental impact of noise can have several effects varying from Noise Induced Hearing Loss (NIHL) to annoyance on loudness of Noise levels.

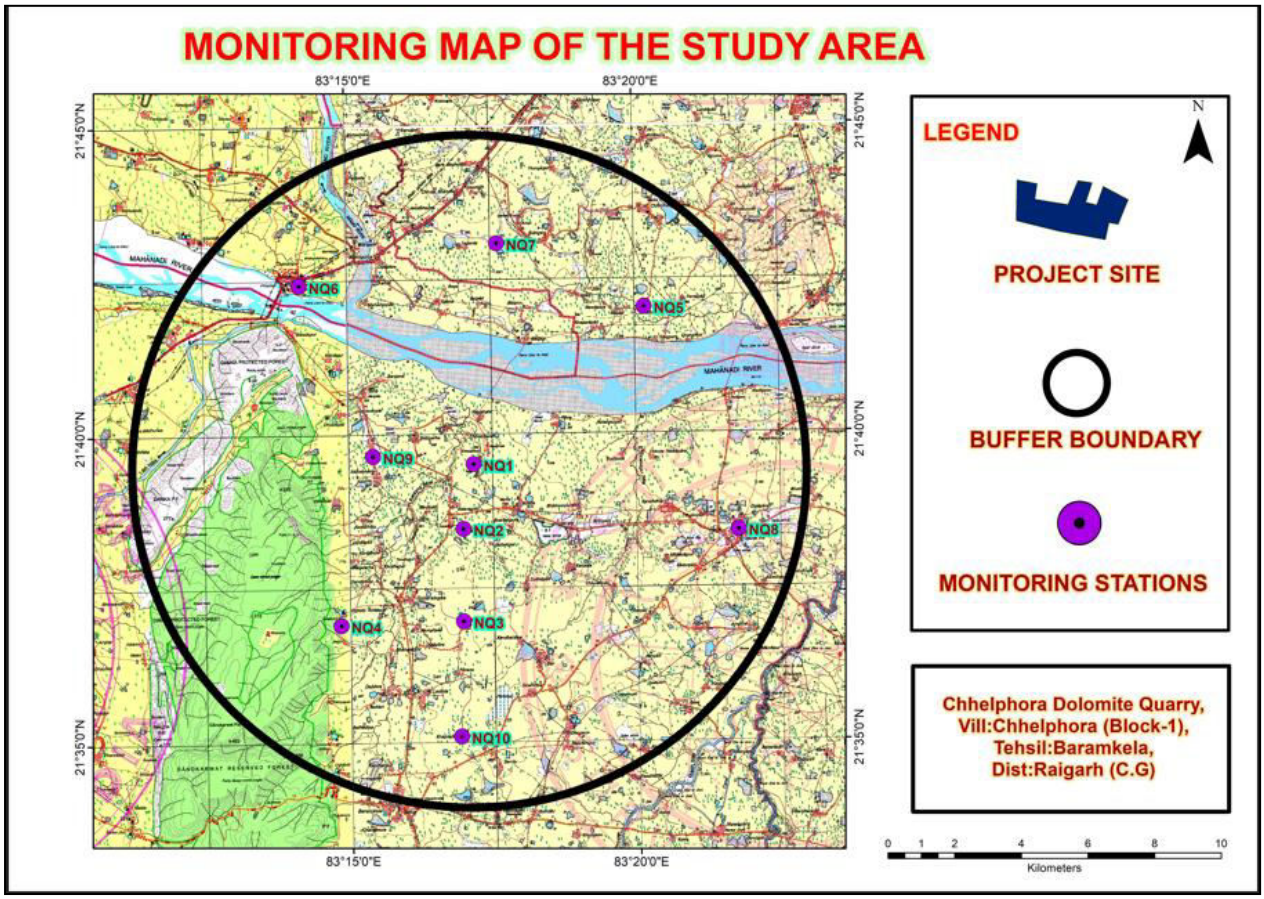
3.5.1 Monitoring locations

Ambient Noise Monitoring was conducted at ten locations (10 in nos.) in core and buffer areas. The locations were representative of proposed site, human settlements, commercial, industrial and sensitive areas monitored at one hour interval for 24-hours in post-monsoon season.

Table 3.12 Ambient Noise Sampling Locations

S. No.	Monitoring code	Location	Distance (Km) & Direction from lease area	
1	NQ1	Project Site	--	--
2	NQ2	Mahuapali	1.70 Km	South
3	NQ3	Girhulpali	4.45 Km	South
4	NQ4	Chhote Amakoni	5.93 Km	SW
5	NQ5	Baradoli	7.00 Km	NE
6	NQ6	Chandrapur	7.36 Km	NW
7	NQ7	Ranbhata	6.75 Km	North
8	NQ8	Saria	8.05 Km	SE
9	NQ9	Salhebhona	2.76 Km	West
10	NQ10	Khaprapali	7.85 Km	South

The Ambient Noise Stations superimposed on the Toposheet locations and shown in Noise Level Monitoring Locations Map. Noise monitoring location (No. - 10) represents noise levels for residential, commercial and mixed zone and forest /hospital/ sensitive areas.



Noise Monitoring Locations

Methodology:-

Noise monitoring was conducted at 1-hour interval for twenty four hours in Day (06.00 AM – 10.00 PM) and Night (10.00 PM – 06.00 AM) separately for all sampling locations as per method recommended by CPCB/MoEF. The results were compared with standards applicable for the areas as given below.

Table 3.13 CPCB standards for Ambient Noise Quality

Area Code	Area	Limit in dB(A)	
		Day	Night
A	Industrial	75	70
B	Commercial	65	55
C	Residential	55	45
D	Silence	50	40

Note:-

1. Day time shall mean from 6.00 AM to 10.00 PM

2. Night time shall mean from 10.00 PM to 6.00 AM

3. Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority.

The statistical analysis is done for measured noise level at 12 locations. The parameters are analyzed for Leq (day) and Leq (night). The statistical analysis results are given in below:-

Table 3.14: Ambient Noise Monitoring Results

S. No.	Locations		Equivalent Noise Level, dB (A)			
			Limit (as per CPCB Guidelines),Leq, dB(A)		Observed value Leq, dB(A)	
			DAY*	NIGHT*	DAY*	NIGHT*
1	NQ1	Industrial Zone	75	70	54.0	43.5
2	NQ2	Residential Zone	55	45	50.5	42.4
3	NQ3	Residential Zone	55	45	48.2	40.5
4	NQ4	Industrial Zone	75	70	52.1	44.6
5	NQ5	Residential Zone	55	45	49.8	42.4
6	NQ6	Residential Zone	55	45	47.8	41.9
7	NQ7	Industrial Zone	75	70	52.4	43.2
8	NQ8	Residential Zone	55	45	49.4	42.2
9	NQ9	Residential Zone	55	45	47.2	41.3
10	NQ10	Residential Zone	55	45	41.7	39.8

3.5.3 Discussion of Result

Noise monitoring reveals that the minimum & maximum noise levels at day time were recorded as 41.7 dB(A) to 54.0 dB(A) respectively. The minimum & maximum noise levels at night time were found to be 39.8 dB (A) & 44.6 dB(A) respectively.

There are several sources in the 10 km radius of study area, which contributes to the local noise level of the area. On the commencement of the project, the sound from traffic activities will add to the ambient noise level of the area. This will be kept under check by taking proper suggestive measures.

3.6 BIOLOGICAL ENVIRONMENT

3.6.1 Introduction

The biodiversity we see today is the fruit of billions of years of evolution, shaped by natural processes. The vast array of interactions among the various components of biodiversity makes the planet habitable for all species, including humans. There is a growing recognition that, biological diversity is a global asset of tremendous value to present and future generations. At the same time, the threat to species and ecosystems has never been as great as it is today. Species extinction caused by human activities continues at an alarming rate. Protecting biodiversity is in our self-interest.

The biological study was under taken by Ecology & Biodiversity Expert, as a part of the EIA study report to understand the present status of ecosystem prevailing in the study area, to compare it with past condition with the help of available data, to predict changes in the biological environment as a result of present activities and to suggested measures for maintaining its health.

3.6.2 Objectives and Purpose of Study:

The basic objectives of the study are to evaluate the status of the flora and fauna of the core area and the buffer areas with specific reference to the rare or endangered or endemic or threatened (REET) species. The study is also designed to evaluate the adverse impacts of the proposed activity, if any and to suggest remedial / mitigation measures in accordance with the objectives as desired by the IAIA and the Ministry of Environment, Forests & Climate Change (MoEF & CC), Government of India (GOI).

3.6.3 Methodology

Field study period: The ecological survey has been conducted for one season. The details are given below:

Post Monsoon: (Oct 2023 –Dec 2023). Core zone: At the project site.

Buffer zone: Around the project site in 10 km radius.

Mode of Data Collection

Detailed survey was conducted to evaluate floral and faunal composition of the study area. Primary data on floral and faunal composition was recorded during site visit and secondary data was collected from the Forest department and published relevant literature. Inventory of flora and fauna is prepared on the basis of collected data.

Terrestrial Ecology Status: Primary data are generated through site visit, and sampling of species based on the Dept. of Environment & Forest publication of flora and fauna of the area. Primarily the visual assessment of the flora and fauna along with the identified species are recorded for the study purposes. Subsequently a general checklist of all plants encountered was prepared for the study area. This is meant to indicate the biodiversity for wild and cultivated plants. The plants so encountered were classified into life form spectrum according to the classification of Raunkiaer's classification of life form spectrum.

Life Form Spectrum

Raunkiaer defined life forms as the sum of adaptations of plants to the climate. Braun-Blanquet (1951), whose system is adapted in this study, modified the Raunkiaer's system.

Flora of the buffer zone:

Buffer zone of the proposed project is mainly agricultural land. However, the a few patches of vegetation/plantation are present in the buffer zone. The river is also having a patch of scrub lands at some place with grasses and aquatic weeds.

The vegetation patch in the buffer area is made up of many economically important species such as *Salai guggul, Indian ash tree etc.* generally the most commonly found within the 10 km buffer zone of the site. *Rat rani, Silk Cotton Tree, Indian satinwood, Khair, Ber, Bel, Jasmine, Amla, , &*

Bamboo some of the species that were present however identification of the species shall be required to ascertain the same. Apart from the above mentioned plant species such as *Bija Sal, Bark Tree, Harra, Dhaora, Shisham, Black Siris, Tendu, Kadam, Mahua, Oak, Amla, forest ebony* most common species in most the upper parts of the site.

List of trees, shrubs and perennial climbers found in the buffer zone.

Plants indicated by * were rarely found in Sal forests of the buffer zone.

Botanical name	Family	Local / common name	Habit
Acacia nilotica	Mimosaceae	Babul / Babool	Tree
Aegle marmelos	Rutaceae	Bel	Tree
Ailanthus excelsa	Simaroubaceae	Mahalimbo	Tree
Abrus precatorius	Fabaceae	Kaincha	Creeper
Abutilon indicum	Malvaceae		Shrub
Acacia auriculiformis	Mimosaceae	Australian Wattle	Tree
Acacia catechu	Mimosaceae	Khair	Tree
Agave americana	Kamal Cactus	Agavaceae	Shrub
Alangium salvifolium	Alangiaceae	Ankula	Tree
Albizia lebbeck	Mimosaceae	Siris / Kala sirus	Tree
Albizia procera	Mimosaceae	TenBansdharaa(sirish-Dhala)	Tree
Alstonia scholaris	Apocynaceae	Chhatiana	Tree
Annona reticulata	Annonaceae	Ramphal	Fruit tree
Annona squamosa	Annonaceae	Seetaphal	Fruit tree
Anogeissus latifolia *	Combretaceae	Dhau / Dhaka / Bakli	Tree
Artocarpus heterophyllus	Moraceae	Panas	Tree
Azadirachta indica	Meliaceae	Neem	Tree
Barleria prionitis	Acanthaceae	Porcupine flower	Shrub
Bauhinia purpurea	Caesalpiniaceae	Kanchan	Tree
Bauhinia racemosa	Caesalpiniaceae	Ambansia	Tree
Bauhinia vahlii	Caesalpiniaceae	Maloo creeper	Climber
Bombax ceiba	Bombacaceae	Semul / Simili	Tree
Borassus flabellifer	Arecaceae	Tal	Palm
Bridelia retusa	Euphorbicaeae	Kaji / Kaja	Tree
Buchanania lanzan	Anacardiaceae	Char / Chironji	Tree
Butea monosperma	Fabaceae	Palash	Tree

Calotropis gigantea	Asclepiadaceae	Arakha	Shrub
Calotropis procera	Asclepiadaceae	Arakha	Shrub
Careya arborea	Myrtaceae	Kumbhi	Tree
Carissa spinarum	Apocynaceae	Karonda	Shrub
Carissa carandas	Apocynaceae	Caranda	Shrub
Caryota urens	Arecaceae	Sarap(Calap)	Palm
Cassia fistula	Caesalpiniaceae	Amaltas	Tree
Cassia siamea	Caesalpiniaceae	Chakhunda	Tree
Chromolaena odorata	Asteraceae	Siam weed	Shrub
Cleistanthus collinus	Euphorbiaceae	Karra	Tree
Clerodendrum serratum	Verbenaceae	Babhanaiti	Shrub
Cocos nucifera	Arecaceae	Coconut	Palm
Colebrookea oppositifolia	Lamiaceae	Indian Squrirrel tail / Bhamber	Shrub
*Dalbergia paniculata**	Caesalpiniaceae	Barabakulia	Tree
Dalbergia sissoo	Caesalpiniaceae	Sisoo	Tree
Delonix elata	Caesalpiniaceae	Radhachuda	Tree
Delonix regia	Caesalpiniaceae	Krisnachuda / Gulmohur	Tree
*Dendrocalamus strictus**	Poaceae	Bamboo	Bamboo
Dendrophthoe falcata	Loranthaceae	Banda	Hemi-parasite
Diospyros melanoxylon	Ebenaceae	Tendu	Tree
Erythrina indica	Fabaceae	Paldhua	Tree
Eucalyptus sp	Myrtaceae	Eucalyptus	Tree
Ficus benghalensis	Moraceae	Banyan / Bata / Bad	Tree
Ficus microcrpa	Moraceae	Kamrup	Tree
Ficus racemosa	Moraceae	Cluster Fig	Tree
Ficus religiosa	Moraceae	Peepal	Tree
Gmelina arborea	Verbenaceae	Gambhari	Tree
Grevillea robusta	Proteaceae	Silver Oak	Tree
Grewia hirsuta	Tiliaceae	Kakarundah	Tree
Grewia tilifolia	Tiliaceae	Dhamani	Shrub
Haldinia cordifolia	Rubiaceae	Haldu	Tree
Hemidesmus indicus	Apocynaceae	Anantamul	Twiner
*HolopBansdharaia integrifolia**	Dhauranja	Ulmaceae	Tree
Ipomoea carnea	Convolvulaceae	Morning glory	Shrub

Ixora parvifora	Rubiaceae	Bhuin kuruma	Shrub
Jaminum arborescens	Oleaceae	Bana mali	Creeper
Jasminum auriculatum	Oleaceae	Juhi	Creeper
Kydia calycina	Ranbhendi	Malvaceae	Tree
Lagerstroemia parviflora	Lythraceae	Sidha / Sudha / Senha	Tree
Lantana camara	Verbenaceae	Raimuniya	Shrub
Leptadenia reticulata	Apocynaceae	Jiwanti	Climber
Leucaena leucocephala	Mimosaceae	Subabul	Tree
Madhuca longifolia	Sapotaceae	Mahuva / Mahul	Tree
Mangifera indica	Anacardiaceae	Amba / Mango	Fruit Tree
Manilkara zapota	Sapotaceae	Chikoo	Tree
Melia azadirachata	Meliaceae	Buckain	Tree
Mimusops elengi	Sapotaceae	Maulsari	Tree
Moringa oleifera	Moringaceae	Sajana (muniga)	Tree
Moringa tinctoria	Moringaceae	Achhu	Tree
Morus alba	Moraceae	Mulberry	Tree
Mucuna pruriens	Fabaceae	Kaunch	Climber
Neolamarckia cadamba	Rubiaceae	Kadamb	Tree
Nyctanthes arbor-tristis	Oleaceae	Gangasiuli	Small tree
Oroxylum indicum	Bignoniaceae	Indian Trumpet Flower	Tree
Phoenix sylvestris	Arecaceae	Bankhajuri	Palm
Phyllanthus emblica	Euphorbiaceae	Amla	Fruit tree
Pithecellobium dulce	Mimosaceae	Jungle jalebi	Tree
Polyalthia longifolia	Annonaceae	Debadaru / Ashok	Tree
Polyalthia pendula	Annonaceae	Ashok	Tree
Pongamia pinnata	Fabaceae	Karanja	Tree
Prosopis spicigera	Mimosaceae	Kejdi	Tree
Prosopis julifloa	Mimosaceae	Mesquite	Thorny bush
Psidium guajava	Myrtaceae	Guava	Fruit Tree
*Pterocarpus marsupium**	Pterocarpaceae	Saja	Tree
Pyrostegia venusta	Bignoniaceae	Flame wine	Creeper
Quisqualis indica	Combretaceae	Burma Creeper	Creeper
Sapindus emarginatus	Sapindaceae	Ritha	Tree
Schleichera oleosa	Sapindaceae	Kusum	Tree
Semecarpus anacardium	Anacardiaceae	Cashew nut	Tree
Shorea robusta	Dipterocarpaceae	Sal	Tree
Spondias pinnata	Anacardiaceae	Ambara / ambari	Tree
Sterculia apetala	Sterculiacae	Panama tree	Tree

Streblus asper	Moraceae	Sahada	Tree
Syzigium cumini	Myrtaceae	Jamun	Fruit Tree
Tamarindus indica	Caesalpiniaceae	Imli	Tree
Tectona grandis	Verbenaceae	Saguan	Tree
Terminalia alata	Combretaceae	Marda	Tree
Terminalia arjuna	Combretaceae	Arjuna	Tree
*Terminalia tomentosa**	Asna	Combretaceae	Tree
Thespesia populnea	Malvaceae	Bankapas	Tree
Tylophora indica	Asclepiadaceae	Antamul	Climber
Vitex negundo	Verbenaceae	Begunia	Small tree
Vitex trifolia	Verbenaceae	Nichinda / Panikisanbhalu	Small tree
Withania somnifera	Solanaceae	Aswagandha	Shrub
Woodfordia fruticosa	Lythraceae	Dhaaya / Dawal	Tree
Ziziphus marutiana	Rhamnaceae	Borkuli	Tree
Ziziphus nummularia	Rhamnaceae	Kontikoli	Tree

Medicinal plants:

A list of plants found in the study area is given as

It may be mentioned that none of them belong to the RET category.

Scientific name	Local name	Family	Ailment
Blumea lacera	Kukuronda	Asteraceae	bronchial asthma
Achyranthes aspera	Onga, Chirchita, Apamarg	Amaranthaceae	Anti-venom
Asteracantha longifolia	Kokilaaksha	Acanthaceae	Aphrodisiac and liver protective
Cassia tora	Charota	Caesalpiniaceae	Eczema and ringworm
Catharanthus roseus	Sadaphooli	Apocynaceae	Flower for diabetes
Chenopodium album	Bathua	Chenopodiaceae	Skin disorders like Leucoderma
Leucas aspera	Gumma Bhaji	Lamiaceae	Snake repellent and vegetable
Sphaeranthus indicus	Gorakhmundi	Asteraceae	Eosinophilia and respiratory troubles

Terrestrial Fauna:

There are no Biosphere reserves or Wildlife Sanctuaries or National Parks or Important bird areas (IBAs) or other ecologically sensitive areas within a distance of 10 Km from the boundary of the project site. There are no known migratory routes or breeding grounds of any rare or endangered or threatened (RET) species either There are no known migratory routes of wildlife such as migratory birds, tigers or elephants. Both primary survey as well as the secondary obtained from published literature, the locals and the forest department indicate that there are major wild animals with the exception of wild pigs. Among the mammals, Rodents were quite common. Only small grassland birds were seen during the survey.

List of vertebrate species other than birds either recorded or reported from the study area. Secondary data is based on the information from the locals and forest department after cross checking with database of the State.

MAMMALS		
Latin name	**Common name**	**WPA Schedule**
Bandicota indica	Large bandicoot Rat	V
Funambulus palmarum	Three striped squirrel	IV
Golunda ellioti myothrix	Indian bush rat	IV
Herpestes edwardsi	Indian grey mongoose	IV
Lepus nigricollis	Indian hare	IV
Mus booduga	Common Indian field mouse	V
Mus musculus	Home Mouse	V
Nosokia indica	Bandicoot rat	V
Rattus rattus	Common Indian rat	V
Suncus murinus	House shrew	V
Sus scrofa	Wild pig	III
AMPHIBIANS		
Bufo melanostictus	Common toad	IV
Fejervarya limnocharis	Rice field frog	IV
Hoplobatrachus tigerinus	Indian Bull frog	IV
Hyla arborea	Tree frog	IV
Polypedates maculatus	Common tree frog	IV
REPTILES		IV
Bungarus caeruleus	Common Indian Krait	II
Chameleo zeylanicus	Chameleon	II
Chrysopelea taprobanica	Tree Snake	II
Dryphis nasutus	Whip Snake	II
Echis carinatus	Saw scaled viper	II

Geochelone elegans	Indian star tortoise	II
Hemidactylus flaviviridis	Indian wall lizard	IV
Ptyas mucosa	Dhaman / Indian Rat snake	II
Typhlops diardii	Giant Blind Snake	II
Typhlops porrectus	Slender Blind Snake	II
Varanus bengalensis	Common Indian Monitor	II
Xenochrophis piscator	Dhondwa / Checkered keelback	II

Fauna reported in core zone:

During the faunal survey in the area no wildlife corridor or movement of animals was recorded from proposed project area. No established habitats of any mammals or birds are noticed in river bed and along the banks. No bird's habitats like nesting, breeding and forging patterns are noticed in the core zone. Local birds are noticed crossing over the banks in search of food. No fixed pattern in migratory behavior is noticed.

Table No. 3.3 (ii) Fauna of the Buffer zone

Table 4: List of vertebrate species other than birds either recorded or reported from the study area. Secondary data is based on the information from the locals and forest department after cross checking with database of the State.

MAMMALS		
Latin name	**Common name**	**WPA Schedule**
Bandicota indica	Large bandicoot Rat	V
Funambulus palmarum	Three striped squirrel	IV
Golunda ellioti myothrix	Indian bush rat	IV
Herpestes edwardsi	Indian grey mongoose	IV
Lepus nigricollis	Indian hare	IV
Mus booduga	Common Indian field mouse	V
Mus musculus	Home Mouse	V
Nosokia indica	Bandicoot rat	V
Rattus rattus	Common Indian rat	V
Suncus murinus	House shrew	V
Sus scrofa	Wild pig	III
AMPHIBIANS		
Bufo melanostictus	Common toad	IV
Fejervarya limnocharis	Rice field frog	IV
Hoplobatrachus tigerinus	Indian Bull frog	IV
Hyla arborea	Tree frog	IV
Polypedates maculatus	Common tree frog	IV
REPTILES		IV

Bungarus caeruleus	Common Indian Krait	II
Chameleo zeylanicus	Chameleon	II
Chrysopelea taprobanica	Tree Snake	II
Dryphis nasutus	Whip Snake	II
Echis carinatus	Saw scaled viper	II
Geochelone elegans	Indian star tortoise	II
Hemidactylus flaviviridis	Indian wall lizard	IV
Ptyas mucosa	Dhaman / Indian Rat snake	II
Typhlops diardii	Giant Blind Snake	II
Typhlops porrectus	Slender Blind Snake	II
Varanus bengalensis	Common Indian Monitor	II
Xenochrophis piscator	Dhondwa / Checkered keelback	II
Accipiter badius	Shikra	IV
Acridotheris tristis	Common myna	IV
Actitis hypoleucos	Common Sandpiper	IV
Aegithinia tiphia	Common Iora	IV
Alcedo atthis	Common kingfisher	IV
Apus apus	Common Swift	IV
Artamus fuscus	Ashy Woodswallow	IV
Bubulcus ibis	Cattle Egret	IV
Caprimulgus affinis	Savanna Nightjar	IV
Caprimulgus asiaticus	Indian Nightjar	IV
Centropus bengalensis	Lesser Coucal	IV
Ceryle rudis	Lesser pied Kingfisher	IV
Chalcophaps indica	Emerald Dove	IV
Charadrius dubius	Little Ringed Plover	IV
Charadrius hiaticula	Common Ringed Plover	IV
Columba livia	Blue rock pigeon	IV
Copsychus malabaricus	magpie-robins or shamas	IV
Coracias benghalensis	Indian roller	IV
Corvus splendens	House crow	V
Coturnix coromandelica	Rain Quail	IV
Coturnix coturnix	Common Quail	IV
Cuculus canorus	Common Cuckoo	IV
Cuculus micropterus	Indian Cuckoo	IV
Cypsiurus balasiensis	Asian Palm Swift	IV
Dendrocitta vagabunda	Indian tree pie	IV
Dendrocopus marhatensis	Maratha Woodpecker	IV
Dicrurus leucophaeus	Ashy Drongo	IV
Dicrurus macrocercus	Black drongo	IV
Dinopium benghalense	Black-rumped Woodpecker	IV

Dryocopus javensis	White-bellied Woodpecker	IV
Egretta garzetta	Little egret	IV
Elanus caeruleus	Black-winged Kite	IV
Eudynamys scolopaceus	Common Koel	IV
Falco tinnunculus	Common Kestrel	IV
Francolinus francolinus	Black Francolin	IV
Francolinus pondicerianus	Grey Francolin	IV
Halcyon pileata	Black-capped Kingfisher	IV
Halcyon smyrnensis	White-Breasted King fisher	IV
Haliastur indus	Brahminy Kite	IV
Hierococcyx varius	Common Hawk Cuckoo	IV
Himantopus himantopus	Black-winged Stilt	IV
Hydrophasianus chirurgus	Pheasant-tailed Jacana	IV
Ictinaetus malaiensis	Black Eagle	IV
Lalage melanoptera	Black-headed Cuckoo shrike	IV
Lanius cristatus	Brown Shrike	IV
Merops orientalis	Little Green Bee Eater	IV
Microcarbo niger	Little Cormorant	IV
Milvus migrans	Common Black kite	IV
Motacilla alba	White wagtail	IV
Oriolus kundoo	Indian Golden Oriole	IV
Oriolus oriolus	Golden Oriole	IV
Passer domesticus	House sparrow	IV
Perdicula asiatica	Bush quail	IV
Pericrocotus cinnamomeus	Small Minivet	IV
Pericrocotus roseus	Rosy Minivet	IV
Phalacrocorax carbo	Large Cormorant	IV
Phalacrocorax fuscicollis	Indian Cormorant	IV
Phalacrocorax niger	Little cormorant	IV
Pitta brachyura	Indian Pitta	IV
Psilopogon haemacephalus	Coppersmith Barbet	IV
Psittacula cyanocephala	Blossom headed Parakeet	IV
Psittacula krameri	Rose-Ringed Parakeet	IV
Pterocles indicus	Painted Sandgrouse	IV
Pycnonotus cafer	Red-vented bulbul	IV
Rhipidura albicollis	White-throated Fantail	IV
Saxicolodies fulicata	Indian robin	IV
Streptopelia capicola	Ring-necked dove	IV
Streptopelia chinensis	Spotted dove	IV
Streptopelia tranquebarica	Red Collared Dove	IV
Streptopelia tranquebarica	Spotted-necked Dove	IV

Sturnus contra	Pied myna	IV
Sturnus pagodrum	Brahminy myna	IV
Surniculus lugubris	Drongo Cuckoo	IV
Tringa glareola	Wood Sandpiper	IV
Turdoides caudatus	Common babbler	IV
Tyto alba	Barn owl	IV
Tyto longimembris	Eastern Grass Owl	IV
Upupa epops	Common hoopoe	IV
Vanellus indicus	Red-wattled Lapwing	IV
Vanellus malarbaricus	Yellow-wattled Lapwing	IV
Butterflies		
Pseudocoladenia dan dan	Fulvous pied flat	IV
Precis lemonias lemonias	Lemon pansy	IV
Precis hierta hierta	Yellow Pansy	IV
Tros aristolochiae	Common rose	IV
Araca violae	Tawny costar	IV
Tirumala limniace	Blue Tiger	IV
Euploea corecor	Common Crow	IV
Dananus aglea	Glassy Blue Tiger	IV
Precis orithya	Blue pansy	IV
Hypolimnas misippus	Danaid egg fly	IV
Neptis hylas	Common sailor	IV
Papilio demoleus	Lime butterfly	IV
Catopsilia crocale	Common emigrant	IV
Danais chrysippus	Plain tiger	IV
Other insects		
Brachytron pratense	Hairy Dragonfly	Not listed
Anax imperator	Emperor Dragonfly	Not listed
Tettigonia viridissima	Common Grasshopper	Not listed
Hieroglyphus banian	Rice grasshopper	Not listed
Pecilocerus pictus.	Common painted	Not listed
Nephotettix apicalis	Paddy Jassids	Not listed
Hyblea purea	Skeletonizer or Teak Defoliator	Not listed
Hepalia mauritia	Defoliators	Not listed
Spodoptera mauritia	Swarming caterpillar	Not listed
Rhopalosiphum maidis	Aphids	Not listed

3.7 Socio-Economic Environment

3.7.1 Introduction

Socio-Economic Impact Assessment (SEIA) is an important component of Environment Impact Assessment of a project. SEIA refers to systematic analysis of various social and economic characteristics of human being living in a particular geographical area and to identify and evaluate potential socio-economic and cultural impacts of a proposed development intervention on the lives of the people, their families and their communities.

The other objectives of the SEIA are as follows:

- To identify and assess the socio-economic activities, which are significantly influenced by the project.
- To examine the perceptions of local communities on the project.
- To suggest interventions that can assist in mitigating the negative impacts of the project.

3.7.2 Scope of the Proposed Study

- To collect baseline data of the study area through primary and secondary research
- To comprehend socio-economic status of people living in the study area
- To identify and assess the likely impact of the project on social and economic life of the people in the study area
- To measure the impact of the project on Quality of life of the people living in the study area
- To ensure sustainability of positive impacts
- To recommend mitigation measures on adverse impacts.

Demographic particulars of the study area

S.N.	Description	Number	Percentage to Respective totals
1	**Gender wise Total Population of the Study Area**	217799	100
	Male	112226	51.52
	Female	105573	48.48
	Sex Ratio (No. of females per 1000 males)	941	
	Overall density of population (per sq. km)	747.68	
2	**Sector wise Total Population of the Study**	217799	100
	Rural	187629	86.15
	Urban	30170	13.85
	Density of population in rural areas (per sq. km)	686.73	
	Density of population in urban areas (per sq. km)	1668.69	
3	**Gender wise total population in Rural Areas**	**187629**	**100**
	Male	**96521**	**51.45**
	Female	**91108**	**48.55**
	Sex Ratio in rural area (No. of females per 1000 males)	**944**	
4	**Gender wise total population in Urban Areas**	**30170**	**100**
	Male	***15705***	**52.05**
	Female	**14465**	**47.95**
	Sex Ratio in urban area (No. of females per 1000 males)	**921**	
5	**Gender wise Total Population (0-6 age group)**	**38044**	**100**
	Male	**19402**	**51.00**
	Female	**18642**	**49.00**
	Sex Ratio of 0-6 age group population (No. of females per 1000 males)	**961**	
6	**Gender wise population (0-6 age group) in Rural Areas**	**33391**	**100**
	Male	**17027**	**51**
	Female	**16364**	**49**
	Sex Ratio of 0-6 age group population in rural area (No. of females per 1000 males)	**961**	
7	**Gender wise population (0-6 years) in Urban Areas**	**4653**	**100**
	Male	**2375**	**51**

S.N.	Description	Number	Percentage to Respective totals
	Female	**2278**	**49**
	Sex Ratio of 0-6 age group population in urban area (No. of females per 1000 males)	959	
8	**Sector wise number of Households (Total)**	**31676**	
	Rural	27102	
	Urban	4574	
	Average Household size in the Study Area as a whole	7	
	Average Household size in Rural Area	7	
	Average Household size in Urban Area	7	
	Highest Household size in the Study Area	11	
	Lowest Household size in the Study Area	3	
9	**Total Population of General and OBC Community in the Study Area**	**151666**	**100**
	Male	78319	51.64
	Female	73347	48.36
	Sex Ratio (No. of females per 1000 males)	937	
10	**Total Population of General and OBC Community in the Rural Areas**	**127453**	**100**
	Male	65700	51.55
	Female	61753	48.45
	Sex Ratio (No. of females per 1000 males)	940	
11	**Total Population of General and OBC Community in the Urban Area**	**24213**	**100**
	Male	12619	52.12
	Female	11594	47.88
	Sex Ratio (No. of females per 1000 males)	919	
12	**Total Population of Schedule Caste Community in the Study Area**	**66027**	**100**
	Male	33862	51.28
	Female	32165	48.72
	Sex Ratio (No. of females per 1000 males)	950	
13	**Gender wise Schedule Caste Population in Rural Areas**	**60087**	**100**
	Male	30784	51.24
	Female	29303	48.76
	Sex Ratio of Schedule Caste population in Rural Areas (No. of females per 1000 males)	952	

S.N.	Description	Number	Percentage to Respective totals
14	**Gender wise Schedule Caste Population in Urban Areas**	**5940**	**100**
	Male	3078	51.82
	Female	2862	48.18
	Sex Ratio of Schedule Caste population in Urban Areas (No. of females per 1000 males)	930	
15	**Total Population of Schedule Tribe Community**	**106**	**100**
	Male	45	42.45
	Female	61	57.55
	Sex Ratio of schedule Tribe population in Study Area (No. Of females per 1000 males)	1355	
16	**Gender wise Schedule Tribe Population in Rural Areas**	**89**	**100**
	Male	37	41.57
	Female	52	58.43
	Sex Ratio of Schedule Caste population in Rural	1405	
17	**Gender wise Schedule Tribe Population in Urban Areas**	**17**	**100**
	Male	8	47.05
	Female	9	52.95
	Sex Ratio of Schedule Tribe population in Urban Areas (No. Of females per 1000 males)	1125	
18	**Total Literates in the Study Area**	**106033**	**100**
	Male	64702	61.02
	Female	41331	38.98
	Overall Literacy Rate in the Study Area	**58.98**	
	Male	69.7	
	Female	47.54	
	Gender gap in literacy rate	22.16	
19	**Gender wise distribution of Literates in the Rural Areas**	**88746**	**100**
	Male	54618	61.54
	Female	34128	38.45
	Overall Literacy Rate in Rural Areas	**57.53**	
	Male	68.70	
	Female	45.65	
	Gender gap in literacy rate in rural areas	23.15	

S.N.	Description	Number	Percentage to Respective totals
20	**Gender wise distribution of Literates in the Urban Areas**	**17287**	**100**
	Male	10084	58.33
	Female	7203	41.66
	Overall Literacy Rate in Urban Areas	**67.74**	
	Male	75.64	
	Female	59.10	
	Gender gap in literacy rate in Urban Areas	16.54	
21	**Total Workers in the Study Area**	**82964**	**100**
	Male	53356	64.32
	Female	29608	35.68
22	**Overall Work Participation rate**	**38.10**	
	Work participation rate of males	47.54	
	Work participation rate of females	28.05	
	Gender Gap in work participation rate	19.49	
23	**Overall Dependency Rate of Non-workers**	**162.51**	
	Dependency Rate of Male Non-workers	70.95	
	Dependency Rate of Female Non-workers	91.56	
24	**Gender wise distribution of Total Workers in the Rural Areas**	**72639**	**100**
	Male	46052	63.39
	Female	26587	36.61
25	**Work Participation rate in Rural Areas**	**38.71**	
	Work Participation rate of males in rural areas	47.71	
	Work Participation rate of females in rural areas	29.18	
	Overall Gender Gap in work participation rate in the Rural Areas	18.53	
26	**Overall Dependency Rate of Non-workers over workers in the Rural Areas**	**158.30**	
	Dependency Rate of Male Non-workers	69.48	
	Dependency Rate of Female Non-workers	88.82	
27	**Gender wise distribution of Workers in the Urban Area**	**10325**	**100**
	Male	7304	70.74
	Female	3021	29.26
28	**Work Participation Rate in Urban Area**	**24.21**	
	Work Participation Rate of males	46.51	
	Work Participation Rate of females	20.88	

S.N.	Description	Number	Percentage to Respective totals
	Overall Gender Gap in work participation rate in the urban Area	25.63	
29	**Overall Dependency Rate of Non-workers over workers in the urban Areas**	**192.20**	
	Dependency Rate of Male Non-workers	81.37	
	Dependency Rate of Female Non-workers	110.83	
30	**Total Main Workers in the Study Area**	**55961**	**100**
	Male	39841	71.19
	Female	16120	28.81
31	**Overall Work Participation rate of Main Workers in the Study Area**	**25.69**	
	Work Participation rate of males	35.50	
	Work Participation rate of females	15.27	
	Overall Gender Gap in work participation rate	20.23	
32	**Gender wise distribution of Main Workers in the Rural Areas**	**48194**	**100**
	Male	33833	70.20
	Female	14361	29.80
33	**Overall work participation rate in Rural Areas**	**25.68**	
	Work participation rate of males	35.05	
	Work participation rate of females	15.76	
	Gender Gap in work participation rate of Main workers in Rural Areas	19.29	
34	**Gender wise distribution of Main Workers in the Urban Area**	**7767**	**100**
	Male	6008	77.35
	Female	1759	22.65
35	**Overall work participation rate in Urban Area**	**25.74**	
	Work participation rate of males	38.25	
	Work participation rate of females	12.16	
	Gender Gap in work participation rate of Main workers in Urban areas	26.09	
36	**Total Marginal Workers in the Study Area**	**27003**	**100**
	Male	13515	50.05
	Female	13488	49.95
37	**Overall work participation rate of marginal workers in the Study Area**	**12.40**	

S.N.	Description	Number	Percentage to Respective totals
	Work participation rate of males	12.04	
	Work participation rate of females	12.77	
	Overall gender gap in work participation rate of Marginal workers	-0.73	
38	**Gender wise distribution of Marginal Workers in the Rural Areas**	**24445**	**100**
	Male	12219	49.99
	Female	12226	50.01
39	**Overall work participation rate Marginal Workers in Rural Areas**	**13.03**	
	Work participation rate of males	12.66	
	Work participation rate of females	13.42	
	Gender Gap in work participation rate of Marginal workers in Rural Areas	-0.76	
40	**Gender wise distribution of Marginal Workers in Urban Area**	**2558**	**100**
	Male	1296	50.66
	Female	1262	49.34
41	**Overall work participation rate Marginal Workers in Urban Area**	**8.48**	
	Work participation rate of males	8.25	
	Work participation rate of females	8.72	
	Gender Gap in work participation rate of Marginal workers in Urban Area	-0.47	
42	**Total Household Industrial Workers in the Study Area**	**5128**	**100**
	Male	2441	47.60
	Female	2687	52.40
43	**Overall work participation rate of Industrial Workers in the Study Area**	**2.35**	
	Work participation rate of males	2.18	
	Work participation rate of females	2.55	
	Gender Gap in work participation rate of	-0.37	
44	**Gender wise distribution of Household Industrial Workers in Rural Areas**	**4034**	**100**
	Male	1921	47.63
	Female	2113	52.37
45	**Overall work participation rate of Industrial Workers in Rural Areas**	**2.15**	
	Work participation rate of males	1.99	
	Work participation rate of females	2.32	

S.N.	Description	Number	Percentage to Respective totals
	Gender Gap in work participation rate of Household Industrial Workers in Rural Areas	-0.33	
46	**Gender wise distribution of Household Industrial Workers in Urban Area**	**1094**	**100**
	Male	520	47.53
	Female	574	52.47
47	**Overall work participation rate of Household Industrial Workers in Urban Area**	**3.63**	
	Work participation rate of males	3.31	
	Work participation rate of females	3.97	
	Gender Gap in work participation rate of Household Industrial Workers in Urban Area	-0.66	
48	**Total Agricultural Workers in the Study Area**	**60458**	**100**
	Male	39174	64.80
	Female	21284	35.20
49	**Overall work participation rate of Agricultural Workers in the Study Area**	**27.76**	
	Work participation rate of males	34.91	
	Work participation rate of females	20.16	
	Gender Gap in work participation rate of Agricultural Workers in the Study Area	14.75	
50	**Gender wise distribution of Agricultural Workers in Rural Areas**	**55399**	**100**
	Male	35370	63.85
	Female	20029	36.15
51	**Overall work participation rate of Agricultural Workers in Rural Areas**	**29.56**	
	Work participation rate of males	36.64	
	Work participation rate of females	21.98	
	Gender Gap in work participation rate of Agricultural Workers in Rural Areas	14.66	
52	**Gender wise distribution of Agricultural Workers in Urban Area**	**5059**	**100**
	Male	3804	75.19
	Female	1255	24.81
	Gender Gap in work participation rate of Agricultural Workers in Urban Area	15.54	
53	**Total Cultivators in the Study Area**	**20758**	**100**
	Male	14588	70.27
	Female	6170	29.73

S.N.	Description	Number	Percentage to Respective totals
54	**Overall work participation rate of Cultivators in the Study Area**	9.53	
	Work participation rate of males	12.99	
	Work participation rate of females	5.84	
	Gender Gap in work participation rate of Cultivators in the Study Area	7.15	
	Gender wise distribution of Cultivators in Rural Areas	**19370**	**100**
55	Male	13373	69
	Female	5997	31
56	**Overall work participation rate of Cultivators in Rural Areas**	**10.32**	
	Work participation rate of males	13.85	
	Work participation rate of females	6.58	
	Gender Gap in work participation rate of Cultivators in the Rural Areas	7.27	
57	**Gender wise distribution of Cultivators in Urban Area**	**1388**	**100**
	Male	1215	87.53
	Female	173	12.47
58	**Overall work participation rate of Cultivators in Urban Area**	**4.60**	
	Work participation rate of males	7.74	
	Work participation rate of females	1.19	
	Gender Gap in work participation rate of Cultivators in the Urban Area	6.55	
59	**Total Agricultural Labour in the Study Area**	**39700**	**100**
	Male	24586	61.93
	Female	15114	38.07
60	**Overall work participation rate of Agricultural Labour in the study Area**	**18.23**	
	Work participation rate of males	21.91	
	Work participation rate of females	14.32	
	Gender Gap in work participation rate of Agricultural Labour in the Study Area	7.59	
61	**Gender wise distribution of Agricultural Labour in Rural Areas**	**36029**	**100**
	Male	21997	61.05
	Female	14032	38.95

S.N.	Description	Number	Percentage to Respective totals
62	Overall work participation rate of Agricultural Labours in the Rural Areas	19.20	
	Work participation rate of males	27.79	
	Work participation rate of females	15.40	
	Gender Gap in work participation rate of Agricultural labours in the Rural Areas	12.39	
63	**Gender wise distribution of Agricultural Labour in Urban Area**	**3671**	**100**
	Male	2589	70.53
	Female	1082	29.47
63	Overall work participation rate of Agricultural Labours in the Urban Area	12.67	
	Work participation rate of males	16.49	
	Work participation rate of females	7.48	
	Gender gap in work participation ratio	9.01	
64	**Total 'Other Workers' in the Study Area**	**17378**	**100**
	Male	11741	67.56
	Female	5637	32.44
65	Overall work participation rate of Other workers in the study area	7.97	
	Work participation rate of males	10.46	
	Work participation rate of females	5.34	
	Gender gap in work participation rate	5.12	
66	**Gender wise distribution of 'Other Workers' in Rural Areas**	**13206**	**100**
	Male	8761	66.34
	Female	4445	33.66
67	Overall work participation rate of 'Other workers' in the Rural Areas	7.04	
	Work participation rate of males	9.08	
	Work participation rate of females	4.88	
	Gender gap in work participation rate	4.20	
68	**Gender wise distribution of 'Other Workers' in Urban Area**	**4172**	**100**
	Male	2980	71.43
	Female	1192	28.57
69	Overall work participation rate of 'Other workers' in the Urban Area	13.83	
	Work participation rate of males	18.97	
	Work participation rate of females	8.24	

S.N.	Description	Number	Percentage to Respective totals
	Gender gap in work participation	10.73	

Source: Census 2011

NB: All the rates and ratios provided in the above table have been compiled on the basis of Census 2011 PCA data.

AMENITIES

Various amenities available in the study area are given in the following table

Amenities available in the study area

Sr. No.	Description	Number of habitations where the facility is available		Number of institutions/facilities	
		Villages	Towns	Villages	Towns
A	**INSTITUTIONAL EDUCATIONAL FACILITIES**				
1	Private Pre-Primary Schools	27	-	27	-
2(a)	Govt. Primary Schools	101	1	117	15
2(b)	Private Primary Schools	7	1	7	6
Total Primary Schools		101	1	124	21
3(a)	Govt. Middle Schools	39	1	39	8
3(b)	Private Middle Schools	3	-	3	-
Total Middle Schools		39	1	42	8
4	Govt. Secondary Schools	3	1	3	1
5(a)	Govt. Senior Secondary Schools	2	1	2	1
5(b)	Private Senior Secondary Schools	-	1	-	0
Total Senior Secondary Schools		2	1	2	1
6	Other Schools	1	-	1	-
Total no. of Educational Institutions				**199**	**31**
(B) HEALTH FACILITIES					
1	Maternity and Child Welfare Centre	11	1	11	1
2	Primary Health Sub-Centre	14	-	14	-

3	Family Welfare Centre	13	1	13	1
4	Dispensary/Health Centre	-	1	-	1(31)
6	Maternity Home	-	1	-	1
7	TB Clinic	-	1	-	1
8	Veterinary Hospital	1	1	1	1
Total for Institutional Health Facilities				**39**	**6**
(C) Medical Personnel					
1	Maternity and Child Welfare Centre				
1(a)	Total no. of doctors sanctioned and in position	11	1	11	1
1(b)	Maternity And Child Welfare Centre Para Medical Staff sanctioned and in position	11	1	11	1
2	**Primary Health Sub-Centre**				
2(a)	Total No. of doctors sanctioned and in position	11	-	11	**-**
2(b)	Primary Health Sub Centre Para Medical Staff sanctioned and in position	14	-	26	**-**
3	**Family Welfare Centre**				
3(a)	Total No. of doctors sanctioned and in position	13	1	13	1
3(b)	Family Welfare Centre Para Medical Staff sanctioned and in position	13	1	13	2
4	**Dispensary/ Health Centre**				
4(a)	Total No. of doctors sanctioned and in position	-	1	-	20
5	**Maternity Home**				
5(a)	Total No. of doctors sanctioned and in position	-	1	-	1

5(b)	Maternity Home Para Medical Staff sanctioned and in position	-	1	-	1
6	**Veterinary Hospital**				
6(a)	Total No. of doctors sanctioned and in position	1	-	1	-
6(b)	Veterinary Hospital Para Medical Staff sanctioned and in position	1	1	4	1
Total Medical personnel Sanctioned and in position		**-**	**-**	**90**	**28**
7	**Qualified and non-qualified medical practitioners**				
1	Non-Government Medical Practitioner with MBBS Degree	6	-	14	-
2	Non-Government Medical Practitioner with other Degree	10	-	13	-
3	Non-Government Medical facilities having Traditional Practitioner and Faith Healer	4	-	8	-
Total no. of qualified and non-qualified Medical Practitioners		**-**	**-**	**35**	**-**
8	**Other medical facilities**				
4	Non-Government Medical facilities -Medicine Shop	15	-	19	**-**
5	Non-Government Medical facilities Others	3	-	4	**-**
(D) DRINKING WATER FACILITIES					
1	Wells	150	-	1	**-**
2	Hand Pump	140	-	1	**-**
3	Tank	3	-	-	**-**
4	River/Canal	42	-	-	**-**
5	Tube Well	38	-	1	**-**

6	Tap (Untreated Water)	4	-	-	**-**
7	Spring	1	-	-	**-**
8	Other	1	-	-	**-**
(E) ELECTRICITY					
1	Power for Domestic uses only	11	-	-	**-**
2	Power for domestic and agricultural uses	35	-	-	-
3	Power for domestic ,agricultural and commercial	40	-	-	-
4	Power for agricultural uses only	6	-	-	-
5	No. of domestic connections in urban area	**-**	1	-	900
(F) COMMUNICATION					
1	Telephone Landlines	**12**	**-**	**-**	**-**
2	Public Call Offices	**10**	**-**	**-**	**-**
3	Internet Cafes	**1**	**-**	**-**	**-**
4	Private Courier facility	**4**	**-**	**-**	**-**
5	Public Bus Services	**19**	**-**	**-**	**-**
(G) ROADS					
1.Rural Areas					
1	Only Foot Roads	1	-	-	-
2	Mud and Foot Roads	4	-	-	-
4	Paved and Foot Roads	2	-	-	
5	Paved, Mud and Foot Roads	133			
2.Urban Areas					
1	Paved Roads in Urban areas (Kms)	-	1	-	20
(H) Banking and Credit facilities					
1	Commercial Banks/ Nationalized Banks	3	1	-	2
2	Cooperative Banks	2	1	-	1
4	Agricultural Credit Societies	22	-	-	-
(I) Others					
1	Self-Help Group	56	-	-	-

2	ASHA	93	-	-	-

The data given in the above table reveals that the study area is lacking in basic amenities like affordable health facilities, educational institutions, sanitation, safe drinking water, banking facilities etc. Electricity is yet to reach 48 villages for domestic and other uses. Similarly, ASHAs are yet to be appointed in the remaining 47 villages. The banking facilities in the study area are awfully inadequate. There are only five banks of which three are commercial banks. Due to inadequacy of banking facilities in the study area people, especially the small farmers are forced to approach the money lenders for credit facilities.

PERCEPTION OF LOCAL PEOPLE

During the course of site visit people living in the nearby villages were requested to express their views about the up-coming mining projects in Chhelphora. Irrespective of the distance of the villages from the mining site they all supported it. They stated that it should be given top priority as the entire construction industry is depended upon it. However, people living in the study area stated that extraction of stone should be allowed under the following conditions:

- All the persons to be deployed for extraction of stones should be recruited locally and in no case outsiders be engaged for the purpose.
- There should not be pilling of stones for deferred sale. The piling of stones will create environment pollution.
- The mud road connecting the quarry with the Tar road should be well maintained and there should not be any pothole or uneven surface. This will ensure speedy transportation of stones from the quarry to the end users.
- The trucks loaded with minerals must ply on dedicated roads away from densely populated areas in order to avoid accidents, dust and noise pollution.
- The local communities should be involved while implementing the CSR activities.
- The CSR activities should be carried on under the supervision of a team drawing members from the affected villages.

4.0 General

Opencast mining activity causes some adverse impacts on the surrounding environment if proper environmental management plan is not adopted. Selecting suitable sites for mining and also adopting all the guidelines prescribed by the Ministry of Environment and Forests, Indian Bureau of Mines (IBM) and DGMS etc. can minimize the major possible impacts. The proposed mine will take enough care in the mine to avoid adverse impacts on the surrounding environment.

In this chapter, an attempt has been made to quantify the possible environmental impacts on various features such as air, water, land, ecology and socioeconomic factors. The following aspects have been studied to identify the impacts of the proposed production of the mine.

The magnitude and significance of the environmental pollution caused by mining depends on method of mining, scale and concentration of mining activity.

The following parameters are of significance in the EIA and are being discussed in detail: -
Land Environment

- Water Environment
- Air Environment
- Noise Environment
- Biological Environment
- Socio-Economic Environment

4.1 Land Environment

S. No.	Impact Prediction	Mitigation Measures
1	Change in the Topography of the Land / Land Degradation	The proposed mining activity is carried out on flat land. After removal of ore body undulating portion will be created. All the broken area will be reclaimed by systematic backfilling and rehabilitated by afforestation so that landscape of the area is improved.
2	Solid waste generation	About 10% mineral wastes will be generated. Over burden will be stacked outside in SE part of the lease area. Copy of Permission for that has been attached as per rule 247 of MP & Chhattisgarh Land Revenue code 1959, Top Soil will backfilled in the mined out areas on which plantation will be raised.
3	Change in Drainage Pattern	Water flow / course will not be obstructed and natural drains or nallahs will not be disturbed. Run-off from mine and mineral stack will be prevented to avoid being discharged to

		surroundings, particularly to agricultural land. Garland drains and, catch pits has been constructed to prevent run off affecting the surrounding agricultural land. Green belt has been developed in boundary.
4	Impact on the Agricultural Practice at nearby area due to dust generation	Agriculture activities are practiced nearby areas may impacted because of dust generation but mitigative measures such as regular water sprinkling on active areas for example haul roads, excavation sites will be strictly followed so that impact is minimized.

4.2 Water Environment

S. No.	Impact Prediction	Mitigation Measures
1	Effect on the Ground Water Table	Max Elevation of the ML area is 250 m AMSL Ultimate depth of mine is up to 246 m AMSL. Ground Water table is 30m to 40m ground water table.
2	Wash off from the dumps	No dumping has been proposed.
3	Soil Erosion	Reclamation of the mined out area will be done with plantation to avoid the soil erosion
4	Waste Water generation/ Discharge	Portable Bio-toilets will be used; hence no sewage / liquid effluent will be generated and contamination is also not expected due to percolation.
5	Siltation in nearby agriculture field	A Garland drain has been constructed on the sloping side barrier of the ML area. The garland drain has been routed through settling tank to remove Suspended solids from flowing into storm water.

4.3 AIR ENVIRONMENT

5.3.1 Anticipated Impacts

PM_{10} is the main pollutants generated in mining activities. The emissions of Sulphur dioxide (SO_2), Oxides of Nitrogen (NO_X) contributed by diesel operated equipment and vehicles movement are considered marginal as branded make and vehicles with PUC certificate are operated only on the haul road of mining areas. Prediction of impacts on air

environment is carried out taking into consideration proposed production and net increase in PM_{10} emissions at the proposed site and at the 10 km radius of study area.

As the mining activities continues, these are sources of Air Pollution affecting Ambient Air Quality during the mining activities such as -

- ✓ Drilling & Blasting
- ✓ Area sources due to loading & unloading activities
- ✓ Area source through Iron ore sources to calculate emission from Haul Road
- ✓ Wind erosion of the exposed area
- ✓ Movement of light vehicles

A. Loading and unloading of ore by various activities in mining area was considered in the area sources.
B. Transportation of ore from mining benches by Tippers moving on the haul road at the outer boundary of mining area was considered by area source through line sources.

Water tankers with spraying arrangement of efficient sprinklers will be used for regular water sprinkling on the haul roads to ensure dust suppression.

4.3.2 Emissions Details

Loading - unloading and transportation of materials and overburden over the haul road are the main polluting sources in the proposed mining activities releasing Particulate Matter (PM_{10}) affecting Ambient Air Quality of the area. Cumulative emission value is based on the combined impact of drilling & blasting, loading and unloading and transportation of the dolomite and lime stone deposit by Tippers on the haul road. Further emission from over burden and open area also has impact on Ambient Air Quality but they are not significant. Prediction of impact is calculated by the area source. It is observed that impact of wind erosion of the exposed area and road maintenance is small compare to other potential parameters in emission calculation. They are not considered in prediction of impact.

Loading and Unloading - US EPA, 2008, revision of emission factor for AP-42 is used to calculate emission of particulate matter released into the atmosphere during loading and unloading separately. Emission during loading has comparable value during unloading. Emission of PM_{10} during loading is calculated and found to be 2.459 $\mathbf{x\ 10^{-2}}$ g/s based on moisture content 10-20 % in material. It is assumed that moisture content in deposit is 7 % and further moisture content increases to 10-20% to reduce fugitive emission of PM_{10} during loading/unloading. Emission value during unloading is 2.459 $\mathbf{x\ 10^{-2}}$ g/s based on moisture content 10-20 % and average wind speed 2.37 km/h (0.66 m/s) as observed with site data. Calm condition is 79.71 % used as shown in wind rose and discussion of local meteorology of the area.

Haul Road - US EPA, 2006, revision of emission factor for **AP-42** is used to calculate emission of particulate matter released into the atmosphere during transportation of ore and over burden by 5 Tippers operated per hour on haul road. Emission of PM10 due to transportation of materials on haul road is 2.351 **$x10^{-2}$g/s** based on assumption that slit content spread on road surface is 15%, and efficiency of PM_{10} emission control 80%. Tipper is fully covered with tarpaulin material and emission of PM_{10} during on the haul road will be insignificant.

Total emission of PM_{10} and 1 – h meteorological data are used as input of ISCST3 Dispersion model developed by USEPA. It is approved by CPCB/MoEF and various SPCBs.

4.3.3 Meteorological data

Data recorded from authorized source/Govt. agency are used as meteorological input as supplementary source to verify the authenticity of the primary data recorded at the site for Dispersion Model, which are stored in the computer for further analysis and interpretation to study the local meteorology of the study area.

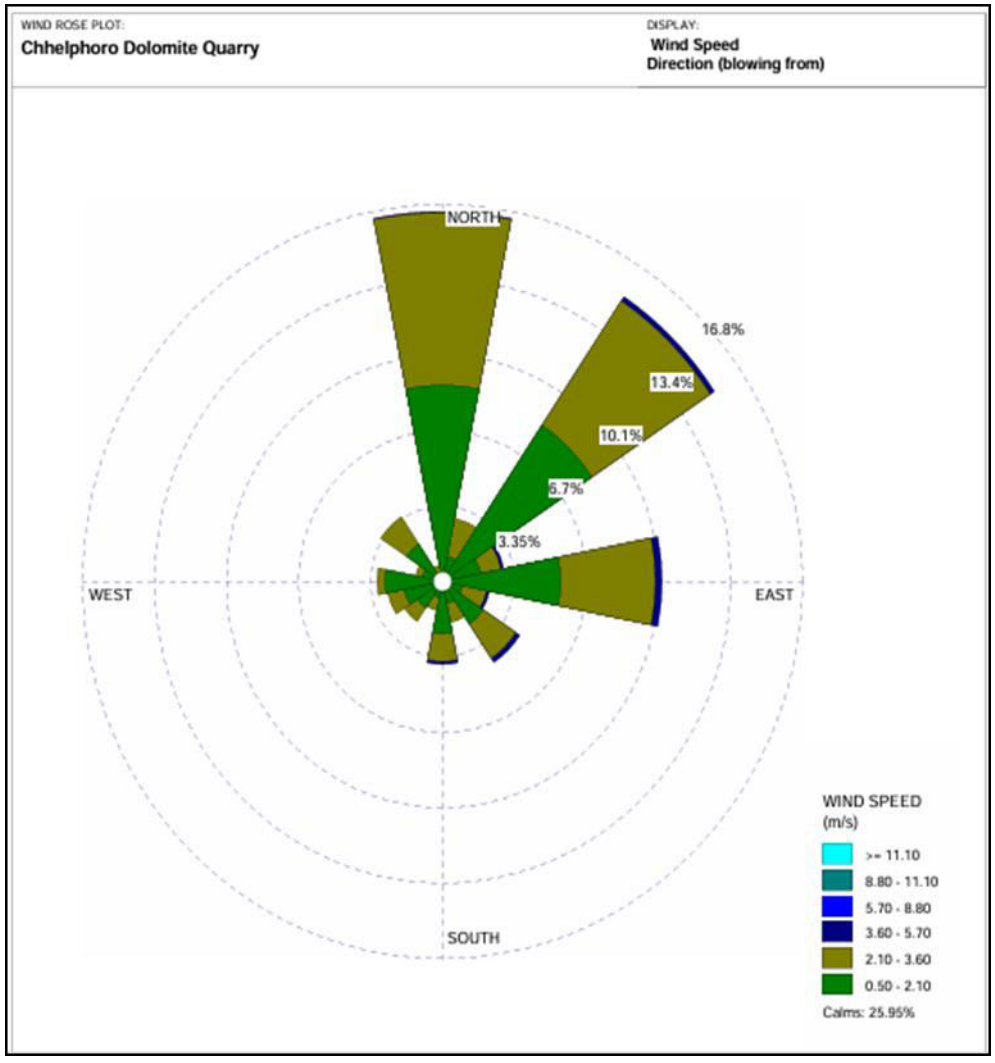


Fig 5.1: Wind rose: Winter season.

4.3.4Mitigation Measures

1. Water sprinkling will be done on the haul roads twice in a day.
2. The dust generated during the process will be minimized by water spray at the working faces before and after the activity.
3. Cyclic route will be followed for the transport of materials i.e. loaded & unloaded vehicles will have different route of transportation. Width of the internal road can be maintained more than 10 m.
4. Plantation will be carried out on approach roads and in Lease boundary.
5. Planning transportation routes of mined material so as to reach the nearest paved roads by shortest route. (minimize transportation over unpaved road);

6. Personal Protection Equipment's (PPE) like dust masks, ear plugs etc. will be provided to mine workers.
7. Rock breaker will be used for breaking over size boulders in order to reduce dust and noise generation, which otherwise would be generated due to secondary blasting.
8. Speed limit will be enforced to reduce airborne fugitive dust from vehicular traffic.
9. Deploying PUC certified vehicles to reduce their noise emission.
10. Haul road shall be covered with gravels
11. Spillage from the Tippers will be prevented by covering tarpaulin over the Tippers.
12. Ambient Air Quality Monitoring will be conducted on regularly basis to assess the quality of ambient air.

4.3.5 Prevention and control of Gaseous Pollution

Proper maintenance of machines improves combustion process & makes reduction in the pollution. Good maintenance and monitoring of fuel and oil will not allow significant addition in the gaseous emission.

4.4 NOISE ENVIRONMENT

Noise generated at the mine is due to semi mechanized mining operations and Tipper transportation activities. The noise generated by the mining activity dissipates within the mine. There is no major impact of the mining activity on the nearby villages. However, pronounced effect of above noise levels is felt only near the active working area.

The impact of noise on the villages is negligible as the villages are far located from the mine workings. Since there is no involvement of major machinery, the impact of noise levels will be minimal.

S. No.	Impact Prediction	Mitigation Measures
1	Noise Impact due to mining activities.	The noise levels from all the sources are periodical and restricted to particular operation.
2	Noise impact due to vehicular movement.	Proper maintenance, oiling and greasing of machines at regular intervals will be done to reduce the generation of noise. Plantation along the sides of approach roads, around office building and mine area will be done to minimize the propagation of noise. Personal Protective Equipments (PPE) like earmuffs/earplugs will be provided to all operators and employees working near mining machineries or at higher noise zone.

		Periodical noise level monitoring will be done

4.5 BIOLOGICAL ENVIRONMENT

S. No.	Impact Predicted	Suggestive measure
1	Disturbance of free movement/living of wild fauna	1. Care will be taken that noise produced during vehicles movement for carrying OB and ore materials are within the permissible noise level. 2. Care will be taken that no hunting of animals (birds) carried out by labors. 3. If wild animals are noticed crossing the core zone, it will not be disturbed at all 4. Laborers will not be allowed to discards food, plastic etc., which can attract animals near the core site 5. Only low polluting vehicle will be allowed for carrying ore materials. All vehicles allowed in the project site area will have to provide pollution under control certificate at the end of three months 6. Noise level will be within permissible limit (silent zone-50dB during day time) as per noise pollution (regulation and control), rules, 2000, CPCB norms
2	Harvesting of flora	1. No tree cutting, chopping, lumbering, uprooting of shrubs and herbs should be allowed 2. Collections of economically important plants will be fully restricted

4.5.1- Green Belt Development Plan

Green belt is plantation of trees for reducing the air pollution as they absorb both gaseous and particulate pollutant, thus removing them from atmosphere. Green plants form a surface capable of absorbing air pollutants and forming sinks for pollutants. It improves the aesthetic value of local environment. During the plan period, Plantation will be carried out along the haul road and in QL area. The lessee proposes to do afforestation as per details below in buffer zone -

1. A forestation on degraded forest area, forest protection / conservation will be carried out every year by the mine owner.
2. This activity will promote the emergence of the primary succession species; hence it will be a silvi cultural operation, extremely important for maintaining ecology and environmental health of the area.
3. This helps in regeneration & establishment of pioneer plant species saving expose land & land cutting.

4. The lessee also proposes to plant 100 trees per year in the buffer zone during 1st 5 years under social forestry program by the side of the roads.
5. A forestation will be put under a protective regulatory framework to ensure that it is not degraded or disturbed. No ecologically disruptive activity will be allowed in this zone.

4.6 SOCIO-ECONOMIC ENVIRONMENT

Aspects	Impacts	Mitigation Measures
Habitation	No loss of habitation.	The nearest habitation is beyond 1.0 km. All necessary measures are being taken, so that there is no disturbance to the normal life of persons.
Employment Generation	Direct employment to 10 persons. Indirect employment to about 10 persons. Improve House hold income Improved micro investments – savings patterns.	Local people will be employed. Training will be provided to non-workers and unskilled workers. Awareness programmer to motivate people for savings and investment.
Health Implications	No health related problems were reported during the primary survey. No significant health implications to the workers due to mining activities.	Regular health camps will be organized for the local people. Tie up will be done with nearest medical Centre.
Health impacts – on mental, physical, and social well-being.	The proposed project will not adversely impact the mental, physical and social well-being. It will improve the well-being of the people and the area.	Expectations in fair pay, employee care, social responsibility commitments etc. will be timely met. Grievance red resale mechanism is made to handle complaints from the study area.
Loss / gain of self esteem	A rise in the self-esteem due to increase rate of economic growth in the region. Higher degree of self-satisfaction and contentment.	Immigration in search of employment will be controlled.
Loss/ gain of culture and religion	The proposed project is a private sector Limestone & Dolomite mine and will follow universal respect for, and	The proposed project will promote neither selective, nor relative, but universal respect through contribution in various festivities,

	observance and protection of, human rights and fundamental freedoms for all.	equal observance and protection among employees and societies at large in all CSR activities.

CER Benefits

The proposed project is a Dolomite mine and is providing to their employees all basic facilities.	This mine will promote plantation across the village and mine lease area They will plant trees in a specified land given by the sarpanch .	The mine will give boost to green environment by planting more number of trees

4.6.1 IMPACT ON EMPLOYMENT GENERATION

The mine will generate both direct and indirect employment. It is proposed to employ 80 persons. It is definitely a positive impact of the proposed mining project. The table below indicates category wise number of persons to be employed.

SCOPE FOR DEVELOPMENT AND MAINTENANCE OF ROADS IN THE AREA

Movement of Tippers, dumpers and other vehicles to and fro the quarry site is expected to increase. The existing approach roads connecting the quarry with the state highways are narrow and uneven. There will be mud slides and traffic bottle necks if the road is not widened and their surface conditions are not improved to support heavy Tipper dumper traffic. Hence, there is good scope for development and maintenance of roads in the area. This is a positive impact of the project.

IMPACT ON AGRICULTURE

The mine lease area is a government waste land devoid of any vegetation and no agriculture is carried on in it. Hence, damage to agriculture in the lease area does not arise at all.

IMPROVEMENT IN QUALITY OF LIFE OF THE LOCAL PEOPLE

The quality of life of people in a region depends on per capita income, purchasing power of people, employment opportunities, infrastructure development, development of industry, trade & commerce, housing conditions, education, health facilities etc. The mining project will provide employment opportunities for about 80 people. After the implementation of the project the employment situation in the study area is expected to improve marginally. This will have multiple effects on household income of all those families who will get employment in the above mining project. Further, the enhanced income will increase the

purchasing power of the above households and at the same time their consumption pattern and living style. Thus the proposed mining Project is an attempt to uplift the Quality of life of the local people.

IMPACT ON STATE INCOME

The mining project will make positive impact on state's economy as state's revenue will increase due to higher collection of district mineral fund. It is a positive and direct impact of the project on State's Gross Domestic product (SGDP).

CHECK ON ILLEGAL MINING

Illegal extraction of minerals has far reaching impacts on the society as it creates disturbances in the social well-being of the people. There are instances of indiscriminate violation of 'Illegal Mining Rules' framed by various state governments including that of Government of Chhattisgarh. This has resulted to increase in the instances of conflicts in the area. Thus illegal mining not only bring loss to the Government revenue but also create law and order problems in the mining area. The proposed mining project has legal backing since the lease has been granted by the Government of Chhattisgarh.

The Table below present's types of social & economic impacts that people in the study area is expected to endure due to the mining activity.

Social & Economic impacts of Mining Project

S. No.	Description	Impact Type				
		Positive Impact		Negative Impact		No Impact
		Direct	In-direct	Direct	In-direct	
1	Population Composition	-	-	-	-	Yes
2	Formal and Informal Employment Generation	Yes	-	-	-	-
3	Increased Supply of mineral for end users	Yes	-	-	-	-
4	Scope for promotion of mineral based industries in the study area.	-	Yes	-	-	-
5	Scope for development and maintenance of roads in the area	-	Yes	-	-	-
6	Impact on Agriculture	-	-	-	-	Yes
7	Improvement in Quality of life of the local people	-	Yes	-	-	-

8	Increase in State Income	Yes	-	-	-	-
9	Impact on Law & Order	-	-	-	-	Yes
10	Check on illegal mining	Yes	-	-	-	-
11	Impact on Health	-	-	Yes	-	-

It is clear from the above table that the up-coming mining project in Durg district of Chhattisgarh will yield positive impact on seven variables, negative impact on one variable and no impact on three variables.

STEPS PROPOSED TO BE TAKEN BY THE PROJECT PROPONENT

Furnished below are few steps that the project proponent proposes to take to meet any health hazard during the course of mining practices.

SAFE WORK ENVIRONMENT

The project proponent will ensure health and safety of all the employees working in the mine. He will maintain safe work environment and ensure that the machinery and equipment in use are safe for his employees. Further, he will make sure that work arrangements are non-hazardous to employees.

PROVISION OF FIRST AID:

There will be provision for First Aid and the persons responsible for providing first aid to the affected persons are well trained in handling patients working in Dolomite mines.

REGULAR HEALTH EXAMINATION:

Periodical medical examination as per Mine Rules 1955 will be undertaken for all the mine workers. This will be made compulsory for all workers engaged in extraction of minerals. The regular health examination will cover treatment of serious back injury; existing asthma or respiratory diseases, existing skin diseases, lung function test (pre and post Ventolin), Audiograms, Chest X- ray etc.

HEALTH EDUCATION:

Adequate health education and information related to the job will be provided to the workers. Baseline health information will be recorded for future references.

TIE UP WITH THE NEAREST HOSPITAL FOR MEDICAL HELP

To meet the medical needs of the mine workers the project proponent proposes to tie-up with nearest hospitals and dispensaries.

SUPPLY OF MASK, GLOVES ETC

The workers in mines are subject to respiratory diseases. For protection from mine dust it will be made compulsory for all workers to wear masks and gloves, while working in the mine.

ADMINISTRATION OF ANTI-VENOM INJECTIONS

Provision of Anti-venom therapy will be made available for administration to the workers in case of snake, spider and insect bites, while working in the mine.

SPECIAL GROUP INSURANCE SCHEME

All the mine workers must be covered under a Group Insurance Scheme of LIC or any other Insurance company to achieve economic objectives and social obligations.

PERCEPTION OF LOCAL PEOPLE

During the course of site visit people living in the nearby villages were requested to express their views about the mining project. Irrespective of the distance of the villages from the mining site they all supported it. They stated that it should be given top priority as it will provide employment to local people. They however, put the following conditions while exhibiting their keenness to start the mine.

1. All the persons to be deployed should be recruited locally.
2. There should not be pilling of extracted minerals for deferred sale as it creates environment pollution.
3. The mud road connecting the quarry with the Tar road should be well maintained and there should not be any pothole or uneven surface. This will ensure speedy transportation of minerals from the quarry to the end users.
4. The Tippers loaded with minerals must be allowed to run on dedicated roads away from densely populated areas in order to avoid accidents, dust and noise pollution.
5. The local communities should be involved while implementing the CSR activities.
6. The CSR activities should be carried on under the supervision of a team drawing members from the affected villages.

4.7 OCCUPATIONAL HAZARDS AND SAFETY

Occupational safety and health is very closely related to productivity and good employer-employee relationship. The factors of occupational health in Proposed Mining project are mainly dust and land degradation. Safety of employees during operation and maintenance etc. shall be as per Mines rules and regulations.

Anticipated occupational Health and Safety Impacts	**Proposed mitigation measures**
Lung disease and respiratory disorder	1. Dust mask will be provided to the workers. 2. Precautions will be adopted to prevent dust generation at site

due to dust exposure	and dispersing in the environment. 3. Air emission control system such as water sprinkling, green belt development. 4. Free Silica analysis of mineral will be done. 5. Budget of pollution control i.e. dust suppression by water sprinkling is proposed in EMP.
Noise	1. Ear muff will be provided 2. Good Maintenance of vehicles. 3. PUC certified vehicles used for transportation.
Accident at site	1. PPEs will be provided to the workers likely hand gloves, safety shoes etc.
Others	1. Awareness program/training program will be organized for workers for occupational safety. 2. Smoking and tobacco will be banned at site.

Along with the above measures workers of the mine are provided with

1. Provision of rest shelters for mine workers with amenities like drinking water etc.
2. All safety measures like use of safety appliances, such as dust masks, helmets, shoes, safety awareness programs, awards, posters, slogans related to safety etc.
3. Training of employees for use of safety appliances and first aid in vocational training center.
4. Regular maintenance and testing of all equipment as per manufacturers' guidelines.

4.7.1 Periodical Medical Examination (PME) of all workers by a Medical Officer

1. First Aid facility is provided at the mine site.
2. Close surveillance of the factors in working environment and work practices which may affect environment and worker's health.
3. Working of mine as per approved mining plan and environmental plans.

4.7.2 Environmental Policy of the Project:

The project proponent has committed to providing a quality service in a manner that ensure a safe and healthy for employees and minimize potential impact on the environment. The proponent will operate in compliance with all relevant environmental legislation and strive to use pollution prevention best practices.

The following are the policy implemented by Project Proponent.

1. Implement Environment Management plan in the proposed mine effectively to mitigate pollution of air, water, noise and land caused by mining operations and continuous monitoring and adopting suitable measures for environment Protection.
2. Integrate the consideration of environmental concerns and impact in to all of our decision making and activities.

3. Promote environmental awareness among employee and encourage them to work in an environmentally responsible manner.
4. Train, educate and inform to employee about environmental issues that may affect their work.
5. Where required by legislation or when significant health, safety or environmental hazards exist, develop and maintain appropriate emergency and spill response program.
6. Strive to continually improve environmental performance and minimize the social impact and damage of activities by periodic review of environmental policy in light of current and planned future activities.
7. Take necessary steps to conserve the biodiversity.
8. Conserve natural resources through the principle of 4Rs (Reduce, Reuse, Recycle and Replace)
9. The mining operations will be carried in sync with the provisions of
    1. Chhattisgarh minor mineral concession rule 1996 amendment.
    2. MCR 1960.
    3. All the statutory norms will be followed.
10. Strive for continual improvement in the environmental performances by setting targets, measuring the progress and taking the corrective measures. The company will hire an Enviro- Legal Consultant, which will keep a check on the compliance of all the terms & conditions levied on the company by MoEF& CC, Delhi or any other government, Court etc.

4.8 MINE CLOSURE

Mining effect environment in various ways including depletion of land cover, vegetation, removal of soil, change of landscape & deposition of the solid waste product thus causing imbalance in the landscape and increasing air, water and soil pollution. Land use in mining areas consists of mainly forestry, pasture and agriculture.

The mined out land which will be fully exhausted by virtue of excavation up to full depth of mineralization will be simultaneously/progressively reclaimed by backfilling of waste generated during the course of mining. The level of backfilling will be parallel at lower level to original topography. The reclaimed area will be rehabilitated by way of growing fruit bearing trees or fuel wood.

CHAPTER – 5

5.0 GENERAL

Consideration of alternatives to a project proposal is a requirement of EIA process. During the scoping process, alternatives to a proposal can be considered or refined, either directly or by reference to the key issues identified. A comparison of alternatives helps to determine the best method of achieving the project objectives with minimum environmental impacts or indicates the most environmentally friendly and cost effective options.

After analysis of the various factors the most environmentally compatible alternative must be selected. Reference may be made to available technologies, policy objectives, social attitudes, environmental and site constraints, projects economic etc. Analysis of alternatives should be similar to the content of approved mine plan.

5.1 LOCATION ALTERNATIVES

Mining of mineral is site specific activity. The mineralization is located in the lease area and is found to occur due to geological and mineralogical disposition at site specific. The Dolomite Mine are found on the hills/mound in the area.

5.2 PROCESS ALTERNATIVES

The mine will be operated by Opencast Semi Mechanized Method of mining. No other alternative technologies can be used because of the nature and occurrence of the deposit, cost of operation and PMV, capacity of the mine and specification laid by the consumer industry. No Drilling will be done. The mining activity has been proposed from top downward in the best interest of mineral conservation, safety of the mine. It is proposed to adopt open cast method in view of low stripping ratio. Since it is small scale quarrying activity the blasting parameters will be simple and use of explosives will be less. Blasting may be used as and when required by licensed contractor.

From the surface will be dumped at safety barriers around the lease area and will be used for plantation purpose at safety zone. During the current plan period mostly deepening of existing pit will be carried out and no other waste will be generated thus selection of any additional dumping site is neither required nor done.

6.0 INTRODUCTION

Regular monitoring of environmental parameters is of immense importance to assess the status of environment during project operation. The monitoring program will serve as an indicator for any degradation in environmental conditions due to operation of the project, to enable taking up suitable mitigation in time to safeguard the environment. Monitoring is an important as that of control of pollution since the efficiency of control measures can only be determined by monitoring.

6.1 ENVIRONMENTAL MONITORING AND REPORTING PROCEDURE

Monitoring will conform that commitments are being met. This may take the form of direct measurement and recording of quantitative information, such as amount and concentrations of discharges. The objectives of the monitoring are: -

1. Very effectiveness of planning decisions;
2. Measure effectiveness of operational procedures;
3. Conform statutory and corporate compliance; and
4. Identify unexpected changes.

6.2 ENVIRONMENTAL MONITORING CELL

A centralized Environmental Monitoring Cell will be established for monitoring of important and crucial environmental parameters which are of immense importance to assess the status of environment during mine operation. With the knowledge of initial parameters, deviations in environmental conditions due to operation of the mine will be assessed and suitable mitigation steps will be taken to safeguard the environment. The routine monitoring program will be implemented under the project monitoring as per CPCB & MoEF& CC guidelines.

The core responsibilities of the Environmental Monitoring Cell will be: -

1. The organization and interpretation of the environmental monitoring data to establish a record of change associated with the implementation of a project or the operation of an organization.
2. The process of verification that all or selected parameters measured by Environmental Monitoring Program are in compliance with regulatory requirements, internal policies and standards, and established environmental quality performance limits.
3. The assessment of the effectiveness of the environmental management system, practices and procedures.
4. The environmental monitoring and audit work will be carried out by qualified personnel.
5. A summary of non-compliance of the environmental quality performance limits.
6. To implement and monitor the control and protective measures based on the EMP.
7. To coordinate the environment related activities to the top management within as well as with outside concerned agencies.
8. To provide of health checkup of workers and the people living in nearby villages.

9. To develop greenbelt in the nearby villages, schools, Govt. offices and transportation routes.

6.3 ENVIRONMENTAL MONITORING SCHEDULE

Environmental monitoring schedules will be prepared covering various phases of project advancement, such as Mining and regular operational phase.

- Air Quality Monitoring
- One location in core zone and 8 locations in the buffer zone will be monitored for once per season except monsoon.
- Noise Level Monitoring

Noise levels in the working area will be monitored once in every month till the continuation of operations. Ambient noise levels will also be monitored once in a season in the buffer zone to evaluate the noise levels in surrounding community.

Water Quality Monitoring

Water environment will be assessed periodically for both surface water and ground water. Surface water quality will be monitored at identified ponds/lakes during all four seasons. Surface water flow through the major nalla downstream will be measured at least once a month during monsoon and co-relate with the total rainfall during the season to estimate the relative changes, if any. Ground water level and quality on seasonal basis will be assessed in the open/dug wells to evaluate the impacts of ongoing operations. Water levels will also be monitored on seasonal basis in surrounding wells.

Plantation

Before the onset of monsoon season, will be done progressively till the final closure of the mine.

Ecological Monitoring

Half yearly monitoring of afforestation program will be done for the survival rate and plant growth within the core zone.

Post Project monitoring programmed

Attributes	**Sampling**		**Measurement Method**	**Test Procedure**
	Network	**Frequency**		
A. Air Environment				
Meteorological Wind direction Relative humidity Rainfall	Minimum 1 site in the project impact area	Regularly in one season by Weather Monitoring Station	Mechanical/automatic weather station	-
Pollutants	10 locations in the project impact area (Minimum 1	Once in a season. Twice in a week during	Gravimetric method	-
PM_{10}			Gravimetric method	-
SO_2			EPA Modified West & Geake method	Absorption in Potassium Tetra

	locations in upwind side, 2 sites in downwind side / impact zone)	one season		Chloromercurate Followed by Colorimetric estimation using P-Rosaniline hydrochloride and Formaldehyde (IS: 5182 Part - II).
NO_2			Arsenite modified Jacob & Hochheiser	Absorption in dil. NaOH and then estimated colorimetrically with sulphanilamide and N (I- epthyle) Ethylene diamine Dihydrochloride and Hydrogen Peroxide (CPCB Method).
B. Water Environment				
pH, Turbidity, Colour, Odour, Taste, TDS, Total Hardness, Calcium hardness, Magnesium hardness, Chloride, Fluoride, Sulphate, Nitrates, Alkalinity, Iron, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Cyanide, Lead, Zinc, Chromium, Aluminum,	Set of grab samples during pre and post monsoon for ground and Surface Water in the vicinity.	Diurnal and Season wise	As per IS 10500-	Samples for water quality should be collected and analyzed as per: IS: 2488 (Part 1-5) methods for sampling and testing of Industrial effluents Standard methods for examination of water and wastewater analysis published by American Public Health Association.

Boron, Phenolic Compounds				
A. Noise				
Noise levels at Day & night time - Leq dB (A)	Mine Boundary, High noise generating areas within the lease	Quarterly / Half yearly	As per CPCB norms	As per CPCB norms
D. Soil				
pH, Bulk Density, Soil texture, Nitrogen, Available Phosphorus, Potassium, Calcium, Magnesium, Sodium, Electrical Conductivity, Organic Matter, Chloride	8 locations in the project impact area	Yearly/half yearly	As per USDA Method	As per USDA Method
E. Socioeconomic				
· Demographic structure · Infrastructure resource base · Economic resource base · Health status: Morbidity pattern · Cultural and Aesthetic attributes · Education	Socioeconomic survey is based on proportionate, stratified and random sampling method	Minimum for two phases of the project	Primary data collection through Questionnaire	Secondary data from census records, statistical hard books, topo sheet, health records and relevant official records available with Govt. agencies

S. No.	Potential Impact	Parameters for Monitoring	Frequency of Monitoring	Location
1	Air Emission	PM10, PM2.5, SOx, NOx & CO	As per CPCB / MoEF & CC requirement i.e. 24 hourly monitoring for twice a week during one season except monsoon season.	One location in the core zone of mining area and nine in buffer area.
2	Noise	Spot Noise level recording Leq (day), Leq (night), Leq (dn)	Periodic / As per CPCB norms i.e. quarterly	One location in the core zone of mining area and seven in buffer area.
3	Water Quality	As per drinking water standards	Four times in a Year	One location in the core zone of mining area and seven in buffer area.
4	Health	Total health parameters	Initial Medical Examination (IME) and Periodic Medical Examination – Once in a five year as per Mines Rules, 1955.	All employees

6.4 LOCATIONS OF MONITORING STATIONS

The location of the monitoring stations will be selected on the basis of prevailing micro – meteorological conditions of the area like Wind direction & wind speed, Relative Humidity, Temperature. 10 AAQM stations will be selected (including minimum 1 location in core zone, upwind side, more sites in downwind side / impact zone) to assess ambient air quality of the area.

Noise level monitoring will be carried out on lease boundary & in high noise generating area within the lease. Water & soil monitoring locations will be decided on the basis of general slope of the area & drainage pattern. Locations for the post project monitoring shall be as under:

Post Project Monitoring Locations

S. No.	Description	Location
1.	Ambient Air Quality	Mine site, Villages in downwind direction from the mine site, and 10 km Buffer zone
2.	Meteorological data	Mine site
3.	Noise Level Monitoring	Mine Boundary, High noise generating areas within the Mine boundary

4.	Water Level & Quality	Nearby Surface & Ground water sources
5.	Health Check-up	Workers
6.	Monitoring of Agricultural crops	In the nearby area (on yearly basis)
7.	Socio – economic status	In the nearby area (on yearly basis)

6.5 DATA ANALYSIS

Monitoring data analysis will be done as per CPCB guidelines by approved laboratory & shall be submitted to the concerned authority (specified in Environment Clearance Letter issued by MoEF& Consent issued by SPCB) on regular basis.

6.6 DETAILED BUDGET & PROCUREMENT SCHEDULES

The monitoring of the environment parameters will be out sourced and carried by the lab of SPCB or a lab approved by MoEF/NABL. A budget has been allocated for the purpose.

6.7 CONCLUSION

Post Environmental monitoring is an essential step in the EIA process if the predicted impacts, the efficiency of mitigation measures and the shortcomings of prediction methods, measures and even regulations are to be verified and EIA practice improved. Environmental indicators could contribute to designing and evaluating monitoring programs, thus improving establishment of the cause effect relationship and the reporting and communication of environmental data.

The Environmental Monitoring Cell will co-ordinate all monitoring program at site and data thus generated will be furnished as per statutory requirements.

7.0 GENERAL

In accordance with the Terms of Reference given by EAC, MoEF &CC for preparation of the EIA/EMP Report, following documents were to be prepared to provide a clear picture of the project area. The studies suggested:

- Public Hearing & Consultation
- Risk Assessment and Disaster Management Plan

7.1 PUBLIC CONSULTATION

Public Hearing & Consultation – Public consultation is will be incorporated in the Final EIA/EMP Report.

7.2 RISK ANALYSIS AND DISASTER MANAGEMENT PLAN

7.2.1 RISK ANALYSIS

Risk analysis is the systematic study of uncertainties and risks encountered in various areas. Risk analysis seek to identify the risks involved in mining operations, to understand how and when they arise, and estimate the impact (financial or otherwise) of adverse outcomes. It also defines and analyzes the dangers to individuals, businesses and government agencies posed by potential natural and human-caused adverse events.

Preliminary Risk assessment is based on the philosophy that "Prevention is better than cure". Mining operations may be carried to the utmost safety but there is always some element of danger or risk in it. No major disaster is envisaged. Only minor accidents may take place. The applied area is hilly. No perennial source of surface water is present in the ML area. No drilling or blasting is proposed. The mining operations will be carried out under supervision of statutory personnel's as per provisions of MCR 2016, MCDR 1988, Mines Rules 1955, Mines Act 1952 & strictly following safety aspects as per MMR 1961 monitored by Directorate General of Mines safety.

The lease area does not come under active seismic zone. Land slide, subsidence is not expected in view of opencast mining. In case of eventuality, first aid will be given by the competent authority initially to the injured person. The competent person/Mines manager or mining engineer will give notice of accident as per Rule-23 of Mines Act-1952. The persons/competent authorities named above will be responsible for co-ordinations between management district authorities / DGMS etc. Regarding general safety as per Rule-181 of MMR 1961, "No person shall negligently or will fully do anything likely to endanger life or limb in the mine, or negligible or will fully omit to do anything necessary for the safety of the mine or of the persons employed there in". The workers will be provided with protective foot wear and safety helmets.

7.3 SOURCES OF ACCIDENTS/DISASTER

Mining will be done by Open Cast OTFM method to produce Dolomite Mine on the hilly terrain. There are various factors, which can create unsafe working conditions/ hazards in mining of minerals. The following types of hazards are identified during the proposed mining operations: -

(1) Mining Machinery and Loading operation.
(2) Vehicular movement and Transportation of Ore
(3) Collapse of benches
(4) Fall of workers from high benches

7.4 MITIGATION MEASURES

7.4.1 Mining Machinery and Loading operation: -

The mechanical failure and human error may lead to accidents due to mining machinery and loading such as dumpers and loader cum excavator.

The following activities will be done to minimize the risk are: -

1. At the time of loading no person will be there within the swing radius of the excavator.
2. The dumpers/ Tippers will stand near the loading equipment and fully braked when the muck is filled in it.
3. The Tipper would be brought to a lower level so that the loading operation suits to the ergonomic condition of the workers.
4. The workers will be provided with helmets, gloves and safety boots.
5. Operations during daylight only.
6. All the mining machineries will be regularly maintained and checked such as brakes, lights and horns to keep in the efficient working order.

7.4.2 Measures to prevent accidents during vehicular movement & transportation

The following activities will be done to minimize the risk are: -

1. The Tipper will be covered with tarpaulin and maintained to prevent any spillage.
2. To avoid danger while reversing the trackless vehicles especially at the embankment and tipping points, all areas for reversing of Lorries should be made man free as far as possible.
3. The vehicles must be maintained in good repairs and checked thoroughly at least once in a week.
4. All transportation within the main working will be carried out directly under the supervision and control of the management.
5. Overloading should not be permitted and the maximum permissible speed limit should be ensured.
6. The Tipper drivers should have proper driving license.
7. A statutory provision of the fences, constant education, training etc. will go a long way in reducing the incidents of such accidents.

7.4.3 Measures to prevent accidents from collapse of bench.

The following activities will be done to minimize the risk are: -

1. Opencast working will be done following benches as per Regulation 106 of MMR 1961.
2. Ultimate slope angle = 45°.
3. Bench height should not be more than the digging height of the shovel. The width of the bench should not be less than the height.

4. The loose rock adhering to high wall should be dressed under the guidance of competent person.
5. Retaining parapet wall on bench edge to prevent fall of man and machinery.

7.4.4 Measures to prevent fall of workers from high benches

The following activities will be done to minimize the risk are: -

1. Every entrance from a roadway in the mine temporarily discontinued will be provided with a fence, barrier or gate to prevent any unauthorized entry.
2. The top of every opencast working shall be kept securely fenced.
3. The quarry faces will be suitably benched as per Regulation 106 of MMR 1961.

7.5 DISASTER MANAGEMNET CELL

In order to avert any danger to the mine site at the end of life of mine a disaster management cell headed by local authority Dist. Collector will be constituted. Police dept., health authorities, including doctor, ambulances and so on will have a vital part to play following a disaster along with the mine management, and they will be an integral part of the disaster management plan.

Care & maintenance during temporary discontinuance

If the mine will be discontinued temporarily for more than 120 days, notice will be given 30 days before the date of such discontinuance to the concerned authorities. During discontinuance period safety arrangement and fencing will be provided to avoid the entry of unauthorized persons and accessibility to the mine from the surface. The mine will be properly guarded by employing security guards

7.6 DISASTER MANAGEMENT PLAN

This includes high risk accidents like Earthquakes, fire, seismic activities etc. and emergency plan proposed for quick evacuation, ameliorative measures to be taken etc. The lessee will coordinate to meet such eventualities along with the assistance from the local authorities.

1. The shallow depth of activities will not involve any high risk accident due to side falls/collapse.
1. The complete mining operation will be carried out under the Management and control of experienced and qualified Mines Manager having Certificate of Competency to manage the mines granted by DGMS.
2. All the provisions of Mines Act 1952, MMR 1961 and Mines Rules 1955 and other laws applicable to mine will strictly be complied with.
3. During heavy rainfall the mining activities will be closed.
4. All persons in supervisory capacity will be provided with proper communication facilities.
5. Disaster Warning System" as developed will be strictly implemented.

The disaster management plan is aimed to ensure safety of human life and property and protection of environment Following are the objective of the disaster management plan.

(i) First Aid to injured.
(ii) Rescue operation and provision of adequate medical facilities to the injured.
(iii) Safety of the human life in the buffer zone if needed.
(iv) Protecting and minimizing damage to property and the environment.
(v) Initially restrict and ultimately bring the incident under control.
(vi) Identify any dead.
(vii) Inform to the administration, DGMS and statutory persons as per Rules.

(viii) Setting up an Emergency response organization under mines manager with assigned duties and responsibilities for incident response and emergency response.

(ix) Setting up a permanent organization for completion of emergency and restoration of normalcy by complying with health, safety, and environmental laws and regulations.

7.7 OCCUPATIONAL HEALTH HAZARDS

Possible physical hazards along with control measures are mentioned below: -

Particulars	Control Measures
Heat & Light	1. The mine site will have adequate drinking water supply so that workers do not get dehydration.
Noise	1. Noise exposure measurements will be taken to determine the need for noise control strategies. 2. The personal protective equipment will be provided for each mine workers. 3. Supervisor will be instructed for reporting any problems with hearing protectors or noise control equipment. 4. At noisy working activity, exposure time will be minimized. 5. Machineries will be labeled with noise levels.
Respiratory	1. PPE like dust mask etc. will be provided during mining activity. 2. Periodic medical examinations will be provided for all workers. 3. Awareness program will be organized for workers.

7.8 REHABILITATION & RESETTLEMENT (R & R)

The lease area is not habituated and hence no R & R is involved. The lease area is also Government waste land.

7.9 TRAFFIC STUDY

Traffic study measurements were performed to assess impact on local transport infrastructure due to this mining project. Traffic study is carried out by understanding the existing carrying

capacity of the road in the vicinity of site. Then depending on the capacity of the mine, the number of Tippers that will be added to the present scenario will be compared to the carrying capacity as recommended by Indian Road Congress (IRC).

Traffic data collected continuously for 24 hours by visual observation and counting of vehicles under three categories, viz., heavy motor vehicles, light motor vehicles and two/three wheelers. As traffic densities on the roads are high, two skilled persons were deployed simultaneously at each station during each shift- one person on each of the two directions for counting the traffic. At the end of each hour, fresh counting and recording was undertaken. Total numbers of vehicles per hour under the three categories were determined.

Traffic Study

S. No.	Vehicles Distribution	Number of Vehicles Distribution/Day	Passenger Car Unit (PCU)	Total Number of Vehicle (PCU)/Hour
		Baramkela Marg		**Baramkela Marg**
1.	Cars	250	1.0	250
2.	Buses	65	3.0	195
3.	Two wheelers	450	0.5	225
4.	Three wheelers	30	1.50	45
5.	Tippers	375	3.0	1125
Total		**965**		**1840/24=76.6 = 77 PCU/hr**

Existing Traffic Scenario & LOS

Road	V (Volume in PCU/hr)	C (Capacity in PCU/hr)	Existing V/C Ratio	LOS
Baramkela Marg	77	6000	0.01	A

Note: V= Volume in PCU's/hr & C= Capacity in PCU's/ hr
The existing Level of Service near Village is "A" i.e. excellent and at NH is "A" i.e. excellent.

V/C	LOS	Performance
0.0-0.2	A	Excellent

0.2-0.4	B	Very Good
0.4-0.7	C	Good/ Average/ Fair
0.7-0.8	D	Poor
0.8-1.0	E	Very Poor
>1.0	F	Worst

Source: Transportation Research Board (1994) Highway Capacity Manual, 3rd Edition, p. 3-9. sf = free flow speed, v = volume, c = capacity, a = 0.15 and b=4.

During Mine Operation

Maximum proposed annual production	1,00,000 tonnes per annum
No. of working days	240 days
Production / day	334 tonnes per day
Carrying capacity of Tipper	15 tonnes
No. of Tipper trips/day	64
Working Hours per day	8 hours
No. of Tipper trips/hr	8 (i.e. 8 Tipper every 1 hr)
No. of Tippers deployed/hr to and fro	8 * 2 Tippers = 16 Tippers
No. of Tippers deployed/d, PCU	16* 3.0 = 48 PCU

Traffic Scenario & LOS

Road	Increased PCU'S- Raipur Rd	V	C	Modified V/C Ratio	LOS
Baramkela Marg	77+48	125	6000	0.02	A

Conclusion

The LOS value from the proposed mine may be "Excellent". So the additional load on the carrying capacity of the concern roads is not likely to have any significant adverse effect.

8.0 IMPROVEMENTS IN PHYSICAL INFRASTRUCTURE

The project will improve the physical infrastructure in the buffer zone by assisting in improved road communication along with transportation facilities. It will also provide aid for existing community facilities through the Panchayat and provide drinking water during dry season.

8.1 IMPROVEMENTS IN SOCIAL INFRASTRUCTURE

The project will assist in improvements in the social infrastructure like improvement of road condition in the buffer zone, water supply during dry season, drainage, educational institutions and improved environmental conditions, etc. The Project Proponent will assist in Dissipation of government programmes and awareness program and activities like health camps, medical aids, family welfare programs, immunization camp, sports & cultural activities, plantation etc.

8.2 EMPLOYMENT POTENTIAL

The area is economically backward. The project will give direct employment to 10 persons and indirect employment to another 10 persons. The mining activity will provide employment to local people which will improve socio-economic status of the mining area.

8.3 TANGIBLE SOCIAL BENEFITS

There will be positive impact on socio-economic aspects due to new employment opportunities, increased economic activities, better living standard, educational facility, health facility and infrastructural development.

8.4 OTHER BENEFITS

The project will contribute to district mineral fund which will directly provide aid to the local authority to fund the development projects. The management will provide free saplings of fruit bearing and other trees, etc. to local during rain for plantation. This will increase the consciousness in workers and near-by villagers for greenery. Fruit trees can contribute towards their financial gains.

Periodic medical checkups as per Mines Act / Rules and other social development and promotional activities will be undertaken. All this will assist to lift the general health status of the residents of the area around mines.

8.5 CORPORATE ENVIRONMENTAL RESPONSIBILITY

Corporate social responsibility (CER) refers to responsibility of a company/ organization to ensure positive impact on environment, consumers, employees, communities, stakeholders and all other members of public sphere. The CER activities are increasingly being taken up by the project proponent not only as fulfilling of mandatory provisions but also for the

formation or enhancement of brand image. Besides the above, CER is seen more as a responsibility towards society rather than a business promotion activity. It is the need of the day for expansion of occupational welfare. This will not only improve the socio-economic status of the people living in the nearby areas but also enhance the reputation of the project proponent among the local people.
Year wise allocation of funds for the above activities proposed to be taken up by the project proponent is provided in the table below:

Table 8.1: Year wise tentative allocation of funds for the various activities proposed to be taken up by the project proponent under CSR program

All the activities listed above are for community development as a whole and not for individual person or a family. Each development initiative will be implemented in close collaboration with the Village Pradhan's. The Project proponent may avail the services of a NGO for the implementation of the above program, if felt needed.

S. No.	Particulars	Estimated Cost (in Rs.)
1.	Cost of Land	19,99,999.999 @ 11,88,354.129 /ha.
2.	Cost of Plant & Machinery	10,00,000
3	Cost for Building Sheds & electricity	10,00,000
4.	Other Miscellaneous	10,00,000
	Total Cost	49,99,999.999 approx .50 Lakh.

Note: 2% of Project Cost will be allotted for CER 2% of Rs. 50 Lakh. = 1 lakh

We will spend this CER Amount in mitravan Graden

9.0 INTRODUCTION

The environmental management plan consists of the set of mitigation, management, monitoring and institutional measures to be taken during the implementation and operation of the project, to eliminate adverse environmental impacts or reduce them to acceptable levels.

Environmental Management Plan (EMP) has been designed within the framework of various Indian legislative and regulatory requirements on environmental and socio-economic aspects so as to attain sustainable development. The present environmental management plan addresses the proposed measures required for meeting the prevailing statutory requirements of air emissions, waste water discharge characteristics, noise levels, land use, socio economics etc. for environmental management purpose in connection with the mining and mining related activities in the study area.

9.1 AIR QUALITY MANAGEMENT

The potential sources of air pollution due to the existing mining activities and proposed expansion is excavation, loading, unloading, transportation and exhaust fumes of machines. The air pollution may be broadly classified into two categories: -

(i) Gaseous pollutants (NOx, SO_2 and CO) due to deployment of HEMM and transport vehicles.
(ii) Suspended particulate matter (SPM)

As per the results of ambient air quality monitoring data, the back ground concentrations of PM_{10}, $PM_{2.5,}$ SO_2 and NO_2 are within the stipulated CPCB standards. The present level of mining and proposed enhancement/expansion of the mine is not expected to increase the gaseous pollutants beyond the permissible limits. However, following mitigative measures will be taken to minimize\nullify the SPM levels in ambient air.

The environmental control measures proposed are given below:

9.1.1 Air pollution control measures: -

Air pollution control strategy involves planning a series of preventive and suppressive measures. These will contain the generation and dispersion of fugitive dust i.e. dust which is not captured during mining operation.

(a) Preventive measures: -

The following preventive measures will be practiced to prevent air pollution.

1. Proper maintenance of vehicles would reduce gas emission.
2. Restriction of the speed of vehicles would reduce dust generation.

3. Sprinkling of water will be done on the haul roads to prevent dust generation during plying of vehicles.
4. To reduce dust generation during loading operation water will be sprayed over the muck pile to be loaded.
5. To reduce spread of dust, plantation will be done along the mining lease boundary a well as by the side of the haul road.
6. Reclaimed area will be stabilized and consolidated by plantation to prevent generation of air borne dust.
7. Fugitive dust generation will be controlled at source and regularly monitored

(b) <u>Suppressive measures</u>: -

1. Haul road will be maintained regularly Frequent water spraying on haul roads to prevent generation of air borne dust.
2. Regular maintenance of vehicles and machineries will be carried out in order to control emissions.
3. A good housekeeping and proper maintenance will be practiced which will help in controlling pollution.
4. Over loading of vehicles will be avoided as spillage generates dust.
5. Dust masks will be provided to the workers working in the loading operations
6. Ore carrying Tippers will be effectively covered by tarpaulin to avoid escape of fines to the ambient air.

(c) Proposed Monitoring: -

1. Periodical monitoring of air samples will be carried out at various locations within core zone as well as buffer zone.
2. Vehicular emission will be regularly monitored. Periodic health checkup for the workers shall be done

9.2 WATER MANAGEMENT AND WATER POLLUTION CONTROL

Mining activities may cause adverse impacts due to mine drainage, Siltation due to storm water, lowering of water table and contaminated water from dump. However, in the present project, working is proposed above ground water table and no surface water source exists within the QL area, the impacts on water resources are negligible. However, in order to mitigate the likely impacts, the following management has been proposed

Surface water

There is no toxic element in and around the applied area. Hence contamination of any nature is not expected for surface or any ground water source. Protective bund will also be proposed in barrier zone with plantation on it to avoid surface run off from /in the ML area.

Ground Water

There is a bore well within the core zone. Hand pumps, bore wells and dug wells are situated within buffer zone in which drinking water facilities are available.

The mining activity will be restricted above the ground water table which is 35- 40 m bgl. Therefore, the mining activity in the leasehold area will not make any impact on ground water quality. The rain water accumulation and water harvesting in the pit will recharge the ground water table of the drought prone area.

1. No pumping of water from mine will be done.
2. The mine water from sump will mostly be used for mining, afforestation and allied activities.
3. A monitoring network of dug wells will be established to monitor the ground water level.
4. No waste water will be generated.
5. Monitoring of water quality of mine discharge water and domestic water will be conducted at regular interval to evaluate the performance of the mitigation measures.
6. Adequate control measures will be adopted to check not only the wash-off from OB but also uncontrolled flow of mine water.

Water Conservation Plan

Ground water table will not be disturbed. The rain water accumulating in this area will be used for dust suppression and green belt development, thus conserving the water requirement for mine use, so as not to depend upon other natural resources. The water in reservoir will help in augment water table.

Water conservation measures proposed to be adopted are as given below: -

1. Trenches will be cut across the sloping side of the hill to prevent surface runoff at the foot of the hill.
2. Settling tank and check dam at the lowest level will be constructed to prevent surface runoff and silt in to the nearby area.
3. Plantation will be done in the barrier.
4. Optimum utilization avoiding unnecessary wastage of water will be done.
5. Awareness programs will be taken up to educate public for conservation of water.
6. Mobile toilets with modular septic tank having efficient water utilization capacity (low facets water requirement for flushing) will be used.
7. Water sprinklers will be used to minimize the air borne dust emissions on haul roads which minimizes the consumption of water.
8. Post-monsoon and Pre-monsoon groundwater level will be monitored regularly.

9.3 NOISE POLLUTION CONTROL

In the mining, noise pollution is generally caused due to mine machineries, equipment & plying of vehicles. Following measurement will be taken for noise pollution control.

1. Personal Protective Equipment (PPE) like ear muffs/ear plugs will be provided to all operators.
   and employees working near mining machineries or at higher noise zone;
2. The vehicles to be properly lubricated and regular maintenance of vehicles and equipment to be done for less noise generation.
3. It is suggested to provide noise proof cabins for operators in dumpers, excavators and loaders.
4. Silencers should be provided to modulate the noise generated by vehicles.

9.3.1 Mitigation measures to reduce ambient noise levels & measures to protect workers from high noise levels: -

The following measures are being proposed to reduce pollution due to noise.

1. A thick green belt in phased manner to be provided around the periphery of the lease area to screen the noise.
2. Trees to be planted on both sides of the roads used for transport.
3. Reducing the exposure time of workers to the higher noise level.

9.4 BIOLOGICAL MANAGEMENT

Afforestation is a major thrust area in pollution control of mining. Afforestation is suitable for detecting, recognizing and reducing air pollution effects. Trees function as sinks of air pollutants, besides their bio-aesthetical values, owing to its large surface area. Thus afforestation is of paramount importance. It also checks soil erosion, make the ecosystem more complex and functionally stable and make the climate more conducive.

The mine management will take necessary steps to avoid the impact on the ecology of the area by adopting suitable management measures in the planning and implementation stage. Plantation will be carried out in leasehold area as well as nearby villages.

9.4.1 Greenbelt Development

The green belt supplements oxygen to the atmosphere and combat air pollution effectively. It not only improves the aesthetic beauty and land space resulting in harmonizing and amalgamating the physical structures of the mines with surrounding environment, but also acts as pollution sink as indicated above.

Greenbelt will be developed in following areas:

- Along mine lease boundary
- Around office buildings.
- Along the side of roads
- On backfill areas

Following factors will be taken into account while selecting species for plantation.

(i) Fast growing plant species will be preferred.
(ii) The plant will be of deep rooting system.
(iii) The plant will be perennially green to improve the aesthetic beauty of the area. The plant species will be adoptable to the local climatic condition.
(iv) The plantation will be taken care of till it becomes self-sustaining.
(v) The reclaimed area after consolidation & stabilization will be afforested with native species such as Neem, Pipal, Karanj, Munga, Ber, Bel, Mango, Dalbergia sissoo, Gulmohar, Amla, Kachnar, Gamhar, Khamer, Jamun, Mahua, Kadam etc. will be planted.

9.4.2 Phase wise Plantation for afforestation

It is suggested to develop around 1000 tree sapling / ha. Apart from the green belts and aesthetic plantation for eliminating fugitive emissions and noise control, all other massive plantation efforts will be decided and executed with the assistance of local Forest Dept. experts and co-operation of the local community.

9.4.3 Post Plantation Care

Post plantation care will be integral part of mine management. An environment monitoring cell will be established for post plantation care, which include, regular watering, manuring, protective measures etc. Diseased and dead plants will be uprooted and replaced by fresh saplings. Regular monitoring on survival rate and remedial action will be done in an organized and planned manner.

All efforts to improve the survival of the saplings and their healthy growth will be taken up like watering, fencing, keeping watch and ward and seeking guidance from the local Forest Dept.

Further in between these tree species, under growth such as shrub variety which gives abandonment litter to develop the humus in the soil and also which retains the moisture content of the soil will be developed.

9.4.4 Plan for Reduction of Impact on Fauna

The impact on fauna species in the mining area is mostly due to noise vibration and loss of vegetation cover. The migrating routes of wild animals will not be disturbed and action will be taken as per the guideline of State Forest Department and as per the Wildlife (Protection) Act, 1972. No working is proposed during night time. No light will be allowed to spread outside QL area.

9.5 LAND ENVIRONMENT

9.5.1 Back Filling

This will be in loose form in the shape of chips and lumps. The total quantity to be generated during conceptual period will be simultaneously backfilled. No dump will remain at end.

9.5.2 Land Reclamation & Rehabilitation

The exhausted mine pit will be reclaimed with wastes generated during the operations. However, the topography of the land will change due to extraction of Dolomite. The reclaimed land will be densely afforested (at 0.613 ha.) with variety of plant species that are chosen from the background environment. That would help faster merger of the disturbed area with the virgin background and also will support faster rehabilitation and resettlement of the native people and the fauna of the region. The proposed rehabilitation plan shall ensure the bio-diversity of the reclaimed land will have more diverse flora than the virgin land.

Land use pattern of the ML area (ha)

Articles		**Pvt. Land (waste land)**		
		Land use at Present in Ha.	**Land use at the end of 5 years' in Ha.**	**Land use at the end of C.P. in Ha.**
A.	**Lease Area**	**1.683**	**1.683**	**1.683**
B.	**Mining & allied**			
1	Area under pits	0.000	1.122	1.122
2	Storage for top soil	0.000	0.321	0.321
3	Area for waste dump	0.000	0.000	0.000
4	Mineral storage	0.000	0.000	0.000
5	Infrastructure (workshop, administrative building etc.)	0.000	0.000	0.000
6	Roads	0.000	0.007	0.007
7	Railways	0.000	0.000	0.000
8	Tailing Pond	0.000	0.000	0.000
9	Effluent Treatment Plant	0.000	0.000	0.000
10	Mineral separation plant	0.000	0.000	0.000
11	Township area	0.000	0.000	0.000
12	Other to specify (Plantation)	0.000	0.233 & on dump	0.233 & on dump
13	**Total Area** (1 to 12)	0.000	**1.683**	**1.683**
14	Undisturbed area	1.683	0.000	0.000

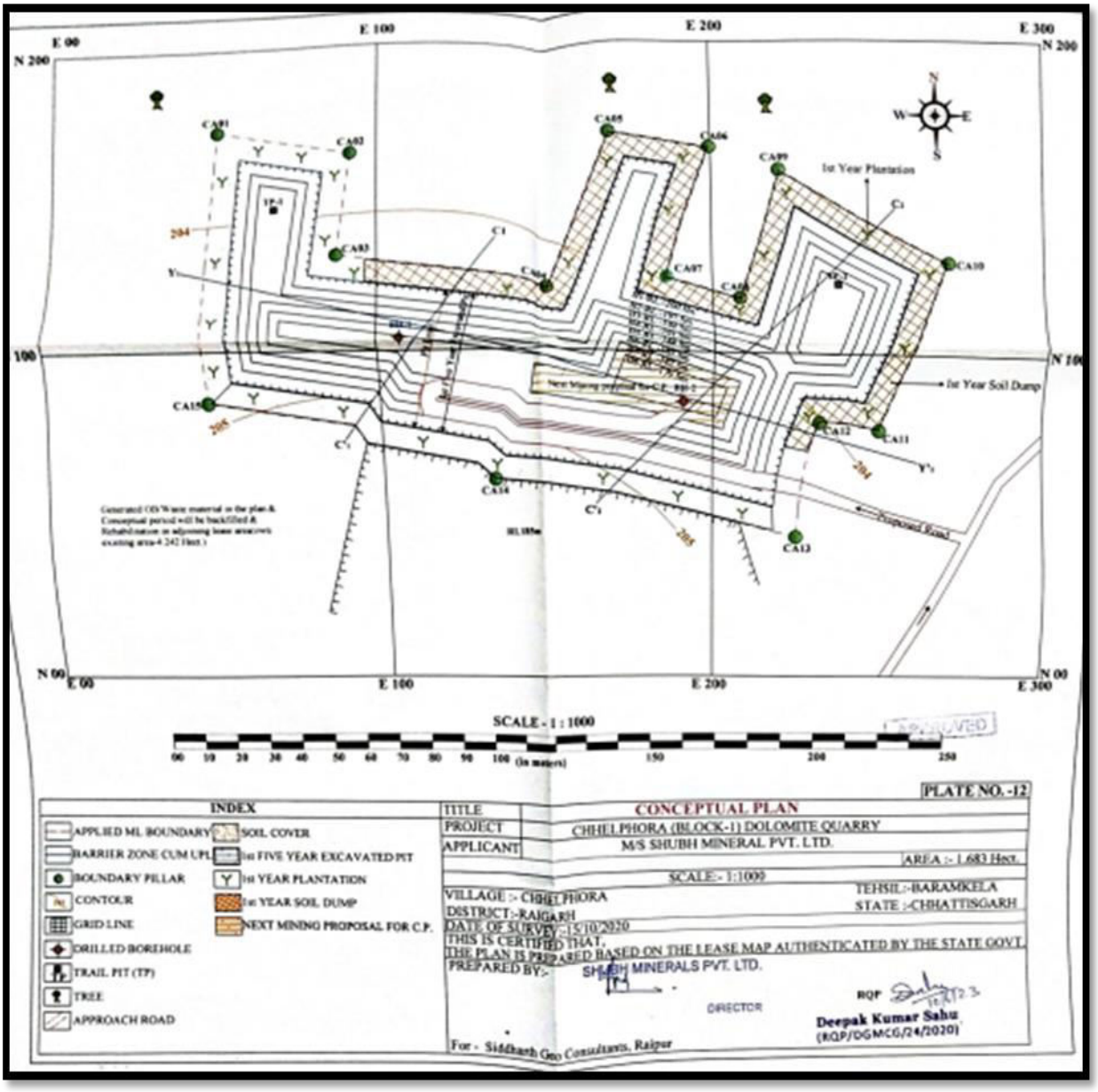


FIGURE 9.1: CONCEPTUAL PLAN

9.6 OCCUPATIONAL HEALTH AND SAFETY

Some of the occupational hazards associated with mining are:

- Hearing impairment
- Skin diseases
- Eye diseases
- Reparable diseases

Safety of employees during operation of mines will be as per the mines rules and as per guideline of Director General of Mines Safety (DGMS).
The most significant occupation health treats are Noise Induced Hearing Loss (NIHL) and Occupational Lung Disease (OLD) due to inhalation of dust. However, the management will take enough care in minimizing the impacts due to these activities. The following measures relating to safety and health will be incorporated

1. Employee will be adequately trained and educated for involvement and commitment in to the implementation of health and safety guidelines.
2. Monitoring the effects of mining activities on safety and health and conducting regular performance reviews through periodical health checkups.
3. Provision of all necessary resources for safety and health of employees and contractors engaged in mining.
4. Setting of safety and health objectives based on comprehensive strategic plans and measure performance against these plans.
5. Implementing safety and health management system and assessing the effectiveness through periodic audits.
6. Organizing regular health checkup of the employee.
7. Provisions of rest shelter for mine workers with facility of drinking water.
8. Awareness on safety and ensure using of personal protective equipment's (PPE) by workers.
9. Periodical medical examination of all workers.
10. First Aid facility and training to workers.

Noise Induced Hearing Loss (NIHL)
Baseline audiogram forms the basis for future assessment of employees in terms of hearing loss. Using engineering initiatives to reduce noise at source is the priority management tool. The hearing conservation programmer includes the provision of Hearing Protection Devises (HPDs) and annual audiometry examination of all employees. Apart from provision of HPDs emphasis shall also laid on training the employees responsibility to protect his/her hearing.

Occupation Lung Diseases (OLD)
There will be regular health camps for all the workers. Lung function tests, chest X-rays etc shall be carried out and any health disorders will be evaluated. A part time Doctor will be hired for occupational health safety; he will take care in providing the necessary medical advice (Occupational Therapy Specialists) to the mine workers.

Care and Maintenance during Temporary Discontinuance
All the provisions as per the Mines Act 1952 and MMDR Act shall be strictly adhered during temporary discontinuation.

Budget for Occupational Health

Particulars	Capital Cost (Rs.)	Recurring Cost (Rs.)
For routine checkup	--	1,00,000
Infrastructure &PPE's	50,000	50,000

Budget for Water, Shelter and Sanitation for Mine Worker

Scheme	Capital Cost (In Rs)	Recurring Cost (In Rs)/year
Drinking water facility	50,000	30,000
Rest shelter	50,000	40,000
Sanitation (Urinal and Toilet)	1,00,000	30,000
Total	2,00,000	1,00,000

9.7 SOCIO-ECONOMIC CONDITIONS OF THE REGION

Following social welfare activities will be taken up:

- Medical assistance;
- Primary education;
- Animal husbandry;
- Rural water supply;
- Agricultural improvement;
- Vocational training; and
- Assistance in utilizing government programs

Medical Assistance

Services of health care facilities will be extended to the general public. To meet the medical needs of the mine workers it is suggested that tie-ups with nearest hospital or Primary Health Center (PHC) may be made. This will ensure timely medical aid to the affected persons.

Education

In order to improve the educational activities in the area, following assistance will be provided.

Encouraging pre-primary school's education; and supporting adult education programs.

Training of personnel

- In order to improve the skill and self-employment of locals, following promotional activities will be taken up.
- Tailoring/embroidery classes for women;

- Orientation programs for self-employment in collaboration with District Industries Centre and Rural Development Agencies. Training for running of (Heavy Earth Moving & Mining Equipment) HEMM.

Agricultural Improvement

- The locals in the area will be benefited by following social programme.
- Organizing, with the help of Agricultural Department, training programs for farmers in relevant areas such as animal husbandry, dairy development, modern cultivation, scientific storage of grain, water conservation etc.
- Help in arranging in association with nearby agricultural department for soil testing and technical inputs for increasing yield.

Assistance in Utilizing Government Programs

- Collecting and disseminating information pertaining to various government schemes.
- Providing guidance and assistance to eligible persons for making good use of these schemes e.g. getting loans for setting up small businesses.

Employment

- Preference will be given to local population while inducting the man power (both skilled and unskilled).
- Besides the direct and indirect employment to 10 persons, the company will provide vocational skill training to the unemployment youth of the neighboring villages.
- Local villagers residing in the nearby villages shall be employed as semi-skilled workers.

Communication

- The mine roads to the project site from nearest state/district/village roads will be maintained.
- Proposed mining will generate direct and indirect employment. New job opportunities in the project will increase the per capita income and improve the life style of the people.

Therefore, there shall be a beneficial impact to the community due to development of this mining activity, which shall provide them more regular income.

Special Group Insurance Scheme

All the mine workers may be covered under a Group Insurance Scheme of LIC or any other Insurance company, if not so far.

There shall be a beneficial impact to the community due to development of this mining activity, which shall provide them more regular income.

9.8 ENVIRONMENTAL MANAGEMENT PLAN IMPLEMENTATION

Environmental Management Plan serves no purpose if it is not implemented with true spirit. Some loopholes in the EMP can also be detected afterwards when it is implanted and monitored. Thus, an implementation and monitoring programme has to be prepared.

Organizational Setup

In order to develop and implement the environmental monitoring and management plan, the mine will have an Environmental Cell, headed by the environmental officer reporting to head of the project. Their activities will be as follows:

1. Regular environmental monitoring as stipulated by the regulatory authorities
2. Preparation and submission of environmental report to the regulatory authorities
3. Compliance management with all environmental legislation
4. Implementation of various environmental management programs and reporting the performance to the top management.
5. Co-coordinating the environmental related activities within the project as well as with outside agencies.
6. Green belt development, etc.

Environmental Policy

The lessee believes that responsible environmental stewardship comprises diligent application of well-established natural resource management, controls and practices for the protection, reclamation of the mined out land, preservation of biodiversity and proper disposal of waste following the best environmental practices during the process of mining of Mineral.

Environmental policy prescribed for standard operating process to bring into focus any violation/deviation of the environment and forest norms/conditions that the company operations will implement operational and risk management practices that provide for maximum protection of people and the environment. To this end, the owner resolves that company will follow the below mentioned practices:

1. Operate in accordance with prescribed industry standards while complying with all applicable environmental, health and safety laws and regulations.
2. Establish and maintain a well-defined environmental, health and safety management system to guide its operations.
3. Ensure that all employees, officers and directors understand and adhere to its environmental, health and safety management program.
4. Provide operations with the necessary resources, expertise and training to effectively carry out its EHS management programs.
5. Engage employees at all levels in programs directed towards minimizing adverse effects on the environment resulting from mining activity.
6. Work proactively with governments and the public in the development of cost effective and realistic regulations that promote enhanced environmental, health and

safety protection.

7. Promote environmental awareness among its employees, their families and the communities in which it operates.
8. Require those who provide services and products to practice good environmental stewardship.
9. Mitigate its environmental impacts through efficient use of resources, and the reduction of input materials and waste.
10. Maintain a high degree of emergency preparedness

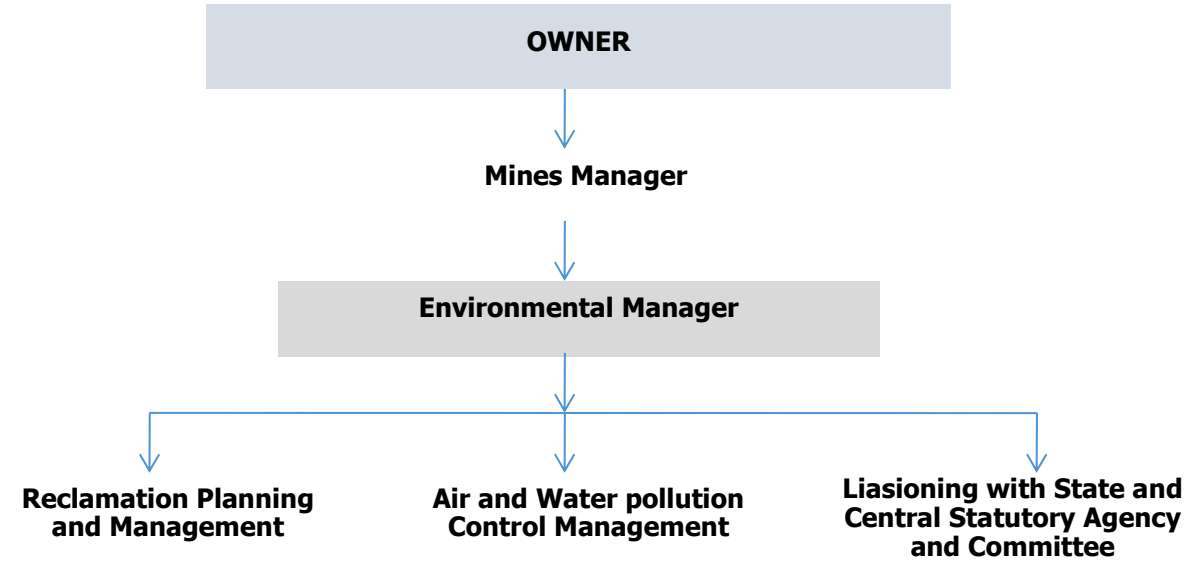
Institutional Arrangements for Environment Protection and Conservation

The mine will be supervised and controlled by Mines Manager supported by adequate team of technically and statutorily qualified personnel apart from the operating staff of skilled, semi-skilled, unskilled and other categories.

The organizational structure for **Environment Cell** for mining operations is shown in figure given below. This Environment Cell is responsible for the management and implementation of the environmental control measures. Basically, this department will supervise the reclamation planning & management, air & water pollution control management, Liasoning with State & Central Statutory agency & Committee.

In case the monitored results of environmental pollution are found to exceed the allowable limits, the Environment Management Cell will suggest remedial action and get these suggestions implemented through the concerned authorities.

The **Environment Management Cell** shall also co-ordinate all the related activities such as collection of statistics of health of workers and population of the region, afforestation and greenbelt development. The Environment Management Cell will review Corporate Environmental performance along with the reporting of non-compliances.



Organization Structure for Environment Management

BUDGET FOR ENVIRONMENTAL PROTECTION

The monitoring of the environment parameters will be out sourced and carried by the lab of SPCB or a lab approved by MoEF/NABL. The project authorities propose to undertake the following environmental works to achieve the environmental quality as desired. The budget for environmental protection has been formulated and given in Table below:

Budget for Environmental Protection

Particulars	Capital Cost	Recurring Cost/ year in Rs.
Environmental Protection		
Dust Suppression	70,000	30,000
Tarpaulin and cover for stack of fly ash	50,000	20,000
Environmental Monitoring	60,000	30,000 (Air – 10,000 Water -10000 Soil and Noise- 10000)
Green Belt along with chain link fencing in barrier zone	7,57,970	2,32,396
Total	9,37,970	3,12,396

CONCLUSION

The project will throw opportunities to local people for both direct and indirect employment. The proposed mining operation in the state will not only fetch income to the state exchequer but also ensure healthy development of proposed mining in the state of Chhattisgarh. Illegal mining and unorganized mining poses a much bigger health hazard whereas organized mining under ML facilities to undergo periodic health check-ups.

At present agriculture is the main occupation of the people living in the study area. Due to mining project the occupational pattern of the people in the area will change making more people engaged in industrial and business activities there by leading to urbanization. It is expected that education, health, housing, water and electricity etc. facility will improve to due to this mining project and associated industrial and business activities.

10.1 INTRODUCTION

Environmental Impact Assessment (EIA) is a process, used to identify the environmental, social and economic impacts of a project prior to decision-making. It is a decision making tool, which guides the decision makers in taking appropriate decisions for proposed projects. EIA systematically examines both beneficial and adverse consequences of the proposed project and ensure that these impacts are taken into account during the project designing.

10.1.1 ENVIRONMENTAL CLEARANCE

The proposed project is categorized under 1 (a) (<50 hectare of mining lease area) of Gazette Notification dated Sep 14th, 2006 and subsequent amendment made on 01.12.2009 & April 2011. As per the Gazette Notification, 2006. The proposed project is under "B" category no National Park, Biosphere reserve, Migratory routes of fauna and National Monument within 5 Km radius from the project site under 1(a) activity of EIA Notification.

10.1.2 TERMS OF REFERENCE

The State Level Expert Appraisal Committee for mining projects considered the project during its 268th meeting dated 16thJanuary 2016. Based on the information contained in the documents submitted and the presentation made, the SEAC Committee has prescribed the Terms of Reference (TOR) vide letter no. **2598/SEAC, C.G./MINE/2579 Nawa Raipur Atal Nagar, Dated 09/01/2024.**

10.2 PROJECT DESCRIPTION

The mining lease is located in Village of Chhelphora, Tehsil- Baramkela District- Raigarh (C.G.) Geo-graphically the ML area extends from Longitude - 83° 17' 02.02"E to 83° 17' 09.66"E Latitude 21° 39' 21.55"N to 21° 39' 25.67"N

Pillar No.	LATITUDE	LONGITUDE
1	21° 39' 25.67"N	83° 17' 02.12"E
2	21° 39' 25.40"N	83° 17' 03.52"E
3	21° 39' 24.35"N	83° 17' 03.38"E
4	21° 39' 24.02"N	83° 17' 05.55"E
5	21° 39' 25.61"N	83° 17' 06.19"E
6	21° 39' 25.47"N	83° 17' 07.22"E
7	21° 39' 24.16"N	83° 17' 06.77"E
8	21° 39' 23.95"N	83° 17' 07.51"E
9	21° 39' 25.23"N	83° 17' 07.91"E
10	21° 39' 24.32"N	83° 17' 09.66"E
11	21° 39' 22.61"N	83° 17' 08.94"E
12	21° 39' 22.69"N	83° 17' 08.32"E
13	21° 39' 21.55"N	83° 17' 08.08"E
14	21° 39' 22.11"N	83° 17' 04.94"E

15	21° 39' 22.86"N	83° 17' 02.02"E

The life of the mine is anticipated at 50 years based on the level of exploration and reserve established as per UNFC classification and expecting the market demand will remain at 1,00,000 T.

10.2.1 Location of

Mailing/ Correspondence Address of Project Proponent:

The lessee M**/s Shubh Minerals Pvt. Ltd.**

Mailing/ Correspondence Address of Project Proponent:

M/s Shubh Minerals Pvt. Ltd.,
Goyal Automobile, Jagatpur, Dhimarapur, Raigarh
P.O. & Tehsil- Raigarh
496001

Size of the Project

The total Mine Lease areas considered is 1.683 ha. The proposed production is 1,00,000 Tones/Year

Anticipated Life of Project and Cost of the Project

The life of the mine is anticipated at 50 years based on the level of exploration and reserve established as per UNFC classification and expecting the market demand will remain at 1,00,000Tones/Year. Total cost of the project is approx. 50 Lacs.

.

10.2.2 LOCATION

The mining lease is located in Village of Chhelphora, Tehsil- Baramkela District- Raigarh (C.G.) Geo-graphically the ML area extends from Longitude - 83° 17' 02.02"E to 83° 17' 09.66"E Latitude 21° 39' 21.55"N to 21° 39' 25.67"N

Details of Project

Project Name	Chhelphora Dolomite Quarry	
Location of the Project	Village: Chhelphora, Tehsil- Baramkela District- Raigarh (C.G.)	
Mine Lease Area	1.683 Ha	Khasra No: Above mentioned khasra
Latitude & Longitude	**Latitude**	**Longitude**
	21° 39' 21.55"N to 21° 39' 25.67"N	83° 17' 02.02"E to 83° 17' 09.66"E”
Toposheet Number	64 O/6	
Type of Land	Non forest Private land	
Elevation	Highest Elevation: 250 m AMSL Lowest Elevation : 246 m AMSL	

Project Cost	50 Lacs
Man Power & No. of Working days	10 person /300 Working Days
Total Geological Reserve	1250694 T
Total Mineable Reserve	543457.67 T
Targeted Production	Production from mine largely depends on market demand presently it is fixed at 1,00,000T. as per present market scenario.
Validity of Lease	50 years
Seismic Zone	Seismic Zone II as per IS-1893 (Part-1)-2002
End use of Product	In Chhattisgarh dolomite is mostly used in iron and steel industries. Most of the dolomite is used in Steel plant.
Nearest Town	Raigarh 48 km
Nearest Airport	Raigarh Airport approx 39 km
Nearest Railway Station	Raigarh Station 48 Km
Nearest Highway	National Highway 200 at 6 km
Nearest Water Bodies	2 Km
Historical Monuments (in 10 km Buffer)	None within the study Area.
Status of Protected/ Other Areas (in 10 Km Buffer)	None within the study Area.
Nearest Dispensary & Govt. Hospital	10 Km

10.2.3 MINING

Opencast mechanized method of mining will be adopted in the lease area. The excavation will be carried out usually by manual labor with the use of jack hammer excavator etc. and loaded into tractor/truck/tipper. The Dolomite will be suitably blended to be supplied in market. Rest is inner burden.

Method of Mining

Opencast mechanized method will be adopted. It has already mentioned that, the complete mining operation will be mechanized in nature. Some drilling and blasting will be required for removal of mineral body.

However, if, mine owner wants to increase the production in the lease area than in that condition some mechanical excavator might be used for removal and loading of top soil and the dolomite.

When production increased, machines will be deployed according to requirement of work and Mining plan will be modified accordingly.

Drilling: - Drilling machines:

The holes will be drilled by compressed air operated by 65 mm dia wagon drill with compressor/DTH or Jack hemmer (32mm dia) and spacing between two holes will be 2.0 m, the depth of each hole will be 3.0m. Total requirement of drilled equipment is as under:

S. No.	Particulars	ROM
1	Maximum proposed annual production	100000 T
2	Production per day (100000/300 day= 334)	Say 334 T
3	Output per hole = Spacing x Burden x depth x B.D. (2.0 x 1.5 x 3.0 x 2.85)	25.6 T
4	Nos. of holes per day (334/25.6 = 13)	13 nos.
5	Drill meter age required (13 x 3.0 =39)	39 m
6	Drilling capacity of a wagon/DTH drill in a hour in dolomite	7 m
7	Hours per shift	8 hours
8	Availability	85%
9	Utilization	85%
10	Effective hours per shift 8 x 0.85 x0.85	5.78 hours
11	Working capacity of jack hammer drill per day 5.78 x 7 m = 40.4	40.4 m
12	Therefore no. of wagon/DTH drills required (81/40.4 = 2)	Say 1 nos.

Type	Nos.	Dia of hole	Size/ capacity	Make	Motive power	H.P.
Drifter Wagon Drill	1	65/90 mm	100	Atlas Copco	Air Compressed	-
Excavator	2	32mm	32mm	Atlas Copco	Air Compressed	-
Loader	2		0.9-1.2 cum	Nill	Diesel	220
Tipper	4					
Tractor	1		15 tons	Tata	Diesel	110-210

Blasting: - Blasting will be carried out by contractual agency in accordance with the Explosive Act and MMR, 1961.

Drilling is proposed to be done by wagon/DTH (65/90 mm dia) or Jack Hemmer (32mm dia). The drilling parameter of the wagon is as under:

Output per blast hole will be (Spacing x Burden x Depth of hole x B.D.)	2.0 x 1.5 x 3.0 x 2.85	25.6 T
Maximum production in a year (av.)		100000 T/yr.
Production in a day will be (Av. 300 working days)	100000/300	Say 334 T
No of holes to be drilled per day	334/25.6=13.0	Say 13 nos.
Meter age to be drilled per day	13 x 3.0 (depth)	39 m
Charge per hole	700-900 gm approx.	Approx. 800 gm
Max. charge per day	800 x 39 = 31200 gm	31.2 kg
Powder Factor	334/31.2 = 10.7	10.7 T/kg

The blasting will be carried out by 80% special gelatin.

OR

If the cartridges are used for blasting using wagon/DTH (65/90 mm dia) or Jack Hemmer (32mm dia), the specification of cartridge for blasting will have the following parameters:

Diameter of cartridge	60 mm
Length of the cartridge	420 mm
Weight of the cartridge	2.2 kg

During the blasting, all Rules, Regulations and Precautionary measures will be taken. The blasting area will be covered by red flags at appropriate safety distance and operators and workers will be removed to safety distance and blasting will be conducted by a qualified blaster. The blasting will be done in twice/thrice in a week early morning or in the afternoon.

Production Plans for First Five Years

Year	Area in m^2	Bench height in m.	Tentative ROM (T)	Production of Dolomite (T) (Rec.95%)	Intercalated Waste(T) (Mining losses 5%)	Up to RL In M.

(1)	(2)	(3)	(4)=(2)x(3)x2.85	(5)=(4)x0.95	(6)=(4)x0.05	(7)
1st year	7017.55	3.0	60000	57000	3000	200.5-197.5
2nd year	7017.55	3.0	60000	57000	3000	200.5-197.5
3rd year	11695.91	3.0	100000	95000	5000	197.5-194.5
4th year	11695.91	3.0	100000	95000	5000	197.5-191.5
5th year	11695.91	3.0	100000	95000	5000	191.5-185.5
Total			**420000**	**399000**	**21000**	

Systematic working will be done by formation of benches as per M.M.R. 1961. All applicable rules of MMR 1961, Mines Act-1952, MCR-1960 and MCDR-1988 will be followed for safe, scientific & systematic working to follow the principles of safety & conservation of human health & mineral.

2.4.2 Machinery to be deployed

List of Machine

No.	Type	Nos.
1	Compressor	1
	Excavator	2
2	Loader	2
3	Tipper	4
4	Tractor	1

Systematic working will be done by formation of benches as per M.M.R. 1961. All applicable rules of MMR 1961, Mines Act-1952, MCR-1960 and MCDR-1988 will be followed for safe, scientific & systematic working to follow the principles of safety & conservation of human health & mineral.

10.2.4 Disposal of Waste

Nature of waste, its rate of yearly generation and proposals for disposal of waste: The mine waste is in the form of following: -

(1) **Top soil: -** Top soil and Lateritic soil will be removed from the lease area. Total alluvial top soil 5609.5 m^3 top soils will be generated from the area 5609.5 cum soil /OB will be Dumped on 1 m height in the Barrier Zone at 4.5 m width of periphery.

(2) The top soil will be used as plantation.

(2) OB and Mine waste: - Nil

Method and manner of disposal of waste: Top soil and Lateritic soil excavation details are given bellow table: -

(a)	**Year Wise Development Proposal**				
Year	Area (m2)	Top soil CUM	OB/SB/IB in CUM	Intercalated Waste 5% of ROM (cum)	Total waste in CUM
(1)	(2)	(3)	(4)	(5)	(6)=(3)+(4)+(5)
1st year	6434	3217.0	22519.0	1052.6	26788.6
2nd year	4785	2392.5	16747.5	1052.6	20192.6
3rd year	0	0	0	1754.4	1754.4
4th year	0	0	0	1754.4	1754.4
5th year	0	0	0	1754.4	1754.4
Total	**11219**	**5609.5**	**39266.5**	**7368.4**	**52244.4**

Disposal of OB/waste material is given below-

Item	Previous waste quantity (cum)	Waste generation during proposal period (cum)	Total waste Handled (cum)	Quantity disposed of on (cum)		Area for disposal (ha)	
				Dumping	Reclaimed by Backfilling	Dumping	Reclaimed by Backfilling
Top Soil	NA	**5609.5**	**5609.5**	3218.0	2392.5	0.321	Outside
OB/Waste	NA	Nil	Nil	Nil	Nil	Nil	Nil

10.2.5 Use of Mineral

The Dolomite is being sale to various part of the India for steel industries as flux

10.2.6 General Features

i) Surface Drainage Pattern

In the Study area of 10 km radius, River -6 Km.

ii). Vehicular Traffic Density

The lease area is about 48 km from Raigarh. The QL area can be approached from National Highway-200 which is at a distance of 4.5 km. The Nearest Railway Station at Raigarh Station 48 Km. The Nearest Airport is Raigarh Airport at a distance of 39 km.

The mode of transport of mineral and waste will be dumpers or trucks within the QL area. The mineral transportation to the destination industry outside the mining lease area will be by road.

iii). Beneficiation/Processing

No processing of mineral will be done in the mine. Only simple sizing and sorting will be done.

iv). Township

There is no scope of earmarking any land for township; local workers will be employed.

v). Power, Water Supply and other Infrastructure requirements

a. Power

The mine will be worked by Semi-Mechanized method. No power will be required. Only for site office power will be obtained from solar energy. Transportation will be done through dumpers or trucks operating on diesel. No storage for diesel is proposed.

b. Infrastructure and Basic Amenities

Basic amenities like rest room shelter/tents, first aid facility, temporary office and water for drinking and portable bio-toilets will be provided during operational phase.

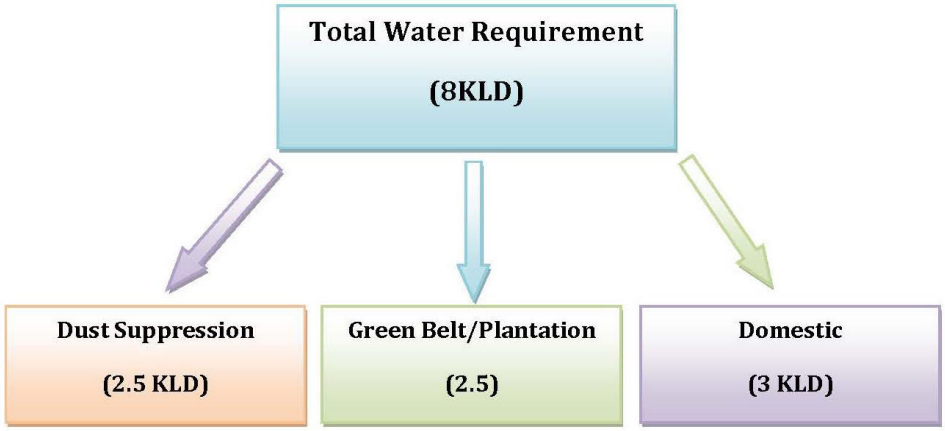
vi) Water Supply

The water required is mainly for dust suppression, green belt development, drinking and other domestic purpose during mining operations. The total requirement will be 4 KLD. Water required during operation phase will be procured from bore well in the lease area and sump.

Daily water requirement

Activity	***Water requirement, KLD***	***Source***
Dust suppression /allied mining activity	1	Mine sump and bore well
Green Belt/Plantation	1	
Domestic	2	
Total	**4**	

Water Balance Chart



10.2.7 MANPOWER REQUIREMENT

About 80 persons will be getting direct and indirect employment in this mine. The man power will be mostly skilled and semiskilled.

Manpower requirement

S No.	Designation	Qualification	Nos.
1	Mines Manager	Mines manager's Certification of competency	1
2	Mining Engineer *	Degree in Mining Engineering	1
3	Raising and other misc. workers	Skilled, semi-skilled & Unskilled	8
	Total		10

10.2.8 ANALYSIS OF ALTERNATIVES

Mining is a site specific activity and mine is located in the Non forest Private Revenue land of the lease area. In the proposed project, opencast semi mechanized mining will be carried out. For that, no other methodology is going to be changed, depending upon the geological set up, strata of the rock and its structural behavior. The stripping ratio is also low.

10.3 DESCRIPTION OF ENVIRONMENT

This section contains the description of baseline studies of the 10 km radius of the area surrounding the Mine. The data collected has been used to understand the existing environment scenario around the proposed mining project against which the potential impacts of the project can be assessed.

Environmental data has been collected in relation to propose mining for: -

(a) Land
(b) Water
(c) Air
(d) Noise
(e) Biological
(f) Socio-economic

(a) Land Use: The land-use is divided into agriculture land, settlement, and river and forest area as shown in the map. The area is fertile and dominated by the proportion of agriculture land.

Land Use Pattern of the Study Area (within 10 km Buffer)

S. No.	Land Use Type	Area (in ha)
1	Open Land	700.87
2	Stony Quarry/Brick Quarry	90.5
3	Settlement	1600.5
4	Water bodies	275.30
5	Agriculture Land	29739.48
Total		32406.65

There is no National Park, Biosphere reserve, Migratory routes of fauna and National Monument within 10km periphery of the lease area as per secondary data available. There is no habitation within lease area.

(a) Results of Soil Analysis

The analysis results show that soil is basic in nature as pH value ranges from 7.04 to 7.45 showing the saline property of soil. High electrical conductivity (320 to 428 µS/cm) is observed in the analysis report showing soil electrical behavior and dissolved solids in soil. The presence of Nitrogen content varies from 0.067 to 0.080 %. The concentration of Nitrogen, Phosphorus & Potassium are found low value in the soil samples. pH and EC values vary greatly and are affected by several environmental factors including, climate, local biota (plants and animals), bedrock and surficial geology, as well as human impacts are shown in the analysis report.

Low values of EC indicate relatively dilute waters, such as distilled water and low deposition of TDS.

(b) WATER ENVIRONMENT

The results of Ground water samples are collected at six locations in the post-monsoon season as discussed above for organoleptic & physical parameters, general parameters, toxic and biological parameters. The analysis results at the six ground water locations and two surface water locations are given below:
The analysis results indicate that pH of the groundwater is in range of 6.72 – 7.19. The TDS were found to be in the range of 382-506 mg/l. Total Hardness is in range of 139.39 – 220.41 mg/l. The analysis results indicate that pH of the surface water to be in range of 7.12– 7.34. The TDS is found to be in the range of 561-615 mg/l. Total Hardness is in range of 320-360 mg/l. Other parameters like chloride and sulphate are observed within the prescribed limits. The necessary treatment required to minimize the impact is mentioned in Environment Management Plan and cost is born by the Project Proponent.

(c) AMBIENT AIR QUALITY

The Ambient Air Quality Monitoring reveals that of 13 monitoring stations the minimum concentrations of $PM_{2.5}$ are 20.23 μg/m^3 at AQ4(Parsadakalan) and maximum 38.25 μg/m^3 at AQ1(Project site). The results of PM_{10} reveal that the minimum concentration of 29.78μg/m^3 at AQ6 while maximum concentration of 68.28 μg/m^3 is found at AQ1. These values for PM10 and PM2.5 are within prescribed CPCB limit of 100 μg/m^3 and 60 μg/m^3, respectively for residential and rural areas at all stations.

The gaseous pollutants SO_2 and NO_2 are within the prescribed CPCB limit of 80 μg/m^3 for residential and rural areas at all stations. The minimum & maximum concentrations of SO_2 were found to be 11.03 μg/m^3 at AQ5 & 34.82 μg/m^3 at AQ8, respectively. The minimum & maximum concentrations of NO_2 are found to be 9.12 μg/m^3 at AQ4 & 28.08 μg/m^3 at AQ8 respectively.

(d) NOISE ENVIRONMENT

The values of noise observed in some of the areas are primarily owing to vehicular traffic and other anthropogenic activities. Noise monitoring results reveal that the maximum & minimum noise levels at day time were recorded in the range of 66.59 dB (A) at NQ8 (Industrial zone) and 36.54 dB (A) at NQ11 (Silent zone) and maximum & minimum noise levels at night time were recorded in the range of 48.92 dB (A) at NQ8 (Industrial zone) and 30.12 dB (A) at Village NQ11 (Silent zone) respectively.

(e) BIOLOGICAL ENVIRONMENT

The lease area as well as buffer zone area reveals no endangered and endemic species of flora and fauna in the area.

(f) SOCIO- ECONOMIC

Population Composition

According to 2011 Population Census the study area has a total population of 93111. Of this 50.14 percent are male and the remaining 49.86 percent are female. Further 11.79 percent of the total population belongs to 0-6 age group. About 51.13 percent of them are male and the remaining 49.87 percent are female.

Sex Ratio

The overall sex ratio in the study area has been worked out to 976 females per 1000 males, which is more than the national average of 940 females per 1000 males. The highest sex ratio recorded in the study area is 1026 females per thousands of males. Sex ratio of Children belonging to 0-6 age group has been worked out to 956 females per 1000 males.

Density of Population

The overall density of population in the study area has been worked out to 449 persons per sq. Kilometre. This is less than the density of population for the state, which stands at 489 persons per sq. Kilometre, according to census 2011.

Households

There are 20779 households in the study area and the average household size is three.

Social Structure

In the study area the total number of persons belonging to Scheduled Caste community is 20691, which is 15.73 percent of the total population. The gender wise distribution of schedule caste population indicates male 50.82 percent and female 49.18 percent, registering a sex ratio of 967 females per one thousand males.

Further analysis of data reveals that in the study area, the total number of persons belonging to Scheduled Tribe community is 16203, which is 17.40 percent of the total population. This is nearly same as the total number of persons belonging to Scheduled caste community residing in the study area.

About 78.33 percent of the total population belongs to General category, which includes people belonging to 'Other Backward Castes'. In absolute number the population belongs to this category are 59379 with 50.15percent male and 49.85 percent female. The sex ratio of General category population has been worked out to 993 females per 1000 males.

The socio-economic development of poor and downtrodden scheduled caste and scheduled tribe people is a continuous process and the governments, both at the centre and the states are constantly making efforts to improve the destiny of these people. Distribution of surplus land to the members of the above categories of people is an important step taken by the government for their economic empowerment. The State Governments have drawn up its own list of socially and educationally backward classes and implementing various

developmental schemes for them. These schemes are mainly in the field of education and income generation. All the ongoing schemes are critically examined and modified periodically to cater to the needs of different groups amongst the above communities. The government has also started various schemes to improve the quality of life of the rural poor, especially for the scheduled castes and scheduled tribes by making special provisions for them. 'Sampornma Grameen Rozgar Yojana' (SGRY) is one such programme, which was launched to safeguard the interest of the weaker sections and women by providing them wage employment. The 'Swarnjayanti Gram Swarozgar Yojana' (SGSY), another rural development scheme aims at bringing poor families above the poverty line by providing them with income generating assets through a mixture of credit and subsidy. The SGSY has also made an explicit provision that 50 per cent of the Swarozgaris assisted should be from Scheduled caste and Scheduled Tribe communities.

Over the decades the Scheduled caste and scheduled tribe people are making rapid progress both in economic and social sphere. Today they are no more untouchables. The literate Schedule Caste and Scheduled tribe people are engaged in trade, commerce & industry, private & government services including police and armed forces.

Literates and Literacy Rate

All persons aged seven years and above, who can both read and write with understanding in any language including Braille are considered as literate. The total numbers of literate persons in the study area are 65522 which is 70.37 percent of the total population. Of the total number of literate persons 58.64 percent are male and the remaining 41.36 percent are female.

The overall literacy rate in the study area has been worked out to 70.37 percent. The gender wise distribution of literacy rate reveals that 81.46 percent of the literate persons are male and 59.27percent are female. This creates a gender gap of 23.19 percent.

Workers and Work Participation Rate

A worker has been defined as a person who participates in a productive activity with or without compensation, wages or profit and such participation may be physical and/or mental in nature. A worker may be a main worker or a marginal worker. The main workers are those workers who had worked for the major part of the total working period. In case the total working period is 365 days the worker must have worked for more than 190 days. The marginal workers, on the other hand are those workers who had worked for less than six months during the last 365 days.

The total number of workers in the study area has been worked out to 28853, which is 30.98 percent of the total population. Of the total number of workers 65.32 percent are male and the remaining 34.68 percent are female. The overall work participation rate is 87.61 percent. While the work participation rate of male is 79.13 percent, it is only 86.85

percent in the case of females. This creates a gender gap of 18.73 percent, which is significantly high. The Main workers constitute only 87.61percent of the total workers, while marginal workers constitute 12.38 percent of the same. An analysis of data reveals male dominancy in Main workers (79.13 percent) and female dominancy (86.85 percent) in case of Marginal workers. This was as expected. The females prefer to work as marginal workers as they have very little time to spare for other work outside their houses as they are to undertake household work besides rearing their children. The total number of main and marginal workers in the study area is 28853 and 4080 respectively.

Further classification of the workers has revealed that in the study area 35.36 percent of the total workers are agricultural workers, 6.29 percent are household industrial workers and the remaining 8.07 percent are 'Other Workers'. Furthermore, of the total agricultural workers about 16.36 percent are Cultivators and the remaining 16.36 percent are Agricultural Labour. About 54.3 percent of cultivators are male and the remaining 45.7 percent are female. On the other hand, 66.03 percent of Agricultural labours are male and the remaining 33.97 percent are female. It may be observed from the above figures that participation of women in agriculture both as cultivators and agricultural Labour is far below in comparison to their male counterpart. This also confirms that in agriculture women work more as agricultural labours than as cultivators. The agricultural labours are mostly landless. They work in the field of big farmers for which they get wages or part of the produce. The wages of women agricultural labour is miserably low in comparison to their male counterpart, though they put same amount of hard work as the male does. The 'Other Workers' include white collar workers, blue collar workers, pink collar workers, informal workers, etc.

Dependency Ratio

Based on total number of workers gainfully employed and non-workers either in search of a job or very old & retired or physically handicapped or mentally retarded or students continuing their studies or people who have no intention to work, the overall dependency rate has been worked out to 41.85 percent. While the dependency rate for male is 40.81 percent, it is 42.89 percent in the case of female. This indicates that unemployment situation in the study area is a matter of concern.

Education Facilities

An analysis of data reveals that 15 private pre-primary schools are located in the study area but no Government pre-primary school has come up in the area so far. There are 80 government primary schools in the study area and six private primary schools. Similarly, of 40 middle schools 50 are Government Middle Schools and six are private middle schools. There are 25 secondary schools and 15 senior secondary schools in study area. Of 25

secondary schools 18 are government secondary schools and 7 private secondary school. Of 15 senior secondary schools 9 are government senior secondary schools and 6 private senior secondary school.

Health Facilities

The data given in the above table reveals that institutional health facilities in the study are extremely disheartening as there are only 15 Primary health sub-centres, which are manned by 3 doctors and 30 para-medical staffs. There is no other institutional health facility in the study area worth the name. The number of medical practitioners per one thousand populations has been worked out to 0.4 persons, which is highly distressing. The study area is also devoid of Indian System of Medicine Viz. Homeopathy, Ayurveda, Unani and Siddha.

Drinking Water Facilities

The villagers in the study area are not yet provided with treated tap water. The untreated tap water has so far reached only 3 villages. For supply of water for drinking, washing and cleaning the villagers mostly depend upon uncovered wells and hand pumps. As many as 10 villages in the study area are provided with uncovered wells and 100 villages with hand pumps. The Other sources of drawing water are tube wells/boreholes, river /canals, Spring etc.

Electricity

Out of 110 inhabited villages 90 are provided with power supply for all uses. This works out to 91% of the total number of villages in study area. Of the remaining 9 villages 24 are having power supply for domestic and agriculture uses and two are having power supply exclusively for domestic uses in the project village.

Roads

In the study area there is all type of roads. Paved, Mud and Foot Roads are available in 108 villages. In another 2 villages only Mud and foot roads are available.

Banks and Financial Institutions

The study area is awfully lacking in banking facilities. There is only 10 commercial bank in the study area. There is no cooperative bank, and credit society in the study area to provide financial support to the farmers. Due to non-availability of adequate number of commercial banks and credit societies the general public including the farmers are forced to approach the money lenders to meet their credit requirements.

10.4 ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

10.4.1 Impact on Ambient Air Quality

The mining is proposed to be carried out by opencast other than fully mechanized method. The air borne particulate matter generated by ore and handling operations as well as transportation is the main air pollutant. The emissions of Sulphur dioxide (SO_2), Oxides of Nitrogen (NO_x) contributed by vehicles plying on haul roads are marginal. Prediction of impacts on air environment has been carried out taking into consideration proposed production and net increase in emissions.

Mitigation Measures

1. Water sprinkling will be done on the haul roads twice in a day.
2. The dust generated during the process will be minimized by water spray at the working faces before and after the activity.
3. Plantation will be carried out on approach roads and in Lease boundary.
4. Planning transportation routes of mined material so as to reach the nearest paved roads by shortest route. (minimize transportation over unpaved road);
5. Personal Protection Equipment's (PPE) like dust masks, ear plugs etc. will be provided to mine workers.
6. Rock breaker will be used for breaking over size boulders in order to reduce dust and noise generation, which otherwise would be generated due to secondary blasting.
7. Speed limit will be enforced to reduce airborne fugitive dust from vehicular traffic.
8. Deploying PUC certified vehicles to reduce their noise emission.
9. Haul road shall be covered with gravels
10. Spillage from the trucks will be prevented by covering tarpaulin over the trucks.
11. Ambient Air Quality Monitoring will be conducted on regularly basis to assess the quality of ambient air.
12. Proper maintenance of machines improves combustion process & makes reduction in the pollution.
13. Good maintenance and monitoring of fuel and oil will not allow significant addition in the gaseous emission.

10.4.2 NOISE ENVIRONMENT

Noise generated at the mine is due to mechanized mining operations and truck transportation activities. The noise generated by the mining activity dissipates within the mine. There is no major impact of the mining activity on the nearby villages. However, pronounced effect of above noise levels is felt only near the active working area.

The impact of noise on the villages is negligible as the villages are far located from the mine workings. Since there is no involvement of major machinery, the impact of noise levels will be minimal.

S. No.	Impact Prediction	Mitigation Measures
1	Noise Impact due to mining activities.	The noise levels from all the sources are periodical and restricted to particular operation.

2	Noise impact due to vehicular movement.	a) Proper maintenance, oiling and greasing of machines at regular intervals will be done to reduce the generation of noise. b) Plantation along the sides of approach roads, around office building and mine area will be done to minimize the propagation of noise. c) Personal Protective Equipment's (PPE) like earmuffs/earplugs will be provided to all operators and employees working near mining machineries or at higher noise zone. d) Periodical noise level monitoring will be done

10.4.3 BIOLOGICAL ENVIRONMENT

S. No.	Impact Predicted	Suggestive measure
1	Disturbance of free movement/living of wild fauna	• Care will be taken that noise produced during vehicles movement for carrying OB and ore materials are within the permissible noise level. • Care will be taken that no hunting of animals (birds) carried out by labors. • If wild animals are noticed crossing the core zone, it will not be disturbed at all. Labors will not be allowed to discards food, plastic etc., which can attract animals near the core site. • Only low polluting vehicle will be allowed for carrying ore materials. All vehicles allowed in the project site area will have to provide pollution under control certificate at the end of three months • Noise level will be within permissible limit (silent zone-50dB during day time) as per noise pollution (regulation and control), rules, 2000, CPCB norms
2	Harvesting of flora	• No tree cutting, chopping, lumbering, uprooting of shrubs and herbs should be allowed • Collections of economically important plants will be fully restricted

10.4.4 LAND ENVIRONMENT

S. No.	Impact Prediction	Mitigation Measures

1	Change in the Topography of the Land / Land Degradation	The proposed mining activity is carried out in hilly region and waste land After removal of ore body, a undulating portion will be created. All the broken area will be reclaimed by systematic backfilling and rehabilitated by afforestation so that landscape of the area is improved.
2	Solid waste generation	About 10% mineral wastes will be generated. Top Soil will backfilled in the mined out areas on which plantation will be raised.
3	Change in Drainage Pattern	Water flow / course will not be obstructed and natural drains or nallahs will not be disturbed. Run-off from mine and mineral stack will be prevented to avoid being discharged to surroundings, particularly to agricultural land. Garland drains and, catch pits has been constructed to prevent run off affecting the surrounding agricultural land. Green belt has been developed in boundary.
4	Impact on the Agricultural Practice at nearby area due to dust generation	Agriculture activities are practiced nearby areas may impacted because of dust generation but mitigative measures such as regular water sprinkling on active areas for example haul roads, excavation sites will be strictly followed so that impact is minimized.

10.4.5 WATER ENVIRONMENT

S. No.	Impact Prediction	Mitigation Measures
1	Effect on the Ground Water Table	Max Elevation of the ML area is 250 m AMSL Ultimate depth of mine is up to 246 m AMSL. Ground Water table is 30m to 40m ground water table.
2	Wash off from the dumps	No dumping has been proposed.
3	Soil Erosion	Reclamation of the mined out area will be done with plantation to avoid the soil erosion
4	Waste Water generation/ Discharge	Portable Bio-toilets will be used; hence no sewage / liquid effluent will be generated and contamination is also not expected due to percolation.
5	Siltation in nearby agriculture field	A Garland drain has been constructed on the sloping side barrier of the ML area. The garland drain has been routed through settling tank to remove Suspended solids from

		flowing into storm water.

10.5 ADDITIONAL STUDIES

DISASTER MANAGEMENT PLAN

In order to avoid any danger in the mine site at the end of life of mine a disaster management cell headed by local authority District Collector will be constituted. Police department health authorities, including doctor, ambulances and so on will have a vital part to play following a disaster along with the mine management, and they will be an integral part of the disaster management plan.

The disaster management plan is aimed to ensure safety of human life and property and protection of environment Following are the objective of the disaster management plan.

(i) First Aid to injured.
(ii) Rescue operation and provision of adequate medical facilities to the injured.
(iii) Safety of the human life in the buffer zone if needed.
(iv) Protecting and minimizing damage to property and the environment.
(v) Initially restrict and ultimately bring the incident under control.
(vi) Identify any dead.
(vii) Inform to the administration, DGMS and statutory persons as per Rules.

Budget for Environmental Protection

Particulars	Capital Cost	Recurring Cost/ year in Rs.
Environmental Protection		
Dust Suppression	70,000	30,000
Tarpaulin and cover for stack of fly ash	50,000	20,000
Environmental Monitoring	60,000	30,000 (Air – 10,000 Water -10000 Soil and Noise- 10000)
Green Belt along with chain link fencing in barrier zone	7,57,970	2,32,396
Total	9,37,970	3,12,396

Budget for Occupational Health

Particulars	Capital Cost (Rs.)	Recurring Cost (Rs.)
For routine checkup	--	1,00,000
Infrastructure &PPE's	50,000	50,000

Budget for Water, Shelter and Sanitation for Mine Worker

Scheme	Capital Cost (In Rs)	Recurring Cost (In Rs)/year
Drinking water facility	50,000	30,000
Rest shelter	50,000	40,000
Sanitation (Urinal and Toilet)	1,00,000	30,000
Total	**2,00,000**	**1,00,000**

10.7 IMPORTANT ASPECTS OF THE ENVIRONMENTAL MANAGEMENT PLAN STAGE-WISE PLANTATION, & POST MINING LAND USE

The species of Neem, Pipal, Karanj, Munga, Ber, Bel, Mango, Dalbergia sissoo, Gulmohar, Amla, Kachnar, Gamhar, Khamhar, Jamun, Mahua, and Kadam etc. will be planted etc. will be planted every year. Barbed wire fencing will be done to protect the plants.

The proposed land use at the end of fifth year and at the end of mine life is given in table below:

Break-Up of Land Utilization Pattern (Area in ha)

Articles		Pvt. Land (waste land)		
		Land use at Present in Ha.	Land use at the end of 5 years' in Ha.	Land use at the end of C.P. in Ha.
A.	**Lease Area**	**1.683**	**1.683**	**1.683**
B.	**Mining & allied**			
1	Area under pits	0.000	1.122	1.122
2	Storage for top soil	0.000	0.321	0.321
3	Area for waste dump	0.000	0.000	0.000
4	Mineral storage	0.000	0.000	0.000
5	Infrastructure (workshop, administrative building etc.)	0.000	0.000	0.000
6	Roads	0.000	0.007	0.007
7	Railways	0.000	0.000	0.000

8	Tailing Pond	0.000	0.000	0.000
9	Effluent Treatment Plant	0.000	0.000	0.000
10	Mineral separation plant	0.000	0.000	0.000
11	Township area	0.000	0.000	0.000
12	Other to specify (Plantation)	0.000	0.233 & on dump	0.233 & on dump
13	**Total Area** (1 to 12)	0.000	**1.683**	**1.683**
14	Undisturbed area	1.683	0.000	0.000

10.8 Important Aspects of the Environmental Monitoring Programme

The monitoring of the environment parameters will be out sourced and carried by the lab of SPCB or a lab approved by MoEF/NABL.

10.9 DISCLOSURE OF CONSULTANTS ENGAGED

P & M Solution is an environment consulting and research organization is accredited by NABET in sectors 1a.

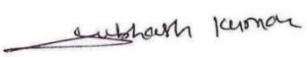
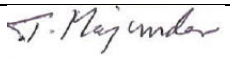
CONCLUSION

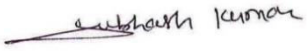
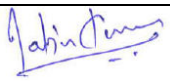
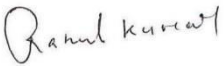
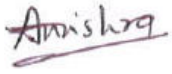
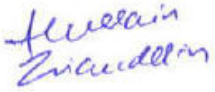
As discussed, it is safe to say that the proposed facilities are not likely to cause any significant impact to the ecology of the area, as adequate preventive measures will be adopted to keep the various pollutants within the permissible limits.

Chapter 11 – Disclosure of consultant

Name of the Consultant	P and M Solution
Address	C-88, Sector 65, Noida -201301 – U.P
Credentials	Accredited by QCI/NABET valid till June. 07, 2026
Laboratory	Noida Testing Laboratory
Address	GT-20 Sector 117 Noida

EXPERTS ENGAGED

S No	Name	EC/FAE	DETAILS	Signatures
1	Subhash Kumar	EC	EC	
2	Tapan Majumdar	FAE	HG, GEO	

3	Subhash Kumar	FAE	SC	
4	Jatin Kumar Srivastava	FAE	EB	
5	R K Tiwary	FAE	RH,AP	
6	Rahul Kumar	FAE	AQ	
7	Neha Singh	FAE	NV	
8	Abhay Nath Mishra	FAE	SE	
9	Hussain Ziauddin	FAE	WP	
10	Poonam Kumari Mangalam	FAE	LU	



QUALITY COUNCIL OF INDIA
Creating an Ecosystem for Quality

NABET

National Accreditation Board for Education and Training

NABET

Certificate of Accreditation

P and M Solution, Noida

C-88, Sector-65, Noida, Uttar Pradesh- 201301

*The organization is accredited as **Category-B** under the QCI-NABET Scheme for Accreditation of EIA Consultant Organization, Version 3: for preparing EIA-EMP reports in the following Sectors –*

S.No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1	Mining of minerals including opencast & underground	1	1 (a) (i)	A
2	River Valley projects	3	1 (c)	B
3	Coal washeries	6	2 (a)	B
4	Cement plants	9	3 (b)	A
5	Highways	34	7 (f)	A
6	Building and construction projects	38	8 (a)	B
7	Townships and Area development projects	39	8 (b)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RAAC minutes dated July 18, 2023 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no QCI/NABET/ENV/ACO/23/2846 dated August 09, 2023. The accreditation needs to be renewed before the expiry date by P and M Solution, Noida following due process of assessment.

Sr. Director, NABET
Dated: August 09, 2023

Certificate No.
NABET/EIA/2326/RA 0298

Valid up to
May 07, 2026

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to the QCI-NABET website

रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

भारत का राजपत्र
The Gazette of India

असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 2487] नई दिल्ली, बृहस्पतिवार, अगस्त 31, 2017/भाद्र 9, 1939
No. 2487] NEW DELHI, THURSDAY, AUGUST 31, 2017/BHADRA 9, 1939

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 30st August, 2017

S.O. 2836(E).—In exercise of the powers conferred by clause (b) of sub-section (1) of section 12 and section 13 of the Environment (Protection) Act, 1986 (29 of 1986), read with rule 10 of the Environment (Protection) Rules, 1986, the Central Government hereby makes the following further amendments in the notification of the Government of India in the erstwhile Ministry of Environment and Forests, number S.O. 1174(E), dated the 18th July, 2007, namely :—

In the said notification, in the Table, after serial number 156 and the entries relating thereto, the following serial numbers and entries shall be inserted, namely:—

(1)	(2)	(3)	(4)
"157	M/s. Devansh Testing & Research Laboratory Pvt. Ltd. 94, Shiv Ganga Industrial Estate, Lakeshari, Bhagwanpur-247661, Roorkee, Dist-Haridwar, Uttarakhand.	(i) Ms. Archana Singh (ii) Shri. Arvind Kharkwal (iii) Dr. H.S. Chauhan.	09.08.2017 to 08.08.2022
158	M/s. NOIDA Testing Laboratories, GT-20, Sector-117, NOIDA-201304, Uttar Pradesh.	(i) Shri. Gopal Das Verma (ii) Shri. Pankaj Kumar Sharma (iii) Shri. Rajesh Kumar Singh.	09.08.2017 to 08.08.2022
159	M/s. Sai Universal Mining Services Plot No. 15-DP2, KIADB, Sankalapura Industrial Area, Near Water Tank, Bellary Main Road, Hospet-583201, Dist. Bellary, Karnataka .	(i) Shri. Pavan Kumar GVK (ii) Shri. D. Sudharshan Reddy (iii) Shri. A. Nagaraju.	09.08.2017 to 08.08.2022
160	M/s. B.S. Envi-Tech Pvt. Ltd. 12-13 1270/71/73, Amity Ville, 4th Floor, St. Ann's Road, Tarnaka, Secunderabad-500017, Telangana.	(i) Shri. A.V. Hanumantha Rao (ii) Ms. CH. V. Tulasi (iii) Shri. B.S. Chandra Murthy.	09.08.2017 to 08.08.2022
161	M/s. Nichrome Testing Laboratory and Research Pvt. Ltd. 170, Judges Bunglow Road, Narayanpur, Dharwad-580008, Karnataka.	(i) Shri Krishna Narayan Kulkarni (ii) Shri Ambarish S. Sindagi (iii) Dr. Manjula S. Patil .	09.08.2017 to 08.08.2022
162	M/s. Go Green Mechanisms Pvt. Ltd. Dayal Estate, National Highway No. 8, Opp. APMC Market, Gate-1 (Deen Dayal Grain Market), Bareja Road, Jetalpur, Dist-Ahmedabad-382426, Gujarat.	(i). Shri Amit Badlani (ii) Shri Khambata Cyrus Hosang (iii) Ms. Trupti Padhya.	09.08.2017 to 08.08.2022."

[F. No. Q. 15018/21/2017-CPW]

DR. MANORANJAN HOTA, Advisor

Note.-The principal notification was published in the Gazette of India, Extraordinary vide number S.O. 1174 (E), dated the 18th July, 2007 and subsequently amended vide notification numbers S.O. 1539 (E), dated the 13th September, 2007, S.O. 1811(E), dated the 24th October, 2007, S.O. 55(E), dated the 9th January, 2008, S.O. 428(E), dated the 4th March, 2008, S.O. No. 865(E), dated the 11th April, 2008, S.O. No. 1894(E), dated the 31st July,2008, S.O. No. 2728(E), dated the 25th November, 2008, S.O. 1356(E), dated the 27 th May, 2009, S.O.No. 1802(E), dated the 22nd July, 2009, S.O. No.2399(E), dated the 18th September, 2009, S.O. No.3122(E), dated the 7th December, 2009, S.O. No. 3123(E), dated the 7th December, 2009, S.O. No. 142(E), dated the 21st January, 2010, S.O. 619 (E), dated the 19th March, 2010, S.O. No.1662(E), dated the 13th July,2010, S.O. No. 2390(E), dated the 30th September, 2010, S.O. No .2904 (E), dated the 8th December, 2010 , S.O. No. 181(E), dated the 28th January, 2011, S.O.No. 692(E) dated the 5th April, 2011, S.O. No. 1754 (E), dated the 28th July, 2011, S.O. No. 2609, dated the 22nd November, 2011, S.O. No. 264(E) , dated the 13th February, 2012, S.O. No. 1150 (E) dated the 22nd May, 2012, S.O. No. 1295(E), dated the 6th June, 2012, S.O. No. 2039 (E), dated the 5th September, 2012, S.O. No. 2850 (E), dated the 7th December, 2012, S.O. No. 592 (E), dated the 8th March, 2013, S.O. No. 945(E), dated the 8th April, 2013, S.O. No. 2287 (E), dated the 26th July,2013, S.O. No. 3489(E) dated the 26th November, 2013, S.O. No. 21(E), dated the 3rd January, 2014, S.O. No. 561 (E), dated the 26th February, 2014, S.O. No. 1190(E), dated the 1st June, 2014, S.O. No. 2003(E), dated the 9th August,2014, S.O. No. 137 (E), dated the 12th January, 2015, S.O. No. 1783(E), dated the 30th June, 2015, S.O. No. 2453(E), dated the 7th September, 2015 , S.O. No. 1953(E), dated the 2nd June,2016 and S.O. No. 388(E), dated the 10th February, 2017.

****

Consultant Contact Details:

P & M Solution

Address –C-88, Sector 65, Noida

Mobile no. - +91 8377871554, 8826287364, 0120-4321723

Website- www.pmsolution.in

Email- pmsolutionbxr@gmail.com, info@pmsolution.in

No 4034/Mining/QP/F.N. 02/2023 Nava Raipur dtd. 14/6/23

QUARRY PLAN

ALONG WITH

QUARRY CLOSURE PLAN OF

CHHELPHORA DOLOMITE QUARRY

Part B of Schedule 1 Mineral
Village: Chhelphora (Block-1),
Tehsil: Baramkela,
District: Raigarh (C.G.)

AREA: 1.683 Ha
(Pvt. Land – 1.683 ha, Forest Land – Nil, Govt. Land - Nil)

'A' Category, Open Cast Mechanized Mine

Lease Period – 50 years

DIRATE OF GEOLOGY & MINING APPROVED Wide Letter No. ..... Dt. ..... GOVT. OF CG

(ANURAG DIWAN)
JOINT DIRECTOR (ADMIN.)
D'RATE OF GEOLOGY AND MINING,
CHHATTISGARH, RAIPUR.

Submitted for approval to Competent Authority
Directorate of Geology & Mining, Raipur

Submitted Under Rule 24 of Chhattisgarh Minor Mineral Rules, 2015
For Grant of Quarry Lease



APPLICANT

SHUBH MINERALS PVT LTD.
Address: Goyal Automobile, Jindal Road,
Jagatpur, P.O. & District – Raigarh
Chhattisgarh - 496001

PREPARED BY

DEEPAK KUMAR SAHU
(RQP /DGMCG/24/2020)
Email: dsahu303@gmail.com,
Mob. No. 08817092442

For,
SIDDHARTH GEO CONSULTANTS
First Floor, 621/3, Ramkund,
Samta Colony Behind Life Worth Hospital Raipur (C.G.)- 492001
Fax-0771-4070731
E-mail-sgc_rai@yahoo.co.in

INDEX

Sl. No	PARTICULARS	PAGE No.
	INTRODUCTION	4
1.	GENERAL	5
2.	LOCATION	6
3.	GEOLOGY AND EXPLORATION	9
4.	RESERVES	16
5.	DEVELOPMENT AND PRODUCTION PROGRAMME	20
6.	MANPOWER DEPLOYMENT	32
7.	USE OF MINERAL	33
8.	WASTE DISPOSAL ARRANGEMENTS	35
9.	ENVIRONMENTAL MANAGEMENT PLAN	37
10.	MEASURES TO BE TAKEN FOR RECLAMATION OF LAND	43
11.	QUARRYING CLOSURE PLAN	45

LIST OF CERTIFICATES

I	Certificates/Undertakings/Consents from Lessee	51
II	Certificate Given by RQP	53

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY:
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

LIST OF ANNEXURES

Annx. No.	PARTICULARS
1	State Govt. Letter For Preparation of Quarry Plan
2	State Govt. order Letter For PL Grant
3	Copy of PL Deed
4	Copy of Prospecting Report
5	Copy of Chemical Analysis Report
6	Form – VII [Rule 16 (II)(a) of CGMMR, 2015]
7	Form – VIII [Rule 16 (III)(a) of CGMMR, 2015]
8	Form – J [Rule 48(1) of MCDR, 2017, Log Details]
9	Registration Certificate of Company
10	Board Resolution for Signing Authority
11	List of Board of Directors of Company
12	Copy of ID & Address Proof of Signing Authority
13	Copy of RQP Certificate
14	Photographs of the area

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

LIST OF PLANS AND SECTIONS

PLATE No.	PARTICULARS	SCALE
1	Key Plan	1:50000
2	Location Plan	Not to Scale
3	Lease Map	1:4000
4	Surface Plan	1:1000
5	Surface Geological Plan	1:1000
6	Surface Geological Sections	1:1000
7	Composite Five Years Development/Production Plan	1:1000
8	Composite Five Years Development/Production Section	1:1000
9	Environment Plan	1:5000
10	Environment Management Plan	1:4000
11	Quarry Closure Plan	1:1000
12	Conceptual Plan	1:1000
13	Conceptual Sections	1:1000
14	Bore Hole Logs	1:100

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

CHAPTER-1
GENERAL

(a)	**Name of Lessee/Applicant**	**M/s Shubh Minerals Pvt. Ltd.**
	Address	Goyal Automobile, Jindal Road, Jagatpur, Raigarh
	Village	Jagatpur
	Tehsil	P.O. & Tehsil- Raigarh
	District	Raigarh
	State	Chhattisgarh
	PIN code	496001
	Phone No.	09300108924
	E-mail	shubhminerals@gmail.com
(b)	**Status of the Applicant**	Private Limited Company
(c)	**Mineral(s) which are occurring in area and which the applicant intends to Mine**	Dolomite
(d)	**Period for which quarry lease is to be granted**	50 Years
(e)	**Name and address of the Recognized Qualified Person(RQP) preparing the Quarry plan**	Deepak Kumar Sahu Postal Address- 621/3, Ramkund, Behind Life Worth Hospital, Samta Colony , Raipur (C.G.) 492001 Mobile No: 8817082442 Email Id – dsahu303@gmail.com
(f)	**Registration No. of Recognized Qualified Person or authorization of the state government,**	Regd. No. RQP/DGMCG/24/2020
(g)	**Name of prospecting agency**	M/s Siddharth Geo Consultants, Raipur (C.G.)
(h)	**Whether the area is prospected by the Directorate Geology and Mining, If yes then enclose a certified copy of prospecting report of DGM (P.L. Report may procedure as per rule).**	No

APPROVED

* * * * *

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

CHAPTER-2
LOCATION

A. Detail of the lease area

State	Chhattisgarh
District	Raigarh
Taluka	Baramkela
Village	Chhelphora (Block-1)
Khasra No.	The Khasra-wise detail of the lease area is given below :
Lease area (hectares)	1.683 Hectares
Compartment number if the area is recorded to be in forest (please specify whether protected, reserve etc.)	Non-forest land
Ownership/Occupancy	Private and individual.
Existence of public Road/ railway line, if any, nearby and approximate distance	Applied quarry lease area is approachable from Tehsil headquarter Baramkela by a fair tar road at a distance of about 10 km and is about 38 km from the District headquarter Raigarh by all season fair road. The nearest Railway Station is Raigarh.
Toposheet No with Latitude/ Longitude	**Toposheet No.** – 64 O/6 The lat/long of all corner pillars is tabulated below.
Land Use Pattern **(Forest, agricultural, grading, barren, etc.)**	Private Land – 1.683 ha., Forest Land - Nil Govt. Land - Nil

APPROVED

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

The Khasra-wise detail of the lease area is as under:

S.No.	Name of Village	Khasra Nos.	Area in Ha.	Type of Land
1	Chhelphora	206	0.089	Private Land
2		207/3	0.380	--do--
3		208	0.304	--do--
4		210/1	0.339	--do--
5		211	0.421	--do--
6		212		
7		214/3	0.081	--do--
8		214/4	0.069	--do--
Total			**1.683**	

The Latitudes and Longitudes taken by GPS (WGS-84) at all the boundary pillars area as under:

Co-ordinate of boundary pillar has been given as per approved quarry plan-

Pillar No.	LONGITUDE	LATITUDE
CA01	83° 17' 02.12"E	21° 39' 25.67"N
CA02	83° 17' 03.52"E	21° 39' 25.40"N
CA03	83° 17' 03.38"E	21° 39' 24.35"N
CA04	83° 17' 05.55"E	21° 39' 24.02"N
CA05	83° 17' 06.19"E	21° 39' 25.61"N
CA06	83° 17' 07.22"E	21° 39' 25.47"N
CA07	83° 17' 06.77"E	21° 39' 24.16"N
CA08	83° 17' 07.51"E	21° 39' 23.95"N
CA09	83° 17' 07.91"E	21° 39' 25.23"N
CA10	83° 17' 09.66"E	21° 39' 24.32"N
CA11	83° 17' 08.94"E	21° 39' 22.61"N
CA12	83° 17' 08.32"E	21° 39' 22.69"N
CA13	83° 17' 08.08"E	21° 39' 21.55"N
CA14	83° 17' 04.94"E	21° 39' 22.11"N
CA15	83° 17' 02.02"E	21° 39' 22.86"N

APPROVED

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

B. Attach a map showing boundaries of the quarry lease, adjoining area, roadways, railways, natural drainage system and other surface features, if any. It is preferred that the area be marked on a Survey of India Toposheet or a cadastral map or forest map as the case may be. However if none of these are available, the area should be marked on a plan prepared especially for the purpose on a scale of 1: 50000 linking it with any important reference point available in and around the area.

Key plan with demarcated area in Survey of India Toposheet on scale 1:50,000 are enclosed as **Plate No.-1.**

Distance from:

S. No.	Permanent Features	Distance from the Area
1	National Highway No.	Raigarh to Chandrapur Road-NH-200, 6.0km
2	State Highway No.	Baramkela Marg, 0.5km
3	PMGSY/ CMGSY	1.2 km.
4	Other path way	Nil
5	Any water body	2.0 km
6	Any residential educational area	Primary School in Katangpali 1.0km
7	Any kind of bridge	10 km.
8	Hospital/ Historical place	10 km.

APPROVED

* * * * *

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

CHAPTER-3

GEOLOGY AND EXPLORATION

A. Briefly describe the general topography explaining whether it is a Plain land or hilly area and local geology of the mineral deposit within the lease hold. Attach a geological plan on 1:1,000 / 1:2,000 scale with 1-2m contour intervals.

(i) Topography:

Topographically the area in Raigarh district can be divided into two distinct regions-

(i) Central and Eastern plains belonging to Chhattisgarh basin, area having an elevation of 204 to 205 m above the M.S.L. and

(ii) North-Western peripheral undulating terrain of low hills of Gondwana Formation. The main river in the area is Mahanadi flowing in the Eastern direction in the north of the applied quarry lease area.

River & Drainage - The Mahanadi River is about 2.5 km away on northern direction of the lease area and it flows towards eastern direction. Local drainage pattern is controlled by Katang Nala which is about 500 m and Bagai Nala about 250m away from lease area. The general drainage pattern is towards northern direction. The lease area is very small, hence, hydrological studies has not been carried out. There is no potential of acid mine drainage and water is potable.

Vegetation: There are few local varieties of trees like Babul, Pipal, Neem and thorny shrubs which are the main vegetations.

Climate: Climate of this area is tropical. During peak summer the temperature rises to 45°C during May, while winter temperature falls down to 09°C during Jan. & Dec.

Rainfall: The rain fall is confined to the rainy season from July to September and the annual rainfall is av. 1000 -1200 mm.

(ii) Geology:

APPROVED

Regional Geology-

The Dolomite and associate formation of the region is belonging to maniari formation of Raipur Group within Chhattisgarh Supergroup. The youngest maniari formation represents the closing phase of deposition in grey siltstone, shale followed by raddish brown calcareous/non-calcareous shale with limestone and dolomite. The interacratonic Chhattisgarh Basin is crescent shaped and covers about 33,000 sq km area in Raipur, Durg, Rajnandgaon, Bilaspur and Raigarh district of Chhattisgarh and adjoining parts of Orissa. The basin has a maximum length of about 300 km along ENE-WSW direction. The maximum thickness of sediments is more than 2 km and is epicontinental or stable shelf type.

SHUBH MINERALS PVT. LTD.

DIRECTOR

Chhattisgarh basin consists of sub horizontally disposed sedimentary succession of mostly Sandstone, Shale, Limestone and dolomite of upper Proterozoic age.

The generalized geological succession of the area is given below.

GEOLOGY IN BRIEF: Litho-stratigraphy of Chhattisgarh Basin (Source: GSI miscellaneous publication No.30, part XXI, 2nd revised edition, 2006)

Stratigraphy of the Chhattisgarh Super Group

CHATTISGARH SUPERGROPP		Intrusives		Dolerite Dike
	RAIPUR GROUP	Maniari Formation (70 m)		Purple shale with dolomite, dolomitic limestone and gypsum
		Hirri formation (70 m +)		Grey dolomite, argillaceous dolomite
		Tarenga Formation (180m)	Bilha Member	Purple dolomitic argillite
			Dagauri Member	Green clay, chert and clay intercalation (tuffaceous)
			Kusmi Member	Pink to purple calcareous shale
		Chandi Formation (670m)	Nipania Member	Purple and bedded limestone Purple argillaceous stromatolitic dolomite
			Pendri/Deodonger Member	Purple and grey stromatolitic limestone and dolomite with flaggy limestone-shale intercalation / ferruginous glauconitic arenite and shale
		Gunderdehi Formation (430m)	Newari Member	Pink and buff stromatolitic limestone and dolomite
			Andha/Dotopar Member	Predominantly pink, purple and grey shale with limestone intercalation / arenite / buff to green shale member in the middle
		Charmuria Formation (490 m)	Bagbura Member	Purple limestone (phosphatic)
			Kasdol Member	Dark grey bedded limestone / argillaceous limestone with minor shale intercalation
			Ranidhar Member	Cherty limestone and dolomite (phosphatic at places)
			Sirpur Member	Chert and clay intercalation
	CHANDRAPUR GROUP	Kansapathar Formation (20-200m)		White to pinkish glauconitic quartz arenite
		Chaporadih Formation (230-200m)		Purple, green, grey and black shale with fine quartz arenite intercalation
		Lohardih Formation (20m)	-Unconformity-	Ferruginous purple arkose and gritty wacke arenite with shale parting and conglomerate at the base
	SINGHORA GROUP	Chhuipali Formation (300m?)		Stromatolitic limestone and dolomite at the upper part Variegated shale with minor bedded limestone, chert, siltstone intercalation
		Bhalukona Formation (20m)		Quartz arenite / siltstone and minor shale:
		Saraipali Formation (60m)		Variegated shale with minor siltstone and limestone Porcelanite ,tuff / tuffite
		Rehatikhol Formation(20m+)	-Unconformity-	Feldspathic arenite, arkose and conglomerate at the base
		Basement		Archaean and lower proterozoic rocks

APPROVED

SHUBH MINERALS PVT. LTD.

(Signature of Lessee) DIRECTOR

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

(iii) Local Geology of the Area:

In the prospected area the dolomite occurs belong to the Maniari formation of Raipur Group. The youngest Maniari River along which the rock is best exposed and oval shaped out crops in the central part of basin. It represents the closing phase of deposition in Chhattisgarh Basin and consists of siltstone with dolomite and limestone.

The dolomite is occurring all over the region. It is a bedded formation striking almost N 30° E to S 30° W having 2° to 3° dip towards SE direction. Dolomite is grey in colour, fine grained, hard and compact. Dolomite is a dominant rock in the area and the exposures of dolomite are seen in the nearby working pits.

The litho succession of the area and surroundings are as follows –

Raipur group	Recent	3.30 – 4.0m thick alluvial &lateritc soil
	Maniari formation	Grey to dark grey colored dolomite

The general strike of the dolomite is NE-SW. In most of the prospected area, grey dolomite is present under thick (average3.7m) over burden of alluvial and lateritic soil. In the Western part of the prospected area of Gunderdehi formation of Raipur group is present. The sub parallel drainage pattern and rectilinear flow of Mahanadi and its tributaries also suggest presence of faults and major fractures in the area.

Physical Property of the Dolomite-

Color- light grey, Form – massive, Lusture – vitreous, Streak – white, Hardness – about 3, Sp.Gr. – 2.85.

(iv) Structure of the area-

No major structural or tectonic disturbances are observed in the area so far. The bedding is mostly sub horizontal. The amount of dip ranges from approx 2-3^0 in S-E direction. Low grade local warping present in the applied area. These local warping has occurred appropriately due to differential compaction of argillaceous pond in Dolomite due to gravity.

The area showing a nature and extent of the mineral body:

A Surface Geological Plan on a scale 1:1000 is attached, showing general topography and geology of the area.

APPROVED

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

B. Describe briefly prospecting / exploration work done to date viz. geological mapping with the evidence already existing about the mineral deposit in the area or in the vicinity.(Attach Geological Report)

Exploration already carried out in the area-

Main objects of this exploration of the area is to mark various litho-units in geological map and identify the quality of Dolomite observed by chemical analysis and estimate the reserve potential of the Dolomite deposit of prospecting license granted area by proper mapping and adopting scientific methods of exploration.

Reconnaissance Survey-

Before the starting of prospecting operation the whole prospecting license granted area was surveyed by traverse and identified the various litho-units of the area and as per the prospecting scheme, detailed prospecting operation to be done. The P.L. granted area is bounded between Longitude E 83°17'02.02" to 83°17'09.66" & Latitude N 21°39'21.55" to 21°39'25.67". The area is falling on Survey of India Toposheet no. 64 O/6. The predominant litho unit of Maniari formation is dolomite, shale and some cherty bands are mostly observed in the area.

Mapping-

Detailed geological mapping on the scale of 1:1000 is done in Chhelphora village area. The total area of 1.683 hectares has been mapped. In this Dolomite lease area exposures are present into the adjoining pits. The Dolomite shows different shades of gray colours. The general strike is NE-SW. The grid interval during mapping has chosen to be 100 mts, and pegging was done at every 100 mts. The various thickness of overburden in the lease area is 3.30 to 4.0 meter.

APPROVED

Drilling & Pit-

Sampling and outcrop mapping is necessarily conducted to plan the location of the boreholes. A detailed topographical survey of the area is also conducted in 1:1000 scales with contour interval of 1 meter. While, granting the PL over an area of about 1.683 hectares, 2 nos. of boreholes and 2 nos. of trial pit were made by applicant in this area, to prove the thickness and extension of dolomite deposit and identify the length and width of dolomite deposit found in the lease area. Thickness of soil cover is 0.4 to 0.7 meters, overburden is 2.70 to 3.50 meters and ore body observed is 26 meters out of 30.0m depth in the BH-1&2.

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

PIT:

Pit No.	Location		MSL in meter	RL in meter	Thickness of Soil in meter		Thickness of dolomite in meter	Ave. Chemical analysis		
	Longitude	Latitude			Top soil	Lateritic soil		MgO	CaO	SiO_2
Pit-1	83° 17'02.71"	21° 39'24.75"	204.0	200.35	0.40	3.05	0.2	20.08	28.63	1.39
Pit-2	83° 17'08.42"	21° 39'39.95"	203.8	200.30	0.60	2.70	0.2	19.59	29.36	1.12

DRILLING:

Borehole No.	Location		MSL in meter	RL in meter	Thickness of soil in meter		Thickness of dolomite in meter	Ave. Chemical analysis		
	Longitude	Latitude			Top soil	Lateritic soil		MgO	CaO	SiO_2
BH-1	83° 17'04.04"	21° 39'23.46"	204.5	174.5	0.50	3.50	26.0	19.60	29.28	1.71
BH-2	83° 16'50.68"	21° 39'12.92"	204.5	174.5	0.70	3.30	26.0	19.75	28.77	1.84

APPROVED

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

Chemical Analysis-

The results of these 20samples indicate the presence of high grade dolomite in the prospected area. The average analysis of these samples is given below:

Sr.No.	BH/ PIT No.	Sample No.	SiO_2 %	CaO%	MgO%	Fe_2O_3 %	Al_2O_3 %
1	BH-1	CB1/BH-1/SC-1	1.87	27.98	20.10	1.99	0.89
2		CB1/BH-1/SC-2	1.76	29.39	19.62	2.99	1.77
3		CB1/BH-1/SC-3	1.62	30.10	19.63	1.99	1.27
4		CB1/BH-1/SC-4	1.92	29.36	19.09	1.98	2.78
5		CB1/BH-1/SC-5	1.71	30.02	19.57	2.01	2.28
6		CB1/BH-1/SC-6	1.95	27.94	20.08	2.98	1.65
7		CB1/BH-1/SC-7	1.75	29.38	19.61	1.00	1.27
8		CB1/BH-1/SC-8	0.68	30.05	19.09	0.99	0.76
9		CB1/BH-1/SC-9	2.15	29.38	19.61	1.00	0.89
Average % of BH-1			**1.71**	**29.28**	**19.60**	**1.88**	**1.50**
10	BH-2	CB1/BH-2/SC-1	1.66	28.63	19.57	2.00	1.14
11		CB1/BH-2/SC-2	1.92	28.65	20.08	1.99	1.27
12		CB1/BH-2/SC-3	1.65	28.99	20.09	2.01	0.89
13		CB1/BH-2/SC-4	1.80	27.95	19.58	1.99	1.64
14		CB1/BH-2/SC-5	1.97	29.36	20.10	2.00	1.77
15		CB1/BH-2/SC-6	1.86	29.38	19.60	1.99	1.65
16		CB1/BH-2/SC-7	1.78	27.96	19.58	1.00	1.26
17		CB1/BH-2/SC-8	1.87	28.66	20.09	1.01	0.76
18		CB1/BH-2/SC-9	2.12	29.36	19.08	1.00	0.51
Average % of BH-2			**1.84**	**28.77**	**19.75**	**1.66**	**1.21**
19	Pit-1	CB1/P-1/SC-1	1.39	28.63	20.08	1.99	0.63
20	Pit-2	CB1/P-2/SC-1	1.12	29.36	19.59	1.00	0.89
Overall Average %			**1.72**	**29.02**	**19.69**	**1.74**	**1.29**

APPROVED

The lease area has shown a very good potentiality and quality of the presence of dolomite. Hence it is suggestive that the exploratory quarry can directly be started on the lease area to enhance the portability and economic viability of dolomite. The Infrastructural facilities for dolomite quarry and their transportation are fairly available in the area.

Drawn samples sent for analysis of following radicals (i) CaO (ii) MgO (iii) SiO_2 (iv) Al_2O_3 (v) Fe_2O_3 (vi) LOI

The chemical analysis report is enclosed as **Annexure No.-5.**

Specific Gravity-

Dolomite: 2.85

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

Extension and depth persistence:

Calculation of the proved reserve only 26 mt. thickness of Dolomite is considered during prospecting operation. Most of the surrounding mines show presence of good quality of Dolomite in this region and around the lease area. The average MgO content is about **19.69%**, CaO% is **29.02%** and the Silica content is about **1.72%.**

APPROVED

* * * * *

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

CHAPTER-4

RESERVES

4.1 Method of Reserve/Resources Estimation:

Parameters established for reserve/resources as given below-

(i) The entire lease area has been covered by topographical-cum-geological mapping with 50 m grid interval including all surface and geological features, lithological extent, extent of mineralization, structures, location of pit, etc and the Surface Plan has been prepared on 1:1,000 scale with contour interval of 1.0m and enclosed as Plate No. 4.

(ii) The study of the Regional Geology and Local geology has been carried out. The geological mapping has been carried out in the entire lease area. The Surface Geological Plan has been prepared on a scale of 1:1,000 and enclosed as Plate No. 5.

(iii) Two nos. of cross-sections have been prepared in 50 m interval for better demarcating the lithology on a scale of 1:1,000 and Enclosed as Plate No. 6.

(iv) The thickness of top soil is average 0.5meters and overburden is 3.5meters.

(v) The thickness of dolomite is about 26 m.

(vi) The bulk density of dolomite has been taken as 2.85 (as per prospecting report).

(vii) The average chemical composition of dolomite is CaO-29.02%, MgO -19.69% and SiO2 -1.72%.

(viii) The dolomite formation is homogeneous, stratiform of regular habit, thus the reserves of dolomite has been considered under category G1.

4.2 Estimation of Mineral Reserves/Resources (in 1.683 Hect.)

The Category–wise reserve/resources of Dolomite established in the prospecting report dated is as follow:

(A) Measured Mineral Resources (331): That part of mineral resources for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence i.e. based on detailed exploration.

APPROVED

The calculation of Mineral Resource is as under:

Cross-sections	X-sectional Area (sq m)	Distance between X-sections (m)	Volume (cu m)	B.D.	Resources (Tonnes)
$C_1 - C_1'$	1490	138	205620	2.85	586017.00
$C_2 - C_2'$	2990	78	233220	2.85	664677.00
Total					**1250694.00**

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

(B) Estimation of Blocked Resources: Pre-feasibility Mineral Resources (221) category.

(a) Dolomite blocked within the 7.5 m of non-mining zone upto the thickness of dolomite encountered in boreholes has been estimated by the cross sectional method:

Cross-sections	X-sectional Area (sq m)	Distance between X-sections (m)	Volume (cu m)	B.D.	Resources (Tonnes)
$C_1 - C_1'$	427.6	138	59008.8	2.85	168175.08
$C_2 - C_2'$	423.58	78	33039.24	2.85	94161.83
Total					**262336.91**

b) Dolomite locked due to pit slope:- Apart from the above 7.5 m of non-mining zone, dolomite will be locked to maintain the pit slopes. Since, the dolomite is very hard and compact; the angle of slope was taken as 45^0 which will be quite stable.

Cross-sections	X-sectional Area (sq m)	Distance between X-sections (m)	Volume (cu m)	B.D.	Resources (Tonnes)
$C_1 - C_1'$	653.74	138	90216.12	2.85	257115.94
$C_2 - C_2'$	844.73	78	65888.94	2.85	187783.48
Total					**444899.42**

Total Blocked Mineral Resources is (a + b) = 262336.91 + 444899.42 = 707236.33 Tonnes

(C) Mineral Reserve (121): Economically mineable part of measured and/ or indicated mineral resource.

Cross-sections	X-sectional Area (sq m)	Distance between X-sections (m)	Volume (cu m)	B.D.	Resources (Tonnes)
$C_1 - C_1'$	408.66	138	56395.08	2.85	160725.98
$C_2 - C_2'$	1721.69	78	134291.82	2.85	382731.69
Total					**543457.67**

APPROVED
(ANURAG DIWAN)
JOINT DIRECTOR (ADMIN.)
D'RATE OF GEOLOGY AND MINING,
CHHATTISGARH, RAIPUR.

SHUBH MINERALS PVT. LTD.

DIRECTOR
(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

The criteria and their compliance for study for F-2 category as per the UNFC guidelines:

F2 (Pre-Feasibility Study)	
Guidelines	**Studies done**
1. **Geology:** Local geology, mineralogy, identification of ore types and geometry.	1. Detailed geological studies have been carried out.
2. **Mining:** Methods, pre-production plan, development plan, manpower (rough estimate).	2. Quarry Plan is being submitted.
3. **Environment:** Base line date on environment.	3. The baseline information regarding environment will be collected and incorporated.
4. **Processing:** Proven laboratory scale/ pilot scale beneficiation, investigation data, likely establishment.	4. Processing is not required.
5. **Infrastructure and services, construction activities:** Brief details	5. The details have been given in the Quarry Plan.
6. **Costing:** Capital and operating cost-rough estimates based on comparable mining operations.	6. The area is fresh grant and economical profitable as per mining experience.
7. **Marketing:** Overview like industrial structure, demand supply relation, pricing, etc.	7. The mineral will be for sale to steel plants.
8. **Economic viability:** Preliminary study of cash flow forecasts.	8. Given below.
9. **Other factors:** Statutory provisions relating to labor, land, mining, taxation, etc.	9. All statutory provisions are being strictly followed.

The criteria and their compliance for study for E-1 category as per the UNFC guidelines:

E1 (Economic)	
Guidelines	**Studies done**
1. Detailed exploration.	1. Detailed exploration has been done.
2. Mining report/quarry plan/working mines.	2. The quarry plan is being prepared.
3. Specific end-use grades of reserves (above economic cut-off grade).	3. End-use grades of reserve have been defined clearly.
4. Specific knowledge of forest/non forest and other land use data.	4. Different land use data area clearly available and incorporated.

APPROVED

Economic viability of the project:

The cost of production is about Rs. 450/- per T and profit will be about 35-40/- per T, hence, profitability is established based on sale price of mineral and total cost incurred on per tonne basis. On economic axis E-1 can be assigned to mineable mineral reserves considered.

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

Market Analysis:

The dolomite produced from this mine is of flux grade and will be supplied to different steel plants located in Raigarh, Bhilai, and Raipur.

The acceptable grade of flux-grade dolomite is MgO% min. 18% and SiO_2 max. 6%.

UNFC Classification of Reserves: (on date 01.07.2022)

Classification	Code	Quantity (T)	Grade
A. Total Mineral Reserve			
(1) Proved Mineral Reserve	111	---	--
(2) Probable Mineral Reserve	121	543457.67	Cao – 29.02 %, MgO– 19.69 %, SiO2 – 01.72 %
	122	---	
B. Total Remaining Resources			
(1) Feasibility Mineral Resources	211	---	--
(2) Prefeasibility Mineral Resources	221	707236.33	--
(3) Prefeasibility Mineral Resources	222	---	--do --
(4) Measured Mineral Resources	331	---	--
(5) Indicated Mineral Resources	332	---	--
(6) Inferred Mineral Resources	333	---	--
(7) Reconnaissance Mineral Resources	334	---	--
Total Mineral Resources (A+B)		**1250694.00**	--do --

The Recoverable Reserves = 543457.67 x 95% = 516284.78 Tonnes.

Note: The mining loss has been considered as 5% of the total ROM.

Anticipated Life: On the basis of the present mineable reserve of **0.543 Million Tonnes** and overall average annual ROM production is 10869.15 Tonnes for the lease period up to 50 years (Maximum ROM production is 1,00,000 M.T./year). The anticipated life of the mine will be 0.543/0.0108 = **50 years**.

APPROVED

* * * * *

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

10/6/23

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

CHAPTER- 5

DEVELOPMENT AND PRODUCTION PROGRAMME

QUARRYING:

(A) Method of quarrying

Presently, the no mining activity because this is a fresh grant and the mining shall be carried out by mechanized method under 'A' category.

The drilling is being carried out by wagon drill/DTH of 90 mm dia and subsequent blasting. Rest all the other operations like sizing, loading etc. will be done by machinery.

The bench height will be kept as 6.0m by developing two sub-benches of 3.0 m each so as to facilitate jack hammer/wagon drilling.

As per the present practice, the recovery of dolomite is about 95% of the ROM and remaining 5% is intercalations clayey material.

The blast holes will be drilled by jackhammer and subsequently blasted. Thereafter, the oversized blasted mass will be reduced rock breaker and will be transported by excavator/dumper combination to the crushing and screening unit from the mine.

The first five years proposal period of quarry plan will be considered from the date of execution of lease deed.

The mineral will be sized according to the consumer's specification and stacked on the mine surface/near crushing plan. This stacked dolomite will transport to the consumers by their own and hired trucks. During the quarry operation the overburden will be removed separately and not mixed with the dolomite rejects and stacked properly in the proposed place for partially reclamation and plantation purpose.

APPROVED

The composite development and production plan and Cross sections - **Plate No. – 7.**

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

(B) A tentative scheme of quarrying, annual program and plan for excavation from year to year for five year

The proposal of development and production for the first five years has been given in entire lease area and will be extended lateral and in depth.

In 1st year of this plan period, development work by way of removing overburden/top soil over an area of total 6434 sq. m. will be taken up from proposal site with av. 3.0 m depth (top soil-0.5m & OB-3.5m) with bench height 1.5-2.0m each and top soil will be spread along lease boundary for plantation purpose and overburden will be utilized for reclamation purpose. One bench of mineral will be constructed in working pit-1 as namely B-2-200.5-197.5mRL, with bench height 3.0 m each.

In 2nd year of this plan period, development work by way of removing overburden/top soil over an area of total 4785 sq. m. will be taken up from proposal site with av. 3.0 m depth (top soil-0.5m & OB-3.5m) with bench height 1.5-2.0m each and top soil will be spread along lease boundary for plantation purpose and overburden will be utilized for reclamation purpose. One bench of mineral will be constructed in working pit-1 as namely B-2-200.5-197.5mRL, with bench height 3.0 m each.

In 3rd year of this plan period, no development work for removing of top soil.

One bench of mineral will be constructed in working pit-1 as namely B-3-197.5-194.5mRL, with bench height 3.0 m each.

In 4th year of this plan period, no development work for removing of top soil.

Two benches of mineral will be constructed in working pit-1 as namely B-3-197.5-194.5mRL & B-4-194.5-191.5mRL with bench height 3.0 m each.

In 5th year of this plan period, no development work for removing of top soil.

Two benches of mineral will be constructed in working pit-1 as namely B-5-194.5-188.5mRL & B-6-188.5-185.5mRL with bench height 3.0 m each.

APPROVED

Composite 5 year's development and production plan and sections attached as **Plates no. 7.**

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

The details of development and production are given in table-1& 2 below:

Table-1: Details of Development Program for first five years:

Average thickness of top soil about 0.50m and OB 3.5m has been considered.

(a)	Year Wise Development Proposal				
Year	Area (m2)	Top soil CUM	OB/SB/IB in CUM	Intercalated Waste 5% of ROM (cum)	Total waste in CUM
(1)	(2)	(3)	(4)	(5)	(6)=(3)+(4)+(5)
1st year	6434	3217.0	22519.0	1052.6	26788.6
2nd year	4785	2392.5	16747.5	1052.6	20192.6
3rd year	0	0	0	1754.4	1754.4
4th year	0	0	0	1754.4	1754.4
5th year	0	0	0	1754.4	1754.4
Total	**11219**	**5609.5**	**39266.5**	**7368.4**	**52244.4**

Table-2: Production plan for first five years:

Year	Area in m^2	Bench height in m.	Tentative ROM (T)	Production of Dolomite (T) (Rec.95%)	Intercalated Waste(T) (Mining losses 5%)	Upto RL In M.
(1)	(2)	(3)	(4)=(2)x(3)x2.85	(5)=(4)x0.95	(6)=(4)x0.05	(7)
1st year	7017.55	3.0	60000	57000	3000	200.5-197.5
2nd year	7017.55	3.0	60000	57000	3000	200.5-197.5
3rd year	11695.91	3.0	100000	95000	5000	197.5-194.5
4th year	11695.91	3.0	100000	95000	5000	197.5-191.5
5th year	11695.91	3.0	100000	95000	5000	191.5-185.5
Total			**420000**	**399000**	**21000**	

APPROVED

(ANURAG DIWAN)
JOINT DIRECTOR (MIN. ADMIN.)
D'RATE OF GEOLOGY AND MINING,
CHHATTISGARH, RAIPUR.

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

(D) Conceptual Quarry Plan:

Conceptual Plan is enclosed as Plate no.- 12 and its sections are in Plate no.- 13.

The conceptual plan has been prepared on the basis of the economic depth of working. The method of mining is mechanized under category 'A' open cast mine. The salient features of the proposed method of working is following points-

(I) Exploration:

The exploration work has been proposed in the lease hold area as given below-

As on date			During Proposal Period			During Conceptual Period		
Type, Depth	Quantum No./Size	Area covered in Hect.	Type, Depth	Quantum No./Size	Area covered in Hect.	Type, Depth	Quantum No./Size	Area covered in Hect.
Quarry	Nil	-	Nil	-	-	Nil	-	-
Pit	2	-	Nil	-	-	Nil	-	-
Trench	Nil	-	Nil	-		Nil		
BH/ Vertical	2	1.683	Nil	-	-	Nil	-	-

At present, on the basis of exposures of Dolomite in the pits & depth in the borehole the sufficient quantity of Dolomite for the quarrying operation. For conceptual period or proposal period there are no borehole will proposed.

(II) Excavation:

In the lease area, almost the entire area is mineralized and mining is proposed in this area, except restricted statutory boundary or barrier zone and restricted zone. As estimated the mineable reserves are about **0.543** Million Tonnes. **UPD up to RL-179.5m.**

At the end of Period	Excavation programme					
	Pit Name	Broken area in ha	Up to RL in m.	Av. Production in T (ROM)	OB/IB/SB in CUM	Overall Slope (in 0^0)
The end of proposal period	Pit-1	1.122	185.5	84000T/yr	Nil	60^0
C.P. (6^{th} to 50^{th} years)	Pit-1	1.122	179.5	2743.5T/yr	Nil	

Presently, No working pit has covered. End of conceptual period, the pit size will be about 1.122 ha and the maximum depth will be about 25m from general surface level up to 179.5mRL. This will be ultimate pit depth (UPD).

APPROVED

SHUBH MINERALS PVT. LTD.

(Signature of Lessee) DIRECTOR

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

The pit area will be properly fenced to prevent safety measures. After the mining up to economical depth, pit will utilize as water reservoir for irrigation purpose or pisciculture.

(iii) Waste Disposal:

Disposal of OB/waste material is given below-

Item	Waste generation during proposal period (cum)	Waste generation during C.P. (cum)	Total waste Handled (cum)	Quantity disposed of on (cum)		Area for disposal (ha)	
				Dumping	Reclaimed by Backfilling	Dumping	Reclaimed by Backfilling
Top Soil	5609.5	0	5609.5	3217.0	2392.5	0.321 (SD1)	Outside
SB/OB	39266.5	0	39266.5	0	39266.5	0.000	Outside
Waste (5%Mining loss)	7368.4	2166	9534.4	0	9534.4	0.000	Outside

Disposal of Top Soil: first year generated top soil 3217.0cum will be spread along the lease boundary for plantation purpose and second year generated about 2392.5 cum top soil will be utilized for reclamation by backfilling and rehabilitation purpose in outside of the applied lease area (own lease area).

Disposal of OB/Waste: The recovery of saleable quartz is about 95% from ROM and remaining 5% will be generated as waste due to intercalation and also overburden will be generated during quarry operation this waste will be utilized for reclamation purpose in outside of the own existing quarry leases (western direction) and also used for maintain of haul roads. Refer to Environment Plan.

During proposal period/C.P., generated Waste will be generated during C.P. and it will be simultaneously backfilled in the mined out areas and pit will utilize as water reservoir for irrigation purpose or pisciculture.

APPROVED

(iv) Reclamation and Rehabilitation:

Status	Mined out area in ha.	Reclamation by backfilling in ha.	Rehabilitation in hect.			
			Of backfilling area by plantation	Of bench/ slope by plantation	Water Harvesting	Total rehabilitation area
At present	Nil	Nil	Nil	Nil	Nil	Nil
At the end of 5yr	1.122	Outside of the own leases	-	-	-	Nil
At the end of 10	1.122		-	-	1.0	1.0

SHUBH MINERALS PVT. LTD.

(Signature of Lessee) DIRECTOR

Rehabilitation –The rehabilitation of water reservoir will be carried out by way of utilising it for Pisciculture purpose. It will also serve the purpose as socio economic and social responsibility of the lessee by way of supplying water for irrigation purpose or at will of the local people.

(iv) Afforestation:

Afforestation will be carried out in 0.534 hectare area during 1st years which covers the safety zone of 7.5m width all along the lease boundary and out of lease area. Approx 1330 saplings of the local species like Kanrenj, Babool, and Jamun etc. will be planted in the lease area and out of lease area.

(v) Rated av. production capacity of mine-t/year: 84000 Tonnes/year

(vi) Life of mines: at present mine life is **50 years**.

(vii) Ultimate pit limit:

The ultimate pit limit has been designed keeping in view 7.5m barrier as per Rule 111 of MMR 1961 and Mineralized area.

(E) Open-cast Quarrying

The open-cast or open cut mining is a surface mining technique of extracting rock or minerals from the earth by their removal from an open pit or borrows. The working has been proposed to be carried out in the pit bottom and virgin land of the area. Each bench of ore is proposed 3.0-6.0 m height. Some mechanical excavator might be used for removal and loading of top soil and the Dolomite. All the operations will be carried out Mechanized category method.

(F) Extent of Mechanization:

It has already mentioned that, the complete quarry operation will be mechanized in nature.

APPROVED

The Salient features of Mining:

1	Type of ore to be mined out	Dolomite
2	Method of Mining	Opencast mechanized under 'A' category
3	Machineries used	Wagon/DTH (65-90mm dia) with compressor, excavator/loader for loading into Tipper/Dumper & water pump for dewatering and sprinkler
4	Max. yearly production	100000T
5	Average working days in a year	300 days
6	Average production per day (max)	Say 334 T

SHUBH MINERALS PVT. LTD.

DIRECTOR

The mine will be proposed as open-cast mechanised method under 'A' category. The mining machineries required will be as under:

a. List of Proposed Machinery (On hire basis)

1) **Drilling machines:**

The holes will be drilled by compressed air operated by 65 mm dia wagon drill with compressor/DTH and spacing between two holes will be 2.0 m, the depth of each hole will be 3.0m. Total requirement of drilled equipment is as under:

S. No.	Particulars	ROM
1	Maximum proposed annual production	100000 T
2	Production per day (100000/300 day=say 334)	Say 334 T
3	Output per hole = Spacing x Burden x depth x B.D. (2.0 x 1.5 x 3.0 x 2.85)	25.6 T
4	Nos. of holes per day (334/25.6 = 13.0)	13 nos.
5	Drill meterage required (13 x 3.0 =39)	39 m
6	Drilling capacity of a wagon/DTH drill in a hour in dolomite	7 m
7	Hours per shift	8 hours
8	Availability	85%
9	Utilization	85%
10	Effective hours per shift 8 x 0.85 x0.85	5.78 hours
11	Working capacity of jack hammer drill per day 5.78 x 7 m = 40.4	40.4 m
12	Therefore no. of wagon/DTH drills required (39/40.4 = 0.96)	Say 1 nos.

Type	Nos.	Dia of hole	Size/ capacity	Make	Motive power	H.P.
Drifter Wagon Drill	1	65/90 mm	100	Atlas Copco	Air Compressed	-

APPROVED

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

2) Requirement of Loading Machine:

S. No.	Particulars	ROM
1	Production per day	Say 334 T
2	Bucket capacity of Excavator (C)	1.0 cum
3	Safe loading capacity of Excavator (F)	0.9 cum
4	Swell factor for broken mass (S)	0.76 (76%)
5	Overall efficiency = Availability x utilization x operating efficiency (n)	0.46 (46%)
6	Cycle time in seconds for loading by excavator 2 minutes (t)	120 seconds
7	Formula Ah = hourly production of 1 cum excavator = (3600 x C x F x S x n)/t = (3600 x 1.0 x 0.9 x 0.76 x 0.46)/120 = 9.439 cum	Say 9.44 cum
8	Dolomite handling required per day 334/2 (B.D.) = 167	167 cum
9	Dolomite handling required per day hour 167/8 (hours) = 20.8 cum	Say 21 cum
10	Therefore nos. of excavator required = material handling/ hourly production = 21/9.44 = 2.2 say 2 nos.	Say 2 nos.

All loading of OB/Waste/Ore will be done mechanically by following machine.

Type	Nos.	Bucket Capacity	Make	Motive power	H.P.
JCB cum Backhoe Loader	2	0.9-1.2 cum	Nil	Diesel	220

3) Haulage and Transport Equipment

For loading by excavator and transportation of loadable sized Dolomite from quarry to C & S plan, 15 tonner dumpers / trippers will be utilized.

APPROVED

S. No.	Particulars	ROM
1	Maximum production during a year	100000 T
2	Excavation per day	334 T
3	Capacity of dumper/tipper	15 T
4	One Tipper can carry (as safety measures)	13 T
5	No of trips required per day 334/13 = 25.6	Say 26 trips
6	Total time taken for spotting, loading, transporting to C&S plant, unloading at C&S plant and back to the quarry	30 minutes
7	Overall efficiency = (Availability x utilization x operating efficiency)	0.50 (50%)
8	Effective hours per day 8 x 0.5 = 4 hours	4 hours
9	One dumper/tipper can make trips in an hour	2 trips
10	Hence, one dumper/tipper can make trips in a day 4x2	Say 8 trips
11	Nos. of dumper/tipper required (26/8 =3.25)	Say 4 nos.

SHUBH MINERALS PVT. LTD.

DIRECTOR

For loading by machinery from quarry to tipper/truck and will be transport to end users for utilization.

Type	Nos.	Size/Capacity	Make	Motive power	H.P.
Dumpers/Truck	4	15 tons	TATA	Diesel	110-210

The mineral will be transported to steel plant near Bilaspur and Raigarh from the mine site. Apart from that, the ore will also be sold to other user in the nearby areas and within the state of Chhattisgarh.

4) Other Equipments-

1	Pump (Diesel) 10 HP	01
2	Tractor & Water Tank	01
3	Drill, other tools & spares	As per requirement
4	Mining safety equipment as safety shoes, helmets, hand gloves, leg guard etc.	As per requirement
5	Mining safety equipment such as crowbar, pick-axe, spade, chisel etc.	As required

5) Miscellaneous Operation:

Sharpening and tempering of tools, cleaning the area of loose boulders, maintaining the quarry road benches. Causal labourers under mate/foreman's supervision will make Plantation and watering the saplings for the forestation.

APPROVED

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

(G) Blasting:

1) Broad blasting parameters-

Blasting will be carried out by contractual agency in accordance with the Explosive Act and MMR, 1961.

Drilling is proposed to be done by wagon/DTH (65/90 mm dia). The drilling parameter of the wagon is as under:

Output per blast hole will be (Spacing x Burden x Depth of hole x B.D.)	2.0 x 1.5 x 3.0 x 2.85	25.6 T
Maximum production in a year (av.)		100000 T/yr
Production in a day will be (Av. 300 working days)	100000/300	Say 334 T
No of holes to be drilled per day	334/25.6=13.0	Say 13 nos.
Meterage to be drilled per day	13 x 3.0 (depth)	39 m
Charge per hole	700-900 gm approx.	Approx. 800 gm
Max. charge per day	800 x 39 = 31200 gm	31.2 kg
Powder Factor	334/31.2 = 10.7	10.7 T/kg

The blasting will be carried out by 80% special gelatin.

OR

If the cartridges are used for blasting 65/90 mm dia hole jack hammer /DTH, the specification of cartridge for blasting will have the following parameters:

Diameter of cartridge	60 mm
Length of the cartridge	420 mm
Weight of the cartridge	2.2 kg

During the blasting, all Rules, Regulations and Precautionary measures will be taken. The blasting area will be covered by red flags at appropriate safety distance and operators and workers will be removed to safety distance and blasting will be conducted by a qualified blaster. The blasting will be done in twice/thrice in a week early morning or in the afternoon.

APPROVED

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

2) Explosive material to be used-

For blasting of holes up to a depth of 3.0 m, blasting gelatin with safety fuse and detonator will be used as per requirement or explosive cartridge will be used with safety fuse and detonator.

Blasting Block and commutation Pattern – Blasting will be carried out in single/multi row blasting pattern.

3) Powder factor in ore-

10.7 tones / kg of explosive will be used.

4) Whether secondary blasting is needed - Yes.

E) In the case of Quarry by machinery than the detail of machinery to be deployed (.....)

The complete quarry operation will be mechanized in nature. The detail of machinery has been discussed as above.

F) In case of manual quarry then average daily number of man power to be deployed (number, capacity etc.)

Dolomite produced from this area will be reduced in sized by rock breaker. Loading of sized dolomite in trucks will be done by loader.

G) Type and capacity of processing unit if established of proposed in lease area.

No processing / beneficiation of Dolomite has been planned or required except sizing & screen of Dolomite.

Dolomite produced from this area will be reduced in sized by rock breaker & send in the crushing plant for further sizing as per market requirement. One rotary impact crushing plant unit with 500 TPD capacities has been installed in the outside of the lease area. The size of the feed to primary crusher will be maximum 100 mm. The product will have -50mm size. The Dolomite after crushing will be transported by road to the steel plants. The processing described above will be in dry circuit only and there will be no use of water for processing except for suppressing the dust.

APPROVED

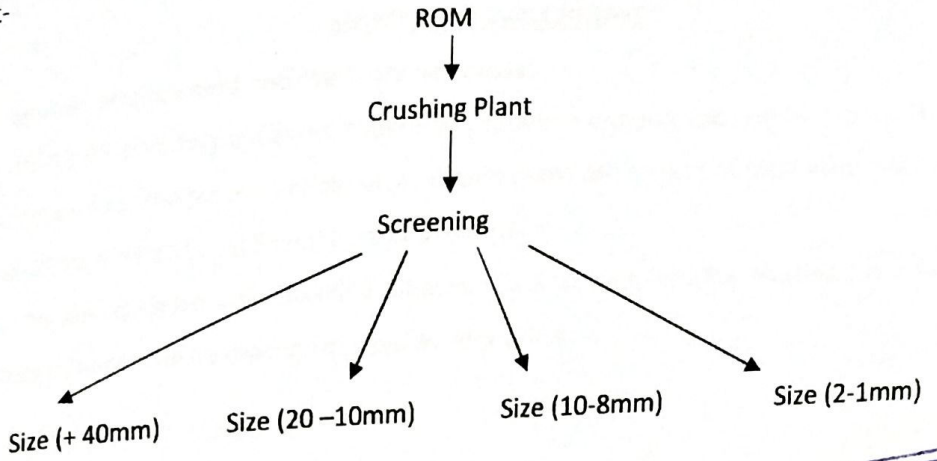
SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

Flow sheet-



APPROVED

* * * * *

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

CHAPTER- 6

MANPOWER DEPLOYMENT

State average daily employment and statutory personals:

Manpower will be for statutory purposes, supervisory requirement and also required for machinery loading. Manpower required for the purpose of statutory requirement will be part of total manpower which includes Mines Manager, Part time Mining Engineer, and Mate etc.

Apart from the above skilled and unskilled labourers will be required for blasting job and for Dolomite produced from this area will be reduced in sized by rock breaker.

SITE SERVICES:

a. Statutory Requirement

The following site services will be provided at near the lease area.

1. Manager's office.
2. Rest shelter.
3. First aid room.
4. Latrines and urinals.

b. Maintenance Requirement

1. Room for storage of spare parts and fuel.
2. Work shop for maintenance of machinery and vehicles.

c. Administrative Requirement

Employment potential

Employment Potential of the mining activity and crushing plant operation is listed in the table.

S No.	Designation	Qualification	Nos.
1	Mines Manager	Mines manager's Certification of competency	1
2	Mining Engineer / Geologist	Degree in Mining Engineering	1
3	Raising and other misc. workers	Skilled, semi-skilled & Unskilled	8

APPROVED

Immediate effect (Under Rule 42 of MCDR 1988 through GSR 216 (E) dated 29.03.2010)

* * * * *

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

CHAPTER- 7

USE OF MINERAL

Describe the utilization of mineral and type of industry.

a) End use of mineral

Dolomite is useful in many industries. Its uses in different industries depend upon its chemical constituent. It is used in iron and steel industries, refractory industries, Ferro alloys, chemical and glass industries, fertilizers, plant and rubber industries.

In Chhattisgarh dolomite is mostly used in iron and steel industries. Most of the dolomite is used in Steel plant. To meet the demand of existing Dolomite steel industries and industries which are yet to come in future.

b) Average specification of Dolomite

The acceptable range of Flux-grade dolomite is CaO% 28-30%, MgO% min 18% and SiO2 max 6%.

The average chemical composition of dolomite is (as per the chemical analysis report):

Radicals	Av. percentage
CaO %	29.02
MgO %	19.69
SiO2 %	1.72
Al2O3 %	1.29
Fe2O3 %	1.74

The quality is suitable for user plants as the dolomite meets the specification of the buyer plants.

c) Give details in case blending of different grades of ores is being practiced or is to be practiced at the mine to meet specifications stipulated by buyers:-

No blending of different grades of ore is practiced. The total ore will be sold in one grade only. All the produced quantity will be supplied to Steel plant, local market of Chhattisgarh.

APPROVED

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

Average specification of Dolomite

- **Chemical Formulae :** $CaMg(CO_3)_2$

Grades :

- **Iron and Steel Industry :**
  - Dolomite is used in iron and steel industry as refractory raw materials and a flux.
- **Ferro – Manganese :**
  - Contains MgO 19 to 20%, CaO 28 to 30%, SiO_2 2 to 5% and R_2O_3 2 to 2.5%.
- **Glass :**
  - For certain commercial glass, the Fe_2O_3 content up to 0.25% is permissible.
  - For truly colorless glass Fe_2O_3 content of 0.04% (max.) is sometimes specification.
- **Fertilizer Industry :**
  - Contains $CaCO_3$ + $MgCO_3$ 90% (min.) and SiO_2 5% max.
  - Inferior grade dolomite limestone of 15 – 20% MgO can be used as soil conditioner.
- **Lime :**
  - Contains $CaCO_3$ 58 – 75%, $MgCO_3$ 28-48% and other constituent should be less than 3%.
- **Magnesium Metal :**
  - Contain MgO, 40.5%, CaO 58.10%, Fe_2O_3 0.8% and insoluble 0.6%.

APPROVED

This dolomite deposit is considerable as a flux grade & use in the Sponge Iron & Steel plants and other.

* * * * *

UBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

CHAPTER-8

WASTE DISPOAL ARRANGEMENTS

a) Nature of waste:

The alluvial topsoil/overburden will be called as waste. The entire area is covered by top soil cover with thickness of about 0.5 m. and OB about 3.5m below the OB cover the desired ore Dolomite is exposed.

The quantity of Top soil/OB/Waste generated during quarry will be given below:-

Dump plan & section shown in five years development/production Plan please refers plate No. 7.

Year	Top Soil (cum)	Dump Area (ha)	SB/OB (cum)	Dump Area (ha)	Waste (5% mining losses)(m3)	Dump Area (ha)
1st year	3217.0	0.321	22519.0	NA	1052.6	NA
2nd year	2392.5	0.000	16747.5	NA	1052.6	NA
3rd year	0	NA	0	NA	1754.4	NA
4th year	0	NA	0	NA	1754.4	NA
5th year	0	NA	0	NA	1754.4	NA
Total	5609.5		39266.5		7368.4	

Disposal of OB/waste material is given below-

Item	Previous waste quantity (cum)	Waste generation during proposal period (cum)	Total waste Handled (cum)	Quantity disposed of on (cum)		Area for disposal (ha)	
				Dumping	Reclaimed by Backfilling	Dumping	Reclaimed by Backfilling
Top Soil	0	5609.5	5609.5	3217.0	2392.5	0.321 (SD1)	Outside
SB/OB	0	39266.5	39266.5	0	39266.5	0.000	Outside
Waste (5%Mining loss)	0	7368.4	7368.4	0	7368.4	0.000	Outside

APPROVED

Disposal of Top Soil: first year generated top soil 3217.0cum will be spread along the lease boundary for plantation purpose and second year generated about 2392.5 cum top soil will be utilized for reclamation by backfilling and rehabilitation purpose in outside of the applied lease area (own lease area).

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

Disposal of OB/Waste: The recovery of saleable quartz is about 95% from ROM and remaining 5% will be generated as waste due to intercalation and also overburden will be generated during quarry operation this waste will be utilized for reclamation purpose in outside of the own existing quarry leases (western direction) and also used for maintain of haul roads. Refer to Environment Plan.

b) Selection of dumping site:

Only top soil will be spread along the lease boundary for plantation purpose and OB/Waste material will be utilized for reclamation in outside of the area (own existing leases) and for maintain of haul road. (Refer Plate No. -7).

c) Maximum height and spread of Dumps:

Only top soil will be spread along the lease boundary with 1.0m height and OB/Waste material will be utilized for reclamation purpose in outside of the own existing quarry leases with maximum height of dumped about 5m to 10m.

d) Stacking of sub grade mineral:

There is no economic sub grade mineral is found. Therefore no sub-grade mineral will be produced. The ROM dolomite is saleable. 05 -10% generated fines & intercalation waste will be temporarily stag within the lease area for further use.

e) Selection of site for stacking:

The dolomite excavated through the mine will be completely utilized for the manufacturing of the chips for tile industry. The mineral thus excavated will be stacked along the lease boundary and within the lease area. The ROM production of dolomite will be temporary stacked within the lease area. Refer to Plate No.-7.

APPROVED

f) Height and spread of stacks:

Most of the material is being transported every day and as such there will not be a substantial quantity of material to be left out. The balance material if any, will be stacked properly & will attain the height not more than 3.0m in any case.

* * * * *

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

CHAPTER-9

ENVIRONMENT MANAGEMENT PLAN

9.1 Measures of protection of environment, especially against air and water pollution due to Quarrying operation:

As permanent preventive measures in the Quarry area, the following proposals are made in this Quarry plan to control the water quality flowing out of the Quarry area during monsoon.

Dust generated due to movement of vehicles will be checked by water sprinkling carried out, time to time on all the approached roads. Therefore, no significant impact on the quality of air in the surrounding area will be feared.

9.2 Land use pattern:

Articles		Pvt. Land (waste land)		
		Land use at Present in Ha.	Land use at the end of 5 years in Ha.	Land use at the end of C.P. in Ha.
A.	**Lease Area**	**1.683**	**1.683**	**1.683**
B.	**Mining & allied**			
1	Area under pits	0.000	1.122	1.122
2	Storage for top soil	0.000	0.321	0.321
3	Area for waste dump	0.000	0.000	0.000
4	Mineral storage	0.000	0.000	0.000
5	Infrastructure (workshop, administrative building etc.)	0.000	0.000	0.000
6	Roads	0.000	0.007	0.007
7	Railways	0.000	0.000	0.000
8	Tailing Pond	0.000	0.000	0.000
9	Effluent Treatment Plant	0.000	0.000	0.000
10	Mineral separation plant	0.000	0.000	0.000
11	Township area	0.000	0.000	0.000
12	Other to specify (Plantation)	0.000	0.233 & on dump	0.233 & on dump
13	**Total Area** (1 to 12)	0.000	**1.683**	**1.683**
14	Undisturbed area	1.683	0.000	0.000

APPROVED

9.3 Environment Impact Assessment Statement:

At present mining activity is carried out in the lease area which is not so big. The area is also devoid of good flora and fauna. The socio-economic status of the surrounding villages is rural with dominant agricultural economy. The surrounding area is thinly populated. There will be no adverse impact due to quarry on socio-economic environment. The possible impact on environment is being discussed in following chapters:

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

9.4 Land environment:

(i) Landscape:

The lease area is gently sloping toward north & is partially an agricultural land. Due to the mining operation there not any remarkable change has been observed as such in the area. Though there has been some change noticed in the land use pattern due to pitting but that was reclaimed.

(ii) Aesthetic Environment:

The quarry activity in the lease area will be started after the grant of quarry lease. In the lease area during prospecting operation not any dumping has been carried out, therefore the mining activity does not violate the aesthetic sense of environment over there.

(iii) Soil and Land Use Pattern:

The lease area is agriculture & a private land with devoid of vegetation. The entire area is covered with alluvial soil. There has not been any remarkable change observed except few in the land use pattern after the prospecting activity due to excavation of pits which was reclaimed as mentioned above.

(iv) Forest:

The lease area does not come under the purview of forest. It is a private land. There has not been any change observed in the present status.

(v) Vegetation:

The lease area at present is devoid of any vegetation.

(vi) Public Building, Places and Monuments:

At this time there is no public building, or monuments of any importance is seen nearby, which could be affected due to this prospecting operation.

9.5 Air Environment:

(i) Noise:

There has not been any remarkable impact observed yet due to this prospecting operation.

(ii) Air:

There has not been any remarkable impact observed in air quality yet due to this prospecting operation.

APPROVED

(iii) Climatic Condition:

The climatic condition of the area is sub-tropical with more than 1200 mm average rain fall & that would not create any pollution making activities.

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

9.6 Source of Air Pollution:

The working quarry lease area is presently free from pollution and dust. The proposed method of quarry is mechanized in nature and small. There will not be any deployment of heavy machinery but blasting will be created dust and air pollution.

The dust generated due to movement of vehicles will be checked by water sprinkling done time to time on the approach road. In order to suppress generation of dust during drilling, wet drilling will be done. Therefore, no significant impact on the quality of air in the surrounding area will fear.

9.7 Mitigation measures:

Mitigation measure can be applied during the Quarrying work which can be applied to prevent or minimize potential damage to the environment.

The following measures can be applied are as followed

(i) Measure for minimize air pollution- Air pollution in quarry area is mainly due to the quarrying operation like drilling, blasting, movement of the heavy earth moving machinery on road, transportation and handling of minerals.

To regulate air pollutant emissions would be reduced through the use of water spraying and sprinkling system. Controlled blasting pattern and wet drilling for minimize emitted dust in the environment.

(ii) Measure for minimize Water pollution- At present there is no surface water source, which is passing through the lease area and nearby surrounding. Ground water table will be affected when the quarry depth will reached below the water table.

To prevent contamination of water dispose toxic waste generated during Quarrying safely, during rainy season surface water accumulate to the working pit which pump out and store to develop reservoir for future use of water and also use to recharge the ground water.

(iii) Measure to minimize Noise Pollution- The method of Quarrying will be mechanized in nature. Drilling and blasting will be carried out for production. But this will be very limited and small in nature. So there will not be any remarkable impact due to this Quarry operation regarding noise pollution.

APPROVED

9.8 Water Environment:

i) Surface Water:

At present there is not any water source, which is passing through the Lease area and its surroundings.

(ii) Ground Water:

It is noticed that the ground water is available below 30 meters of the normal surface level as well as in nearby dug well and bore well etc. As the prospecting operation has been carried out above the ground water table, hence there would not be any adverse effect on the ground water.

SHUBH MINERALS PVT. LTD.

DIRECTOR

(iii) Water quality:

The ground water available in the well, bore-well etc. is of potable in nature and no adverse effect has been noticed yet

9.9 Likely impact of mining on water table:

It is noticed that the ground water is available below 30 meters of the normal surface level as well as in nearby dug well and bore well etc. As the prospecting operation has been carried out above the ground water table, hence there would not be any adverse effect on the ground water.

9.10 Details of modification/diversion of natural drainage system /Obstruction of water channels and measures taken:

At present there is not any water source, which is passing through the lease area and its surroundings. There is not required of modification/diversion of natural drainage system of water channels.

9.11 Measures taken for minimizing silting and contamination of water:

Not Applicable

9.12 Requirement of water for quarrying operations:

The water will be required for drinking purpose in the lease area.

9.13 Source of water:

At present there is not any water source, which is passing through the lease area and its surroundings.

9.14 Noise & Vibration:

The vibrations due to blasting will be minimized by careful planning, supervision and the execution of each blast and using milli-second (MS) delay detonators & cord relays and proper stemming to prevent blow out of holes.

APPROVED

To control noise pollution in the mining operation the following steps will be practiced:

- Proper selection of the machinery.
- Proper and timely maintenance of mining and crushing plants machinery adhering to original equipment manufacturers recommendations.
- Limiting of speed of haulage vehicles.
- Use of NO NELS in blasting. Restriction of blast hole drilling to only day time hours and usage of sharp drilling bits and delivery of compressed air at optimal pressure during drilling.

SHUBH MINERALS PVT. LTD.

9.15 Storage of explosive (like capacity and type of explosive magazine)

Explosive material to be used-

For blasting of holes upto a depth of 3.0 m, blasting gelatin with safety fuse and detonator will be used as per requirement or explosive cartridge will be used with safety fuse and detonator.

Blasting Block and commutation Pattern – Blasting will be carried out in single/multi row blasting pattern.

9.16 Human Environment:

No villages or human dwelling are within the Quarry Lease area (core zone).therefore there will not be any need for resettlement. While due to increased revenue earning in the area there is development of infrastructure facilities like transport, road, housing, schooling and hospital etc have been raised. The human settlement in Buffer- Zone (within the radius of 5 km.) is as follows-

Sl. No.	Name of village	Distance(km)	Direction	Population
1	Katangpali	1.0	N	703
2	Chhailfora	1.0	N	287
3	Bilaigarh	1.4	NW	1281
4	Naughata	1.6	NE	1262
5	Mauhapali	1.7	S	531
6	Bhikhampura	2.9	SE	977
7	Piraha	2.8	NE	1284
8	Chhuhipali	1.3	N	160
9	Bargaon	3.3	NW	1175

9.17 Social Infrastructure:

At present there is not much activity excepting agricultural activity in the area. But due to mining activity in the area there will be generation of employment to the local people as well as their earning will also be increased. Due to this season there will be more improvement in the living condition of the people, there will be ore employment in the area.

APPROVED

9.18 Rehabilitation and Resettlement (R & R) Plan:

Rehabilitation & Reclamation of mined out area is the most important activity of EMP. As a result of quarry operation the original profile will be altered. The leasehold area is mostly covered with alluvial soil and topography of the area is all most flat. Reclamation activity will be commenced only after attaining the optimum thickness which is economically viable has been extracted. In the First five year whatsoever overburden will be generated, will be stacked in the South, north-east, part along the statutory barrier so that it can only be used for plantation purpose. Reclamation operation will not be possible due to no sufficient quantity of material available for reclamation. Pits are used for storage of water.

SHUBH MINERALS PVT. LTD.

(Signature of Lessee)

DIRECTOR

9.19 Stabilization and Vegetation of dumps:

As the area is flat and the proposed height of the dump will be about 1.0 meters, therefore it is proposed to be stabilized the dump by grass plantation or cuttings of local bushes on it so that spillage of dump does not occur in the surroundings.

9.20 Sewerage system:

No sewerage system needs to required.

9.21 Environmental monitoring:

To assess the prevailing quality of the air, water, noise etc. a regular monitoring of these parameters will be made to arrive improvement/ protection measures in quarterly basis. And that will be intimated subsequently to the competent authority.

APPROVED

* * * * *

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

CHAPTER-10

MEASURES TO BE TAKEN FOR RECLAMATION OF LAND

10.1 Mined out land:

In general, the environmental impacts will always be adverse, due to Quarry operation if proper abatement measures will not be taken. The magnitude and significance of the environmental pollution caused by quarry depends on type of mineral , method of quarry and beneficiation etc. Reclamation and rehabilitation of mined out land are the most important post quarry activities . As a result of quarry operation, the original ground profile will be altered. The lease area is small and almost plain. The area is showing slope towards NE direction & covered with alluvial soil (Average Thickness 0.5meter). The Dolomite has a thickness of about 26 meters into the borehole. The reclamation and rehabilitation activity may be commenced only after the fully mine out upto ultimate pit limit. Prior to that, whatsoever alluvial soil will generate, will be stacked along the lease boundary so that it can be used for plantation purpose. After exhausting of the mineral the area will be converted into water reservoir.

10.2 Storage and prevention of topsoil:

It has already been mentioned that alluvial soil capping covers the leasehold area. The top soil having average thickness of 0.5 meters will be stacked properly in the lease boundary for the plantation purpose and average thickness of overburden about 2.5 m, OB will be used simultaneously for backfilling purpose of adjoining excavated pit.

The year wise generation of soil during plan period is given below:

Year	Top soil (m3)	Disposed area (ha) and height (m)		Location
		Dumping	Backfilling	
1st year	3217.0	0.321haX1.0m	NA	It will be spread along lease boundary for plantation purpose
2nd year	2392.5	No dump within lease area	Proposed in outside	Own existing leases
3rd year	0	NA	NA	NA
4th year	0	NA	NA	NA
5th year	0	NA	NA	NA
C.P./ End of Mine Life	0	NA	NA	NA

APPROVED

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

10.3 Proposal for reclamation of land affected by quarrying activities during and at the end of the lease.

Reclamation of mined out area is the most important activity of EMP. As a result of quarry operation the original profile will be altered. The leasehold area is mostly covered with alluvial soil and topography of the area is all most flat. Reclamation activity will be commenced only after attaining the optimum thickness which is economically viable has been extracted. In the First five year whatsoever overburden will be generated, will be stacked in the South, north-east, part along the statutory barrier so that it can only be used for plantation purpose. Fully reclamation will not be possible due to no sufficient quantity of material available for reclamation. Generated OB/waste will be used for partially reclaimed in north part after attaining the optimum thickness which is economically viable. Pits are used for storage of water.

APPROVED

* * * * *

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

CHAPTER-11

QUARRYING CLOSURE PLAN

11.1 Introduction:

The prospecting license of Chhelphora Dolomite Quarry was granted to M/s Shubh Minerals Pvt. Ltd., (Director- Shri Ashish Kumar Goyal), Raigarh, over an area of about 1.683Ha. situated at village – Chhelphora, Tehsil –Baramkela, District- Raigarh by the Govt. Order No. F-2-6/2018/12, Atal Nagar, Naya Raipur, dated 09.10.2019 for two year only (**Annexure No.-2**).

Subsequently, the execution of prospecting license was done in 29.04.2020 for two years (i.e. 29.04.2020 to 28.04.2022). Copy of PL deed has been enclosed as **Annexure No.-3**. Consequently bhu pravesh i.e. the permission to get start the PL operation has been given by the Collector Raigarh (C.G.).

This prospecting operation has been carried out in this area, together with its result and conclusions drawn there from. The application has been submitted for quarry lease over this area after completion of all the formalities.

The state govt. has issued a letter of intent for granting quarry lease of the applied area to applicant-M/s Shubh Minerals Pvt. Ltd., District- Raigarh (C.G.) for submission of quarry plan by their vide Govt. letter no. F 3-17/2021/12, Nava Raipur, Dated 07.04.2022 (**Annexure-1**).

The Quarry Plan of the above said area has been prepared and submitted for approval to Competent Authority Directorate of Geology & Mining, Chhattisgarh under Rule 24 (3) of Chhattisgarh Minor Mineral Rules, 2015 for grant of Quarry Lease.

The mining method will be proposed as open cast mechanized under 'A' Category.
The area selected has a sufficient reserve of the Dolomite Deposit as proved by pitting/drilling. This will be sufficient for quarry lease period. It is therefore, necessary to obtain Q.L. for the area to carry out detailed exploration and subsequent grant of "Mining Rights" to ensure sustained marketing of Dolomite to the industries. A copy of prospecting report is enclosed as **Annexure - 4**.

APPROVED

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

11.2 Land Use:

Land use distribution proposed for quarrying and its allied works and ultimate land use details are given:

Articles		Pvt. Land (waste land)		
		Land use at Present in Ha.	Land use at the end of 5 years in Ha.	Land use at the end of C.P. in Ha.
A.	**Lease Area**	**1.683**	**1.683**	**1.683**
B.	**Mining & allied**			
1	Area under pits	0.000	1.122	1.122
2	Storage for top soil	0.000	0.321	0.321
3	Area for waste dump	0.000	0.000	0.000
4	Mineral storage	0.000	0.000	0.000
5	Infrastructure (workshop, administrative building etc.)	0.000	0.000	0.000
6	Roads	0.000	0.007	0.007
7	Railways	0.000	0.000	0.000
8	Tailing Pond	0.000	0.000	0.000
9	Effluent Treatment Plant	0.000	0.000	0.000
10	Mineral separation plant	0.000	0.000	0.000
11	Township area	0.000	0.000	0.000
12	Other to specify (Plantation)	0.000	0.233 & on dump	0.233 & on dump
13	**Total Area** (1 to 12)	0.000	**1.683**	**1.683**
14	Undisturbed area	1.683	0.000	0.000

APPROVED

11.3 Mining Method:

Open – Cast mechanized method 'A' Category

11.4 Reasons for closure:

As per the Government order and rule the lessee has to submit Quarry Plan with Progressive Mine Closure Plan for their Chhelphora Dolomite Quarry. The reason for mine closure does not arise at this stage because; the working will be started after getting its environment clearance from MOEF.

11.5 Statutory Obligation:

Not any kind of statutory obligations imposed by the Government during the time of grant of Quarry lease. The applicant is already following all the Rules and Regulation as per the law for Quarry lease.

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

11.6 Closure Plan Preparation:

Name of the Applicant- M/s Shubh Mineral Pvt Ltd.

Address - Goyal Automobile, Jindal Road Jagatpur,
Post & District – Raigarh (Chhattisgarh)

Name of the RQP : Deepak Kumar Sahu
Regd. No. RQP/DGMCG/24/2020
Valid upto - 29.06.2025
Mobile No: 8817092442
Email Id – dsahu303@gmail.com

Postal Address- 621/3, Ramkund, Behind Life Worth Hospital,
Samta Colony , Raipur (C.G.) 492001

11.7 Mine Description:

Geology-

Already discussed in quarry Plan, refer section 3.0 of the quarry Plan.

Reserves-

Already discussed in the Quarry plan, refer section 4.0 of the quarry Plan

11.8 Closure Plan:

11.8.1 Mined out land-

In general, the environmental impacts will always be adverse, due to Quarry operation if proper abatement measures will not be taken. The magnitude and significance of the environmental pollution caused by quarry depends on type of mineral , method of quarry and beneficiation etc. Reclamation and rehabilitation of mined out land are the most important post quarry activities . As a result of quarry operation, the original ground profile will be altered. The lease area is small and almost plain. The area is showing slope towards NE direction & covered with alluvial soil (Average Thickness 0.5meter) and average thickness of OB is 3.5m. The Dolomite has a thickness of about 26 meters into the borehole. The reclamation and rehabilitation activity may be commenced only after the fully mine out upto ultimate pit limit. Prior to that, whatsoever alluvial soil will generate, will be stacked along the lease boundary so that it can be used for plantation purpose. After exhausting of the mineral the area will be converted into water reservoir.

APPROVED

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

11.8.2 Water quality management-

There is no surface water and ground water bodies available in the lease area. There is no perennial Rivers/Nallah or spring present near by the lease area. The water table is available at 30 meters below from the normal surface level. During the summer water table goes down (i.e. below 30 meters) and in the rainy season it comes up within 15 meters. This is evident from the nearby wells, as well as also by the villagers. The proposed quarry operation is completely semi-mechanized and does not require any pollution operation at the remarkable scale.

11.8.3 Air quality management-

The working quarry lease area is presently free from pollution and due to the mechanized quarry operation, it will not affect the immediate vicinity of the mine lease area . The proposed method of quarry is mechanized in nature and small. There will not be any deployment of heavy machinery. Blasting will only create dust or air pollution.

Dust generated due to movement of vehicles will be checked by water sprinkling carried out, time to time on all the approached roads. Therefore, no significant impact on the quality of air in the surrounding area will be feared.

11.8.4 To prevent air pollution the following corrective steps will be taken during mining-

The working quarry lease area is presently free from pollution and due to the mechanized (A-Category) quarry operation, it will not affect the immediate vicinity of the mine lease area . The proposed method of quarry is mechanized in nature and small. There will not be any deployment of heavy machinery. Blasting will only create dust or air pollution.

Dust generated due to movement of vehicles will be checked by water sprinkling carried out, time to time on all the approached roads. Therefore, no significant impact on the quality of air in the surrounding area will be feared.

APPROVED

11.8.5 Top soil management-

The dumping site of the alluvial soil is in the barrier zone along the lease boundary of the lease area for plantation and also used for rehabilitation purpose. During the plan period of quarry, about 5609.5 cubic meters topsoil will be generated from the proposed pits and properly stacked to be used for the purposes . The Plantation will be proposed year-wise over the dump for stabilization of the dump. Please refer **Plate No.-7.**

For maintain soil dump Terracing and pitching will be done. Some precautionary measures for confinement of dumps is taken by construction of garland drain around the dumps are constructed. Please refer **Plates.7 & 11.**

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

11.8.6 Tailing Dam Management-

It has already been stated that there is no beneficiation process involved for Dolomite. Hence no effluent water etc will be discharged from the mine site therefore no tailing dam proposed for such a small quarry project.

11.8.7 Infrastructure-

S. No.	Particulars	Details
1	Nearest City	Chandrapur 10 km
2	Nearest railway station	Raigarh about 38 km
3	Nearest Air port	Raipur about 240 km
4	Nearest Highway	NH 200 passing through Chandrapur at about 10 km
5	Nearest Villages	Chhelphora 0.5 km and Katangpali about 1 km
6	Ecological Sensitive zone	No
7	Historical Place	No
8	Nearest River	Mahanadi River about 2.5 km
9	Nearest nala	Kantang Nala 70 m
10	Reserve forest	Dhamka Protested Forest about 4 km
11	Lake/Reservoir/Dams	Hirakund reservoir about 40 km
12	Estuary/Sea	No
13	Notified Archaeological site	No
14	Industries/Thermal Power Plants	Raigarh is well known industrial zone
15	Defense Installations	No
16	Police Station, rest house	Sariya and Chandrapur about 10 km
17	Post Office	Chandrapur about 10 km
18	Drinking water, electricity	Chandrapur about 10 kmS
19	Primary health center, upto High School education	Chhelphora 0.5km and Katangpali about 1 km
20	Education upto High School	Katangpali about 1 km

11.8.8 Disposal of Mining Machinery-

It has already been mentioned that the whole quarry operation is mechanized in nature. There will be no other kind of machinery deployed for quarry operation. Therefore, question does not arise for disposal of machinery at this stage.

APPROVED

11.8.9 Safety and Security-

The applicant will follow all the rules and regulations as per the provision of Director General of Mines Safety for safety and security of the sanctioned mine. To prevent access to surface opening or excavated area from cattle's and local people, the applicant will make protective barbed wire fencing

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Signature of Lessee)

PREPARED BY :
DEEPAK KUMAR SAHU (RQP/CGDGM/24/2020)

all around the lease boundary of the lease area at the height of 1.5 meters after the third year if required. The applicant will arrange the temporary staff (watchman) for care and maintenance of the sanctioned lease area during the quarry operation as well as during the temporary discontinuance of mine in rainy season, weakly off or any other off due to festival etc.

11.8.10 Disaster Management & Risk Assessment-

The lease area is small and the quarry operation is completely mechanized in nature. There is not any River or Nallah, flowing in direct vicinity of the sanctioned lease area. No seismic activities are recorded in this area during the last 50 years as per the village officials. The quarry operation will not go to the much deeper side hence, chances of land slide, subsidence etc are nil.

11.8.11 Care and maintenance during temporary discontinuance-

During such time the area will be protectively fenced and temporary staff will be arranged for care and maintenance.

11.9 Financial Assurance-

Financial assurance has to be furnished by every lease holder. The amount of financial assurance shall be @ rupees 25,000 per hectare or part thereof of the quarry lease area.

APPROVED

Lease area is 1.683 hectares, that is

Financial assurance amount Rs. = **50,000**/- (Fifty Thousand Rupees) will be submitted as per the Rule 29(2) of CGMMR, 2015.

(Signature of Lessee)

APPROVED

JOINT DIRECTOR (ADMIN.)
D'RATE OF GEOLOGY AND MINING,
CHHATTISGARH, RAIPUR.

Signature 10/6/23

(Recognized Qualified Person)
Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

SHUBH MINERALS PVT. LTD.

DIRECTOR

CONSENT LETTER/UNDERTAKING/CERTIFICATE FROM APPLICANT

01. The **Quarry Plan** in respect of ***Chhelphora Dolomite Quarry***, over an area of **1.683 Hectares**, village – Chhelphora (**Block-1**), Taluka- Baramkela, District – Raigarh, Chhattisgarh, under Rule 24 of CGMMR, 2015 has been prepared by Shri Deepak Kumar Sahu (Registration No. RQP/DGMCG/24/2020).

This is to request the Director, Directorate of Geology and Mining, Raipur, to make any further correspondence regarding any correction of the Quarry Plan with the said recognized person at his following address: -

Correspondence Address -

Shri Deepak Kumar Sahu
(RQP/DGMCG/24/2020)
621/3, First Floor,
Behind Life Worth Hospital,
Ramkund, Samta Colony,
Raipur (C.G.) 492001

I hereby undertake that all the modification so made in the Quarry Plan by the recognized person be deemed to have been made with our knowledge and consent and shall be acceptable on us and binding in all respects.

02. It is to certify that the "Quarry Closure Plan" of ***Chhelphora Dolomite Quarry,*** over an area of **1.683** Hectares complies with all statutory rules, Regulations, Orders Made by the Central or State Government, Statutory organization, court etc which have been taken into considered and wherever any specific permission is required. I will concern authorities.

The information furnished in the Quarry Closure Plan is true and correct to the best of our knowledge and records.

03. "The Provisions of **Mines Act, Rules and Regulations** made there under have been observed in the *Quarry Plan* over an area of **1.683** Hectares in Raigarh District in Chhattisgarh state belonging to ***Chhelphora Dolomite Quarry,*** and where specific permissions are required, the lessee will approach the **D.G.M.S.** Further, standards prescribed by **D.G.M.S.** in respect of **Miners' health** will be strictly implemented".

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

04. It is to undertake that the lease boundary points as indicated on the surface plan area marked in the field and the precise lease area forms the basis for preparation of quarry plan of ***Chhelphora Dolomite Quarry*** in Raigarh district. The boundary pillars erected on these points shall be maintained in good shape.

My name and address is as given below in case address is changed during pendency of approval of above document it will be immediately informed to approval authority.

Yours faithfully

SHUBH MINERALS PVT. LTD.

DIRECTOR

(Authorized Signatory)

Shubh Minerals Pvt. Ltd.

Address – Goyal Automobile,

Jindal Road, Jagatpur,

P.O. & District – Raigarh (C.G.)

Date: 03/07/2022

Place: Raigarh

Deepak Kumar Sahu

(RQP/DGMCG/24/2020)

S 2

CERTIFICATE FROM RQP

1. This is to certified that the provision of Chhattisgarh Minor Mineral Rules, 2015 have been observed in the Quarry Plan and Quarry Closure Plan of ***Chhelphora Dolomite Quarry***, over an area of 1.683 Hectares, Village- *Chhelphora* ***(Block-1)***, Tehsil - Baramkela in Raigarh District of Chhattisgarh, Applicant- **Shubh Minerals Pvt Ltd**, Raigarh (Chhattisgarh) and wherever specific permission is required, the lessee will approach the concerned authorities of State Govt. for granting the permission.

2. Certified that the provision of Mines Act, Rules and Regulations made here under have been observed in the Quarry Plan and wherever specific permissions are required, the lessee will approach the D.G.M.S. and no violation against provision of rules, Regulations of CGMMR, 2015 and there is no danger to human life.

3. This is also certified that the information furnished in the above mentioned Quarry Plan with Quarry Closure Plan is true and correct to the best of my knowledge.

10/6/23

DEEPAK KUMAR SAHU

(RQP/DGMCG/24/2020)

Date: 03/07/2022

Place: Raipur

SHUBH MINERALS PVT. LTD.

DIRECTOR

ANNEXURE - 1
By Speed post

छत्तीसगढ़ शासन
खनिज साधन विभाग
मंत्रालय
महानदी भवन, नवा रायपुर अटल नगर–492002

नवा रायपुर, दिनांक - 7 APR 2022 अप्रैल, 2022

क्रमांक एफ 3–17/2021/12,

प्रति,

मेंसर्स शुभ मिनरल्स प्रायवेट लिमिटेड,
निवासी गोयल ऑटोमोबाईल,
जिन्दल रोड़ जगतपुर,
रायगढ़(छत्तीसगढ़)

विषय :– ई–ऑक्शन द्वारा जिला रायगढ़, तहसील बरमकेला, ग्राम छैलफोरा (ब्लॉक–1), रकबा 1.683 हे0 क्षेत्र पर खनिज डोलोमाईट का उत्खनिपट्टा–मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड।

संदर्भ :– संचालनालय भौमिकी तथा खनिकर्म, रायपुर के टेंडर क्रमांक MSTC/RPR/DGM, CHHATTISGARH/75/NAYA RAIPUR/18-19/14919, दिनांक 28.09.2018, विभागीय पत्र क्रमांक एफ 2–6/2018/12, दिनांक 17.03.2020 एवं संचालनालय का प्रस्ताव दिनांक 15.11.2021.

–––00–––

कृपया संदर्भित पत्रों का अवलोकन करें। आपके द्वारा जिला रायगढ़, तहसील बरमकेला, ग्राम छैलफोरा(ब्लॉक–1) के खसरा क्रमांक 206, 207/3, 208, 210/1, 211, 212, 214/3, एवं 214/4 के कुल रकबा 1.683 हे0 क्षेत्र पर खनिज डोलोमाईट का उत्खनन पट्टा स्वीकृति हेतु छत्तीसगढ़ गौण खनिज नियम, 2015 के नियम 23 के अन्तर्गत आवेदन दिनांक 19.03.2021 प्रस्तुत किया गया है। कलेक्टर, जिला रायगढ़ (छत्तीसगढ़) के पत्र कमांक 1320/ख.लि.–2/उत्खनिपट्टा/2021, दिनांक 03.07.2021 द्वारा उक्त आवेदन संचालनालय को अग्रेषित किया गया है।

2/ छत्तीसगढ़ गौण खनिज नियम, 2015(यथासंशोधित) के अनुसरण में जिला रायगढ़, तहसील बरमकेला, ग्राम छैलफोरा(ब्लॉक–1) के खसरा क्रमांक 206, 207/3, 208, 210/1, 211, 212, 214/3, एवं 214/4 के कुल रकबा 1.683 हे0 क्षेत्र पर खनिज डोलोमाईट के समेकित अनुज्ञप्ति(कंपोजिट लाईसेंस) की स्वीकृति हेतु संचालनालय भौमिकी तथा खनिकर्म द्वारा दिनांक 28.09.2018 को NIT जारी किया गया। नीलामी समिति की अनुसंशा तथा छत्तीसगढ़ गौण खनिज नियम, 2015 के नियम 9(2)(d)(ix) एवं टेण्डर की शर्त क्रमांक 5.5.9 के अंतिम प्रोविसो के अनुकम में आपसे प्राप्त 20.51 रूपये प्रतिटन फाईनल बिड प्राईस(अधिकतम अंतिम कीमत प्रतिस्थापना) को स्वीकार करते हुए इस विभाग के आदेश कमांक एफ 2–6/2018/12, दिनांक 18.07.2019 द्वारा आपको अधिमानी बोलीदार(Preferred Bidder) घोषित करते हुए नियमानुसार कार्यपालन प्रतिभूति की राशि जमा करने हेतु निर्देशित किया गया। जिसके अनुपालन में आपके द्वारा छत्तीसगढ़ गौण खनिज नियम, 2015(यथासंशोधित) के नियम 13(2) एवं (3) अनुसार 03 वर्ष की कालावधि के लिए कार्यपालन प्रतिभूति के रूप में राशि 3,75,000.00 रूपये (रूपये तीन लाख पचहत्तर हजार रूपये मात्र) की बैंक गारंटी जमा किया गया है।

3/ उपरोक्त के परिप्रेक्ष्य में आपके पक्ष में छत्तीसगढ़ गौण खनिज नियम, 2015(यथासंशोधित) के नियम 10(1) के प्रावधानों के तहत् जिला रायगढ़, तहसील बरमकेला, ग्राम छैलफोरा (ब्लॉक–1) के उपर्युक्त कुल रकबा 1.683 हे0 क्षेत्र पर खनिज डोलोमाईट की समेकित

.....2

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

54

अनुज्ञप्ति(Composit Licence) स्वीकृति हेतु खान एवं खनिज(विकास एवं विनियमन) अधिनियम, 1957 सहपठित छत्तीसगढ़ गौण खनिज नियम, 2015(यथासंशोधित) अधिसूचित नियमों, जारी टेंडर में उल्लिखित प्रावधानों एवं अधिरोपित शर्तों के अधीन इस विभाग के आदेश कमांक एफ 2–6/2018/12, दिनांक 09.10.2019 द्वारा आशय पत्र(Letter of Intent) जारी किया गया।

4/ आशय पत्र(Letter of Intent) दिनांक 09.10.2019 के संदर्भ में आपके द्वारा भूमि स्वामियों का सहमति पत्र, टोपोशीट एवं नक्शा बोर होल लोकेशन एवं पूर्वेक्षण स्कीम निर्धारित समयावधि में प्रस्तुत किया गया, जिसके संदर्भ में समेकित अनुज्ञप्ति स्वीकृति आदेश जारी किये जाने हेतु संचालक, भौमिकी तथा खनिकर्म, छत्तीसगढ़ ने पत्र दिनांक 20.01.2020 द्वारा प्रस्ताव प्रेषित किया गया।

5/ उपरोक्त के परिप्रेक्ष्य में आपके पक्ष में जिला रायगढ़, तहसील बरमकेला, ग्राम छैलफोरा (ब्लॉक–1) के उपर्युक्त रकबा 1.683 हे0 क्षेत्र पर छत्तीसगढ़ गौण खनिज नियम, 2015 के नियम 11(4), नियम 43 की तालिका के सरल कमांक–2 के तहत् तथा Notice Inviting Tender(एन.आई. टी.) की शर्तों एवं अधिरोपित अतिरिक्त शर्तों/कंडिकाओं के अधीन 02 वर्ष की अवधि के लिये पूर्वेक्षण संकियाएँ संचालित करने के लिये इस विभाग के आदेश कमांक एफ 2–6/2018/12, दिनांक 17.03.2020 द्वारा खनिज डोलोमाईट की समेकित अनुज्ञप्ति स्वीकृत किया गया।

6/ अनुज्ञप्तिधारी द्वारा कार्यालय कलेक्टर (खनिज शाखा), जिला रायगढ़ (छ0ग0) में प्रस्तुत अपने पत्र दिनांक 19.03.2021 के माध्यम से पूर्वेक्षण अनुज्ञप्ति क्षेत्र में किये गये पूर्वेक्षण संकिया पश्चात् अंतिम पूर्वेक्षण प्रतिवेदन (Prospecting Report) की प्रति सहपत्रों सहित प्रस्ताव के साथ संलग्न कर प्रस्तुत किया गया। उपरोक्तानुसार जिला रायगढ़, तहसील बरमकेला, ग्राम छैलफोरा (ब्लॉक–1), रकबा 1.683 हे0 क्षेत्र पर स्वीकृत समेकित अनुज्ञप्ति (Composite License) क्षेत्र में अंतिम पूर्वेक्षण प्रतिवेदन (Prospecting Report) अनुसार लगभग 12,50,694.00 Tonnes खनिज डोलोमाईट भण्डारित होना प्रतिवेदित किया है। जिस पर कलेक्टर, जिला रायगढ़ (छ0ग0) से प्राप्त प्रस्ताव पत्र दिनांक 03.07.2021 द्वारा समेकित अनुज्ञप्ति स्वीकृत क्षेत्र का मौका निरीक्षण प्रतिवेदन एवं अनुज्ञप्तिधारी द्वारा प्ररूप–नौ में उत्खनन पट्टा स्वीकृति हेतु प्रस्तुत आवेदन दिनांक 19.03.2021 की प्रति संलग्न कर मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड के पक्ष में उत्खनन पट्टा स्वीकृति आदेश जारी किये जाने हेतु संचालनालय को प्रस्ताव प्रेषित किया गया है। संचालनालय ने जिसे अपने संदर्भित पत्र दिनांक 15.11.2021 द्वारा शासन निर्णय हेतु अग्रेषित किया है।

7/ अतएव् उपरोक्त उल्लेखित तथ्यों के प्रकाश में आपके पक्ष में जिला रायगढ़, तहसील बरमकेला, ग्राम छैलफोरा (ब्लॉक–1) के कुल रकबा 1.683 हे0 क्षेत्र में छत्तीसगढ़ गौण खनिज नियम, 2015(यथासंशोधित) के नियम 23(क)(1)(क), नियम 38क(1) एवं नियम 43 की तालिका के सरल कमांक–2 के प्रावधानों के तहत 50 वर्ष की अवधि के लिए खनिज डोलोमाईट का उत्खनन पट्टा निम्नलिखित शर्तों के अधीन स्वीकृत करने का सैद्धांतिक निर्णय लिया गया है :–

7.1 उत्खनिपट्टा स्वीकृति हेतु उपलब्ध क्षेत्र का खसरावार रकबा सहित विवरण निम्नानुसार है :–

जिला/तहसील/ग्राम	खसरा नंबर	रकबा(हेक्टर में)
रायगढ़/ बरमकेला/ छैलफोरा (ब्लॉक–1)	206, 207/3, 208, 210/1, 211, 212, 214/3, 214/4	1.683

7.2 उत्खनन पट्टा स्वीकृत किये जाने पर स्वीकृत उत्खनन पट्टा क्षेत्र से खनन किए जाने वाले डोलोमाईट खनिज का उपयोग डोलोमाईट आधारित उद्योगों में किया जाएगा।

.....3

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

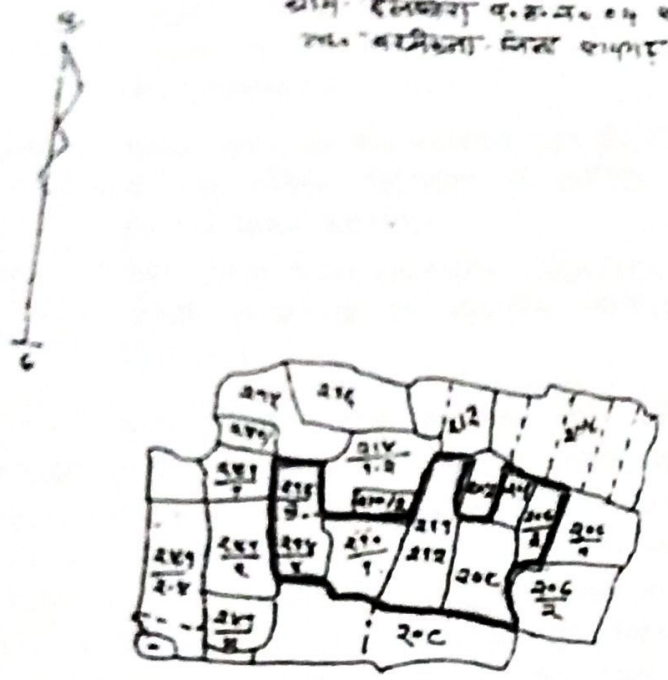
55

CADASTRAL PLAN

PLATE NO. -

नजरी नक्शा

ग्राम- देसलेरा प.ह.न.व. ०५ स.वि.म. रायगढ़
तह. बरमकेला जिला रायगढ़(छ.ग.) दि. 2017



केदमापाला- सिमा

आवंटित-स्थल	
ख.न.नं.	रकबा
२०८	0.000
२०६/२	0.३८०
२०९	0.२०४
२१०/१	0.३२८
२११	
२१२	0.४२१
२१४/३	0.०८१
२१५/७	0.०८८
योग- ०८	1.६८३ (हेक्टेयर)

01/09/2022
अवर सचिव
खनिज साधन विभाग
मंत्रालय, महानगर भवन-४९२००१

उप - कलेक्टर
(खनिज प्रशासन)
रायगढ़ (छ.ग.)

टीप :- लाल स्याही से चिन्हांकित क्षेत्र खनन हेतु प्रस्तावित है।

खनि अधिकारी
राजे. कलेक्टर रायगढ़ (छ.ग.)

सहा. भू-अभिलेख अधिकारी
रायगढ़(छ.ग.)

Abhishek Verma
(RQP/DGMCG/24/2020)

Shubh Minerals Pvt. Ltd
Director

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

ANNEXURE-2

छत्तीसगढ़ शासन
खनिज साधन विभाग
मंत्रालय
महानदी भवन, नवा रायपुर अटल नगर–492002

क्रमांक एफ 2–6 / 2018 / 12. अटल नगर, दिनांक 17 मार्च, 2020

प्रति,

मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड,
निवासी गोयल ऑटोमोबाईल,
जिन्दल रोड जगतपुर,
रायगढ़(छत्तीसगढ़)

विषय :– जिला रायगढ़, तहसील बरमकेला, ग्राम छैलफोरा(ब्लॉक–1) के कुल रकबा 1.683 हेक्टर क्षेत्र पर खनिज डोलोमाईट की समेकित अनुज्ञप्ति(Composite License) मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड।

संदर्भ :– टेंडर क्रमांक MSTC/RPR/DGM, CHHATTISGARH/75/NAYA RAIPUR/18-19/ 14919, दिनांक 28.09.2018 एवं विभागीय समसंख्यक पत्र दिनांक 18.07.2019, दिनांक 09.10.2019.

——00——

कृपया संदर्भित पत्रों का अवलोकन करें। छत्तीसगढ़ गौण खनिज नियम, 2015(यथासंशोधित) के अनुसरण में छत्तीसगढ़ शासन, खनिज साधन विभाग द्वारा जिला रायगढ़, तहसील बरमकेला, ग्राम छैलफोरा(ब्लॉक–1) के खसरा क्रमांक 206, 207 / 3, 208, 210 / 1, 211, 212, 214 / 3, 214 / 4 के कुल रकबा 1.683 हेक्टर क्षेत्र पर खनिज डोलोमाईट के कम्पोजिट लाईसेंस स्वीकृति हेतु संदर्भित टेंडर दिनांक 28.09.2018 को जारी किया गया था। छत्तीसगढ़ गौण खनिज नियम, 2015 के नियम 9(2)(d)(ix) एवं टेण्डर शर्तो के अनुक्रम में फाईनल बिड प्राईस(अधिकतम अंतिम कीमत प्रतिस्थापना) आपसे प्राप्त 20.51 प्रतिटन को स्वीकार करते हुए विभागीय समसंख्यक आदेश दिनांक 18.07.2019 द्वारा आपको Preferred Bidder घोषित किया गया है। जिसके अनुपालन में आपके द्वारा छत्तीसगढ़ गौण खनिज नियम, 2015 के नियम 13(2) एवं (3) अनुसार 03 वर्ष की कालावधि के लिए कार्यपालन प्रतिभूति के रूप में राशि रूपये 3,75,000 / –(तीन लाख पचहत्तर हजार मात्र) की बैंक गारंटी जमा किया गया है।

2/ उपरोक्त के परिप्रेक्ष्य में विभागीय पत्र दिनांक 09.10.2019 द्वारा मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड के पक्ष में छत्तीसगढ़ गौण खनिज नियम, 2015 के नियम 10(1) के प्रावधानों के तहत जिला रायगढ़, तहसील बरमकेला, ग्राम छैलफोरा(ब्लॉक–1) के खसरा क्रमांक 206, 207 / 3, 208, 210 / 1, 211, 212, 214 / 3, 214 / 4 के कुल रकबा 1.683 हेक्टर क्षेत्र पर खनिज डोलोमाईट की समेकित अनुज्ञप्ति(Composit Licence) स्वीकृति हेतु छत्तीसगढ़ गौण खनिज नियम, 2015 अधिसूचित नियमों, जारी टेंडर में उल्लिखित प्रावधानों एवं अधिरोपित शर्तो के अधीन आशय पत्र(Letter of Intent) जारी किया गया है।

3/ संचालनालय भौमिकी तथा खनिकर्म छत्तीसगढ़ ने अपने प्रस्ताव दिनांक 20.01.2020 द्वारा अवगत कराया है कि आशय पत्र(Letter of Intent) दिनांक 09.10.2019 के संदर्भ में मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड के द्वारा पूर्वेक्षण स्कीम, भूमि स्वामी का सहमति पत्र, टोपोशीट एवं नक्शा बोर होल लोकेशन सहित प्रस्तुत कर दिया है, फर्म द्वारा प्रस्तुत पूर्वेक्षण स्कीम में 02 बोरहोल्स किया जाना प्रस्तावित किया गया है तथा एक्सप्लोरेशन एजेंसी के रूप में–मेसर्स सिद्धार्थ जियो कंसलटेंट–RQP श्री आलोक चन्द्र वर्मा(RQP/ DGMCG /23/2015) को नियुक्त किया गया है। आवेदक द्वारा

.....2

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

58

ANNEXURE - 2

By speed post

छत्तीसगढ़ शासन
खनिज साधन विभाग
मंत्रालय
महानदी भवन, नवा रायपुर अटल नगर–492002

क्रमांक एफ 2–6 / 2018 / 12. अटल नगर, दिनांक 17 मार्च, 2020

प्रति,

मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड,
निवासी गोयल ऑटोमोबाईल,
जिन्दल रोड जगतपुर,
रायगढ़(छत्तीसगढ़)

विषय :– जिला रायगढ़, तहसील बरमकेला, ग्राम छैलफोरा(ब्लॉक–1) के कुल रकबा 1.683 हेक्टर क्षेत्र पर खनिज डोलोमाईट की समेकित अनुज्ञप्ति(Composite License) मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड।

संदर्भ :– टेंडर क्रमांक MSTC/RPR/DGM, CHHATTISGARH/75/NAYA RAIPUR/18-19/ 14919, दिनांक 28.09.2018 एवं विभागीय समसंख्यक पत्र दिनांक 18.07.2019, दिनांक 09.10.2019.

——00——

कृपया संदर्भित पत्रों का अवलोकन करें। छत्तीसगढ़ गौण खनिज नियम, 2015(यथासंशोधित) के अनुसरण में छत्तीसगढ़ शासन, खनिज साधन विभाग द्वारा जिला रायगढ़, तहसील बरमकेला, ग्राम छैलफोरा(ब्लॉक–1) के खसरा क्रमांक 206, 207/3, 208, 210/1, 211, 212, 214/3, 214/4 के कुल रकबा 1.683 हेक्टर क्षेत्र पर खनिज डोलोमाईट के कंपोजिट लाईसेंस स्वीकृति हेतु संदर्भित टेंडर दिनांक 28.09.2018 को जारी किया गया था। छत्तीसगढ़ गौण खनिज नियम, 2015 के नियम 9(2)(d)(ix) एवं टेण्डर शर्तो के अनुक्रम में फाईनल बिड प्राईस(अधिकतम अंतिम कीमत प्रतिस्थापना) आपसे प्राप्त 20.51 प्रतिटन को स्वीकार करते हुए विभागीय समसंख्यक आदेश दिनांक 18.07.2019 द्वारा आपको Preferred Bidder घोषित किया गया है। जिसके अनुपालन में आपके द्वारा छत्तीसगढ़ गौण खनिज नियम, 2015 के नियम 13(2) एवं (3) अनुसार 03 वर्ष की कालावधि के लिए कार्यपालन प्रतिभूति के रूप में राशि रूपये 3,75,000/–(तीन लाख पचहत्तर हजार मात्र) की बैंक गारंटी जमा किया गया है।

2/ उपरोक्त के परिप्रेक्ष्य में विभागीय पत्र दिनांक 09.10.2019 द्वारा मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड के पक्ष में छत्तीसगढ़ गौण खनिज नियम, 2015 के नियम 10(1) के प्रावधानों के तहत जिला रायगढ़, तहसील बरमकेला, ग्राम छैलफोरा(ब्लॉक–1) के खसरा क्रमांक 206, 207/3, 208, 210/1, 211, 212, 214/3, 214/4 के कुल रकबा 1.683 हेक्टर क्षेत्र पर खनिज डोलोमाईट की समेकित अनुज्ञप्ति(Composit Licence) स्वीकृति हेतु छत्तीसगढ़ गौण खनिज नियम, 2015 अधिसूचित नियमों, जारी टेंडर में उल्लिखित प्रावधानों एवं अधिरोपित शर्तो के अधीन आशय पत्र(Letter of Intent) जारी किया गया है।

3/ संचालनालय भौमिकी तथा खनिकर्म छत्तीसगढ़ ने अपने प्रस्ताव दिनांक 20.01.2020 द्वारा अवगत कराया है कि आशय पत्र(Letter of Intent) दिनांक 09.10.2019 के संदर्भ में मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड के द्वारा पूर्वेक्षण स्कीम, भूमि स्वामी का सहमति पत्र, टोपोशीट एवं नक्शे बोर होल लोकेशन सहित प्रस्तुत कर दिया है, फर्म द्वारा प्रस्तुत पूर्वेक्षण स्कीम में 02 बोरहोल्स किया जाना प्रस्तावित किया गया है तथा एक्सप्लोरेशन एजेंसी के रूप में–मेसर्स सिद्धार्थ जियो कंसलटेंट–RQP श्री आलोक चन्द्र वर्मा(RQP/ DGMCG /23/2015) को नियुक्त किया गया है। आवेदक द्वारा

.....2

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

58

LoI विभागीय दिनांक 09.10.2019 में उल्लेखित समस्त शर्तो का पालन कर लिया है। तदसंबंध में संचालक द्वारा आवेदक के पक्ष में समेकित अनुज्ञप्ति स्वीकृति आदेश जारी करने हेतु प्रस्तावित किया गया है।

4/ उपरोक्त के परिप्रेक्ष्य में मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड को सफल बोलीदार मान्य करते हुए उनके पक्ष में जिला रायगढ़, तहसील बरमकेला, ग्राम छैलफोरा(ब्लॉक–1) के कुल रकबा 1.683 हेक्टर क्षेत्र पर छत्तीसगढ़ गौण खनिज नियम, 2015 के नियम 11(4), नियम 43 की तालिका के सरल कमांक–2 के तहत निम्नलिखित क्षेत्र तथा Notice Inviting Tender(एन0आई0टी0) की शर्तो एवं निम्नलिखित अतिरिक्त शर्त/कंडिका के अधीन खनिज डोलोमाईट की समेकित अनुज्ञप्ति स्वीकृत करता है :–

4.1 उपलब्ध क्षेत्र का विवरण निम्नानुसार है :–

जिला/तहसील	ग्राम पंचायत/ग्राम	खसरा नंबर	रकबा (हेक्टर में)
रायगढ़/बरमकेला	छैलफोरा (ब्लॉक–1)	206, 207/3, 208, 210/1, 211, 212, 214/3, 214/4	1.683

4.2 अनुज्ञप्तिधारी द्वारा छत्तीसगढ़ गौण खनिज नियम, 2015 के नियम–10(8) तथा नियम 10(7) के प्रावधानों के अनुसार समेकित अनुज्ञप्ति के स्वीकृत क्षेत्र में पूर्वेक्षण संक्रिया का संचालन करेगा, नियम–11(2) के तहत् पूर्वेक्षण संक्रियाएं संचालित करने की अधिकतम अवधि दो वर्ष होगी।

4.3 पूर्वेक्षण संक्रियाएं समाप्ति के नब्बे दिवस के भीतर, अथवा संचालक द्वारा विस्तारित कालावधि में छः माह से अधिक न हो उत्खनन पट्टा प्रदान करने हेतु सक्षम प्राधिकारी को प्ररूप नौ में एक आवेदन करेगा।

4.4 छत्तीसगढ़ गौण खनिज नियम, 2015 के नियम–16 एवं 17 के शर्तो का समावेश समेकित अनुज्ञप्ति विलेख किया जाएगा।

4.5 स्वीकृत क्षेत्र के सीमांकन का कार्य डी0जी0पी0एस0(DGPS) सर्वेक्षण हेतु राज्य शासन द्वारा मान्यता प्राप्त संस्था से कराया जाएगा।

4.6 पूर्वेक्षण अनुज्ञप्ति हेतु स्वीकृत क्षेत्र में यदि अन्य निजी भूमि प्रभावित होती है, तो संबंधित भूमि स्वामियों की लिखित में स्वीकृति/सहमति प्राप्त होने के पश्चात ही भू–प्रवेश की अनुमति प्रदान की जाएगी ।

4.7 यदि उक्त क्षेत्र पर वन संरक्षण अधिनियम, 1980 के प्रावधान लागू होते हों तो उसके लिए सक्षम प्राधिकारी से नियमानुसार आवश्यक अनुमति प्राप्त करने उपरांत ही अनुबंध का निष्पादन किया जाय।

4.8 स्वीकृत अनुज्ञप्ति क्षेत्र पर पूर्वेक्षण कार्य प्रारंभ की सूचना संबंधित जिला कार्यालय तथा संचालनालय भौमिकी तथा खनिकर्म को उपलब्ध कराऐगा। पूर्वेक्षण कार्य समाप्ति के पूर्व संचालक, भौमिकी तथा खनिकर्म द्वारा अधिकृत अधिकारी से पूर्वेक्षण कार्य का निरीक्षण कराया जाना आवश्यक होगा।

4.9 पूर्वेक्षण कार्य के दौरान इस अनुमति से स्वीकृत क्षेत्र पर पूर्वेक्षण स्कीम के अनुसार Pitting/Trenching के अतिरिक्त कोई अन्य खनन कार्य करने का कोई अधिकार प्राप्त नही होगा।

4.10 समेकित अनुज्ञप्ति के प्रदाय के लिए आदेश प्राप्ति की तिथि से नियम 14 के अनुसार 60 दिवस के अदर प्ररूप–चार(क) के अनुसार समेकित अनुज्ञप्ति विलेख निष्पादित किया

3

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

59

जाएगा। समेकित अनुज्ञप्ति की पूर्वेक्षण कार्य हेतु कालावधि इस अनुबंध निष्पादन की तिथि से दो वर्ष के लिए होगी तथा आवेदित क्षेत्र पर उत्खनिपट्टा आदेश पारित उपरांत नियम 47 के अनुसार 50 वर्ष की कालावधि के लिये उत्खनन पट्टा विलेख निष्पादित किया जाएगा।

4.11 उत्खनन पट्टा स्वीकृत किये जाने पर स्वीकृत उत्खनन पट्टा क्षेत्र से खनन किए जाने वाले डोलोमाईट खनिज का उपयोग डोलोमाईट आधारित उद्योगों में ही किया जाएगा।

4.12 स्वीकृत क्षेत्र में अनुसूची "ग" के सरल कमांक 6 में उल्लेखित खनिज डोलोमाईट का MgO 18% से कम अथवा SiO2 6% से अधिक पाये जाने पर इसकी सूचना संबंधित जिला कार्यालय एवं संचालनालय को देगा तथा इसका उपयोग राज्य शासन की अनुमति के बिना अन्य निर्माण कार्यों में नहीं किया जा सकेगा।

5/ यदि आवेदक को उपरोक्त शर्तें मान्य हो तो छत्तीसगढ़ गौण खनिज नियम, 2015 के नियम–14 के प्रावधान अनुसार नियमानुसार आवश्यक प्रतिभूति राशि जमा कराकर आदेश प्राप्त होने के 60 दिवस के भीतर जिला कार्यालय में अनुबंध निष्पादन किया जाकर अनुबंध की एक प्रति संचालक, भौमिकी तथा खनिकर्म, रायपुर एवं इस विभाग को आवश्यक रूप से भेजी जाए।

6/ अनुबंध निष्पादन के पूर्व यह सुनिश्चित कर लिया जाए कि आवेदक पर खनिज राजस्व की कोई राशि बकाया तो नहीं है।

संलग्न– नक्शा,

छत्तीसगढ़ के राज्यपाल के नाम से
तथा आदेशानुसार,

09/3/2020

(कुन्दन कुमार बंजारे)
अवर सचिव
छत्तीसगढ़ शासन
खनिज साधन विभाग

अटल नगर, दिनांक मार्च, 2020

पृ0क्रमांक एफ 2–6/2018/12.

प्रतिलिपि :–

1. उप खान नियंत्रक, भारतीय खान ब्यूरो, क्षेत्रीय कार्यालय, विधानसभा के पास महालेखाकार भवन परिसर, रायपुर(छत्तीसगढ़)
2. संचालक, संचालनालय भौमिकी तथा खनिकर्म, छत्तीसगढ़, द्वितीय तल, इन्द्रावती भवन, नवा रायपुर अटल नगर, जिला रायपुर(छत्तीसगढ़)
3. सदस्य सचिव, राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण, पर्यावास भवन, सेक्टर–19, नवा रायपुर अटल नगर, जिला रायपुर(छत्तीसगढ़)
4. कलेक्टर, जिला रायगढ़(छत्तीसगढ़)

की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु अग्रेषित।

5. गार्ड फाईल रजिस्टर।

अवर सचिव
छत्तीसगढ़ शासन
खनिज साधन विभाग

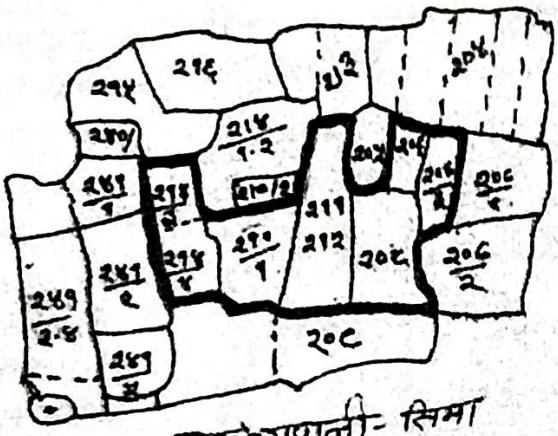
SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

नजरी नक्शा

ग्राम- हेलफोरा प.ह.न० 04 रा.वि.म. सरिया
तह०-बरमकेला. जिला रायगढ़ (छ.ग.) वर्ष- 2017



कटगपानी- सिमा

आवेदित-स्थल रव० नं०	रकबा
208	0.0CC
206/2	0.3C0
202	0.304
290/1	0.33C
291	0.429
292	
294/2	0.0C9
294/6	0.0EE
कुल- 02	1.EC3 (हेक्टेयर)

अवर सचिव
छत्तीसगढ़ शासन
खनिज साधन विभाग
मंत्रालय, अटल नगर-492002

ऋषि दास (पटवारी)
प.ह.नं.-04
तह.बरमकेला,जि.-रायगढ़ (छ.ग.)

उप – संचालक
(खनिज प्रशासन)
रायगढ़ (छ.ग.)

टीप:- लाल स्याही से चिन्हांकित क्षेत्र खनिज हेतु प्रस्तावित है।

खनि अधिकारी
कार्यालय, कलेक्टर रायगढ़ (छ.ग.)

सहा० निरीक्षक
रायगढ़ (छ.ग.)

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

ANNEXURE–3

226

INDIA NON JUDICIAL

Government of Chhattisgarh

e-Stamp

सत्यमेव जयते

Certificate No.	:	IN-CG153942061443495
Certificate Issued Date	:	01-Jun-2020 03:43 PM
Account Reference	:	IMPACC (SV)/ cg6011804/ SARANGARH/ CG-RG
Unique Doc. Reference	:	SUBIN-CGCG60118042097235478175 9S
Purchased by	:	SHUBH MINERALS PVT LTD DIR PRATISH KUMAR GOYAL
Description of Document	:	Article 5 Agreement or Memorandum of an agreement
Property Description	:	Not Applicable
Consideration Price (Rs.)	:	0 (Zero)
First Party	:	CG GOVT BY COLLECTOR RAIGARH
Second Party	:	SHUBH MINERALS PVT LTD DIR PRATISH KUMAR GOYAL
Stamp Duty Paid By	:	SHUBH MINERALS PVT LTD DIR PRATISH KUMAR GOYAL
Stamp Duty Amount(Rs.)	:	100 (One Hundred only)

ACCID CG6011804

Please write or type below this line

SHUBH MINERALS PVT. LTD.

0011708083

DIRECTOR

Deepak Kumar Sahu
(RQP/DGM/CG/24/2020)

Statutory Alert:
1. The authenticity of this Stamp Certificate should be verified at www.shcilestamp.com. Any discrepancy in the details on this Certificate and as available on the website renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority.

62

भारतीय गैर न्यायिक
भारत INDIA
रु. 500 FIVE HUNDRED RUPEES
पाँच सौ रुपये Rs. 500
INDIA NON JUDICIAL

छत्तीसगढ़ CHHATTISGARH

E 040923

मुद्रांक शुल्क 1002रु.

"प्ररूप" – चार 'क'

गौण खनिजों के लिये समेकित अनुज्ञप्ति विलेख

[नियम 13(3) देखिये]

यह करार 29.4.20 दिन सन् 2020 को राज्यपाल, छत्तीसगढ़ राज्य (जो इसमें इसके पश्चात् शासन के रूप में निर्दिष्ट है जहां अभिव्यक्तियां संदर्भ के अनुकूल है, वहां उसके उत्तराधिकारी तथा समनुदेशिती सम्मिलित समझे जाएंगे) प्रथम पक्षकार

और

जहां अनुज्ञप्तिधारी एक व्यक्ति हो

मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड, निवासी गोयल ऑटोमोबाईल, जिंदल रोड़ जगतपुर, रायगढ़ (छ.ग.) (व्यक्ति का नाम, पता एवं व्यवसाय सहित) (जो इसमें इसके पश्चात् "अनुज्ञप्तिधारी" के रूप में निर्दिष्ट है जहां अभिव्यक्तियां संदर्भ के अनुकूल है वहां उसके उत्तराधिकारी, निष्पादक, प्रशासक, प्रतिनिधिगण तथा अनुज्ञात समनुदेशिती सम्मिलित समझे जायेंगे)

जहां अनुज्ञप्तिधारी एक से अधिक व्यक्ति हो

..... (व्यक्ति का नाम, पता एवं व्यवसाय सहित) तथा ..... (व्यक्ति का नाम, पता एवं व्यवसाय सहित) तथा (जो इसमें इसके पश्चात् "अनुज्ञप्तिधारी" के रूप में निर्दिष्ट है जहां अभिव्यक्तियां संदर्भ के अनुकूल है वहां उसके उत्तराधिकारी, निष्पादक, प्रशासक, प्रतिनिधिगण तथा अनुज्ञात समनुदेशिती सम्मिलित समझे जायेंगे)

Shubh Minerals Pvt. Ltd.

Director

SHUBH MINERALS PVT. LTD.

D:\Narendra\MINING OFFICE\ANisu\Agreement\prarup 4 - Shubh Minerals.doc

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

पंजीयन एवं मुद्रांक विभाग
छत्तीसगढ़

पंजीयन हेतु प्रस्तुतिकरण

जिला- रायगढ़ उप पंजीयक कार्यालय- सारगंढ_SR के कार्यालय में दिनांक- 01/06/2020 को समय- 04:50:07 PM प्रस्तुत किया।

टोकन नं.-	27
प्रस्तुतकर्ता का नाम	शुभ मिनरल्स प्रा.लि.द्वारा.प्रतीश कुमार गोयल
प्रस्तुतकर्ता पिता का नाम -	हरीकिशन गोयल
प्रस्तुतकर्ता का पता	सक्ती जांजगीर चांपा के द्वारा प्रस्तुत किया गया

मालिक राम धुरु ,उप पंजीयक
उप पंजीयक कार्यालय , -सारगंढ_SR

ई पंजीयन की पावती

निष्पादक का नाम	छ.ग. शासन द्वारा कलेक्टर रायगढ़
प्रकार पक्षकार/ निष्पादक की हैसियत	स्वतः (साक्षियों द्वारा शिनाख्त)

जिला- रायगढ़ उप पंजीयक कार्यालय- सारगंढ_SR के कार्यालय में दिनांक- 01/06/2020 को समय- 04:50:07 PM में ई-स्टॉम्प द्वारा संलग्न निष्पादित विलेख को ई-पंजीयन हेतु प्रस्तुत की गई

ई-स्टाम्प पृष्ठों की संख्या	1
ई-स्टाम्प पृष्ठों का मूल्य	IN-CG153942061443495 / Rs. 100
कुल मुद्रांक	100

ई स्टाम्प की SHCIL द्वारा उपलब्ध कराया गया विवरणी

ई-पंजीयन आई-डी नं	CG621740106202002 7	कुल प्रस्तुत पृष्ठों	15

मालिक राम धुरु ,उप पंजीयक
उप पंजीयक कार्यालय , -सारगंढ_SR

SHUBH MINERALS PVT. LTD.

DIRECTOR

CG621740106202002 7

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

64

जहां अनुज्ञप्तिधारी पंजीकृत फर्म हो

..... (भागीदारों के नाम तथा पता) तथा ..... (भागीदारों के नाम तथा पता) तथा ..... (भागीदारों के नाम तथा पता) जो, भारतीय भागीदारी अधिनियम, 1932 (1932 का 9) अधीन रजिस्ट्रीकृत (फर्म का नाम) ..... के नाम तथा कार्यशैली के अंतर्गत सभी भागीदारी के व्यवसाय करते है तथा जिनका रजिस्ट्रीकरण कार्यालय ..... नगर ..... में है (जो इससे इसके पश्चात् "अनुज्ञप्तिधारी" के रूप में निर्दिष्ट है जहां अभिव्यक्तियां संदर्भ के अनुकूल है वहां उक्त फर्म के समस्त भागीदार, उनके संमनुदेशिती उत्तराधिकारी, निष्पादक, विधिक प्रतिनिधि तथा अनुज्ञात समनुदेशिती सम्मिलित समझे जायेंगे।)

जहां अनुज्ञप्तिधारी पंजीकृत कंपनी हो

..... (जिस अधिनियम के अधीन निगमित हो) के अधीन रजिस्ट्रीकृत कंपनी ..... (कंपनी का नाम) और इसका रजिस्ट्रीकृत कार्यालय ..... (पता) में है (जो इसमें इसके पश्चात् "अनुज्ञप्तिधारी" के रूप में निर्दिष्ट है जहां अभिव्यक्तियां संदर्भ के अनुकूल है वहां उसके अन्य भाग के उत्तराधिकारी तथा अनुज्ञात समनुदेशिती सम्मिलित समझे जायेंगे)

के बीच आज तारीख 24.4.20 को किया गया।

यतः अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों ने, गौण खनिज नियम 2015 (जो इसमें इसके पश्चात् उक्त नियम के रूप में निर्दिष्ट है), के अनुसार अनुसूची–क में विनिर्दिष्ट निजी भूमि, जो कि इसमें संलग्न प्लान में चिन्हित तथा चित्रित है में **डोलोमाईट** (गौण खनिज) के लिए पूर्वेक्षण की अनुज्ञप्ति हेतु राज्य शासन को आवेदन किया है और राज्य शासन के साथ ऐसी अनुज्ञप्ति के संबंध में विहित प्रतिभूति के रूप में रूपये **10000=00** की राशि जमा की है।

अब इसके साक्ष्य के रूप में निम्नानुसार प्रस्तुत करते है।

पृष्ठभूमि :

क – अनुज्ञप्तिधारी (जो कि पूर्वेक्षण अनुज्ञप्ति–सह–खनिपट्टा प्राप्त करने हेतु इलेक्ट्रानिक नीलामी/इलेक्ट्रॉनिक निविदा में भाग लिया था, उसके आधार पर प्रथम चरण में पूर्वेक्षण अनुज्ञप्ति – सह–खनिपट्टा रियायत के लिये पूर्वेक्षण अनुज्ञप्ति प्राप्त करने के लिए योग्य हो)

ख – इस संबंध में, राज्य सरकार द्वारा इस अनुज्ञप्ति का उपयोग अनुज्ञप्तिधारी को अनुज्ञप्ति प्रदान करने के लिए किया जा रहा है, जिसके अंतर्गत शुल्क, स्वामित्व तथा सहमति पत्र आदि समाहित है, जिसके द्वारा सम्पूर्ण तथा इसके किसी भी भाग के लिये शुल्क का भुगतान, अनुपालन एवं निष्पादन किया जाना है।

Shubh Minerals Pvt. Ltd.

Director

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

65

पंजीयन एवं मुद्रांक विभाग
छत्तीसगढ़
जाँच परचा सह घोषणा प्रपत्र

जिला:	रायगढ़	उप पंजीयक कार्यालय:	सारंगढ_SR
टोकन नं.-	27	टोकन दिनांक/समय :	2020-06-01/05:10:12

प्रस्तुतकर्त्ता	शुभ मिनरल्स प्रा.लि.डाय.प्रतीश कुमार गोयल
प्रस्तुतकर्त्ता का पता	सक्ती जांजगीर चांपा
निष्पादक की हैसियत	स्वतः (साक्षियों द्वारा शिनाख्त)

विलेख प्रारूप	करार या करार का जापन	विलेख का प्रकार	करार नामा
देय मुद्रांक	50	संलग्न मुद्रांक	100
कुल पृष्ठो की संख्या	23		
ई-पंजीयन आई.डी.नं.	CG6217401062020027		
ई-स्टाम्प नं.	IN-CG15394206144349S		
विशेष विलेख प्रकार			

सम्पत्ति का विवरण :

जनपद:बरमकेला/तहसील : बरमकेला/रा.नी.मंडल -सरिया

वार्ड/हल्का	मोहल्ला का नाम	वार्ड का नाम/ गॉव का नाम	खाता न.	प्लॉट नं.	खसरा/ शीट नं.	चौहद्दी	भूमि की स्थिति	शामिल खसरा	सौदा किया गया रकबा	खसरे का कुल रकबा
4	छेलफोरा	छेलफोरा	-	-	207/3	उत्तर -मंगल पटेल, दक्षिण -चरण एवं राजकुमारपूरव - मंगल कैो.,पश्चिम -मंगल पटेल की भूमि	असिंचित	-	0.380 हेक्टर	0.380 हेक्टर
4	छेलफोरा	छेलफोरा	-	-	208	उत्तर -मंगल पटेल, दक्षिण -चरण एवं राजकुमारपूरव - मंगल कैो.,पश्चिम -मंगल पटेल की भूमि	असिंचित	-	0.304 हेक्टर	0.304 हेक्टर
4	छेलफोरा	छेलफोरा	-	-	206	उत्तर -मंगल पटेल, दक्षिण -चरण एवं राजकुमारपूरव - मंगल कैो.,पश्चिम -मंगल पटेल की भूमि	असिंचित	-	0.098 हेक्टर	0.098 हेक्टर
4	छेलफोरा	छेलफोरा	-	-	210/1	उत्तर -मंगल पटेल, दक्षिण -चरण एवं राजकुमारपूरव - मंगल कैो.,पश्चिम -मंगल पटेल की भूमि	असिंचित	-	0.339 हेक्टर	0.339 हेक्टर

SHUBH MINERALS PVT. LTD.

CG6217401062020027

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

भाग–एक

1. **अनुज्ञप्ति प्रदान करना**

राज्य शासन एतद द्वारा अनुज्ञप्तिधारी को निम्नलिखित खनिज/खनिजों (खनिजों के नाम) के संबंध में अनुसूची एक में वर्णित क्षेत्र में (आरंभ दिनांक) (समयावधि) की कालावधि के लिए पूर्वेक्षण संक्रियायें संचालित करने के लिए अनुज्ञप्ति प्रदान करता है। R.29.4.20 to 28.4.22

2. **अधिकार और दायित्व**

2.1 राज्य शासन तथा अनुज्ञप्तिधारी के अधिकारी एवं दायित्व, अधिनियम और उसके अधीन बनाये गये नियमों में विनिर्दिष्ट किये गये अनुसार होंगे।

2.2 इसमें इसके पश्चात् आरक्षित तथा अन्तर्विष्ट शुल्क, स्वामित्व (रायल्टी), प्रसंविदा तथा करार के प्रतिफल में तथा अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों के पक्ष पर भुगतान के लिए, क्रियान्वयन तथा निष्पादन किये जाने हेतु राज्य शासन, एतद् द्वारा, स्वीकृति प्रदान करता है तथा अनुज्ञप्तिधारियों को पूर्ण अधिकारी तथा अनुज्ञप्ति अन्तरित करता है।

3. **भूमि में प्रवेश करना तथा खनिजों की खोज करना, प्राप्त करना, ले जाना और प्राप्त खनिजों का निपटारा करना :–**

(1) उक्त भूमि में प्रवेश करना और उक्त भूमियों में सब जगह पड़े हुए या उसके भीतर के **डोलोमाईट** (खनिजों के नाम) के समस्त या किसी खनिज के खनन, वेधन, खुदाई या अन्यथा के द्वारा खोज करना,

(2) यह अनुज्ञप्ति, अनुज्ञप्तिधारी को वाणिज्यिक प्रयोजन के लिए खनिजों को प्राप्त करने या ले जाने का अधिकारी प्रदान नही करेगा।

परन्तु यह कि अनुज्ञप्तिधारी, स्वामित्व के भुगतान पर खनिज के परिवहन हेतु अभिवहन पास प्राप्त करने और जिला खनिज संस्थान न्यास को अंशदान के उपरान्त 16 (चार) नियम में यथा विनिर्दिष्ट परीक्षण के प्रयोजन के लिए पांच घन मीटर तक **डोलोमाईट** (खनिज का नाम) को एकत्र कर सकेगा तथा ले जा सकेगा।

4. **पूर्वगामी सर्व साधारण पर प्रतिकूल प्रभाव डाले बिना,**

(क) अनुज्ञप्तिधारी

(एक) अधिनियम और तद्धीन बनाये गये नियमों और अन्य कोई लागू होने वाली विधि के उपबंधों का सदैव पालन करेगा,

(दो) स्वामित्व का शीघ्र भुगतान करेगा और अनुज्ञप्तिधारी द्वारा किये जाने वाला अन्य कोई भुगतान अपेक्षित करेगा,

(तीन) ऐसे सभी क्षतिपूर्तियों का भुगतान जिसका निर्धारण विधिसम्मत प्राधिकारी द्वारा संपूर्ण किसी क्षति, चोट या विघ्न के अध्यधीन जो कि अनुज्ञप्तिधारी द्वारा इस अनुज्ञप्ति द्वारा पदत्त शक्तियों का प्रयोग करते हुए किया जायेगा, की पूर्ति राज्य शासन के सभी दावों, जो कि किसी व्यक्ति या व्यक्तियों द्वारा किसी ऐसी क्षति, चोट या विघ्न के संबंध में होगा, की पूर्ति करेगा।

Shubh Minerals Pvt. Ltd.

Director

D:\Narendra\MINING OFFICE\ANisu\Agreement\prarup 4 - Shubh Minerals.doc

SHUBH MINERALS PVT. LTD.

DIRECTOR

-3-

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

वार्ड/हल्का	मोहल्ला का नाम	वार्ड का नाम/ गॉव का नाम	खाता न.	प्लॉट नं.	खसरा/ सीट नं.	चौहद्दी	भूमि की स्थिति	शामिल खसरा	चौंदा किया गया रकबा	खसरे का कुल रकबा
4	छेलफोरा	छेलफोरा	-	-	214/4	उत्तर -मंगल पटेल, दक्षिण -चरण एवं राजकुमारपूरब - मंगल बैगा.,पश्चिम -मंगल पटेल की भूमि	असिंचित	-	0.060 हेक्टर	0.060 हेक्टर
4	छेलफोरा	छेलफोरा	-	-	212	उत्तर -मंगल पटेल, दक्षिण -चरण एवं राजकुमारपूरब - मंगल बैगा.,पश्चिम -मंगल पटेल की भूमि	असिंचित	-	0.421 हेक्टर	0.421 हेक्टर
4	छेलफोरा	छेलफोरा	-	-	214/3	उत्तर -मंगल पटेल, दक्षिण -चरण एवं राजकुमारपूरब - मंगल बैगा.,पश्चिम -मंगल पटेल की भूमि	असिंचित	-	0.081 हेक्टर	0.081 हेक्टर
4	छेलफोरा	छेलफोरा	-	-	211	उत्तर -मंगल पटेल, दक्षिण -चरण एवं राजकुमारपूरब - मंगल बैगा.,पश्चिम -मंगल पटेल की भूमि	असिंचित	-	0.421 हेक्टर	0.421 हेक्टर

भूमि विन्यास - कृषि भूमि

भूमि की उपयोगिता- अन्य

पक्ष का विवरण

पक्षकार का प्रकार	पक्षकार का नाम	पिता/पति/माता/अभिभावक का नाम	पेशा	लिंग	जाति/उप जाति	पैन/60	पहचान संलग्न कागजात की विवरणी		पता
प्रथम पक्ष	छ.ग.शासन द्वारा कलेक्टर रायगढ़	पिता-अन्य	अन्य	अन्य	सामान्य/		आधार कार्ड	0	रायगढ़,छ.ग.
दूसरा पक्ष	शुभ मिनरल्स प्रा. लि.डायरेक्टर प्रतीक्ष कुमार गोयल	पिता-हरी किशन गोयल	व्यवसाय	पुरूष	सामान्य/सामान्य	AGOPG6141Q	आधार कार्ड	683764690446	स्टेशन रोड शक्ति, जांजगीर चांपा
गवाह-1	प्रहलाद कुमार	पिता-ज्वाला प्रसाद टेवागन	व्यवसाय	पुरूष	पिछड़ा वर्ग/कोष्टा		आधार कार्ड	756387251849	कोतरा रोड रायगढ़,छ.ग.
गवाह-2	अनुपम खमरोई	पिता-तपत खमरोई	नौकरी	पुरूष	पिछड़ा वर्ग/सोनार		आधार कार्ड	277500055079	धांगरडीपा वार्ड न.2 रायगढ़,छ.ग.

SHUBH MINERALS PVT. LTD

CG6217401062020027

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

(चार) अपने स्वयं के खर्च पर पर्यावरण को सुरक्षित रखने हेतु सभी उपाय करेगा यथा वृक्षारोपण, खनन की गयी भूमि पुनरूद्धार, पर्यावरण को नियंत्रित रखने वाले उपकरणों का उपयोग और ऐसे अन्य उपाय करेगा, जैसा कि समय समय पर केन्द्र अथवा राज्य सरकार द्वारा विहित किया जाये,

(पांच) बिना विलम्ब किए किसी भी ऐसी दुर्घटना जिसमें जिसमें किसी की मृत्यु या गम्भीर रूप से शारीरिक क्षति या किसी सम्पति को गम्भीर नुकसान या ऐसी घटना जिससे किसी व्यक्ति या सम्पत्ति को गम्भीर नुकसान होने की सम्भावना हो, जो कि इस अनुज्ञप्ति के अनुपालन के दौरान घटित हो, की जानकारी कलेक्टर को देगा,

(छः) अनुज्ञप्तिधारक द्वारा राज्य शासन को इस अनुज्ञप्ति के अनुपालन के दौरान आवेदित क्षेत्र पर किये गये इस अनुज्ञप्ति के अधीन किये गये पूर्वेक्षण संक्रियाओं के कार्य सम्पूर्ण जानकारी देगा, जिसमें खनिज से संबंधित सभी भूगर्भीय एवं खनिज संसाधन की जानकारी होगी,

(सात) इस अनुज्ञप्ति के संबंध में लागू होने वाले देय स्टॉम्प ड्यूटी तथा पंजीयन शुल्क का भुगतान करेगा।

(ख) राज्य शासन को :

(एक) अनुज्ञप्तिधारी द्वारा प्रदान की गयी कार्यपालन प्रतिभूति को कार्यपालन प्रतिभूति की ऐसी शर्तों के अनुसार समायोजन का अधिकारी होगा और कार्यपालन प्रतिभूति की भरपाई अनुज्ञप्तिधारी करेगा। सुरक्षा प्रतिभूति के रूप में जमा की गयी कार्यपालन प्रतिभूति के प्रकरण में, अनुज्ञप्ति की समाप्ति के पश्चात् और अनुज्ञप्तिधारी द्वारा समस्त दायित्वों को पूर्ण करने पर, इस तरह की ऐसी सुरक्षा प्रतिभूति उचित कटौतियों के पश्चात् अनुज्ञप्तिधारी को वापस की जायेगी। यह स्पष्ट किया जाता है कि सुरक्षा प्रतिभूति पर कोई ब्याज देय नही होगा, और

5. अनुज्ञप्तिधारी/अनज्ञप्तिधारियों को लिखित में दी जाने वाली सूचना, उस व्यक्ति को दी जायेगी, जिसे अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों को लिखित में दी जाने वाली सूचना, उस व्यक्ति को दी जायेगी, जिसे अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों द्वारा ऐसी सूचना प्राप्त करने के लिए नियुक्त किया गया हो, इस तरह की नियुक्ति नही किये जाने की स्थिति में सूचना को अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों द्वारा आवेदन पत्र में उनके बताये गये पते अथवा समय समय पर उनके द्वारा भारत में स्थित बताये गये पते पर पंजीकृत डाक से भेजा जायेगा और प्रत्येक ऐसी तमीली को अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों पर उचित एवं विधिमान्य तामील होना समझा जायेगा और उस पर प्रश्न अथवा चुनौती नही दी जायेगी।

भाग–दो

अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों द्वारा प्रसंविदाएं

अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों, एतद् द्वारा राज्य शासन के साथ निम्नानुसार प्रसंविदा/प्रसंविदाएं करते है :–

स्वामिस्व की दरें एवं भुगतान :–

(1) उक्त नियमों की अनुसूची तीन में यथा विनिर्दिष्ट ऐसी दर से राज्य शासन को परीक्षण के प्रयोजन के लिए निकासी किये गये खनिज के लिए अग्रिम में स्वामिस्व का भुगतान करेगा, नियम

Shubh Minerals Pvt. Ltd.

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

मैं/हम इस संलग्नक विलेख के सभी पृष्ठों के एवं सारांशित उपर्युक्त निर्मूल प्रविष्टियों को,विलेख के ई-पंजीयन आई.डी. CG6217401062020027 तथा ई-स्टाम्प कोड IN-CG15394206144349S सहित, एतद् द्वारा अभिप्रमाणित एवं पुष्टि करते है, तथा मेरे/अपने निम्नांकित हस्ताक्षरो से इस विलेख को निष्पादित करते है।

निष्पादको की हस्ताक्षर

दावेदारों की हस्ताक्षर

SHUBH MINERALS PVT. LTD.

CG6217401062020027

DIRECTOR

Deepak Kumar Saini
(RQP/DGMCG/24/2020)

50 में अधिसूचित दर के अनुसार जिला खनिज प्रतिष्ठान निधि को अंशदान का भुगतान करने का दायी होगा।

कार्यकुशल कारीगर की भांति कार्य करना :–

(2) (एक) एतद् द्वारा दी गई अनुज्ञप्ति की संक्रियायें को उचित, व्यवस्थित, दक्षतापूर्ण एवं कार्यकुशल कारीगर की भांति और यथासंभव भूमि की सतह और वृक्षों, फसलों, भवनों, संरचनाओं और उस पर अन्य सम्पत्ति को कम नुकसान पहुंचायें, चलाना और कार्य करना,

(दो) ऐसे भूमि के खातेदार या कब्जेदार या स्वामी की सहमति से किसी निजी भूमि में कार्य करना,

(तीन) किसी भूमि के जिस पर किसी व्यक्ति का दखल हो, उसकी सहमति के बिना प्रवेश नही करना या न ही किसी वृक्ष, खड़ी फसल, भवन झोपड़ियों, संरचनायें अथवा किसी भूमि के दखलकार या अन्य व्यक्ति की अन्य किसी प्रकार की सम्पत्ति को या ऐसे स्वामी, दखलकार या व्यक्ति की बिना लिखित सहमति से प्रवेश करना, हानि पहुंचाना।

<u>लेखाओं का सही हिसाब रखना</u> :–

(3) प्रत्येक अनुज्ञप्तिधारी, समेकित संक्रियाओं पर उसके द्वारा किये गये समस्त खर्चों का विश्वसनीय और सही हिसाब बनाये रखेगा और ऐसी संक्रियाओं के साथ प्राप्त किये गये समस्त खनिजों के भेजे जाने के दौरान उनकी मात्रा तथा अन्य विशिष्टियों का भी हिसाब रखेगा,

बिज, सड़क आदि से निर्बधित दूरी के भीतर पूर्वेक्षण–सह–उत्खनन संक्रियायें नही किया जानाः–

(4) अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों, राष्ट्रीय या राज्य राजमार्ग, रेल्वे लाईन के किसी पूल से 100 मीटर, प्रधानमंत्री ग्राम सड़क योजना, लोक निर्माण विभाग के अन्य जिला मार्ग अन्तमार्ग निर्मित सड़क से 50 मीटर तथा ग्रामीण कच्चे रास्ते से 10 मीटर किसी नदी से 100 मीटर या कोई सार्वजनिक स्थल से 50 मीटर के भीतर किसी स्थान पर कोई पूर्वेक्षण–सह–उत्खनन संक्रियायें करने के लिये कार्य नही करेगा अथवा कार्य करने की अनुमति नही देगा।

बिना पूर्व अनुमति के,वन भूमि में प्रवेश नही करना तथा वृक्षों को काटना अथवा हानि पहुंचाना, आदिः–

(5) (एक) वन (संरक्षण) अधिनियम 1980 के प्रावधानों और केन्द्र सरकार द्वारा समय समय पर जारी निर्देशों के अनुसार किसी वन भूमि में प्रवेश नही करेगा या वृक्षों की कटाई या क्षति नही पहुंचायेगा।

(दो) किसी वन भूमि में, प्राधिकृत वन अधिकारी तथा वन (संरक्षण) अधिनियम, 1980 के प्रावधान के अनुसार ऐसी स्वीकृति, जैसा की विहित किया जाये अनुमति की शर्तों तथा इस संबंध में केन्द्र सरकार द्वारा समय समय पर जारी निर्देशों के अधीन पूर्व लिखित अनुमति अभिप्राप्त किये बिना, प्रवेश नही करेगा एवं पूर्वेक्षण–सह–उत्खनन प्रारंभ नही करेगा।

Shubh Minerals Pvt. Ltd.

Director

SHUBH MINERALS PVT. LTD.

D:\Narendra\MINING OFFICE\ANisu\Agreement\prarup 4 - Shubh Minerals.doc

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

पंजीयन एवं मुद्रांक विभाग

छत्तीसगढ़

पंजीयन हेतू स्वीकृति एवं शिनाख्ती

निष्पादक	दावेदार
1. छ.ग.शासन द्वारा कलेक्टर रायगढ पिता का नाम अन्य जाति सामान्य निवास स्थान रायगढ,छ.ग.	1. शुभ मिनरल्स प्रा.लि.डायरेक्टर प्रतीश कुमार गोयल पिता का नाम हरी किशन गोयल जाति सामान्य निवास स्थान स्टेशन रोड शक्ति,जांजगीर चांपा

स्वीकार करते है कि तथाकथित करार या करार का ज्ञापन विलेख का निष्पादन किया गया था

गवाह

1.	अनुपम खमरोई पिता का नाम तपत खमरोई जाति पिछडा वर्ग निवास स्थान धांगडीपा वार्ड न.2 रायगढ,छ.ग. जिला रायगढ
2.	प्रहलाद कुमार पिता का नाम ज्वाला प्रसाद देवांगन जाति पिछडा वर्ग निवास स्थान कोतरा रोड रायगढ,छ.ग. जिला रायगढ

की जाँच पूर्वोक्तक निष्पादक/दावेदार की शिनाख्ती के विषय मे की गई है ।

मालिक राम धुरा ,उप पंजीयक
उप पंजीयक कार्यालय , -सारगढ_SR

आज दिनांक 01/06/2020

CG621740108202002 7

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

12

समस्त दावों के विरूद्ध शासन को मुक्त करना :–

(6) (क) इस अनुज्ञप्ति द्वारा दिये गये शक्तियों का प्रयोग करने के कारण हुई समस्त टूट–फूट, क्षति अथवा अव्यवस्था के लिए समुचित समाधान करना तथा क्षतिपूर्ति करना जैसा कि तत्समय प्रवृत्त विधि के अनुसार विधिक प्राधिकरण द्वारा आंकलित किया जाये तथा राज्य शासन को ऐसे समस्त दावों से जो किसी व्यक्ति द्वारा ऐसे टूट–फूट, क्षति अथवा अव्यवस्था के कारण किये जाये तथा उस संबंध में जो मूल्य अथवा व्यय चुकाना पड़े उससे पूर्ण एवं समस्त रूप से मुक्त रखना।

(ख) समय समय पर केन्द्र या राज्य शासन द्वारा विहित न्यूनतम मजदूरी की अपेक्षा कम मजदूरी नही देगा।

(ग) खान अधिनियम, 1962 के उपबंधों का पालन करना।

(घ) छत्तीसगढ़ गौण खनिज नियम, 2015 के उपबंधों का पालन करना।

(ड़) पर्यावरण के संरक्षण के लिए, अपने खर्चों का उपाय करना, जैसे वृक्षारोपण, खान की भूमि का सुधार, प्रदूषण नियंत्रण उपयों का उपयोग करना और ऐसे अन्य उपायों को करना, जो केन्द्र या राज्य शासन द्वारा समय समय पर विहत किया जाये।

(च) सतह की भूमि के दखलकार को, इन नियमों में बताई गई तारीख और रीति से मुआवजा भुगतान करना।

जमा की गई प्रतिभूति आदि की जब्ती :–

(7) जब किसी जमा की गई प्रतिभूति राशि रूपये 10000=00 या उसका कोई भाग या कोई अन्य और राशि एतद्द्वारा राज्य शासन के पास सम्पूर्ति हेतु जमा कराई हो, वह राज्य शासन द्वारा इस निमित्त एतद्द्वारा घोषित शक्तियों के अनुसरण में, जब्त या अनुप्रयुक्त की जाएगी तत्पश्चात् अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों, तत्काल ऐसी अन्य रकम को राज्य शासन को जमा करेगा/करेंगे, जो कि प्रतिभूति के विनियोजित किये गये भाग को, राज्य शासन के पास जमा प्रतिभूति की राशि रूपये 10000=00 के समतुल्य करने के लिए पर्याप्त हो।

अनुज्ञप्तिधारी का न्यास, संघ आदि से नियंत्रित नही होना :–

(8) अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों, स्वयं सभी को, राज्य शासन से लिखित सहमति के सिवाय स्वयं को या परस्पर सभी को किसी न्यास, संघ, निगम्, फर्म या व्यक्ति द्वारा नियंत्रित नही किया जायेगा/जायेंगे।

दुघर्टना की रिपोर्ट :–

(9) अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों, किसी दुर्घटना जो इस अनुज्ञप्ति के अधीन पूर्वेक्षण संक्रियाओं के उपक्रम में घटित हो सकती है, जिसके कारण मृत्यु या शारीरिक गंभीर क्षति या सम्पत्ति को गंभीर क्षति या गंभीर रूप से प्रभावित करने वाली या खतरा पहुंचाने वाली क्षति हुई हो, की रिपोर्ट चौबीस घंटे के भीतर, संचालक, भौमिकी तथा खनिकर्म, संबंधित जिले के कलेक्टर को भेजेगा।

समाप्ति या अधित्याग के पश्चात् भूमि की सतह पर बेधन, छिद्र बन्द करना, बाड़ लगाना आदि तथा पूर्व स्थिति में लानाः–

(10) उस भूमि के मामले को छोड़कर, जिस पर अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों को अनुज्ञप्ति की अवधि समाप्ति या शीघ्र अवधारण पर या उसके पूर्व, एक उत्खनन पट्टा स्वीकृत किया जायेगा, तो वह अनुज्ञप्ति के पर्यावसान, शीघ्र या अवधारण या अनुज्ञप्ति के परित्याग की तारीख जो भी पहले घटित

Shubh Minerals Pvt. Ltd.

Director

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

पंजीयन एवं मुद्रांक विभाग
छत्तीसगढ़

पंजीयन अधिनियम 1908 की धारा 32 (क) के तहत निष्पादकों/दावेदारों एवं गवाहों का फोटो एवं अंगुष्ठ का छाप

टोकन नं.- 27 दिनांक - 01/06/2020 विलेख का प्रकार - करार या करार का ज्ञापन

निष्पादकों/दावेदारों/गवाहों का विवरणी

	इलेक्ट्रोनिक फोटो	अंगूठे का निशान	हस्ताक्षर

नाम -छ.ग.शासन द्वारा कलेक्टर रायगढ़(प्रथम पक्ष)
पिता का नाम -अन्य
पता -रायगढ़,छ.ग.




नाम -शुभ मिनरल्स प्रा.लि.डायरेक्टर प्रतीश कुमार गोयल(दूसरा पक्ष)
पिता का नाम -हरी किशन गोयल
पता -स्टेशन रोड शक्ति,जांजगीर चांपा




नाम -प्रहलाद कुमार (गवाह-1)
पिता का नाम -ज्वाला प्रसाद देवांगन
पता -कोतरा रोड रायगढ़,छ.ग.




नाम -अनुपम खमरोई(गवाह-2)
पिता का नाम -तपत खमरोई
पता -खांगरडीपा वार्ड न.2 रायगढ़,छ.ग.

पूर्वोक्त निष्पादक/दावेदार/सहमतिदाता/गवाह के अंगुष्ठ छाप/हस्ताक्षर मेरे समक्ष लिये गये

मानिक राम ध्रुव ,उप पंजीयक
उप पंजीयक कार्यालय , -सारगंढ_SR

SHUBH MINERALS PVT. LTD.

DIRECTOR

CG621740106202002?

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

होगी, के तीन महिने के भीतर सुरक्षित रूप से किसी भी बेधन या छिद्र को बन्द करेगा तथा भर देगा या किसी छिद्र या उत्खनन स्थल में बाड़ लगायेगा, जो कि ऐसी सीमा तक किये जायेंगे, जिसकी अपेक्षा संबंधित कलेक्टर द्वारा की गई हो तथा जितनी सीमा तक भूमि की सतह और समस्त भवन या उस पर अवस्थित आंकलन के उपक्रम में क्षतिग्रस्त या विनष्ट हो चुके हो यथा पूर्व स्थिति में बहाल करेगा। परन्तु यह कि अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों से उस भूमि की सतह या किसी भवन को यथापूर्व स्थिति में बहाल करने की अपेक्षा नही की जायेगी, यदि उसके बारे में पूरा और समुचित मुआवजा पहले की भुगतान किया जा चुका है।

अवधि समाप्ति, पूर्व समाप्ति या अधित्याग के पश्चात् मशीनरी आदि का हटाया जाना:–

(11) इस अनुज्ञप्ति की अवधि समाप्ति या शीघ्रस्तर अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों 30 दिनों के भीतर अपने/उनके स्वयं के खर्चे पर शीघ्रता से समस्त भवन, संरचनायें, संयंत्र, इंजन, मशीनरी, औजार, बर्तन–भाड़े तथा अन्य सम्पत्ति, चल सम्पत्ति वहां पूर्व में अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों द्वारा स्थापित की गई या लाई गई और तब वहां उक्त भूमि पर खड़ी या मौजूद होने पर तथा इन विलेखों के प्राधिकार के अधीन अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों द्वारा वहां पूर्व में प्राप्त किये गये खनिज भी और जो उस समय उक्त भूमियों पर हो, हटा लेगा:

परन्तु यह कि प्रसंविदा उक्त भूमियों के किसी ऐसे भाग जो लागू नही होगी, जो कि अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों को अनुदत्त किसी उत्खनन पट्टे में सम्मिलित किया जाये। यदि मशीनरी इत्यादि विनिर्दिष्ट कालावधि के भीतर नही हटाई जायेगी तो वह सरकारी संपत्ति हो जायेगी।

जमा प्रतिभूति की वापसी के पहले किए गए कार्य का प्रतिवेदन :–

(12) किसी समय पर, उक्त जमा प्रतिभूति को, उसे उनको वापस करने से पहले या किसी अन्य खाते में अन्तरण करने के पहले या अवधि समाप्ति से एक माह के भीतर या अनुज्ञप्ति की अवधि समाप्ति या संक्रियाओं के अधित्याग के पश्चात् जो भी पूर्वतर हो, अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों, संचालक एवं संबंधित कलेक्टर को गोपनीय रूप से एक पूरी रिपोर्ट उसके/उनके द्वारा कार्य कर चुकने की पेश करेगा/करेंगे और उसमें उसके/उनके द्वारा इस अनुज्ञप्ति के अधीन चलाई या की जा रही संक्रियाओं के उपक्रम में, अनुज्ञप्ति द्वारा समाविष्ट क्षेत्र के भूगर्भीय या भौमिकी तथा खनिज संसाधनों के संबंध में अर्जित की गई सूचनायें प्रकट करेगा/करेंगे।

अनुज्ञप्तिधारी द्वारा प्राप्त जानकारी की रिपोर्ट :–

(13) अनुज्ञप्ति की समाप्ति या संक्रियाओं का परित्याग के या अनुज्ञप्ति का पर्यावसन, इसमें से जो पर्वतर हो, के नब्बे दिवस के भीतर, अनुज्ञप्तिधारी राज्य शासन को उसके द्वारा किये गये कार्य की अन्तिम प्रतिवेदन और अनुज्ञप्ति द्वारा आच्छादित क्षेत्र में समेकित संक्रियाओं के अनुक्रम में खनिज संसाधनों की सुसंगत जानकारी प्रस्तुत करेगा। प्रमाणित और सम्भावित खनिज भण्डारों की श्रेणी और मात्रा अन्तिम प्रतिवेदन में बताई जायेगी।

Shubh Minerals Pvt. Ltd.

Director

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

भाग–तीन

शासन की शक्तियां

यह एतद्द्वारा निम्नलिखित रूप में सहमति हुई है :–

शर्तों के भंग करने की दशा में अनुज्ञप्ति का निरसन और जमा राशि का समपहरण:–

(1) अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों द्वारा या उसके अन्तरिती द्वारा अनुज्ञप्ति की किसी शर्त के किसी उल्लंघन किये जाने की दशा में, सक्षम प्राधिकारी अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों को उसको/उनको अपना पक्ष अभिकथन करने के लिये युक्तियुक्त अवसर देगा और जहां उसका यह समाधान हो जाता है कि उल्लंघन ऐसा है कि जिसे की दूर करने का उपाय नही किया जा सकता, अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों या उसके अन्तरिती को 30 दिनों की सूचना देकर अनुज्ञप्ति और/या समय पूर्व समाप्त कर देगा और उक्त जमा राशि रूपये 10000.00 समस्त या कुछ भाग जो उस बारे में प्रसंविदाओं के अधीन जमा की गई जैसा कि सक्षम प्राधिकारी उचित समझे, जब्त करेगा। उस दशा में, जबकि सक्षम प्राधिकारी उल्लंघन को सुधार योग्य प्रकृति का होना मानता है, तो वह, यथास्थिति, अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों या उसे या उसके अन्तरिती को सूचना देते हुए उससे/उनसे अपेक्षा करेगा की वह/वे सूचना की प्राप्ति के दिनांक से 15 दिनों के भीतर उल्लंघन का सुधार और उसे यह सूचित करते हुए कि यदि ऐसा सुधार ऐसा कालावधि के भीतर नही किया गया तो प्रस्तावित शास्ति लगा दी जायेगी। यदि विहित कालावधि के भीतर उल्लंघन का उपचार नही किया जाता है तो प्रतिभूति राशि के समर्पण सहित अनुज्ञप्ति रद्द हो जायेगी।

भाग–चार

अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों के अधिकार

एतद्द्वारा निम्नलिखित रूप में अतिरिक्त सहमति हुई है :–

(1) अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों के उत्खनन पट्टा प्राप्त करने के लिए अधिमान्यता : – जहां किसी भूमि के संबंध में समेकित अनुज्ञप्ति प्रदान किया गया है तो भूमि के संबंध में अनुज्ञप्तिधारी को अन्य किसी व्यक्ति की अपेक्षा (समकक्ष) उत्खनन पट्टा प्राप्त करने के लिए अधिमान्यता अधिकारी रहेगा, परन्तु यह कि स्वीकृति प्राधिकारी का यह समाधान हो जाता है कि अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों द्वारा; ऐसी भूमि में खनिज भण्डारण स्थापित करने के लिये समेकित संक्रियायें किया है, समेकित अनुज्ञप्ति के निर्बधन एवं शर्तों में से किसी का भी उल्लंघन नही किया है, और अन्यथा उत्खनन पट्टा अनुदत्त किये जाने के लिए योग्य व्यक्ति है।

(2) जमा राशि की वापसी :– नियम 13 के अन्तर्गत जमा की गई प्रतिभूति निक्षेप यदि इन नियमों के अधीन राजसात नही की गई हो तो आवेदक को वापस की जायेगी, शीघ्र ही नियम 16 के अधीन रिपोर्ट प्रस्तुत करेगा।

Shubh Minerals Pvt. Ltd.

Director

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

भाग–पांच

सामान्य उपबंध

यह अन्तिम रूप से निम्नानुसार सहमति हुई है :–

अपरिहार्य घटना के कारण अनुज्ञप्ति के निर्बधनों की पूर्ति में विलम्ब :–

नये खनिज की खोज :–

(1) अनुज्ञप्ति में, जो किसी खनिज में विनिर्दिष्ट नही है, उनमें से किसी को पता चलने पर कलेक्टर और संचालक अथवा उनके द्वारा प्राधिकृत किसी अधिकारी को अनुज्ञप्तिधारी ऐसी खोज से दिनांक से 30 दिवस की कालावधि के भीतर सूचना देगा और ऐसे खनिजों के संबंध में कोई समेकित संक्रियायें नही करेगा जब तक कि ऐसे खनिज अनुज्ञप्ति में शामिल नही कर दिया जाता है :

परन्तु यह कि खोजे गए कोई खनिज, गौण खनिज के रूप में विनिर्दिष्ट नही होगा, अनुज्ञप्तिधारी को खनिज प्राप्त करने का इन नियमों के अधीन सम्मिलित करने का कोई अधिकार नही होगा।

प्रतिकर का संदाय करने के दायित्व से सक्षम प्राधिकारी की उन्मुक्ति :–

(2) यदि किसी घटना में सक्षम प्राधिकारी के आदेशों को छत्तीसगढ़ गौण खनिज नियम, 2015 के अध्याय तेरह के अधीन कार्यवाही के अनुसरण में संचालक तथा राज्य शासन द्वारा पुनरीक्षित या रद्द कर दिया जाता है तो अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों इन विलेखों द्वारा उसको/उनको प्रदत्त शक्तियों एवं विशेषाधिकारियों के प्रयोग में अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों द्वारा सहन की गई किसी हानि के लिये प्रतिकर के हकदार नही होगा/होंगे।

अतिरक्त शर्ते :–

01. अनुज्ञप्तिधारी द्वारा छत्तीसगढ़ गौण खनिज नियम 2015 के नियम 10(6) तथा नियम 10(7) के प्रावधानों के अनुसार समेकित अनुज्ञप्ति के स्वीकृत क्षेत्र में पूर्वेक्षण संक्रिया का संचालन करेगा, नियम – 11(2) के तहत् पूर्वेक्षण संक्रियाएं संचालित करने अधिकतम अवधि दो वर्ष होगी।

02. पूर्वेक्षण संक्रियांए समाप्ति के नब्बे दिवस के भीतर, अथवा संचालक द्वारा विस्तारित कालावधि में छः माह से अधिक न हो उत्खनन पट्टा प्रदान करने हेतु समक्ष प्राधिकारी को प्ररूप नौ में एक आवेदन करेगा।

03. छत्तीसगढ़ गौण खनिज नियम 2015 के नियम 16 एवं 17 के शर्तो का समावेश समेकित अनुज्ञप्ति विलेख में किया गया, का विवरण निम्नानुसार है :–

16. **पूर्वेक्षण अनुज्ञप्ति की शर्ते** :– इन नियमों के अधीन स्वीकृत की गई प्रत्येक पूर्वेक्षण अनुज्ञप्ति, किन्ही अन्य शर्तो के अतिरिक्त, जो उसमें विनिर्दिष्ट की जा सकेगी, निम्नलिखित शर्तो के अध्यधीन होगी, अर्थात:–

(एक) पूर्वेक्षण अनुज्ञप्ति का प्रत्येक धारक, प्लान ऐसी रीति में दर्शाते हुए जिसमें वह पूर्वेक्षण संक्रियांए करना प्रस्तावित करता है, पूर्वेक्षण अनुज्ञप्ति विलेख के निष्पादन की तिथि से तीस दिवस की अवधि के भीतर, संबंधित कलेक्टर तथा संचालक या उसके द्वारा प्राधिकृत अधिकारी को प्रस्तुत करेगा,

(दो) पूर्वेक्षण अनुज्ञप्ति का प्रत्येक धारक, पूर्वेक्षण संक्रियाओं के प्रारम्भ की सूचना, प्ररूप – सात में संबंधित कलेक्टर तथ संचालक या उसके द्वारा प्राधिकृत किसी अधिकारी को प्रस्तुत करेगा, जिससे कि वह, ऐसे प्रारम्भ से पन्द्रह दिवस की अवधि के भीतर उनको पहुंच सके,

Shubh Minerals Pvt. Ltd.

Director

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

(तीन) प्रत्येक अनुज्ञप्तिधारी, उसके द्वारा पूर्वेक्षण अनुज्ञप्ति संक्रियाओं पर किये गये समस्त व्ययों का और ऐसी संक्रियाओं तथा उनके भेजे जाने के दौरान प्राप्त समस्त खनिजों की मात्रा और अन्य विशिष्टियों का भी, लेखा संधारित करेगा,

(चार) अनुज्ञप्तिधारी, रायल्टी के भुगतान पर तथा खनिज के परिवहन हेतु अभिवहन पास प्राप्त करने के पश्चात्, अनुज्ञप्ति की अवधि के दौरान विश्लेषण (जांच) के प्रयोजन के लिये अधिकतम पांच घन मीटर तक खनिज एकत्रित कर सकेगा तथा ले जा सकेगा,

(पांच) अनुज्ञप्तिधारी, ऐसे किसी खनिज के, जो अनुज्ञप्ति में विनिर्दिष्ट नहीं है, के खोज रिर्पोट, ऐसी खोज की तारीख से तीस दिवस की अवधि के भीतर, संबंधित कलेक्टर तथा संचालक या उसके द्वारा प्राधिकृत अधिकारी को प्रस्तुत करेगा और साथ ही ऐसे खनिज को उसके पूर्वेक्षण अनुज्ञप्ति में सम्मिलित करने हेतु आवेदन प्रस्तुत करेगा। अनुज्ञप्तिधारी, अनुज्ञप्त क्षेत्र से खोजे गये नये खनिज का, उसे पूर्वेक्षण अनुज्ञप्ति में सम्मिलित किये जाने तक निकास (प्रेषण) नहीं करेगा,

परन्तु यह कि ऐसे किसी खनिज की खोज, जो कि गौण खनिज के रूप में विनिर्दिष्ट नहीं है, के मामले में, अनुज्ञप्तिधारी को इन नियमों के अधीन ऐसे खनिज के लिऐ खनिज रियायत प्राप्त करने का अधिकार नहीं होगा।

(छः) अनुज्ञप्तिधारी, न्यूनतम मजदूरी अधिनियम, 1948 के अधीन केन्द्र शासन या राज्य शासन द्वारा विहित न्यूनतम मजदूरी से कम भुगतान नहीं करेगा,

(सात) ग्रेनाइट अथवा संगमरमर का अनुज्ञप्तिधारी, ग्रेनाईट संरक्षण और विकास नियम, 1999 एवं संगमरमर विकास और संरक्षण नियम, 2002 के प्रावधानों का क्रमशः पालन करेगा,

(आठ) (क) अनुज्ञप्तिधारी, संबंधित कलेक्टर तथा संचालक या उसके द्वारा प्राधिकृत किसी अधिकारी को प्ररूप – आठ में पूर्वेक्षण अनुज्ञप्ति समाप्ति से नब्बे दिवस की अवधि के भीतर, अंतिम प्रतिवेदन प्रस्तुत करेगा।

(ख) नियम 13 के अन्तर्गत जमा कोई राशि, यदि इन नियमों के अधीन राजसात नहीं की गई हो, तो अनुज्ञप्तिधारी को, उपरोक्त खण्ड (क) में यथा निर्दिष्ट पूर्वेक्षण प्रतिवेदन के साथ आवेदन प्रस्तुत करने पर वापसी योग्य होगी।

(नौ) अनुज्ञप्तिधारी, उस भूमि जिसके संबंध में अनुज्ञप्ति स्वीकृत की गई है के नुकसान के लिये, नुकसान की सीमा तक, प्रतिपूर्ति करेगा,

(दस) अनुज्ञप्तिधारी, उसके द्वारा हुए नुकसान, क्षति या विक्षोभ के लिये किसी तीसरे पक्ष के दावे के विरूद्ध, राज्य शासन को प्रतिपूर्ति करेगा,

(ग्यारह) दखलरहित और अनारक्षित शासकीय भूमि पर वृक्षों की कटाई के संबंध में ऐसा निर्वधन तथा ऐसी अन्य पर्यावरणीय शर्ते रखेगा, जैसा कि राज्य शासन द्वारा समय–समय पर अधिसूचित किया जाये,

(बारह) किसी सक्षम प्राधिकारी द्वारा प्रतिषिद्ध किसी क्षेत्र में पर्यावरण अथवा अन्य किसी कारण से, जेसा कि समय–सम्य पर अधिसूचित किया जाये, पूर्वेक्षण संक्रिया पर निर्वधन,

(तेरह) दखल की गई भूमि पर प्रवेश के संबंध में शर्ते,

Shubh Minerals Pvt. Ltd.

Director

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

DIRECTOR

78

(चौदह) अनुज्ञप्त क्षेत्र में या उससे संलग्न क्षेत्र में अन्य खनिजों का कार्य करने के लिये अनुज्ञप्तिधारी द्वारा सुविधायें उपलब्ध करायी जायेगी।

17. **अनुज्ञप्तिधारी का कर्तव्य :–** अनुज्ञप्ति के निर्वहन के दौरान, अनुज्ञप्तिधारी :–

(एक) स्वीकृत क्षेत्र अथवा संबंधित जिले के खनि शाखा के प्रभारी अधिकारी द्वारा अनुमोदित समीपस्थ क्षेत्र में, पूर्वेक्षण संक्रियाओं के कारण गिराये गये वृक्षों की संख्या जो कि दुगने से कम नहीं होगा, के एवज में पौधा रोपण एवं उनकी देखभाल हेतु तत्काल उपाय करेगा,

(दो) पूर्वेक्षण संक्रियाओं द्वारा विनष्ट हुए अन्य वनस्पति (पेड़–पौधों) को, यथासंभव सीमा तक, पूर्व रूप में स्थापित करेगा,

(तीन) अनुज्ञप्ति के अन्तर्गत धारित भूमि में समस्त बोर को सुरक्षित बंद एवं सभी उत्खनन क्षेत्रों की भराई अथवा तार से घेराबंदी की जायेगी,

(चार) भूमि सतह के अधिभोगी को, ऐसी क्षतिपूर्ति जैसा कि कलेक्टर द्वारा निर्णित किया जाये, का भुगतान करेगा,

(पांच) संबंधित कलेक्टर एवं संचालक तथा उसके द्वारा प्राधिकृत अधिकारी को ऐसी जानकारी एवं विवरण प्रस्तुत करेगा जैसा कि नियम में विहित किया जाये,

(छः) केन्द्र सरकार द्वारा प्राधिकृत किसी अधिकारी या कलेक्टर या संचालक या उसके द्वारा प्राधिकृत किसी अधिकारी को, उसके द्वारा किये जा रहे पूर्वेक्षण संक्रियाओं के निरीक्षण हेतु अनुमति प्रदान करेगा,

(सात) पूर्वेक्षण संक्रियांए ऐसी रीति में की जायेगी जिससे कि खनिज भण्डार के व्यवस्थित विकास एवं खनिजों के संरक्षण और पर्यावरण की सुरक्षा को सुरक्षित किया जा सकें

04. स्वीकृत क्षेत्रके सीमाकंन का कार्य डी.जी.पी.एस. (DGPS) सर्वेक्षण हेतु राज्य शासन द्वारा मान्यता प्राप्त संस्था से कराया जाऐगा।

05. पूर्वेक्षण अनुज्ञप्ति हेतु स्वीकृत क्षेत्र में यदि अन्य निजी भूमि प्रभावित होती है, तो संबंधित भूमि स्वामियों की लिखित में स्वीकृति/सहमति प्राप्त होने के पश्चात् ही भू–प्रवेश की अनुमति प्रदान की जाएगी।

06. यदि उक्त क्षेत्र पर वन संरक्षण अधिनियम 1980 के प्रावधान लागू होते हों तो उसके लिये सक्षम प्राधिकारी से नियमानुसार आवश्यक अनुमति प्राप्त करने उपरांत ही अनुबंध का निष्पादन किया जायें।

07. स्वीकृत अनुज्ञप्ति क्षेत्र पर पूर्वेक्षण कार्य प्रारम्भ की सूचना संबंधित जिला कार्यालय तथा संचालनालय भौमिकी तथा खनिकर्म को उपलब्ध कराऐगा। पूर्वेक्षण कार्य समाप्ति के पूर्व संचालक, भौमिकी तथा खनिकर्म द्वारा अधिकृत अधिकारी से पूर्वेक्षण कार्य का निरीक्षण कराया जाना आवश्यक होगा।

08. पूर्वेक्षण कार्य के दौरान इस अनुमति से स्वीकृत क्षेत्र पर पूर्वेक्षण स्कीम के अनुसार Pitting/Trenching के अतिरिक्त कोई अन्य खनन कार्य करने का कोई अधिकार प्राप्त नहीं होगा।

09. समेकित अनुज्ञप्ति के प्रदाय के लिए आदेश प्राप्ति की तिथि से नियम 14 के अनुसार 660 दिवस के अंदर प्ररूप चार (क) के अनुसार समेकित अनुज्ञप्ति विलेख निष्पादित किया जाएगा। समेकित अनुज्ञप्ति की पूर्वेक्षण कार्य हेतु कालावधि इस अनुबंध निष्पादन की तिथि से दो वर्ष के लिए होगी तथा आवेदित क्षेत्र पर उत्खनिपट्टा आदेश पारित उपरांत नियम 47 के अनुसार 50 वर्ष की कालावधि के लिये उत्खनन पट्टा विलेख निष्पादित किया जायेगा।

10. उत्खनन पट्टा स्वीकत किये जाने पर स्वीकृत उत्खनन पट्टा क्षेत्र से खनन किये जाने वाले डोलोमाईट खनिज का उपयोग डोलोमाईट आधारित उद्योगों में ही किया जायेगा।

Shubh Minerals Pvt. Ltd.

Director

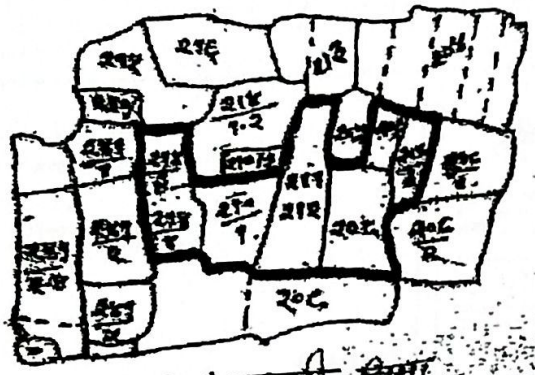
DIRECTOR

Deepak Kumar Sahu
(RQP/DCMCG/24/2020)

79

नजरी नक्शा

ग्राम- हेलछेरा प.ह.न० 04 रा.नि.म. सरिया
तह- बरमकेला जिला रायगढ़ (छ.ग) वर्ष- 2017



कटघपाली- रिगा

आवंटित-खण्ड	रकबा
२०८	0.0CC
२०८/2	0.3८0
२०८	0.3०५
२१४/1	0.3१८
२१४	0.0४२१
२१२	
२१३/2	0.0८१
२१६/1	0.2६८
कुल- 02	1.६८३ (हेक्टेयर)

सदर सबिव
उपसंचालक शासन
खनिज साधन विभाग
मंत्रालय, अटल नगर-492002

सहायक आयुक्त (खनिज प्रशासन)
प.ह.नं.-04
तह-बरमकेला, जि.-रायगढ़ (छ.ग)

उप-संचालक
(खनिज प्रशासन)
रायगढ़(छ.ग.)

प्रस्तुत खसरा स्थली को चिन्हांकित करने हेतु प्रस्तावित है।

खनि अधिकारी
वास्ते, कलेक्टर रायगढ़ (छ.ग.)

उप निरीक्षक
रायगढ़(छ.ग.)

Shubh Minerals Pvt. Ltd.
Director

युक्त संचालक (खनिज प्रशा.),
संचालनालय भौमिकी तथा खनिकर्म
छत्तीसगढ़-रायपुर.

उप – संचालक
(खनिज प्रशासन)
रायगढ़(छ.ग.)

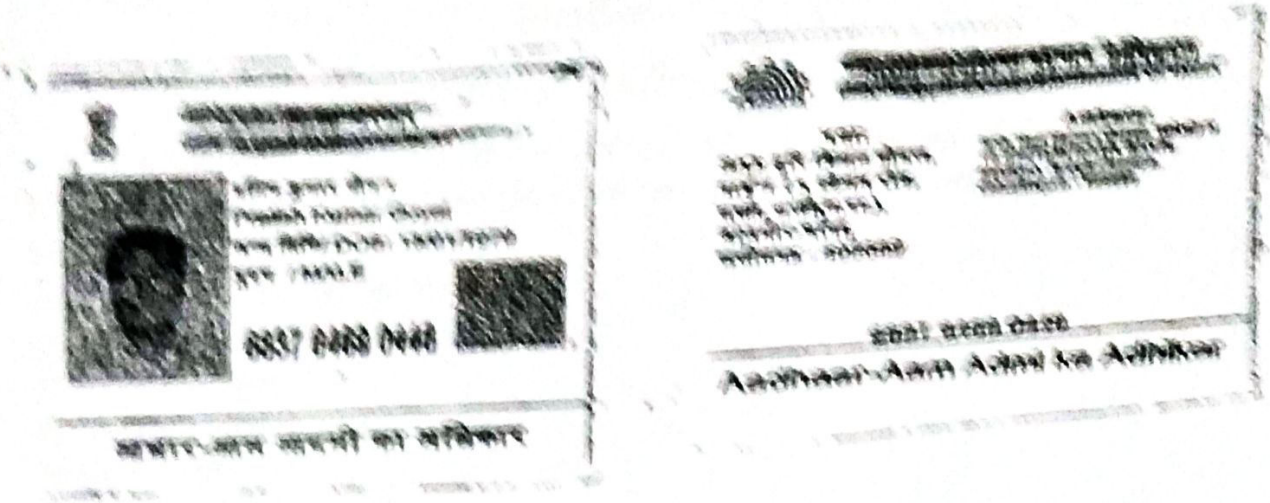
Collector
RAIGARH

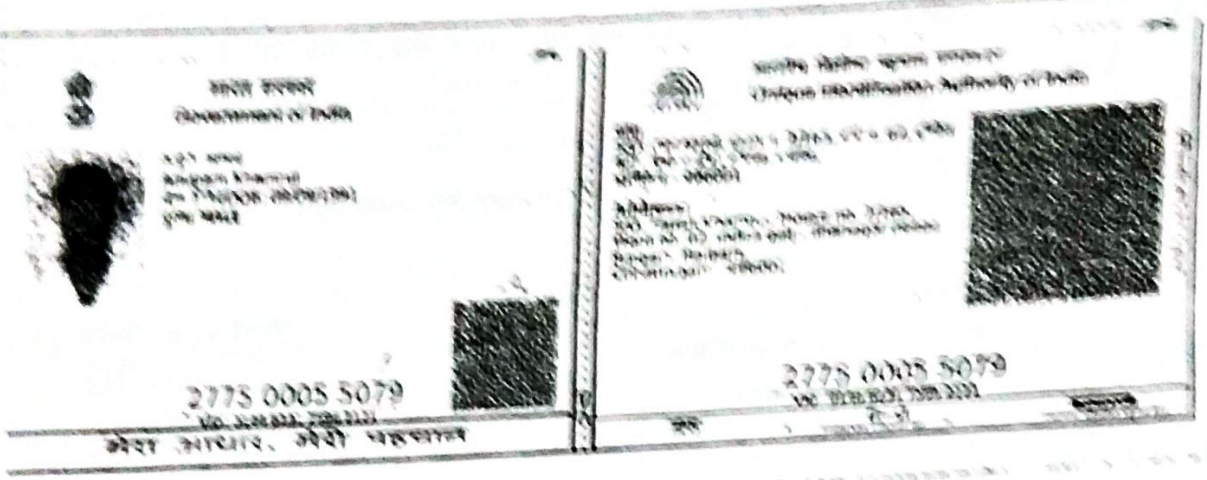
SHUBH MINERALS PVT. LTD.

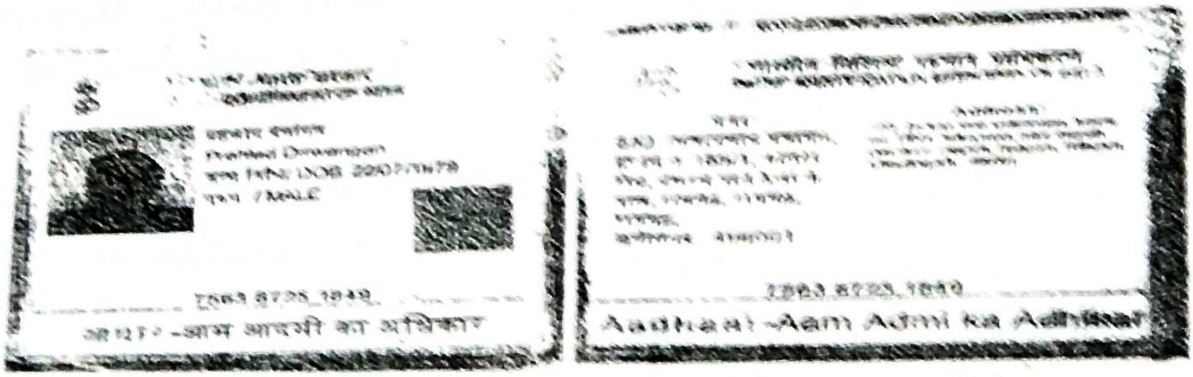
DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

Scanned by CamScanner







SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DOMCG/24/2020)

अनुसूची–क

अनुज्ञप्ति द्वारा समाविष्ट भूमि

(यहां भूमि के क्षेत्र, सीमाएं, जिले का नाम, अनुविभाग, थाना आदि एवं यदि कोई हो तो भूमि का सर्वेक्षण/खसरा क्रमांक, यदि भूमि का नक्शा संलग्न किया जाता है तो उसका उल्लेख विवरण में अन्तर्विष्ट करिये।

अनुज्ञप्ति द्वारा समाविष्ट भूमि का विवरण :–

(एक) जिला – रायगढ़

(दो) अनुविभाग – सारंगढ़

(तीन) तहसील – बरमकेला

(चार) थाना – सरिया

(पांच) पटवारी हल्का नंबर – 4

(छः) ग्राम/ग्राम पंचायत का नाम – ग्राम छैलफोरा (ब्लॉक–1) ग्राम पंचायत – नौघटा ।

क्रमांक	भूमि का सर्वेक्षण/खसरा क्रमांक	क्षेत्र (हेक्टेयर में)
1	206, 207/3, 208, 210/1, 211, 212, 214/3, 214/4	1.683
	योग	1.683 है.

इन परिस्थितियों में, साक्ष्य स्वरूप नीचे बताये गये दिन ..... माह ..... वर्ष ..... में यह निष्पादित किया गया।

अनुज्ञप्तिधारी/अनुज्ञप्तिधारियों
द्वारा हस्ताक्षर

Shubh Minerals Pvt. Ltd.

Director

हस्ताक्षर

छत्तीसगढ़ के राज्यपाल के नाम
तथा आदेशानुसार,
(पदनाम)

साक्षी :

(1) हस्ताक्षर .....

नाम .....

पिता/पत्नी .....

पता .....

(2) हस्ताक्षर .....

नाम .....

पिता/पत्नी .....

पता .....

पंजीयन एवं मुद्रांक विभाग
छत्तीसगढ़
शुल्क रसीद

टोकन नं.	27
ई-पंजीयन आई-डी नं	CG62174010620200 27
निष्पादक का नाम -	छ.ग. शासन द्वारा कलेक्टर रायगढ़
जिला	रायगढ़
उप पंजीयक कार्यालय	सारंगढ़_SR
दिनांक	01/06/2020

मुद्रांक शुल्क विवरणी

मुद्रांक शुल्क	5000
जनपद/न.नि./न.पा./न.पं./ शुल्क	000
उपकर	000
अतिरिक्त मुद्रांक शुल्क	5000
कुल मुद्रांक	100.00

पंजीयन शुल्क विवरणी

पंजीयन शुल्क	10000
सेवा प्रभार शुल्क	138000
अतिरिक्त शुल्क	000
टीकर तहसील शुल्क	000
कुल शुल्क	1,480.00

मलिक राम ध्रुव ,उप पंजीयक
उप पंजीयक कार्यालय , -सारंगढ़_SR

विलेख क्रमांक - 226

पंजीयन प्रमाणपत्र
(अधिनियम की धारा 60)

आज तारीख 01/06/2020 माह June सन् 2020 समय 05:41:01 को
पुस्तक क्रमांक 1 सन्च क्रमांक 6909 में पृष्ठ 126 से 148 पर विलेख क्रमांक 226 टीकर पंजीयित किया गया।

मलिक राम ध्रुव ,उप पंजीयक
उप पंजीयक कार्यालय , -सारंगढ़_SR

CG62174010620200 27

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(BOP/JGMCG/24/2020)

ANNEXURE– 4

To,

The Under Secretary,
MRD, Govt. of C.G. Raipur

Sub. -Submission of Prospecting Report of Chhelphora Dolomite Quarry at Village- Chhelphora (Block-1), Tehsil- Baramkela, District- Raigarh (C.G.), Applicant-M/s **Shubh Minerals Pvt. Ltd.** (C.G) over an area of **1.683 hectares**, as per Rule 16(VIII) of Chhattisgarh Minor Mineral Rules, 2015.

Ref.:- 1. LOI (Composite Lincence) order no. F 2-6/2018/12, Atal Nagar, Naya Raipur, dated 17.03.2020.
2. As rule 16(VIII) of Chhattisgarh Minor Mineral Rule, 2015.

As per the aforementioned Rule and the Govt. Order No. F 2-6/2018/12, dated 17.03.2020, the prospecting of Report of Chhelphora Dolomite Quarry, over an area of 1.683 hectares has been enclosed along with this letter for your kind information and necessary action.

Shubh Minerals Pvt. Ltd.

Director

Yours Faithfully

(Authorized Signatory)
M/s Shubh Minerals Pvt. Ltd.

Enclosed- as above.

Date: -
Place: - Raigarh

Copy to-
1. Director Geology and Mining C.G. Raipur
2. Collector (Mining), District Raigarh.

Shubh Minerals Pvt. Ltd.

Director

M/s Shubh Minerals Pvt. Ltd.

Niwasi – Goyal Auto Mobile,
Jindal Road, Jagatpur, Raigarh (C.G.)

2.2.21
भावेश तिर्पिक
सहायक प्रशासन विभाग (केन्द्रीय डाक)
कार्यालय, महानदी भवन
सिविल लाईन-रायपुर (छ.ग.)

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

84

PROSPECTING REPORT

FOR

CHHELPHORA DOLOMITE QUARRY

VILLAGE: CHHELPHORA (BLOCK-I),
TEHSIL: BARAMKELA,
DISTRICT: RAIGARH (C.G.)

PL cum QL Applied Area: 1.683 Ha

(Forest Land – Nil, Pvt. Land – 1.683ha, Govt. Land – Nil)

Prospecting Report is required &submitted as per the provision of rule 16(viii), of Chhattisgarh Minor Mineral Rules, 2015

APPLICANT

M/s Shubh Minerals Pvt. Ltd.
Director – ShriPratish KumarGoyal
Niwasi – Goyal Auto Mobile,
Jindal Road Jagatpur, Raigarh(C.G.)

PREPARED BY

M/s SIDDHARTH GEO CONSULTANTS

621/3, First Floor, Behind Life Worth Hospital,
Ramkund,Samta Colony Raipur (C.G.)- 492001
E-mail-sgc_rai@yahoo.co.in, Phone No.-0771-4070731

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

INDEX

Sl. No	CHAPTER	PARTICULARS	PAGE No.
1		ABSTRACT	3
2	CHAPTER - I	INTRODUCTION	4
3	CHAPTER - II	GENERAL	5
4	CHAPTER - III	LOCATION AND ACCESSIBILITY	6
5	CHAPTER - IV	GEOLOGY OF THE AREA	9
6	CHAPTER - V	EXPLORATION OF THE DOLOMITE	14
7	CHAPTER - VI	RESERVES ESTMATION	20
8	CHAPTER - VII	USE OF MINERAL	23
9	CHAPTER - VIII	ENVIRONMENTAL IMPACT ASSESSMENT STATEMENT	24
10	CHAPTER - IX	EXPENDITURE OF PROSPECTING OPERATION	26
11	CHAPTER - X	PRE-FEASIBILITY STUDY	27
12		RECOMMENDATION	30

SHUBH MINERALS PVT. LTD.

DIRECTOR

SIDDHARTH GEO CONSULTANTS RAIPUR (C.G.)

Prepared By

SIDDHARTH GEO CONSULTANTS, RAIPUR
Email: - sgc_rai@yahoo.com
Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

86

LIST OF PLANS AND SECTIONS

Sl. No.	PLANS AND SECTIONS	PLATE No.	SCALE
1	KEY PLAN	Plate-1	1:50000
2	LOCATION PLAN	Plate-2	Not to Scale
3	CADASTRAL PLAN	Plate-3	1:4000
4	SURFACE GEOLOGICAL PLAN	Plate-4	1:1000
5	SURFACE GEOLOGICAL SECTION	Plate-5	1:1000
6	ENVIRONMENT PLAN	Plate-6	1:5000
7	BOREHOLE&PIT LOG		1:100

LIST OF ANNEXURES

Sl. No.	Annexures	Page No.
1	Copy of Letter of grant of PL-cum-QL	31
2	Copy of PL Deed	35
3	Scheme of Prospecting [Rule 10 (2)(d) of CGMMR, 2015]	57
4	Form – VII [Rule 16 (II)(a) of CGMMR, 2015]	71
5	Form – VIII [Rule 16 (III)(a) of CGMMR, 2015]	74
6	Form – J [Rule 48(1) of MCDR, 2017, Log Details]	78
7	Inspection Report from Mining Department	82
8	Copy of Chemical Analysis Report	86
9	Cadastral Details	91
10	Registration Certificate of Company	93
11	Board Resolution for Signing Authority	94
12	List of Board of Directors of Company	95
13	Copy of ID Proof of Signing Authority	96

SHUBH MINERALS PVT. LTD.

DIRECTOR

SIDDHARTH GEO CONSULTANTS RAIPUR (C.G.)

Prepared By

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

SIDDHARTH GEO CONSULTANTS, RAIPUR
Email: - sgc_rai@yahoo.com

ABSTRACT

The Chhattisgarh State falls between North latitude 17° 46' to 24°06' and East longitude 80°15' to 84°25'.Chhattisgarh is one of the India's youngest and fastest growing States in mining and other sector.

With 60 (approx) types of mineral occurrences, out of them approx 28 known minerals are economically valuable in Chhattisgarh.The State is the richest in mineral wealth, Mega mineral based industries like Steel, Aluminum and Cement are also functional in the State.

The State production of the dolomite itself is 11% of the National production. The occurrences of dolomite in Chhattisgarh are mainly noted in Bilaspur, Raigarh and Janjgir-Champa districts. Total reserve of dolomite in Chhattisgarh is 606 million tones which is 13.81% of the all India reserves.

The Dolomite deposit near village Chhelphora forms the NE part of the Chhattisgarh Basin. TheDeposit is 38kms away from the SW of District Head Quarter Raigarh.

The reserves of dolomite estimated on the basis of drilling and pitting. At this stage 2 boreholes has drilled in the area and the dolomite encountered up to 30 meters depth withapprox.94% core recovery overall.This indicates sufficient reserve under G1category of dolomite deposit.Total geological resources are1.2506 Million Tonnes,averaging 29.02% CaO and 19.69% MgO with around 1.72% of SiO_2.

Dolomite is the sedimentary origin rock. Dolomite is a double carbonate of calcium and magnesium ($CaCO_3$, $MgCO_3$).The dolomite is mostly hard, massive and compact in nature. Dolomite is one of the important raw material used in the iron and steel, ferro-allows, glass, ally steel and fertilizer industry etc. various coloured Dolomite chips also used in flooring tiles also.

Therefore, obtaining PL cum QL has been necessary in the applied area. For mining, detail exploration & Maintaining sustained supply of dolomite to end users.

SHUBH MINERALS PVT. LTD.

DIRECTOR

Prepared By
SIDDHARTH GEO CONSULTANTS, RAIPUR
Email: - sgc_rai@yahoo.com

Deepak Kumar Sahu
(RQP/CGMCG/24/2020)

CHAPTER I

INTRODUCTION

The prospecting license cum quarry lease of ChhelphoraDolomite Quarry was granted to M/s Shubh Minerals Pvt. Ltd., in Village- Chhelphora, Tehsil-Baramkela,District- Raigarh(C.G.) for the area of 1.683 hectares by the State Govt.their wide letter no. F 2-6/2018/12,Atal Nagar, Naya Raipur, dated 09.10.2019 for Two years i.e. from 29.04.2020 to 28.04.2022. The PL was executed on 29.04.2020.

1	Name of mineral/minerals	**Dolomite**
2	Name of the lease and Postal address:	**M/s Shubh Minerals Pvt. Ltd.** C/o Goyal Auto Mobile Jindal Road, Jagatpur, Raigarh Tehsil & District – Raigarh(C.G.)496001 Email – shubhminerals@gmail.com
3	Total area under prospecting license &Khasra No.	Area- 1.683hectare (Land schedule enclosed)
4	Toposheet No.	64 O/6
5	Name and address of Exploration agency	**SIDDHARTH GEO CONSULTANTS** 621/3, 1st Floor, Ramkund, Samta Colony, Behind Life worth Hospital, Raipur (C.G.) Phone – 0771-4070731 Email:- sgc_rai@yahoo.co.in web site- mininggeology-sgc.com

The prospecting Scheme (Rule 10 (2)(b) of Chhattisgarh Minor Mineral Rules , 2015) was sent on 13/12/2019 to Collector (Mining) District-Raigarh (C.G.) and sent to the other relevant authorities of State Government. The prospecting operation started on 09/10/2020 and information of this commencement was sent through "**Form VII**" [Rule 16 (ii) of Chhattisgarh Minor Mineral Rules, 2015]on dated 20/10/2020.Area inspection has been done on dated 15/10/2020 &16/12/2020 by mining department, Raigarh (C.G.), the copy of Inspection Report has been enclosed with this document. The prospecting operation has been completed on 06/01/2021 and **Form-VIII** [Rule 16 (viii)(a) of Chhattisgarh Minor Mineral Rules, 2015] regarding completion of PL operation was sent on dated 07/01/2021 to State Govt. The commencement of PL operation is according to the PL scheme.

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGM/CG/24/2020)

89

CHAPTER II

GENERAL

NAME OF THE APPLICANT: **M/s Shubh Minerals Pvt. Ltd.**

C/o Goyal Auto Mobile
Jindal Road, Jagatpur, Raigarh
Tehsil & District – Raigarh (C.G.)
Pin - 496001
Email – shubhminerals@gmail.com
Mob. No. - 8224010000

STATUS OF APPLICANT: The applicant is a private limited Company.

MINERALS ARE OCCURRING IN THE AREA:DOLOMITE

NAME OF THE PROSPECTING AGENCY: M/sSiddharth Geo Consultants Raipur has prospected the sanctionedPL cum QL area, with the help oftheir Geologists /RQP.

SHUBH MINERALS PVT. LTD.

DIRECTOR

Prepared By
SIDDHARTH GEO CONSULTANTS, RAIPUR
Email: - sgc_raipur@yahoo.com
Deepak Kumar Sahu
(RQP/CG/24/2020)

CHAPTER III

LOCATION AND ACCESSIBILITY

DETAILS OF AREA (WITH LOCATION MAP):

A cadastral survey map of the prospected area as approved by the State Govt. and Certified by Tehasildar of Baramkela, District-Raigarh (C.G.) is being enclosed as (Plate No. 2) as a cadastral plan. The details of lease area are as follows: -

Village	Chhelphora (Block-1)
Tehsil	Baramkela
District	Raigarh
State	Chhattisgarh
Khasra No.	206, 207/3, 208, 210/1, 211, 212, 214/3, 214/4
Area	1.683 Hectares

Ownership/Occupancy:

S.No.	Khasra No.	Area in Ha.	Ownership
1	206	0.089	M/s ShriMangal Metal, Partner- Mahesh Garg S/o SubhashGarg
2	207/3	0.380	
3	208	0.304	
4	210/1	0.339	
5	211	0.421	
6	212		
7	214/3	0.081	
8	214/4	0.069	
Total		**1.683**	

INFRASTRUCTURE

The proposed PL cum QL granted area for which prospecting report prepared, is located at a distance 38 Kms. from district headquarter Raigarh, 10 Kms. from Chandrapur and 225 Kms. from State capital Raipur. It is 0.5 Km. South-West of the village – Chhelphora, which is approach point for PL area, and connected by ChandrapurBaramkela good tar road. The nearest railwaystation is at Raigarh.

The area can be approach from Raipur by railway via Bilaspur, Raigarh with 282 kms. easily private taxi and buses available from the Raigarh Bus stand for Chhelphora village. The area can be approach by road via Pithora, Saraipali with 225 kms.

SHUBH MINERALS PVT. LTD.

DIRECTOR

Drinking water available from bore well and dug well. Electric power is available in nearby villages.The prospected area is falling under the Police Station-Baramkela. Primary and Middle Schools are in village-Chhelphora and Katangpali. High School, Collage, Bank, Post Office, Hospital and Guest House etc, are in Chandrapur, situated at a distance of 10 kms. from the applied area.

LOCATION

The Raigarh district is laying in the NE part of Chhattisgarh State covers an area of 6530sq km. The sanctioned area falls in survey of India Toposheet No. 64 O/6 bounded by Longitude83°17'02.02"Eto 83°17'09.66"E& Latitude 21°39'21.55"Nto 21°39'25.67"N. Raigarh district is surrounded by Jashpur and Surguja in the NE and N direction, Korba and Janjgir-Champa in the W and Mahasamund in the SW direction. The Eastern boundary of the district is bounded by the Orissa State.The prospected dolomite deposit comprising of an area about 1.683 Hectares is located in Tehsil – Baramkela, district - Raigarh.

Pillar No.	LONGITUDE	LATITUDE
CA01	83° 17' 02.12"E	21° 39' 25.67"N
CA02	83° 17' 03.52"E	21° 39' 25.40"N
CA03	83° 17' 03.38"E	21° 39' 24.35"N
CA04	83° 17' 05.55"E	21° 39' 24.02"N
CA05	83° 17' 06.19"E	21° 39' 25.61"N
CA06	83° 17' 07.22"E	21° 39' 25.47"N
CA07	83° 17' 06.77"E	21° 39' 24.16"N
CA08	83° 17' 07.51"E	21° 39' 23.95"N
CA09	83° 17' 07.91"E	21° 39' 25.23"N
CA10	83° 17' 09.66"E	21° 39' 24.32"N
CA11	83° 17' 08.94"E	21° 39' 22.61"N
CA12	83° 17' 08.32"E	21° 39' 22.69"N
CA13	83° 17' 08.08"E	21° 39' 21.55"N
CA14	83° 17' 04.94"E	21° 39' 22.11"N
CA15	83° 17' 02.02"E	21° 39' 22.86"N

COMMUNICATION AND APPROACH

Raigarh is the district head quarter and is well connected by road and railways. National Highway No. 200 is passes through Raigarh. The main railway track Howrah to Mumbai is passing from Raigarh and connected to the Raipur, the capital of Chhattisgarh State. Raigarh is also connected by road with the other important towns like Bilaspur, Ambikapur,Jashpur, Ranchi (Jharkhand), and Jharsuguda (Orissa).

SHUBH MINERALS PVT. LTD.

DIRECTOR

Bilaigarh village is about 50kms. from Raigarh in the south direction and approximate 225kms from the State capital Raipur. An all weather tar road is connected from the other major town of the State.

CLIMATE

The climate of this region is extreme, temperature rising as high as 47°C during summers and dropping as low as 9°C during winters. The average rainfall is around 1200mm. with maximum precipitation during monsoon months, commencing from mid Jun to mid September.

VEGETATION

The area is a private revenue land more or less free from any prominent vegetation. Some trees are present in the area mainly babooland the other local varieties.

TOPOGRAPHY AND DRAINAGE

Topographically the area in Raigarh district can be divided into two distinct regions (i) Central and Eastern plains belonging to Chhattisgarh basin, area having an elevation of 204 to 205 m above the M.S.L. and
(ii) North-Western peripheral undulating terrain of low hills of Gondwana Formation. The main river in the area is Mahanadi flowing in the Eastdirection in the north of the prospecting area.

******

SHUBH MINERALS PVT. LTD.

DIRECTOR

SIDDHARTH GEO CONSULTANTS RAIPUR

Prepared By
SIDDHARTH GEO CONSULTANTS, RAIPUR
Email: - sgc_rai@yahoo.com

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

93

CHAPTER IV

GEOLOGY OF THE AREA

REGIONAL GEOLOGY: -

The Dolomite and associate formation of the region is belonging to maniari formation of Raipur Group within Chhattisgarh Supergroup. The youngest maniari formation represents the closing phase of deposition in grey siltstone, shale followed by raddish brown calcareous/non-calcareous shale with limestone and dolomite. The interacratonic Chhattisgarh Basin is crescent shaped and covers about 33,000 sq km area in Raipur, Durg, Rajnandgaon, Bilaspur and Raigarh district of Chhattisgarh and adjoining parts of Orissa. The basin has a maximum length of about 300 km along ENE-WSW direction. The maximum thickness of sediments is estimated to more than 2 km and is epicontinental or stable shelf type.

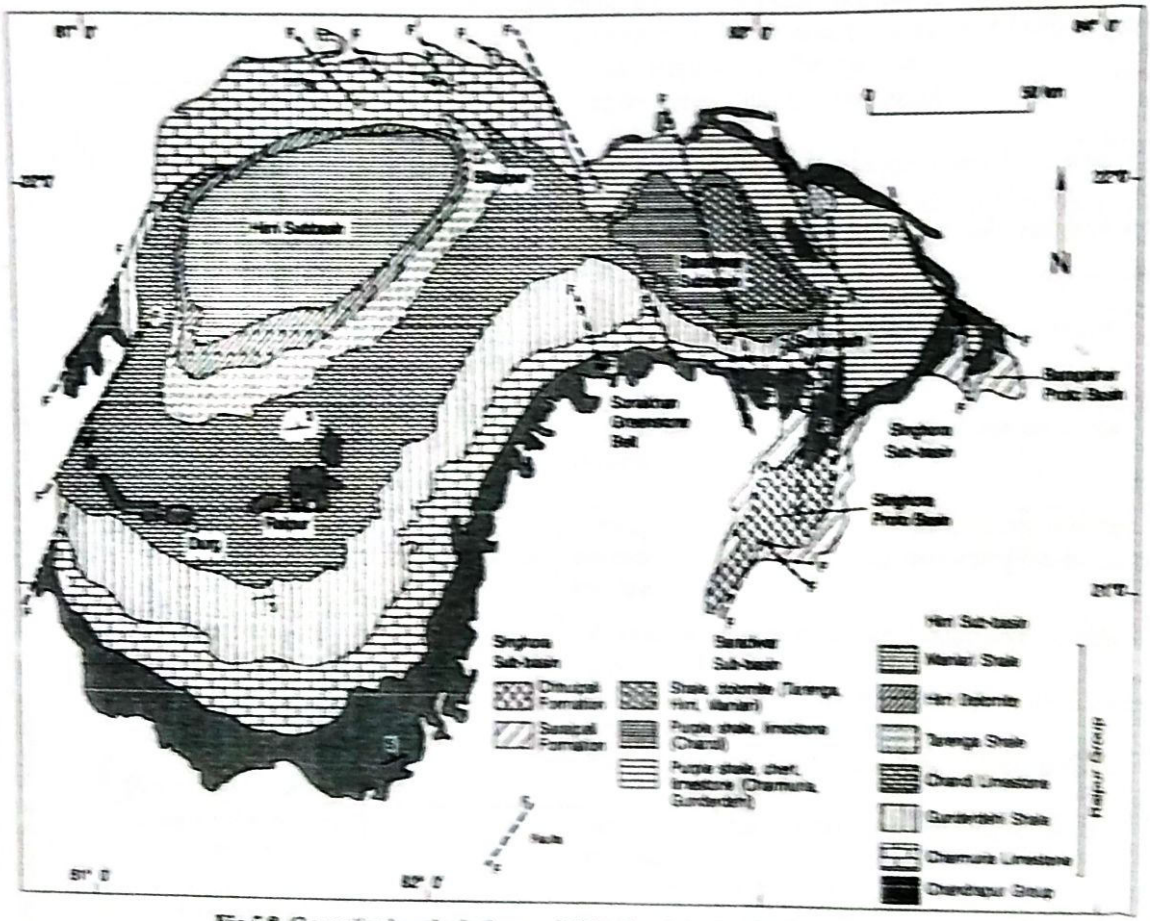


Fig.5.8. Generalised geological map of Chhattisgarh basin (after Das et al. 1982).

SHUBH MINERALS PVT. LTD.

DIRECTOR

Prepared By
SHRATH GEO CONSULTANTS, RAIPUR
Email: - sgc_raipur@yahoo.com

Deepak Kumar Sahu
(RQP/BSM/CG/24/2020)

GEOLOGY IN BRIEF: Litho-stratigraphy of Chhattisgarh Basin (Source: GSI miscellaneous publication No.30, part XXI, 2nd revised edition, 2006)

Stratigraphy of the Chhattisgarh Super Group

	Group	Formation	Member	
CHATTISGARH SUPERGROPP	RAIPUR GROUP	Intrusives		Dolerite Dike
		Maniari Formation (70 m)		Purple shale with dolomite, dolomitic limestone and gypsum
		Hirri formation (70 m +)		Grey dolomite, argillaceous dolomite
		Tarenga Formation (180m)	Bilha Member	Purple dolomitic argillite
			Dagauri Member	Green clay, chert and clay intercalation (tuffaceous)
			Kusmi Member	Pink to purple calcareous shale
		Chandi Formation (67m)	Nipania Member	Purple and bedded limestone Purple argillaceous stromatolitic dolomite
			Pendri/Deodonger Member	Purple and grey stromatolitic limestone and dolomite with flaggy limestone-shale intercalation / ferruginous glauconitic arenite and shale
		Gunderdehi Formation (430m)	Newari Member	Pink and buff stromatolitic limestone and dolomite
			Andha/Dotopar Member	Predominantly pink, purple and grey shale with limestone intercalation / arenite / buff to green shale member in the middle
		Charmuria Formation (490 m)	Bagbura Member	Purple limestone (phosphatic)
			Kasdol Member	Dark grey bedded limestone / argillaceous limestone with minor shale intercalation
			Ranidhar Member	Cherty limestone and dolomite (phosphatic at places)
			Sirpur Member	Chert and clay intercalation
	CHANDRAPUR GROUP	Kansapathar Formation (20-200m)		White to pinkish glauconitic quartz arenite
		Chaporadih Formation (230-200m)		Purple, green, grey and black shale with fine quartz arenite intercalation
		Lohardih Formation (20m)	-Unconformity-	Ferruginous purple arkose and gritty wacke arenite with shale parting and conglomerate at the base
	SINGHORA GROUP	Chhuipali Formation (300m?)		Stromatolitic limestone and dolomite at the upper part Variegated shale with minor bedded limestone, chert, siltstone intercalation
		Bhalukona Formation (20m)		Quartz arenite / siltstone and minor shale:
		Saraipali Formation (60m)		Variegated shale with minor siltstone and limestone Porcelanite ,tuff / tuffite
		Rehatikhol Formation(20m+)	-Unconformity-	Feldspathicarenite, arkose and conglomerate at the base
		Basement		Archaean and lower proterozoic rocks

SHUBH MINERALS PVT. LTD.

DIRECTOR

Prepared By
SIDDHARTH GEO CONSULTANTS, RAIPUR
Email: - sgc_rai@yahoo.com

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

95

LOCAL GEOLOGY OF THE AREA: -

In the prospected area the dolomite occurs belong to the Maniari formation of Raipur Group. The youngest Maniaririver along which the rock is best exposed and oval shaped out crops in the central part of basin. It represent the closing phase of deposition in Chhattisgarh Basin and consists of siltstone with dolomite and limestone.

The dolomite is occurring all over the region. It is a bedded formation striking almost N 30° E to S 30° W having 2° to 3° dip towards SE direction. Dolomite is grey in colour, fine grained, hard and compact. Dolomite is a dominant rock in the area and the exposures of dolomite are seen in the nearby working pits.

The litho succession of the area and surroundings are as follows –

Raipur group	Recent	3.30 – 4.0m thick alluvial &lateritc soil
	Maniari formation	Grey to dark grey colored dolomite

The general strike of the dolomite is NE-SW. In most of the prospected area, grey dolomite is present under thick (average3.7m) over burden of alluvial and lateritic soil. In the Western part of the prospected area of Gunderdehi formation of Raipur group is present. The sub parallel drainage pattern and rectilinear flow of Mahanadi and its tributaries also suggest presence of faults and major fractures in the area.

ORIGIN OF THE DEPOSIT:-

The Regional Geology of dolomite deposit in and around Village Bilaigarh and Raigarh–Sarangarh area as published by GSI includes the rock formations which have been grouped under Chhattisgarh Supergroup and forms a part of the NE flanks of Chhattisgarh Basin. The thicknesses of soil cover& lateritic is about 3.5 metres. The Chhattisgarh Basin is divided into two suites, namely-

1	Calco-Magnisian Suite (Limestone)	Occupying Durg, Kumhari, Nandini and Akaltara, Chhote-Hardi
2	Magnesio-Calcareous Suite (Dolomite)	Occupying Nipania, Hirri, Jairamnagar, Akaltara and Baradwar, ChhoteHardi, Chhelphora&Katangpali.

SHUBH MINERALS PVT. LTD.

Chhattisgarh basin has provided an extensive synclinorial base for deposition of such sediments. The deposit finds its classified position under Raipur stage and Sakoli fold belt. The whole series is characterized by alternating bands of Magnesium Shale and Shaleydolomite. Dolomite deposit is suitable in Steel Industry as a Flux. The dolomite deposit is formed due to dolomitisation i.e. by epigenetic replacement of Calcareous Sediments.

The details of various litho-units are as follows:-

I) **Soil and Lateritic/Murrum**- The dolomite deposit of prospected area is underlain by 0.4 to 0.7m.thick of alluvial soil and dark grey in colour.Lateritic/murrum is medium to fine grained yellowish to light brown in colour and soft. The thickness of Lateritic/murrum has been considered 2.7-3.5m based on the pit and boreholes excavation.

II) **Dolomite** - The dolomite is available in the entire area below the thick overburden of the soil as above. The dolomite is grey in colour. The grain size of the dolomite is from medium to coarse grained. It occurs in massive as well as banded form.

DOLOMITE DEPOSIT OF THE AREA

The dolomite of the area belongs to Maniari formation of Raipur group of Chhattisgarh Super Group. The predominant litho unit of Charmuria and Gunderdehi formation is dolomite, shale and some cherty bands are mostly observed in the area. The dolomite is occurred around village Basanpalli, Tarda, Nayakapara, Turanga, Ondekera Machida, Nawapalli, Suraggarh, Chikhali, Dipapara, Semalia, Lara, Saraipali, Mauhapali, Chhelphora, Katangpali, Bilaigarhetc. The dolomite is mostly light grey in colors. It is medium grained, hard, compact and massive in nature. The bedding planes are poorly developed. The rocks are sub horizontally disposed. The general Strike is NE-SW, and the dip is towards SE, The amount of dip ranges from approx. 2° to 3°.These sets of horizontal bedding planes help in quarry operations. The dolomite breaks easily during blasting along these weak planes in old pit near by the prospected area. Many old working dolomite mines are present in the area. The exposed thickness of dolomite in the old pits is found to be more than 10-22 meter near by the prospected area.

SHUBH MINERALS PVT. LTD.

DIRECTOR

Mining operation in the adjoining area



The soil cover over dolomite ranges in thickness from 2.0 to 4.0 meters. At places along major fractures and joints the thickness of soil cover may be more because of deeper weathering along these weak planes. This soil is very dusty when dry, suggesting their derivation from argillites. In the applied area (1.683 hect.) light grey dolomite is present in the form of small gentle slope with flat land in soil cover. The dolomite is hard, compact, and massive and medium grained. Some thin vein lets of white crystalline dolomite are seen within grey dolomite.

******

CHAPTER - V

EXPLORATION OF THE DOLOMITE

PREVIOUS WORK:

As per the information, the Central Agency like G.S.I has been carried out rapid survey in the past years around the village ChhoteHaldi, Basapalli, Nayakpara, Tarda in the North, Turanga, Nawapalli, Saraggarh, Sutupalli in the West, and Katangpali, Chhelphora, Semalia, Lara, Saraipali in the SSE and the other part of the Raigarh district respectively. The extensive exposures of dolomite were marked around these villages. On the basis of these analysis results and field studies of the area, G.S.I. published a district information map and mentioned dolomite deposit in the area.

It has also been observed that around the prospected area, there is several mining leases are granted by State Govt. and dolomite outcrops well exposed in Katanginala section. As per this information applicant had decided to apply prospecting license cum QL for dolomite mineral. The extensive exposures of dolomite were marked around this Chhelphora&Katangpali village.

SCOPE OF PRESENT WORK:

Dolomite is useful in many Industries. It use in different Industries depend upon its chemical constituent. It is used in Iron and Steel Industries, Refractory Industries, Ferro alloys, Fluxing agent, Chemical and glass Industries, also in fertilizers, paint and rubber Industries.

In Chhattisgarh dolomite is mostly used in Iron and Steel Industries. Most of the dolomite is used in Bhilai Steel plant, Raurkela and Sponge Iron plants. To meet the demand of existing Steel Industries and other industries which are yet to come in future, it becomes essential to locate and explore in details new potential areas of dolomite. In this context investigation of dolomite in Chhelphora&Katangpali and surroundings of Raigarh district was initiated.

(A) Area demarcation: Boundarypillars fixation by GPS.

(B) Geological Mapping:

a) Geological Mapping (Scale 1:1000)

b) Topographical Survey & contouring (Scale 1:1000)

(C) Collection of Samples:

Total 20 dolomite samples are collected from pits & boreholes.

(D)Estimation of Geological Resources –1.2506 Million Tonnes

(E) Average CaO content- 29.02%

Average MgO content- 19.69%

Average SiO_2 content- 01.72%

Plan of Detailed Exploration of the Deposit:

Mentioned in the Prospecting Scheme.(Enclosed as **Annexure-3**).

GEOLOGICAL MAPPING:

Detailed geological mapping on the scale of 1:1000 is done in prospected area. A total area of 1.683 hectares is mapped. Within the area dolomite exposures are present only into exploratory pits. Dolomite well exposed up to 10 to 22 meter depth in old pits in Western and Eastern direction adjacent of the lease area. The dolomite is different shades of gray colors. It is mostly medium to fine grained, compact & massive in nature. Some joints of small dimensions are present. It is very gently inclined due SE. The general strike is NE-SW. The grid interval during mapping has chosen to be 100 m. Overburden is varying from 3.3 to 4.0 meter as the top soil and lateritic soil. The average overburden thickness is considered 3.7 meterin the prospected area.



Boundary Pillar of the PL area

SHUBH MINERALS PVT. LTD.

DIRECTOR

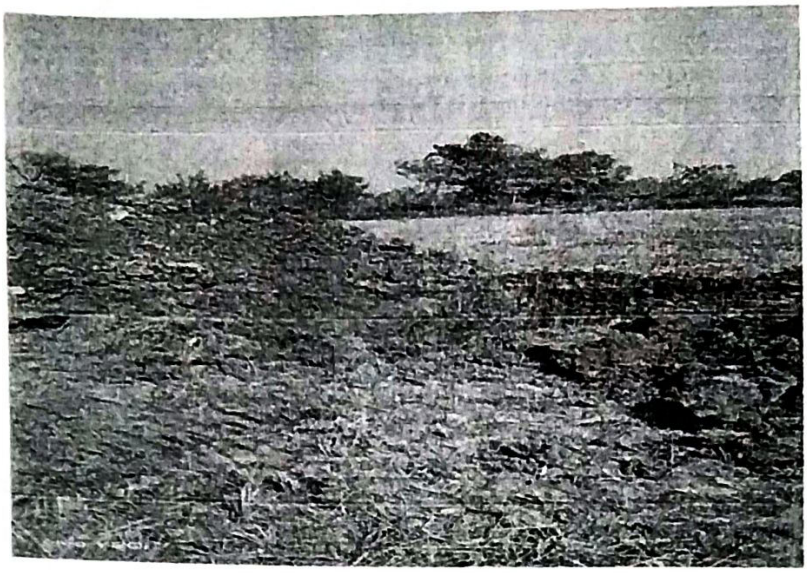
100

EXPLORATION WORK

Pitting: -

2 pits have been dug in the prospected area for collection of subsurface samples &knowing the horizontal continuity of dolomite.

The exploratory pit size is 2m x 2m x 3.5-3.65m.



Detail information of the pit samples is given in the below:

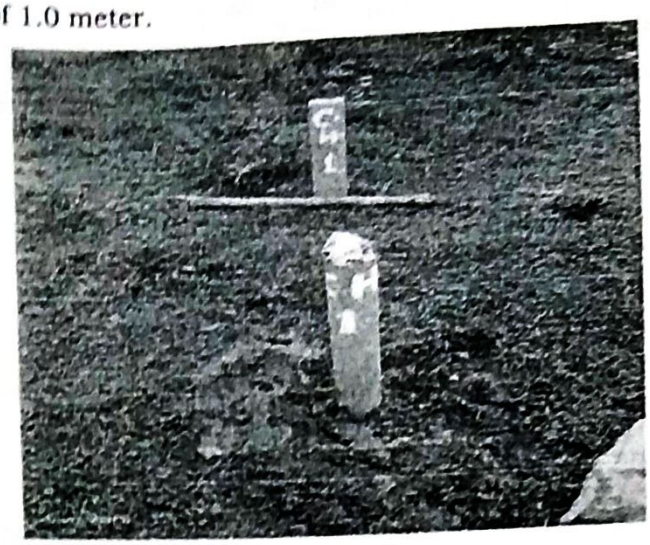
Pit No.	Location		MSL in meter	RL in meter	Thickness of Soil in meter		Thickness of dolomite in meter	Ave. Chemical analysis		
	Longitude	Latitude			Top soil	Lateritic soil		MgO	CaO	SiO_2
Pit-1	83°17'02.71"	21°39'24.75"	204.0	200.35	0.40	3.05	0.2	20.08	28.63	1.39
Pit-2	83°17'08.42"	21°39'39.95"	203.8	200.30	0.60	2.70	0.2	19.59	29.36	1.12

SHUBH MINERALS PVT. LTD.

DIRECTOR

Drilling & Logging:

Outcrop mapping is necessarily conducted to plan the location of the boreholes. A detailed topographical survey of the area is also conducted in 1:1000 scales with contour interval of 1.0 meter.



Drilled Borehole on the area

While, granting the PL cum QL over an area of about 1.683 hectares, 2 borcholcs has been drilled. Thickness of soil cover is 4 meters and ore body observed is 26 meters out of 30.0m depth in the borehole. Maximum depth is 30 meter in each borehole.

The dolomite core obtained from boreholes was placed chronologically in core boxes. The core was logged for Ore type observingcompactness/ massiveness, colour, streak, fracture etc. The bore holes loge were recorded in systematic manner in log books.



Dolomite Core

Detail of depth wise grade of collected core samples from BH are given in Form-K is being enclosed as **annexure-6**.

Borehole No.	Location		MSL in meter	RL in meter	Thickness of soil in meter		Thickness of dolomite in meter	Ave. Chemical analysis		
	Longitude	Latitude			Top soil	Lateritic soil		MgO	CaO	SiO_2
BH-1	83°17'04.04"	21°39'23.46"	204.5	174.5	0.50	3.50	26.0	19.60	29.28	1.71
BH-2	83°16'50.68"	21°39'12.92"	204.5	174.5	0.70	3.30	26.0	19.75	28.77	1.84

Sampling: -

Sampling of dolomite core was carried out. The core was longitudinally split into two equal halves, using one portion for sampling purpose and another portion is preserving as check sample.

No. of 2 sub-surface (from Pits) &18 core samples (i.e. from borehole) are collected from the prospected area. The individual sample has been reduced in size and volume by coning and quartering method. After reducing upto1 kilogram, it is sent to the chemical laboratory of BSS Lab, Jabalpurfor analysis. The pit samples were collected at an approximate grid patternand equal depth. The results of these samples are attached along with this report as an **annexure-8**.



Coning and quartering

SHUBH MINERALS PVT. LTD.

DIRECTOR

Prepared By
SIDDHARTH GEO CONSULTANTS, RAIPUR
Email: - sgc_rai@yahoo.com

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

Chemical Analysis Report:

The results of these 20samples indicate the presence of high grade dolomite in the prospected area. The average analysis of these samples is given below:

Sr.No.	BH/ PIT No.	Sample No.	SiO_2 %	CaO%	MgO%	Fe_2O_3 %	Al_2O_3 %
1	BH-1	CB1/BH-1/SC-1	1.87	27.98	20.10	1.99	0.89
2		CB1/BH-1/SC-2	1.76	29.39	19.62	2.99	1.77
3		CB1/BH-1/SC-3	1.62	30.10	19.63	1.99	1.27
4		CB1/BH-1/SC-4	1.92	29.36	19.09	1.98	2.78
5		CB1/BH-1/SC-5	1.71	30.02	19.57	2.01	2.28
6		CB1/BH-1/SC-6	1.95	27.94	20.08	2.98	1.65
7		CB1/BH-1/SC-7	1.75	29.38	19.61	1.00	1.27
8		CB1/BH-1/SC-8	0.68	30.05	19.09	0.99	0.76
9		CB1/BH-1/SC-9	2.15	29.38	19.61	1.00	0.89
Average % of BH-1			**1.71**	**29.28**	**19.60**	**1.88**	**1.50**
10	BH-2	CB1/BH-2/SC-1	1.66	28.63	19.57	2.00	1.14
11		CB1/BH-2/SC-2	1.92	28.65	20.08	1.99	1.27
12		CB1/BH-2/SC-3	1.65	28.99	20.09	2.01	0.89
13		CB1/BH-2/SC-4	1.80	27.95	19.58	1.99	1.64
14		CB1/BH-2/SC-5	1.97	29.36	20.10	2.00	1.77
15		CB1/BH-2/SC-6	1.86	29.38	19.60	1.99	1.65
16		CB1/BH-2/SC-7	1.78	27.96	19.58	1.00	1.26
17		CB1/BH-2/SC-8	1.87	28.66	20.09	1.01	0.76
18		CB1/BH-2/SC-9	2.12	29.36	19.08	1.00	0.51
Average % of BH-2			**1.84**	**28.77**	**19.75**	**1.66**	**1.21**
19	Pit-1	CB1/P-1/SC-1	1.39	28.63	20.08	1.99	0.63
20	Pit-2	CB1/P-2/SC-1	1.12	29.36	19.59	1.00	0.89
Overall Average %			**1.72**	**29.02**	**19.69**	**1.74**	**1.29**

The prospectedarea has shown a very good potentiality and quality of the presence of dolomite. Hence it is suggestive that the exploratory mining can directly be started on the prospected area to enhance the portability and economic viability of dolomite. The infrastructural facilities for dolomite mining and their transportation are fairly available in the area.

****

SHUBH MINERALS PVT. LTD.

DIRECTOR

Prepared By

SIDDHARTH GEO CONSULTANTS, RAIPUR

Email: - sgc_rai@yahoo.com

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

SIDDHARTH GEO CONSULTANTS RAIPUR (C.G.)

109

CHAPTER VI

RESERVE ESTIMATION

METHOD OF RESERVE/RESOURCES ESTIMATION:

Furnished detailed parameters considered for reserve/resources estimation are asunder.

(a) The thickness of dolomite has been estimated about 26 m as per the data of drilled boreholes.This depth can be taken as proved depth.

(b) The bulk density of dolomite has been considered as 2.85/cum

(c) Average thickness of soil is about 3.7m (from 3.3 to 4.0 m).

(d) The reserve has been estimated by the cross-sectional method by preparing two cross-sections passing through the boreholes.

(e) The average chemical composition of dolomite is (as per Analysis Report) CaO-29.02%, MgO -19.69% and SiO2 -1.72%.

(f) The dolomite formation is homogeneous, stratiform of regular habit, thus the reserves of dolomite has been considered under **category G1**.

Measured Mineral Resources (331): That part of mineral resources for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence i.e. based on detailed exploration.

The calculation of Mineral Resource is as under:

Cross-sections	Cross-sectional Area (sq m)	Av. Width (m)	Volume (cu m)	B.D.	Reserve (Tonnes)
(1)	(2)	(3)	(4)=(2)x(3)	(5)	(6)=(4)x(5)
$C_1 - C_1'$	1490	138	205620	2.85	586017.00
$C_2 - C_2'$	2990	78	233220	2.85	664677.00
Total					**1250694.00**

Total Mineral Resources (331) is = 1250694.00Tonnes

Or say = 1.2506 Million Tonnes

SHUBH MINERALS PVT. LTD.

DIRECTOR

Prepared By
SIDDHARTH GEO CONSULTANTS, RAIPUR
Email: - sgc_rai@yahoo.com
Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

SIDDHARTH GEO CONSULTANTS RAIPUR (C.G.)

The UNFC classification of mineral resources consists of three axes and three number code systems-

(i) Economic viability
(ii) Feasibility
(iii) Geological assessment.

The each criterion is assigned a code as a number, where first digit represents the economic axis, the second digit represents feasibility axis and the third digit represents the geological axis.

i) Economic Viability :

The area under consideration is served by all weather roads from Bilaspur, Janjgir- Champa, Korba and Raigarh any time in the year respectively. The quantity to be produced per year represents and justifies exploitation under competitive market as per understanding of the lessee itself. The economics will work satisfactory for the return on investment on the basic of present market & demand.

Classification code is 1 as per UNFC for economic axis on the basis of exploration carried out for the dolomite in the area.

ii) Feasibility Assessment

The dolomite ore deposit is extended in all over the lease area of 1.683Hect. with sufficient thickness. Reserves as per the Geological properties of exposed ore body in pits give sizeable reserve of flux grade. The produced dolomite will be transported to different steel plants at Raipur, Raigarh, Bhilai and Bilaspur by road/ Rail, where the transportation cost may not be a problem as the roads are fairly good in condition. The reserves are sufficient, mining feasible in present conditions.

Classification code is 2 as per UNFC for feasibility axis.

iii) Geological Axis

The area under consideration in tehsil Baramkela, district Raigarh for dolomite mineral is a part of Maniari Formation of Chhattisgarh basin. The geological occurrence and its setting give an idea of ore reserve to sizeable quantity. Based on the present Geological conditions the total depth of the borehole is 30.00meter. The deposit is likely to be continued further.

SHUBH MINERALS PVT. LTD.

DIRECTOR

Geological mapping area/ scale	No. of Boreholes with spacing	Max. and Min. MSL	Thickness of Dolomite	Sample drown from BH and pit	Average Grade	Mineralized area	Level of exploration
1.683hects. Scale 1: 1000	2 Boreholes in 100m spacing 2 Pits	Max. 205m Min. 204m	4.0m to 30.0 m	18 BH samples &2 pit samples	MgO-19.69% CaO- 29.02% SiO_2 - 1.72%	1.683 hects.	G-1 Category

Based on the present Geological and Boreholes data total geological resourceshave been estimated 1250694.00tones. The reserves position and grade is satisfactory to sustain the production.

GEOLOGICAL RESERVE AS PER UNFC CLASSIFICATION

(As on Dated 31.12.2020)

S. No	Classification	UNFC code	Quantity in T	Grade
	(1)	(2)	(3)	(4)
	A - Mineral Resave			
1)	Proved Mineral Reserve	111	--	
2)	Probable Mineral Reserve	121		
		122		
	B- Remaining Resources			
1)	Feasibility Mineral Resource	211	--	--
2)	Pre-Feasibility Mineral Resource	221	--	--
		222	--	
3)	Measured Mineral Resource	331	1250694.00	MgO -19.69% CaO - 29.02% SiO_2 - 1.72%
4)	Indicated Mineral Resource	332	--	--
5)	Inferred Mineral Resource	333	--	--
6)	Reconnaissance Mineral Resource	334	--	--
Total Reserve (A) + Resources (B)			**1250694.00**	

SHUBH MINERALS PVT. LTD.

DIRECTOR

Prepared By
SIDDHARTH GEO CONSULTANTS RAIPUR
Email: - sgc_rai@yahoo.com

SIDDHARTH GEO CONSULTANTS RAIPUR (C.G.)

Deepak Kumar Sahu
(RQP/DGM/CG/24/2020)

107

CHAPTER - VII

USE OF MINERAL

END USE OF MINERAL

Dolomite is useful in many industries .Its uses in different industries depend upon its chemical constituent. It is used in iron and steel industries, refractory industries, Ferro alloys, chemical and glass industries, fertilizers, plant and rubber industries.

In Chhattisgarh dolomite is mostly used in iron and steel industries. Demand of dolomite to a large extent is in existing steel industries, and will remain an important mineral for industries which are yet to come in future.

Average specification of Dolomite

- **Chemical Formulae :** $CaMg(CO_3)_2$

Grades :

- **Iron and Steel Industry** :
  - Dolomite is used in iron and steel industry as refractory raw materials and a flux.
- **Ferro – Manganese :**
  - Contains MgO 19 to 20%, CaO 28 to 30%, SiO_2 2 to 5% and R_2O_3 2 to 2.5%.
- **Glass :**
  - For certain commercial glass, the Fe_2O_3 content up to 0.25% is permissible.
  - For truly colorless glass Fe_2O_3 content of 0.04% (max.) is sometimes specification.
- **Fertilizer Industry :**
  - Contains $CaCO_3$ + $MgCO_3$ 90% (min.) and SiO_2 5% max.
  - Inferior grade dolomite limestone of 15 – 20% MgO can be used as soil conditioner.
- **Lime :**
  - Contains $CaCO_3$ 58 – 75%, $MgCO_3$ 28-48% and other constituent should be less than 3%.
- **Magnesium Metal :**
  - Contain MgO, 40.5%, CaO 58.10%, Fe_2O_3 0.8% and insoluble 0.6%.

This dolomite deposit is considerable as a flux grade & use in the Sponge Iron & Steel plants.

SHUBH MINERALS PVT. LTD.

DIRECTOR

CHAPTER - VIII

ENVIRONMENT IMPACT ASSESSMENT STATEMENT

At present no mining activity is carried out in the prospected area which is not so big. The area is also devoid of good flora and fauna. The socio-economic status of the surrounding villages is rural with dominant agricultural economy. The surrounding area is thinly populated. There will be no adverse impact due to mining on socio-economic environment. The possible impact on environment is being discussed in following chapters:

A) Land Environment:

(i) Landscape:

The prospected area is almost horizontal with gentle slope & is partially an agricultural land. Due to the Prospecting operation there not any remarkable changes has been observed as such in the area. Though there has been some changes noticed in the land use pattern due to pitting but that was reclaimed.

(ii) Aesthetic Environment:

The mining activity in the applied area will be started after the grant of mining lease. In the prospected area during prospecting operation not any dumping has been carried out, therefore the prospecting activity does not violate the aesthetic sense of environment over there.

(iii) Soil and Land Use Pattern:

The prospected area is agriculture & a private revenue land with devoid of vegetation. The entire area is covered with alluvial soil. There has not been any remarkable change observed except few in the land use pattern after the prospecting activity due to excavation of pits which was reclaimed as mentioned above.

(iv) Forest:

The prospected area does not come under the purview of forest. It is a private revenue land. There has not been any change observed in the present status.

(v) Vegetation:

The prospected area at present is devoid of any vegetation.

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/CGSCG/24/2020)

SIDDHARTH GEO CONSULTANTS RAIPUR (C.G.)

69

(vi) Public Building, Places and Monuments:

At this time there is no public building, or monuments of any importance is seen nearby, which could be affected due to this prospecting operation.

B) Water Environment

(i) Surface Water:

At present there is not any water source, which is passing through the prospected area and its surroundings.

(ii) Ground Water:

It is noticed that the ground water is available below 30 meters of the normal surface level as well as in nearby dug well and bore well etc. As the prospecting operation has been carried out above the ground water table, hence there would not be any adverse effect on the ground water.

(iii) Water quality:

The ground water available in the well, bore-well etc. is of potable in nature and no adverse effect has been noticed yet.

C) Air Environment:

(i) Noise:

There has not been any remarkable impact observed yet due to this prospecting operation.

(ii) Air:

There has not been any remarkable impact observed in air quality yet due to this prospecting operation.

(iii) Climatic Condition:

The climatic condition of the area is sub-tropical with more than 1200 mm average rain fall & that would not create any pollution making activities.

D)Socio- economic Environment:

At present there is not much activities noticed other than the agricultural in the surrounding area. On the other hand, due to the prospecting there has been positive impact on the life of local people. Additional employment has also been provided.

SHUBH MINERALS PVT. LTD.

******

CHAPTER – IX

EXPENDITURE OF PROSPECTING OPERATION

S.NO.	PARTICULARS	QUANTITY	AMT (Rs.)	TOTAL AMOUNT (Rs)
1	1.Topographical 2. Preparation of prospecting scheme 3. Geological Mapping 4. Prospecting report as per norms	1	2,25,000.00	2,25,000.00
2	1 Core Drilling	60 meters	2,000.00/m.	1,20,000.00
	2. Mobilization of Machine	1	25,000.00	25,000.00
	3. Core Box	10	850.00/box	8,500.00
	4.Core Sampling & preparation of sample	20	250.00/ sample	5,000.00
	5.Sample Analysis	20	2000.00/ sample	40,000.00
	TOTAL WORKS DONE			**4,23,500.00**
	GST @18%			**76,230.00**
	GROSS TOTAL			**4,99,730.00**

SHUBH MINERALS PVT. LTD.

DIRECTOR

Prepared By
SIDDHARTH GEO CONSULTANTS, RAIPUR
Email: - sgc_raipur@yahoo.com

Deepak Kumar Sahu
(RQP/CG/2024/2020)

CHAPTER - X

PRE-FEASIBILTYSTUDY

1. GEOLOGY

Geology of the applied area comes under the Raipur Group of Chhattisgarh basin (i.e. Chhattisgarh super group). This sub basin is situated in the East-Central port of Chhattisgarh Sedimentary Basin.

In the prospected area the dolomite occurs belong to the Maniari formation of Raipur Group. The youngest Maniaririver along which the rock is best exposed and oval shaped out crops in the central part of basin. It represent the closing phase of deposition in Chhattisgarh Basin and consists of siltstone with dolomite and limestone.

The dolomite is occurring all over the region. It is a bedded formation striking almost N 30° E to S 30° W having 2° to 3° dip towards SE direction. Dolomite is grey in colour, fine grained, hard and compact. Dolomite is a dominant rock in the area and the exposures of dolomite are seen in the nearby working pits.

The litho succession of the area and surroundings are as follows –

Raipur group	Recent	Av. 3.7m thick alluvial &lateritc soil
	Maniari formation	Grey to dark grey colored dolomite

The general strike of the dolomite is NE-SW. In most of the prospected area, grey dolomite is present under thick (average 3.0m) over burden of alluvial and lateritic soil. In the Western part of the prospected area of Gunderdehi formation of Raipur group is present. The sub parallel drainage pattern and rectilinear flow of Mahanadi and its tributaries also suggest presence of faults and major fractures in the area.

i) Reconnaissance Survey (Scale 1:50,000)

ii) Geological Mapping (Scale 1:1000)

iii) Topographical Survey & contouring (Scale 1:1000)

SHUBH MINERALS PVT. LTD.

DIRECTOR

Prepared By
SIDDHARTH GEO CONSULTANTS, RAIPUR
Email: - sgc_rai@yahoo.com

SIDDHARTH GEO CONSULTANTS RAIPUR (C.G.)

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

112

Two bore holes was drilled up to 30m to measure depth continuity of the dolomite deposit of the area, With the total 94% core recovery and there are 20 samples collected from bore holes and pits.

2. MINING

The mine categorywill be"A"category and production quantity of dolomite will be decided after grant of quarry lease as per market requirement at the time.

3. ENVIRONMENTAL

The proposed applied area is private revenue land with devoid of vegetation. The entire area is covered with alluvial soil. At present no mining activity is carried out the lease area. When the mining is started plantation is proposed in the area. The surrounding area is thinly populated and there will be no adverse impact due to mining activity. The proposed lease area is partially an agricultural land.

At present there is no any water source which is passing through the proposed area and its surrounding.

4. PROCESSING

The dolomite mineral is excavated from mine and crushed through crusher in various sizes and directly transported into the plant. We established a laboratory in our mine area for the chemical analysis of samples of dolomite to check the grade of mineral time to time but there is no need to establishment of ore dressing plant.

5. INFRASTRUCTURE AND SERVICES AND CONSTRUCTION ACTIVITIES

Mine office, rest shelter, canteen, toilet, store room, workshop, first aid room will be developed in and around the area.

6. COSTING

The production cost of dolomite will be maintained within the rupees 250/tone.

7. MARKETING

Marketing of dolomite is not a problem for lessee.In Chhattisgarh dolomite is mostly used in iron and steel industries. Demand of dolomite to a large extent is in existing steel industries, and will remain an important mineral for industries which are yet to come in future.

SHUBH MINERALS PVT. LTD.

DIRECTOR

8. ECONOMIC VIABILITY

The expenses during mining activity will be Rs. 95, 00,000.

9. OTHER FACTORS

The proposed applied area is purchased by the applicant. Local labour will be appointed for the mining operation and also provisions for the public welfare.

******

SHUBH MINERALS PVT. LTD.

DIRECTOR

Prepared By

SIDDHARTH GEO CONSULTANTS, RAIPUR
Email: - sgc_rai@yahoo.com

SIDDHARTH GEO CONSULTANTS RAIPUR (C.G.)

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

RECOMMENDATIONS

It is evident from the previous work, primary survey and the exploration work conducted, over an area of 1.683 hects in the Chhelphora village, that the area is a promising source of high grade of dolomite deposit.

The dolomite available here is up to the depth is varying from 3.5 to 30mt. in the pits & Boreholes. The old working in surrounding area also indicates the sufficient reserve and good quality of dolomite for the mining purpose. The geological resources are **1.2506** Million Tonnes of dolomite deposit in the area. Mineral Resources are considered under 331 category and average depth 26m has been taken for calculation on the basis of bore hole data, averaging with the grade of 29.02% CaO, 19.69% MgO with 1.72% SiO_2, which itself suggesting a good potential for commercially high grade quality of the dolomite occurrences in the prospected area.

It is already mentioned that in Chhattisgarh State the dolomite is mostly used in Iron and Steel Industries as a Flux. Most of the dolomite is used in Bhilai Steel plant, Raurkela and Local Sponge Iron plants. To meet the demand of existing Steel Industries and other industries which are yet to come in future, it becomes essential to locate and explore in details new potential areas of dolomite. In this context investigation of dolomite in Chhelphora village and adjacent area of the Raigarh district was initiated by lessee itself.

It is therefore, advisable to obtain Q.L. to conduct mining operation. A detailed exploration work will also be carried out to know the actual depth and increasing reserve because the dolomite deposit of the Chhelphora village is economically viable and suitable for the steel plant.

****

Shubh Minerals Pvt. Ltd.

Director

Geologist

RQP

Alok Chandra Verma
(RQP/DGMCG/23/2020)

SIDDHARTH GEO CONSULTANTS RAIPUR (C.G)

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

115

ANNEXURE - 5

BSS LAB
NABL ACCREDITED LABORATORY

Quality Leads...

CERTIFICATE NO. TC-6409

CHEMICAL ANALYSIS OF MINERALS AND ORES

TEST REPORT

TEST REPORT NO. BSS/467/1925-1929 ULR - TC640920000000467F		Date Of Issue Test Report: 22.12.2020	
Date Of Sample Received: 16.12.2020		Date Of Test Start: 17.12.2020	Date Of End Of Test: 19.12.2020
Name Of Customer And Address	M/s SHUBH MINERALS PVT. LTD. RAIGARH (C.G.)	Attention: SIDDHARTH GEO CONSULTANTS INDIA PVT. LTD. , RAIPUR	
Name of Sample	DOLOMITE	Received Form And Quantity Of Sample	Powder Form 05 No. & 100 gm Each
Sample Is Representative Of	CHHELPHORA, BLOCK-1 AREA-1.683 Ha. (BH-01)	Test Required	SiO_2, CaO, MgO, Fe_2O_3 & Al_2O_3
Packing Of Sample	Paper Pouch	Sample collected and prepared by	By Customer

DETAILS OF TEST

SR. NO	PARAMETERS	TEST METHOD	UNIT	RESULT				
	REPRESENTATIVE SAMPLE →			CB1/BH-1 / SC-1	CB1/BH-1 / SC-2	CB1/BH-1 / SC-3	CB1/BH-1 / SC-4	CB1/BH-1 / SC-5
1.	SiO_2	IS : 1760	%	1.87	1.76	1.62	1.92	1.71
2.	CaO	IS : 1760	%	27.98	29.39	30.10	29.36	30.02
3.	MgO	IS : 1760	%	20.10	19.62	19.63	19.09	19.57
4.	Fe_2O_3	IS : 1760	%	1.99	2.99	1.99	1.98	2.01
5.	Al_2O_3	IS : 1760	%	0.89	1.77	1.27	2.78	2.28

Remarks:

1. Please see and refer original test for the authenticity of this report.
2. Location of samples as per given information by the Customer.
3. Sample identification explanations given by the customer.

Verified By

Indraneel Dawande
AUTHORIZED SIGNATORY

BSS LAB (ORIGINAL) JABALPUR

Tested By

Himani Dubey
CHEMIST

END OF REPORT

Terms & conditions:
1. Sample not drawn by us. 2. The Analysis results provided are applicable only to the submitted sample(s). 3. The Analysis report in full or part shall not be reproduced in any media unless written permission is given by BSS Lab. 4. The Analysis result will be kept confidential. 5. BSS Lab shall not be responsible for any variation in characteristics of the submitted samples taken up for analysis. 6. BSS Lab and its staff shall not be liable to the customer or any third party for any action taken on the basis of such reports or findings nor for any incorrect result arising from erroneous, incomplete, misleading or false information provided to our lab. 7. Sample will be disposed after fifteen days from the date of issue of the test report. Unused samples or samples not accepted by us shall be returned to the customer at the time of finalizing the order. 8. Any dispute arising out of this transaction shall be subject to the jurisdiction of the courts agreed at the time of finalizing the order shall be binding on the customer for the duration of the order only. 9. All correspondence, disputes etc. shall be subject to Jabalpur jurisdiction only.

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu

Office: BSS Lab, First Floor, 1338, Vijay Nagar, Kachnar City Road, Jabalpur (M.P.) 482002
Telephone/ Fax No. 0761-2641694, Mobile: 09424973438, Email: bsslab13@gmail.com, qm@bsslabjabalpur.com
Website: www.bsslabjabalpur.com

(RQP/DGMCG/24/2020)

TEST REPORT

TEST REPORT NO. BSS/468/1930-1933 ULR – TC640920000000468F		Date Of Issue Test Report: 22.12.2020	
Date Of Sample Received: 16.12.2020		Date Of Test Start: 17.12.2020	Date Of End Of Test: 19.12.2020
Name Of Customer And Address	M/s SHUBH MINERALS PVT. LTD, RAIGARH (C.G.)	Attention: SIDDHARTH GEO CONSULTANTS INDIA PVT. LTD., RAIPUR	
Name of Sample	DOLOMITE	Received Form And Quantity Of Sample	Powder Form 04 No. & 100 gm Each
Sample Is Representative Of	CHHELPHORA, BLOCK-1 AREA-L683 Ha. (BH-01)	Test Required	SiO_2, CaO, MgO, Fe_2O_3 & Al_2O_3
Packing Of Sample	Paper Pouch	Sample collected and prepared by	By Customer

DETAILS OF TEST

SR. NO	PARAMETERS	TEST METHOD	UNIT	RESULT			
	REPRESENTATIVE SAMPLE →			CB1/BH-1 / SC-6	CB1/BH-1 / SC-7	CB1/BH-1 / SC-8	CB1/BH-1/ SC-9
1.	SiO_2	IS : 1760	%	1.95	1.75	0.68	2.15
2.	CaO	IS : 1760	%	27.94	29.38	30.05	29.38
3.	MgO	IS : 1760	%	20.08	19.61	19.09	19.61
4.	Fe_2O_3	IS : 1760	%	2.98	1.00	0.99	1.00
5.	Al_2O_3	IS : 1760	%	1.65	1.27	0.76	0.89

Remarks:

1. Please see and refer original test for the authenticity of this report.
2. Location of samples as per given information by the Customer.
3. Sample identification explanations given by the customer.

Verified By

Indraneel Dawande
AUTHORIZED SIGNATORY

BSS LAB ★ ORIGINAL ★ JABALPUR

Tested By

Himani Dubey
CHEMIST

END OF REPORT

Terms & Conditions

1. Sample was drawn by us. 2. The Analysis results provided are applicable only to the submitted samples. 3. The Analysis report in full or part shall not be reproduced in any media, unless consent is given by BSS Lab. 4. The Analysis result will be kept confidential. 5. BSS Lab shall not be responsible for any variation in external features of the submitted samples drawn up for analysis. 6. BSS Lab and its staff shall not be liable for any actions taken on the basis of such reports or findings, nor for any [illegible] results arising from omissions, [illegible] incomplete, misleading or inaccurate information supplied by the customer. 7. The disputed sample if any, should be disputed after fifteen days from the date of issue of the test report. Disputed samples or samples not accepted for any reason shall be returned to the customer on a monthly basis. 8. The charges agreed at the time of finalizing the order shall be binding on the customer. Cancellation of the order will be accepted only on conditions mentioned herein above are accepted by the customer 10. Subject to Jabalpur jurisdiction only.

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DSM/CG/24/2020)

TEST REPORT

TEST REPORT NO. BSS/469/1934-1938 ULR – TC640920000000469F	Date Of Issue Test Report: 22.12.2020		
Date Of Sample Received: 16.12.2020	Date Of Test Start: 17.12.2020	Date Of End Of Test: 19.12.2020	
Name Of Customer And Address	M/s SHUBH MINERALS PVT. LTD, RAIGARH (C.G.)	Attention: SIDDHARTH GEO CONSULTANTS INDIA PVT. LTD., RAIPUR	
Name of Sample	DOLOMITE	Received Form And Quantity Of Sample	Powder Form 05 No. & 100 gm Each
Sample Is Representative Of	CHHELPHORA, BLOCK-1 AREA-1.683 Ha. (BH-02)	Test Required	SiO_2, CaO, MgO, Fe_2O_3 & Al_2O_3
Packing Of Sample	Paper Pouch	Sample collected and prepared by	By Customer

DETAILS OF TEST

SR. NO	PARAMETERS	TEST METHOD	UNIT	RESULT				
	REPRESENTATIVE SAMPLE →			CB1/BH-2 / SC-1	CB1/BH-2 / SC-2	CB1/BH-2 / SC-3	CB1/BH-2 / SC-4	CB1/BH-2 / SC-5
1.	SiO_2	IS : 1760	%	1.66	1.92	1.65	1.80	1.97
2.	CaO	IS : 1760	%	28.63	28.65	28.99	27.95	29.36
3.	MgO	IS : 1760	%	19.57	20.08	20.09	19.58	20.10
4.	Fe_2O_3	IS : 1760	%	2.00	1.99	2.01	1.99	2.00
5.	Al_2O_3	IS : 1760	%	1.14	1.27	0.89	1.64	1.77

Remarks:

1. Please see and refer original test for the authenticity of this report.
2. Location of samples as per given information by the Customer.
3. Sample identification explanations given by the customer.

Verified By

Indraneel Dawande
AUTHORIZED SIGNATORY

BSS LAB ORIGINAL LABAL

Tested By

Himani Dubey
CHEMIST

END OF REPORT

Terms & Conditions:
1. Samples not drawn by us. 2. The Analysis results provided are applicable only to the submitted sample(s). 3. The Analysis report in full or part shall not be reproduced in any media, unless written consent is given by BSS Lab. 4. The Analysis result will be kept confidential. 5. BSS Lab shall not be responsible for any variation in characteristics of the submitted samples taken up for analysis. 6. BSS Lab and its staff shall not be liable to the customer or any third party for any actions taken on the basis of such reports or findings, nor for any incorrect results arising from erroneous, unclear, ambiguous, misleading or false information supplied by the client. 7. Unclaimed samples will be disposed after fifteen days from the date of issue of the test report. 8. Perishable samples or samples not accepted for any reason shall be returned immediately. 9. Any dispute arising out of the order shall be subject to the court of Jabalpur jurisdiction only. 10. Subject to Jabalpur jurisdiction only.
All conditions mentioned here above are assumed to be agreed by the customer.

SHUBH MINERALS PVT. LTD.
DIRECTOR

Deepak Kumar Sahu
(RQP-DGMCG/24/2020)

TEST REPORT

TEST REPORT NO. BSS/470/1939-1942 ULR – TC640920000000470F		Date Of Issue Test Report: 22.12.2020	
Date Of Sample Received: 16.12.2020		Date Of Test Start: 17.12.2020	Date Of End Of Test: 19.12.2020
Name Of Customer And Address	M/s SHUBH MINERALS PVT. LTD, RAIGARH (C.G.)	Attention: SIDDHARTH GEO CONSULTANTS INDIA PVT. LTD., RAIPUR	
Name of Sample	DOLOMITE	Received Form And Quantity Of Sample	Powder Form 04 No. & 100 gm Each
Sample Is Representative Of	CHHELPHORA, BLOCK-1 AREA-1.683 Ha. (BH-02)	Test Required	SiO_2, CaO, MgO, Fe_2O_3 & Al_2O_3
Packing Of Sample	Paper Pouch	Sample collected and prepared by	By Customer

DETAILS OF TEST

SR. NO	PARAMETERS	TEST METHOD	UNIT	RESULT			
	REPRESENTATIVE SAMPLE →			CB1/BH-2/SC-6	CB1/BH-2/SC-7	CB1/BH-2/SC-8	CB1/BH-2/SC-9
1.	SiO_2	IS : 1760	%	1.86	1.78	1.87	2.12
2.	CaO	IS : 1760	%	29.38	27.96	28.66	29.36
3.	MgO	IS : 1760	%	19.60	19.58	20.09	19.08
4.	Fe_2O_3	IS : 1760	%	1.99	1.00	1.01	1.00
5.	Al_2O_3	IS : 1760	%	1.65	1.26	0.76	0.51

Remarks:

1. Please see and refer original test for the authenticity of this report.
2. Location of samples as per given information by the Customer.
3. Sample identification explanations given by the customer.

Verified By

Indraneel Dawande
AUTHORIZED SIGNATORY

BSS LAB ★ ORIGINAL ★ JABALPUR

Tested By

Himani Dubey
CHEMIST

END OF REPORT

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

TEST REPORT

TEST REPORT NO. BSS/471/1943-1944 ULR – TC640920000000471F	Date Of Issue Test Report: 22.12.2020		
Date Of Sample Received: 16.12.2020	Date Of Test Start: 18.12.2020	Date Of End Of Test: 21.12.2020	
Name Of Customer And Address	M/s SHUBH MINERALS PVT. LTD. RAIGARH (C.G.)	Attention: SIDDHARTH GEO CONSULTANTS INDIA PVT. LTD., RAIPUR	
Name of Sample	DOLOMITE	Received Form And Quantity Of Sample	Powder Form 02 No. & 100 gm Each
Sample Is Representative Of	CHHELPHORA, BLOCK-1 AREA-1.683 Ha. (PIT-1 & PIT-2)	Test Required	SiO_2, CaO, MgO, Fe_2O_3 & Al_2O_3
Packing Of Sample	Paper Pouch	Sample collected and prepared by	By Customer

DETAILS OF TEST

SR. NO	PARAMETERS	TEST METHOD	UNIT	RESULT	
	REPRESENTATIVE SAMPLE →			CB1/P-1/SC-1 (PIT-1)	CB1/P-2/SC-1(PIT-2)
1.	SiO_2	IS : 1760	%	1.39	1.12
2.	CaO	IS : 1760	%	28.63	29.36
3.	MgO	IS : 1760	%	20.08	19.59
4.	Fe_2O_3	IS : 1760	%	1.99	1.00
5.	Al_2O_3	IS : 1760	%	0.63	0.89

Remarks:

1. Please see and refer original test for the authenticity of this report.
2. Location of samples as per given information by the Customer.
3. Sample identification explanations given by the customer.

Verified By

Indraneel Dawande
AUTHORIZED SIGNATORY

BSS LAB ORIGINAL JABALPUR

Tested By

Himani Dubey
CHEMIST

END OF REPORT

...& Conditions:
...sample not drawn by us. 2. The Analysis results provided are applicable only to the submitted sample(s). 3. The Analysis report in full or part shall not be reproduced in any media, unless written consent is given by BSS Lab. 4. The Analysis result will be kept confidential. 5. BSS Lab shall not be responsible for any variation in characteristics of the submitted samples taken up for analysis. 6. BSS Lab and its staff shall not be liable to the customer for any direct/indirect for any actions taken on the basis of such reports or findings, ... 7. Disputes arising from erroneous or incomplete ... reason shall be ... after fifteen days from the date of issue of the ... Unused samples / samples not accepted for any ... will be disposed ... on written request. 8. The charges agreed at the time of finalizing the order shall be ... Deepak Kumar Sahu (RQP/DGMCG/24/2020) ... 9. All the terms ... conditions mentioned herein above are assumed to be agreed by the customer. 10. Subject to Jabalpur jurisdiction only.

SHUBH MINERALS PVT. LTD.
DIRECTOR

Office: BSS Lab, First Floor, 1338, Vijay Nagar, Kachnar City Road, Jabalpur - 482002 (M.P.), India
Telephone/Fax No. 0761-2641694, Mobile: 09424973438, Email: bsslab13@gmail.com, qm@bsslabjabalpur.com
Website: www.bsslabjabalpur.com

ANNEXURE-6

FORM VII

[See rule 16 (ii) of CGMMR, 2015]

Notice of commencement of Prospecting operations

MPORTANT : This Form, duly filled in must the reach the concerned authorites within fifteen days of the commencement of Prospecting operations.

To,

1. Director
   Geology and Mining Chhattisgarh
   2nd floor, indarvati bhawan, Atal Nagar,
   Raipur, Chhattisgarh
2. The Collector
   District:- Raigarh, Chhattisgarh

1.	Name of the mineral or minerals for which Prospecting Licensee complete has been granted.	M/s Subh Minerals Pvt. Limited
2.	Name of the licensee complete address, Phone no., Email.	Niwasi Goyal Automobile, jindal Road jagatpur, Raigarh (Chhattisgarh) Email- shubhminerals@gmail.com Mob. No.- 8224010000, 9300108924
3.	Particulars of Prospecting licence :	
	1. Date of exection	29.04.2020
	2. Period : .....years, form.....to.....	2 years, 29.04.2020 to 28.04.2022
	3. Area under licence.....hectares,	1.683 Hect.
4.	Location of the Prospecting Licence Area :	
	1. Survey of India, Topo Sheet Number	64 O/6
	2. District and Tahsil	Raigarh
	3. Block	Baramkela
	4. Name of Gram Panchayat	Chhelphora (Block 1)
	5. Patwari circle number	04
	6. name of Village	Chhelphora (Block 1)
	7. Khasra Number	206, 207/3, 208, 210/1, 211, 212, 214/3, 214/4
	8. Are in hectare	1.683 Hect.

20/10/20

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

Scanned with CamScanner

5.	Particulars of Geologist or Mining Engineer employed for Prospecting Licensed area :	Alok Verma (ROP) (Siddharth Geo Consultants) 521/3, Ramkund, Samta Colony Behind Life Worth Hospital, Raipur PIN-492001 sgc_jal@yahoo.co.in
	1. Name and address : Phone no. Email.	
	2. Qualification	M.Sc. Geology
	3. Date of appointment	17/03/2020
	4. Nature of appointment : Whole time/ Part time.	Part Time
6.	Date of commencement of Prospecting Operation : .....th day .....month.....	09/10/2020

M/s. Shubh Minerals Pvt. Ltd.

Director

Place : Raigarh
Date : 20/10/2020

Signature :
Name in full :- PRATISH KUMAR GOYAL
Designation : Owner /Agent/
Mining Engineer/Manager

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

122

Scanned with CamScanner

ANNEXURE -7

FORM VIII

[See rule 16(viii)(a) of CGMMR, 2015]

Final Report of Prospecting Operations carried out for Minor Mineral

IMPORTANT: This Form, duly filled in must reach the concerned authorities within ninety days after expiration of one year from the date of execution of prospecting licence or the expiry of prospecting licence or abandonment of prospecting operations, whichever is earlier

1.	**Director** Geology and Mining Chhattisgarh 2nd floor, Indarvati bhawan, Atal Nagar, Raipur, Chhattisgarh		
2.	**The Collector** District:- Raigarh, Chhattisgarh		
	1.	Name of the mineral or minerals for which Prospecting licence has been granted	**Dolomite**
	2.	Name and address of the Licencsee, Phone number, E-mail	**M/s Subh Minerals Pvt. Limited** Niwasi -Goyal Automobile, Jindal Road Jagatpur, Raigarh (Chhattisgarh) Email-shubhminerals@gmail.com Mob.No.-8224010000, 9300108924
	3.	Particulars of Prospecting License (i) Date of execution (ii) Period (iii) Area under licence	29.04.2020 2 years, 29.04.2020 to 28.04.2022 1.683 Hect.
	4.	Location of Prospecting Licence Area: (i) Khasra Number (ii) Village/Tagsil/District	206, 207/3, 208, 210/1, 211, 212, 214/3, 214/4 Chhelphora (Block 1), Baramkela, Raigarh
	5.	Particulars of the Geologist/Mining Engineer- In-Charge of Prospecting operations: (i) Name and address: Phone number, E-mail (ii) Qualifications (iii) Date of appointment (iv) Nature of appointment	Alok Verma (RQP) (Siddharth Geo Consultants) 621/3, Ramkund, Samta Colony Behind Life Worth Hospital, Raipur PIN-492001, sgc_rai@yahoo.co.in M. Sc. (Geology) 17/03/2020 Part Time

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

Scanned with CamScanner

6.	(i) Status of Prospecting Completed [i (ii) Operation: Date of completion or Abandonment of Prospecting Operation	Completed
7.	Total area, in hectare, covered under Prospecting operations within the Licenced area.	1.683 Hect.
8.	Details of Prospecting operation Carried out:	
	(a) Detailed Geological Mapping (i) Area in hectare (ii) Scale.	1.683 Hect. 1:1000
	(b) Topographical survey (i) Area in hectare (ii) Scale. (iii) Contour interval.	1.683 Hect. 1:1000 1M.
	(c) Pitting (i) Number of pits (ii) Depth (metres) Average Maximum Minimum	2 3.57M. 3.65M. 3.50M.
	(d) Trenching (i) Number of trenches (ii) Depth/length of trenches (metres) Average Maximum Minimum	NA
	(e) Drilling (i) Number of boreholes completed (ii) Grid interval of boreholes (iii) Total drilling (metres)	2 100M. 60M.
	(f) Particulars of drilling machines: Number of drills	Kores KME 600 1
	(g) Total number of samples Analysed (i)Surface samples:- (ii)Pit's/trench's samples:- (iii)Core samples:- a. Main constituent (please Specify radicals/elements b. Completed analysis c. Address of chemical Laboratory	20 NA 2 18 CaO, MgO, SiO_2, Fe_2O_3, Al_2O_3 Completed BSS Lab, Jabalpur (M.P.)

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

Scanned with CamScanner

9.	Brief description of geology of area and Nature of deposit.	Brief description of geology of area and Nature of deposit is given in GR report.
10.	Assessed Resources in the area along with Grade	1.2506 Million Tonnes.
11.	Any other information	NA

Note: Please enclose a geological report describing the prospecting operations under taken along with the detailed geological plans and sections showing locations of (a) boreholes, (b) pits, (c) trenches, (d) outcrops and other geological features, etc. Copy of chemical analysis reports certified by the Chemical Laboratory, where samples were analysed.

Place: Raigarh

Date:- 06-01-2021

Signature:

Name in full:- PRATISH KUMAR GOYAL

Designation: Owner

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

Scanned with CamScanner

ANNEXURE - 8

FORM – J

[See rule 48(1) of MCDR, 2017]

(Particulars to recorded in respect of each bore-hole-pit-shaft)

1.	**Type of Mineral Concession –**	
	Mining Lease	
	Prospecting License	
	Prospecting License –cum –Quarry Lease	**PL cum QL**

2.	**Quarry Lease Code**	Not applicable

3. **Name of the mineral or minerals for which prospecting license or prospecting license cum quarry lease has been granted:**

Dolomite

4. **Name and address of the mineral concession holder**
M/s Subh Minerals Pvt. Limited

Address: Goyal Automobile, jindal Road jagatpur, Raigarh (Chhattisgarh)

5. **Particulars of mineral concession**
Quarry Lease for Dolomite

Area – 1.683 hectares

6. **Location of the Mineral Concession**

Village- Chhelphora (Block- 1), Tehsil- Baramkela, District- Raigarh (C.G.)

7. **Type and make of the drill and size of the core**

Diamond Core Drilling Rig (NX Size)

8. **Bore hole-pit number and its location – BH-01**

(a) Reduced levels at the collar of the bore hole-pit.- **204.5 – 174.5m**

(b) Inclination and bearing of the hole **Vertical** **E-83°17'04.04"**
N-21°39'23.46"

(c) Altitude of the formation **204.5m**

9. **Duration of Drilling**

(a)Date of commencement **23/10/2020**

(b)Date of completion **26/10/2020**

13. **Total length of the bore hole-pit-shaft.** **30.00m**

14. **Purpose of drilling-pitting-shaft:** For **Assessment for Reserves.**

15. **Total operation expenditure incurred (in Rs. 60,000/-)**

16. **Details of intersection (as given below)**

SHUBH MINERALS PVT. LTD.

DIRECTOR

SIDDHARTH GEO CONSULTANTS RAIPUR (C.G.)

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

78

126

S. No.	RUN DETAILS				Size of core-Pit shaft	Percent-tage recovery of core	Lithology	Analysis details (major Radicals)					Remark / Sample ID
	From (in M)	To (in M)	Width (in M)	True Width (in M)				SiO_2 %	CaO %	MgO %	Fe_2O_3 %	Al_2O_3 %	
1	0.00	0.50	0.50	0.00	NX	0	Top soil	-	-	-	-	-	Sample is not taken
2	0.50	1.00	0.50	0.00	NX	0	lateritic soil	-	-	-	-	-	
3	1.00	4.00	3.00	0.00	NX	0	lateritic soil	-	-	-	-	-	
4	4.00	7.00	3.00	2.87	NX	95.6	Dolomite	1.87	27.98	20.10	1.99	0.89	CB1/BH-1/SC-1
5	7.00	10.00	3.00	2.79	NX	93.0	Dolomite	1.76	29.39	19.62	2.99	1.77	CB1/BH-1/SC-2
6	10.00	13.00	3.00	2.85	NX	95.0	Dolomite	1.62	30.10	19.63	1.99	1.27	CB1/BH-1/SC-3
7	13.00	16.00	3.00	2.82	NX	94.0	Dolomite	1.92	29.36	19.09	1.98	2.78	CB1/BH-1/SC-4
8	16.00	19.00	3.00	2.78	NX	92.6	Dolomite	1.71	30.02	19.57	2.01	2.28	CB1/BH-1/SC-5
9	19.00	22.00	3.00	2.80	NX	93.3	Dolomite	1.95	27.94	20.08	2.98	1.65	CB1/BH-1/SC-6
10	22.00	25.00	3.00	2.77	NX	92.3	Dolomite	1.75	29.38	19.61	1.00	1.27	CB1/BH-1/SC-7
11	25.00	28.00	3.00	2.88	NX	96.0	Dolomite	0.68	30.05	19.09	0.99	0.76	CB1/BH-1/SC-8
12	28.00	30.00	2.00	1.89	NX	94.5	Dolomite	2.15	29.38	19.61	1.00	0.89	CB1/BH-1/SC-9
TOTAL			**30.00**	**24.45**		**94.03**		**1.71**	**29.28**	**19.60**	**1.88**	**1.50**	

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGM/CG/24/2020)

SIDDHARTH GEO CONSULTANTS RAIPUR (C.G.)

Place : Raigarh
Date: 25.12.2020

Signature
Name in full
Designation: Owner-Geologist/
Mining Engineer

127

FORM – J

[See rule 48(1) of MCDR, 2017]

(Particulars to recorded in respect of each bore-hole-pit-shaft)

1.	**Type of Mineral Concession –**	
	Mining Lease	
	Prospecting License	
	Prospecting License –cum –Quarry Lease	**PL cum QL**

2.	**Quarry Lease Code**	Not applicable

3. Name of the mineral or minerals for which prospecting license or prospecting license cum quarry lease has been granted:

Dolomite

4. Name and address of the mineral concession holder

M/s Subh Minerals Pvt. Limited

Address: Goyal Automobile, jindal Road jagatpur, Raigarh (Chhattisgarh)

5. Particulars of mineral concession

Quarry Lease for Dolomite

Area – 1.683 hectares

6. Location of the Mineral Concession

Village- Chhelphora (Block- 1), Tehsil- Baramkela, District- Raigarh (C.G.)

7. Type and make of the drill and size of the core

Diamond Core Drilling Rig (NX Size)

8. Bore hole-pit number and its location – BH-02

(a) Reduced levels at the collar of the bore hole-pit.- **204.5 – 174.5 m**

(b) Inclination and bearing of the hole **Vertical** **E-83°16'50.68"**
N-21°39'12.92"

(c) Altitude of the formation **204.5m**

9. Duration of Drilling

(a)Date of commencement **26/10/2020**
(b)Date of completion **28/10/2020**

13. Total length of the bore hole-pit-shaft. **30.00m**

14. Purpose of drilling-pitting-shaft: For **Assessment for Reserves.**

15. Total operation expenditure incurred (in Rs. 60,000/-)

16. Details of intersection (as given below)

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

80

128

S. No.	RUN DETAILS				Size of core-Pit shaft	Percent-tage recovery of core	Lithology	Analysis details (major Radicals)					Remark / Sample ID
	From (in M)	To (in M)	Width (in M)	True Width (in M)				SiO_2 %	CaO %	MgO %	Fe_2O_3 %	Al_2O_3 %	
1	0.00	0.70	0.70	0.00		0	Top soil	-	-	-	-	-	Sample is not taken
2	0.70	1.00	0.30	0.00		0	lateritic soil	-	-	-	-	-	
3	1.00	4.00	3.00	0.00		0	lateritic soil	-	-	-	-	-	
4	4.00	7.00	3.00	2.70	NX	90.0	Dolomite	1.66	28.63	19.57	2.00	1.14	CB1/BH-2/SC-1
5	7.00	10.00	3.00	2.82	NX	94.0	Dolomite	1.92	28.65	20.08	1.99	1.27	CB1/BH-2/SC-2
6	10.00	13.00	3.00	2.89	NX	96.3	Dolomite	1.65	28.99	20.09	2.01	0.89	CB1/BH-2/SC-3
7	13.00	16.00	3.00	2.79	NX	93.0	Dolomite	1.80	27.95	19.58	1.99	1.64	CB1/BH-2/SC-4
8	16.00	19.00	3.00	2.84	NX	94.6	Dolomite	1.97	29.36	20.10	2.00	1.77	CB1/BH-2/SC-5
9	19.00	22.00	3.00	2.87	NX	95.6	Dolomite	1.86	29.38	19.60	1.99	1.65	CB1/BH-2/SC-6
10	22.00	25.00	3.00	2.82	NX	94.0	Dolomite	1.78	27.96	19.58	1.00	1.26	CB1/BH-2/SC-7
11	25.00	28.00	3.00	2.80	NX	93.3	Dolomite	1.87	28.66	20.09	1.01	0.76	CB1/BH-2/SC-8
12	28.00	30.00	2.00	1.81	NX	90.5	Dolomite	2.12	29.36	19.08	1.00	0.51	CB1/BH-2/SC-9
TOTAL			**30.00**	**24.34**		**93.47**		**1.84**	**28.77**	**19.75**	**1.66**	**1.21**	

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

SIDDHARTH GEO C...

Place : Raigarh
Date: 25.12.2020

Signature
Name in full
Designation: Owner-Geologist/
Mining Engineer

129

ANNEXURE-9

प्रारूप 1
पंजीकरण प्रमाण-पत्र

कॉर्पोरेट पहचान संख्या : U13200CT2007PTC020419 2007 - 2008

मैं एतद्द्वारा सत्यापित करता हूँ कि मैसर्स

SHUBH MINERALS PRIVATE LIMITED

का पंजीकरण, कम्पनी अधिनियम 1956 (1956 का 1) के अधीन आज किया जाता है और यह कम्पनी प्राइवेट लिमिटेड है।

यह निगमन-पत्र आज विनांक तेईस अक्तूबर दो हजार सात को मेरे हस्ताक्षर से ग्वालियर में जारी किया जाता है।

Form 1
Certificate of Incorporation

Corporate Identity Number : U13200CT2007PTC020419 2007 - 2008

I hereby certify that SHUBH MINERALS PRIVATE LIMITED is this day incorporated under the Companies Act, 1956 (No. 1 of 1956) and that the company is private limited.

Given under my hand at Gwalior this Twenty Third day of October Two Thousand Seven.

(Dr. RAJ SINGH)
रजिस्ट्रार / Registrar of Companies
मध्य प्रदेश एवं छत्तीसगढ़
Madhya Pradesh and Chattisgarh
(DR. RAJ SINGH)
Registrar of Companies
M.P. & Chhattisgarh
Government of India

कम्पनी रजिस्ट्रार के कार्यालय में उपलब्ध अभिलेख के अनुसार कम्पनी का पता।
Mailing Address as per record available in Registrar of Companies office:
SHUBH MINERALS PRIVATE LIMITED
DHIMRAPUR ROAD, RAIGARH - 496001,
Chattisgarh, INDIA

Deepak Kumar Sahu
(RGR/DGMCG/24/2020)

SHUBH MINERALS PVT. LTD.

DIRECTOR

130

ANNEXURE-10

Shubh Minerals Pvt. Ltd.

Regd. Office : At Jagatpur, Dhimrapur Road, Raigarh (C.G.) 496001
Mobile : 8224010000, 9993713607, E-mail : shubhminerals@gmail.com
CIN No. : U13200CT2007PTCO20419, GSTIN : 22AALCS8983L1ZK

EXTRACT OF THE MINUTES OF THE MEETING OF THE BOARD OF DIRECTORS OF SHUBH MINERALS PVT. LTD., HELD AT ITS REGISTERD OFFICE AT JAGATPUR,DHIMRAPUR ROAD RAIGARH C.G.-496001 ON FRIDAY THE 01ST DAY OF NOVEMBER,2019 AT 12:30 PM

AGENDA: TO AUTHORISE **MR.PRATISH KUMAR GOYAL**, DIRECTOR OF THE COMPANY TO SIGN ALL DOCUMENTS & REPRESENT BEFORE COLLECTORATE MINING, DIST RAIGARH C.G.

It was suggested that **Mr. Pratish Kumar Goyal** should be authorised to sign all document and represent before Collectorate Mining Dist Raigarh C.G.

"RESOLVED that **Mr. Pratish Kumar Goyal**,Director of Company is hereby authorised for sign & represent related to all document of mining works at The Collectorate Mining department Dist Raigarh C.G. on behalf of the Company.

The resolution has been approved by the board of directors of company on 01/11/2019

Shubh Minerals Pvt. Ltd.
Director

Shubh Minerals Pvt. Ltd.
Director

Shubh Minerals Pvt. Ltd.
Director

SHUBH MINERALS PVT. LTD.
DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

LIST OF DIRECTORS OF SHUBH MINERALS PVT.LTD.

SL.NO.	DIN/PAN	NAME	DATE OF JOINING
1	0001845301	PRATISH KUMAR GOYAL	31.01.2009
2	0006471052	SWETA GOYAL	27.06.2018
2	0007939489	MEERA GOYAL	27.06.2018

SHUBH MINERALS PVT. LTD.

DIRECTOR

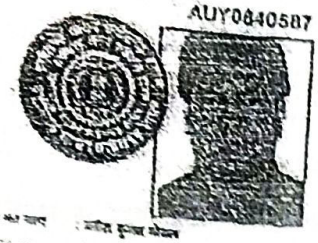
Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

Annexure – VII

ANNEXURE –12

भारत निर्वाचन आयोग
परिचय पत्र
ELECTION COMMISSION OF INDIA
IDENTITY CARD

AUY0840587



पिता का नाम : [illegible] KUMAR GOYAL
पिता का नाम : श्रीकिशन गोयल
Father's Name : SHRIKISHAN GOYAL
लिंग / Sex : पुरुष / Male
जन्म दिनांक : XX-XX-1982
Date of Birth : XX-XX-1982

AUY0840587

पता : प.क.19,
गोइलय पेंड़,
पंचा –सकती,
तह–सकती, जिला –जांजगीर–चाम्पा
Address : H.No.19
STEGHIN ROD,
VILL Sakti,
TEH SAKTI, DIST-JANJGIR-CHAMPA

35 – सक्ती विधानसभा क्षेत्र के निर्वाचक रजिस्ट्रीकरण अधिकारी के हस्ताक्षर की अनुकृति
Facsimile Signature of the Electoral Registration Officer for 35 - Sakti - Constituency
स्थान : सक्ती दिनांक: 19-10-2013
Place : Sakti Date : 19-10-2013
इस नाम को विशेष सारांश संशोधनों के अन्तर्गत चुनाव-पत्र के रूप में प्रकाशित किया जा चुका है। 1/01/2012

सतीश कुमार
गोयल

SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

ANNEXURE - 13

संचालनालय भौमिकी एवं खनिकर्म छत्तीसगढ़

(छत्तीसगढ़ गौण खनिज नियम, 2015 के अंतर्गत)
उत्खनन योजना/उत्खनन स्कीम/पर्यावरण प्रबंधन योजना/माईन क्लोजर प्लान बनाने हेतु मान्यता प्राप्त योग्य व्यक्ति

मान्यता प्रमाण पत्र



संचालक
भौमिकी तथा खनिकर्म
रायपुर, अटल नगर
रायपुर

श्री **दीपक कुमार साहू**, पिता श्री लेख राम साहू, पता मनीष कुमार कटारिया, हेमन्त प्रोव्हिजन स्टोर्स के पास शांति विहार कालोनी, डंगनिया, रायपुर, छत्तीसगढ़ को छत्तीसगढ़ गौण खनिज नियम, 2015 के अंतर्गत उत्खनन योजना/उत्खनन स्कीम/पर्यावरण प्रबंधन योजना/माईन क्लोजर प्लान तैयार करने हेतु योग्य व्यक्ति के रूप में पंजीयन कमांक **RQP/DGMCG/24/2020** अन्तर्गत मान्यता प्रदान की जाती है।

यह मान्यता प्रमाण पत्र 05 वर्ष की अवधि के लिए दिनांक 29/06/2025 तक वैध रहेगा।

मान्यता प्राप्त व्यक्ति के हस्ताक्षर

नवा रायपुर अटल नगर, दिनांक 30/06/2020

संचालक
भौमिकी तथा खनिकर्म
रायपुर, छत्तीसगढ़

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

SHUBH MINERALS PVT. LTD.

DIRECTOR







SHUBH MINERALS PVT. LTD.

DIRECTOR

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

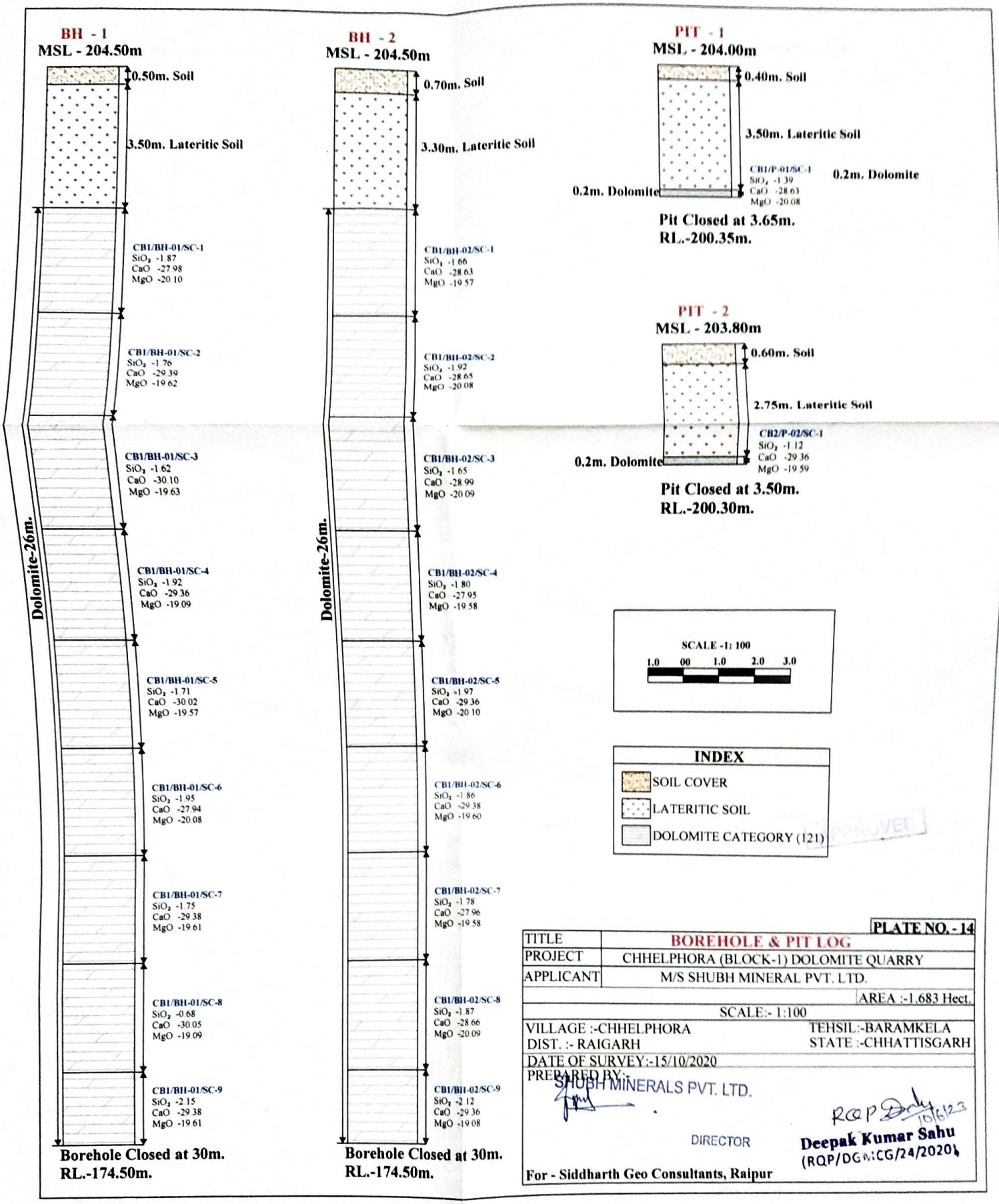


PLATE NO. - 14

TITLE	BOREHOLE & PIT LOG
PROJECT	CHHELPHORA (BLOCK-1) DOLOMITE QUARRY
APPLICANT	M/S SHUBH MINERAL PVT. LTD.
	AREA :-1.683 Hect.
	SCALE:- 1:100
VILLAGE :-CHHELPHORA	TEHSIL:-BARAMKELA
DIST. :- RAIGARH	STATE :-CHHATTISGARH
DATE OF SURVEY:-15/10/2020	
PREPARED BY:-	

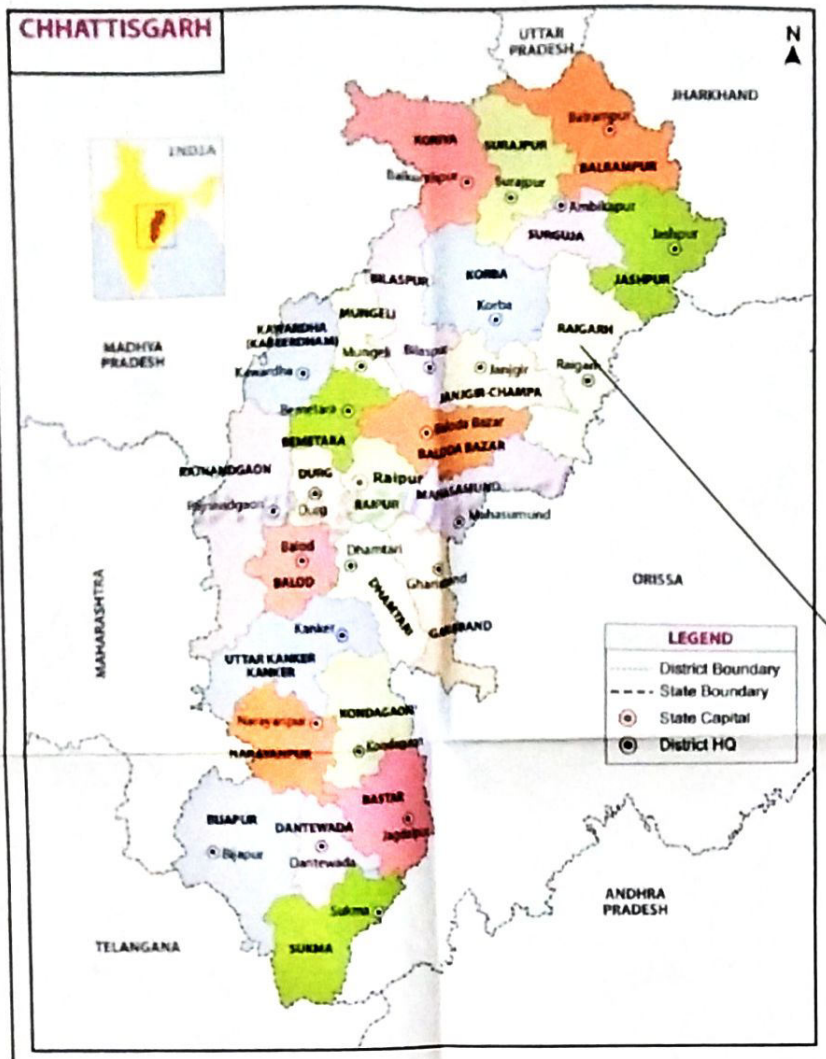
SHUBH MINERALS PVT. LTD.

DIRECTOR

For - Siddharth Geo Consultants, Raipur

RQP Date 10/6/23

Deepak Kumar Sahu
(RQP/DGM/CG/24/2020)



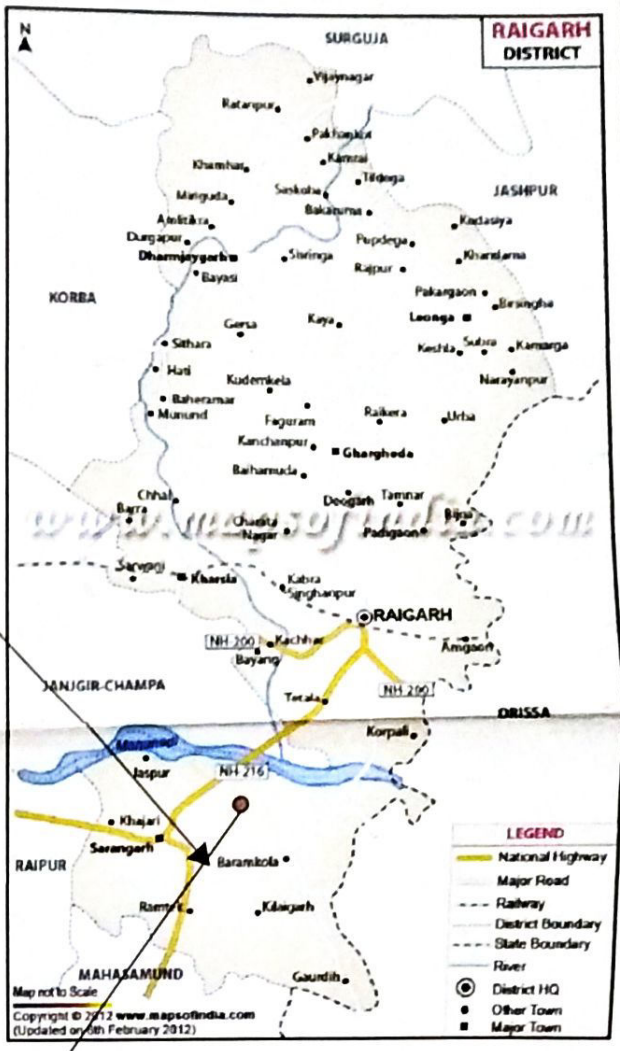




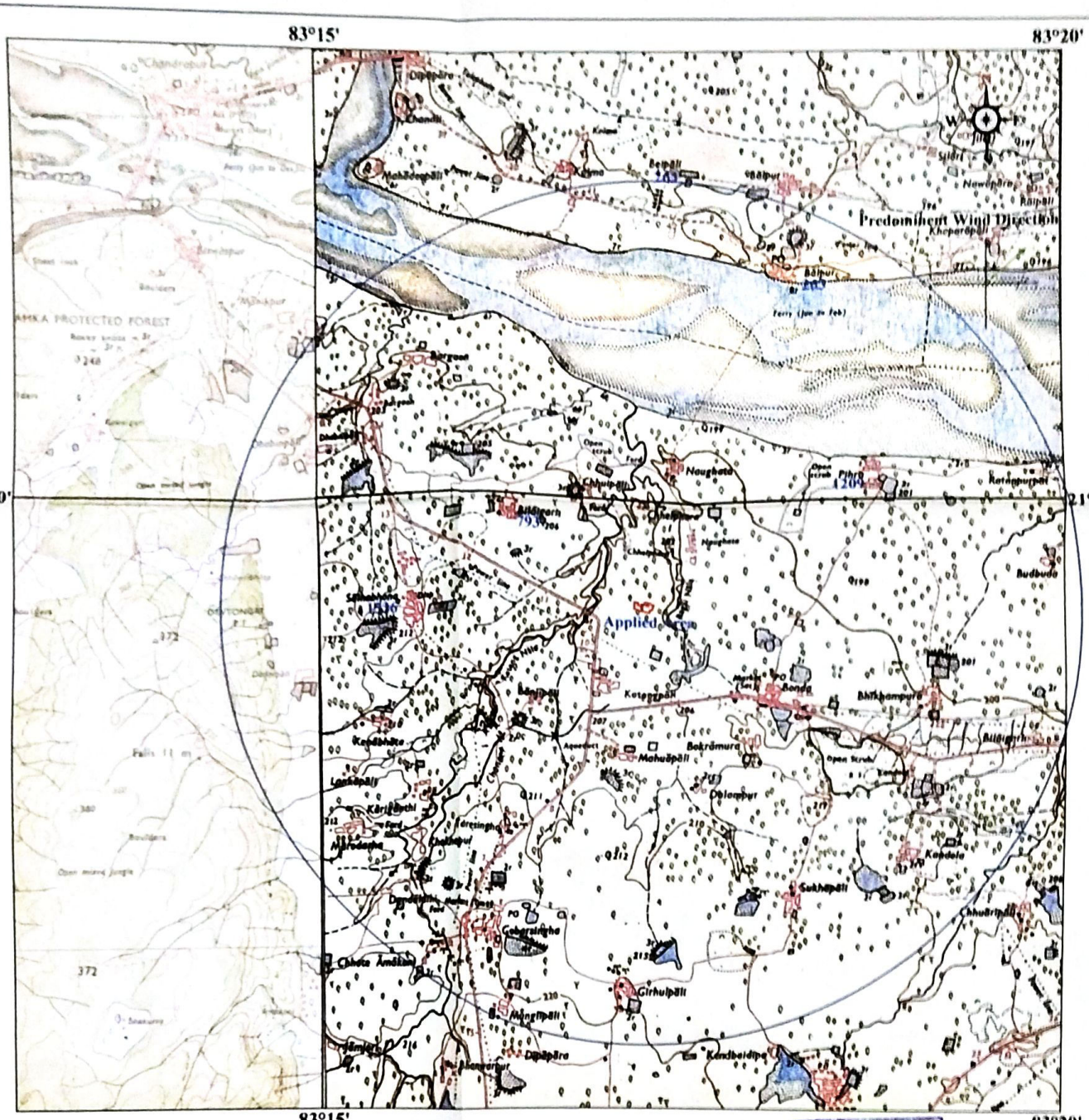
PLATE NO.-2

TITLE	LOCATION PLAN
PROJECT	CHHELPHORA (BLOCK-1) DOLOMITE QUARRY
APPLICANT	M/S SHUBH MINERAL PVT. LTD.
NOT TO SCALE	AREA :-1.683Hect.
VILLAGE :-CHHELPHORA	TEHSIL:-BARAMKELA
DISTRICT :-RAIGARH	STATE :-CHHATTISGARH
DATE OF SURVEY:-15/10/2020	
PREPAIRED BY:- SHUBH MINERALS PVT. LTD.	

DIRECTOR

For - Siddharth Geo Consultants, Raipur

RQP 10/6/23
Deepak Kumar Sahu
(RQP/DGMCG/24/2020)



APPROVED

PLATE NO.-1

TITLE	KEY PLAN
PROJECT	CHHELPHORA (BLOCK-I) DOLOMITE QUARRY
APPLICANT	M/S SHUBH MINERAL PVT. LTD.
SCALE 1:50000	PART OF TOPOSHEET NO.-64O/6 — AREA :-1.683 Hect.
VILLAGE :-CHHELPHORA	TEHSIL:-BARAMKELA
DISTRICT :-RAIGARH	STATE :-CHHATTISGARH
DATE OF SURVEY:- 15/10/2020	
PREPAIRED BY:-	

SHUBH MINERALS PVT. LTD.

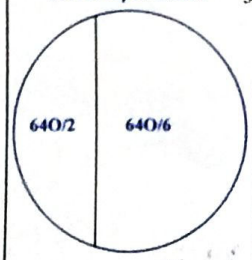
RQP. 13/1/23
Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

For - Siddharth Geo Consultants, Raipur

SCALE - 1: 50000

500m 00 0.5 1.0 1.5 km

Part of toposheet no.



INDEX
APPLIED QL BOUNDARY
5Km RADIUS OF CIRCLE
793 POPULATION
GRID

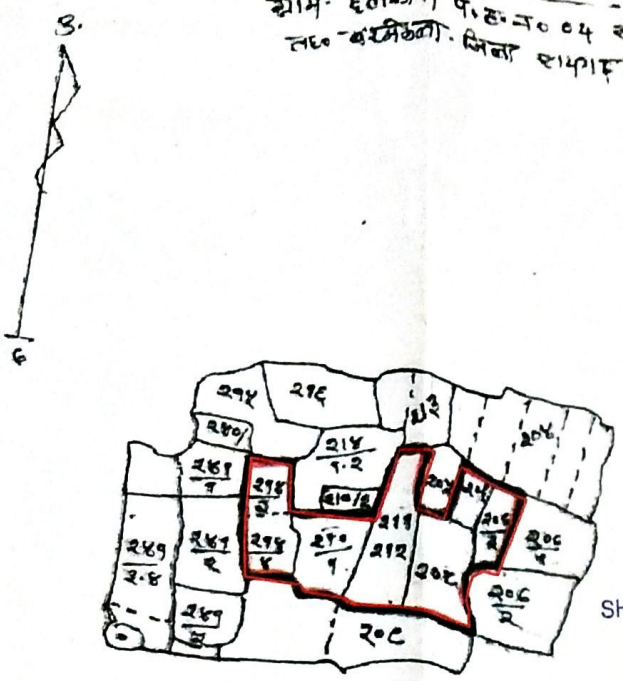


CADASTRAL PLAN

PLATE NO. - 3

नजरी नक्शा

ग्राम- हेलछोरा प.ह.नं० 04 रा.नि.म. खरिया
तह०- बरमकेला, जिला रायगढ़ (छ.ग.) वर्ष- 2017



APPROVED

SHUBH MINERALS PVT. LTD.

DIRECTOR

कटेगपानी- सिमा

ओवदीत-स्थल	रकबा
रव० नं०	
206	—
206/2	— 0.0CC
208	— 0.3C0
290/1	— 0.304
291	— 0.33C
292	— 0.4291
294/2	— 0.021
296/10	— 0.06C
कुल- 07	1-6C3 (हेक्टेयर)

श्री थरिन (पटवारी)
प.ह.नं.-04
तह. बरमकेला, जि.-रायगढ़ (छ.ग.)

उप-संचालक
(खनिज प्रशासन)
रायगढ़ (छ.ग.)

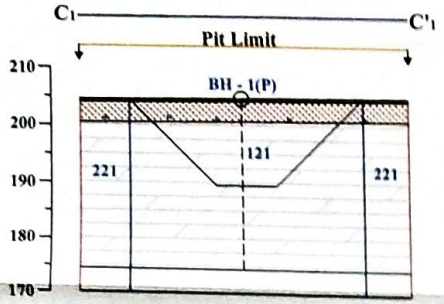
टीप:- लाल स्याही से चिन्हांकित को लीज हेतु प्रस्तावित है।

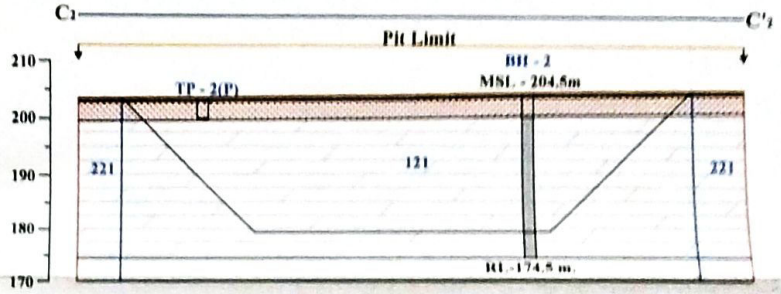
16/6/23
Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

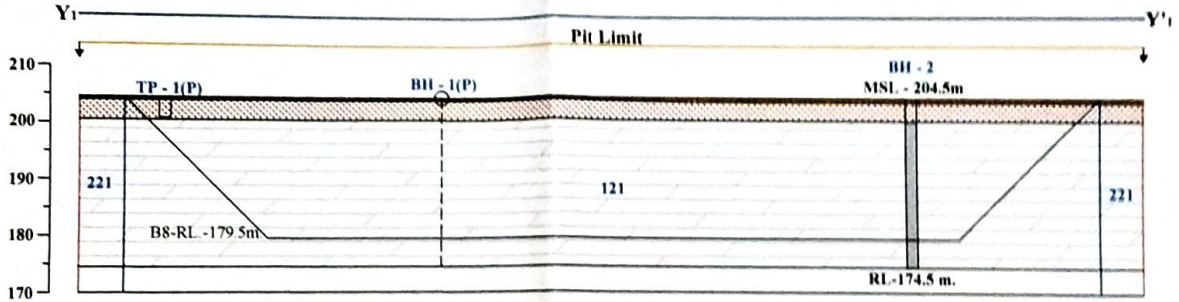
खनि अधिकारी
दाऊ, कलेक्टर रायगढ़ (छ.ग.)

सहा० निरीक्षक
रायगढ़ (छ.ग.)

संयुक्त संचालक (खनिज प्रशा.),
अन्वेषणालय कोलिखा तथा जामकर्म
बीलासपुर-रायपुर.







SCALE - 1 : 1000

00 10 20 30 40 50 60 70 80 90 100 (in meters) 150 200 250

APPROVED

PLATE NO. - 6

INDEX	
APPLIED QL BOUNDARY	SOIL COVER
BARRIER ZONE CUM UPL	LATERITIC SOIL
SECTION LINE	DOLOMITE
PIT LIMIT	121 221 CATEGORY
DRILLED BOREHOLE	
BH(P) PROJECTION OF BOREHOLE	
TP(P) PROJECTION OF TRAIL PIT	

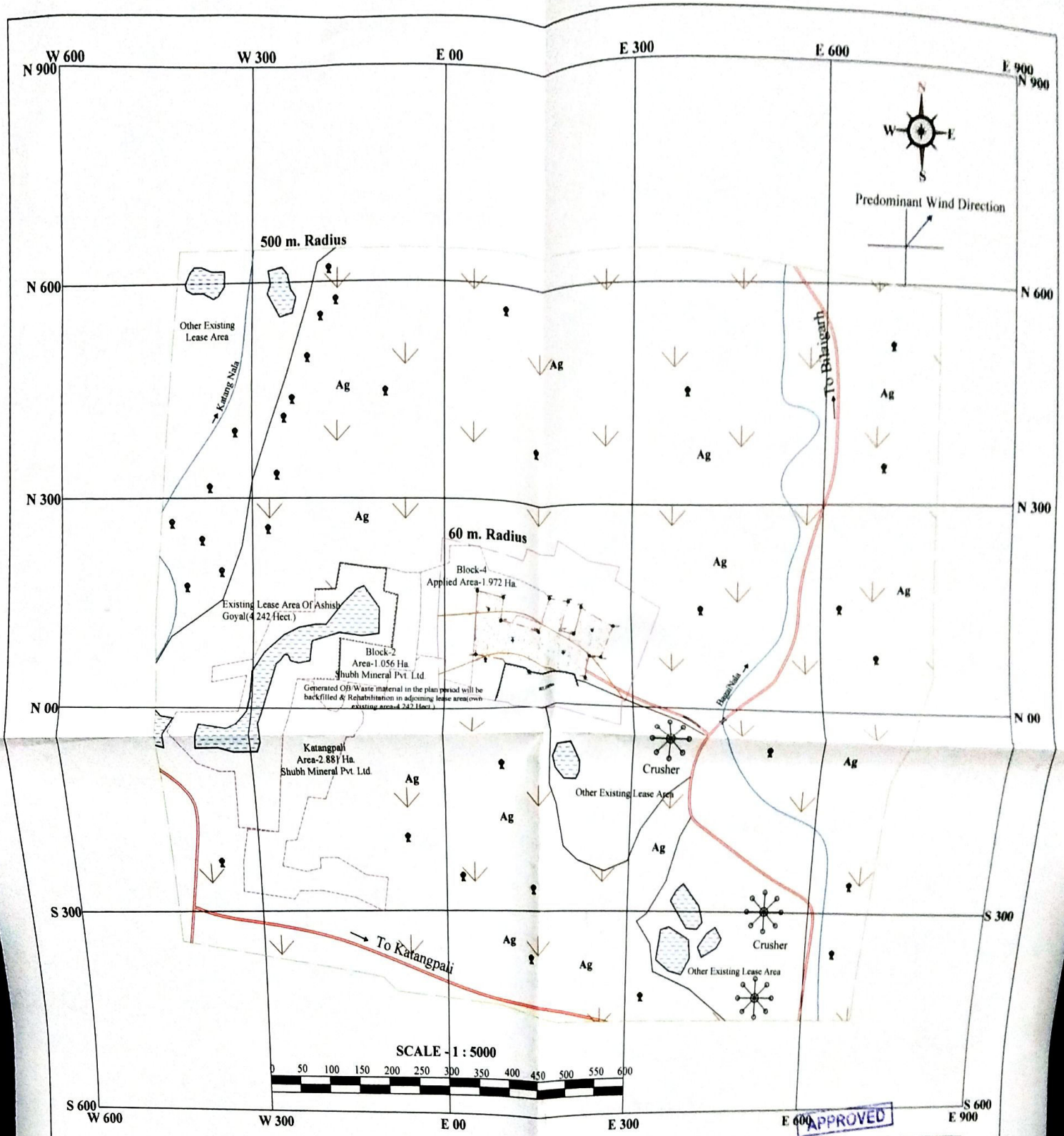
TITLE	SURFACE GEOLOGICAL SECTION
PROJECT	CHHELPHORA (BLOCK-1) DOLOMITE QUARRY
APPLICANT	M/S SHUBH MINERAL PVT. LTD.
	AREA :- 1.683 Hect.
SCALE:- 1:1000	
VILLAGE :- CHHELPHORA	TEHSIL:-BARAMKELA
DISTRICT:- RAIGARH	STATE :-CHHATTISGARH
DATE OF SURVEY:-15/10/2020	
PREPARED BY:- SHUBH MINERALS PVT. LTD.	

DIRECTOR

RQP 10/6/23

Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

For - Siddharth Geo Consultants, Raipur

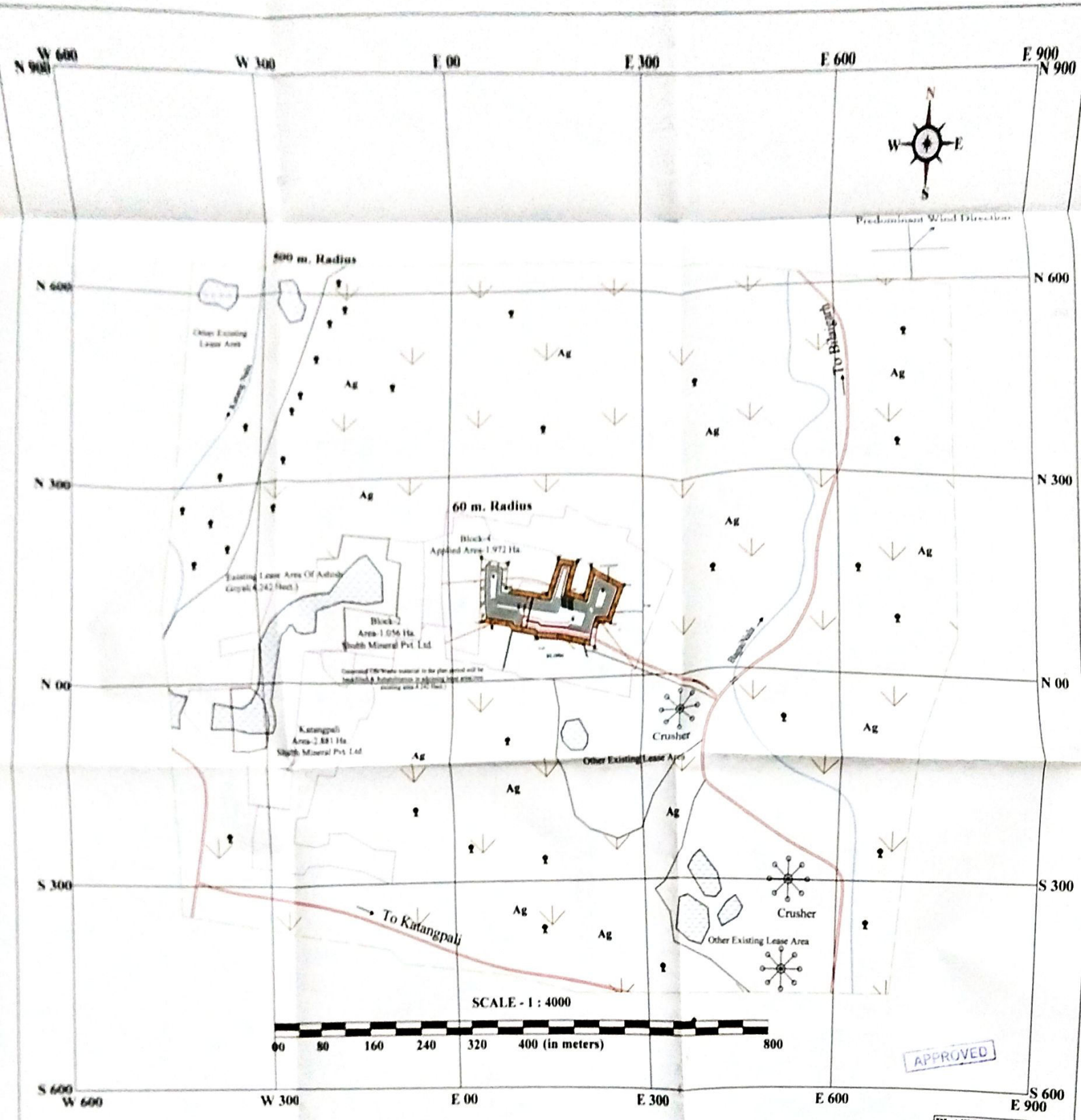


APPROVED

PLATE NO. - 9

INDEX			
APPLIED QL BOUNDARY		SOIL COVER	
BARRIER ZONE CUM UPL		AGRICULTURE LAND	
BOUNDARY PILLAR		60m RADIUS	
CONTOUR		500m RADIUS	
GRID LINE		PIT	
DRILLED BOREHOLE		CRUSHER	
TRAIL PIT (TP)		NALA	
TREE			
ROAD			

TITLE	ENVIRONMENT PLAN
PROJECT	CHHELPHORA (BLOCK-1) DOLOMITE QUARRY
APPLICANT	M/S SHUBH MINERAL PVT. LTD.
	AREA :- 1.683 Hect.
	SCALE:- 1:5000
VILLAGE :- CHHELPHORA	TEHSIL:-BARAMKELA
DISTRICT:- RAIGARH	STATE :-CHHATTISGARH
DATE OF SURVEY :-15/10/2020	
THIS IS CERTIFIED THAT, THE PLAN IS PREPARED BASED ON THE LEASE MAP AUTHENTICATED BY THE STATE GOVT.	
PREPARED BY:-	SHUBH MINERALS PVT. LTD. DIRECTOR
For - Siddharth Geo Consultants, Raipur	RQP 10/11/23 Deepak Kumar Sahu (RQP/DGMCG/24/2020)



INDEX

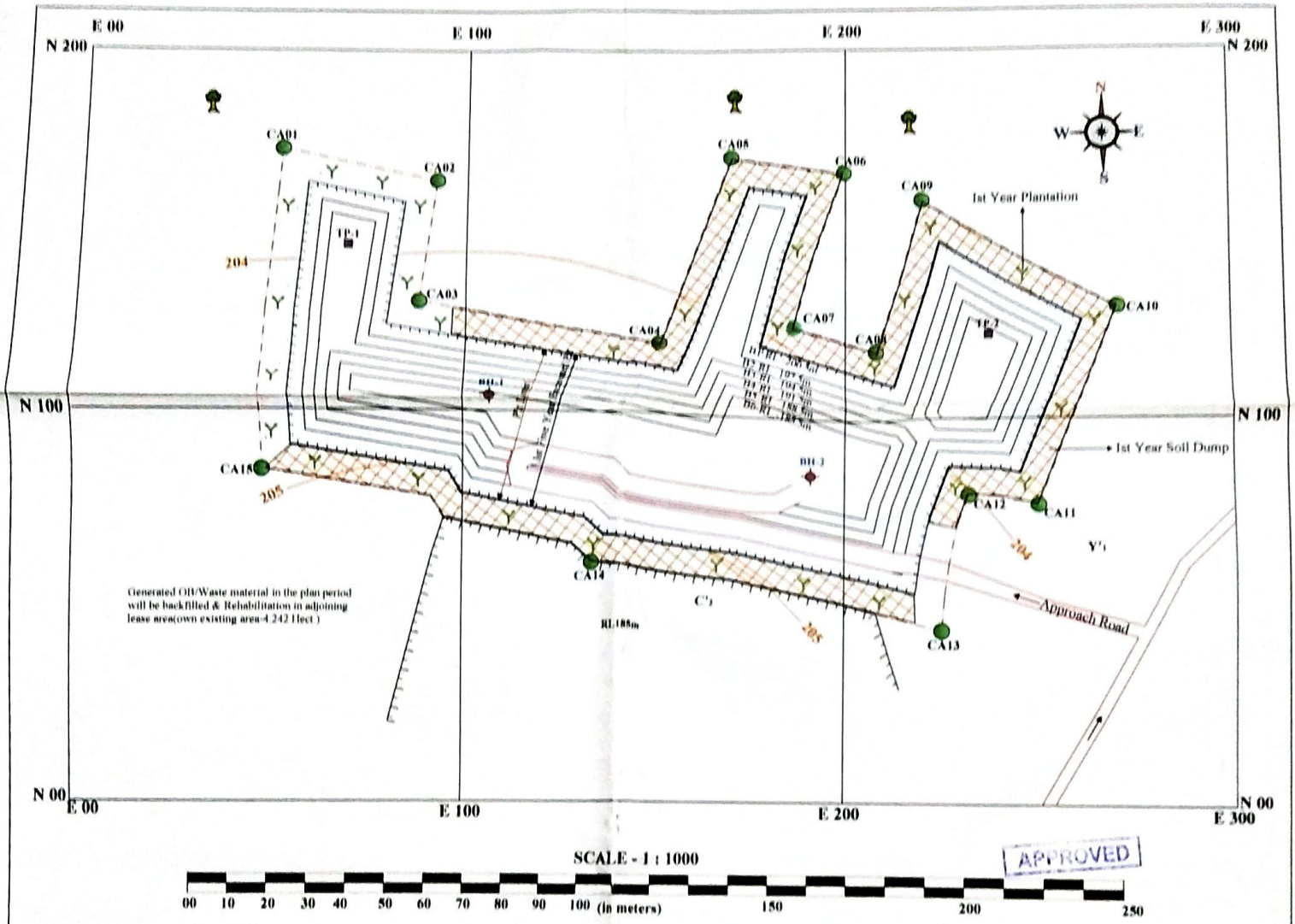
- APPLIED QL BOUNDARY
- BARRIER ZONE CUM UPL
- BOUNDARY PILLAR
- CONTOUR
- GRID LINE
- DRILLED BOREHOLE
- TRIAL PIT (TP)
- TREE
- ROAD
- SOIL COVER
- Ag AGRICULTURE LAND
- 60m RADIUS
- 500m RADIUS
- PIT
- CRUSHER
- NALA
- BACKFILLED AREA
- 1st FIVE YEAR EXCAVATED PIT
- 1st YEAR PLANTATION
- 1st YEAR SOIL DUMP

MONITORING STATION

- AIR
- NOISE
- WATER
- VIBRATION

PLATE NO. - 10

TITLE	ENVIRONMENT MANAGEMENT PLAN
PROJECT	CHHELPHORA (BLOCK-1) DOLOMITE QUARRY
APPLICANT	M/S SHUBH MINERAL PVT. LTD.
	AREA :- 1.683 Hect.
	SCALE:- 1:4000
VILLAGE :- CHHELPHORA	TEHSIL:-BARAMKELA
DISTRICT:- RAIGARH	STATE :-CHHATTISGARH
DATE OF SURVEY:-15/10/2020	
THIS IS CERTIFIED THAT THE PLAN IS PREPARED BASED ON THE LEASE MAP AUTHENTICATED BY THE STATE GOVT.	
PREPARED BY:-	SHUBH MINERALS PVT. LTD.
For - Siddharth Geo Consultants, Raipur	DIRECTOR RQP 10/6/23 Deepak Kumar Sahu



SCALE - 1 : 1000

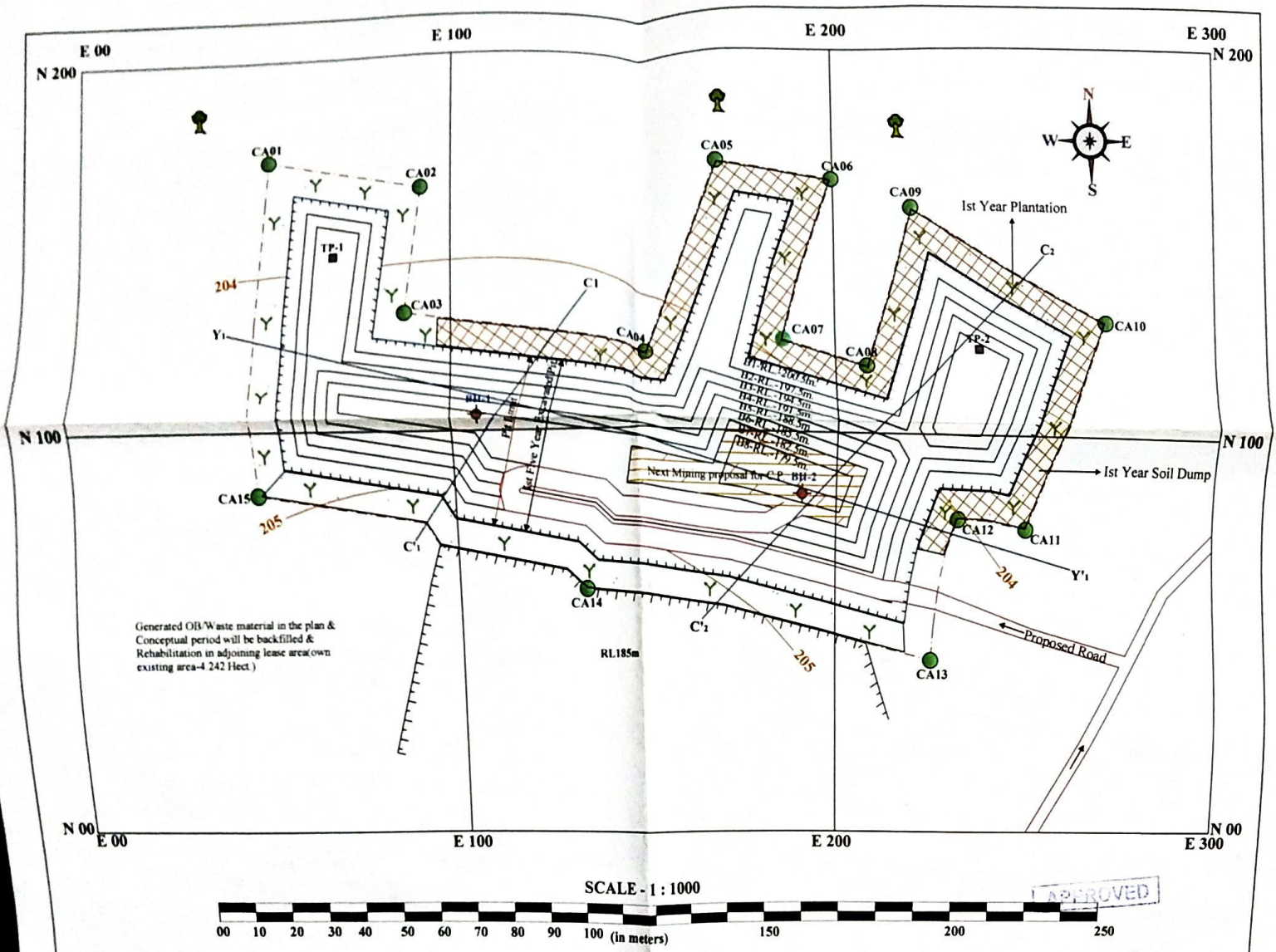
00 10 20 30 40 50 60 70 80 90 100 (in meters) 150 200 250

APPROVED

PLATE NO. -11

INDEX	
APPLIED ML BOUNDARY	SOIL COVER
BARRIER ZONE CUM UPL	1st FIVE YEAR EXCAVATED PIT
BOUNDARY PILLAR	1st YEAR PLANTATION
CONTOUR	1st YEAR SOIL DUMP
GRID LINE	
DRILLED BOREHOLE	
TRAIL PIT (TP)	
TREE	
APPROACH ROAD	

TITLE	QUARRY CLOSER PLAN
PROJECT	CHHELPHORA (BLOCK-1) DOLOMITE QUARRY
APPLICANT	M/S SHUBH MINERAL PVT. LTD.
	AREA :- 1.683 Hect.
	SCALE:- 1:1000
VILLAGE :- CHHELPHORA	TEHSIL:-BARAMKELA
DISTRICT:-RAIGARH	STATE :-CHHATTISGARH
DATE OF SURVEY:-15/10/2020	
THIS IS CERTIFIED THAT, THE PLAN IS PREPARED BASED ON THE LEASE MAP AUTHENTICATED BY THE STATE GOVT.	
PREPARED BY:-	SHUBH MINERALS PVT. LTD.
	DIRECTOR
For - Siddharth Geo Consultants, Raipur	RQP Deepak Kumar Sahu (RQP/DGMCG/24/2020) 6/6/23



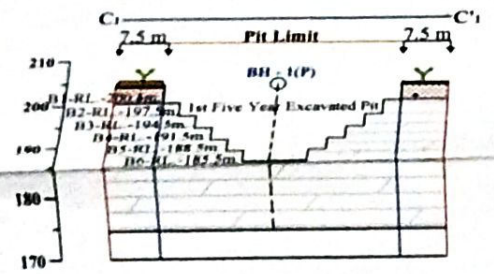
SCALE - 1 : 1000

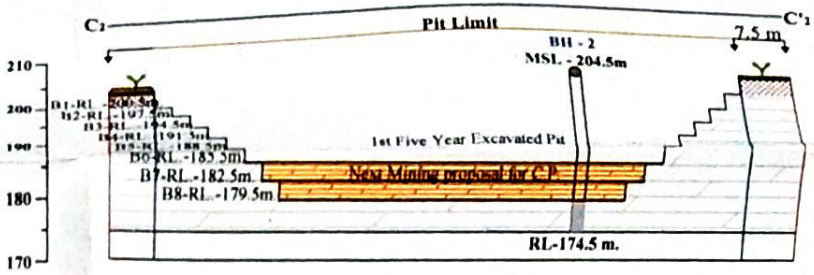
00 10 20 30 40 50 60 70 80 90 100 (in meters) 150 200 250

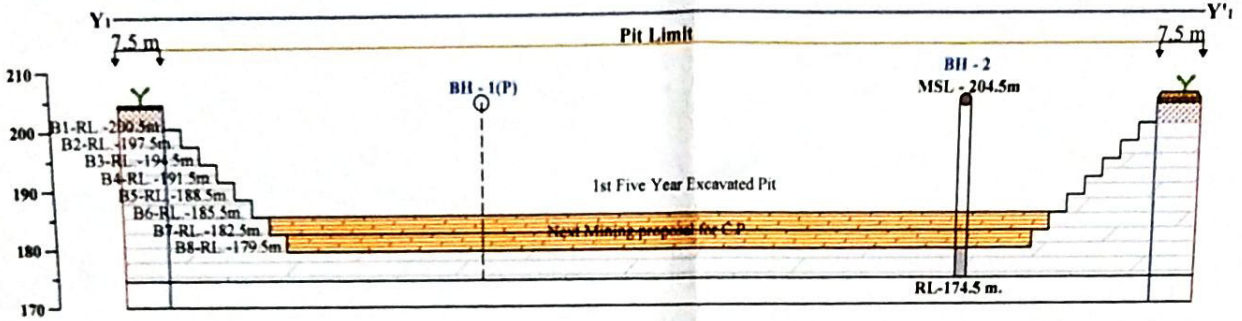
APPROVED

PLATE NO. -12

INDEX		TITLE	CONCEPTUAL PLAN
APPLIED ML BOUNDARY	SOIL COVER	PROJECT	CHHELPHORA (BLOCK-1) DOLOMITE QUARRY
BARRIER ZONE CUM UPL	1st FIVE YEAR EXCAVATED PIT	APPLICANT	M/S SHUBH MINERAL PVT. LTD.
BOUNDARY PILLAR	1st YEAR PLANTATION		AREA :- 1.683 Hect.
CONTOUR	1st YEAR SOIL DUMP		SCALE:- 1:1000
GRID LINE	NEXT MINING PROPOSAL FOR C.P.	VILLAGE :- CHHELPHORA	TEHSIL:-BARAMKELA
DRILLED BOREHOLE		DISTRICT:-RAIGARH	STATE :-CHHATTISGARH
TRAIL PIT (TP)		DATE OF SURVEY:-15/10/2020	
TREE		THIS IS CERTIFIED THAT, THE PLAN IS PREPARED BASED ON THE LEASE MAP AUTHENTICATED BY THE STATE GOVT.	
APPROACH ROAD		PREPARED BY:-	SHUBH MINERALS PVT. LTD.
			DIRECTOR
		For - Siddharth Geo Consultants, Raipur	RQP 10/6/23 Deepak Kumar Sahu (RQP/DGMCG/24/2020)







APPROVED

SCALE - 1 : 1000

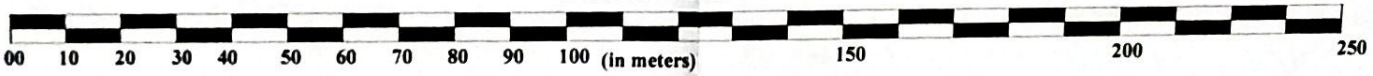
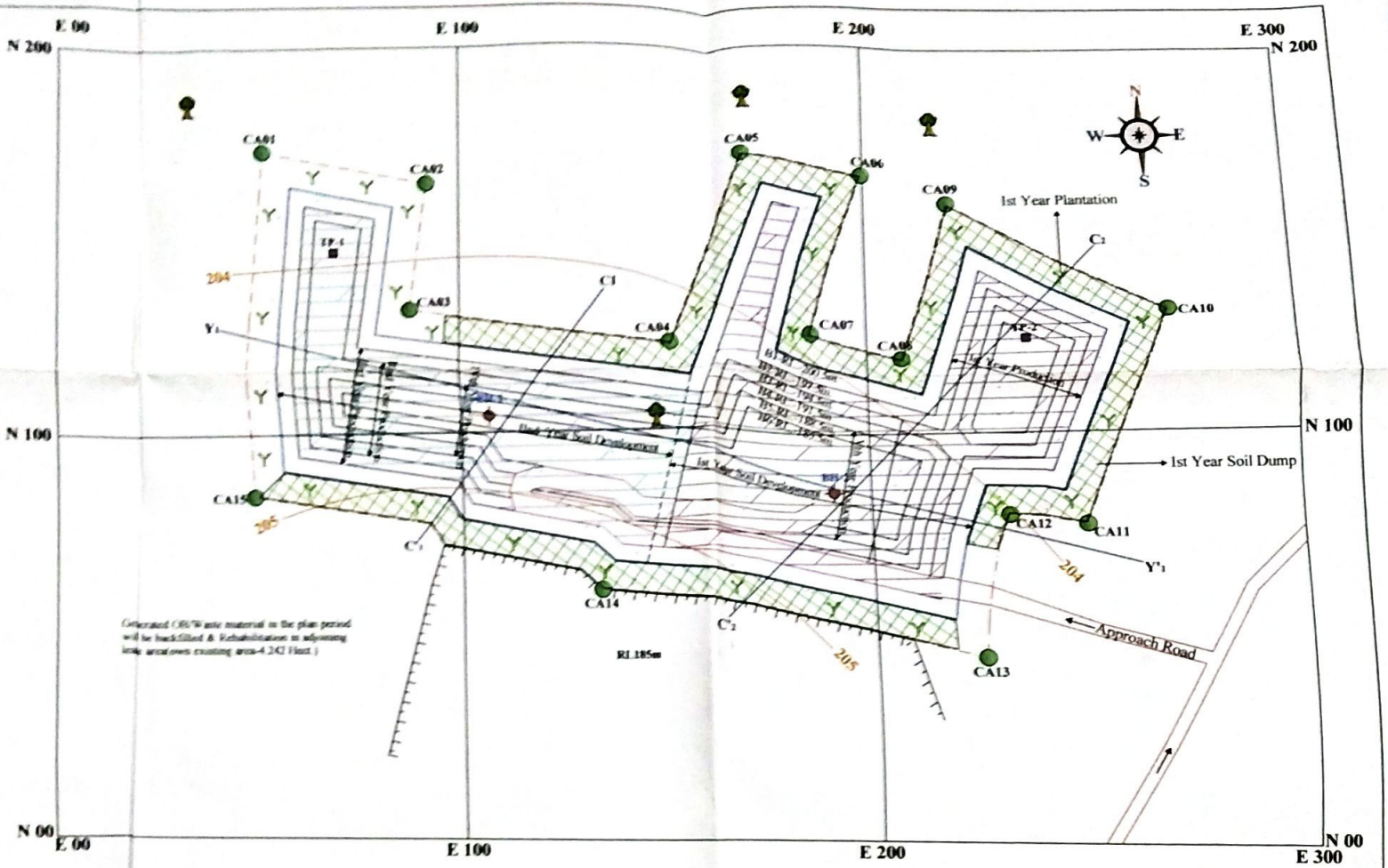


PLATE NO. - 13

INDEX		TITLE	CONCEPTUAL SECTION
APPLIED ML BOUNDARY	SOIL COVER	PROJECT	CHHELPHORA (BLOCK-1) DOLOMITE QUARRY
BARRIER ZONE CUM UPL	1st FIVE YEAR EXCAVATED PIT	APPLICANT	M/S SHUBH MINERAL PVT. LTD.
BOUNDARY PILLAR	1st YEAR PLANTATION		AREA :- 1.683 Hect.
CONTOUR	1st YEAR SOIL DUMP		SCALE:- 1:1000
GRID LINE	NEXT MINING PROPOSAL FOR C.P.	VILLAGE :- CHHELPHORA	TEHSIL:-BARAMKELA
DRILLED BOREHOLE		DISTRICT:- RAIGARH	STATE :-CHHATTISGARH
TRAIL PIT (TP)		DATE OF SURVEY:-15/10/2020	
TREE		PREPARED BY:-	
APPROACH ROAD			
SECTION LINE		For - Siddharth Geo Consultants, Raipur	RQP 10/6/23 Deepak Kumar Sahu (RQP/DGMCG/24/2020)



SCALE - 1 : 1000

00 10 20 30 40 50 60 70 80 90 100 (in meters) 150 200 250

INDEX

- APPLIED ML BOUNDARY
- BARRIER ZONE CUM UPL
- BOUNDARY PILLAR
- CONTOUR
- GRID LINE
- DRILLED BOREHOLE
- TRAIL PIT (TP)
- TREE
- APPROACH ROAD
- SECTION LINE
- SOIL COVER
- Ist YEAR PRODUCTION & SOIL DEVELOPMENT
- IInd YEAR PRODUCTION & SOIL DEVELOPMENT
- IIIrd YEAR PRODUCTION
- IVth YEAR PRODUCTION
- Vth YEAR PRODUCTION
- Ist YEAR PLANTATION
- Ist YEAR SOIL DUMP

PLATE NO. - 7

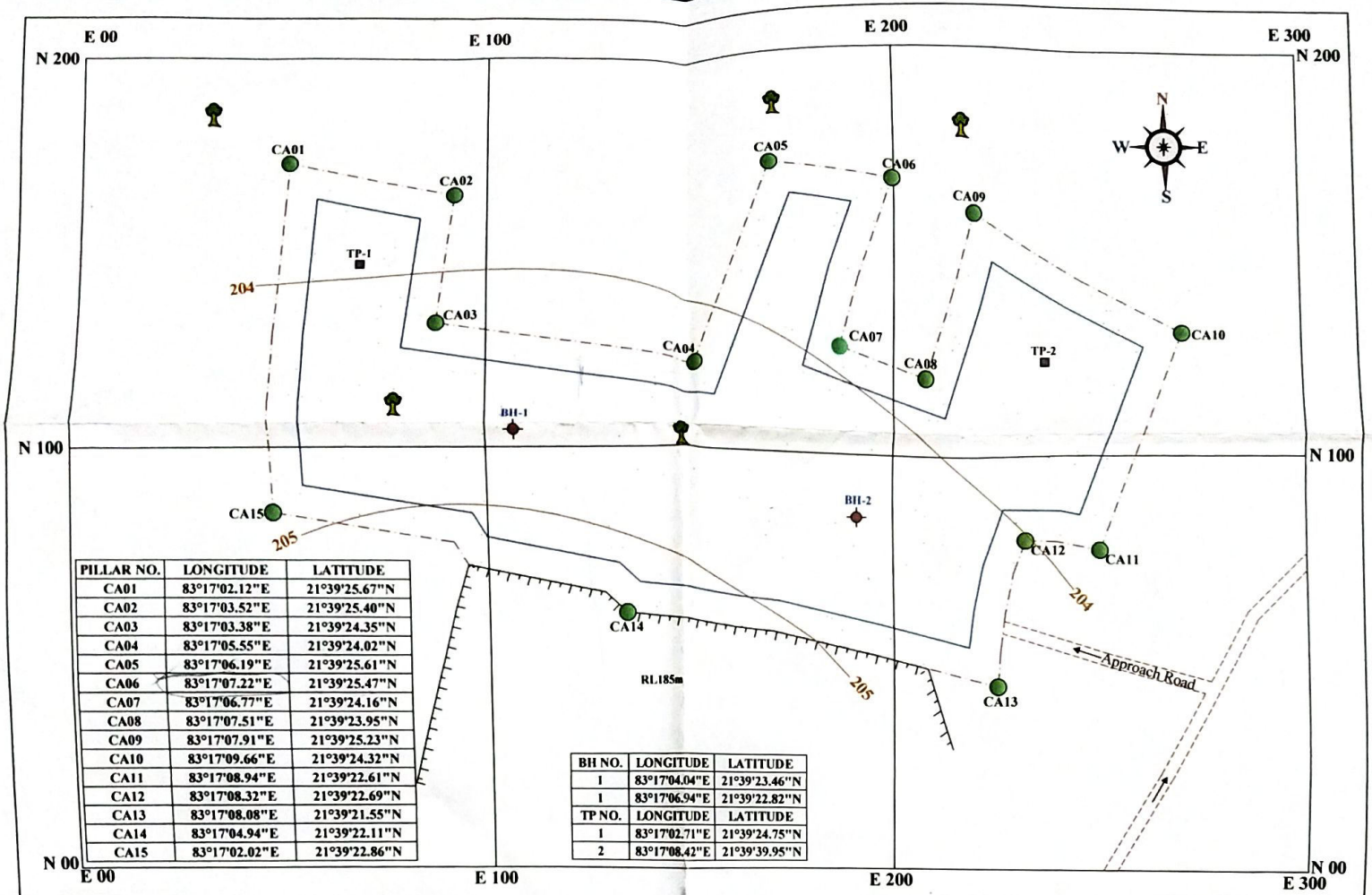
TITLE	COMPOSITE FIVE YEARS DEVELOPMENT & PRODUCTION PLAN
PROJECT	CHHELPHORA (BLOCK-1) DOLOMITE QUARRY
APPLICANT	M/S SHUBH MINERAL PVT. LTD.
	AREA :- 1.683 Hect.
	SCALE:- 1:1000
VILLAGE :- CHHELPHORA	TEHSIL:-BARAMKELA
DISTRICT:-RAIGARH	STATE :-CHHATTISGARH
DATE OF SURVEY:-15/10/2020	
THIS IS CERTIFIED THAT, THE PLAN IS PREPARED BASED ON THE LEASE MAP AUTHENTICATED BY THE STATE GOVT.	
PREPARED BY:-	SHUBH MINERALS PVT. LTD.

APPROVED
(ANURAG DIWAN)
JOINT DIRECTOR, MIN. MENGG.
DEPUTY OF GE...
CHHATTISGARH

DIRECTOR

RQP 10/6/23
Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

For - Siddharth Geo Consultants, Raipur



PILLAR NO.	LONGITUDE	LATITUDE
CA01	83°17'02.12"E	21°39'25.67"N
CA02	83°17'03.52"E	21°39'25.40"N
CA03	83°17'03.38"E	21°39'24.35"N
CA04	83°17'05.55"E	21°39'24.02"N
CA05	83°17'06.19"E	21°39'25.61"N
CA06	83°17'07.22"E	21°39'25.47"N
CA07	83°17'06.77"E	21°39'24.16"N
CA08	83°17'07.51"E	21°39'23.95"N
CA09	83°17'07.91"E	21°39'25.23"N
CA10	83°17'09.66"E	21°39'24.32"N
CA11	83°17'08.94"E	21°39'22.61"N
CA12	83°17'08.32"E	21°39'22.69"N
CA13	83°17'08.08"E	21°39'21.55"N
CA14	83°17'04.94"E	21°39'22.11"N
CA15	83°17'02.02"E	21°39'22.86"N

BH NO.	LONGITUDE	LATITUDE
1	83°17'04.04"E	21°39'23.46"N
1	83°17'06.94"E	21°39'22.82"N
TP NO.	LONGITUDE	LATITUDE
1	83°17'02.71"E	21°39'24.75"N
2	83°17'08.42"E	21°39'39.95"N

SCALE - 1 : 1000

00 10 20 30 40 50 60 70 80 90 100 (in meters) 150 200 250

PLATE NO. - 4

INDEX

- APPLIED QL BOUNDARY
- SOIL COVER
- BARRIER ZONE CUM UPL
- BOUNDARY PILLAR
- CONTOUR
- GRID LINE
- DRILLED BOREHOLE
- TRAIL PIT (TP)
- TREE
- APPROACH ROAD

APPROVED
ANURAG DIWAN
JOINT DIRECTOR (MIN. ADMIN.)
D'RATE OF GEOLOGY AND MINING,
CHHATTISGARH, RAIPUR.

TITLE	**SURFACE PLAN**
PROJECT	CHHELPHORA (BLOCK-1) DOLOMITE QUARRY
APPLICANT	M/S SHUBH MINERAL PVT. LTD.
	AREA :- 1.683 Hect.
	SCALE:- 1:1000
VILLAGE :- CHHELPHORA	TEHSIL:-BARAMKELA
DISTRICT:-RAIGARH	STATE :-CHHATTISGARH
DATE OF SURVEY:-15/10/2020	
THIS IS CERTIFIED THAT, THE PLAN IS PREPARED BASED ON THE LEASE MAP AUTHENTICATED BY THE STATE GOVT.	
PREPARED BY:-	SHUBH MINERALS PVT. LTD.

DIRECTOR

RQP 10/6/23
Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

For - Siddharth Geo Consultants, Raipur

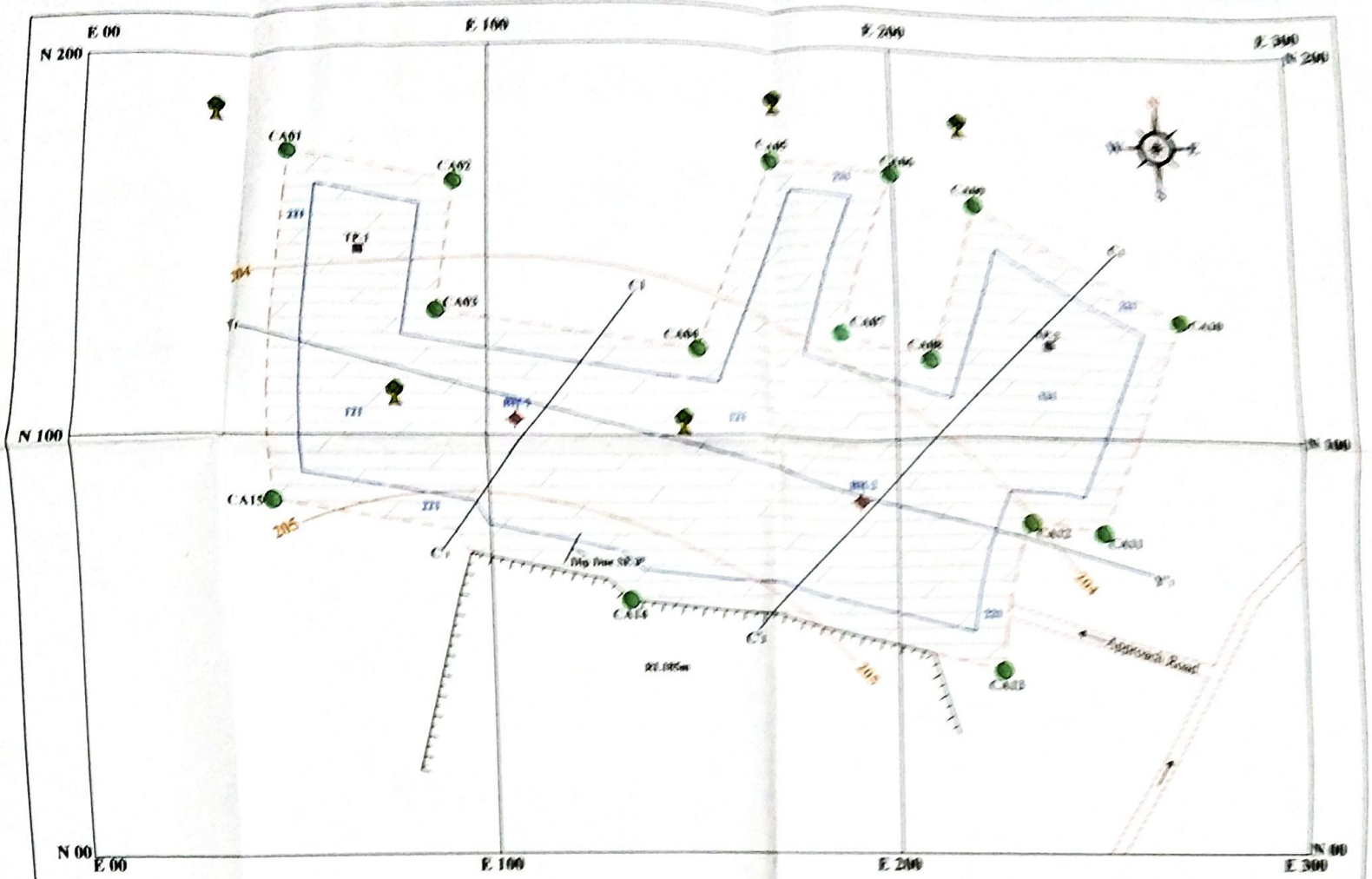


PLATE NO. - 5

INDEX

- APPLIED QL BOUNDARY
- BARRIER ZONE CUM UPL
- BOUNDARY PILLAR
- CONTOUR
- GRID LINE
- DRILLED BOREHOLE
- TRAIL PIT (TP)
- TREE
- APPROACH ROAD
- DIP & STRIKE
- SOIL COVER
- DOLOMITE
- CATEGORY
- SECTION LINE

TITLE	SURFACE GEOLOGICAL PLAN
PROJECT	CHHELPHORA (BLOCK-I) DOLOMITE QUARRY
APPLICANT	M/S SHUBH MINERAL PVT. LTD.
	AREA :- 1.683 Hect.
	SCALE:- 1:1000
VILLAGE :- CHHELPHORA	TEHSIL :-BARAMKELA
DISTRICT :-RAIGARH	STATE :-CHHATTISGARH
DATE OF SURVEY:- 15/10/2020	

THIS IS CERTIFIED THAT,
THE PLAN IS PREPARED BASED ON THE LEASE MAP AUTHENTICATED BY THE STATE GOVT.

PREPARED BY:-

APPROVED

RANJEET DHANDA
JOINT DIRECTOR (HQ. ADMN.)
DIRATE OF GEOLOGY AND MINING,
CHHATTISGARH, RAIPUR

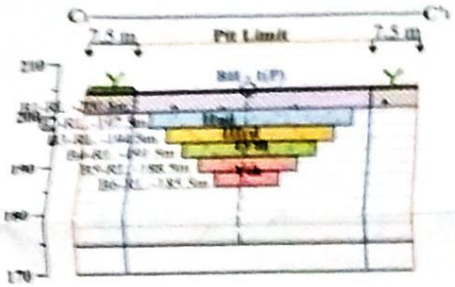
SHUBH MINERALS PVT. LTD.

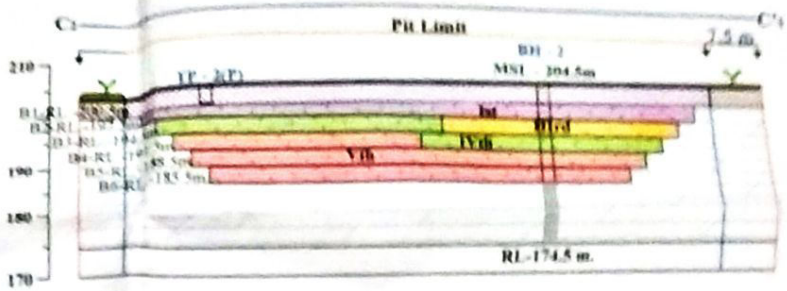
DIRECTOR

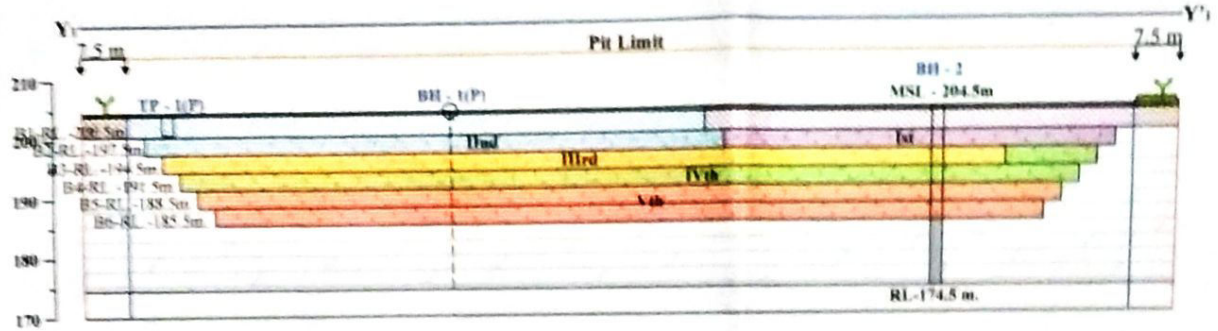
For - Siddharth Geo Consultants, Raipur

RQP 15/6/23

Deepak Kumar Sahu
(RQP/DGM/CG/24/2020)







SCALE - 1 : 1000

00 10 20 30 40 50 60 70 80 90 100 (in meters) 150 200 250

PLATE NO. - 8

INDEX

- APPLIED ML BOUNDARY
- BARRIER ZONE CUM UPL
- BOUNDARY PILLAR
- CONTOUR
- GRID LINE
- DRILLED BOREHOLE
- TRAIL PIT (TP)
- TREE
- APPROACH ROAD
- SECTION LINE
- SOIL COVER
- Ist YEAR PRODUCTION & SOIL DEVELOPMENT
- IInd YEAR PRODUCTION & SOIL DEVELOPMENT
- IIIrd YEAR PRODUCTION
- IVth YEAR PRODUCTION
- Vth YEAR PRODUCTION
- Ist YEAR PLANTATION
- Ist YEAR SOIL DUMP

APPROVED
ANUPAM DIWAN
JOINT DIRECTOR, MINES
DIRECTORATE OF GEOLOGY AND MINING
CHHATTISGARH, RAIPUR

TITLE	COMPOSITE FIVE YEARS DEVELOPMENT & PRODUCTION SECTION
PROJECT	CHHELPHORA (BLOCK-1) DOLOMITE QUARRY
APPLICANT	M/S SHUBH MINERAL PVT. LTD.
	AREA :- 1.683 Hect.
SCALE :- 1:1000	
VILLAGE :- CHHELPHORA	TEHSIL :-BARAMKELA
DISTRICT :- RAIGARH	STATE :-CHHATTISGARH
DATE OF SURVEY :-15/10/2020	
PREPARED BY :- SHUBH MINERALS PVT. LTD.	

DIRECTOR

RQP
Deepak Kumar Sahu
(RQP/DGMCG/24/2020)

For - Siddharth Geo Consultants, Raipur

जिला खनिज कार्यालय
रायगढ़ (छ.ग.)
TR / DD (M)
14 OCT 2019

By Speed post

छत्तीसगढ़ शासन
खनिज साधन विभाग
मंत्रालय
महानदी भवन, नवा रायपुर अटल नगर–492002

क्रमांक एफ् 2–6 / 2018 / 12, अटल नगर, दिनांक अक्टूबर, 2019

प्रति,

मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड
पार्टनर श्री रजनीश कुमार अग्रवाल,
निवासी गोयल ऑटोमोबाईल,
जिन्दल रोड़ जगतपुर,
रायगढ़(छत्तीसगढ़)

विषय :– ई–ऑक्शन–जिला रायगढ़, तहसील बरमकेला, ग्राम छैलफोरा(ब्लॉक–1) के कुल रकबा 1.683 हेक्टर क्षेत्र पर खनिज डोलोमाईट की समेकित अनुज्ञप्ति(Composite License) स्वीकृति हेतु आशय पत्र(Letter of Intent)बाबत–मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड।

संदर्भ :– टेंडर क्रमांक MSTC/RPR/DGM, CHHATTISGARH/75/NAYA RAIPUR/18-19/14919, दिनांक 28.09.2018 एवं विभागीय समसंख्यक पत्र दिनांक 18.07.2019.

———00———

कृपया संदर्भित पत्रों का अवलोकन करें। छत्तीसगढ़ गौण खनिज नियम, 2015(यथासंशोधित) के अनुसरण में छत्तीसगढ़ शासन, खनिज साधन विभाग द्वारा जिला रायगढ़, तहसील बरमकेला, ग्राम छैलफोरा(ब्लॉक–1) के खसरा क्रमांक 206, 207/3, 208, 210/1, 211, 212, 214/3, 214/4 के कुल रकबा 1.683 हेक्टर क्षेत्र पर खनिज डोलोमाईट के कंपोजिट लाईसेंस स्वीकृति हेतु संदर्भित टेंडर दिनांक 28.09.2018 को जारी किया गया। छत्तीसगढ़ गौण खनिज नियम, 2015 के नियम 9(2)(d)(ix) एवं टेण्डर शर्त क्रमांक 5.5.9 अंतिम प्रोविसो के अनुक्रम में फाईनल बिड प्राईस(अधिकतम अंतिम कीमत प्रतिस्थापना) आपसे प्राप्त 20.51 प्रतिटन को स्वीकार करते हुए विभागीय समसंख्यक आदेश दिनांक 18.07.2019 द्वारा आपको Preferred Bidder घोषित किया गया है। जिसके अनुपालन में आपके द्वारा छत्तीसगढ़ गौण खनिज नियम, 2015(यथासंशोधित) के नियम 13(2) एवं (3) अनुसार 03 वर्ष की कालावधि के लिए कार्यपालन प्रतिभूति के रूप में राशि रूपये 3,75,000/–(तीन लाख पचहत्तर हजार रूपये मात्र) की बैंक गारंटी जमा किया गया है। जिसकी वैधता दिनांक 29.07.2022 तक है।

2/ अतएव उपरोक्त के परिप्रेक्ष्य में मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड के पक्ष में छत्तीसगढ़ गौण खनिज नियम, 2015(यथासंशोधित) के नियम 10(1) के प्रावधानों के तहत जिला रायगढ़, तहसील बरमकेला, ग्राम छैलफोरा(ब्लॉक–1) के खसरा क्रमांक 206, 207/3, 208, 210/1, 211, 212, 214/3, 214/4 के कुल रकबा 1.683 हेक्टर क्षेत्र(नक्शे में चिन्हित क्षेत्र अनुसार) पर खनिज डोलोमाईट की समेकित अनुज्ञप्ति(Composit Licence) स्वीकृति हेतु खान एवं खनिज(विकास एवं विनियमन) अधिनियम, 1957 सहपठित छत्तीसगढ़ गौण खनिज नियम, 2015(यथासंशोधित) अधिसूचित नियमों, जारी टेंडर में उल्लिखित प्रावधानों एवं निम्नलिखित

.....2

शर्तों के अधीन राज्य शासन एतद् द्वारा यह आशय पत्र(Letter of Intent) जारी करता है :–

2.1 आपको 'अधिमानी बोलीदार'(Preferred Bidder) नामित किया गया है एवं तदनुसार समस्त प्रावधानों एवं नियमों के संतोषजनक पूरा करने के पश्चात् समेकित अनुज्ञप्ति(Composite License) स्वीकृत किया जावेगा। उक्त समेकित अनुज्ञप्ति हेतु आशय पत्र(Letter of Intent) एवं तदनुसार समेकित अनुज्ञप्ति की स्वीकृति, इस हेतु बनाए गए अधिनियमों एवं नियमों तथा समय–समय पर होने वाले संशोधनों के अधीन होगी।

2.2 आपको 'अधिमानी बोलीदार'(Preferred Bidder) नामित किये जाने तथा तदुपरान्त समेकित अनुज्ञप्ति की स्वीकृति हेतु वांछित अर्हताएं, अधिनियम अथवा नियनों में किसी भी प्रकार के संशोधन की स्थिति में संशोधित अधिनियम अथवा नियमों के अंतर्गत वांछित अर्हताएं, जो भी हो लागू होंगे ।

2.3 आपके द्वारा सभी निबंधनों और शर्तों का पालन किया जाना आवश्यक होगा।

2.4 आपके द्वारा समेकित अनुज्ञप्ति(Composite License) के संबंध में सभी सहमतियों अनुमोदन, अनुज्ञापत्रों, अनापत्तियों और वैसे ही अन्य दस्तावेजों को जो पूर्वेक्षण संबंधी संक्रियाओं को प्रारंभ करने संबंधी लागू विधियों के अधीन अपेक्षित हो, अभिप्राप्त कर प्रस्तुत किया जावेगा।

2.5 आपके द्वारा निजी भूमि के लिए भूमि स्वामी की सहमति प्रस्तुत किया जावेगा।

2.6 आपके द्वारा पूर्वेक्षण की स्कीम प्रस्तुत किया जावेगा।

2.7 आपके द्वारा ऐसी अन्य शर्तों का, जो राज्य सरकार केन्द्रीय सरकार के पूर्व अनुमोदन से विनिर्दिष्ट करें, समाधान किया जावेगा ।

उपरोक्त शर्तो के पालन उपरांत ही आपको 'सफल बोलीदार'(Successful Bidder) मान्य किया जाएगा।

3/ आशय पत्र(Letter of Intent) जारी होने की तिथि से वन भूमि के संबंध में एक वर्ष तथा गैर वन भूमि के संबंध में छः माह के भीतर उप–नियम(2) में विनिर्दिष्ट शर्तों को पूरा करने में विफल रहने पर आशय पत्र को स्वमेव निरस्त मान्य किया जायेगा और 'अधिमानी बोलीदार'(Preferred Bidder) द्वारा प्रस्तुत की गयी कार्यपालन प्रतिभूति राजसात किया जा सकेगा।

4/ इस आशय पत्र(Letter of Intent) से आपको उपर्युक्त समेकित अनुज्ञप्ति क्षेत्र पर पूर्वेक्षण संक्रियायें संपादित करने का अधिकार तब तक प्राप्त नहीं होगा, जब तक कि उपरोक्त पैरा–2 में उल्लिखित शर्तो की पूर्ति होने पर स्वीकृति आदेश जारी नहीं किया जाता है।

संलग्न :– नक्शा।

छत्तीसगढ़ के राज्यपाल के नाम से
तथा आदेशानुसार,

(कुन्दन कुमार बंजारे)
अवर सचिव
छत्तीसगढ़ शासन
खनिज साधन विभाग

.....3

पृष्ठांक एफ 2–6/2018/12, नवा रायपुर, दिनांक 09 OCT 2019 अक्टूबर, 2019

प्रतिलिपि :–

1. उप खान नियंत्रक, भारतीय खान ब्यूरो, क्षेत्रीय कार्यालय, विधानसभा के पास महालेखाकार भवन परिसर, रायपुर(छत्तीसगढ़)
2. संचालक, संचालनालय भौमिकी तथा खनिकर्म, छत्तीसगढ़, द्वितीय तल, ब्लॉक–4, इन्द्रावती भवन, नवा रायपुर(छत्तीसगढ़)
3. सदस्य सचिव, राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण, पर्यावास भवन, सेक्टर–19, नवा रायपुर अटल नगर(छत्तीसगढ़)
4. कलेक्टर, जिला रायगढ़(छत्तीसगढ़) ।

की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु अग्रेषित।

5. गार्ड फाईल रजिस्टर।

09/10/19

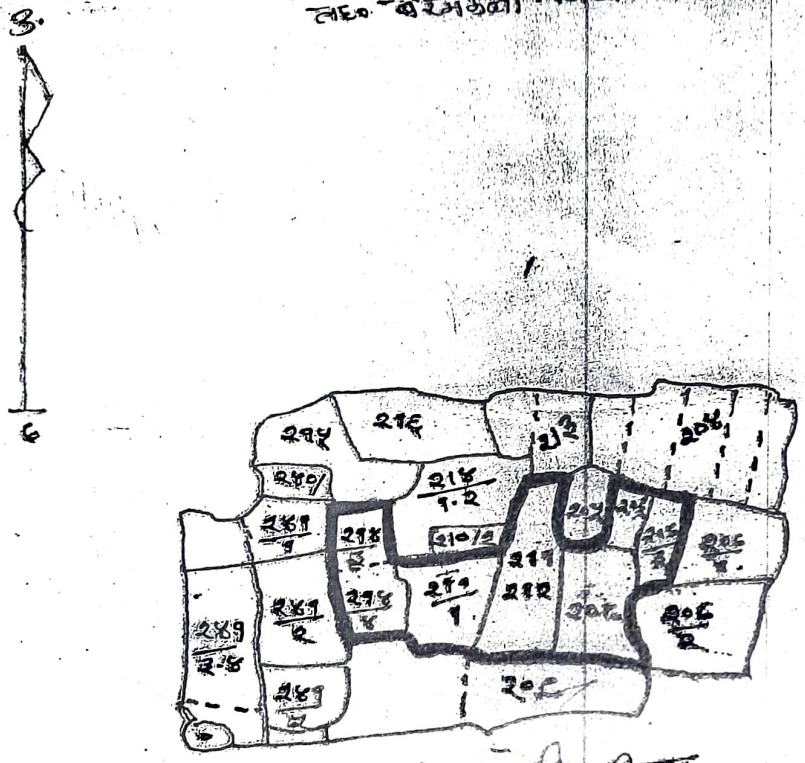
अवर सचिव
छत्तीसगढ़ शासन
खनिज साधन विभाग

E:\Ninja recovery\Assigned\2-6-2018 Shubh Minerals.doc(P.Ninja)

नजरी नक्शा

ग्राम- हैलफोरा प.ह.नं० 04 व.वि.म. सरिया
त.ह०- बरमकेला जिला रायगढ़ (छ.ग.) वर्ष- 2017

उ.



कटावणी- सिमा

आवेदित-रकबा

खसरा नं०	रकबा
208	0.088
206/2	0.320
208	0.304
210/1	0.328
211	0.424
212	
214/2	0.081
214/5	0.266
कुल- 08	1.663 (हेक्टेयर)

ऋषि यादव (पटवारी)
प.ह.नं.-04
त.ह.बरमकेला,जि.-रायगढ़ (छ.ग.)

उप-संचालक
(खनिज प्रशासन)
रायगढ़(छ.ग.)

टीप:- लाल स्याही से चिन्हांकित क्षेत्र लीज हेतु प्रस्तावित है।

खनि अधिकारी
वास्ते, कलेक्टर रायगढ़ (छ.ग.)

उप निरीक्षक
रायगढ़(छ.ग.)

संयुक्त संचालक (खनिज प्रशा.),
संचालनालय,भौमिकी तथा खनिकर्म,
छत्तीसगढ़-रायपुर.

कार्यालय, ग्राम पंचायत—नौघटा, ज.प.—बरमकेला, जिला रायगढ़ (छ.ग.)

ग्राम पंचायत बैठक कार्यवाही पंजी की सत्यप्रतिलिपि

दिनांक	उपस्थित पंचों के नाम	विषय	कार्यवाही विवरण	प्रस्ताव जो पारित किया गया	उप. पंचों हस्ता., सही
1	2	3	4	5	6
	(1) श्री गजपति उनसेना (सरपंच) (2) श्रीमती जेमा पटेल (उपसरपंच) (3) श्री लक्ष्मी प्रसाद (पंच) (4) श्री खगेश्वर (पंच) (5) श्री नंगालू (पंच) (6) श्री देवानंद (पंच) (7) श्री दिनकर (पंच) (8) श्रीमती बेदमती (पंच) (9) श्रीमती रामकुंवर (पंच) (10) श्रीमती सुशीला (पंच) (11) श्रीमती सुकुमारी (पंच) (12) श्रीमती सत्यवती (पंच) (13) श्रीमती बसंती (पंच) (14) श्रीमती खिलेश्वरी (पंच)	प्र.पं.क्र.-07 मंगल मेटल पार्टनर महेश कुमार गर्ग फिर्म सुभाष कुमार गर्ग के NOC हेतु प्राप्त आवेदन के संबंध में।	आज दिनांक 21/03/2016 को ग्राम पंचायत नौघटा में ग्रा.पं. सामान्य बैठक का आयोजन किया गया जिसके अध्यक्षता सरपंच श्री गजपति उनसेना द्वारा किया गया। जिसमें उपस्थित (1 से 14) को महेश कुमार का आवेदन पढ़ कर सुनाया गया कि मंगल मेटल पार्टनर को (1) डोलोमाइट खनन, (2) ब्रेशर लगाने हेतु अपने हैलफोरा स्थित जमीन खसरा नं. 206, 207/2, 208, 210/1, 211, 212, 214/3, 214/4, 242, 242/2, 243/3, 244/2, 245/1, 245/2, 246/1, 246/2, 248/1, 248/2, 249/2 एवं 252/1 के कुल रकबा 2.739 है. में (1) डोलोमाइट पत्थर उत्खनन एवं क्रेशर लगाने (2) बिजली कनेक्शन हेतु (3) डायनामाईट हेतु (4) अस्थाई भंडारण हेतु ग्राम पंचायत को किसी प्रकार का कोई आपत्ति नहीं है। अतः इन सभी कार्यों के लिए आपत्ति नहीं तथा अनापत्ति प्रमाण पत्र जारी करने हेतु प्रस्ताव पारित कर अनुमोदन किया गया।	यह प्रस्ताव सर्व उप. सदस्यों की राय से पारित हुआ।	01 14 तक सही

ग्राम पंचायत नौघटा
ग्राम पंचायत नौघटा
ज.पं. बरमकेला जि. रायगढ़ (छ.ग.)

सरपंच 21/3/16
ग्राम पंचायत – नौघटा
ज.पं. बरमकेला, जि. रायगढ़ (छ.ग.)

कार्यालय कलेक्टर (खनिज शाखा) सारंगढ़-बिलाईगढ़ छ.ग.

क्रमांक 125 /ख.लि.–02/2023 सारंगढ़ दिनांक 16/06/2023

प्रमाण–पत्र

प्रमाणित किया जाता है कि मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड, डाय. श्री प्रतीश कुमार गोयल, निवासी गोयल ऑटोमोबाईल, जिंदल रोड, जगतपुर, रायगढ़ (छ.ग.) के पक्ष में जिला सारंगढ़–बिलाईगढ़, तहसील बरमकेला के ग्राम छैलफोरा (ब्लॉक–1) के खसरा क्र. 206, 207/3, 208, 210/1, 211, 212, 214/3 एवं 214/4 के रकबा 1.683 हेक्टेयर क्षेत्र पर खनिज डोलोमाईट उत्खननपट्टा स्वीकृति हेतु 200 मीटर की परिधि में स्थित सार्वजनिक स्थलों जैसे– रोड, पुल, रेललाईन, नहर, बांध एनीकट, भवन, स्कूल, हॉस्पिटल, मंदिर, मस्जिद, गुरूद्वारा, मरघट, दार्शनिक स्थल एवं प्राकृतिक संरचनाएं जैसे – नदी, नाला, इत्यादि की जानकारी निम्नानुसार है :–

क्र.	सार्वजनिक स्थलों का नाम	क्षेत्र से दूरी (मीटर में)
निरंक		

15/06/2023

प्रभारी खनि अधिकारी
जिला सारंगढ़–बिलाईगढ़ (छ.ग.)

सारंगढ बिलाईगढ जिले में विद्यमान गौण खनिज डोलोमाईट खदानों की जानकारी

क्र	आवेदक का नाम व पता	ग्राम एवं तहसील	खसरा नम्बर	रकबा (हेक्ट. में)	जारी एल. ओ. आई. दिनांक	दुरी मीटर में
1	मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड प्रो. प्रतीश कुमार गोयल निवासी – जगतपुर, ढिमरापुर रोड, रायगढ जिला रायगढ़ (छ.ग.)	(ब्लांक–1) छैंलफोरा , तहसील बरमकेला	206, 207/3, 208, 210/1, 211, 212, 214/3, 214/4	1.683	07,04.2022	आवेदित खदान से दुरी मापी गई है।
2	मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड डायरेक्टर प्रतीश कुमार गोयल निवासी – जगतपुर, ढिमरापुर रोड, रायगढ जिला रायगढ़ (छ.ग.)	(ब्लांक–2) छैलफोरा , तहसील बरमकेला	242/1, 242/2, 243, 244/2. 245/1, 245/2, 246/1, 246/2, 248/1, 248/2, 249/2, 252/1	1,056	08,04.2022	84
3	मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड डायरेक्टर प्रतीश कुमार गोयल निवासी – जगतपुर, ढिमरापुर रोड, रायगढ जिला रायगढ़ (छ.ग.)	कटंगपाली, , तहसील बरमकेला	9/1क, 9/1ख, 9/1ग, 9/1घ, 10/2क, 10/2ख, 10/2ग, 10/2घ, 12/1, 12/2, 12/3, 17/1क, 17/2, 18/2, 28/2	2.881	07,04.2022	135
4	मेसर्स विनायक मिनरल्स प्रो. आनन्द कुमार गोयल निवासी – दुर्गा राइस मिल, बाई पास रोड रायगढ जिला रायगढ़ (छ.ग.)	ग्राम जोतपुर तहसील बरमकेला	46/2, 57/1, 57/2, 57/3, 58/1, 58/2, 59/1, 59/2, 59/3, 61, 62, 62/2, 62/3, 63/1, 63/3, 73/2क, 73/2ख, 74/1, 74/2, 75/1, 75/2, 75/3, 76/1, 76/3, 76/2, 81, 82/2, 87/3क, 87/3घ, 87/3ङ, 89	4.801	11.04.2023	290
5	मेसर्स श्री मंगल मेटल पार्टनर प्रतीश कुमार गोयल निवासी – जगतपुर, ढिमरापुर रोड, रायगढ जिला रायगढ़ (छ.ग.)	(ब्लांक–4) छैंलफोरा , तहसील बरमकेला	214/1/क, 214/1/ख, 214/1/ग, 214/1/ङ, 215, 240, 240/283, 241/1, 241/2, 241/3, 241/5, 241/6	1.927	समेकित अनुज्ञप्ति 21,02,2022	0
क्र	**पट्टेदार का नाम व पता**	**ग्राम एवं तहसील**	**खसरा नम्बर**	**रकबा (हेक्ट. में)**	**अवधि (दिनांक ..... से ..... तक)**	**दुरी मीटर में**
1	श्री आशीष गोयल आत्मज स्व. श्री हरिकिशन गोयल निवासी जगतपुर रायगढ, जिला रायगढ़ (छ.ग.)	छैलफोरा एवं कटंगपाली, तहसील बरमकेला	2/1, 2/2, 2/5, 4–5–6/2, 10/1, 10/4, 244/1, 244/3, 249/1, 250/2, 252/2, 251/1 ख, 253/1, 3, 250/3, 250/4 एवं 282/2 ग	4.242	24.12.2009 से 23.12. 2029	135
2	मेसर्स बालाजी माईन्स एण्ड मिनरल्स पार्ट श्री राजकुमार अग्रवाल निवासी बोन्दा तहसील सारंगढ़ जिला – रायगढ़ (छ.ग.)	ग्राम जोतपुर तहसील बरमकेला	68/1, 68/3,69/2, 70,80, 84/1, 84/2क, 82/ख, 85/1, 85/3क, 87/3 ख, 91/1–91/1, 92/2–92/2, 92/3, 92/4, 93/1क, 93/1ख, 93/1 ग, 93/1 द, 93/1च, 93/1छ, 93/1ज, 93/1झ, 93/2क, 93/2 झ., 94/4, 95/5	4.260	23.02.2018 से 22.02. 2068	360

खनि अधिकारी
जिला- सारंगढ-बिलाईगढ (छ.ग.)

3	श्री राजेश अग्रवाल आत्मज श्री जयनारायण अग्रवाल, निवासी सरिया तहसील बरमकेला जिला रायगढ़ (छ.ग.)	ग्राम साल्हेओना एवं बिलाईगढ़, तहसील बरमकेला	1155/13, 1155/14, 1155/15, 1155/16 एवं 1155/17	4.813	27.10.2016 से 26.10. 2066	500
4	मेसर्स अग्रसेन माईन्स एण्ड मिनरल्स, पार्ट सर्व श्री नीरज अग्रवाल, सुभाष अग्रवाल एवं अशोक अग्रवाल निवासी सत्तीगुड़ी चौक रायगढ़, जिला रायगढ़ (छ.ग.)	ग्राम जोतपुर, तहसील बरमकेला	86/2, 87/3च से 87/3ञ 87/3ख, 87/3ग, 94/1 से 3, 95/1 से 4, 87/2, 87/3, 102/2, , 103/1, 103/2, 103/3 एवं 103/4	4.592	04.12.2012 से 03.12. 2042	554
5	मेसर्स रायगढ़ मिनरल्स प्रा. लिमिटेड प्रो. श्री कमल शर्मा निवासी खरसिया जिला रायगढ़ (छ.ग.)	ग्राम बिलाईगढ़, तहसील बरमकेला	587,588,589,592,321/2,321/14, 576/1, 576/2, 576/3, 577 ख, 578/2, 579/1, 579/2, 579/3, 581/1–583/2क, 581/1–583/2ख, 581/1–583/3क, 583/4, 583/5, 584/1, 584/4, 585/1, 593/1, 593/6, 593/7 एवं 599/2	4.659	22.03.2017 से 21.03. 2067	580
6	मेसस जेब्रा इन्टरप्राईजेस प्रा.लि. डाय. अमित अग्रवाल आ. बालमुकुन्द अग्रवाल, निवासी जगदम्बा विला रायगढ जिला रायगढ (छ.ग.)	ग्राम कटंगपाली, तहसील बरमकेला	227/2, 227/3, 227/4, 227/5, 227/6,227/7, 228/1क, 228/1ख, 228/1ग,228/1घ, 228/2,228/3क, 228/3ख,228/3ग,228/4,228/5क, 228/5ख,228/5ग,228/5घ, 228/6, 228/7, 232/1, 232/2, 232/3, 232/4क, 232/5, 232/6	4.016	21.03.2011 से 20.03. 2041	880
7	मेसर्स हर्ष मिनरल्स प्रो. श्री सुशील मित्तल निवासी नयागंज इतवारी बाजार रायगढ जिला रायगढ़ (छ.ग.)	ग्राम कटंगपाली, तहसील बरमकेला	220/1क, 220/1ख, 220/1ग, 220/1घ, 220/1ङ, 220/1च, 220/1छ, 220/1ज, 220/1झ, 220/2, 200/3, 220/4, 221/1, 221/2, 222/2, 222/4, 222/1, 222/3, 222/5,223/1क, 223/1ख, 223/4क,223/4ख, 223/2, 223/3, 223/5, 223/6, 224/2, 224/1, 225/1, 225/2, 225/3, 227/1, 235/2क, 235/2ख, 235/2घ, 235/3, 235/4क, 235/4ख, 235/4ग, 235/5क, 235/5ख, 235/5ग, 235/4, 236/1क, 236/1ख, 236/1ग, 236/1घ, 236/2, 226 एवं 35/2	4.992	29.08.2009 से 28.08. 2029	905
8	श्रीमती अराधना पटेल पति श्री पदुम पटेल निवासी गोबरसिंघा, तहसील सारंगढ़ , जिला – रायगढ़ (छ.ग.)	ग्राम कटंगपाली, तहसील बरमकेला	204, 206, 207, 214/1, 214/3, 216/2, 217/2, 200/1, 205, 208/2, 209/2, 201/1, 210/2, 215/1ख, 215/2, 215/5, 217/1, 208/1, 209/1, 213/2ख, 34/3, 37/1, 37/3, 34/4, 34/7, 37/4, 39/3, 38/5, 34/1, 37/6, 35/1, 38/6, 34/2, 37/2, 36 ,वं 37/5	4.729	22.03.2017 से 21.03. 2067	1060
9	मेसर्स सतगुरू साई मिनरल्स प्रा. लिमि. डायरेक्टर श्री सिद्धार्थ सारदा, आफिस नम्बर 44, कृष्णा शापिंग मॉल, चैतन्य नगर, ढिमरापुर रोड़, जिला – रायगढ़ (छ.ग.)	ग्राम कटंगपाली, तहसील बरमकेला	102/1/क,102/1ख, 102/2,102/3,102/4,102/6/क,102/6ख, 102/7,165,166, 167/4, 165,166,167/6,169/1, 169/2, 170/1, 170/2, 170/3, 171/1, 171/2, 171/3, 172/1, 173/1क, 173/1ख, 173/1ग, 173/3,173/4, 173/5, 167/3,169, 170	4.399	20.10.2010 से 19.10. 2030	1215

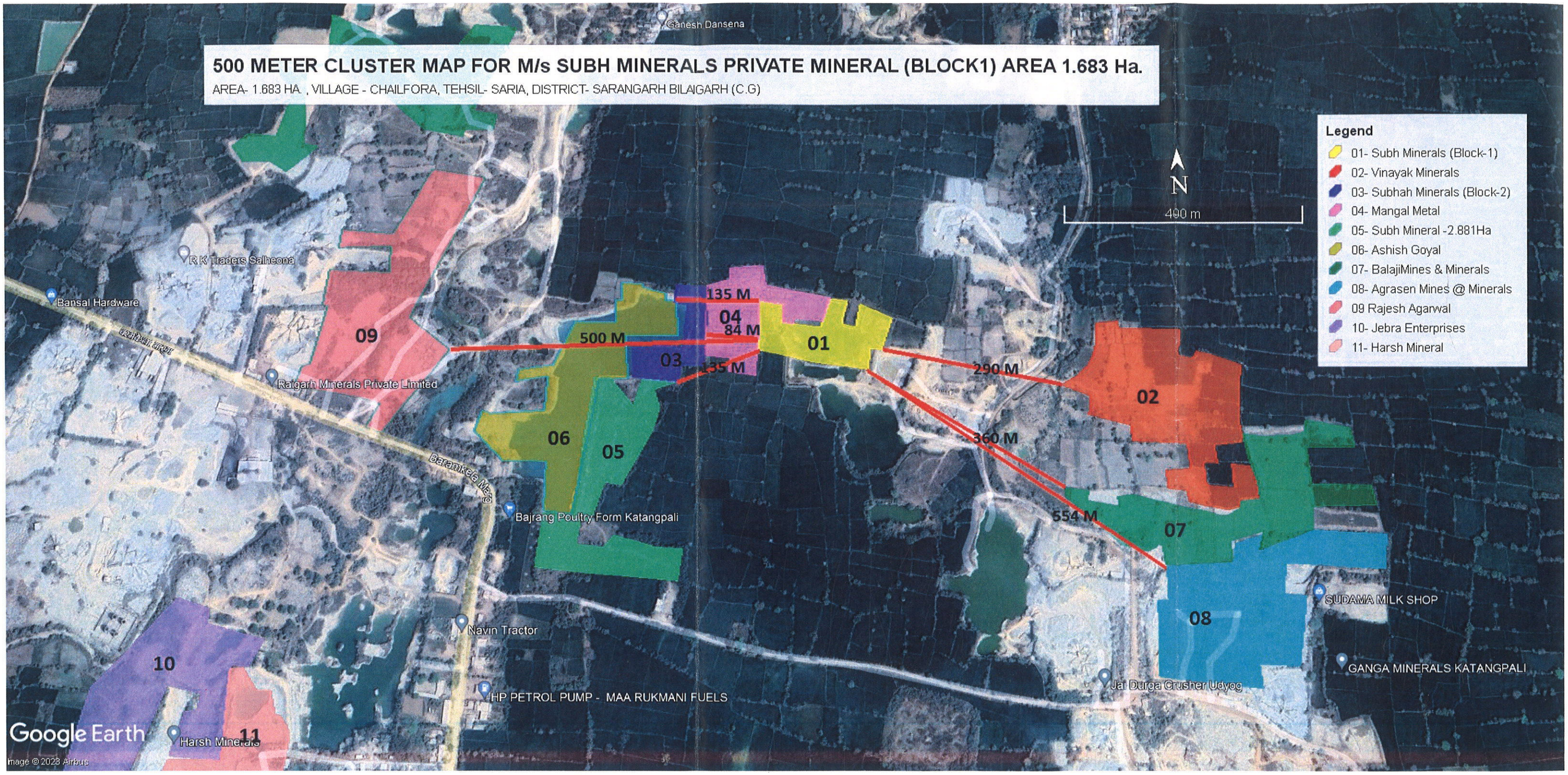
खनि अधिकारी
जिला- सारंगढ़-बिलाईगढ़ (छ.ग.)

10	मेसर्स रमेश कुमार घनश्याम अग्रवाल पार्ट श्री रमेश कुमार अग्रवाल निवासी गोड़म, तहसील सारंगढ़, जिला रायगढ़ (छ.ग.)	ग्राम बिलाईगढ़, तहसील बरमकेला	328/6, 336/1, 336/2, 337, 338, 339/1, 339/2, 339/3, 339/4, 339/5, 339/6, 340, 341, 342, 343, 344/2, 344/3, 344/4, 344/5, 344/6, 344/7, 344/8, 344/9, 344/10, 344/11, 345, 346, 347, 348/2, 348/3 ,वं 348/4	4.299	23.10.2012 से 22.10. 2042	1516
11	मेसर्स आर्यन मिनरल्स एण्ड मेटल्स प्राइवेट लिमिटेड डाय. श्री सुशील कुमार अग्रवाल आ. श्री शिवकुमार अग्रवाल, निवासी ग्राउण्ड फलोर 53/53ए कृष्णा क्राउन, ढिमरापुर रोड जगतपुर रायगढ जिला रायगढ (छ.ग.)	ग्राम जोतपुर, दुलुमपुर एवं मौहापाली तहसील बरमकेला	160/1 क, 160/1 ख, 160/1 ग, 160/1 घ., 160/1ड़, 160/1 च, 160/1 छ, 160/2 क, 160/2 ख, 160/2 ग, 160/2 घ, 160/2 ड़ं, 16789/21, 16789/20, 16789/35, 16789/36, 16789/55, 16789/22, 16789/37, 106/9, 106/14, 106/15, 106/17, 106/11, 106/13, 106/24 एवं 106/25	4.961	25.07.2017 से 24.07. 2067	1620
12	श्री पीलाबाबु पटेल निवासी ग्राम पेण्डरवा तहसील डभरा जिला जांजगीर चांपा (छ.ग.)	मौहापाली, बरमकेला	122/3, 122/5, 123/1, 123/2, 123/3, 123/4, 124/1, 124/2, 160/2, 160/3, 160/4, 160/5, 160/7, 160/8, 160/11क, 160/12, 160/14ग, 160/14घ, 160/16, 160/17, 160/18, 160/19, 160/20, 160/21 ,वं 160/14क	4..660	22.03.2017 से 21.03. 2067	1967

खनि अधिकारी
जिला- सारंगढ़-बिलाईगढ़ (छ.ग.)

500 METER CLUSTER MAP FOR M/s SUBH MINERALS PRIVATE MINERAL (BLOCK1) AREA 1.683 Ha.

AREA- 1.683 HA. , VILLAGE - CHAILFORA, TEHSIL- SARIA, DISTRICT- SARANGARH BILAIGARH (C.G)



खनि अधिकारी
जिला- सारंगढ़-बिलाईगढ़ (छ.ग.)

(11)

कार्यालय वनमण्डलाधिकारी, रायगढ वनमण्डल, रायगढ (छ.ग.)

☎ 07762-224426 (O), 07762-222178 (R), 07762-226047 (F) E-mail: dfo-raigarh.cg@gov.in

क्रमांक/तक.अधि./ 1745 /2017/रायगढ़, दिनांक – 20/02/2017

प्रति,

कलेक्टर,(खनि शाखा)
रायगढ़ (छ0ग0)

विषय :– जिला रायगढ़ तहसील सारंगढ़ अंतर्गत गौण खनिज डोलोमाईट के ई–नीलामी हेतु स्थल जांच प्रतिवेदन/ अनापत्ति पत्र प्रेषित करने बाबत् ।

संदर्भ :– आपका पत्र क्र./3952 A/खनि.–1/2017 दिनांक 04.01.2017

उपरोक्त विषयान्तर्गत मेसर्स श्री मंगल मेटल पार्ट महेश कुमार गर्ग, आत्मज श्री सुमास गर्ग निवासी खरसिया जिला रायगढ़ (छ.ग.) द्वारा ग्राम छैलफोरा, तहसील सारंगढ़ जिला रायगढ़ स्थित खसरा नं. 242/1, 242/2, 243, 244/2, 245/1, 245/2, 246/1, 246/2, 248/1, 248/2, 249/2, 252/1 रकबा 1.056 एवं 206, 207/3, 208, 210/1, 211, 212, 214/3, 214/4 रकबा 1.683 हे. तथा ग्राम कटंगपाली, तहसील सारंगढ़ जिला रायगढ़ स्थित खसरा नं. 9/1क, 9/1ख, 9/1ग, 9/1घ, 10/2क, 10/2ख, 10/2ग, 10/2घ, 12/1, 12/2, 12/3, 17/1क, 17/2, 18/2, एवं 28/2 रकबा 3.140 हेक्टेयर क्षेत्र पर खनिज डोलोमाईट के ई–नीलामी हेतु आवेदित क्षेत्र का अनापत्ति प्रमाण पत्र चाहा गया है ।

प्रश्नाधीन भूमि का मौका निरीक्षण वन परिक्षेत्राधिकारी सारंगढ़ द्वारा कराया गया । उनके जांच प्रतिवेदन क्र. 81 दिनांक 08.02.2017 अनुसार उक्त भूमि वन क्षेत्र से 05 कि.मी. की दूरी पर है एवं गोमर्डा अभ्यारण्य बरमकेला से 12 कि.मी. की दूरी पर स्थित है। उक्त भूमि पर कोई भी खड़े वृक्ष नहीं पाये गये। आवेदित क्षेत्र में खनिपट्टा किये जाने पर पर्यावरण पर प्रभाव बाबत् पर्यावरण संरक्षण मंडल से अनापत्ति प्रमाण पत्र लिया जाना प्रस्तावित है।

आवेदित क्षेत्र के ई–नीलामी हेतु निम्न शर्तो पर दिये जाने में वनमण्डल को कोई आपत्ति नहीं है:–

1. आवेदित क्षेत्र के अंतर्गत किसी भी प्रकार की राजस्व वन भूमि नहीं हो । यदि हो तो उसका वन संरक्षण अधिनियम 1980 के अंतर्गत प्रस्ताव बनाई जावे।
2. कलेक्टर से प्राप्त अनुमति के प्रादर्श की उत्खनन स्थल पर लेमिनेशन करवाकर प्रदर्शित करेंगे।
3. समीपस्थ वन सुरक्षा/ग्राम वन समिति के सदस्यों को रोजगार देंगे।
4. उत्खनन क्षेत्र के समीप एक नर्सरी तैयार करेगे जिसमें स्थानीय प्रजाति के कम से कम 10000 पौधे तैयार करेंगे।
5. नर्सरी में तैयार ग्रीन बेल्ट के रूप में उत्खनन क्षेत्र के समीपस्थ उपयुक्त स्थल पर मार्च में गड्ढे खुदवाकर जुलाई के प्रथम सप्ताह में रोपण करेगें। रोपण कार्य में बीट के अधीन वन रक्षक से तकनीकी ज्ञान अर्जित करेगें एवं रोपित किये गये पौधो को जीवित रखेगें।

वनमण्डलाधिकारी,
रायगढ़ वनमण्डल, रायगढ़

पृ. क्रमांक/तक.अधि./ 1746 /2017/रायगढ़, दिनांक – 20/02/2017

प्रतिलिपि:– उप वनमण्डलाधिकारी, रायगढ़ एवं वन परिक्षेत्र अधिकारी सारंगढ़ को सूचनार्थ अग्रेषित।

17

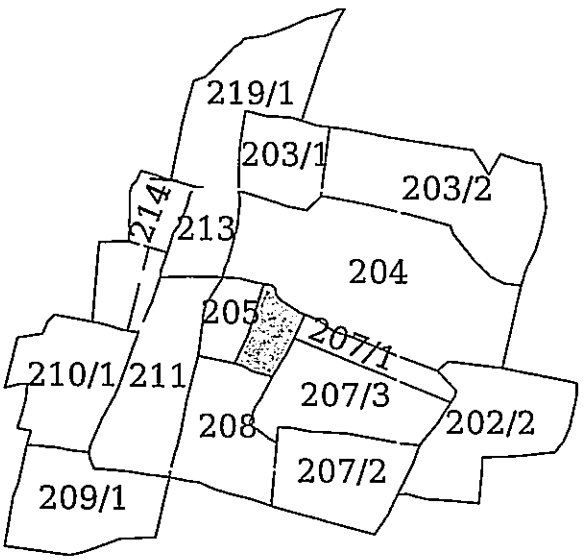
वनमण्डलाधिकारी,
रायगढ़ वनमण्डल, रायगढ़

छ. ग. शासन राजस्व विभाग

दिनांक : 08/06/2023 05:41:14 PM

खसरा नक्शा

ग्राम - छैलफोरा, प.ह.न. - 00004 , राजस्व निरीक्षक मण्डल - गोबरसिंघा , तहसील - सरिया , जिला - सारंगढ़-बिलाईगढ़



मापमान 1:4000

खसरा नंबर : 206
धारणाधिकार : भूमिस्वामी - कृषि भूमि
रकबा : 0.0890 हेक्टेयर
सिंचित रकबा : 0.0000
असिंचित रकबा : 0.0890

नाम :श्री मंगल मेटल पार्टनर्स महेशकुमार गर्ग (एवं 1 अन्य)
पिता का नाम : पिता सुभाषकुमार गर्ग

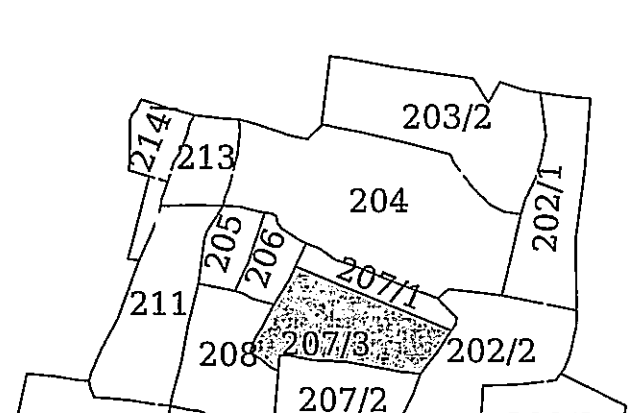
सक्षम अधिकारी के हस्ताक्षर व पदमुद्रा

छ. ग. शासन राजस्व विभाग

दिनांक : 08/06/2023 05:41:55 PM

खसरा नक्शा

ग्राम - छैलफोरा, प.ह.न. - 00004 , राजस्व निरीक्षक मण्डल - गोबरसिंघा , तहसील - सरिया , जिला - सारंगढ़-बिलाईगढ़



मापमान 1:4000

खसरा नंबर : 207/3
धारणाधिकार : भूमिस्वामी - कृषि भूमि
रकबा : 0.3800 हेक्टेयर
सिंचित रकबा : 0.0000
असिंचित रकबा : 0.3800

नाम :श्री मंगल मेटल पार्टनर्स महेशकुमार गर्ग (एवं 1 अन्य)
पिता का नाम : पिता सुभाषकुमार गर्ग

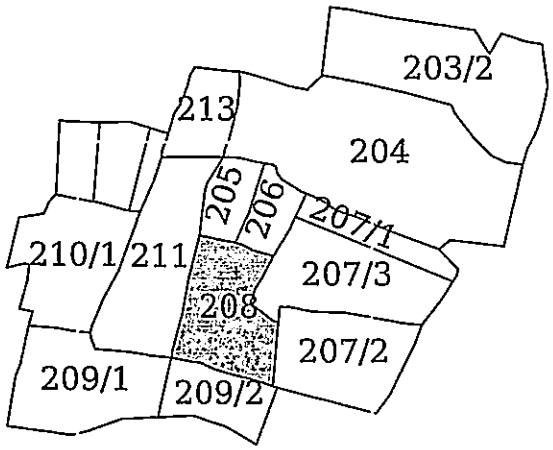
सक्षम अधिकारी के हस्ताक्षर व पदमुद्रा

छ. ग. शासन राजस्व विभाग

दिनांक : 08/06/2023 05:42:33 PM

खसरा नक्शा

ग्राम - छैलफोरा, प.ह.न. - 00004 , राजस्व निरीक्षक मण्डल - गोबरसिंघा , तहसील - सरिया , जिला - सारंगढ़-बिलाईगढ़



मापमान 1:4000

खसरा नंबर : 208
धारणाधिकार : भूमिस्वामी - कृषि भूमि
रकबा : 0.3040 हेक्टेयर
सिंचित रकबा : 0.0000
असिंचित रकबा : 0.3040

नाम :श्री मंगल मेटल पार्टनर्स महेशकुमार गर्ग (एवं 1 अन्य)
पिता का नाम : पिता सुभाषकुमार गर्ग

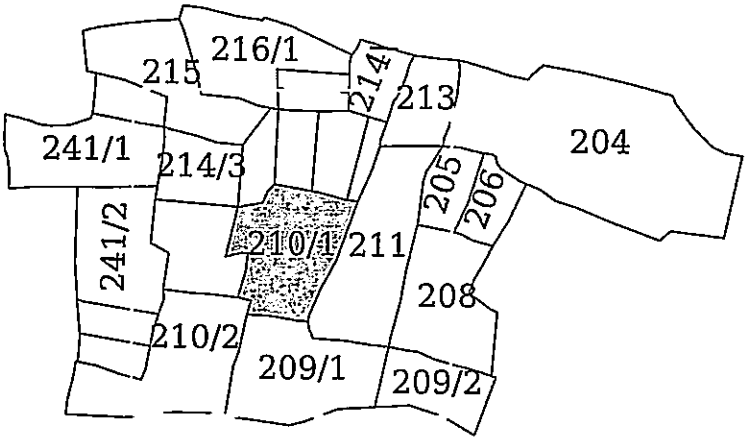
सक्षम अधिकारी के हस्ताक्षर व पदमुद्रा

छ. ग. शासन राजस्व विभाग

दिनांक : 08/06/2023 05:43:17 PM

खसरा नक्शा

ग्राम - छैलफोरा, प.ह.न. - 00004 , राजस्व निरीक्षक मण्डल - गोबरसिंघा , तहसील - सरिया , जिला - सारंगढ़-बिलाईगढ़



मापमान 1:4000

खसरा नंबर : 210/1
धारणाधिकार : भूमिस्वामी - कृषि भूमि
रकबा : 0.3390 हेक्टेयर
सिंचित रकबा : 0.0000
असिंचित रकबा : 0.3390

नाम :श्री मंगल मेटल पार्टनर्स महेशकुमार गर्ग (एवं 1 अन्य)
पिता का नाम : पिता सुभाषकुमार गर्ग

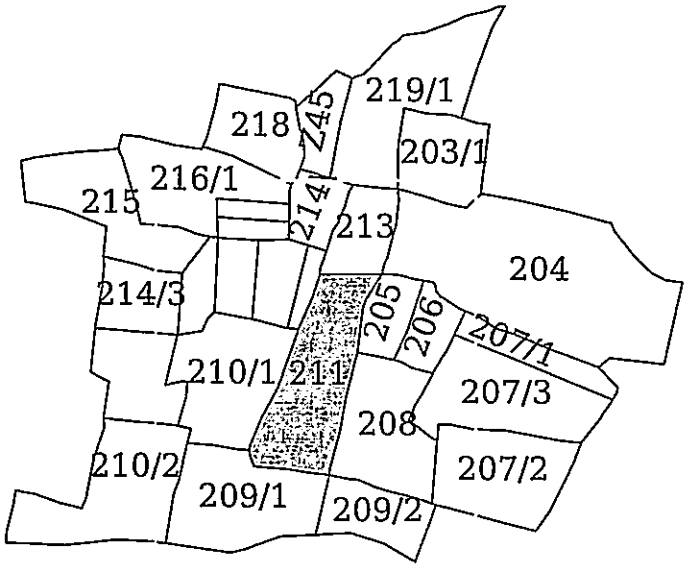
सक्षम अधिकारी के हस्ताक्षर व पदमुद्रा

छ. ग. शासन राजस्व विभाग

दिनांक : 08/06/2023 05:43:56 PM

खसरा नक्शा

ग्राम - छैलफोरा, प.ह.न. - 00004 , राजस्व निरीक्षक मण्डल - गोबरसिंघा , तहसील - सरिया , जिला - सारंगढ़-बिलाईगढ़



मापमान 1:4000

खसरा नंबर : 211 शामिल खसरा : 212
धारणाधिकार : भूमिस्वामी - कृषि भूमि
रकबा : 0.4210 हेक्टेयर
सिंचित रकबा : 0.0000
असिंचित रकबा : 0.4210

नाम :श्री मंगल मेटल पार्टनर्स महेशकुमार गर्ग (एवं 1 अन्य)
पिता का नाम : पिता सुभाषकुमार गर्ग

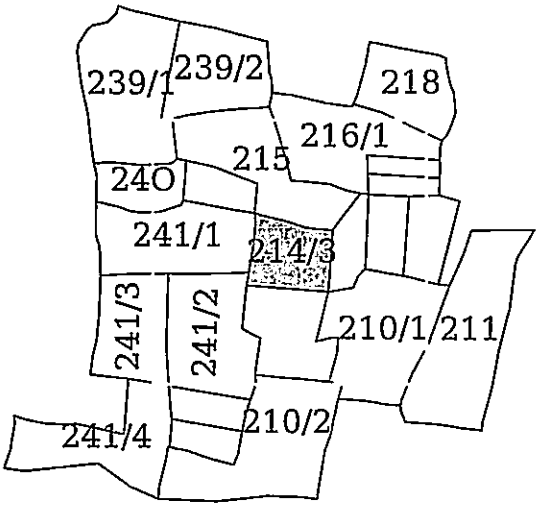
सक्षम अधिकारी के हस्ताक्षर व पदमुद्रा

छ. ग. शासन राजस्व विभाग

दिनांक : 08/06/2023 05:46:37 PM

खसरा नक्शा

ग्राम - छैलफोरा, प.ह.न. - 00004 , राजस्व निरीक्षक मण्डल - गोबरसिंघा , तहसील - सरिया , जिला - सारंगढ़-बिलाईगढ़



मापमान 1:4000

खसरा नंबर : 214/3
धारणाधिकार : भूमिस्वामी - कृषि भूमि
रकबा : 0.0810 हेक्टेयर
सिंचित रकबा : 0.0000
असिंचित रकबा : 0.0810

नाम :श्री मंगल मेटल पार्टनर्स महेशकुमार गर्ग (एवं 1 अन्य)
पिता का नाम : पिता सुभाषकुमार गर्ग

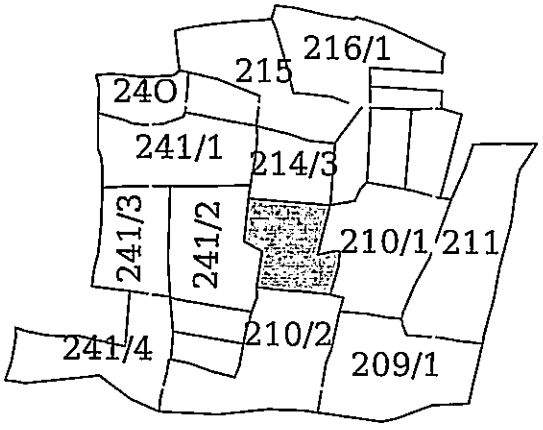
सक्षम अधिकारी के हस्ताक्षर व पदमुद्रा

छ. ग. शासन राजस्व विभाग

दिनांक : 08/06/2023 05:47:08 PM

खसरा नक्शा

ग्राम - छैलफोरा, प.ह.न. - 00004 , राजस्व निरीक्षक मण्डल - गोबरसिंघा , तहसील - सरिया , जिला - सारंगढ़-बिलाईगढ़



मापमान 1:4000

खसरा नंबर : 214/4
धारणाधिकार : भूमिस्वामी - कृषि भूमि
रकबा : 0.0690 हेक्टेयर
सिंचित रकबा : 0.0000
असिंचित रकबा : 0.0690

नाम :श्री मंगल मेटल पार्टनर्स महेशकुमार गर्ग (एवं 1 अन्य)
पिता का नाम : पिता सुभाषकुमार गर्ग

सक्षम अधिकारी के हस्ताक्षर व पदमुद्रा

(45)

INDIA NON JUDICIAL

Government of Chhattisgarh

e-Stamp

सत्यमेव जयते

Certificate No.	:	IN-CG13508495887445R
Certificate Issued Date	:	07-Dec-2019 11:35 AM
Account Reference	:	NEWIMPACC (SH)/ cgshinl17/ RAIGARH/ CG-RG
Unique Doc. Reference	:	SUBIN-CGCGSHINI1717845700318315R
Purchased by	:	SHUBH MINERALS PVT LTD DIR PRATISH KUMAR GOYAL
Description of Document	:	Article 19 Certificate or other document
Property Description	:	FOR NOC
Consideration Price (Rs.)	:	0 (Zero)
First Party	:	SHRI MANGAL MATEL PART MAHESH KUMAR GARG
Second Party	:	SHUBH MINERALS PVT LTD DIR PRATISH KUMAR GOYAL
Stamp Duty Paid By	:	SHRI MANGAL MATEL PART MAHESH KUMAR GARG
Stamp Duty Amount(Rs.)	:	100 (One Hundred only)

NOTARY ★ Ramesh Kumar Sharma ★ GOVT. OF CHHATTISGARH

रमेश कुमार शर्मा
नोटरी रायगढ़ (छ.ग.)

.....Please write or type below this line.....

शपथ पत्र / सहमति

मै महेश कुमार गर्ग आत्मज श्री सुभाष अग्रवाल पार्टनर श्री मंगल मेटल उम्र 45 वर्ष, निवासी खरसिया रायगढ़, जिला रायगढ़ (छ.ग.) निम्नानुसार शपथ पत्र सत्य कथन करता हूँ कि:–

क्रमशः 2

SR 0010594072

Statutory Alert:
1. The authenticity of this Stamp Certificate should be verified at "www.shcilestamp.com". Any discrepancy in the details on this Certificate and as available on the website renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority.

22

Scanned by CamScanner

(46)

1. यह कि मै खरसिया रायगढ़ जिला रायगढ़ छ.ग का निवासी हूँ।
2. यह कि मेरे पक्ष मे मेरे नाम से जिला रायगढ़, तहसील बरमकेला ग्राम छैलफोरा(ब्लॉक–1), के खसरा क्रमांक 206, 207/3, 208, 210/1, 211, 212, 214/3, एवं 214/4, के कुल रकबा 1.683 हेक्टर क्षेत्र भूमि का भूमिस्वामी है।
3. यह कि उक्त भूमि पर मुझे छोडकर अन्य तीन पार्टनर का अधिकार है जो भी अधिकार /स्वत्व मुझे अथवा मेरे वारिसान मे निहित है।
4. यह कि उक्त भूमि मे किसी प्रकार का कोई विवाद /आपत्ति का प्रकरण या किसी भी अन्य प्रकार का ममला/ प्रकरण किसी न्यायालय / प्राधिकारी के समक्ष विचाराधीन नही है व हर प्रकार विवाद मुक्त भूमि है।
5. यह कि शपथ पत्र भूमि सहमति मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड के द्वारा संचालनालय भौमिकी तथा खनिकर्म नवा रायपुर के टेन्डर क्रमांक MSTC/RPR/DGM, CHHATTISGARH/75/NAYA RAIPUR/18-19/14919, DATED 28.09.2018 के नीलमी द्वारा जिला रायगढ़ तहसील बरमकेला के ग्राम छैलफोरा(ब्लॉक–1) के रकबा 1.683 हेक्टर क्षेत्र पर खनिज डोलोमाईट की समेकित अनुज्ञप्ति हेतु अधिमानी बोलीदार घोषित किये जाने बाबत एवं खनिज साधन विभाग छ.ग. के आश्य पत्र क्रमांक एफ 2–6/2018/12, अटल नगर दिनांक 09.10.2019 के द्वारा समेकित अनुज्ञप्ति की स्वीकृति एवं खनिज उत्खनन के समर्थन मे निष्पादित कर रहा हूँ जिसे साक्ष्य मानकर प्रकरण मे अग्रिम कार्यवाही किया जावे।
6. यह कि विविधत रूप से शासन के द्वारा निर्धरित / प्रचलित नियमो मे उल्लेखित प्रावधान के तहत उनरोक्त भूमि पर उपलब्ध समेकित अनुज्ञप्ति की स्वीकृति एवं खनिज उत्खनन की प्रक्रिया पूर्ण करने हेतु मेरी पूर्ण सहमति है।
7. यह कि मेरी भूमि पर खनन संक्रिया के दौरान शासन के प्रचलित नियमो मे उल्लेखित प्रावधान के अनुरूप खनन का अधिकार प्राप्त करने वाला शसन / व्यक्ति / फर्म मुझे उचित मुआवजा देने हेतु बाध्य होगा
8. यह कि मेसर्स शुभ मिनरल्स प्रायवेट लिमिटेड अपने स्वयं के व्यय से मेरी उक्त भूमि पर पानी व्यवस्था के लिये बोर खनन करवाना सकेगा, टेलीफोन का कनेक्शन प्राप्त कर सकेगा तथा आफिस बनवा सकेगा।
9. यह कि छ.ग. गौण खनिज नियम 2015 के तहत खनिज डोलोमाईट के लिए समेकित अनुज्ञप्ति की स्वीकृति हेतु मुझे यह शपथ पत्र देने की आवश्यकता पड़ी है।

Ramesh Sha... Area Civil ... Reg. 12/...

Ramesh Kumar Sharma Area Civil Distt. Raigarh Reg. No. C.G. 13/RGH/10 7/9/13 GOVT. OF CHHATTISGARH

शपथकर्ता

सत्यापन

मैं महेश कुमार गर्ग आत्मज श्री सुभाष अग्रवाल पार्टनर श्री मंगल मेटल उम्र 45 वर्ष निवासी खरसिया रायगढ़ जिला रायगढ़ छ.ग. का निवासी हूँ पिन कोड 496001 शपथ पत्र एतद् द्वारा उद्घोषित कर सत्यापित करता हूँ कि इस शपथ पत्र की कंडिका 1 से 9 तक में वर्णित समस्त कथन मेरी निजी ज्ञान एवं जानकारी से सही एवं सत्य है।

स्थान – रायगढ़

दिनांक – 7 DEC 2019

Saleinnly Affirmed of Sworn before me the with in named मेरे समक्ष इस दस्तावेज पर संबंधित व्यक्ति ने पढ़कर/पढ़ाकर शपथपूर्वक कथन आप कहा और इस दस्तावेज पर हस्ताक्षर/अंगूठा किया।

NOTARY
Ramesh Kumar
District Raigarh

सत्यापनकर्ता

Scanned by CamScanner

DISTRIC SURVEY REPORT

BILASPUR



DIRECTORATE OF GEOLOGY AND MINING
CHHATTISGARH

Prepared by

Regional Head
Directorate of Geology and Mining
Regional Office, Bilaspur (C.G.)

C.S. BHARDWAJ
Dy. Director (Geology)
Directorate of Geology and Mining
Regional Office Bilaspur (C.G.)

CONTENT

1. Introduction:
2. Overview of Mining Activity in the District
3. The list of Mining leases in the District with location, Area and Period of validity
4. Details of Royalty of revenue received in last three years
5. Details of production of sand or Bajari of minor mineral in the last three years
6. Process of deposition of sediments in the rivers of the District
7. General profile of the District
8. Land utilization pattern in the District: Forest, Agriculture, Horticulture, Mining etc.
9. Physiography of the District
10. Rainfall: Tahsil wise
11. Geology and Mineral wealth
    a. District wise detail of river or stream and other sand source
    b. District wise availability of sand or gravel or aggregate resources
    c. District wise detail of existing mining leases of sand and aggregates

C.S. PRADHAN

1. INTRODUCTION

Bilaspur district is approximately 400 years old and is said to be named after a fisherwoman called "Bilasa." The city stands on the river Arpa. It is famous for its unique characteristics of rice quality, Kosa industry and its cutural background. It is going to be considered as smart city in the state. The district play a major role for contribution in rice production and so Chhattisgarh called as "Dhan ka Katora." Bilaspur has been selected as one of the 100 Indian cities to be developed as a smart city under the smart cities mission.

It is situated between north latitude 21^0 47'00'' to 23^0 08'00'' and east longitude 81^0 14'00'' to 83^0 15'00''. It is bounded by Koria on the north, Anuppur and Dhindori district of Madhya Pradesh on the north-west, Mungeli on the west and south west, Baloda Bazar on the south, Korba district on the east and Jangir-Champa on the south-east. The area of the district is about 5815.87 km^2. The total population of the district is approximately 19,61,922 (as per census 2011).

The district consists of 8 tahsils and is Bilaspur, Pendra, Pendra road (Gaurela), Marwahi, Kota, Takhatpur, Bilha and Masturi. There is 7 blocks and total number of villages in the district is 909. It is the second largest city in the state and the seat of High Court of Chhattisgarh which is the 19th High Court of our country and is called Nyaydhani (legal capital) of Chhattisgarh. It is famous for Kanan Pendari Zoo Park. Few tourist places of the district are Ratanpur, Malhar, Talagram, Khutaghat, Belpan, Kabir Chobutara etc.

The 16th railway zone of the country came into being on 20th September 1998 with its headquarter at Bilaspur and was dedicated to the nation on 5th April 2003. South East Central railway started functioning as a separate zone from 1st April 2003. It contributes largest revenue earning railway division of the zone.

South Eastern Coal Field Ltd.(SECL) is a wholly owned subsidiary of Coal India Ltd was incorporated in 1985 with its headquarter in Bilaspur and is the largest coal producing company in the country. SECL was awarded as a mini ratna company in 2007.

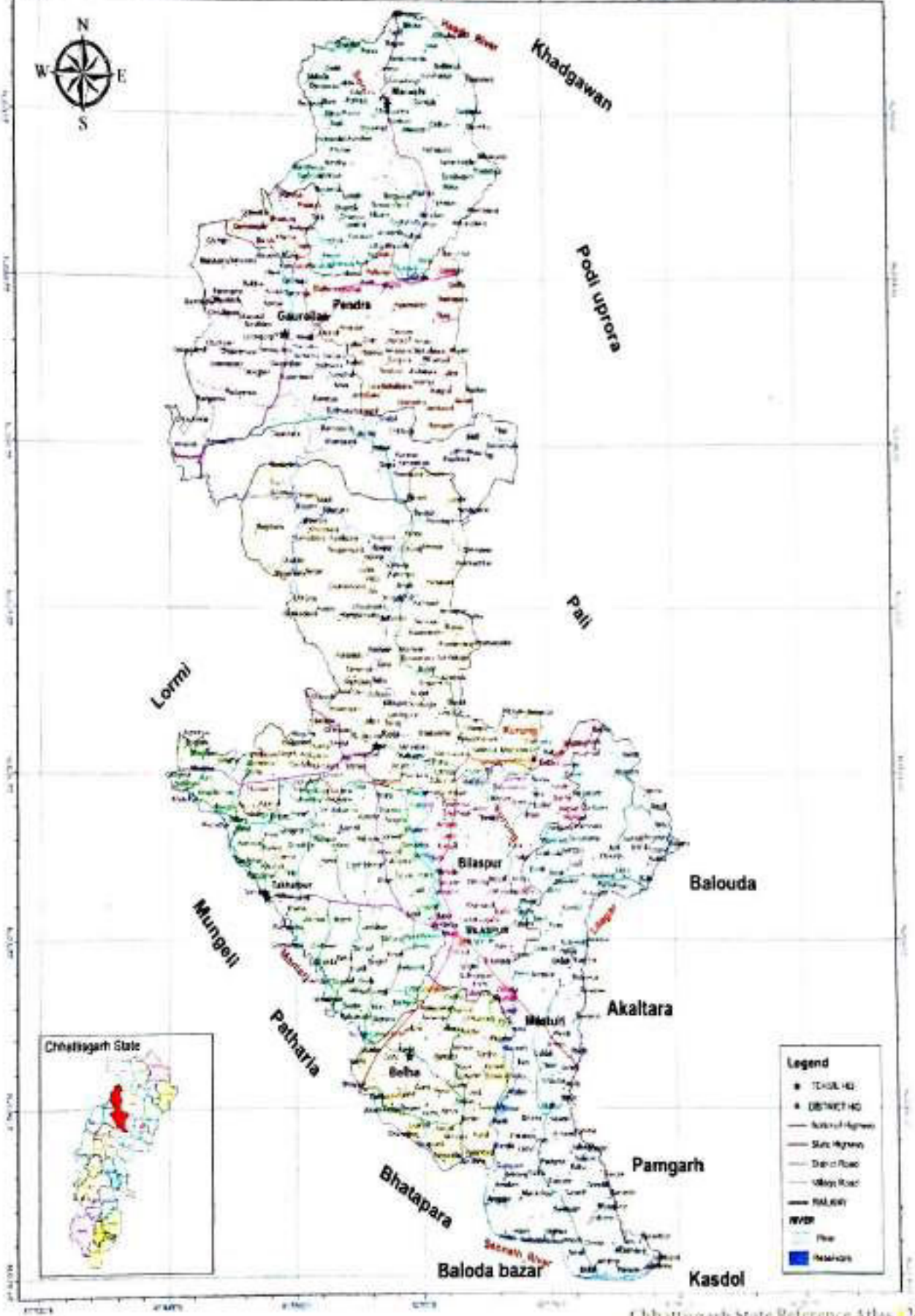
It is the matter of pride for Chhattisgarh that a power plant has been established by National Thermal Power Corporation Ltd.(NTPC Ltd.) at Sipat approximately 22 km away from the district headquarter Bilaspur that use the super critical boiler technology for the first in the nation. It comprises of 3 large units of 660MW capacity each. The project also has two units of 500MW capacity. Once completed, the project will add 2980MW to the national grid.

District Survey Report has been prepared as per the guidelines of the Gazette of India notification no. S.O. 141(E) New Delhi, Dated 15th January 2016 of Ministry of Environment, Forest and Climate Change mentioned in Appendix-X.

District Environment Impact Assessment Authority (DEIAA) and District Environment Assessment Committee (DEAC) are constituted to scrutinize and sanction the environmental clearance for mining of minor minerals of lease area less than 5 hectare.

C.S. PRADHAN

POLITICAL MAP - BILASPUR



C.S. BHARDWAJ
Director
Regional Census Manager (C.G.)

2. Overview of Mining Activity in the District:

Minerals of economic importance are found in Bilaspur district mainly Limestone, Dolomite and Quartzite etc. Building materials like aggregate, sand, murum, ordinary stone, brick clay are also found in enough quantity.

Out of 3 mines of Limestone (major mineral) one is allotted to M/S Lafarge India Pvt Ltd , Second one to M/S Acc Ltd and third one is allotted to M/S Jindal steel Pvt. Ltd.

24 Quarries of Dolomite has been allotted at Hardi, Pendridih, Dhaurabhata, Hirri, Chhatauna, mohda, Kharkena, Bodsara and Medpar of Bhila and Takhatpur Tahsil. Beside these 57 quarries of limestone are operational in Masturi, Kota, Bilha and Takhatpur Tahsil at villages Jairamnagar, Masturi, Nargoda, Tendua, Duragdih, Darri, Belsara etc.3 mining lease of Limestone is allotted to MS. ACC Ltd., Ms. Lafarge India Pvt. (Novoco Vistas cor. Ltd) and Ms. Jindal steel Pvt. Ltd in Tahsil Masturi.

I quarry of Quartz is Sanctioned in Belpat village ,Tahsil pendraroad. 10 quarries of ordinary stone at Kota, Amaali, Bankighat of kota Tahsil and at Chanadargri, Dadiya of Marwahi Tahsil have been leased out.

32 quarries have been sanctioned for mining of soil to prepare brick at villages Farhaala, Mopka, Lofandi, Manwa, Pandhi, Itwa Sarwari, Chanadergri, Manpalhi selar etc of Bilaspur, Mastari, Bilha Takhatpur and Kota Tahsil.

33 sand quarries have been leased out on the bank of river Arpa, Shivanth and Malaniya at different villages for sand mining.

The mining activity in the district is mainly concentrated in Masturi, Bilha and Takhatpur block.

Approximately 2197.24 lakh rupees royalty is earned from all minerals in the district in 2018-19.

C.S. AGRAWAL

3. The List of Mining Leases in the District with location, area and period of validity:

जिला बिलासपुर अंतर्गत गौण खनिजों की जानकारी								
क्र.	पट्टेधारियो का नाम	खनिज का नाम	खसरा नं.	स्वीकृत क्षेत्र हेक्टर में	पट्टे की स्थिति ग्राम	तहसील	अवधि	रिमार्क
1	2	3	4	5	6	7	8	9
1	मेसर्स अग्रवाल मिनरल्स प्रो. श्री विनोद कुमार अग्रवाल निवासी– कृष्णा राईस मिल, बिलासपुर (छ.ग.)	डोलोमाईट	1086, 1088, 1090	5.702 हे. (14.08 ए.)	खरकेना	तखतपुर	29.11.1996 से 28.11.2046	
2	मेसर्स मुरारीलाल केदारमल पो. श्रीमती पार्वती बाई अग्रवाल निवासी–बिल्हा, जिला बिलासपुर (छ.ग.)	डोलोमाईट	41/पी	6.058 हे.	हरदी	बिल्हा	12.03.1997 से 11.03.2047	
3	श्री गोविन्द अग्रवाल निवासी–बिल्हा जिला बिलासपुर (छ.ग.)	डोलोमाईट	247	1.620 हे.	पेण्ड्रीडीह	बिल्हा	23.08.1997 से 22.08.2047	
4	मे. गुप्ता स्टोन माइन्स प्रो. श्री द्वारिका प्रसाद गुप्ता निवासी–मेनरोड बिल्हा	डोलोमाईट	62/1	1.781 हे.	हिर्री	बिल्हा	16.10.2001 से 15.10.2051	

C.S. BHARDWAJ

5	मेसर्स मुरारीलाल केदारमल पो. श्रीमती पार्वती बाई अग्रवाल निवासी–बिल्हा, जिला बिलासपुर (छ.ग.)	डोलोमाईट	465, 337/1, 2, 4, 484, 485, 489, 482/1 क, 482/1 ख, 495	2.096 हे. 5.18 ए.	धौराभांठा	बिल्हा	16.08.2004 से 15.08.2054	
6	मे. गुप्ता स्टोन माइन्स प्रो. श्री द्वारिका प्रसाद गुप्ता निवासी–मेनरोड बिल्हा	डोलोमाईट	831	2.025 हे.	खरकेना	तखतपुर	06.11.1996 से 05.11.2046	
7	मे. शिवशंकर मिनरल्स एण्ड डोलामाईट श्री गोवर्धन अग्रवाल, बिल्हा, बिलासपुर (छ.ग.) (1)	डोलोमाईट	41, 76/1	3.969 हे. (9.80 ए.)	हरदी	बिल्हा	17.11.1995 से 16.11.2045	
8	मे. शिवशंकर मिनरल्स एण्ड डोलामाईट श्री गोवर्धन अग्रवाल, बिल्हा, बिलासपुर (छ.ग.) (1)	डोलोमाईट	267, 271/1, 271/2	2.247 हे. (5.55 ए.)	धौराभांठा	बिल्हा	27.11.1992 से 26.11.2042	
9	मेसर्स मुरारीलाल केदारमल पो. श्रीमती पार्वती बाई अग्रवाल निवासी–बिल्हा, जिला बिलासपुर (छ.ग.)	डोलोमाईट	332/1–2, 490, 492, 493, 489, 482, 486, 336/3, 461, 462, 463, 460, 453, 452, 450	3.381 हे.	धौराभांठा	बिल्हा	01.09.1980 से 31.08.2030	

C.S. PHADNWAL

10	श्री जितेन्द्र पाण्डेय निवासी–किलावार्ड बिलासपुर	डोलोमाईट	864	3.928 हे.	खरकेना	तखतपुर	27.10.1997 से 26.10.2047	
11	श्री इन्द्रजीत सिंह चावला निवासी–यमाहा शोरूम के पीछे, दयाल बंद रायपुर(छ.ग.)	डोलोमाईट	1140	4.050 हे.	बोडसरा	तखतपुर	05.12.2003 से 04.12.2053	
12	मेसर्स अग्रवाल मिनरल्स प्रो. श्री विनोद कुमार अग्रवाल निवासी– कृष्णा राईस मिल, बिलासपुर (छ.ग.)	डोलोमाईट	1093, 1096, 1097	2.177 हे. (5.38 ए.)	खरकेना	तखतपुर	19.02.1987 से 18.02.2027	
13	बिलासपुर मायनिंग इंडिया प्रा. लिमि. प्रो. श्री नरेश कुमार अग्रवाल निवासी–बिल्हा जिला बिलासपुर (छ.ग.) (1)	डोलोमाईट	16	2.008 हे. (4.96 एकड़)	हिर्री	बिल्हा	11.01.1996 से 10.01.2046	
14	बिलासपुर मायनिंग इंडिया प्रा. लिमि. प्रो. श्री नरेश कुमार अग्रवाल निवासी–बिल्हा जिला बिलासपुर (छ.ग.) (1)	डोलोमाईट	1107, 1108, 1105	9.699 हे. (23.35)	खरकेना	तखतपुर	28.05.1997 से 27.05.2047	
15	श्री हरीश कुमार शाह निवासी–शेष सदन कालोनी, विनोबा नगर, बिलासपुर	डोलोमाईट	875	2.721 हे.	धौराभांठा	बिल्हा	06.07.1986 से 05.07.2036	

C.S. PHADNWAL

16	सिंह स्टोन माईन्स प्रो. श्री रघुराज सिंह, निवासी आदर्श कालोनी, बिलासपुर	डोलोमाईट	873	4.049 हे.	धौराभांठा	बिल्हा	09.03.2003 से 08.03.2023	
17	श्री तिलक राज सलूजा आ. श्री मेलाराम सलूजा निवासी–दयालबंद,बिलासपुर	डोलोमाईट	601	6.361 हे.	चिचिरदा	तखतपुर	16.02.2005 से 15.02.2025 (निरस्त हेतु प्रेषित)	
18	मे. के.के. स्टोन माइन्स श्री कमलेश केडिया निवासी–बिल्हा जिला बिलासपुर (छ.ग.)	डोलोमाईट	888	3.588 हे.	खरकेना	तखतपुर	16.06.1995 से 15.06.2045	
19	श्री बाल किशन बंसल निवासी–एफ.सी.आई. रोड बिल्हा	डोलोमाईट	1117, 1118, 949/12, 949/95	4.088 हे.	खरकेना	तखतपुर	16.03.2009 से 15.03.2039	
20	एसोसियेटेड मायनिंग कंपनी प्रो. श्री एन. एस. सहगल, निवासी नानक हाऊस, नर्मदा नगर, बिलासपुर	डोलोमाईट	76/1	4.212 हे. (10.40 ए.)	हरदी	बिल्हा	12.04.2005 से 11.04.2025	
21	सेन्ट्रल इंडिया स्टोन माईन्स प्रो. श्री नरेश कुमार अग्रवाल निवासी –बिल्हा जिला बिलासपुर (छ.ग.)	डोलोमाईट	266, 272, 273	3.090 हे. 7.63 एकड़	धौराभांठा	बिल्हा	12.03.2007 से 11.03.2027	

C.S. PHADNWAL

D

22	हिर्री माइन्स (सेल) उप महाप्रबंधक (सह. अभिकर्ता) हिर्री डोलोमाईट माइन्स, हिर्री बिल्हा	डोलोमाईट	छतौना–457 पी, 460 पी, 461 पी, 462 पी, 462/2, 462/3, 463/3, 463/1 पी, 464, 465, 466, 467, 468, 469, 470/1, 470/2, 470/5, 470/2, 470/3, 470/4, 471, 472/पी, 475/1 पी, 475/2 पी, 1238 पी (128.90 हे.) बोड़सरा–1009 पी, 1010/1, 1010/2, 1011/पी, 1012, 1013, 1014/पी,	128.77 हे.	पेण्ड्रीडीह छतौना बोडसरा	बिल्हा	06.05.1959 05.05.2019 31.03.2020	

C.S. PRADHAN

			1014/2 पी, 1014/3, 1015/1 पी, 1015/2 पी, 1065/पी, 1066/पी, 1068/पी, 1070/पी, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078/1, 1078/2, 1079, 1080, 1081, 1082/1, 1082/2, 1083, 1084, 1085, 1086/1, 1086/2, 1086/3, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1094/1, 1094/2,					

C.S. BHARDWAJ

D
I

			1094 / 3, 1095, 1096 / 1, 1096 / 2, 1097, 1098, 1099, 1100 / 1, 1100 / 2, 1101 / 1, 1101 / 2, 1102, 1103, 1104, 1105 पी, 1106, 1107 पी, 1108 पी, 1132 / 1पी, 1132 / 9, 1132 / 10, 1132 / 11, 1132 / 12, 1132 / 15 पी, 1132 / 16, 1132 / 17,11 32 / 18, 1132 / 19, 1132 / 22, 1132 / 24, 1132 / 25,					

C.S. BHARDWAJ

Di
L

			1134, 1135/पी, 1137/पी (88.47 हे.) पेण्ड्रीडीह– 1, 2, 3/1, 3/2, 41/2, 3/3, 41/3, 3/4, 3/5, 3/6, 3/7, 41/1, 40, 15, 6 पी, 22/पी, 24/1 पी, 24/2 पी, 24/3, 24/4 पी, 24/5 पी, 25, 26/1, 27, 28/1, 26/2, 29, 28/2, 30/1, 30/2, 31/1, 31/2, 32, 33/1,					

C.S. AGARWAL

			33/2, 33/3, 33/4, 34 पी, 35/1, 35/2, 36, 37/1, 37/2, 38/1, 38/2, 39 पी, 40 पी, 42, 43/1पी, 43/2 पी, 43/3, 82/1पी (100.85 हे.)					

C.S. PHADDWAL

Dr

23	श्री सतीश शाह निवासी– श्री शेष सदन, विनोबा नगर, बिलासपुर	डोलोमाईट	298, 298/2, 305, 306	3.645 हे.	मेडपार	तखतपुर	17.10.1996 से 16.10.2046	
24	मेसर्स महालक्ष्मी मांइन्स एण्ड मिनरल्स पार्टनर श्री राजकुमार, निवासी भारतीय नगर बिलासपुर	डोलोमाईट	138, 139, 391, 394/1–2–3–4, 395, 397, 406/1, 417	4.080 हे.	मोहदा एवं धौरामांठा	बिल्हा	07.02.2017 से 06.02.2067	
25	मेसर्स सुशीला मायनिंग प्रायवेट लिमिटेड डाय. श्री वेकेटंश खेडिया, निवासी बिजुरी, अनुपपुर (म.प्र.)	क्वार्टज	23 खसरे	4.970 हे.	बेलपत	पेण्ड्रारोड	20.06.2017 से 19.06.2067	
26	श्री हरिशंकर राठौर आ. श्री देवचरण राठौर, निवासी एस. एम.आई.जी. 17, परिजात एक्सटेंशन, नेहरू नगर, बिलासपुर	चू.प.	18, 189/1 से 5, 190, 191/1, 192, 193	3.073 हे. 7.59 एकड़	जयरामनगर	मस्तूरी	30.08.2016 से 29.08.2046	
27	श्री भगवान दास विघानी (श्रीमती माधुरी साहू), निवासी जयरामनगर, मस्तूरी, जिला बिलासपुर (छ.ग.)	चू.प.	743/2	0.878 हे.	जयरामनगर	मस्तूरी	22.01.2008 से 21.01.2038	

C.S. PRADHAN

D[illegible]
I[illegible]

28	श्री पी.एस. चावला आ. श्री अमर सिंह चावला, राजकिशोर नगर बिलासपुर	चू.प.	593/1, 593/3–4	0.634 हे.	मस्तूरी	मस्तूरी	28.11.1996 से 27.11.2026	
29	श्री प्रकाश चनानी आ. स्व. श्री के.एल. चनानी, क्रांतिनगर, बिलासपुर	चू.प.	142, 143, 144, 145	0.777 हे. 1.92 एकड़	मोहतरा	मस्तूरी	19.01.2007 से 18.01.2037	
30	श्रीमती विद्या जादवानी पति श्री किशनचंद जादवानी, निवासी जरहाभाठा बिलासपुर	चू.प.	572/1	1.619 हे.	मस्तूरी	मस्तूरी	22.01.1995 से 21.01.2025	
31	श्री संजय अग्रवाल, आ. श्री सुभाष चन्द्र अग्रवाल, सेन्ट्रल एवेन्यू, फ्लैट नं. 305, 306 लिंक रोड, दीप हॉटल के पीछे, बिलासपुर (छ.ग.)	चू.प.	581/1, 582/5	0.733 हे.	मस्तूरी	मस्तूरी	03.01.1997 से 02.01.2027	
32	श्री मनमोहन शर्मा आ. श्री विसम्भर शर्मा, जयरामनगर, मस्तूरी बिलासपुर	चू.प.	774/1	0.809 हे.	जयरामनगर	मस्तूरी	22.08.1994 से 21.08.2024	

C.S. BHARDWAJ

33	श्री सुबीर मिल्होत्रा आ. जे. एम. मिल्होत्रा, अमेरी रोड, बिलासपुर (1)	चू.प.	240/3–5–10	0.930 हे.	मोहतरा	मस्तूरी	30.07.1998 से 29.07.2028	
34	श्री सुबीर मिल्होत्रा आ. जे. एम. मिल्होत्रा, अमेरी रोड, बिलासपुर (2)	चू.प.	240/1	2.023 हे.	मोहतरा	मस्तूरी	30.07.1998 से 29.07.2028	
35	श्रीमती सुरैयाबानो पति श्री मोहम्मद रफी, निवासी कश्यप कालोनी, बिलासपुर (छ.ग.)	चू.प.	164/2, 164/4क–ख, 164/10, 165, 168, 169/1–2	1.748 हे. 4.32 ए.	मोहतरा	मस्तूरी	31.10.2014 से 30.10.2044	
36	श्री रियाज अहमद सिददीकी, निवासी भारतीय नगर, बिलासपुर	चू.प.	14/1 से 5, 15/1–2, एवं 819/2 से 4, 822,	2.299 हे.	मोहतरा/भदौरा	मस्तूरी	15.09.2014 से 14.09.2044	
37	श्री हरिशंकर राठौर आ. श्री देवचरण राठौर, निवासी एस. एम.आई.जी. 17, परिजात एक्सटेंशन, नेहरू नगर, बिलासपुर	चू.प.	792, 801/1–2	1.077 हे. 2.66 ए.	जयरामनगर	मस्तूरी	11.06.2012 से 10.06.2042	
38	मेसर्स कन्हैया मिनरल्स प्रो. श्री प्रकाश चनानी, निवासी अज्ञेय नगर, बिलासपुर	चू.प.	139/1–2, 140/1–2–3–4–5, 560/1–2, 561	2.251 हे.	मोहतरा एवं मस्तूरी	मस्तूरी	31.10.2014 से 30.10.2044	

C.S. PHADNWAL

39	श्री देवेश शर्मा आ0 श्री भोलानाथ शर्मा, उसलापुर बिलासपुर	चू.प.	15, 16	1.417 हे.	डोमगांव	मस्तूरी	10.02.2010 से 09.02.2040	
40	मे. बिलासादाई मिनरल्स प्रो. श्री संजय क्षापरिया, पी 34 क्रांति नगर, बिलासपुर	चू.प.	572/1	3.643 हे.	मस्तूरी	मस्तूरी	06.01.1988 से 31.03.2020	
41	श्री रियाज अहमद सिद्दकी आ. श्री आई.ए. सिद्दकी, भारतीय नगर बिलासपुर (1)	चू.प.	782/2–3	0.898 हे.	जयरामनगर	मस्तूरी	30.05.2007 से 29.05.2037	
42	श्रीमति सुरैयाबानो पति श्री मोहम्मद रफीक, कश्यप कालोनी, बस स्टैण्ड बिलासपुर	चू.प.	170/1–3	1.54 हे.	मोहतरा	मस्तूरी	18.01.2012 से 17.01.2042	
43	मेसर्स कृष्णा मिनरल्स प्रो. श्री रूपलाल चावला, सरकण्डा बिलासपुर	चू.प.	436, 438, 380, 431, एवं अन्य	3.215 हे.	भदौरा	मस्तूरी	26.06.2012 से 25.06.2042	
44	(श्री कपिलेन्द्र शर्मा) श्री कमल कुमार अग्रवाल, निवासी जयरामनगर, मस्तूरी, बिलासपुर	चू.प.	252/1	1.134 हे. 2.80 एकड	जयरामनगर	मस्तूरी	05.01.2001 से 04.01.2031	
45	श्री सुनील कुमार शुक्ला आ. श्री राजेंद्र प्रसाद शुक्ला, बिलासपुर	चू.प.	15	4.000 हे.	तेंदुवा	कोटा	17.02.1998 से 16.02.2028	

C.S. PHADNWAL

Di[illegible]

46	श्रीमती सरोज शर्मा पति राजू शर्मा, मेन रोड बिल्हा, बिलासपुर	चू.प.	54	0.912 हे.	दुरुगडीह	बिल्हा	07.06.2008 से 06.06.2038	
47	श्री शत्रुघन चंद्राकर, आ. श्री रामस्नेही, निवासी ग्राम बांधा, जिला मुंगेली,	चू.प.	487/2, 771, 773, 774, 778, 779/12	2.624 हे.	दर्री	तखतपुर	05.12.2014 से 04.12.2044	
48	सुनील कुमार अग्रवाल आ. श्री घासीराम अग्रवाल निवासी लोरमी जिला मुंगेली छ.ग.	चू.प.	373/3, 435/3, 372/3, 371/1, 370/1, 3	1.025 हे.	दर्री	तखतपुर	31.12.2013 से 30.12.2043	
49	श्री विष्णु प्रसाद अग्रवाल, आ. श्री शंकरलाल अग्रवाल, निवासी लोरमी, जिला मुंगेली	चू.प.	439/1,2,3, 440/1–2–3, 437/1–2–3–4–5	2.603 हे.	दर्री	तखतपुर	21.11.2014 से 20.11.2044	
50	मे. लैण्ड मार्क इंजीनियर प्रो. श्री निशांत जैन, आ. श्री सुरेशचंद जैन, शांतिनगर, बिलासपुर	चू.प.	464	1.25 हे.	दर्री – तखतपुर	तखतपुर	01.05.2014 से 30.04.2034	
51	श्री हीरामणी दुबे आ. श्री रामकुमार दुबे, ग्राम चिचिरदा, ताह. तखतपुर	चू.प.	912/11	0.809 हे.	छतोना	तखतपुर	02.12.2009 से 01.12.2039	

C.S. AGRAWAL

52	श्री पवन कुमार अग्रवाल आ. श्री शंकर लाल अग्रवाल, लोरमी	चू.प.	219	4.00 हे.	गंमजू	तखतपुर	19.08.1997 से 18.08.2027	
53	श्री विरेन्द्र प्रताप मिश्रा आ. श्री के.के. मिश्रा, निवासी टिकरापारा, बिलासपुर	चू.प.	769, 770	1.036 हे. 2.56 एकड़	जयरामनगर	मस्तूरी	06.09.2004 से 05.09.2034	
54	श्रीमती के0प्रमिला नायडू पति श्री के.के.नायडू, निवासी तिलक नगर, बिलासपुर	चू.प.	252/1	1.215 हे. 3.00 एकड़	जयरामनगर	मस्तूरी	15.11.2002 से 14.11.2032	
55	श्री संजय अग्रवाल, आ. श्री सुभाष चन्द्र अग्रवाल, सेन्ट्रल एवेन्यू, फ्लैट नं. 305, 306 लिंक रोड, दीप हॉटल के पीछे, बिलासपुर (छ.ग.) (श्री वासुदेव डोडवानी, माया डोडवानी)	चू.प.	572/1	1.113 हे. 2.75 एकड़	मस्तूरी	मस्तूरी	29.07.1999 से 28.07.2029	
56	श्री राजकुमार गोयल, निवासी रतनपुर, जिला बिलासपुर	चू.प.	298	2.025 हे. 5.00 ए.	बांकीघाट	कोटा	07.05.2009 से 06.05.2039	
57	श्री तुलाराम शर्मा आ. श्री मनमोहन लाल शर्मा, निवासी जयरामनगर, मस्तूरी, बिलासपुर	चू.प.	722/3, 724/2, 724/4–5–6–7	0.639 हे. 1.58 एकड़	जयरामनगर	मस्तूरी	05.01.2004 से 04.01.2034	

C.S. PHARDWAJ

58	श्री राकेश अग्रवाल आ. श्री सूरजमल अग्रवाल, विनोबा नगर बिलासपुर	चू.प.	595, 594/1–3–4–5–6	3.86 ए 1.56 हे.	मस्तूरी	मस्तूरी	14.10.2010 से 13.10.2040	
59	श्री दौलत विधानी आ. स्व. श्री नामामल विधानी तोरवा, बिलासपुर (2)	चू.प.	565, 566, 570, 571	1.745 हे. 4.31 ए.	मस्तूरी	मस्तूरी	03.07.1998 से 02.07.2028	
60	(श्री कपिलेन्द्र शर्मा) श्री वाय भास्कर राव आ. ए. नायडू हेमूनगर, बिलासपुर	चू.प.	252/1	1.214 हे.	मस्तूरी	मस्तूरी	26.02.2003 से 25.02.2033	
61	श्री रघुवीर सिंह चावला आ. श्री इंद्रजीत सिंह चावला, जयरामनगर मस्तूरी बिलासपुर (1)	चू.प.	252/1	1.983 हे.	जयरामनगर	मस्तूरी	14.08.1999 से 13.08.2029	
62	श्री रघुवीर सिंह चावला आ. श्री इंद्रजीत सिंह चावला, जयरामनगर मस्तूरी बिलासपुर (1)	चू.प.	389/1	1.214 हे.	भदौरा	मस्तूरी	15.01.1995 से 14.01.2025	
63	श्रीमती ममता शर्मा पति श्री कैलाश शर्मा, निवासी बिलासपुर (छ.ग.)	चू.प.	2810/3–4, 2715 एवं 2716	0.607 हे. 1.50 एकड़	नरगोड़ा	मस्तूरी	07.08.2001 से 06.08.2031	

C.S. PRADHAN

64	श्री केशव गुरनानी आ. श्री साधूराम गुरनानी, निवासी चकरभांठा, तह0 बिल्हा, बिलासपुर	चू.प.	422, 423, 424, 426, 427	1.33 हे. 3.30 ए.	कनेरी	बिल्हा	29.05.2006 से 28.05.2036	
65	श्रीमति सुजाता मित्रा पति एस.बी. मित्रा, विद्यानगर बिलासपुर	चू.प.	749/8,9,10, 749/15,16, 17	1.790 हे.	खरगहनी	कोटा	26.06.2012 से 25.06.2022	
66	श्रीमती पुष्पा दुबे पति श्री अशोक दुबे निवासी नर्मदा नगर, बिलासपुर	चू.प.	300	1.725 हे. 4.26 एकड़	घोरामार	तखतपुर	17.09.2009 से 16.09.2039	
67	श्रीमति विमला सिंह पति श्री नंदभान सिंह, नर्मदानगर बिलासपुर	चू.प.	252/3	0.850 हे.	जयरामनगर	मस्तूरी	02.05.2009 से 01.05.2039	
68	श्री अजय शर्मा आ. श्री हरिहर प्रसाद शर्मा, निवासी जयरामनगर, बिलासपुर	चू.प.	252/3	0.850 हे.	जयरामनगर	मस्तूरी	01.12.2009 से 30.11.2039	
69	श्री राम कुमार दुबे आ. श्री भूषण लाल दुबे, ग्राम चिचिरदा, तह. तखतपुर	चू.प.	305	1.052 हे.	घोरामार	तखतपुर	03.12.2009 से 02.12.2039	
70	श्रीमति जयश्री दुबे पति श्री रामकुमार दुबे, ग्राम चिचिरदा, तह. तखतपुर	चू.प.	306	2.408 हे.	घोरामार	तखतपुर	26.06.2010 से 25.06.2040	

C.S. DWARDWAR

71	श्री शुभम केशरवानी आत्मज श्री राजकुमार केशरवानी, निवासी ग्राम लोरमी, जिला मुंगेली	चू.प.	6/2, 6/7, 6/8	1.842 हे.	खपराकोल (मनपहरी)	कोटा	18.04.2016 से 17.04.2046	
72	श्री रामकुमार खुसरो आ. श्री शिवदयाल खुसरो निवासी बुधवारा लोरमी	चू.प.	186, 191/1–2'3	3.028 हे.	बेलसरा	तखतपुर	19.04.2017 से 18.04.2047	ई–निविदा
73	श्री महेश शर्मा आ. स्व. श्री किशोरी लाल शर्मा, निवासी बिल्हा, बिलासपुर	चू.प.	55/1–2, 56/1–2	2.105 हे.	दुरूगडीह	बिल्हा	18.12.2016 से 17.12.2046	
74	श्री परमानंद विधानी आ. श्री धमायल विधानी, तोरवा, बिलासपुर (1)	चू.प.	241/1,	1.457 हे.	मोहतरा	मस्तूरी	23.08.1999 से 22.08.2029	
75	श्री परमानंद विधानी आ. श्री धमायल विधानी, तोरवा, बिलासपुर (1)	चू.प.	242/1, 241/1, 246	1.822 हे.	मोहतरा	मस्तूरी	03.03.2009 से 02.03.2039	
76	श्रीमती शाकिरा खान आ. श्री नईम खान निवासी टिकरापारा जिला बिलासपुर	चू.प.	572/1	3.00 एकड़	मस्तूरी	मस्तूरी	03.03.2005 से 02.03.2035	

C.S. PHADDWAJ

77	श्री कौशल सिंह आ. श्री महराज सिंह गोपिया, जयरामनगर, मस्तूरी बिलासपुर (1)	चू.प.	586 / 1	2.50 एकड	मस्तूरी	मस्तूरी	15.02.1999 से 14.02.2029	
78	श्री दौलत विधानी आ. स्व. श्री नामामल विधानी तोरवा, बिलासपुर (2)	चू.प.	572 / 1	4.00 एकड	मस्तूरी	मस्तूरी	21.04.1996 से 20.04.2026	
79	श्री राजेश पाण्डेय आ. श्री रज्जन पाण्डेय, मिनोचा कालोनी, बिलासपुर (2)	चू.प.	572 / 1	1.619 हे.	मस्तूरी	मस्तूरी	26.10.1997 से 25.10.2027	
80	श्री राजेश पाण्डेय आ. श्री रज्जन पाण्डेय, मिनोचा कालोनी, बिलासपुर (2)	चू.प.	572 / 1	4.00 एकड	मस्तूरी	मस्तूरी	19.02.1995 से 18.02.2025	
81	श्री सरजू प्रसाद मिश्रा आ. श्री शिव प्रसाद मिश्रा, करगीरोड, कोटा बिलासपुर	सा.पत्थर	672 / 1	2.024 हे.	कोटा	कोटा	31.05.2012 से 30.05.2042	
82	मे. रायल सीमा कांक्रीट एण्ड स्लीपर, कोटा	सा.पत्थर	1343 / 1	1.822 हे.	अमाली	कोटा	15.07.2008 से 14.07.2038	
83	श्री पंकज सिंह आ. श्री सुधीम सिह, ओमनगर जरहाभाठा, बिलासपुर	सा.पत्थर	741	2.032 हे.	कोटा	कोटा	12.07.2007 से 11.07.2037	

C.S. PUJARIWAL

84	श्री आनंद अग्रवाल आ. श्री ओमप्रकाश अग्रवाल, पेण्ड्रा, बिलासपुर	सा.पत्थर	1248/1–5, 1249/1–3 –5–14	0.813 हे.	चनाडोंगरी	मरवाही	22.07.2010 से 21.07.2040	
85	कार्यपालन अभियंता, जल संसाधन विभाग, बिलासपुर	सा.पत्थर	298	1.620 हे.	बाकीघाट (कलारतराई)	कोटा	07.10.2016 से 06.10.2046	
86	श्री आशीष केसरी आ. श्री रमेश केसरी, निवासी पेण्ड्रा, बिलासपुर	सा.पत्थर	538/1क	1.200 हे.	डडिया	मरवाही	14.03.2017 से 13.03.2047	
87	श्री आशीष केसरी आ. श्री रमेश केसरी, निवासी पेण्ड्रा, बिलासपुर	सा.पत्थर	537/1, 538/1ज	1.256 हे.	डडिया	मरवाही	15.03.2017 से 14.03.2047	
88	अंकित मिश्रा निवासी करगीराड कोटा	सा.पत्थर	1452	2.800 हे.	अमाली	कोटा	14.03.2017 से 13.03.2047	
89	मेसर्स तिरूपति बिल्डकॉन डाय. श्री पदम कुमार सिंघानिया, शहडोल	सा.पत्थर	538/1	3.000 हे.	डडिया	मरवाही	14.03.2017 से 13.03.2047	
90	श्री अर्जुन सिंह गोड़ आ. श्री बलवान सिंह, ग्राम कुर्रीपारा, सारबहरा, पेण्ड्रा, बिलासपुर	सा.पत्थर	141	0.80 हे.	करंगरा (धनौली)	पेण्ड्रा	14.01.2010 से 13.01.2020	

C.S. PRADHAN

91	श्री शशिनारायण गोले आ. स्व. श्री सत्यनारायण गोले, सिंधी कालोनी बिलासपुर	मिट्टी	40/8–11–12–16–42–45	3.644 हे.	फरहदा	बिलासपुर	26.05.2012 से 25.05.2042	
92	श्रीमति पूजा विधानी पति अशोक विधानी निवासी–हेमू नगर बिलासपुर (छ.ग.)	मिट्टी	2533/1	0.716 हैक्ट.	मोपका	बिलासपुर	27.02.2008 से 26.02.2038	
93	श्री सूर्यप्रकाश गंगोत्री आ. श्री बी.डी. गंगोत्री, दयालबंद बिलासपुर	मिट्टी	2535/5–10	1.417 हे.	मोपका	बिलासपुर	07.05.2009 से 06.05.2039	
94	श्री बलराम मधुकर आ. श्री मुकुत राम मधुकर, ग्राम पेण्ड्री, तह. मस्तूरी बिलासपुर	मिट्टी	571	1.311 हे.	भिलौनी	मस्तूरी	26.06.2012 से 25.06.2042	
95	श्री हेमचंद भार्गव, ग्राम मनवा, तह. मस्तूरी बिलासपुर	मिट्टी	736/1–2, 780, 781	1.599 हे.	मनवा	मस्तूरी	28.02.2012 से 27.02.2042	
96	श्री उत्तरा कुमार रात्रे, ग्राम जोंधरा, बिलासपुर	मिट्टी	688, 689, 690, 692, 693, 694	1.542 हे.	शिवटिकारी	मस्तूरी	28.02.2012 से 27.02.2042	
97	श्री विनोद सिंह आ. श्री गौतम सिंह, ग्राम ईटवा, मस्तूरी, बिलासपुर	मिट्टी	182/1–3–4	1.417 हे.	ईटवा	मस्तूरी	30.05.2012 से 29.05.2042	

C.S. PHADNAVIS

98	श्री नारायणदास विधानी, तोरवा, बिलासपुर	मिट्टी	9/4–5, 107/1–2, 108, 109, 112, 113/1, 114	3.276 हे.	लावर	मस्तूरी	11.10.2007 से 10.10.2037	
99	श्री धनराज आहूजा, आ. श्री तुलाराम आहूजा, कश्यप कालोनी,	मिट्टी	496/15,17, 18,19,20,21, 22,23,24,25	3.356 हे..	सरवानी	बिल्हा	28.02.2014 से 27.02.2044	
100	श्री इकबाल भाई आ. स्व. श्री लतीफ भाई बजरंग नगर, तखतपुर	मिट्टी	151/1	1.498 हे.	परसाकोपा	तखतपुर	05.07.2003 से 04.07.2033	
101	श्री इकबाल भाई आ. स्व. श्री लतीफ भाई बजरंग नगर, तखतपुर	मिट्टी	7/1–2–3–4–5, 9/1–4–5	1.320 हे.	निगारबंद	तखतपुर	09.01.2003 से 08.01.2033	
102	श्री राजकुमार यादव, आ. श्री बहोरन यादव, ग्राम लमेर, तह तखतपुर	मिट्टी	763/1, 764	1.78 हे.	लमेर	तखतपुर	28.02.2004 से 27.02.2034	
103	श्री कोमल प्रसाद पाड़े आ. श्री रामजी पांडे, खजुरी नवागांव,	मिट्टी	891, 892, 893, 894, 911, 918, 919, 915, 920	2.154 हे.	चनाडोंगरी	तखतपुर	23.02.2008 से 22.02.2038	

C.S. RUPANWAT

104	श्री बंशी पाडे आ. श्री पी.आर. पाड़े निवासी ग्राम बिनौरी तह. तखतपुर	मिट्टी	103, 105, 106, 107, 110/1, 110/2, 114/1, 114/2, 115/1, 115/2	1.159 हे.	बिनौरी	तखतपुर	26.06.2014 से 25.06.2044	
105	श्री राहुल सामनानी आ. श्री श्याम कुमार सामनानी, सिंधी कालोनी बिलासपुर	मिट्टी	1157, 1159, 1164, 1163	1.741 हे.	समडिल	तखतपुर	26.07.2010 से 25.07.2040	
106	श्री अमर देव सिंह भगत आ. श्री निरंजन सिंह भगत, मुंगेली रोड बिलासपुर	मिट्टी	386/1–2, 402/3, 404/2, 410	1.757 हे.	विंध्यासर	तखतपुर	13.02.2007 से 12.02.2037	
107	श्री भुनेश कुमार दुबे आ. श्री मन्नू लाल दुबे निवासी कुदुदण्ड बिलासपुर	मिट्टी	1725, 1737, 1738, 1726/1, 1727, 1728, 1739	1.447 हे.	सागर	तखतपुर	24.06.2014 से 23.06.2024	
108	ईश्वर प्रसाद गोंड आ. श्री घासीराम गोंड निवासी ग्राम घोंघाडीह	मिट्टी	637,638,640 /1 653,	1.891 हे.	घोंघाडीह	तखतपुर	20.09.2010 से 19.09.2040	
109	श्री ज्वाला प्रसाद चतुर्वेदी आ. श्री विसम्भर चतुर्वेदी, टिकरापारा, बिलासपुर	मिट्टी	31/3, 34/7	1.214 हे.	दरीघाट	मस्तूरी	23.02.2000 से 22.02.2030	

110	श्री अर्जुन भगतानी आ. श्री निहाल चंद भगतानी, निवासी बिलासपुर	मिट्टी	20, 21, 30/1–2, 31, 35/1, 37/1–2, 38, 40, 41/1–2, 61	9.80 एकड़	अटर्रा	बिल्हा	10.03.2006 से 09.03.2036	
111	श्री गोविंद भगतानी निवासी :– बिलासपुर	मिट्टी	1302, 1293, 1317, 1315, 1316, 1320/2	4.20 एकड	पासीद	बिल्हा	28.04.2006 से 27.04.2036	
112	श्री कार्तिकराम पटेल आ. श्री सुखचंदन पटेल, निवासी ईटवा, मस्तूरी, बिलासपुर	मिट्टी	1309, 1310	1.234 हेक्टेयर	ईटवा	मस्तूरी	02.08.2011 से 01.08.2041	
113	श्री हजारीलाल भारद्वाज आ. श्री गनपत भारद्वाज निवासी पिरैया तहसील बिल्हा जिला बिलासपुर	मिट्टी	467/1, 501/4–5–6	2.254 हे.	पिरैया	बिल्हा	24.05.2017 से 23.05.2047	ई–निविदा
114	मेसर्स सत्यम शिवम् सुंदरम प्रो. श्री शिवानंद सराफ आ. स्व. श्री रामकिशोर सराफ निवासी लोफंदी बिलासपुर	मिट्टी	491/1–2	1.642 हे.	लोफंदी	बिलासपुर	29.04.2017 से 28.04.2047	ई–निविदा

115	मेसर्स लालवानी ब्रिक्स प्रो. श्री सुनील लालवानी आ. स्व. श्री भागचंद लालवानी निवासी कश्यप कालोनी बिलासापुर	मिट्टी	487,488,489 / 1, 492, 493	1.574 हे.	पिरैया	बिल्हा	25.05.2017 से 24.05.2047	ई–निविदा
116	मेसर्स गुरूकृपा ब्रिक्स प्रो. श्री हरीश भगतानी निवासी करबला रोड बिलासपुर (छ.ग.)	मिट्टी	364 / 1–2, 314, 315, 317 334 / 1–2–3, 356	3.365 हे.	पिरैया	बिल्हा	14.03.2017 से 13.03.2047	
117	श्री कैलाश सिंह ठाकुर	मिट्टी	96 / 6–10, 96 / 19, 96 / 20	1.035 हे.	कबराकांपा	तखतपुर	08.07.2018 से 07.07.2048	ई–निविदा
118	श्री संजय पवार	चू.प.	84 / 1–2–3, 86 / 2–9–1 011–12	1.656 हे.	कोसमडीह	मस्तूरी	16.04.2018 से 15.04.2048	ई–निविदा
119	श्री घनश्याम भारद्वाज	चू.प.	49, 50, 51 / 1	1.143 हे.	मनपहरी	कोटा	25.05.2018 से 24.05.2048	ई–निविदा
120	श्रीमती कविता बंसल पति श्री संतोष बंसल, बिल्हा मोड़ बिलासपुर	मिट्टी	104 से 108,110 / 1 –3–4, 114 / 2,115, 116 / 1	2.164 हे.	मटियारी	बिल्हा	24.07.2010 से 23.07.2020	

C.S. PRADHAN

121	श्री मंजू शुक्ला आ. श्री रमेश शुक्ला, 27 खाली, बिलासपुर	मिट्टी	549/1–2, 550, 551, 552, 553, 554/1–2, 556/1–2, 557,/1–2	2.389 हे.	भाड़म	तखतपुर	10.06.2008 से 09.06.2018	
122	श्री पवन कुमार अग्रवाल, आ श्री नवल किशोर अग्रवाल, निवासी – मंगला चौक बिलासपुर	मिट्टी	800/1–3–4, 801/5–6, 1030,	3.526 हे.	लमेर	तखतपुर	26.08.2014 से 25.08.2024	
123	श्री राजेश पाण्डेय आ. श्री रज्जन पाण्डेय, मिनोचा कालोनी, बिलासपुर (2)	मिट्टी	1005	5.00 एकड़	सेलर	बिलासपुर	25.11.2004 से 24.11.2034	
124	मेसर्स गुलाब ब्रिक्स प्रो. श्री अविनाश आहूजा, निवासी कश्यप कालोनी, बिलासपुर (छ.ग.)	मिट्टी	81/1–3, 87	1.218 हेक्टेयर	पंधी	मस्तूरी	08.07.2018 से 07.07.2048	

C.S. PANDWAL

जिला बिलासपुर अंतर्गत उत्खनिपट्टा की जानकारी

क्रमांक	तहसील	खनिज का नाम					योग
		डोलोमाईट	चूनापत्थर	सा. पत्थर	मिट्टी (ईट)	क्वार्टज	
1	2	3	4	5	6	7	8
1	मस्तूरी		39		8		47
2	बिल्हा	14	3		7		24
3	तखतपुर	10	10		12		32
4	बिलासपुर				5		5
5	कोटा		5	5			10
6	पेण्ड्रा			1		1	2
7	मरवाही			4			4
	योग	24	57	10	32	1	124

C.S. PRADHAN

जिला बिलासपुर में विद्यमान खनिपट्टा की सूची

क्र.	पट्टेधारियों का नाम एवं पूरा पता	खनिज का नाम	खसरा नं.	स्वीकृत क्षेत्र (हेक्टेयर में)	पट्टे की स्थिति ग्राम	तहसील	अवधि	कार्यशील/ शिथिल	विशेष विवरण
1	2	3	4	5	6	7	8	9	10
1	मेसर्स ए.सी.सी. लिमि. निवासी–जामुल सीमेंट वर्क्स, दुर्ग (छ.ग.)	चूनापत्थर	150, 155/3, 155/1, 162/1,2, 157/1,3, 158, 159, 160/1,2, 161/1,2, 163/1के, 163/1केएच, 163/2, 164/1,2,3,5, 165/5,1,2, 176, 177, 178, 179/1 से 5, 180/1,2, 181, 182/2, 183 इत्यादि (कुल 2029 खसरे)	582.962 है.	गोंडाडीह (147.707) मुरकुंडा (169.541) बोहरडीह (99.946) विद्याडीह (167.715)	मस्तूरी	21.10.2009 20.10.2039	शासकीय भूमि/निजी भूमि	कार्य अनुमति नही है।

2	मेसर्स लाफार्ज इंडिया प्रा.लि. (Nuvoco Vistas Cor. Ltd) मैग्नेटो आफिजो, 501, 5वी मंजिल, जी.ई.रोड, लाभाण्डी, रायपुर (छ.ग.)	चूनापत्थर	156 / 1,2, 157 / 1,3,4, 161 / 1,2,3,4,5, 162 / 1,2,3, 163 / 1,2, 108 / 1,2,3,4,5, 201 / 1,2,3,4,5, 209 / 1, 14 / 1 इत्यादि (2334 खसरे)	1085.350 हेक्टेयर	चिल्हाटी जैतपुरी सेमरीडीह पतईडीह महुआडीह मनवा रहटाटोर खपरी बेलपान (कुकुरदी) साल्हेघोरी कोपरी	मस्तूरी	15.12.2015 14.12.2065	शासकीय भूमि / निजी भूमि	छ.ग. शासन खनिज साधन विभाग, रायपुर के आदेश क्रमांक एफ 3–86 / 2007 / 12 रायपुर दिनांक 13.07. 2015 अनुसार 50 वर्षो के लिये स्वीकृत किया गया है। अनुबंध प्रक्रिया में है।
3	मेसर्स जिंदल स्टील प्रा. लिमि.	चूनापत्थर	2 / 2, 3, 7 / 1ख, 7 / 3 तथा अन्य कुल 360 खसरे	120.313 हेक्टे.	गोडाडीह	मस्तूरी	10.01.2017 09.01.2067	शासकीय भूमि / निजी भूमि	शासन का आदेश क्र. एफ 3–86 / 2007 / 12(3) दिनांक 05.01.2017 के लिये स्वीकृत किया गया है।

(Data provided by district mining office bilaspur)

C.S. PRADHAN

4. Details of Royalty or Revenue received in last three years:

Royalty collected from Major Minerals

S.No.	Financial year	Mineral	Revenue collection (Lakh)
1.	2016-17	Limestone	0
2.	2017-18	Limestone	84.88
3.	2018-19	Limestone	119.69

(Data provided by district mining office bilaspur)

Royalty collected from Minor Minerals

S. No.	Financial year	Mineral wise Revenue collection (In Lakh)						
		Dolomite	Low Grade Limestone	Ordinary Stone	Clay (Brick)	Murum	Sand	Total
1	2016-17	1051.09	169.11	21.82	8.9	66.92	87.86	1405.7
2	2017-18	998.29	511.62	43.07	11.41	69.14	145.89	1779.42
3	2018-19	1415.26	330.62	9.41	17.04	216.4	88.82	2077.55

(Data provided by district mining office bilaspur)

5. Detail of Production of Sand or Bajari or Mineral mineral in the three years:

Mostly, the sand is mined from the bank of river Arpa and Son at villges Sendari, Koni, Kachhar, Lophandi, Ghutku, Mangla, Nirtu, Pasid, Ameritikara, Visheshra, Sildaha, Ratkhandi, Chhatauna, Chichgohna and pondi etc.

S. No.	Financial Year	Mineral wise Production details						
		Dolomite (MT)	Low Grade limestone (MT)	Ordinary stone (m^3)	Clay (Brick) (m^3)	Murum (m^3)	Sand (m^3)	Total
1.	2016-17	1401461.52	211390.5	21191.262	44507.4	334600	439340	**2452490.682**
2.	2017-18	1331054.586	639527.96	41817.359	57074.5	345735	729450	**3144659.405**
3.	2018-19	1572513.866	413280.85	7239.23	34093.2	432800	177640	**2637567.146**

6. Process of Deposition of Sediments in the rivers of the District:

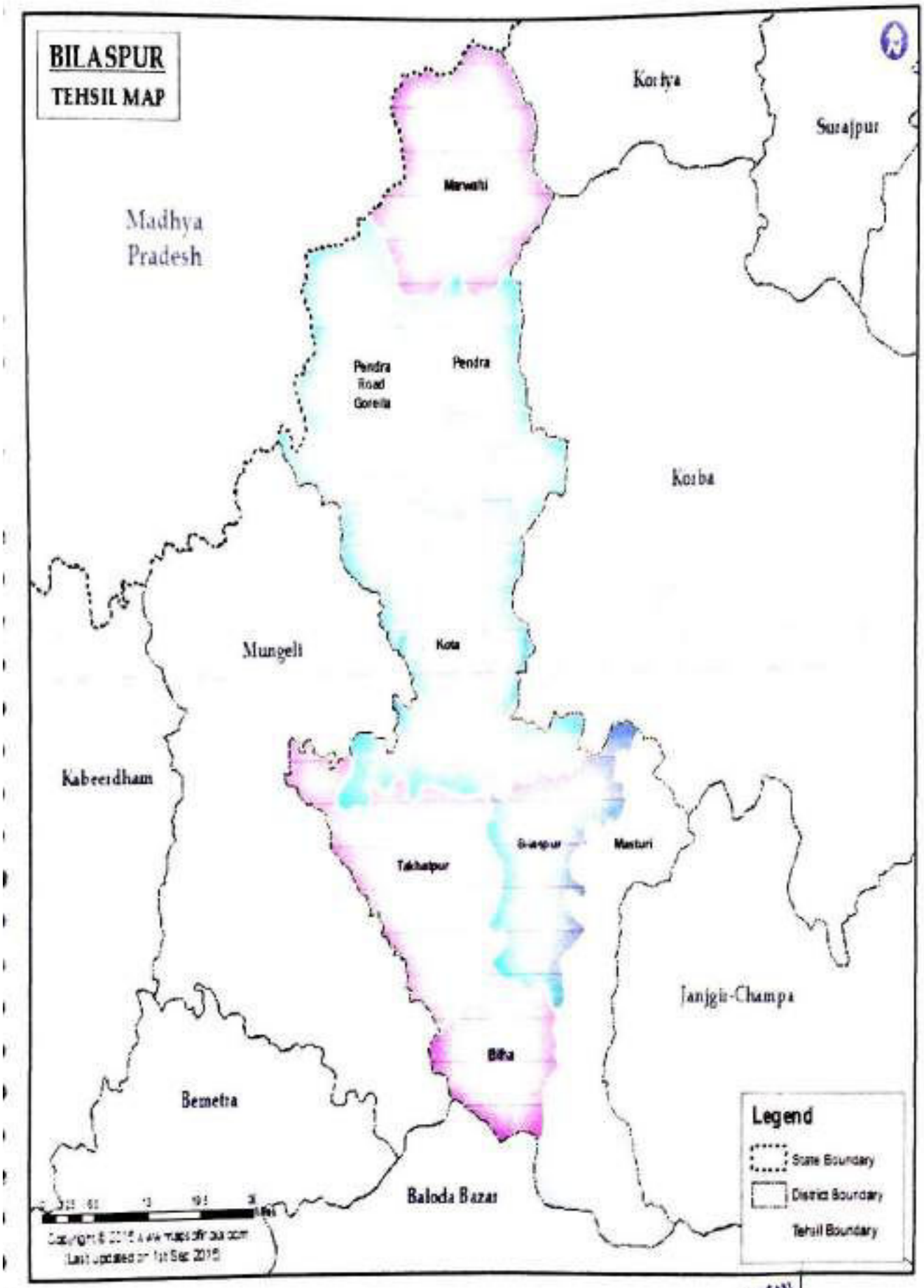
There are some important factors which are responsible for the process of sedimentation in a river basin are the stage of river development (the infant, youth, mature or old stage), lithology and structures of the upstream region or provenance from where sediments eroded/migrated/travelled, geomorphology and gradient of provenance, anthropogenic activities such as mining, industrialization and mega engineering projects such as Dam also affects the process of sedimentation and the thickness of the sequence is determined by the depth of the stream channel during flood stage and is related to the size of river itself. The major river of the district is Arpa. The river originates in Khodri-Khongsara of Pendra sub-division and is the largest river in the district and is about 100km long. It is very shallow in depth but sometimes it creates havoc during rain. Other major rivers of the district are as Leelagar and Maniyari.

C.S. PRADHAN

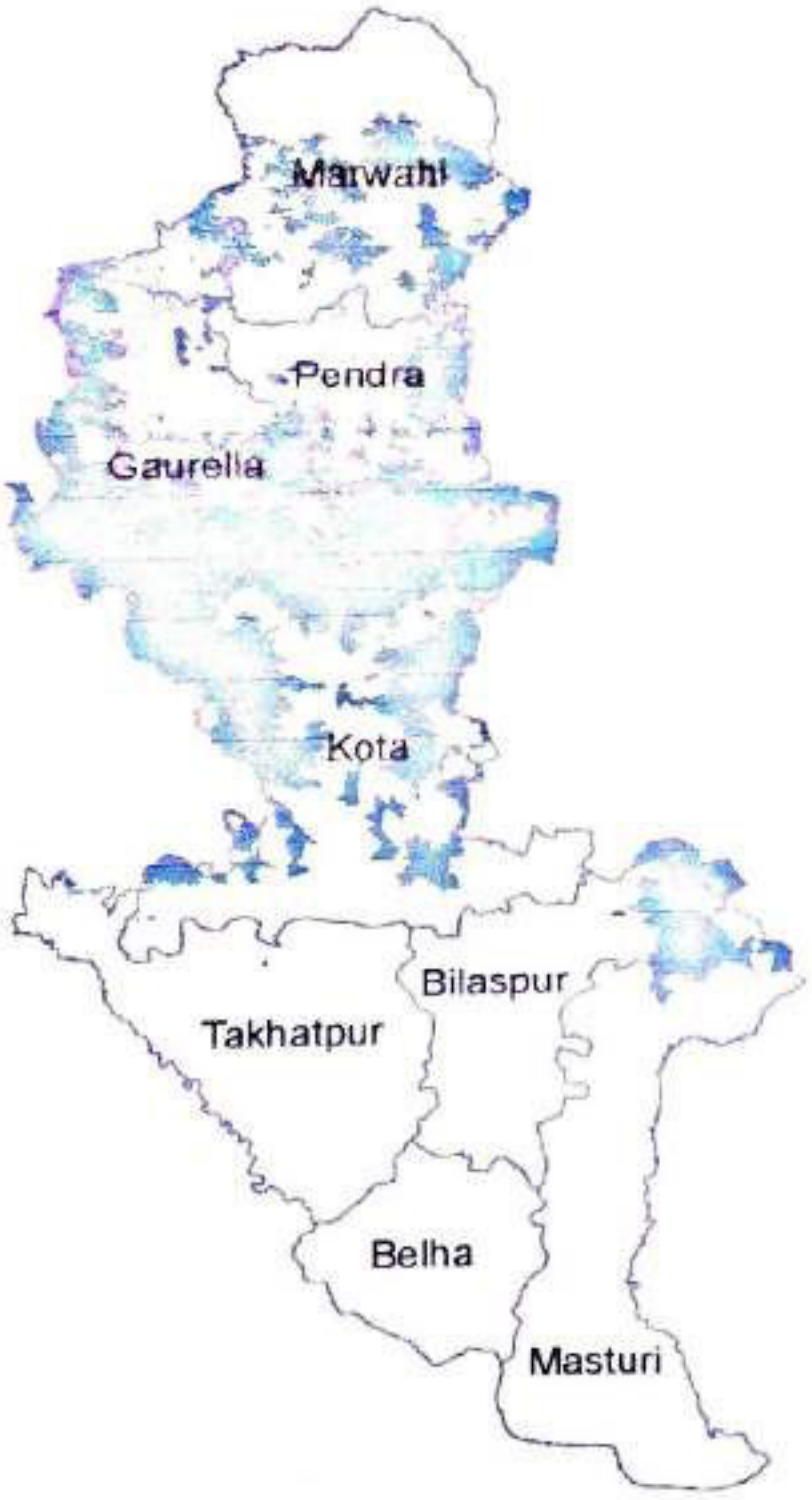
7. General Profile of the District:

S. No.	Particulars	Statistics
1.	**General Information**	
	Geographical Area	5815.87 km^2
	Geographical Position	N 21° 47'00'' to 23° 08'00'' E 81° 14'00'' to 83° 15'00''
	Administrative Division/Number of Tehsil	7/8
	No. of Panchayat/Villages	645/909
	Population (as per Census 2011)	19,61,922
	Population Density(as per Census 2011)	337.19 per km^2
2.	**Physiography**	
	Major Physiographic Units	Northern hills and Chhattisgarh Plains
	Major Drainage	Arpa, Leelagar, Maniyari,Seonath
	Temperature (in °C)	Minimum 15 Maximum 45
3.	**Land use (km^2)**	
	Forest Area	1631.73 km^2
4.	**Major Soil Types**	Medium black soil, Sandy soil
5.	**Number of Ground Water Monitoring Stations of CGWB**	
	Number of Dug wells	43 (2011)
	Water Level	-
	No. of Major Bridges	-
6.	**Hydrogeology**	
	Major Water Bearing formation	Limestone
	Pre-Monsoon Depth of water level	2.26 to 16.52 mt. (Avg. - 8.30 mt)
	Post-Monsoon Depth of water level	0.11 to 10.33 mt. (Avg. – 4.34 mt)
7.	**Mining Scenario**	
	Total No. of Mining Leases (Major Minerals)	03 (Limestone)
	Total area of mining leases (Major Minerals)	1788.625 Hectares.
	Total Royalty or Revenue received from Minor Minerals in 2018-19	2077.55 Lakh.
	Total no. of notified sand leases	33
	Total area of Sand Leases	137.965 Hectares
	Total Production of Sand in 2018-19	177640.00 m^3
	No. of Quarry leases extended as per amended CGMMR-2015.	-

C.S. AGRAWAL


BILASPUR
TEHSIL MAP
Korba
Surajpur
Marwahi
Madhya Pradesh
Pendra Road Gorella
Pendra
Korba
Mungeli
Kota
Kabeerdham
Takhatpur
Masturi
Janjgir-Champa
Bilha
Bemetra
Baloda Bazar
Legend
State Boundary
District Boundary
Tehsil Boundary

Forest Map



Legend

Forest

DESCR

GREENWASH

Non Forest Area

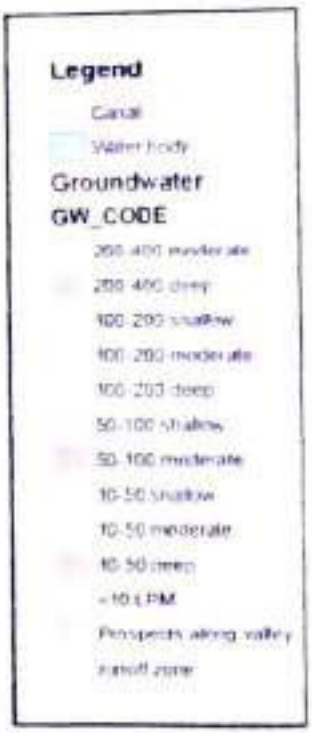
PLANTATION

RF / PF

C.S. PRADHAN

Ground Water Prospect Map





C.S. PRADHAN

8. Land Utilization Pattern in the District: Forest, Agriculture, Horticulture, Mining etc.

Forest	–	163173.00 Hectares
Agriculture	–	290529.00 Hectares
Horticulture	–	6617.00 Hectares

9. Physiography of the district:

Bilaspur District is situated in the north-northwestern part of Chhattisgarh state and is covered in survey of India sheet No. 64/E, 64/F, 64/J and 64/k. It is located at 22.09°N 82.15°E. Bilaspur is situated on the the bank of the rain fed Arpa river, which originates from the high hills of the Maikal Range of central India. It is surrounded by Koriya District in the north, Shahdol District of Madhya Pradesh , Mungeli District in the west , Balauda Bazar-Bhatapara District in the south and Korba and Janjgir – Champa District in the east.

Physiographically the district can be divided into vally fill, denudational plateau, denudational pediment/ pediplain and high level plateaux. The vally fills occur in the southern most part. They range in elevation from 260m to 275m. High level plateaux are exposed in the eastern and western parts , ranging in elevation from 539m to 730m in the east and attain a maximum elevation of 1006m in the west.

10. Rainfall: Tahsil-wise:(in mm)

S. No.	Tahsil	Year 2018-2019 (1st June 2018-31st May 2019)				
		Rainfall (Maximum)	Rainfall (Minimum)	Total Rainfall	Total Days of Rainfall	Remark
1.	Bilaspur	61.2	1.0	875.6	60	
2.	Bilha	84.2	1.0	877.2	50	
3.	Masturi	85.0	0.5	819.6	70	
4.	Takhatpur	85.4	0.2	1064.9	62	
5.	Kota	92.8	2.0	910.2	63	
6.	Pendraroad	67.5	0.1	1092.5	99.5	
7.	Pendra	62.6	1.0	1090.0	74.2	
8.	Marwahi	90.0	1.2	1131.0	66.9	

*Source KVK, Bilaspur

C.S. PRADHAN

11. Geology and Mineral wealth:

In Bilaspur district rock formations ranging in age from Archean to recent times are exposed in the area. They include granites, gneisses and older metamorphic of the Precambrian age, rocks of Chhattisgarh Super group of upper proterozoic age, Gondwanas of Permian age, Lametas of Upper Cretaceous age, Deccan trap of upper cretaceous to Eocene age and laterite of Cainozoic age. The Chhota Nagpur Gneissic complex of Archean to proterozoic age comprises of unclassified granites and granite gneisses, with enclaves of older metamorphics – Phyllites, Quartzites, Schists and dolomitic marble. This group is exposed in northern part of the area.

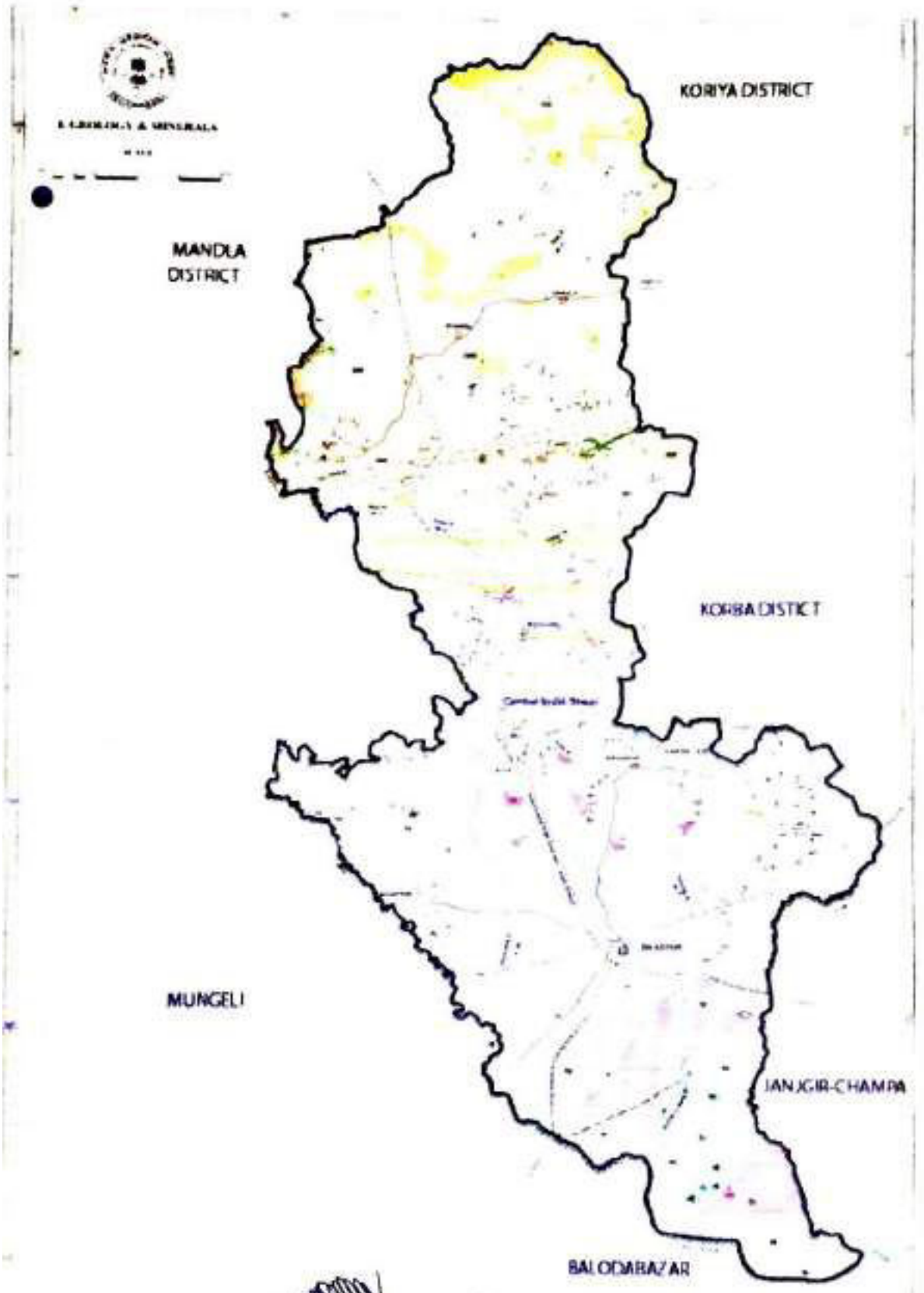
The Chhattisgarh Super group of the rocks occurring in the south unconformably overlie the Precambrian basement. The Chhattisgarh Super group is divided into Chandarpur and Raipur groups. The Chandarpur Group comprises sandstone and conglomerate. Unclassified Raipur group comprising of shale and limestone occurs in the central and south central part, whereas in the south-eastern part this Group is represented by the rocks of Gunderdehi Formation, Chandi Formation, Tarenga Formation and Kodwa Formation. Gunderdehi Formation is represented by grey shale, shale and limestone with intra formational conglomerate. Chandi Formation is comprised of grey, hard and compact shale and pink dolomite. Tarenga Formation comprises of clay, chert, shale, red calc- argillite, argillaceous dolomite. Kodwa formation is represented by grey argillaceous dolomite.

Gondwana Super group is represented by the rocks of Talchir Formation and Barakar Formation of Lower Permian age. Talchir Formation occupies the northern most part of the district and is composed of buff and Khakhi green shale with splintery fragments, Grayish white, fine to medium grained sandstone and boulder bed that comprises of subangular clasts of quartzite and gneiss in greyish, fine to medium grained matrix. Barakar Formation consists of greyish white, fine to coarse grained, cross bedded massive sandstone, grey shale, blackish grey carbonaceous shale, light yellow to creamy white clay with coal seams. It occurs in the northern most part of the district.

Lameta Formation is exposed in the NW part of the district at the foothill of Amarkantak Plateau. It comprises ash grey coloured cherty/siliceous limestone and greenish feldspathic (arkosic) sandstone with very thin bands of red clay- variegated in nature.

Deccan Trap of Upper Cretaceous to Eocene age is exposed in wet and north western parts of the district overlying the Lametas. The Basalt flows are dark grey, fine to medium grained, hard and compact.

Laterite and bauxitic laterite of Cainozoic age are observed on basalts in the west and north western parts of the district. The development of the reddish brown, hard and compact lateritic profile is due to weathering of the trap rocks which subsequently has resulted in the formation of bauxite Zones.


KORIYA DISTRICT
MANDLA
DISTRICT
KORBA DISTICT
MUNGELI
JANJGIR-CHAMPA
BALODABAZAR

LITHOLOGY	STRATIGRAPHIC STATUS			AGE	NATURE AND CHARACTERISTICS
Laterite/Bauxite laterite	Laterite			Cainozoic	Reddish brown, hard and massive
Basalt Flow	Deccan Trap			Upper Cretaceous To Eocene	Dark grey, fine to medium grained, hard and compact volcanic rock
Limestone, arkosic sandstone, clay	Lameta			Cretaceous	Ash grey, cherty siliceous limestone, and greenish feldspathic sandstone (medium grained) with thin reddish clay bands
Sandstone, Shale & Coal Seam	Barakar Formation	Gondwana Supergroup		Lower Permian	Greyish white, fine to coarse grained cross bedded massive sandstone, grey shale, blackish grey carbonaceous shale Light yellow to creamy white clay with coal seams
Boulder bed Sandstone & Shale	Talchir Formation				Buff and khaki green shale with splintery fragments Greenish white, fine to medium grained sandstone, Boulder bed comprises subangular clasts of quartzite and gneissic greenish grey, fine to medium grained matrix
Argillaceous dolomite	Kodaia Formation	Raipur Group	Chhattisgarh Supergroup	Meso Neo Proterozoic	Grey argillaceous dolomite
Calc argillite dolomite	Tarenga Formation				Red, hard and compact calc argillaceous dolomite, sometimes grey to brownish limestone as intercalations
Clay-cherty-shale					Grey to greenish clay, grey hard chert, grey to greenish grey, fine grained shale with limestone at places
Pink dolomite & Shale	Chandi Formation				Pink to light brown, very hard dolomite with grey shale as intercalation
Shale with lime Stone intercalations					Brownish, greenish grey shale, grey, hard flaggy limestone, stromatolitic limestone and minor sandstone
Stromatolitic limestone					Grey to greenish brown, hard stromatolitic limestone
Dolomite					Grey hard and compact dolomite
Shale with flaggy limestone	Gunderdehi Formation				Purple, pink and light grey, medium to fine grained, hard and compact shale, grey fine grained limestone with intraformational conglomerate
Grey shale					Grey to brownish, fine grained shale with intercalations of grey, fine grained limestone
Unclassified Shale, limestone	Raipur Group (Undifferentiated)				Grey, medium to fine grained hard shale, grey medium to fine grained limestone
Sandstone and conglomerate	Chandarpur Formation				White to reddish brown, medium to coarse grained, hard sandstone, quartz arenite and polymictic conglomerate
Quartz and pegmatite veins				Meso Proterozoic	Medium to coarse grained acid intrusives composed of quartz, feldspar and mica
Dolerite and basic intrusives					Fine grained, dark grey to greyish black hard and compact basic rock
Unclassified granites and gneiss		Chilpi Group Complex Complex		Archaean to Proterozoic	Grey, medium to coarse grained granites, grey to dark grey, medium to coarse grained basitic gneisses
Undifferentiated metamorphics					Grey to dark grey, fine grained phyllite occasionally interbanded with quartzite, grey to brownish grey medium to fine grained quartzite, Greenish grey, fine grained hornfels, chlorite schist very bedded with quartzite band, grey to brownish hard dolomitic marble, mica schist and other siliceous rocks

C.S. PRADHAN
Director
Mineral Conservation Unit

Mineral wealth of Bilaspur district:

The Bilaspur district has number of significant mineral deposits. Most of the areas of district is furnished with Limestone and Dolomite. Chilhati area of the district is one of the largest cement grade deposits of the State. Dolomite deposits are reported from no. of places out of which Hirri, Pachperi, Pataidih, Manikchauri, Kaochi, and salfa are important. Despite this Feldspar deposits are reported from Sadhwani, Tikarkhard , Chaktipani, and Pidha. White clay as an alteration of granites and gneisses is reported from Jogisar.

11(a) District wise detail of river or stream and other sand source:

S.No	Name of River	Length in C.G	Origin	Remarks
1	Arpa	147	Khodri Khongsara, Pendra Plateau	Meets Shivanth at Thakun Deva in Bartoli
2	Maniyari	134	Mukaunda hill, Lormi plateau	Agar, Choti Narmda, Gongha are tributaries. Meets Shivnath river.
3	Lilagar	134	Eastern Hills of Korba	Meets Shivnath river.
4	Shivnath	290	Panabars hill, Rajnandgaon	Lilagar, Maniyari, Agar, Arpa are tributaries. Meets Mahanadi at Shivrinarayan.
5	Son	48	Originates from Sonkund, Pendra tashil	Flows in Bilaspur district, after flowing some distance it enters Uttar Pradesh and joints river Ganga near Ramnagar.

Note : Information derived from Internet.

Currently 33 Sand mines are operated in Arpa, Shivnath, Malaniya and Sargod River.

11(b) District wise availability of Sand or gravel or aggregate resources:

S.No	Number of Mines	River	Available Resource	Working/Proposed
1	18 Nos.	Arpa, Sargod	1078339.9 cu.m.	Working
2	03 Nos.	Malaniya	92625.00 cu.m.	Working
3	12 Nos.	Shivnath	970401 cu.m.	Working

(Data recived form district mining office bilaspur)

C.S. AGARWAL
D.I.

➢ **Data collection is under progress**

Drainage system with description of main rivers			
S.No.	Name of the River	Area drained (Sq. Km)	% Area drained in the District
1			
2			

➢ **Data collection is under progress**

Salient Features of Important Rivers and Streams:				
S.No.	Name of the River or Stream	Total Length in the District (in Km)	Place of Origin	Altitude at Origin
1				
2				

Portion of the River or Stream Recommeded for Mineral Concession	Length of area recommended for mineral concession (in kilometer)	Average width of area recommended for mineral concession (in meters)	Area recommeded for mineral concession (in square meter)	Mineable mineral potetial (in metric tonne) (60 % of total mineral potential

➢ **Data collection is under progress**

Mineral Potential			
Boulder (MT)	Bajari (MT)	Sand (MT)	Total Mineable Mineral Potential (MT)

➢ **Data collection is under progress**

Annual Deposition				
S.No.	River or Stream	Portion of the river or stream recommended for mineral concession	Length of area recommended for mineral concession (in meter)	Mineable mineral potential (in metric tonne) (60% of total mineral potential)
1				
2				
Total for the District				

C.S. PHADNWAL

D

11(c) District wise detail of existing mining leases of sand and aggregates

क्र.	ग्राम	ग्राम पंचायत	तहसील	खसरा	रकबा	नदी का नाम	पर्यावरण क्लीयरेंस				मशीनरी / मैनुअल
							स्वीकृति क्र.	दिनांक	उत्पादन क्षमता (घन. मी.)	अवधि	
1	2	3	4	5	6	7	8	9	10	11	12
1	लछनपुर	पेण्डरवा	बिलासपुर	1	4.900 हे.	अरपा	1357	29.11.2017	93100	29.11.2017 से 28.11.2020	सेमी मैकेनाइज्ड
2	सरकंडा	नगर पालिक निगम बिलासपुर	बिलासपुर	1137 / 1	4.86 हे.	अरपा	2401	23.01.2017	48600	23.01.2017 से 22.01.2020	सेमी मैकेनाइज्ड
3	अकलतरी	अकलतरी	बिलासपुर	1	4.30 हे.	अरपा	732	01.08.2017	40850	01.08.2017 से 29.07.2020	सेमी मैकेनाइज्ड
4	मंगला–3	मंगला	बिलासपुर	850	2.025 हे.	अरपा	1359	29.11.2017	19229.90	29.11.2017 से 28.11.2020	सेमी मैकेनाइज्ड
5	सेन्दरी–2	सेन्दरी	बिलासपुर	2096	9.00 एकड	अरपा	1349	29.11.2017	69160	29.11.2017 से 28.11.2020	सेमी मैकेनाइज्ड
6	उरतुम	उरतुम	बिलासपुर	541 / 1	1.82 हे.	अरपा	200	08/05/2018	25935	08.05.2018 से 07.05.2021	सेमी मैकेनाइज्ड
7	चोरहादेवरी	चोरहादेवरी	बिलासपुर	584	4.50 हे.	अरपा	204	08/05/2018	64125	08.05.2018 से 07.05.2021	सेमी मैकेनाइज्ड

C.S. BHARDWAJ

Dist

8	मंगला – 4	मंगला	बिलासपुर	850	4.30 हे.	अरपा	821	15/10/2018	122550	15.10.2018 से 14.10.2021	सेमी मैकेनाइज्ड
9	अमलडीहा	अमलडीहा	मस्तूरी	512	4.09 हे.	शिवनाथ	1360	29.11.2017	77710	29.11.2017 से 28.11.2020	सेमी मैकेनाइज्ड
10	उदईबंद	अमलडीहा	मस्तूरी	156	4.09 हे.	शिवनाथ	1354	29.11.2017	87424	29.11.2017 से 28.11.2020	सेमी मैकेनाइज्ड
11	शिवटिकारी	शिवटिकारी	मस्तूरी	1	4.86 हे.	शिवनाथ	2537	02.02.2017	69255	02.02.2017 से 01.02.2020	सेमी मैकेनाइज्ड
12	मनवा	मनवा	मस्तूरी	785	4.90 हे.	शिवनाथ	2532	02.02.2017	69625	02.02.2017 से 01.02.2020	सेमी मैकेनाइज्ड
13	कुकुर्दीकला	कुकुर्दीकला	मस्तूरी	678/1	4.90 हे.	शिवनाथ	3114	03.03.2017	93100	03.03.2017 से 02.03.2020	सेमी मैकेनाइज्ड
14	गोबरी	हरदी	मस्तूरी	699	4.80 हे.	शिवनाथ	733	01.08.2017	91200	01.08.2017 से 29.07.2020	सेमी मैकेनाइज्ड
15	भिलौनी	भिलौनी	मस्तूरी	520	4.86 हे.	शिवनाथ	1356	29.11.2017	87480	29.11.2017 से 28.11.2020	सेमी मैकेनाइज्ड
16	रहटाटोर	रहटाटोर	मस्तूरी	409	4.90 हे.	शिवनाथ	1358	29.11.2017	44100	29.11.2017 से 28.11.2020	सेमी मैकेनाइज्ड
17	मनवा –2	मनवा	मस्तूरी	785	4.90 हे.	शिवनाथ	1654	31.01.2018	93100	31.01.2018 से 30.01.2021	सेमी मैकेनाइज्ड
18	गोपालपुर–2	गोपालपुर	मस्तूरी	380	4.90 हे.	शिवनाथ	1655	31.01.2018	93100	31.01.2018 से 30.01.2021	सेमी मैकेनाइज्ड

C.S. PRADHAN

19	कुकुरदीकेरा	कुकुरदीकेरा	मस्तूरी	678	4.99 हे.	शिवनाथ	203	08.05.2018	93000	08.05.2018 से 07.05.2021	सेमी मैकेनाइज्ड
20	कुकुर्दीकला	कुकुर्दीकला	मस्तूरी	678/1	4.99 हे.	शिवनाथ	820	15/10/2018	71107	15.10.2018 से 14.10.2021	सेमी मैकेनाइज्ड
21	जोंधरा	जोंधरा	मस्तूरी	1054	4.90 हे.	अरपा	819	15/10/2018	93100	15.10.2018 से 14.10.2021	सेमी मैकेनाइज्ड
22	बिल्लीबंद	बिल्लीबंद	कोटा	757	4.00 हे.	अरपा	2113	30.12.2016	62125	30.12.2016 से 29.12.2019	सेमी मैकेनाइज्ड
23	कोनचरा	कोनचरा	कोटा	212/1	4.60 हे.	अरपा	2533	02.02.2017	65550	02.02.2017 से 01.02.2020	सेमी मैकेनाइज्ड
24	पहंदा	पहंदा	कोटा	111	4.75 हे.	अरपा	2538	02.02.2017	67688	02.02.2017 से 01.02.2020	सेमी मैकेनाइज्ड
25	नवागांव सल्का	नवागांव सल्का	कोटा	748	4.85 हे.	अरपा	2531	02.02.2017	69112	02.02.2017 से 01.02.2020	मैनुअल
26	तुलुप	तुलुप	कोटा	8/1	4.000 हे.	सरगोड़ एवं अरपा नदी	3113	03.03.2017	57000	03.03.2017 से 02.03.2020	सेमी मैकेनाइज्ड
27	सिलदहा–2	सिलदहा	कोटा	1	4.00 हे.	अरपा	1355	29.11.2017	38000	29.11.2017 से 28.11.2020	सेमी मैकेनाइज्ड
28	सोढाखुर्द	छतौना	कोटा	1	1.98 हे.	अरपा	199	08/05/2018	28215	08.05.2018 से 07.05.2021	सेमी मैकेनाइज्ड
29	रतखण्डी	रतखण्डी	कोटा	1	3.00 हे.	अरपा	202	08/05/2018	57000	08.05.2018 से 07.05.2021	सेमी मैकेनाइज्ड

C.S. BHARDWAJ

D:
I:

30	खोडरी	खोडरी	पेण्ड्रारोड	83/4	3.000 हे.	मलनिया	2534	02.02.2017	42750	02.02.2017 से 01.02.2020	मैनुअल
31	खोडरी	खोडरी	पेण्ड्रारोड	92	1.50 हे.	मलनिया	2535	02.02.2017	21375	02.02.2017 से 01.02.2020	मैनुअल
32	हरीपुर	बनझोरका	पेण्ड्रारोड	64	1.50 हे.	मलनिया		31.01.2018	28500	31.01.2018 से 30.01.2021	सेमी मैकेनाइज्ड
33	घुटकू–4	घुटकू	तखतपुर	21	3.00 हे.	अरपा	818	15/10/2018	57000	15.10.2018 से 14.10.2021	सेमी मैकेनाइज्ड

Regional Head
Directorate of Geology and Mining
Regional Office, Bilaspur (C.G.)

C.S. BHARDWAJ
Dy. Director (Geology)
Directorate of Geology and Mining
Regional Office Bilaspur (C.G.)