

ANNEXURE-I
(TOR LETTER)



F. No. - SIA/1(a)/2493/2023
STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY,
BIHAR

2nd Floor, Beltron Bhawn
Shastri Nagar
Patna - 800 023
E-mail:- seiaabihar@gmail.com
seiaa.ms.br@gmail.com

Dated:- 13/03/2024

To,

Shri Kunkun Prasad,
Director,
M/s Patel Agri Industries Private Limited,
House No.- B-116, P.C Colony,
Kankarbagh, Post- Lohiya Nagar,
P.S- Kankarbagh, Patna, Bihar,
Pin:- 800 020,
Email:- khakhanduastone@gmail.com,
patelagriindustries@gmail.com.

Sub: **Proposed Stone Mining Project on Khakhanduwa Stone Deposit is located at Mauza- Khakhanduwa, Plot No.- 1(P), Thana No.- 309, Thana- Govindpur, Anchal- Govindpur, District- Nawada, Bihar, by Applicant – M/S Patel Agri Industries Private Limited, Area - 16.0 Acre / 6.475 Ha. – Terms of Reference regarding.**

Ref:

1. Online Application - SIA/BR/MIN/452917/2023.
2. Scrutiny fee submission dated 07-12-2023.
3. Minutes of the SEAC meeting held on 17-02-2024.

4. Minutes of the SEIAA meeting held on 02-03-2024.

Sir,

This has reference to the online proposal submitted in the State Level Environment Impact Assessment Authority to prescribe the Terms of Reference (ToR) for undertaking detailed EIA study for the purpose of obtaining Environmental Clearance in accordance with the provisions of the EIA Notification, 2006. For this purpose, you had submitted online information in the prescribed format (Form - I) along with a Prefeasibility Report. The details of the proposal as described in the application are as follows:

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|---|---|
| 1. <u>Online Proposal No.</u> | SIA/BR/MIN/452917/2024 |
| 2. <u>File No.:</u> | SIA/1(a)/2493/2023 |
| 3. <u>Name of the Proposal</u> | Proposed Stone Mining Project on Khakhanduwa Stone Deposit is located at Mauza- Khakhanduwa, Plot No.- 1(P), Thana No.- 309, Thana- Govindpur, Anchal- Govindpur, District- Nawada, Bihar, by Applicant – M/S Patel Agri Industries Private Limited, Area - 16.0 Acre / 6.475 Ha. |
| 4. <u>Category of the Proposal:</u> | Mining of Minerals |
| 5. <u>Project/Activity applied for</u> | 1(a)
Mining of Minerals. |
| 6. <u>Area of the Project</u> | 16.0 Acre / 6.475 Ha. |

In this regard, under the provisions of the EIA Notification, 2006 as amended, the ToR for the purpose of preparing Environment Impact Assessment report and Environment Management Plan for obtaining prior Environmental Clearance is prescribed with Public Consultation as follows:-

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A. STANDARD TERMS OF REFERENCE

1. A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
2. 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.
3. All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the area should 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).
4. 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.
5. 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.
6. 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.
7. 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.

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8. 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.
9. Land use of the study area 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
15. 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

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surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.

16. 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.
17. 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 along with 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.
18. 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.
19. 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

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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.

20. 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 PM₁₀, particularly for free silica, should be given.
21. Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area using US EAP AERMOD model. 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 (including emission inventories) used for modeling should be provided/uploaded along with the softcopies of model input, output and meteorological files in a model compatible format so that the model can be run a SEAC. The air quality contours should be shown on a location map clearly indicating the location of the site, ambient air quality location, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction should also be indicated on the contour map (isopleths).
22. 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.
23. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
24. 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.



25. 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.
26. 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.
27. 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.
28. 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.
29. 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.
30. 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

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State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

31. Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
32. 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.
33. 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.
34. 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.
35. 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.
36. 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.
37. 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.
38. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
39. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
40. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.

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41. 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.
42. 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 MoEF&CC 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 then 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.

- 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.

Sd/-
(Abhay Kumar)
Member-Secretary,
SEIAA, Bihar

Copy, through email, for information and necessary actions to:-

1. Member Secretary, Bihar State Pollution Control Board, Patna.
2. Director, Department of Mines and Geology, Govt. of Bihar, Patna.
3. Guard File.


(Abhay Kumar)
Member-Secretary
SEIAA, Bihar

ANNEXURE-II
(LETTER OF INTENT)

समाहरणालय, नवादा

पत्रांक:- 1702/खनन (खनन शाखा) दिनांक:- 31/12/18

सेवा में

पटेल एग्री इंडस्ट्री प्रा० लि०,
c/o संजीव कुमार रंजन
B/116, PC कॉलनी लोहिया नगर,
थाना-कंकड़बाग, पटना।

विषय :- नवादा जिलान्तर्गत मौजा-खखन्दुआ, ब्लॉक सं०-B के प्लॉट सं०-01(P) के रकवा-16.00 एकड़ क्षेत्र पर बन्दोवस्ती में लिए गए पत्थर भूखण्डों के सैद्धान्तिक स्वीकृति के संबंध में।

उपर्युक्त विषय के संबंध में सूचित करना है कि विभागीय निदेशानुसार नवादा जिला के गोविन्दपुर अंचलान्तर्गत मौजा-खखन्दुआ के पत्थर भूखण्ड सं०- B का ई०-नीलामी दिनांक-12.12.18 को सम्पन्न हुई। मौजा-खखन्दुआ के प्लॉट सं०-01(P) रकवा-16.00 क्षेत्र पर पत्थर भूखण्ड की सैद्धान्तिक स्वीकृति निम्नलिखित शर्तों एवं बंधेजों पर प्रदान किया जा रहा है।

1. मौजा- खखन्दुआ प्लॉट सं०-01(P) पत्थर भूखण्ड सं०-B
2. रकवा- 16.00 एकड़।
3. खनिज :- साधारण पत्थर
4. अवधि :- पट्टा निष्पादन से 5 (पाँच) वर्षों के लिए विधिमान्य होगी तथा निष्पादित दस्तावेज का निबंधन कराना होगा अन्यथा पट्टा रद्द कर दिया जायेगा।
5. पत्थर भूखण्डों की बन्दोवस्ती राशि का 10 प्रतिशत प्रतिभूति राशि का भुगतान (अग्रधन की राशि एवं डाक के दौरान जमा की गई का समायोजन करते हुए) किया गया है, जिसका समायोजन अंतिम किस्त में किया जायेगा, बशर्ते कि उनके उपर कोई बकाया नहीं हो तथा उनका कार्य संतोषजनक हो।
6. इस सैद्धान्तिक स्वीकृत्यादेश के 120 दिनों के अन्दर फार्म 'डी' में खनन पट्टा संविदा निम्नलिखित कागजातों के साथ दाखिल करना होगा।
 - (क) संबंधित खनन पट्टा क्षेत्र का Mining Plan नियमावली में वर्णित प्रावधानों के अनुसार तैयार एवं अनुमोदित कराकर समर्पित करना होगा।
 - (ख) पर्यावरण एवं वन मंत्रालय भारत सरकार की राज्य स्तरीय समिति (SEIAA) से पर्यावरण स्वच्छता प्रमाण-पत्र प्राप्त कर समर्पित करना होगा।
 - (ग) बन्दोवस्ती राशि के 20 प्रतिशत राशि (प्रथम किस्त) का भुगतान बैंक ड्राफ्ट के माध्यम से पट्टा संविदा निष्पादन के पूर्व जमा करना होगा।
 - (घ) प्रत्येक किस्त के साथ दो प्रतिशत राशि तथा उस पर देय अधिभार का भुगतान आयकर के मद में आयकर विभाग को भुगतान बैंक ड्राफ्ट के माध्यम से करना होगा।
 - (ङ) बन्दोवस्ती राशि का 2 प्रतिशत राशि District Mineral Foundation के नाम से बैंक ड्राफ्ट के माध्यम से जमा करना होगा।

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- (च) आवेदित क्षेत्र का मानचित्र (ग्राम मूल मानचित्र के अनुरूप) के रूप में समर्पित करना होगा।
- (छ) खनन पट्टा संविदा के निष्पादन के तुरन्त बाद खनन पट्टेधारी उक्त निष्पादित पट्टा संविदा का निबंधन कराकर समर्पित करना होगा।
7. बन्दोवस्ती राशि का भुगतान पाँच किस्तों में किया जायेगा, जिसके प्रथम किस्त का भुगतान पट्टा निष्पादन के पूर्व करना होगा तथा अन्य किस्तों का भुगतान अगले पंचाग वर्ष के 31 जनवरी के पूर्व प्रत्येक वर्ष करना होगा।
 8. निर्धारित तिथि तक किस्त का भुगतान नहीं करने पर दो माह तक 24 प्रतिशत साधारण ब्याज प्रभारित किया जायेगा तथा उसके बाद खनन पट्टा रद्द करने की कार्रवाई की जायेगी।
 9. बन्दोवस्ती राशि से अधिक खनिज के प्रेषण पर प्रचलित दर से अतिरिक्त स्वामिस्व देय होगा।
 10. खनन पट्टेधारी को खनिज के परिवहन हेतु वाहन के चालक को ऑनलाईन ई0-चालान (परिवहन चालान) निर्गत करना होगा, जिसमें वसूली गई राशि भी अंकित करना होगा।
 11. पट्टा क्षेत्र से उत्पादित एवं प्रेषित खनिज का विवरण अंकित करते हुए पंजी संधारित करना होगा।
 12. प्रेषित खनिज का विवरण अंकित करते हुए अनुवर्ती माह के 15वीं तारीख तक मासिक विवरणी अधोहस्ताक्षरी के कार्यालय में दाखिल करना होगा। विलम्ब की स्थिति में नियमानुसार कार्रवाई की जायेगी।
 13. पट्टा क्षेत्र में साईन बोर्ड लगाना होगा, जिसमें पट्टाधारी का नाम-पता पट्टा क्षेत्र का विवरण एवं पट्टावधि अंकित करना होगा तथा पट्टा का सीमा स्तम्भ हमेशा लगाकर रखना होगा।
 14. वन सीमा के क्षेत्र में पचास फीट रिक्त स्थल छोड़कर लगभग 150 मीटर दिवार (Fencing) के साथ वन सीमा को घेराना होगा।
 15. बन्दोवस्तधारी को खनिज के प्रेषण हेतु धर्मकाँटा की स्थापना करना होगा।
 16. खनन पट्टा संविदा के भाग VII की कंडिका-7 के आलोक में कार्य विभाग को प्राथमिकता के आधार पर पत्थर खनिज उपलब्ध कराना होगा। कार्य विभाग की आपूर्ति सुनिश्चित होने के उपरान्त ही किसी अन्य व्यक्तियों को पत्थर बिक्री/आपूर्ति किया जा सकेगा।
 17. BMMC Rule 1972 (यथा संशोधित) में वर्णित प्रावधानों तथा उसके तहत Mining Plan एवं पर्यावरणीय स्वच्छता प्रमाण-पत्र में वर्णित शर्तों एवं बंधेजों तथा अन्य सभी सुसंगत नियमों/प्रावधानों का पालन करते हुए खनन कार्य करना होगा।
 18. खान एवं खनिज (विकास एवं विनियमन) अधिनियम 1957, बिहार लघु खनिज समनुदान नियमावली 1972 (यथा संशोधित), बिहार खनिज (अवैध खनन परिवहन तथा भण्डारण निवारण) नियमावली 2003 (यथा संशोधित) तथा अन्य सुसंगत अधिनियम/नियमावली के प्रावधानों का पालन करना होगा। इसके अतिरिक्त राज्य सरकार/समाहर्ता द्वारा समय-समय पर दिये गये निर्देशों का पालन करना होगा।
 19. निविदा दस्तावेज के शर्तों एवं बंधेजों का अनुपालन करना होगा।
 20. उपर्युक्त शर्तों एवं नियमों का पालन नहीं करने पर कारण पृच्छा निर्गत कर खनन पट्टा रद्द करने की कार्रवाई की जायेगी।
 21. समाहर्ता को सरकार के हित में तर्क संगत आदेश पारित करते हुए किसी भी समय निविदा एवं बन्दोवस्ती रद्द करने का अधिकार होगा।

Kashyap
समाहर्ता
नवादा।

ANNEXURE-III
(MINE PLAN APPROVAL LETTER)

बिहार सरकार
खान एवं भूतत्व विभाग

पत्रांक- 01/लघु खनन (स्टो0)-01/2019-5463/एम०, पटना, दिनांक- ०९.११.२०२३

प्रेषक,

सुरेश प्रसाद,
विशेष कार्य पदाधिकारी।

सेवा में,

Patel Agri Industries Pvt. Ltd
C/O- Sanjeev Kumar Ranjan,
B/116, PC Colony Lohiya Nagar,
Thana- Kankarbagh, Patna.

विषय:- नवादा जिलान्तर्गत मौजा खखन्दुआ प्लॉट संख्या- 01/पी0, रकवा 16.00 एकड़, ब्लॉक संख्या- B पर स्थित पत्थर भूखण्ड के बावत आपके द्वारा समर्पित खनन योजना के अनुमोदन के संबंध में।

महाशय,

उपर्युक्त विषयक मामले में निदेशानुसार कहना है कि बिहार खनिज (समानुदान, अवैध खनन, परिवहन एवं भंडारण निवारण) नियमावली, 2019 के नियम- 17 में वर्णित प्रावधानों के तहत नवादा जिलान्तर्गत मौजा खखन्दुआ प्लॉट संख्या- 01/पी0, रकवा 16.00 एकड़, ब्लॉक संख्या- B पर स्थित पत्थर खनन पट्टा की लोक नीलामी में उच्चतम डाकवक्ता रहने की स्थिति में आपके द्वारा समर्पित खनन योजना को प्राधिकृत समिति द्वारा समीक्षोपरान्त निम्न शर्तों एवं बंधेजों के तहत अनुमोदित की गई है :-

1. उक्त खनन योजना केन्द्र सरकार/राज्य सरकार द्वारा विनियमित अन्य सभी अधिनियम/नियमावली में वर्णित प्रावधानों को तथा किसी न्यायालय/अन्य न्यायिक संस्था द्वारा पारित किये गये न्यायादेश को बिना प्रभावित किये अनुमोदित किया जाता है।
2. उक्त खनन योजना का अनुमोदन खान एवं खनिज (विकास एवं विनियमन) अधिनियम, 1957/2015, बिहार खनिज (समानुदान, अवैध खनन, परिवहन एवं भंडारण निवारण) नियमावली, 2019 यथासंशोधित 2021, मेटल माईन्स रेगुलेशन, 1961, वन संरक्षण अधिनियम, 1980, पर्यावरण सुरक्षा अधिनियम, 1986, श्रम संबंधी नियम तथा अन्य सभी सुसंगत अधिनियम/नियमावली तथा उनमें वर्णित प्रावधानों को प्रभावित नहीं करेगा। साथ ही बंदोबस्तधारी द्वारा विभाग को किसी प्रकार के दावा से मुक्त (indemnified) रखा जाएगा।
3. बंदोबस्तधारी द्वारा खनन योजना में निहित शर्तों को पालन करते हुए उक्त प्लान में वर्णित विधि से ही नियमानुसार पत्थर खनिज का उत्खनन एवं प्रेषण कार्य किया जायेगा तथा उक्त प्लान में वर्णित विधि अथवा शर्तों में किसी भी प्रकार का विचलन

P.T.O

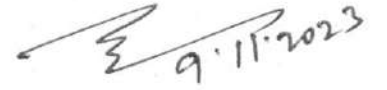
किये जाने की स्थिति में संबंधित बंदोबस्तधारी इसके लिए पूर्ण रूप से जिम्मेवार तथा नियमानुसार दण्डात्मक कार्रवाई के भागीदार होंगे।

4. बंदोबस्तधारी द्वारा सभी संबंधित सक्षम प्राधिकार से यथा वांछित प्रमाण-पत्र तथा स्वीकृति प्राप्त कर विभाग को अवगत कराया जाएगा।
5. यदि किसी भी समय खनन योजना में वर्णित शर्तों के अनुपालन में अनियमितता पायी जाती है, तो समाहर्ता, नवादा/सहायक निदेशक, जिला खनन कार्यालय, नवादा को नियमानुसार आवश्यक कार्रवाई करने का अधिकार होगा।
6. संबंधित खनन पट्टा क्षेत्र में खनिज की उपलब्धता, पहुँच पथ का निर्माण तथा अन्य खनन कार्य अथवा उनमें किसी तरह का व्यवधान उत्पन्न होने की स्थिति में उससे संबंधित सम्पूर्ण जवाबदेही बंदोबस्तधारी की होगी तथा इसमें किसी भी तरह का कोई दावा अथवा क्षतिपूर्ति मान्य नहीं होगा।
7. खनन योजना में वर्णित सभी तकनीकी तथा अन्य बिन्दुओं से संबंधित आँकड़ों की सत्यता/वैधता की सम्पूर्ण जिम्मेवारी बंदोबस्तधारी की होगी तथा भविष्य में उपर्युक्त के संबंध में किसी प्रकार की भिन्नता/अनियमितता की पूरी जवाबदेही बंदोबस्तधारी की होगी।
8. बंदोबस्तधारी द्वारा खनन योजना में खनन के दौरान explosives के उपयोग का उल्लेख किया गया है। बंदोबस्तधारी को Indian Explosive Act तथा उसके अन्तर्गत विनियमित नियमावली में वर्णित प्रावधानों का पालन करना होगा। साथ ही अवांछित तत्वों द्वारा explosives का कोई दुरुपयोग नहीं हो, यह सुनिश्चित करने की जिम्मेवारी बंदोबस्तधारी की होगी।
9. बंदोबस्तधारी द्वारा सम्पूर्ण पट्टा अवधि के दौरान नियमानुसार सीमा स्तम्भ को स्थापित कर उसे सुरक्षित रखना होगा। उक्त सीमा स्तम्भ की स्थापना संबंधित पट्टा क्षेत्र के मानचित्र के अनुसार करने की पूरी जवाबदेही बंदोबस्तधारी की होगी।
10. बंदोबस्तधारी द्वारा यह सुनिश्चित किया जायेगा कि खनन कार्य के दौरान खान सुरक्षा महानिदेशालय द्वारा निर्धारित मानकों का पालन करते हुए ही Blasting किया जाए तथा यह भी सुनिश्चित किया जाएगा कि उससे होने वाले कम्पन (vibration) से आस-पास की आबादी को कोई नुकसान/क्षति नहीं हो।
11. बंदोबस्तधारी द्वारा अपने खनन पट्टा क्षेत्र में मैन पावन तथा मशीनरी के उपयोग के संबंध में खान सुरक्षा महानिदेशालय तथा अन्य सभी सक्षम प्राधिकार से नियमानुसार वांछित अनुमति प्राप्त कर ही खनन कार्य करना होगा।
12. बंदोबस्तधारी द्वारा अपने माईनिंग प्लान में 185 मी० RL से खनन कार्य प्रारंभ करते हुए 50 मीटर RL तक खनन कार्य करने का प्रस्ताव दिया गया है। यद्यपि बंदोबस्तधारी तथा RQP द्वारा खनन योजना में प्रस्तावित खनन कार्य को सम्पूर्ण खनन पट्टा अवधि के दौरान भू-जल सतह (water table) से 45 मी० RL रहने की बात कही गई है, तथापि बंदोबस्तधारी द्वारा यह सुनिश्चित किया जायेगा कि किसी भी परिस्थिति में खनन कार्य भू-जल सतह (water table) के नीचे नहीं हो।
13. बंदोबस्तधारी द्वारा 300 टन प्रति घंटा क्षमता के चार क्रशर की स्थापना का उल्लेख खनन योजना में किया गया है। उनके द्वारा उक्त क्रशर इकाई में उपयोग किये जाने वाले पत्थर खनिज की मात्रा से संबंधित पूर्ण विवरण का संधारण सुनिश्चित किया जायेगा।

14. बंदोबस्तधारी को निविदा शर्तों तथा सैद्धांतिक स्वीकृत्यादेश में वर्णित सभी शर्तों एवं बंधेजों का पालन करना होगा।
15. बंदोबस्तधारी द्वारा पर्यावरण सुरक्षा हेतु सभी उपाय करने होंगे तथा नियमित रूप से जल/वायु की गुणवत्ता की जाँच/अनुश्रवण की व्यवस्था सुनिश्चित करनी होगी।
16. बंदोबस्ती द्वारा खनन पट्टा अवधि समाप्ति के पश्चात् खनन पट्टा क्षेत्र को regassing करना होगा।
17. खनन योजना की एक-एक प्रति, जो संबंधित RQP एवं बंदोबस्तधारी द्वारा प्रत्येक पृष्ठ पर हस्ताक्षरित होगी, निदेशक, खान एवं भूतत्व विभाग के कार्यालय के अतिरिक्त समाहर्ता, नवादा के गोपनीय कोषांग, उप निदेशक, खान एवं भूतत्व का कार्यालय, मगध अंचल, गया, जिला खनन कार्यालय, नवादा तथा खान सुरक्षा महानिदेशालय, धनबाद के कार्यालय में बंदोबस्तधारी द्वारा उपलब्ध कराना सुनिश्चित किया जायेगा, ताकि किसी भी समय इसकी जाँच इत्यादि की जा सके।

प्राधिकृत समिति की अनुशंसा के आलोक में उपरोक्त शर्तों के साथ नवादा जिलान्तर्गत मौजा खखन्दुआ प्लॉट संख्या- 01/पी0, रकवा 16.00 एकड़, ब्लॉक संख्या- B पर स्थित पत्थर भूखण्ड से संबंधित समर्पित खनन योजना के अन्तर्गत ही पत्थर उत्खनन कार्य सुनिश्चित कराया जाए।

विश्वासभाजन



विशेष कार्य पदाधिकारी

ANNEXURE-IV
(ENVIRONMENTAL POLICY)

Environmental Policy

The environment policy right from mine preparation to its operations will be based on:

Compliance of applicable regulatory requirements

- Conservation of natural resources;
- Maintaining a safe working environment;
- Providing high environmental expertise and know-how; and
- Regular training and refresher courses so as to achieve continuous improvement of environment.

Environment Monitoring Cell

Company has well established Environmental Management System which is headed by Proprietor. A well-qualified and efficient environment staff will be deputed for maintenance and monitoring of pollution control system.

Management Commitment for EMP

- The project management undertakes to owe entire responsibility for upkeep and management of the mining operation continually forever.
- The project management shall create environment management cell with active participation from the occupants which will be responsible for implementation of the EMP.
- A consultant will be retained on continual basis for advising on various environmental issues and aspects.
- Though, the occupants will be responsible for bearing the cost of operation and management of waste treatment/management facilities, the project management will be pro-active in ensuring compliance with all statutory requirements.
- The project management commits adequate funds for meeting operational cost of the environmental management plan.

- Any adverse environmental quality found during monitoring will be suitably addressed.
- The project manager will be entrusted with overall responsibility of environment management of the site. Also, a consultant will be retained on continual basis for advising on various environmental issues and aspects.
- The day-to-day implementation and management of the EMP may be outsourced to specialized agencies in the related area.
- The beautification and greening of surroundings (as legally permitted) will be taken up
Persons responsible for implementation of the EMP.

ANNEXURE-V
(CO LETTER)

अंचल-गोविंदपुर मोजा-एकमुंडा थाना नं०-309 के
खाला वं०-85 खेरा वं०-1 के सामा वेर खेतिआन के सत्यापन के
वेपेच में,

मोजा-एकमुंडा थाना नं०-309 के खाला वं०-85-
खेरा वं०-1 का सामा वेर खेतिआन के गितान किआ जी निम्न
प्रकार में

मोजा का नाम	—	खाला	—	खेरा	—	एकमुंडा	—	किआ जमीन	—	खेतिआनी	—	मोजा
संभागा नं०												का नाम
एकमुंडा		85	—	1	—	137.07	वृ०	पहाड	—	अमाशद	—	का नाम
												किआ
												सरकार

309

आम उचित कर वही हू प्रविष्टन समापित

प्राप्त मजदूर

14.05.2022



ANNEXURE-VI
(CLUSTER CERTIFICATE)

जिला खनन कार्यालय, नवादा।

Cluster Certificate

प्रमाणित किया जाता है कि मेसर्स पटेल एग्री इंडस्ट्रीज प्रा० लि०, C/O.- संजीव कुमार रंजन, B/116, PC कॉलनी, लोहिया नगर, कंकड़बाग, पटना द्वारा नवादा जिलान्तर्गत प्रखंड- गोविन्दपुर के मौजा- खखन्दुआ के प्लॉट नं०- 01(P), रकबा- 16.00 एकड़ क्षेत्र पर Block- B की बंदोबस्ती नीलामी द्वारा पाँच वर्षों के लिए ली गई है। आवेदक के आवेदन पत्र दिनांक- 31.07.2024 के संदर्भ में प्रमाणित किया जाता है कि उक्त पत्थर भूखंड के 500 मीटर के परिधि के अंदर प्लॉट नं०- 01(P), रकबा- 16.50 एकड़ क्षेत्र पर Block- A की बंदोबस्ती, श्री राजेन्द्र सिंह द्वारा नीलामी के माध्यम से पाँच वर्षों के लिए ली गई है। इसके अलावे कोई भी पत्थर भूखंड बंदोबस्त नहीं है।

ह०/-

खनिज विकास पदाधिकारी,
नवादा।

ज्ञापांक 1834 / ख०, नवादा, दिनांक 04/08/2024.

प्रतिलिपि :-

मेसर्स पटेल एग्री इंडस्ट्रीज प्रा० लि०, C/O.- संजीव कुमार रंजन, B/116, PC कॉलनी, लोहिया नगर, कंकड़बाग, पटना को उनके आवेदन पत्र के संदर्भ में सूचनार्थ एवं आवश्यक कार्यार्थ प्रेषित।



Ratna Kumar
02/08/24
खनिज विकास पदाधिकारी,
नवादा।
31/08/24

ANNEXURE-VII
(ENVIRONMENTAL MONITORING
REPORT)



TEST REPORT

TEST REPORT NO : ETS/2150/03/2024

DATE OF REPORT : 10.03.2024

AMBIENT AIR QUALITY MONITORING AND ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT" PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO - 309, THANA- GOVINDPUR, ANCHAL-
GOVINDPUR, DISTRICT-NAWADA, BIHAR.

Analysis Start Date : 06.12.2023
Analysis End Date : 05.03.2024
Sampling Done By : ETS STAFF
Sampling Location : AAQ-1 PROJECT SITE
Sampling Method : ETS/STP/AIR-01
Sampling Machine Placed At Height : 1.5 MTR. (FROM GROUND)
Weather Condition : CLEAR

Test Parameters			Particulate Matter(PM10)	Particulate Matter(PM2.5)	Sulphur Dioxide(SO ₂)	Nitrogen Dioxide(NO ₂)	Carbon Monoxide(CO)
Unit			µg/m ³	µg/m ³	µg/m ³	µg/m ³	mg/m ³
Limit (as Per CPCB)			24 Hrs.=100	24 Hrs.=60	24 Hrs.=80	24 Hrs.=80	1 Hrs.=04
Test Method			IS 5182 (Part-23)	ETS/STP/AIR-03	IS: 5182 (Part-2)	IS 5182 (Part-6)	IS 5182 (Part-10)
Sl.N.	Monitoring Date	Sample ID	Test Results				
1	01.12.2023	ETS/DI-01	67.1	36.2	11.5	19.0	0.22
2	05.12.2023	ETS/DI-02	66.3	36.8	10.9	21.0	0.25
3	08.12.2023	ETS/DI-03	64.3	37.5	9.8	22.0	0.23
4	12.12.2023	ETS/DI-04	67.8	36.7	10.8	20.6	0.26
5	15.12.2023	ETS/DI-05	64.8	35.7	12.0	22.7	0.22
6	19.12.2023	ETS/DI-06	63.2	36.0	12.6	22.1	0.29
7	22.12.2023	ETS/DI-07	67.4	36.4	11.1	21.8	0.35
8	26.12.2023	ETS/DI-08	64.9	34.0	9.6	20.4	0.32
9	01.01.2024	ETS/DI-09	61.7	33.3	16.8	19.2	0.27
10	05.01.2024	ETS/DI-10	62.0	30.8	12.6	22.7	0.36
11	08.01.2024	ETS/DI-11	64.0	30.9	13.3	22.7	0.38
12	12.01.2024	ETS/DI-12	61.7	32.8	14.2	28.0	0.39
13	15.01.2024	ETS/DI-13	60.8	34.9	12.3	23.0	0.27
14	19.01.2024	ETS/DI-14	62.7	36.8	15.4	24.0	0.26
15	22.01.2024	ETS/DI-15	64.9	36.9	11.0	25.9	0.32
16	27.01.2024	ETS/DI-16	63.5	36.2	9.8	24.7	0.73
17	01.02.2024	ETS/DI-17	62.1	36.5	12.3	26.8	0.46
18	05.02.2024	ETS/DI-18	61.3	37.7	11.9	22.9	0.47
19	08.02.2024	ETS/DI-19	66.1	36.2	9.7	23.7	0.70
20	12.02.2024	ETS/DI-20	57.3	37.5	10.5	23.3	0.34
21	15.02.2024	ETS/DI-21	62.0	36.3	13.5	21.8	0.64
22	19.02.2024	ETS/DI-22	64.2	37.2	12.3	23.7	0.29
23	22.02.2024	ETS/DI-23	63.3	33.8	13.3	22.4	0.36
24	26.02.2024	ETS/DI-24	65.7	32.7	11.2	20.5	0.52
Minimum			57.3	30.8	9.6	19.0	0.22
Maximum			67.8	37.7	16.8	28.0	0.73
Average			63.7	35.4	12.0	22.7	0.37
98 PERCENTILE			67.63	37.62	16.20	27.46	0.72

****End of Test Report****

Note:-

1. Test reports without ETS LAB HOLOGRAM are not issued by our laboratory.
2. The results indicated only refer to the tested samples and listed applicable parameters.
3. No complaint will be entertained if received after 7 days of issue of test report.
4. Our liability is limited to invoice value only.
5. The sample shall be destroyed after 15 days & Biological / Perishable sample shall be destroyed immediately after issue of test report.
6. This test report shall not be used in any advertising media or as evidence in the court of Law without prior written permission of the laboratory.



For ENVIRO-TECH SERVICES

AUTHORIZED SIGNATORY
Quality Manager

TEST REPORT

TEST REPORT NO : ETS/2151/03/2024

DATE OF REPORT : 10.03.2024

AMBIENT AIR QUALITY MONITORING AND ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO.- 309, THANA- GOVINDPUR, ANCHAL-
GOVINDPUR, DISTRICT-NAWADA, BIHAR.

Analysis Start Date : 06.12.2023
Analysis End Date : 05.03.2024
Sampling Done By : ETS STAFF
Sampling Location : AAQ-2 CHHOTKA AMWAN
Sampling Method : ETS/STP/AIR-01
Sampling Machine Placed At Height : 1.5 MTR. (FROM GROUND)
Weather Condition : CLEAR

Test Parameters			Particulate Matter(PM10)	Particulate Matter(PM2.5)	Sulphur Dioxide(SO ₂)	Nitrogen Dioxide(NO ₂)	Carbon Monoxide(CO)
Unit			µg/m ³	µg/m ³	µg/m ³	µg/m ³	mg/m ³
Limit (as Per CPCB)			24 Hrs.=100	24 Hrs.=60	24 Hrs.=80	24 Hrs.=80	1 Hrs.=04
Test Method			IS 5182 (Part-23)	ETS/STP/AIR-03	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS 5182 (Part-10)
S.I.N.	Monitoring Date	Sample ID	Test Results				
1	03.12.2023	ETS/DI-25	67.7	37.5	8.7	22.5	0.32
2	07.12.2023	ETS/DI-26	68.4	38.1	9.6	23.8	0.42
3	10.12.2023	ETS/DI-27	66.3	39.1	10.6	26.3	0.32
4	14.12.2023	ETS/DI-28	58.1	29.4	9.8	22.9	0.37
5	17.12.2023	ETS/DI-29	70.8	36.8	9.1	21.7	0.24
6	21.12.2023	ETS/DI-30	65.0	37.2	7.9	19.6	0.30
7	24.12.2023	ETS/DI-31	69.5	37.7	8.7	22.8	0.35
8	28.12.2023	ETS/DI-32	68.8	34.7	9.6	18.3	0.49
9	03.01.2024	ETS/DI-33	70.5	34.1	10.6	20.4	0.68
10	07.01.2024	ETS/DI-34	63.7	31.0	11.0	27.4	0.59
11	10.01.2024	ETS/DI-35	65.9	31.1	10.6	22.7	0.40
12	14.01.2024	ETS/DI-36	63.4	33.5	9.8	23.9	0.63
13	17.01.2024	ETS/DI-37	62.4	35.9	8.7	25.1	0.59
14	21.01.2024	ETS/DI-38	64.5	38.1	9.0	26.6	0.34
15	24.01.2024	ETS/DI-39	66.9	38.3	9.6	27.5	0.49
16	28.01.2024	ETS/DI-40	65.3	40.2	8.3	28.4	0.68
17	03.02.2024	ETS/DI-41	63.8	37.8	8.8	26.7	0.38
18	06.02.2024	ETS/DI-42	63.0	39.3	9.8	26.2	0.59
19	10.02.2024	ETS/DI-43	68.1	37.5	10.4	28.4	0.57
20	13.02.2024	ETS/DI-44	62.9	39.0	11.6	28.8	0.46
21	17.02.2024	ETS/DI-45	63.7	37.6	10.3	27.8	0.76
22	20.02.2024	ETS/DI-46	66.1	38.5	10.0	26.4	0.68
23	24.02.2024	ETS/DI-47	65.1	34.6	9.3	25.1	0.42
24	28.02.2024	ETS/DI-48	67.8	33.3	11.0	23.2	0.64
Minimum			58.1	29.4	7.9	18.3	0.24
Maximum			70.8	40.2	11.6	28.8	0.76
Average			65.6	36.3	9.7	24.7	0.49
98 PERCENTILE			70.66	39.79	11.31	28.61	0.72

End of Test Report

For ENVIRO-TECH SERVICES

AUTHORIZED SIGNATORY
Quality Manager

Note:-

1. Test reports without ETS-LAB HOLOGRAM are not issued by our laboratory.
2. The results indicated only refer to the tested samples and listed applicable parameters.
3. No complaint will be entertained if received after 7 days of issue of test report.
4. Our liability is limited to invoice value only.
5. The sample shall be destroyed after 15 days & Biological / Perishable sample shall be destroyed immediately after issue of test report.
6. This test report shall not be used in any advertising media or as evidence in the court of Law without prior written permission of the laboratory.

TEST REPORT

TEST REPORT NO : : ETS/2152/03/2024

DATE OF REPORT : 10.03.2024

AMBIENT AIR QUALITY MONITORING AND ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO.- 309, THANA- GOVINDPUR, ANCHAL-
GOVINDPUR, DISTRICT-NAWADA, BIHAR.

Analysis Start Date : 06.12.2023

Analysis End Date : 05.03.2024

Sampling Done By : ETS STAFF

Sampling Location : AAQ-3 UTKARMIT MADYA VIDHALYA, SIRAMPUR, NAD

Sampling Method : ETS/STP/AIR-01

Sampling Machine Placed At Height : 1.5 MTR. (FROM GROUND)

Weather Condition : CLEAR

Test Parameters			Particulate Matter(PM10)	Particulate Matter(PM2.5)	Sulphur Dioxide(SO2)	Nitrogen Dioxide(NO2)	Carbon Monoxide(CO)
Unit			µg/m3	µg/m3	µg/m3	µg/m3	mg/m3
Limit (as Per CPCB)			24 Hrs.=100	24 Hrs.=60	24 Hrs.=80	24 Hrs.=80	1 Hrs.=04
Test Method			IS 5182 (Part-23)	ETS/STP/AIR-03	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS 5182 (Part-10)
Sl.N.	Monitoring Date	Sample ID	Test Results				
1	01.12.2023	ETS/DI-49	69.7	37.7	11.1	20.0	0.70
2	05.12.2023	ETS/DI-50	70.3	38.4	10.3	18.0	0.59
3	08.12.2023	ETS/DI-51	68.2	39.4	12.2	23.1	0.56
4	12.12.2023	ETS/DI-52	72.1	38.3	13.0	23.8	0.59
5	15.12.2023	ETS/DI-53	68.6	36.9	14.0	25.1	0.72
6	19.12.2023	ETS/DI-54	66.7	40.7	12.2	23.3	0.59
7	22.12.2023	ETS/DI-55	71.6	38.0	13.3	24.3	0.28
8	26.12.2023	ETS/DI-56	68.7	34.8	12.2	24.9	0.36
9	01.01.2024	ETS/DI-57	65.1	34.2	13.4	24.2	0.50
10	05.01.2024	ETS/DI-58	65.4	30.9	12.4	21.9	0.59
11	08.01.2024	ETS/DI-59	67.8	31.0	12.8	23.2	0.70
12	12.01.2024	ETS/DI-60	65.2	33.4	12.1	24.4	0.49
13	15.01.2024	ETS/DI-61	64.0	36.0	11.4	24.9	0.59
14	19.01.2024	ETS/DI-62	66.2	38.4	12.4	24.3	0.63
15	22.01.2024	ETS/DI-63	68.8	38.5	12.2	24.9	0.36
16	27.01.2024	ETS/DI-64	67.1	37.8	13.5	20.7	0.50
17	01.02.2024	ETS/DI-65	65.5	38.1	13.5	22.0	0.28
18	05.02.2024	ETS/DI-66	64.6	39.6	12.2	21.3	0.64
19	08.02.2024	ETS/DI-67	70.0	37.8	14.6	22.2	0.42
20	12.02.2024	ETS/DI-68	64.5	39.3	14.5	24.9	0.34
21	15.02.2024	ETS/DI-69	65.4	37.9	12.4	26.8	0.59
22	19.02.2024	ETS/DI-70	61.8	31.3	12.8	20.1	0.50
23	22.02.2024	ETS/DI-71	66.8	34.6	12.2	23.1	0.70
24	26.02.2024	ETS/DI-72	69.7	33.2	12.3	23.3	0.39
Minimum			61.8	30.9	10.3	18.0	0.28
Maximum			72.1	40.7	14.6	26.8	0.72
Average			67.2	36.5	12.6	23.1	0.52
98 PERCENTILE			71.83	40.18	14.51	26.02	0.71

****End of Test Report****



Note:- Format No ETS/LAB/TR-02, Issue No. 05, Date 01.04.2019, Amd. No. 04 Date 01.04.2019

1. Test reports without ETS LAB HOLOGRAM are not issued by our laboratory.
2. The results indicated only refer to the tested samples and listed applicable parameters.
3. No complaint will be entertained if received after 7 days of issue of test report.
4. Our liability is limited to invoice value only.
5. The sample shall be destroyed after 15 days & Biological / Perishable sample shall be destroyed immediately after issue of test report.
6. This test report shall not be used in any advertising media or as evidence in the court of Law without prior written permission of the laboratory.

For ENVIRO-TECH SERVICES

AUTHORIZED SIGNATORY
Quality Manager

TEST REPORT

TEST REPORT NO : : ETS/2153/03/2024

DATE OF REPORT : 10.03.2024

AMBIENT AIR QUALITY MONITORING AND ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT™ PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO.- 309, THANA- GOVINDPUR, ANCHAL-
GOVINDPUR, DISTRICT- NAWADA, BIHAR.

Analysis Start Date : 06.12.2023

Analysis End Date : 05.03.2024

Sampling Done By : ETS STAFF

Sampling Location : AAQ-4 BANDARKOL

Sampling Method : ETS/STP/AIR-01

Sampling Machine Placed At Height : 1.5 MTR. (FROM GROUND)

Weather Condition : CLEAR

Test Parameters			Particulate Matter(PM10)	Particulate Matter(PM2.5)	Sulphur Dioxide(SO2)	Nitrogen Dioxide(NO2)	Carbon Monoxide(CO)
Unit			µg/m3	µg/m3	µg/m3	µg/m3	mg/m3
Limit (as Per CPCB)			24 Hrs.=100	24 Hrs.=60	24 Hrs.=80	24 Hrs.=80	1 Hrs.=04
Test Method			IS 5182 (Part-23)	ETS/STP/AIR-03	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS 5182 (Part-10)
Sl.N.	Monitoring Date	Sample ID	Test Results				
1	03.12.2023	ETS/DI-73	66.3	32.0	9.6	21.2	0.49
2	07.12.2023	ETS/DI-74	67.0	32.7	9.1	20.2	0.65
3	10.12.2023	ETS/DI-75	64.9	33.6	9.7	23.4	0.42
4	14.12.2023	ETS/DI-76	68.8	32.6	10.5	24.3	0.38
5	17.12.2023	ETS/DI-77	65.4	31.5	9.9	25.4	0.65
6	21.12.2023	ETS/DI-78	63.6	31.8	8.2	24.3	0.43
7	24.12.2023	ETS/DI-79	68.3	32.2	9.0	23.6	0.54
8	28.12.2023	ETS/DI-80	65.5	29.5	8.2	22.2	0.46
9	03.01.2024	ETS/DI-81	61.8	28.9	10.6	21.4	0.64
10	07.01.2024	ETS/DI-82	56.5	26.0	9.9	23.3	0.49
11	10.01.2024	ETS/DI-83	64.5	26.1	9.1	21.5	0.40
12	14.01.2024	ETS/DI-84	61.9	28.3	8.5	24.2	0.45
13	17.01.2024	ETS/DI-85	61.0	30.5	9.6	22.3	0.43
14	21.01.2024	ETS/DI-86	63.1	32.7	9.9	23.3	0.64
15	24.01.2024	ETS/DI-87	65.6	32.8	8.2	24.5	0.59
16	28.01.2024	ETS/DI-88	64.0	32.1	8.8	21.3	0.49
17	03.02.2024	ETS/DI-89	62.4	32.4	9.8	22.2	0.60
18	06.02.2024	ETS/DI-90	61.6	33.7	10.6	21.4	0.59
19	10.02.2024	ETS/DI-91	66.8	32.1	11.1	23.6	0.66
20	13.02.2024	ETS/DI-92	61.4	33.5	9.9	21.2	0.80
21	17.02.2024	ETS/DI-93	62.3	32.1	10.7	23.9	0.43
22	20.02.2024	ETS/DI-94	64.7	33.1	9.7	22.4	0.59
23	24.02.2024	ETS/DI-95	63.7	29.4	10.7	21.4	0.64
24	28.02.2024	ETS/DI-96	66.4	28.2	10.0	22.9	0.42
Minimum			56.5	26.0	8.2	20.2	0.38
Maximum			68.8	33.7	11.1	25.4	0.80
Average			64.1	31.2	9.6	22.7	0.54
98 PERCENTILE			68.55	33.63	10.93	25.04	0.74



Note:-

1. Test reports without ETS LAB HOLOGRAM ARE NOT VALID.
2. The results indicated only refer to the tested samples and listed applicable parameters.
3. No complaint will be entertained if received after 7 days of issue of test report.
4. Our liability is limited to invoice value only.
5. The sample shall be destroyed after 15 days & Biological / Perishable sample shall be destroyed immediately after issue of test report.
6. This test report shall not be used in any advertising media or as evidence in the court of Law without prior written permission of the laboratory.

****End of Test Report****

For ENVIRO-TECH SERVICES

MD HUMRAJ
AUTHORIZED SIGNATORY

TEST REPORT

TEST REPORT NO : : ETS/2154/03/2024

DATE OF REPORT : 10.03.2024

AMBIENT AIR QUALITY MONITORING AND ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO.- 309, THANA- GOVINDPUR, ANCHAL-
GOVINDPUR, DISTRICT-NAWADA, BIHAR.

Analysis Start Date : 06.12.2023
Analysis End Date : 05.03.2024
Sampling Done By : ETS STAFF
Sampling Location : AAQ-5 BAKSOTI
Sampling Method : ETS/STP/AIR-01
Sampling Machine Placed At Height : 1.5 MTR. (FROM GROUND)
Weather Condition : CLEAR

Test Parameters			Particulate Matter(PM10)	Particulate Matter(PM2.5)	Sulphur Dioxide(SO2)	Nitrogen Dioxide(NO2)	Carbon Monoxide(CO)
Unit			µg/m3	µg/m3	µg/m3	µg/m3	mg/m3
Limit (as Per CPCB)			24 Hrs.=100	24 Hrs.=60	24 Hrs.=80	24 Hrs.=80	1 Hrs.=04
Test Method			IS 5182 (Part-23)	ETS/STP/AIR-03	IS 5182 (Part-2)	IS 5182 (Part-6)	IS 5182 (Part-10)
Sl. N.	Monitoring Date	Sample ID	Test Results				
1	01.12.2023	ETS/DI-97	72.2	34.4	10.6	22.9	0.23
2	05.12.2023	ETS/DI-98	73.0	35.2	8.6	16.5	0.26
3	08.12.2023	ETS/DI-99	70.6	36.1	10.6	21.9	0.24
4	12.12.2023	ETS/DI-100	74.8	35.1	10.1	24.6	0.26
5	15.12.2023	ETS/DI-101	71.2	33.8	10.7	21.0	0.54
6	19.12.2023	ETS/DI-102	69.2	34.2	10.6	22.1	0.29
7	22.12.2023	ETS/DI-103	74.4	34.7	11.6	23.2	0.35
8	26.12.2023	ETS/DI-104	71.3	31.7	11.0	24.1	0.33
9	01.01.2024	ETS/DI-105	67.3	31.1	11.4	24.3	0.27
10	05.01.2024	ETS/DI-106	67.7	27.8	10.1	23.5	0.36
11	08.01.2024	ETS/DI-107	70.3	28.0	10.7	22.1	0.38
12	12.01.2024	ETS/DI-108	67.4	30.3	11.4	23.2	0.39
13	15.01.2024	ETS/DI-109	66.3	32.9	10.9	24.2	0.27
14	19.01.2024	ETS/DI-110	68.6	35.2	10.8	23.3	0.26
15	22.01.2024	ETS/DI-111	71.4	35.4	11.4	24.2	0.31
16	27.01.2024	ETS/DI-112	69.5	34.5	11.7	24.5	0.22
17	01.02.2024	ETS/DI-113	67.8	34.9	10.9	22.1	0.46
18	05.02.2024	ETS/DI-114	66.9	36.3	11.4	25.0	0.47
19	08.02.2024	ETS/DI-115	72.7	34.5	10.8	27.7	0.48
20	12.02.2024	ETS/DI-116	66.7	36.0	10.6	23.1	0.34
21	15.02.2024	ETS/DI-117	67.7	34.6	10.1	24.3	0.27
22	19.02.2024	ETS/DI-118	70.5	35.5	10.7	25.5	0.28
23	22.02.2024	ETS/DI-119	69.3	31.6	11.4	24.1	0.35
24	26.02.2024	ETS/DI-120	72.3	30.2	12.3	22.1	0.52
Minimum			66.3	27.8	8.6	16.5	0.22
Maximum			74.8	36.3	12.3	27.7	0.54
Average			70.0	33.5	10.8	23.3	0.34
98 PERCENTILE			74.61	36.21	12.03	26.67	0.53

****End of Test Report****



Note:-

1. Test reports without ETS-LAB HOLOGRAM are not issued by our laboratory.
2. The results indicated only refer to the tested samples and listed applicable parameters.
3. No complaint will be entertained if received after 7 days of issue of test report.
4. Our liability is limited to invoice value only.
5. The sample shall be destroyed after 15 days & Biological / Perishable sample shall be destroyed immediately after issue of test report.
6. This test report shall not be used in any advertising media or as evidence in the court of Law without prior written permission of the laboratory.

For ENVIRO-TECH SERVICES
MD HUMRAJ
Quality Manager

TEST REPORT

TEST REPORT NO : ETS/2155/03/2024

DATE OF REPORT : 10.03.2024

AMBIENT AIR QUALITY MONITORING AND ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO - 309, THANA- GOVINDPUR, ANCHAL-
GOVINDPUR, DISTRICT-NAWADA, BIHAR.

Analysis Start Date : 06.12.2023

Analysis End Date : 05.03.2024

Sampling Done By : ETS STAFF

Sampling Location : AAQ-6 NEAR BHOLENATH MANDIR KOLJA

Sampling Method : ETS/STP/AIR-01

Sampling Machine Placed At Height : 1.5 MTR. (FROM GROUND)

Weather Condition : CLEAR

Test Parameters			Particulate Matter(PM10)	Particulate Matter(PM2.5)	Sulphur Dioxide(SO2)	Nitrogen Dioxide(NO2)	Carbon Monoxide(CO)
Unit			µg/m3	µg/m3	µg/m3	µg/m3	mg/m3
Limit (as Per CPCB)			24 Hrs.=100	24 Hrs.=60	24 Hrs.=80	24 Hrs.=80	1 Hrs.=04
Test Method			IS 5182 (Part-23)	ETS/STP/AIR-03	IS 5182 (Part-2)	IS 5182 (Part-6)	IS 5182 (Part-10)
Sl. N.	Monitoring Date	Sample ID	Test Results				
1	03.12.2023	ETS/DI-121	75.2	39.5	12.2	21.9	0.20
2	07.12.2023	ETS/DI-122	76.0	40.4	9.8	15.8	0.29
3	10.12.2023	ETS/DI-123	73.6	41.4	12.2	20.9	0.26
4	14.12.2023	ETS/DI-124	78.0	40.2	11.5	23.5	0.29
5	17.12.2023	ETS/DI-125	74.2	38.7	12.3	20.1	0.46
6	21.12.2023	ETS/DI-126	72.1	39.2	12.2	21.1	0.43
7	24.12.2023	ETS/DI-127	77.5	39.8	13.3	22.2	0.44
8	28.12.2023	ETS/DI-128	74.2	36.4	12.6	23.0	0.29
9	03.01.2024	ETS/DI-129	70.2	35.6	12.9	23.3	0.26
10	07.01.2024	ETS/DI-130	70.6	32.0	11.5	22.5	0.24
11	10.01.2024	ETS/DI-131	73.2	32.2	12.3	21.1	0.44
12	14.01.2024	ETS/DI-132	70.3	34.8	12.9	22.2	0.22
13	17.01.2024	ETS/DI-133	69.0	37.7	12.5	23.1	0.41
14	21.01.2024	ETS/DI-134	71.5	40.4	12.4	22.3	0.23
15	24.01.2024	ETS/DI-135	74.3	40.5	12.9	23.2	0.33
16	28.01.2024	ETS/DI-136	72.4	39.6	13.5	23.4	0.43
17	03.02.2024	ETS/DI-137	70.6	40.0	12.5	21.1	0.24
18	06.02.2024	ETS/DI-138	69.7	41.6	12.9	23.9	0.52
19	10.02.2024	ETS/DI-139	75.8	39.6	12.4	26.5	0.23
20	13.02.2024	ETS/DI-140	69.5	41.3	12.2	22.1	0.45
21	17.02.2024	ETS/DI-141	70.6	39.7	11.5	23.3	0.23
22	20.02.2024	ETS/DI-142	73.5	40.8	12.3	24.3	0.23
23	24.02.2024	ETS/DI-143	72.2	36.2	12.9	23.0	0.42
24	28.02.2024	ETS/DI-144	75.3	34.6	14.1	21.1	0.22
Minimum			69.0	32.0	9.8	15.8	0.20
Maximum			78.0	41.6	14.1	26.5	0.52
Average			72.9	38.4	12.4	22.3	0.32
98 PERCENTILE			77.75	41.49	13.79	25.49	0.49



****End of Test Report****
For ENVIRO-TECH SERVICES

KID HUMRAJ
AUTHORIZED SIGNATORY

Note:-

Format No ETS/LAB/TR-02, Issue No. 05, Date 01.04.2019, Amd. No. 04 Date 01.04.2019

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email : etslab2012@gmail.com | Website : www.etslab.in | Ph.: 9911516076, 9811736063



ISO 45001

TEST REPORT

TEST REPORT NO : : ETS/2156/03/2024

DATE OF REPORT : 10.03.2024

AMBIENT AIR QUALITY MONITORING AND ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO.- 309, THANA- GOVINDPUR, ANCHAL-
GOVINDPUR, DISTRICT-NAWADA, BIHAR.

Analysis Start Date : 06.12.2023
Analysis End Date : 05.03.2024
Sampling Done By : ETS STAFF
Sampling Location : AAQ-7 KHARSAN
Sampling Method : ETS/STP/AIR-01
Sampling Machine Placed At Height : 1.5 MTR. (FROM GROUND)
Weather Condition : CLEAR

Test Parameters			Particulate Matter(PM10)	Particulate Matter(PM2.5)	Sulphur Dioxide(SO ₂)	Nitrogen Dioxide(NO ₂)	Carbon Monoxide(CO)
Unit			µg/m ³	µg/m ³	µg/m ³	µg/m ³	mg/m ³
Limit (as Per CPCB)			24 Hrs.=100	24 Hrs.=60	24 Hrs.=80	24 Hrs.=80	1 Hrs.=04
Test Method			IS 5182 (Part-23)	ETS/STP/AIR-03	IS: 5182 (Part-2)	IS: 5182 (Part-6)	IS 5182 (Part-10)
Sl. N.	Monitoring Date	Sample ID	Test Results				
1	01.12.2023	ETS/DI-145	60.8	28.5	8.3	15.1	0.38
2	05.12.2023	ETS/DI-146	61.4	29.0	9.1	15.7	0.58
3	08.12.2023	ETS/DI-147	59.5	29.9	7.7	15.0	0.66
4	12.12.2023	ETS/DI-148	63.1	28.9	8.0	16.5	0.49
5	15.12.2023	ETS/DI-149	59.9	27.8	8.5	15.9	0.49
6	19.12.2023	ETS/DI-150	65.2	28.2	9.2	17.0	0.77
7	22.12.2023	ETS/DI-151	62.6	28.7	9.3	15.7	0.64
8	26.12.2023	ETS/DI-152	60.0	26.1	9.7	17.3	0.78
9	01.01.2024	ETS/DI-153	62.1	34.9	9.4	16.3	0.74
10	05.01.2024	ETS/DI-154	57.0	31.9	9.2	15.1	0.84
11	08.01.2024	ETS/DI-155	59.1	29.9	9.7	15.7	0.43
12	12.01.2024	ETS/DI-156	56.7	24.9	11.7	16.6	0.54
13	15.01.2024	ETS/DI-157	55.7	27.0	9.3	18.8	0.88
14	19.01.2024	ETS/DI-158	57.7	29.0	9.1	15.9	0.43
15	22.01.2024	ETS/DI-159	60.1	29.2	6.6	16.8	0.71
16	27.01.2024	ETS/DI-160	58.5	28.5	7.7	17.3	0.76
17	01.02.2024	ETS/DI-161	57.1	28.9	7.5	15.7	0.54
18	05.02.2024	ETS/DI-162	56.2	30.0	8.5	17.6	0.60
19	08.02.2024	ETS/DI-163	61.3	28.5	9.3	16.6	0.66
20	12.02.2024	ETS/DI-164	56.1	29.8	7.7	15.8	0.57
21	15.02.2024	ETS/DI-165	57.0	28.6	8.7	16.8	0.66
22	19.02.2024	ETS/DI-166	59.4	29.4	9.3	17.3	0.34
23	22.02.2024	ETS/DI-167	58.3	25.9	7.8	15.4	0.71
24	26.02.2024	ETS/DI-168	60.9	24.8	9.1	16.5	0.62
Minimum			55.7	24.8	6.6	15.0	0.34
Maximum			65.2	34.9	11.7	18.8	0.88
Average			59.4	28.7	8.8	16.4	0.62
98 PERCENTILE			64.25	33.53	10.80	18.24	0.86

****End of Test Report****

Note:-

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For ENVIRO-TECH SERVICES

AUTHORIZED SIGNATORY
Quality Manager

TEST REPORT

TEST REPORT NO : ETS/2157/03/2024

DATE OF REPORT : 10.03.2024

AMBIENT AIR QUALITY MONITORING AND ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO.- 309, THANA- GOVINDPUR, ANCHAL-
GOVINDPUR, DISTRICT-NAWADA, BIHAR.

Analysis Start Date : 06.12.2023
Analysis End Date : 05.03.2024
Sampling Done By : ETS STAFF
Sampling Location : AAQ-8 BUDHWARA THAKURBARI
Sampling Method : ETS/STP/AIR-01
Sampling Machine Placed At Height : 1.5 MTR. (FROM GROUND)
Weather Condition : CLEAR

Test Parameters			Particulate Matter(PM10)	Particulate Matter(PM2.5)	Sulphur Dioxide(SO2)	Nitrogen Dioxide(NO2)	Carbon Monoxide(CO)
Unit			µg/m3	µg/m3	µg/m3	µg/m3	mg/m3
Limit (as Per CPCB)			24 Hrs.=100	24 Hrs.=60	24 Hrs.=80	24 Hrs.=80	1 Hrs.=04
Test Method			IS 5182 (Part-23)	ETS/STP/AIR-03	IS 5182 (Part-2)	IS: 5182 (Part-6)	IS 5182 (Part-10)
Sl. N.	Monitoring Date	Sample ID	Test Results				
1	03.12.2023	ETS/DI-169	77.3	42.6	12.9	25.6	0.22
2	07.12.2023	ETS/DI-170	78.2	43.6	11.8	26.8	0.32
3	10.12.2023	ETS/DI-171	75.6	44.8	14.3	28.2	0.36
4	14.12.2023	ETS/DI-172	80.2	43.4	15.8	29.1	0.25
5	17.12.2023	ETS/DI-173	76.2	41.7	14.2	26.9	0.49
6	21.12.2023	ETS/DI-174	74.0	42.3	15.3	25.8	0.40
7	24.12.2023	ETS/DI-175	79.7	43.0	14.5	29.4	0.37
8	28.12.2023	ETS/DI-176	76.3	39.0	13.6	25.8	0.29
9	03.01.2024	ETS/DI-177	71.9	38.1	14.4	26.7	0.29
10	07.01.2024	ETS/DI-178	72.4	33.8	15.0	28.2	0.19
11	10.01.2024	ETS/DI-179	75.1	34.1	15.6	29.5	0.41
12	14.01.2024	ETS/DI-180	72.0	37.1	14.2	26.9	0.31
13	17.01.2024	ETS/DI-181	70.8	40.5	13.0	30.8	0.47
14	21.01.2024	ETS/DI-182	73.3	43.6	14.5	28.3	0.22
15	24.01.2024	ETS/DI-183	76.4	43.8	14.8	29.5	0.36
16	28.01.2024	ETS/DI-184	74.4	42.7	15.2	30.5	0.27
17	03.02.2024	ETS/DI-185	72.5	43.2	14.4	28.3	0.28
18	06.02.2024	ETS/DI-186	71.4	45.0	17.7	27.2	0.44
19	10.02.2024	ETS/DI-187	77.9	42.7	13.0	25.6	0.36
20	13.02.2024	ETS/DI-188	82.4	44.7	14.6	23.6	0.26
21	17.02.2024	ETS/DI-189	72.4	42.9	15.0	28.6	0.36
22	20.02.2024	ETS/DI-190	75.4	44.2	14.8	26.9	0.45
23	24.02.2024	ETS/DI-191	74.1	38.8	14.3	25.1	0.39
24	28.02.2024	ETS/DI-192	77.4	36.9	13.4	28.2	0.19
Minimum			70.8	33.8	11.8	23.6	0.19
Maximum			82.4	45.0	17.7	30.8	0.49
Average			75.3	41.4	14.4	27.6	0.33
98 PERCENTILE			81.38	44.92	16.82	30.67	0.48

****End of Test Report****



For ENVIRO-TECH SERVICES

AUTHORIZED SIGNATORY
Quality Manager

Note:-

Format No ETS/LAB/TR-02, Issue No. 05, Date 01.04.2019, Amd. No. 04 Date 01.04.2019

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2. The results indicated only refer to the tested samples and listed applicable parameters.
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TEST REPORT

TEST REPORT NO : ETS/2166/02/2024

DATE OF REPORT : 10.03.2024

NOISE MONITORING REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR,
DISTRICT- NAWADA, BIHAR.

Date of Monitoring : 18.02.2024
Monitoring Start Date : 18.02.2024
Monitoring End Date : 19.02.2024
Monitoring Done By : ETS STAFF
Monitoring Duration : 24.0 HOURS
Place Of Monitoring : NQ-1 PROJECT SITE
Category Of Area : RESIDENTIAL AREA
Sampling Method : ETS/LAB/NOISE-01

S. No.	Test Parameters	Unit	Result	Ambient Noise Standards/Specification (CPCB)
1.	Noise Level Day Time	Leq :dB (A)	45.0	55.0
2.	Noise Level Night Time	Leq :dB (A)	35.2	45.0

Remark: Day time is reckoned in between 06.00 A.M. and 10.00 P.M.
Night time is reckoned in between 10.00 P.M. and 06.00 A.M.

****End of Test Report****



Note:-

1. Test reports without ETS LAB HOLOGRAM are not issued by our laboratory.
2. The results indicated may refer to the tested samples and listed applicable parameters.
3. No complaint will be entertained if received after 7 days of issue of test report.
4. Our liability is limited to invoice value only.
5. The sample shall be destroyed after 15 days & Biological / Perishable sample shall be destroyed immediately after issue of test report.
6. This test report shall not be used in any advertising media or as evidence in the court of Law without prior written permission of the laboratory.

For ENVIRO-TECH SERVICES

AUTHORIZED SIGNATORY

MD HUMRAJ
Quality Manager

Format no ETS /LAB/TR-02 Issue No 04 dt 01/08/2019 Rev No 03 dt 01/08/2019

TEST REPORT

TEST REPORT NO : ETS/2167/02/2024

DATE OF REPORT : 10.03.2024

NOISE MONITORING REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSITTM PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR,
DISTRICT-NAWADA, BIHAR.

Date of Monitoring : 18.02.2024

Monitoring Start Date : 18.02.2024

Monitoring End Date : 19.02.2024

Monitoring Done By : ETS STAFF

Monitoring Duration : 24.0 HOURS

Place Of Monitoring : NQ-2 CHHOTKA AMWAN

Category Of Area : RESIDENTIAL AREA

Sampling Method : ETS/LAB/NOISE-01

S. No.	Test Parameters	Unit	Result	Ambient Noise Standards/Specification (CPCB)
1.	Noise Level Day Time	Leq :dB (A)	51.7	55
2.	Noise Level Night Time	Leq :dB (A)	40.4	45

Remark: Day time is reckoned in between 06.00 A.M. and 10.00 P.M.
Night time is reckoned in between 10.00 P.M. and 06.00 A.M.

****End of Test Report****

Note:-

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For ENVIRO-TECH SERVICES

MD HUMRAJ
Quality Manager

AUTHORIZED SIGNATORY



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ISO 45001



TEST REPORT

TEST REPORT NO : ETS/2168/02/2024

DATE OF REPORT : 10.03.2024

NOISE MONITORING REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR,
DISTRICT-NAWADA, BIHAR.

Date of Monitoring : 20.02.2024

Monitoring Start Date : 20.02.2024

Monitoring End Date : 21.02.2024

Monitoring Done By : ETS STAFF

Monitoring Duration : 24.0 HOURS

Place Of Monitoring : NQ-3 UTKARMIT MADYA VIDHALYA, SIRAMPUR, NAD

Category Of Area : SILENCE ZONE

Sampling Method : ETS/LAB/NOISE-01

S. No.	Test Parameters	Unit	Result	Ambient Noise Standards/Specification (CPCB)
1.	Noise Level Day Time	Leq :dB (A)	46.7	50
2.	Noise Level Night Time	Leq :dB (A)	37.5	40

Remark: Day time is reckoned in between 06.00 A.M. and 10.00 P.M.
Night time is reckoned in between 10.00 P.M. and 06.00 A.M.

****End of Test Report****



For ENVIRO-TECH SERVICES
MD HUMRAJ
Quality Manager

Note:-

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AUTHORIZED SIGNATORY

TEST REPORT

TEST REPORT NO : ETS/2169/02/2024

DATE OF REPORT : 10.03.2024

NOISE MONITORING REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT" PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR,
DISTRICT-NAWADA, BIHAR.

Date of Monitoring : 20.02.2024

Monitoring Start Date : 20.02.2024

Monitoring End Date : 21.02.2024

Monitoring Done By : ETS STAFF

Monitoring Duration : 24.0 HOURS

Place Of Monitoring : NQ-4 BANDARKOL

Category Of Area : RESIDENTIAL AREA

Sampling Method : ETS/LAB/NOISE-01

S. No.	Test Parameters	Unit	Result	Ambient Noise Standards/Specification (CPCB)
1.	Noise Level Day Time	Leq :dB (A)	50.4	55
2.	Noise Level Night Time	Leq :dB (A)	38.1	45

Remark: Day time is reckoned in between 06.00 A.M. and 10.00 P.M.
Night time is reckoned in between 10.00 P.M. and 06.00 A.M.

****End of Test Report****

Note:-

1. Test reports without ETS LAB HOLOGRAM are not issued by our laboratory.
2. The results are only valid for the tested samples and listed applicable parameters.
3. No complaint will be entertained if received after 7 days of issue of test report.
4. Our liability is limited to invoice value only. Format no ETS /LAB/TR-02 Issue No 04 dt 01/06/2019 Rev No 03 dt 01/06/2019
5. The sample shall be destroyed after 15 days & Biological / Perishable sample shall be destroyed immediately after issue of test report.
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For ENVIRO-TECH SERVICES

MD HUMRAJ
Quality Manager

AUTHORIZED SIGNATORY



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ISO 45001



TEST REPORT

TEST REPORT NO : ETS/2170/02/2024

DATE OF REPORT : 10.03.2024

NOISE MONITORING REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR,
DISTRICT-NAWADA, BIHAR.

Date of Monitoring : 22.02.2024

Monitoring Start Date : 22.02.2024

Monitoring End Date : 23.02.2024

Monitoring Done By : ETS STAFF

Monitoring Duration : 24.0 HOURS

Place Of Monitoring : NQ-5 BAKSOTI

Category Of Area : RESIDENTIAL AREA

Sampling Method : ETS/LAB/NOISE-01

S. No.	Test Parameters	Unit	Result	Ambient Noise Standards/Specification (CPCB)
1.	Noise Level Day Time	Leq :dB (A)	48.3	55
2.	Noise Level Night Time	Leq :dB (A)	36.7	45

Remark: Day time is reckoned in between 06.00 A.M. and 10.00 P.M.

Night time is reckoned in between 10.00 P.M. and 06.00 A.M.

****End of Test Report****

Note:-

1. Test reports without ETS LAB HOLOGRAM are not issued by our laboratory.
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For ENVIRO-TECH SERVICES

MD HUMRAJ
Quality Manager

AUTHORIZED SIGNATORY



ENVIRO-TECH SERVICES

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(A GOVERNMENT APPROVED LAB)

Plot No. 1/32, S.S. of G.T. Road Industrial Area, Ghaziabad (U.P.) - 201001

email : etslab2012@gmail.com | Website : www.etslab.in | Ph.: 9911516076, 9811736063



ISO 45001

TEST REPORT

TEST REPORT NO : ETS/2171/02/2024

DATE OF REPORT : 10.03.2024

NOISE MONITORING REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR,
DISTRICT-NAWADA, BIHAR.

Date of Monitoring : 24.02.2024

Monitoring Start Date : 24.02.2024

Monitoring End Date : 25.02.2024

Monitoring Done By : ETS STAFF

Monitoring Duration : 24.0 HOURS

Place Of Monitoring : NQ-6 BHOLENATH MANDIR KOLJA

Category Of Area : RESIDENTIAL AREA

Sampling Method : ETS/LAB/NOISE-01

S. No.	Test Parameters	Unit	Result	Ambient Noise Standards/Specification (CPCB)
1.	Noise Level Day Time	Leq :dB (A)	46.3	55
2.	Noise Level Night Time	Leq :dB (A)	35.4	45

Remark: Day time is reckoned in between 06.00 A.M. and 10.00 P.M.
Night time is reckoned in between 10.00 P.M. and 06.00 A.M.

****End of Test Report****

Note:-

1. Test reports without ETS LAB HOLOGRAM are not issued by our laboratory.
2. The results indicated only refer to the tested samples and listed applicable parameters.
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4. Our liability is limited to invoice value only.
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For ENVIRO-TECH SERVICES

MD HUMRAJ
Quality Manager

AUTHORIZED SIGNATORY

TEST REPORT

TEST REPORT NO : ETS/2172/02/2024

DATE OF REPORT : 10.03.2024

NOISE MONITORING REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT" PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR,
DISTRICT-NAWADA, BIHAR.

Date of Monitoring : 24.02.2024

Monitoring Start Date : 24.02.2024

Monitoring End Date : 25.02.2024

Monitoring Done By : ETS STAFF

Monitoring Duration : 24.0 HOURS

Place Of Monitoring : NQ-7 KHARSAN

Category Of Area : RESIDENTIAL AREA

Sampling Method : ETS/LAB/NOISE-01

S. No.	Test Parameters	Unit	Result	Ambient Noise Standards/Specification (CPCB)
1.	Noise Level Day Time	Leq :dB (A)	52.6	55
2.	Noise Level Night Time	Leq :dB (A)	40.2	45

Remark: Day time is reckoned in between 06.00 A.M. and 10.00 P.M.
Night time is reckoned in between 10.00 P.M. and 06.00 A.M.

****End of Test Report****



For ENVIRO-TECH SERVICES

MD NUMRAJ
Quality Manager

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AUTHORIZED SIGNATORY



ENVIRO-TECH SERVICES

An Analytical Laboratory

(A GOVERNMENT APPROVED LAB)

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email : etslab2012@gmail.com | Website : www.etslab.in | Ph.: 9911516076, 9811736063



TEST REPORT

TEST REPORT NO : ETS/2173/02/2024

DATE OF REPORT : 10.03.2024

NOISE MONITORING REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR,
DISTRICT-NAWADA, BIHAR.

Date of Monitoring : 24.02.2024

Monitoring Start Date : 24.02.2024

Monitoring End Date : 25.02.2024

Monitoring Done By : ETS STAFF

Monitoring Duration : 24.0 HOURS

Place Of Monitoring : NQ-8 BUDHWARA THAKURBARI

Category Of Area : RESIDENTIAL AREA

Sampling Method : ETS/LAB/NOISE-01

S. No.	Test Parameters	Unit	Result	Ambient Noise Standards/Specification (CPCB)
1.	Noise Level Day Time	Leq :dB (A)	47.1	55
2.	Noise Level Night Time	Leq :dB (A)	38.5	45

Remark: Day time is reckoned in between 06.00 A.M. and 10.00 P.M.
Night time is reckoned in between 10.00 P.M. and 06.00 A.M.

****End of Test Report****



- Note:-
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For ENVIRO-TECH SERVICES
MD NUMRAJ
Quality Manager

AUTHORIZED SIGNATORY

TEST REPORT

TEST REPORT NO : ETS/2174/02/2024

DATE OF REPORT : 10.03.2024

SOIL SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.- 1(P),
THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR, DISTRICT-
NAWADA, BIHAR.

Date of Sampling : 10.02.2024

Analysis Start Date : 13.02.2024

Analysis End Date : 16.02.2024

Sample ID No : 2174

Sampling Done By : ETS STAFF

Sampling& Testing Method : ETS/LAB/SOIL-01

Sampling Location : SQ-1 NEAR PROJECT SITE

Sampling Quantity : 2 kg.

Packing Condition : SEALED

Packed In : ZIP POLLY BAG

S. No.	Test Parameters	Unit	Result	Test Method
1.	Texture	...	Sandy Clay Loam	IS:2720 (Pt-4)
2.	Sand	%	60.8	IS:2720 (Pt-4)
3.	Silt	%	24.1	IS:2720 (Pt-4)
4.	Clay	%	15.1	IS:2720 (Pt-4)
5.	pH (1:2 Suspension)	..	7.78	IS:2720 (Pt-26)
6.	Cation Exchange Capacity (CEC)	meq/100g	33.7	IS:2720 (Pt-24)
7.	Electrical Conductivity (1:2)	µmho/cm	326.6	IS:14767
8.	Water Holding Capacity (WHC)	%	43.5	IS 2720 (Part-2)
9.	Sodium (Na)	mg/kg	96.4	APHA-3125B
10.	Calcium (Ca)	mg/kg	1068.5	IS 2720 (Part-23)
11.	Magnesium (Mg)	mg/kg	566.1	ETS/STP/SOIL-08
12.	Bulk Density	g/cm ³	1.64	IS 2386 (Part-4)
13.	Total Nitrogen (N)	mg/kg	165.6	APHA, Pt 4500:(N)
14.	Phosphorus (PO ₄)	mg/kg	61.5	ETS/STP/SOIL-19
15.	Potassium (K)	mg/kg	209.7	APHA-3125B
16.	Organic Matter	%	3.06	IS : 2720 (P-22)
17.	Organic Carbon	%	1.49	BS 1377 -3)
18.	Sulphate as (SO ₄)	mg/kg	1.97	IS:3025(P-24)
19.	Porosity	%	30.8	IS 13030
20.	Manganese,(Mn)	mg/kg	3.86	ETS/STP/SOIL-18
21.	Nickel,(Ni)	mg/kg	1.49	ETS/STP/SOIL-18
22.	Zinc,(Zn)	mg/kg	0.99	ETS/STP/SOIL-18
23.	Lead,(Pb)	mg/kg	1.62	ETS/STP/SOIL-18

****End of Test Report****

For ENVIRO-TECH SERVICES



Format no ETS /LAB/TR-01 Issue No 04 dt 01/06/2019 Rev No 03 dt 01/06/2019

AUTHORIZED SIGNATORY
Quality Manager

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TEST REPORT

DATE OF REPORT: 10.03.2024

TEST REPORT NO: ETS/2175/02/2024

SOIL SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.- 1(P),
THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR, DISTRICT-
NAWADA, BIHAR.

Date of Sampling : 10.02.2024
Analysis Start Date : 13.02.2024
Analysis End Date : 16.02.2024
Sample ID No : 2175
Sampling Done By : ETS STAFF
Sampling & Testing Method : ETS/LAB/SOIL-01
Sampling Location : SQ-2 CHHOTKA AMWAN
Sampling Quantity : 2 kg.
Packing Condition : SEALED
Packed In : ZIP POLLY BAG

S. No.	Test Parameters	Unit	Result	Test Method
1.	Texture	---	Sandy Clay Loam	IS:2720 (Pt-4)
2.	Sand	%	54.6	IS:2720 (Pt-4)
3.	Silt	%	25.3	IS:2720 (Pt-4)
4.	Clay	%	20.1	IS:2720 (Pt-4)
5.	pH (1:2 Suspension)	..	7.88	IS:2720 (Pt-26)
6.	Cation Exchange Capacity(CEC)	meq/100g	25.4	IS:2720 (Pt-24)
7.	Electrical Conductivity (1:2)	µmho/cm	361.2	IS:14767
8.	Water Holding Capacity(WHC)	%	40.7	IS 2720 (Part-2)
9.	Sodium (Na)	mg/kg	81.8	APHA-3125B
10.	Calcium (Ca)	mg/kg	1077.2	IS 2720 (Part-23)
11.	Magnesium (Mg)	mg/kg	539.7	ETS/STP/SOIL-08
12.	Bulk Density	g/cm ³	1.49	IS 2386 (Part-4)
13.	Total Nitrogen (N)	mg/kg	179.9	APHA, Pt 4500:(N)
14.	Phosphorus (PO ₄)	mg/kg	73.0	ETS/STP/SOIL-19
15.	Potassium (K)	mg/kg	228.4	APHA-3125B
16.	Organic Matter	%	2.85	IS : 2720 (P-22)
17.	Organic Carbon	%	1.42	BS 1377 -3)
18.	Sulphate as (SO ₄)	mg/kg	2.64	IS:3025(P-24)
19.	Porosity	%	31.8	IS 13030
20.	Manganese,(Mn)	mg/kg	3.26	ETS/STP/SOIL-18
21.	Nickel,(Ni)	mg/kg	0.99	ETS/STP/SOIL-18
22.	Zinc,(Zn)	mg/kg	0.94	ETS/STP/SOIL-18
23.	Lead,(Pb)	mg/kg	1.83	ETS/STP/SOIL-18

****End of Test Report****



Format no ETS /LAB/TR-01 Issue No 04 dt 01/06/2019 Rev No 03 dt 01/06/2019

For ENVIRO-TECH SERVICES

 AUTHORIZED SIGNATORY
 Quality Manager

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TEST REPORT

DATE OF REPORT : 10.03.2024

TEST REPORT NO : ETS/2176/02/2024

SOIL SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.- 1(P),
THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR, DISTRICT-
NAWADA, BIHAR.

Date of Sampling : 14.02.2024

Analysis Start Date : 17.02.2024

Analysis End Date : 20.02.2024

Sample ID No : 2176

Sampling Done By : ETS STAFF

Sampling & Testing Method : ETS/LAB/SOIL-01

Sampling Location : SQ-3 NEAR UTKARMIT MADYA VIDHALYA, SIRAMPUR, NAD

Sampling Quantity : 2 kg.

Packing Condition : SEALED

Packed In : ZIP POLLY BAG

S. No.	Test Parameters	Unit	Result	Test Method
1.	Texture	...	Sandy Clay Loam	IS:2720 (Pt-4)
2.	Sand	%	62.7	IS:2720 (Pt-4)
3.	Silt	%	26.2	IS:2720 (Pt-4)
4.	Clay	%	11.1	IS:2720 (Pt-4)
5.	pH (1:2 Suspension)	..	7.35	IS:2720 (Pt-26)
6.	Cation Exchange Capacity (CEC)	meq/100g	22.4	IS:2720 (Pt-24)
7.	Electrical Conductivity (1:2)	µmho/cm	320.5	IS:14767
8.	Water Holding Capacity (WHC)	%	30.9	IS 2720 (Part-2)
9.	Sodium (Na)	mg/kg	125.1	APHA-3125B
10.	Calcium (Ca)	mg/kg	1120.1	IS 2720 (Part-23)
11.	Magnesium (Mg)	mg/kg	431.9	ETS/STP/SOIL-08
12.	Bulk Density	g/cm ³	1.27	IS 2386 (Part-4)
13.	Total Nitrogen (N)	mg/kg	165.5	APHA, Pt 4500:(N)
14.	Phosphorus (PO ₄)	mg/kg	59.4	ETS/STP/SOIL-19
15.	Potassium (K)	mg/kg	255.9	APHA-3125B
16.	Organic Matter	%	2.44	IS : 2720 (P-22)
17.	Organic Carbon	%	1.62	BS 1377 -3)
18.	Sulphate as (SO ₄)	mg/kg	1.27	IS:3025(P-24)
19.	Porosity	%	19.4	IS 13030
20.	Manganese, (Mn)	mg/kg	4.58	ETS/STP/SOIL-18
21.	Nickel, (Ni)	mg/kg	1.52	ETS/STP/SOIL-18
22.	Zinc, (Zn)	mg/kg	1.25	ETS/STP/SOIL-18
23.	Lead, (Pb)	mg/kg	1.70	ETS/STP/SOIL-18

****End of Test Report****



Format no ETS /LAB/TR-01 Issue No 04 dt: 01/06/2019 Rev No 03 dt 01/06/2019

For ENVIRO-TECH SERVICES

 AUTHORIZED SIGNATORY
 Quality Manager

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ENVIRO-TECH SERVICES

An Analytical Laboratory



ISO 45001

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email : etslab2012@gmail.com | Website : www.etslab.in | Ph.: 9911516076, 9811736063



TEST REPORT

TEST REPORT NO : ETS/2177/02/2024

DATE OF REPORT : 10.03.2024

SOIL SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.- 1(P),
THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR, DISTRICT-
NAWADA, BIHAR.

Date of Sampling : 14.02.2024
Analysis Start Date : 17.02.2024
Analysis End Date : 20.02.2024
Sample ID No : 2177
Sampling Done By : ETS STAFF
Sampling & Testing Method : ETS/LAB/SOIL-01
Sampling Location : SQ-4 BANDARKOL
Sampling Quantity : 2.0 kg.
Packing Condition : SEALED
Packed In : ZIP POLLY BAG

S. No.	Test Parameters	Unit	Result	Test Method
1.	Texture	...	Sandy Clay Loam	IS:2720 (Pt-4)
2.	Sand	%	56.3	IS:2720 (Pt-4)
3.	Silt	%	25.0	IS:2720 (Pt-4)
4.	Clay	%	18.7	IS:2720 (Pt-4)
5.	pH (1:2 Suspension)	..	7.44	IS:2720 (Pt-26)
6.	Cation Exchange Capacity(CEC)	meq/100g	25.6	IS:2720 (Pt-24)
7.	Electrical Conductivity (1:2)	µmho/cm	346.1	IS:14767
8.	Water Holding Capacity(WHC)	%	34.1	IS 2720 (Part-2)
9.	Sodium (Na)	mg/kg	111.2	APHA-3125B
10.	Calcium (Ca)	mg/kg	1062.5	IS 2720 (Part-23)
11.	Magnesium (Mg)	mg/kg	427.0	ETS/STP/SOIL-08
12.	Bulk Density	g/cm ³	1.29	IS 2386 (Part-4)
13.	Total Nitrogen (N)	mg/kg	149.9	APHA, Pt 4500:(N)
14.	Phosphorus (PO ₄)	mg/kg	63.4	ETS/STP/SOIL-19
15.	Potassium (K)	mg/kg	235.8	APHA-3125B
16.	Organic Matter	%	2.52	IS : 2720 (P-22)
17.	Organic Carbon	%	1.23	BS 1377 -3)
18.	Sulphate as (SO ₄)	mg/kg	1.99	IS:3025(P-24)
19.	Porosity	%	11.4	IS 13030
20.	Manganese, (Mn)	mg/kg	3.22	ETS/STP/SOIL-18
21.	Nickel, (Ni)	mg/kg	1.70	ETS/STP/SOIL-18
22.	Zinc, (Zn)	mg/kg	1.13	ETS/STP/SOIL-18
23.	Lead, (Pb)	mg/kg	2.28	ETS/STP/SOIL-18

****End of Test Report****



Format no ETS /LAB/TR-01 Issue No 04 dt 01/06/2019 Rev No 03 dt 01/06/2019

For ENVIRO-TECH SERVICES

AUTHORIZED SIGNATORY
Quality Manager

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TEST REPORT

TEST REPORT NO : ETS/2178/02/2024

DATE OF REPORT : 10.03.2024

SOIL SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.- 1(P),
THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR, DISTRICT-
NAWADA, BIHAR.

Date of Sampling : 18.02.2024

Analysis Start Date : 21.02.2024

Analysis End Date : 24.02.2024

Sample ID No : 2178

Sampling Done By : ETS STAFF

Sampling & Testing Method : ETS/LAB/SOIL-01

Sampling Location : SQ-5 BAKSOTI

Sampling Quantity : 2 kg.

Packing Condition : SEALED

Packed In : ZIP POLLY BAG

S. No.	Test Parameters	Unit	Result	Test Method
1.	Texture	...	Sandy Clay Loam	IS:2720 (Pt-4)
2.	Sand	%	60.5	IS:2720 (Pt-4)
3.	Silt	%	26.0	IS:2720 (Pt-4)
4.	Clay	%	13.5	IS:2720 (Pt-4)
5.	pH (1:2 Suspension)	..	7.23	IS:2720 (Pt-26)
6.	Cation Exchange Capacity(CEC)	meq/100g	40.5	IS:2720 (Pt-24)
7.	Electrical Conductivity (1:2)	µmho/cm	304.4	IS:14767
8.	Water Holding Capacity(WHC)	%	46.4	IS 2720 (Part-2)
9.	Sodium (Na)	mg/kg	89.9	APHA-3125B
10.	Calcium (Ca)	mg/kg	996.4	IS 2720 (Part-23)
11.	Magnesium (Mg)	mg/kg	437.8	ETS/STP/SOIL-08
12.	Bulk Density	g/cm ³	1.53	IS 2386 (Part-4)
13.	Total Nitrogen (N)	mg/kg	206.3	APHA, Pt 4500:(N)
14.	Phosphorus (PO ₄)	mg/kg	78.0	ETS/STP/SOIL-19
15.	Potassium (K)	mg/kg	330.4	APHA-3125B
16.	Organic Matter	%	2.85	IS : 2720 (P-22)
17.	Organic Carbon	%	1.42	BS 1377 -3)
18.	Sulphate as (SO ₄)	mg/kg	1.89	IS:3025(P-24)
19.	Porosity	%	37.4	IS 13030
20.	Manganese,(Mn)	mg/kg	3.60	ETS/STP/SOIL-18
21.	Nickel,(Ni)	mg/kg	1.42	ETS/STP/SOIL-18
22.	Zinc,(Zn)	mg/kg	1.10	ETS/STP/SOIL-18
23.	Lead,(Pb)	mg/kg	1.51	ETS/STP/SOIL-18

****End of Test Report****



Format no ETS /LAB/TR-01 Issue No 04 dt 01/05/2019 Rev No 03 dt 01/06/2019

For ENVIRO-TECH SERVICES

AUTHORIZED SIGNATORY
Quality Manager

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TEST REPORT

TEST REPORT NO : ETS/2179/02/2024

DATE OF REPORT : 10.03.2024

SOIL SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.- 1(P),
THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR, DISTRICT-
NAWADA, BIHAR.

Date of Sampling : 18.02.2024
Analysis Start Date : 21.02.2024
Analysis End Date : 24.02.2024
Sample ID No : 2179
Sampling Done By : ETS STAFF
Sampling & Testing Method : ETS/LAB/SOIL-01
Sampling Location : SQ-6 NEAR BHOLENATH MANDIR KOLJA
Sampling Quantity : 2 kg.
Packing Condition : SEALED
Packed In : ZIP POLLY BAG

S. No.	Test Parameters	Unit	Result	Test Method
1.	Texture	...	Sandy Clay Loam	IS:2720 (Pt-4)
2.	Sand	%	58.2	IS:2720 (Pt-4)
3.	Silt	%	31.4	IS:2720 (Pt-4)
4.	Clay	%	10.4	IS:2720 (Pt-4)
5.	pH (1:2 Suspension)	...	7.85	IS:2720 (Pt-26)
6.	Cation Exchange Capacity(CEC)	meq/100g	38.9	IS:2720 (Pt-24)
7.	Electrical Conductivity (1:2)	µmho/cm	292.7	IS:14767
8.	Water Holding Capacity(WHC)	%	44.6	IS 2720 (Part-2)
9.	Sodium (Na)	mg/kg	86.4	APHA-3125B
10.	Calcium (Ca)	mg/kg	958.1	IS 2720 (Part-23)
11.	Magnesium (Mg)	mg/kg	421.0	ETS/STP/SOIL-08
12.	Bulk Density	g/cm ³	1.47	IS 2386 (Part-4)
13.	Total Nitrogen (N)	mg/kg	198.4	APHA, Pt 4500:(N)
14.	Phosphorus (PO ₄)	mg/kg	75.0	ETS/STP/SOIL-19
15.	Potassium (K)	mg/kg	317.7	APHA-3125B
16.	Organic Matter	%	2.74	IS : 2720 (P-22)
17.	Organic Carbon	%	1.37	BS 1377 -3)
18.	Sulphate as (SO ₄)	mg/kg	1.82	IS:3025(P-24)
19.	Porosity	%	36.0	IS 13030
20.	Manganese, (Mn)	mg/kg	3.46	ETS/STP/SOIL-18
21.	Nickel, (Ni)	mg/kg	1.37	ETS/STP/SOIL-18
22.	Zinc, (Zn)	mg/kg	1.06	ETS/STP/SOIL-18
23.	Lead, (Pb)	mg/kg	1.45	ETS/STP/SOIL-18

****End of Test Report****



Format no ETS /LAB/TR-01 Issue No 04 dt 01/06/2019 Rev No 03 dt 01/06/2019

For ENVIRO-TECH SERVICES

 AUTHORIZED SIGNATORY
 Quality Manager

Note:-

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ENVIRO-TECH SERVICES

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email : etslab2012@gmail.com | Website : www.etslab.in | Ph.: 9911516076, 9811736063



ISO 45001

TEST REPORT

TEST REPORT NO : ETS/2180/02/2024

DATE OF REPORT : 10.03.2024

SOIL SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT" PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.- 1(P),
THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR, DISTRICT-
NAWADA, BIHAR.

Date of Sampling : 18.02.2024

Analysis Start Date : 21.02.2024

Analysis End Date : 24.02.2024

Sample ID No : 2180

Sampling Done By : ETS STAFF

Sampling & Testing Method : ETS/LAB/SOIL-01

Sampling Location : SQ-7 KHARSAN

Sampling Quantity : 2 kg.

Packing Condition : SEALED

Packed In : ZIP POLLY BAG

S. No.	Test Parameters	Unit	Result	Test Method
1.	Texture	...	Sandy Clay Loam	IS:2720 (Pt-4)
2.	Sand	%	53.5	IS:2720 (Pt-4)
3.	Silt	%	28.4	IS:2720 (Pt-4)
4.	Clay	%	18.1	IS:2720 (Pt-4)
5.	pH (1:2 Suspension)	...	7.35	IS:2720 (Pt-26)
6.	Cation Exchange Capacity(CEC)	meq/100g	36.7	IS:2720 (Pt-24)
7.	Electrical Conductivity (1:2)	µmho/cm	336.6	IS:14767
8.	Water Holding Capacity(WHC)	%	42.0	IS 2720 (Part-2)
9.	Sodium (Na)	mg/kg	76.1	APHA-3125B
10.	Calcium (Ca)	mg/kg	1108.1	IS 2720 (Part-23)
11.	Magnesium (Mg)	mg/kg	527.5	ETS/STP/SOIL-08
12.	Bulk Density	g/cm ³	1.38	IS 2386 (Part-4)
13.	Total Nitrogen (N)	mg/kg	218.6	APHA, Pt 4500:(N)
14.	Phosphorus (PO ₄)	mg/kg	64.3	ETS/STP/SOIL-19
15.	Potassium (K)	mg/kg	337.7	APHA-3125B
16.	Organic Matter	%	2.65	IS : 2720 (P-22)
17.	Organic Carbon	%	1.32	BS 1377 -3)
18.	Sulphate as (SO ₄)	mg/kg	2.46	IS:3025(P-24)
19.	Porosity	%	19.8	IS 13030
20.	Manganese, (Mn)	mg/kg	3.04	ETS/STP/SOIL-18
21.	Nickel, (Ni)	mg/kg	1.97	ETS/STP/SOIL-18
22.	Zinc, (Zn)	mg/kg	1.93	ETS/STP/SOIL-18
23.	Lead, (Pb)	mg/kg	1.70	ETS/STP/SOIL-18

****End of Test Report****



Format no ETS /LAB/TR-01 Issue No 04 dt 01/06/2019 Rev No 03 dt 01/06/2019

For ENVIRO-TECH SERVICES

AUTHORIZED SIGNATORY RAJ
Quality Manager

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TEST REPORT

TEST REPORT NO : ETS/2181/02/2024

DATE OF REPORT : 10.03.2024

SOIL SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAHANDUWA, PLOT NO.- 1(P),
THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR, DISTRICT-
NAWADA, BIHAR.

Date of Sampling : 22.02.2024
Analysis Start Date : 25.02.2024
Analysis End Date : 28.02.2024
Sample ID No : 2181
Sampling Done By : ETS STAFF
Sampling & Testing Method : ETS/LAB/SOIL-01
Sampling Location : SQ-8 BUDHWARA
Sampling Quantity : 2.0 kg.
Packing Condition : SEALED
Packed In : ZIP POLLY BAG

S. No.	Test Parameters	Unit	Result	Test Method
1.	Texture	...	Sandy Clay Loam	IS:2720 (Pt-4)
2.	Sand	%	65.0	IS:2720 (Pt-4)
3.	Silt	%	18.8	IS:2720 (Pt-4)
4.	Clay	%	16.2	IS:2720 (Pt-4)
5.	pH (1:2 Suspension)	...	7.07	IS:2720 (Pt-26)
6.	Cation Exchange Capacity(CEC)	meq/100g	31.2	IS:2720 (Pt-24)
7.	Electrical Conductivity (1:2)	µmho/cm	298.7	IS:14767
8.	Water Holding Capacity(WHC)	%	28.8	IS 2720 (Part-2)
9.	Sodium (Na)	mg/kg	116.6	APHA-3125B
10.	Calcium (Ca)	mg/kg	1266.2	IS 2720 (Part-23)
11.	Magnesium (Mg)	mg/kg	513.7	ETS/STP/SOIL-08
12.	Bulk Density	g/cm ³	1.19	IS 2386 (Part-4)
13.	Total Nitrogen (N)	mg/kg	258.2	APHA, Pt 4500:(N)
14.	Phosphorus (PO ₄)	mg/kg	59.7	ETS/STP/SOIL-19
15.	Potassium (K)	mg/kg	327.7	APHA-3125B
16.	Organic Matter	%	1.24	IS : 2720 (P-22)
17.	Organic Carbon	%	3.59	BS 1377 -3)
18.	Sulphate as (SO ₄)	mg/kg	2.23	IS:3025(P-24)
19.	Porosity	%	29.2	IS 13030
20.	Manganese, (Mn)	mg/kg	6.34	ETS/STP/SOIL-18
21.	Nickel, (Ni)	mg/kg	1.42	ETS/STP/SOIL-18
22.	Zinc, (Zn)	mg/kg	1.23	ETS/STP/SOIL-18
23.	Lead, (Pb)	mg/kg	1.61	ETS/STP/SOIL-18

****End of Test Report****



Format no ETS /LAB/TR-01 Issue No 04 dt 01/06/2019 Rev No 03 dt 01/06/2019

For ENVIRO-TECH SERVICES

AUTHORIZED SIGNATORY

Quality Manager

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TEST REPORT

TEST REPORT NO : ETS/2164/02/2024

DATE OF REPORT : 10.03.2024

WATER SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT" PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.- 1(P),
THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR, DISTRICT-
NAWADA, BIHAR.

Date of Sampling : 10.02.2024

Analysis Start Date : 13.02.2024

Analysis End Date : 16.02.2024

Sampling Done By : ETS STAFF

Sampling Description : GROUND WATER

Sampling Location : GW-7 KHARSAN

Sampling Method : ETS/STP/WATER-01

Sampling Quantity : 2.0 +0.5 Lt.

Packing Condition : SEALED

Packed In : P.V.C. AND GLASS BOTTLE

S. No.	Test Parameters	Unit	Result	Drinking Water Standards / Limit (IS:10500 2012)		Test Method
				Desirable	Permissible	
1.	Colour	Hazen	<5.0	5	15	IS:3025 (Pt-4)
2.	Odour	---	Agreeable	Agreeable	Agreeable	IS:3025 (Pt-5)
3.	pH	---	7.69	6.5 - 8.5	No Relaxation	IS:3025 (Pt-11)
4.	Taste	---	Agreeable	Agreeable	Agreeable	IS:3025 (Pt-8)
5.	Turbidity	NTU	<1.0	1	5	IS:3025 (Pt-10)
6.	Total Dissolve Solid (TDS)	mg/L	422.73	500	2000	IS:3025 (Pt-16)
7.	Total Alkalinity (CaCO ₃)	mg/L	176.93	200	600	IS:3025 (Pt-23)
8.	Total Hardness(CaCO ₃)	mg/L	141.62	200	600	IS:3025 (Pt-21)
9.	Chloride (Cl)	mg/L	101.66	250	1000	IS:3025 (Pt-32)
10.	Calcium (Ca)	mg/L	62.08	75	200	IS:3025 (Pt-40)
11.	Mineral Oil	mg/L	<0.01	0.5	No Relaxation	IS:3025 (Pt-39)
12.	Sulphate (SO ₄)	mg/L	39.88	200	400	IS:3025 (Pt-24)
13.	Nitrate (NO ₃)	mg/L	4.21	45	No Relaxation	IS:3025 (Pt-34)
14.	Fluoride (F)	mg/L	0.29	1	1.5	IS:3025 (Pt-60)
15.	Iron (Fe)	mg/L	0.19	0.3	No Relaxation	IS:3025 (Pt-53)
16.	Aluminium (Al)	mg/L	<0.02	0.03	0.2	APHA-3500 (B)
17.	Selenium (Se)	mg/L	<0.01	0.01	No. Relaxation	APHA-3113 (B)
18.	Cyanide (Cn)	mg/L	N.D	0.05	No. Relaxation	APHA-4500 (C)
19.	Copper(Cu)	mg/L	0.07	0.05	1.5	APHA-3111(B)
20.	Magnesium (Mg)	mg/L	18.98	30	100	IS:3025 (Pt-45)
21.	Manganese(Mn)	mg/L	<0.1	0.1	0.3	APHA-3111(B)
22.	Zinc(Zn)	mg/L	0.88	5	15	APHA-3111 (B)
23.	Cadmium(Cd)	mg/L	<0.001	0.003	No. Relaxation	APHA-3111 (B)
24.	Lead(Pb)	mg/L	<0.01	0.01	No. Relaxation	APHA-3111 (B)
25.	Mercury(Hg)	mg/L	<0.001	0.001	No. Relaxation	APHA-3112 (B)
26.	Nickel (Ni)	mg/L	<0.01	0.02	No. Relaxation	APHA-3111 (B)
27.	Arsenic(As)	mg/L	<0.01	0.01	0.05	APHA-3500 (B)
28.	Chromium (Cr+6)	mg/L	<0.01	0.05	No. Relaxation	APHA-3500 Cr-B
29.	Phenolic Compound (C6H5OH)	mg/L	<0.001	0.001	0.002	APHA-5530
30.	Conductivity (25 °C)	mhos/cm	688.12	Not Specified	Not Specified	APHA-2510
31.	E. Coli	Coli/100ml	Absent	Shall Not Be Detectable		IS:1622-1981
32.	Total Coliform	MPN/100ml	Absent	Shall Not Be Detectable		IS:1622-1981
33.	Temperature	°C	18.56	Not Specified	Not Specified	IS:3025 (Pt-9)
34.	Sodium (Na)	mg/L	49.57	Not Specified	Not Specified	APHA-3500 (Na)
35.	Fecal Coliform	MPN/100ml	Absent	Shall Not Be Detectable		APHA-9221

****End of Test Report****

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For ENVIRO-TECH SERVICES

AUTHORIZED SIGNATORY
MD NUMRAJ
Quality Manager



ENVIRO-TECH SERVICES

An Analytical Laboratory



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(A GOVERNMENT APPROVED LAB)

Plot No. 1/32, S.S. of G.T. Road Industrial Area, Ghaziabad (U.P.) - 201001

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TEST REPORT

TEST REPORT NO: ETS/2165/02/2024

DATE OF REPORT: 10.03.2024

WATER SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.- 1(P),
THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR, DISTRICT-
NAWADA, BIHAR.

Date of Sampling : 20.02.2024
Analysis Start Date : 23.02.2024
Analysis End Date : 26.02.2024
Sampling Done By : ETS STAFF
Sampling Description : GROUND WATER
Sampling Location : GW-8 BUDHWARA THAKURBARI
Sampling Method : ETS/STP/WATER-01
Sampling Quantity : 2.0 +0.5 Lt.
Packing Condition : SEALED
Packed In : P.V.C. AND GLASS BOTTLE

S. No.	Test Parameters	Unit	Result	Drinking Water Standards / Limit (IS:10500 2012)		Test Method
				Desirable	Permissible	
1.	Colour	Hazen	<5.0	5	15	IS:3025 (Pt-4)
2.	Odour	---	Agreeable	Agreeable	Agreeable	IS:3025 (Pt-5)
3.	pH	---	7.02	6.5 - 8.5	No Relaxation	IS:3025 (Pt-11)
4.	Taste	---	Agreeable	Agreeable	Agreeable	IS:3025 (Pt-8)
5.	Turbidity	NTU	<1.0	1	5	IS:3025 (Pt-10)
6.	Total Dissolve Solid (TDS)	mg/L	387.22	500	2000	IS:3025 (Pt-16)
7.	Total Alkalinity (CaCO ₃)	mg/L	135.80	200	600	IS:3025 (Pt-23)
8.	Total Hardness(CaCO ₃)	mg/L	157.63	200	600	IS:3025 (Pt-21)
9.	Chloride (Cl)	mg/L	85.55	250	1000	IS:3025 (Pt-32)
10.	Calcium (Ca)	mg/L	65.18	75	200	IS:3025 (Pt-40)
11.	Mineral Oil	mg/L	<0.01	0.5	No Relaxation	IS:3025 (Pt-39)
12.	Sulphate (SO ₄)	mg/L	37.66	200	400	IS:3025 (Pt-24)
13.	Nitrate (NO ₃)	mg/L	2.58	45	No Relaxation	IS:3025 (Pt-34)
14.	Fluoride (F)	mg/L	0.34	1	1.5	IS:3025 (Pt-60)
15.	Iron (Fe)	mg/L	0.20	0.3	No Relaxation	IS:3025 (Pt-53)
16.	Aluminium (Al)	mg/L	<0.02	0.03	0.2	APHA-3500 (B)
17.	Selenium (Se)	mg/L	<0.01	0.01	No. Relaxation	APHA-3113 (B)
18.	Cyanide (Cn)	mg/L	N.D	0.05	No. Relaxation	APHA-4500 (C)
19.	Copper(Cu)	mg/L	0.06	0.05	1.5	APHA-3111(B)
20.	Magnesium (Mg)	mg/L	9.16	30	100	IS:3025 (Pt-45)
21.	Manganese(Mn)	mg/L	<0.1	0.1	0.3	APHA-3111(B)
22.	Zinc(Zn)	mg/L	0.82	5	15	APHA-3111 (B)
23.	Cadmium(Cd)	mg/L	<0.001	0.003	No. Relaxation	APHA-3111 (B)
24.	Lead(Pb)	mg/L	<0.01	0.01	No. Relaxation	APHA-3111 (B)
25.	Mercury(Hg)	mg/L	<0.001	0.001	No. Relaxation	APHA-3112 (B)
26.	Nickel (Ni)	mg/L	<0.01	0.02	No. Relaxation	APHA-3111 (B)
27.	Arsenic(As)	mg/L	<0.01	0.01	0.05	APHA-3500 (B)
28.	Chromium (Cr+6)	mg/L	<0.01	0.05	No. Relaxation	APHA-3500 Cr-B
29.	Phenolic Compound (C ₆ H ₅ OH)	mg/L	<0.001	0.001	0.002	APHA-5530
30.	Conductivity (25 °C)	mhos/cm	559.30	Not Specified	Not Specified	APHA-2510
31.	E. Coli	Coli/100ml	Absent	Shall Not Be Detectable		IS:1622-1981
32.	Total Coliform	MPN/100ml	Absent	Shall Not Be Detectable		IS:1622-1981
33.	Temperature	°C	16.39	Not Specified	Not Specified	IS:3025 (Pt-9)
34.	Sodium (Na)	mg/L	32.20	Not Specified	Not Specified	APHA-3500 (Na)
35.	Fecal Coliform	MPN/100ml	Absent	Shall Not Be Detectable		APHA-9221

****End of Test Report****

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For ENVIRO-TECH SERVICES
AUTHORIZED SIGNATORY
Quality Manager



ETS-LAB

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email : etslab2012@gmail.com | Website : www.etslab.in | Ph.: 9911516076, 9811736063

TEST REPORT

TEST REPORT NO : ETS/2163/02/2024

DATE OF REPORT : 10.03.2024

WATER SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.- 1(P),
THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR, DISTRICT-
NAWADA, BIHAR.

Date of Sampling : 18.02.2024

Analysis Start Date : 21.02.2024

Analysis End Date : 24.02.2024

Sampling Done By : ETS STAFF

Sampling Description : GROUND WATER

Sampling Location : GW-6 BHOLENATH MANDIR KOLJA

Sampling Method : ETS/STP/WATER-01

Sampling Quantity : 2.0 +0.5 Lt.

Packing Condition : SEALED

Packed In : P.V.C. AND GLASS BOTTLE

S. No.	Test Parameters	Unit	Result	Drinking Water Standards / Limit (IS:10500 2012)		Test Method
				Desirable	Permissible	
1.	Colour	Hazen	<5.0	5	15	IS:3025 (Pt-4)
2.	Odour	---	Agreeable	Agreeable	Agreeable	IS:3025 (Pt-5)
3.	pH	---	7.96	6.5 - 8.5	No Relaxation	IS:3025 (Pt-11)
4.	Taste	---	Agreeable	Agreeable	Agreeable	IS:3025 (Pt-8)
5.	Turbidity	NTU	<1.0	1	5	IS:3025 (Pt-10)
6.	Total Dissolve Solid (TDS)	mg/L	465.41	500	2000	IS:3025 (Pt-16)
7.	Total Alkalinity (CaCO ₃)	mg/L	138.30	200	600	IS:3025 (Pt-23)
8.	Total Hardness(CaCO ₃)	mg/L	167.00	200	600	IS:3025 (Pt-21)
9.	Chloride (Cl)	mg/L	96.22	250	1000	IS:3025 (Pt-32)
10.	Calcium (Ca)	mg/L	52.68	75	200	IS:3025 (Pt-40)
11.	Mineral Oil	mg/L	<0.01	0.5	No Relaxation	IS:3025 (Pt-39)
12.	Sulphate (SO ₄)	mg/L	43.34	200	400	IS:3025 (Pt-24)
13.	Nitrate (NO ₃)	mg/L	3.70	45	No Relaxation	IS:3025 (Pt-34)
14.	Fluoride (F)	mg/L	0.30	1	1.5	IS:3025 (Pt-60)
15.	Iron (Fe)	mg/L	0.20	0.3	No Relaxation	IS:3025 (Pt-53)
16.	Aluminium (Al)	mg/L	<0.02	0.03	0.2	APHA-3500 (B)
17.	Selenium (Se)	mg/L	<0.01	0.01	No. Relaxation	APHA-3113 (B)
18.	Cyanide (Cn)	mg/L	N.D	0.05	No. Relaxation	APHA-4500 (C)
19.	Copper(Cu)	mg/L	0.06	0.05	1.5	APHA-3111(B)
20.	Magnesium (Mg)	mg/L	23.17	30	100	IS:3025 (Pt-45)
21.	Manganese(Mn)	mg/L	<0.1	0.1	0.3	APHA-3111(B)
22.	Zinc(Zn)	mg/L	0.76	5	15	APHA-3111 (B)
23.	Cadmium(Cd)	mg/L	<0.001	0.003	No. Relaxation	APHA-3111 (B)
24.	Lead(Pb)	mg/L	<0.01	0.01	No. Relaxation	APHA-3111 (B)
25.	Mercury(Hg)	mg/L	<0.001	0.001	No. Relaxation	APHA-3112 (B)
26.	Nickel (Ni)	mg/L	<0.01	0.02	No. Relaxation	APHA-3111 (B)
27.	Arsenic(As)	mg/L	<0.01	0.01	0.05	APHA-3500 (B)
28.	Chromium (Cr+6)	mg/L	<0.01	0.05	No. Relaxation	APHA-3500 Cr-B
29.	Phenolic Compound (C6H5OH)	mg/L	<0.001	0.001	0.002	APHA-5530
30.	Conductivity (25 °C)	mhos/cm	666.68	Not Specified	Not Specified	APHA-2510
31.	E. Coli	Coli/100ml	Absent	Shall Not Be Detectable		IS:1622-1981
32.	Total Coliform	MPN/100ml	Absent	Shall Not Be Detectable		IS:1622-1981
33.	Temperature	°C	17.85	Not Specified	Not Specified	IS:3025 (Pt-9)
34.	Sodium (Na)	mg/L	45.30	Not Specified	Not Specified	APHA-3500 (Na)
35.	Fecal Coliform	MPN/100ml	Absent	Shall Not Be Detectable		APHA-9221

****End of Test Report****

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For ENVIRO-TECH SERVICES

MD HUMRAJ
AUTHORIZED SIGNATORY
Quality Manager

TEST REPORT

DATE OF REPORT : 10.03.2024

TEST REPORT NO : ETS/2158/02/2024

WATER SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.- 1(P),
THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR, DISTRICT-
NAWADA, BIHAR.

Date of Sampling : 10.02.2024
Analysis Start Date : 13.02.2024
Analysis End Date : 16.02.2024
Sampling Done By : ETS STAFF
Sampling Description : GROUND WATER
Sampling Location : GW-1 KHAKHANDUWA
Sampling Method : ETS/STP/WATER-01
Sampling Quantity : 2.0 +0.5 Lt.
Packing Condition : SEALED
Packed In : P.V.C. AND GLASS BOTTLE

S. No.	Test Parameters	Unit	Result	Drinking Water Standards / Limit (IS:10500 2012)		Test Method
				Desirable	Permissible	
1.	Colour	Hazen	<5.0	5	15	IS:3025 (Pt-4)
2.	Odour	---	Agreeable	Agreeable	Agreeable	IS:3025 (Pt-5)
3.	pH	---	7.38	6.5 - 8.5	No Relaxation	IS:3025 (Pt-11)
4.	Taste	---	Agreeable	Agreeable	Agreeable	IS:3025 (Pt-8)
5.	Turbidity	NTU	<1.0	1	5	IS:3025 (Pt-10)
6.	Total Dissolve Solid (TDS)	mg/L	494.80	500	2000	IS:3025 (Pt-16)
7.	Total Alkalinity (CaCO ₃)	mg/L	121.64	200	600	IS:3025 (Pt-23)
8.	Total Hardness(CaCO ₃)	mg/L	190.95	200	600	IS:3025 (Pt-21)
9.	Chloride (Cl)	mg/L	103.98	250	1000	IS:3025 (Pt-32)
10.	Calcium (Ca)	mg/L	62.18	75	200	IS:3025 (Pt-40)
11.	Mineral Oil	mg/L	<0.01	0.5	No Relaxation	IS:3025 (Pt-39)
12.	Sulphate (SO ₄)	mg/L	38.89	200	400	IS:3025 (Pt-24)
13.	Nitrate (NO ₃)	mg/L	1.80	45	No Relaxation	IS:3025 (Pt-34)
14.	Fluoride (F)	mg/L	0.45	1	1.5	IS:3025 (Pt-60)
15.	Iron (Fe)	mg/L	0.27	0.3	No Relaxation	IS:3025 (Pt-53)
16.	Aluminium (Al)	mg/L	<0.02	0.03	0.2	APHA-3500 (B)
17.	Selenium (Se)	mg/L	<0.01	0.01	No. Relaxation	APHA-3113 (B)
18.	Cyanide (Cn)	mg/L	N.D	0.05	No. Relaxation	APHA-4500 (C)
19.	Copper(Cu)	mg/L	0.04	0.05	1.5	APHA-3111(B)
20.	Magnesium (Mg)	mg/L	17.69	30	100	IS:3025 (Pt-45)
21.	Manganese(Mn)	mg/L	<0.1	0.1	0.3	APHA-3111(B)
22.	Zinc(Zn)	mg/L	0.18	5	15	APHA-3111 (B)
23.	Cadmium(Cd)	mg/L	<0.001	0.003	No. Relaxation	APHA-3111 (B)
24.	Lead(Pb)	mg/L	<0.01	0.01	No. Relaxation	APHA-3111 (B)
25.	Mercury(Hg)	mg/L	<0.001	0.001	No. Relaxation	APHA-3112 (B)
26.	Nickel (Ni)	mg/L	<0.01	0.02	No. Relaxation	APHA-3111 (B)
27.	Arsenic(As)	mg/L	<0.01	0.01	0.05	APHA-3500 (B)
28.	Chromium (Cr+6)	mg/L	<0.01	0.05	No. Relaxation	APHA-3500 Cr-B
29.	Phenolic Compound (C ₆ H ₅ OH)	mg/L	<0.001	0.001	0.002	APHA-5530
30.	Conductivity (25 °C)	mhos/cm	782.79	Not Specified	Not Specified	APHA-2510
31.	E. Coli	Coli/100ml	Absent	Shall Not Be Detectable		IS:1622-1981
32.	Total Coliform	MPN/100ml	Absent	Shall Not Be Detectable		IS:1622-1981
33.	Temperature	°C	17.95	Not Specified	Not Specified	IS:3025 (Pt-9)
34.	Sodium (Na)	mg/L	51.14	Not Specified	Not Specified	APHA-3500 (Na)
35.	Fecal Coliform	MPN/100ml	Absent	Shall Not Be Detectable		APHA-9221

****End of Test Report****

Note:-

1. Test report without ETS LAB HOLOGRAM are not issued by our laboratory.
2. Test results indicated only refer to the tested samples and listed applicable parameters.
3. No complaint will be entertained if received after 7 days of issue of test report.
4. Our liability is limited to invoice value only.
5. The sample shall be destroyed after 15 days & Biological / Perishable sample shall be destroyed immediately after issue of test report.
6. This test report shall not be used in any advertising media or as evidence in the court of Law without prior written permission of the laboratory.

For ENVIRO-TECH SERVICES

AUTHORIZED SIGNATORY

MD NUMRAJ

Quality Manager

TEST REPORT

TEST REPORT NO : ETS/2159/02/2024

DATE OF REPORT : 10.03.2024

WATER SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.- 1(P),
THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR, DISTRICT-
NAWADA, BIHAR.

Date of Sampling : 14.02.2024

Analysis Start Date : 17.02.2024

Analysis End Date : 20.02.2024

Sampling Done By : ETS STAFF

Sampling Description : GROUND WATER

Sampling Location : GW-2 CHHOTKA AMWAN

Sampling Method : ETS/STP/WATER-01

Sampling Quantity : 2.0 +0.5 Lt.

Packing Condition : SEALED

Packed In : P.V.C. AND GLASS BOTTLE

S. No.	Test Parameters	Unit	Result	Drinking Water Standards / Limit (IS:10500 2012)		Test Method
				Desirable	Permissible	
1.	Colour	Hazen	<5.0	5	15	IS:3025 (Pt-4)
2.	Odour	---	Agreeable	Agreeable	Agreeable	IS:3025 (Pt-5)
3.	pH	---	7.34	6.5 - 8.5	No Relaxation	IS:3025 (Pt-11)
4.	Taste	---	Agreeable	Agreeable	Agreeable	IS:3025 (Pt-8)
5.	Turbidity	NTU	<1.0	1	5	IS:3025 (Pt-10)
6.	Total Dissolve Solid (TDS)	mg/L	471.13	500	2000	IS:3025 (Pt-16)
7.	Total Alkalinity (CaCO ₃)	mg/L	117.27	200	600	IS:3025 (Pt-23)
8.	Total Hardness(CaCO ₃)	mg/L	150.32	200	600	IS:3025 (Pt-21)
9.	Chloride (Cl)	mg/L	79.15	250	1000	IS:3025 (Pt-32)
10.	Calcium (Ca)	mg/L	47.42	75	200	IS:3025 (Pt-40)
11.	Mineral Oil	mg/L	<0.01	0.5	No Relaxation	IS:3025 (Pt-39)
12.	Sulphate (SO ₄)	mg/L	40.57	200	400	IS:3025 (Pt-24)
13.	Nitrate (NO ₃)	mg/L	2.70	45	No Relaxation	IS:3025 (Pt-34)
14.	Fluoride (F)	mg/L	0.23	1	1.5	IS:3025 (Pt-60)
15.	Iron (Fe)	mg/L	0.16	0.3	No Relaxation	IS:3025 (Pt-53)
16.	Aluminium (Al)	mg/L	<0.02	0.03	0.2	APHA-3500 (B)
17.	Selenium (Se)	mg/L	<0.01	0.01	No. Relaxation	APHA-3113 (B)
18.	Cyanide (Cn)	mg/L	N.D	0.05	No. Relaxation	APHA-4500 (C)
19.	Copper(Cu)	mg/L	0.08	0.05	1.5	APHA-3111(B)
20.	Magnesium (Mg)	mg/L	9.28	30	100	IS:3025 (Pt-45)
21.	Manganese(Mn)	mg/L	<0.1	0.1	0.3	APHA-3111(B)
22.	Zinc(Zn)	mg/L	0.69	5	15	APHA-3111 (B)
23.	Cadmium(Cd)	mg/L	<0.001	0.003	No. Relaxation	APHA-3111 (B)
24.	Lead(Pb)	mg/L	<0.01	0.01	No. Relaxation	APHA-3111 (B)
25.	Mercury(Hg)	mg/L	<0.001	0.001	No. Relaxation	APHA-3112 (B)
26.	Nickel (Ni)	mg/L	<0.01	0.02	No. Relaxation	APHA-3111 (B)
27.	Arsenic(As)	mg/L	<0.01	0.01	0.05	APHA-3500 (B)
28.	Chromium (Cr+6)	mg/L	<0.01	0.05	No. Relaxation	APHA-3500 Cr-B
29.	Phenolic Compound (C6H5OH)	mg/L	<0.001	0.001	0.002	APHA-5530
30.	Conductivity (25 °C)	mhos/cm	670.56	Not Specified	Not Specified	APHA-2510
31.	E. Coli	Coli/100ml	Absent	Shall Not Be Detectable		IS:1622-1981
32.	Total Coliform	MPN/100ml	Absent	Shall Not Be Detectable		IS:1622-1981
33.	Temperature	°C	18.04	Not Specified	Not Specified	IS:3025 (Pt-9)
34.	Sodium (Na)	mg/L	40.55	Not Specified	Not Specified	APHA-3500 (Na)
35.	Fecal Coliform	MPN/100ml	Absent	Shall Not Be Detectable		APHA-9221

****End of Test Report****

Note:-

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4. Our liability is limited to invoice value only.
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For ENVIRO-TECH SERVICES

MD NUMRAJ
AUTHORIZED SIGNATORY
Quality Manager

TEST REPORT

TEST REPORT NO : ETS/2160/02/2024

DATE OF REPORT : 10.03.2024

WATER SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAHANDUWA STONE DEPOSIT PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAHANDUWA, PLOT NO.- 1(P),
THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR, DISTRICT-
NAWADA, BIHAR.

Date of Sampling : 12.02.2024
Analysis Start Date : 15.02.2024
Analysis End Date : 18.02.2024
Sampling Done By : ETS STAFF
Sampling Description : GROUND WATER
Sampling Location : GW-3 UTKARMIT MADYA VIDHALYA, SIRAMPUR, NAD
Sampling Method : ETS/STP/WATER-01
Sampling Quantity : 2.0 +0.5 Lt.
Packing Condition : SEALED
Packed In : P.V.C. AND GLASS BOTTLE

S. No.	Test Parameters	Unit	Result	Drinking Water Standards / Limit (IS:10500 2012)		Test Method
				Desirable	Permissible	
1.	Colour	Hazen	<5.0	5	15	IS:3025 (Pt-4)
2.	Odour	---	Agreeable	Agreeable	Agreeable	IS:3025 (Pt-5)
3.	pH	---	7.47	6.5 - 8.5	No Relaxation	IS:3025 (Pt-11)
4.	Taste	---	Agreeable	Agreeable	Agreeable	IS:3025 (Pt-8)
5.	Turbidity	NTU	<1.0	1	5	IS:3025 (Pt-10)
6.	Total Dissolve Solid (TDS)	mg/L	370.73	500	2000	IS:3025 (Pt-16)
7.	Total Alkalinity (CaCO ₃)	mg/L	128.71	200	600	IS:3025 (Pt-23)
8.	Total Hardness(CaCO ₃)	mg/L	151.58	200	600	IS:3025 (Pt-21)
9.	Chloride (Cl)	mg/L	84.97	250	1000	IS:3025 (Pt-32)
10.	Calcium (Ca)	mg/L	41.50	75	200	IS:3025 (Pt-40)
11.	Mineral Oil	mg/L	<0.01	0.5	No Relaxation	IS:3025 (Pt-39)
12.	Sulphate (SO ₄)	mg/L	34.73	200	400	IS:3025 (Pt-24)
13.	Nitrate (NO ₃)	mg/L	3.10	45	No Relaxation	IS:3025 (Pt-34)
14.	Fluoride (F)	mg/L	0.23	1	1.5	IS:3025 (Pt-60)
15.	Iron (Fe)	mg/L	0.16	0.3	No Relaxation	IS:3025 (Pt-53)
16.	Aluminium (Al)	mg/L	<0.02	0.03	0.2	APHA-3500 (B)
17.	Selenium (Se)	mg/L	<0.01	0.01	No. Relaxation	APHA-3113 (B)
18.	Cyanide (Cn)	mg/L	N.D	0.05	No. Relaxation	APHA-4500 (C)
19.	Copper(Cu)	mg/L	0.07	0.05	1.5	APHA-3111(B)
20.	Magnesium (Mg)	mg/L	14.23	30	100	IS:3025 (Pt-45)
21.	Manganese(Mn)	mg/L	<0.1	0.1	0.3	APHA-3111(B)
22.	Zinc(Zn)	mg/L	0.68	5	15	APHA-3111 (B)
23.	Cadmium(Cd)	mg/L	<0.001	0.003	No. Relaxation	APHA-3111 (B)
24.	Lead(Pb)	mg/L	<0.01	0.01	No. Relaxation	APHA-3111 (B)
25.	Mercury(Hg)	mg/L	<0.001	0.001	No. Relaxation	APHA-3112 (B)
26.	Nickel (Ni)	mg/L	<0.01	0.02	No. Relaxation	APHA-3111 (B)
27.	Arsenic(As)	mg/L	<0.01	0.01	0.05	APHA-3500 (B)
28.	Chromium (Cr+6)	mg/L	<0.01	0.05	No. Relaxation	APHA-3500 Cr-B
29.	Phenolic Compound (C6H5OH)	mg/L	<0.001	0.001	0.002	APHA-5530
30.	Conductivity (25 °C)	mhos/cm	573.17	Not Specified	Not Specified	APHA-2510
31.	E. Coli	Coli/100ml	Absent	Shall Not Be Detectable		IS:1622-1981
32.	Total Coliform	MPN/100ml	Absent	Shall Not Be Detectable		IS:1622-1981
33.	Temperature	°C	16.88	Not Specified	Not Specified	IS:3025 (Pt-9)
34.	Sodium (Na)	mg/L	39.58	Not Specified	Not Specified	APHA-3500 (Na)
35.	Fecal Coliform	MPN/100ml	Absent	Shall Not Be Detectable		APHA-9221

****End of Test Report****

Note:-

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5. The sample shall be destroyed after 15 days & Biological / Perishable sample shall be destroyed immediately after issue of test report.
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For ENVIRO-TECH SERVICES

MD HUMRAJ
AUTHORIZED SIGNATORY

TEST REPORT

TEST REPORT NO : ETS/2161/02/2024

DATE OF REPORT : 10.03.2024

WATER SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT" PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.- 1(P),
THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR, DISTRICT-
NAWADA, BIHAR.

Date of Sampling : 14.02.2024
Analysis Start Date : 17.02.2024
Analysis End Date : 20.02.2024
Sampling Done By : ETS STAFF
Sampling Description : GROUND WATER
Sampling Location : GW-4 BANDARKOL
Sampling Method : ETS/STP/WATER-01
Sampling Quantity : 2.0 +0.5 Lt.
Packing Condition : SEALED
Packed In : P.V.C. AND GLASS BOTTLE

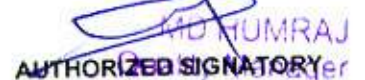
S. No.	Test Parameters	Unit	Result	Drinking Water Standards / Limit (IS:10500 2012)		Test Method
				Desirable	Permissible	
1.	Colour	Hazen	<5.0	5	15	IS:3025 (Pt-4)
2.	Odour	---	Agreeable	Agreeable	Agreeable	IS:3025 (Pt-5)
3.	pH	---	7.54	6.5 - 8.5	No Relaxation	IS:3025 (Pt-11)
4.	Taste	---	Agreeable	Agreeable	Agreeable	IS:3025 (Pt-8)
5.	Turbidity	NTU	<1.0	1	5	IS:3025 (Pt-10)
6.	Total Dissolve Solid (TDS)	mg/L	451.44	500	2000	IS:3025 (Pt-16)
7.	Total Alkalinity (CaCO ₃)	mg/L	122.03	200	600	IS:3025 (Pt-23)
8.	Total Hardness(CaCO ₃)	mg/L	148.08	200	600	IS:3025 (Pt-21)
9.	Chloride (Cl)	mg/L	87.69	250	1000	IS:3025 (Pt-32)
10.	Calcium (Ca)	mg/L	60.92	75	200	IS:3025 (Pt-40)
11.	Mineral Oil	mg/L	<0.01	0.5	No Relaxation	IS:3025 (Pt-39)
12.	Sulphate (SO ₄)	mg/L	34.82	200	400	IS:3025 (Pt-24)
13.	Nitrate (NO ₃)	mg/L	2.18	45	No Relaxation	IS:3025 (Pt-34)
14.	Fluoride (F)	mg/L	0.27	1	1.5	IS:3025 (Pt-60)
15.	Iron (Fe)	mg/L	0.17	0.3	No Relaxation	IS:3025 (Pt-53)
16.	Aluminium (Al)	mg/L	<0.02	0.03	0.2	APHA-3500 (B)
17.	Selenium (Se)	mg/L	<0.01	0.01	No. Relaxation	APHA-3113 (B)
18.	Cyanide (Cn)	mg/L	N.D	0.05	No. Relaxation	APHA-4500 (C)
19.	Copper(Cu)	mg/L	0.09	0.05	1.5	APHA-3111(B)
20.	Magnesium (Mg)	mg/L	8.85	30	100	IS:3025 (Pt-45)
21.	Manganese(Mn)	mg/L	<0.1	0.1	0.3	APHA-3111(B)
22.	Zinc(Zn)	mg/L	0.78	5	15	APHA-3111 (B)
23.	Cadmium(Cd)	mg/L	<0.001	0.003	No. Relaxation	APHA-3111 (B)
24.	Lead(Pb)	mg/L	<0.01	0.01	No. Relaxation	APHA-3111 (B)
25.	Mercury(Hg)	mg/L	<0.001	0.001	No. Relaxation	APHA-3112 (B)
26.	Nickel (Ni)	mg/L	<0.01	0.02	No. Relaxation	APHA-3111 (B)
27.	Arsenic(As)	mg/L	<0.01	0.01	0.05	APHA-3500 (B)
28.	Chromium (Cr+6)	mg/L	<0.01	0.05	No. Relaxation	APHA-3500 Cr-B
29.	Phenolic Compound (C ₆ H ₅ OH)	mg/L	<0.001	0.001	0.002	APHA-5530
30.	Conductivity (25 °C)	mhos/cm	684.82	Not Specified	Not Specified	APHA-2510
31.	E. Coli	Coli/100ml	Absent	Shall Not Be Detectable		IS:1622-1981
32.	Total Coliform	MPN/100ml	Absent	Shall Not Be Detectable		IS:1622-1981
33.	Temperature	°C	19.40	Not Specified	Not Specified	IS:3025 (Pt-9)
34.	Sodium (Na)	mg/L	34.73	Not Specified	Not Specified	APHA-3500 (Na)
35.	Fecal Coliform	MPN/100ml	Absent	Shall Not Be Detectable		APHA-9221

****End of Test Report****

Note:-

1. Test report without ETS LAB HOLOGRAM are not issued by our laboratory.
2. The results indicated only refer to the tested samples and listed applicable parameters.
3. No complaint will be entertained if received after 7 days of issue of test report.
4. Our liability is limited to invoice value only.
5. The sample shall be destroyed after 15 days & Biological / Perishable sample shall be destroyed immediately after issue of test report.
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For ENVIRO-TECH SERVICES


AUTHORIZED SIGNATORY

TEST REPORT

TEST REPORT NO : ETS/2162/02/2024

DATE OF REPORT : 10.03.2024

WATER SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.- 1(P),
THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR, DISTRICT-
NAWADA, BIHAR.

Date of Sampling : 15.02.2024
Analysis Start Date : 18.02.2024
Analysis End Date : 21.02.2024
Sampling Done By : ETS STAFF
Sampling Description : GROUND WATER
Sampling Location : GW-5 BAKSOTI
Sampling Method : ETS/STP/WATER-01
Sampling Quantity : 2.0 +0.5 Lt.
Packing Condition : SEALED
Packed In : P.V.C. AND GLASS BOTTLE

S. No.	Test Parameters	Unit	Result	Drinking Water Standards / Limit (IS:10500 2012)		Test Method
				Desirable	Permissible	
1.	Colour	Hazen	<5.0	5	15	IS:3025 (Pt-4)
2.	Odour	---	Agreeable	Agreeable	Agreeable	IS:3025 (Pt-5)
3.	pH	---	8.14	6.5 - 8.5	No Relaxation	IS:3025 (Pt-11)
4.	Taste	---	Agreeable	Agreeable	Agreeable	IS:3025 (Pt-8)
5.	Turbidity	NTU	<1.0	1	5	IS:3025 (Pt-10)
6.	Total Dissolve Solid (TDS)	mg/L	509.54	500	2000	IS:3025 (Pt-16)
7.	Total Alkalinity (CaCO ₃)	mg/L	123.68	200	600	IS:3025 (Pt-23)
8.	Total Hardness(CaCO ₃)	mg/L	175.18	200	600	IS:3025 (Pt-21)
9.	Chloride (Cl)	mg/L	100.49	250	1000	IS:3025 (Pt-32)
10.	Calcium (Ca)	mg/L	64.12	75	200	IS:3025 (Pt-40)
11.	Mineral Oil	mg/L	<0.01	0.5	No Relaxation	IS:3025 (Pt-39)
12.	Sulphate (SO ₄)	mg/L	37.02	200	400	IS:3025 (Pt-24)
13.	Nitrate (NO ₃)	mg/L	0.83	45	No Relaxation	IS:3025 (Pt-34)
14.	Fluoride (F)	mg/L	0.27	1	1.5	IS:3025 (Pt-60)
15.	Iron (Fe)	mg/L	1.80	0.3	No Relaxation	IS:3025 (Pt-53)
16.	Aluminium (Al)	mg/L	<0.02	0.03	0.2	APHA-3500 (B)
17.	Selenium (Se)	mg/L	<0.01	0.01	No. Relaxation	APHA-3113 (B)
18.	Cyanide (Cn)	mg/L	N.D	0.05	No. Relaxation	APHA-4500 (C)
19.	Copper(Cu)	mg/L	0.08	0.05	1.5	APHA-3111(B)
20.	Magnesium (Mg)	mg/L	22.77	30	100	IS:3025 (Pt-45)
21.	Manganese(Mn)	mg/L	<0.1	0.1	0.3	APHA-3111(B)
22.	Zinc(Zn)	mg/L	0.83	5	15	APHA-3111 (B)
23.	Cadmium(Cd)	mg/L	<0.001	0.003	No. Relaxation	APHA-3111 (B)
24.	Lead(Pb)	mg/L	<0.01	0.01	No. Relaxation	APHA-3111 (B)
25.	Mercury(Hg)	mg/L	<0.001	0.001	No. Relaxation	APHA-3112 (B)
26.	Nickel (Ni)	mg/L	<0.01	0.02	No. Relaxation	APHA-3111 (B)
27.	Arsenic(As)	mg/L	<0.01	0.01	0.05	APHA-3500 (B)
28.	Chromium (Cr+6)	mg/L	<0.01	0.05	No. Relaxation	APHA-3500 Cr-B
29.	Phenolic Compound (C ₆ H ₅ OH)	mg/L	<0.001	0.001	0.002	APHA-5530
30.	Conductivity (25 °C)	mhos/cm	738.46	Not Specified	Not Specified	APHA-2510
31.	E. Coli	Coli/100ml	Absent	Shall Not Be Detectable		IS:1622-1981
32.	Total Coliform	MPN/100ml	Absent	Shall Not Be Detectable		IS:1622-1981
33.	Temperature	°C	18.53	Not Specified	Not Specified	IS:3025 (Pt-9)
34.	Sodium (Na)	mg/L	38.32	Not Specified	Not Specified	APHA-3500 (Na)
35.	Fecal Coliform	MPN/100ml	Absent	Shall Not Be Detectable		APHA-9221

****End of Test Report****

Note:-

1. Test report without ETS LAB HOLOGRAM are not issued by our laboratory.
2. The results indicated only refer to the tested samples and listed applicable parameters.
3. No complaint will be entertained if received after 7 days of issue of test report.
4. Our liability is limited to invoice value only.
5. The sample shall be destroyed after 15 days & Biological / Perishable sample shall be destroyed immediately after issue of test report.
6. This test report shall not be used in any advertising media or as evidence in the court of Law without prior written permission of the laboratory.

For ENVIRO-TECH SERVICES

AUTHORIZED SIGNATORY

Quality Manager

TEST REPORT

TEST REPORT NO : ETS/2182/02/2024

DATE OF REPORT : 10.03.2024

WATER SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT* PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR,
DISTRICT-NAWADA, BIHAR.

Date of Sampling : 10.02.2024
Analysis Start Date : 13.02.2024
Analysis End Date : 16.02.2024
Sampling Done By : ETS STAFF
Sampling Description : SURFACE WATER
Sampling Location : SW-1 SAKRI RIVER (DOWNSTREAM)
Sampling Method : ETS/STP/WATER-01
Sampling Quantity : 2.0 +0.5 Lt.
Packing Condition : SEALED
Packed In : P.V.C. AND GLASS BOTTLE

S. No.	Test Parameters	Unit	Result	Test Method
1.	Colour	Hazen	<5.0	IS:3025 (Pt-4)
2.	Odour	---	Agreeable	IS:3025 (Pt-5)
3.	pH	---	7.51	IS:3025 (Pt-11)
4.	Turbidity	NTU	16.9	IS:3025 (Pt-10)
5.	Total Dissolve Solid (TDS)	mg/L	567.5	IS:3025 (Pt-16)
6.	Total Alkalinity (CaCO ₃)	mg/L	233.9	IS:3025 (Pt-23)
7.	Total Hardness(CaCO ₃)	mg/L	308.0	IS:3025 (Pt-21)
8.	Chloride (Cl)	mg/L	140.0	IS:3025 (Pt-32)
9.	Calcium (Ca)	mg/L	115.6	IS:3025 (Pt-40)
10.	Mineral Oil	mg/L	<0.01	IS:3025 (Pt-39)
11.	Sulphate (SO ₄)	mg/L	44.90	IS:3025 (Pt-24)
12.	Nitrate (NO ₃)	mg/L	5.40	IS:3025 (Pt-34)
13.	Fluoride (F)	mg/L	0.44	IS:3025 (Pt-60)
14.	Iron (Fe)	mg/L	0.19	IS:3025 (Pt-53)
15.	Aluminium (Al)	mg/L	<0.01	APHA-3500 (B)
16.	Selenium (Se)	mg/L	<0.01	APHA-3113 (B)
17.	Cyanide (Cn)	mg/L	<0.02	APHA-4500 (C)
18.	Copper(Cu)	mg/L	<0.05	APHA-3111(B)
19.	Magnesium (Mg)	mg/L	25.6	IS:3025 (Pt-45)
20.	Manganese(Mn)	mg/L	<0.1	APHA-3111(B)
21.	Zinc(Zn)	mg/L	0.80	APHA-3111 (B)
22.	Cadmium(Cd)	mg/L	<0.001	APHA-3111 (B)
23.	Lead(Pb)	mg/L	<0.01	APHA-3111 (B)
24.	Boron	Mg/L	<0.05	IS:3026(Pt-57)
25.	Mercury(Hg)	mg/L	<0.001	APHA-3112 (B)
26.	Molybdenum(mo)	mg/L	<0.05	IS:3025(Pt-2)
27.	Nickel (Ni)	mg/L	<0.01	APHA-3111 (B)
28.	Arsenic(As)	mg/L	<0.01	APHA-3500 (B)
29.	Chromium (Cr+6)	mg/L	<0.01	APHA-3500 Cr-B
30.	Conductivity (25 °C)	µs/Cm	844.9	APHA-2510
31.	Chemical Oxygen Demand (COD)	mg/L	19.5	APHA-5220 (B)
32.	Biological Oxygen Demand (BOD at 27°C for 3 day)	mg/L	4.29	APHA-4500 (D)
33.	Dissolve Oxygen (DO)	mg/L	7.52	APHA-5210
34.	E. Coli	MPN/100ml	390.0	IS:1622-1981
35.	Total Coliform	MPN/100ml	610.0	IS:1622-1981

****End of Test Report****

Note:-

1. Test reports without ETS LAB HOLOGRAM are not issued by our laboratory.
2. The results are only valid for the tested samples and listed applicable parameters.
3. No complaint shall be entertained if received after 7 days of issue of test report.
4. Our liability is limited to invoice value only. ETS /LAB/TR-09 Issue No 04 dt 01/06/2019 Rev No 03 dt 01/06/2019
5. The sample shall be destroyed after 15 days & Biological / Perishable sample shall be destroyed immediately after issue of test report.
6. This test report shall not be used in any advertising media or as evidence in the court of Law without prior written permission of the laboratory.

For ENVIRO-TECH SERVICES

AUTHORIZED SIGNATORY
Quality Manager



ENVIRO-TECH SERVICES

An Analytical Laboratory

(A GOVERNMENT APPROVED LAB)

Plot No. 1/32, S.S. of G.T. Road Industrial Area, Ghaziabad (U.P.) - 201001

email : etslab2012@gmail.com | Website : www.etslab.in | Ph.: 9911516076, 9811736063



ISO 45001

TEST REPORT

TEST REPORT NO : ETS/2183/02/2024

DATE OF REPORT : 10.03.2024

WATER SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT" PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR,
DISTRICT-NAWADA, BIHAR.

Date of Sampling : 12.02.2024
Analysis Start Date : 15.02.2024
Analysis End Date : 18.02.2024
Sampling Done By : ETS STAFF
Sampling Description : SURFACE WATER
Sampling Location : SW-2 SAKRI RIVER (UPSTREAM)
Sampling Method : ETS/STP/WATER-01
Sampling Quantity : 2.0 +0.5 LI.
Packing Condition : SEALED
Packed In : P.V.C. AND GLASS BOTTLE

S. No.	Test Parameters	Unit	Result	Test Method
1.	Colour	Hazen	<5.0	IS:3025 (Pt-4)
2.	Odour	---	Agreeable	IS:3025 (Pt-5)
3.	pH	---	7.13	IS:3025 (Pt-11)
4.	Turbidity	NTU	16.09	IS:3025 (Pt-10)
5.	Total Dissolve Solid (TDS)	mg/L	539.1	IS:3025 (Pt-16)
6.	Total Alkalinity (CaCO ₃)	mg/L	222.2	IS:3025 (Pt-23)
7.	Total Hardness(CaCO ₃)	mg/L	292.6	IS:3025 (Pt-21)
8.	Chloride (Cl)	mg/L	133.0	IS:3025 (Pt-32)
9.	Calcium (Ca)	mg/L	109.8	IS:3025 (Pt-40)
10.	Mineral Oil	mg/L	<0.01	IS:3025 (Pt-39)
11.	Sulphate (SO ₄)	mg/L	42.74	IS:3025 (Pt-24)
12.	Nitrate (NO ₃)	mg/L	4.90	IS:3025 (Pt-34)
13.	Fluoride (F)	mg/L	0.42	IS:3025 (Pt-60)
14.	Iron (Fe)	mg/L	0.18	IS:3025 (Pt-53)
15.	Aluminium (Al)	mg/L	<0.01	APHA-3500 (B)
16.	Selenium (Se)	mg/L	<0.01	APHA-3113 (B)
17.	Cyanide (Cn)	mg/L	<0.02	APHA-4500 (C)
18.	Copper(Cu)	mg/L	<0.05	APHA-3111(B)
19.	Magnesium (Mg)	mg/L	24.33	IS:3025 (Pt-45)
20.	Manganese(Mn)	mg/L	<0.1	APHA-3111(B)
21.	Zinc(Zn)	mg/L	0.76	APHA-3111 (B)
22.	Cadmium(Cd)	mg/L	<0.001	APHA-3111 (B)
23.	Lead(Pb)	mg/L	<0.01	APHA-3111 (B)
24.	Boron	Mg/L	<0.05	IS:3026(Pt-57)
25.	Mercury(Hg)	mg/L	<0.001	APHA-3112 (B)
26.	Molybdenum(mo)	mg/L	<0.05	IS:3025(Pt-2)
27.	Nickel (Ni)	mg/L	<0.01	APHA-3111 (B)
28.	Arsenic(As)	mg/L	<0.01	APHA-3500 (B)
29.	Chromium (Cr+6)	mg/L	<0.01	APHA-3500 Cr-B
30.	Conductivity (25 °C)	µs/Cm	802.7	APHA-2510
31.	Chemical Oxygen Demand (COD)	mg/L	18.50	APHA-5220 (B)
32.	Biological Oxygen Demand (BOD at 27°C for 3 day)	mg/L	4.08	APHA-4500 (D)
33.	Dissolve Oxygen (DO)	mg/L	7.15	APHA-5210
34.	E. Coli	MPN/100ml	480.2	IS:1622-1981
35.	Total Coliform	MPN/100ml	640.0	IS:1622-1981

****End of Test Report****

Note:-

1. Test reports without ETS LAB HOLOGRAM are not issued by our laboratory.
2. The results indicated only refer to the tested samples and listed applicable parameters.
3. No complaint will be entertained if received after 7 days of issue of test report.
4. Our liability is limited to invoice value only.
5. The sample shall be destroyed after 15 days & Biological / Perishable sample shall be destroyed immediately after issue of test report.
6. This test report shall not be used in any advertising media or as evidence in the court of Law without prior written permission of the laboratory.



For ENVIRO-TECH SERVICES
ML HUMRAJ
AUTHORIZED SIGNATORY

TEST REPORT

TEST REPORT NO : ETS/2184/02/2024

DATE OF REPORT : 10.03.2024

WATER SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT" PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR,
DISTRICT-NAWADA, BIHAR.

Date of Sampling : 20.02.2024

Analysis Start Date : 23.02.2024

Analysis End Date : 26.02.2024

Sampling Done By : ETS STAFF

Sampling Description : SURFACE WATER

Sampling Location : SW-3 JHADAN JHILL

Sampling Method : ETS/STP/WATER-01

Sampling Quantity : 2.0 +0.5 Lt.

Packing Condition : SEALED

Packed In : P.V.C. AND GLASS BOTTLE

S. No.	Test Parameters	Unit	Result	Test Method
1.	Colour	Hazen	<5.0	IS:3025 (Pt-4)
2.	Odour	---	Agreeable	IS:3025 (Pt-5)
3.	pH	---	7.75	IS:3025 (Pt-11)
4.	Turbidity	NTU	13.8	IS:3025 (Pt-10)
5.	Total Dissolve Solid (TDS)	mg/L	649.8	IS:3025 (Pt-16)
6.	Total Alkalinity (CaCO ₃)	mg/L	216.6	IS:3025 (Pt-23)
7.	Total Hardness(CaCO ₃)	mg/L	286.3	IS:3025 (Pt-21)
8.	Chloride (Cl)	mg/L	194.3	IS:3025 (Pt-32)
9.	Calcium (Ca)	mg/L	132.0	IS:3025 (Pt-40)
10.	Mineral Oil	mg/L	<0.01	IS:3025 (Pt-39)
11.	Sulphate (SO ₄)	mg/L	45.32	IS:3025 (Pt-24)
12.	Nitrate (NO ₃)	mg/L	7.80	IS:3025 (Pt-34)
13.	Fluoride (F)	mg/L	0.47	IS:3025 (Pt-60)
14.	Iron (Fe)	mg/L	0.23	IS:3025 (Pt-53)
15.	Aluminium (Al)	mg/L	<0.01	APHA-3500 (B)
16.	Selenium (Se)	mg/L	<0.01	APHA-3113 (B)
17.	Cyanide (Cn)	mg/L	<0.02	APHA-4500 (C)
18.	Copper(Cu)	mg/L	<0.05	APHA-3111(B)
19.	Magnesium (Mg)	mg/L	28.9	IS:3025 (Pt-45)
20.	Manganese(Mn)	mg/L	<0.1	APHA-3111(B)
21.	Zinc(Zn)	mg/L	0.61	APHA-3111 (B)
22.	Cadmium(Cd)	mg/L	<0.001	APHA-3111 (B)
23.	Lead(Pb)	mg/L	<0.01	APHA-3111 (B)
24.	Boron	Mg/L	<0.05	IS:3026(Pt-57)
25.	Mercury(Hg)	mg/L	<0.001	APHA-3112 (B)
26.	Molybdenum(mo)	mg/L	<0.05	IS:3025(Pt-2)
27.	Nickel (Ni)	mg/L	<0.01	APHA-3111 (B)
28.	Arsenic(As)	mg/L	<0.01	APHA-3500 (B)
29.	Chromium (Cr+6)	mg/L	<0.01	APHA-3500 Cr-B
30.	Conductivity (25 °C)	µs/Cm	989.1	APHA-2510
31.	Chemical Oxygen Demand (COD)	mg/L	33.4	APHA-5220 (B)
32.	Biological Oxygen Demand (BOD at 27°C for 3 day)	mg/L	3.87	APHA-4500 (D)
33.	Dissolve Oxygen (DO)	mg/L	4.29	APHA-5210
34.	E. Coli	MPN/100ml	506.0	IS:1622-1981
35.	Total Coliform	MPN/100ml	814.0	IS:1622-1981

****End of Test Report****

Note:-

1. Test reports without ETS LAB HOLOGRAM are not issued by our laboratory.

2. The results in this report refer to the tested samples and listed applicable parameters.

3. No complaint will be entertained if received after 7 days of issue of test report.

4. Our liability is limited to invoice value only.

5. The sample shall be destroyed after 15 days & Biological / Perishable sample shall be destroyed immediately after issue of test report.

6. This test report shall not be used in any advertising media or as evidence in the court of Law without prior written permission of the laboratory.

For ENVIRO-TECH SERVICES

HUMRAJ
AUTHORIZED SIGNATORY

TEST REPORT

TEST REPORT NO : ETS/2185/02/2024

DATE OF REPORT : 10.03.2024

WATER SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT" PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR,
DISTRICT-NAWADA, BIHAR.

Date of Sampling : 15.02.2024
Analysis Start Date : 18.02.2024
Analysis End Date : 22.02.2024
Sampling Done By : ETS STAFF
Sampling Description : SURFACE WATER
Sampling Location : SW-4 PANCHANE RIVER (UPSTREAM)
Sampling Method : ETS/STP/WATER-01
Sampling Quantity : 2.0 +0.5 LT.
Packing Condition : SEALED
Packed In : P.V.C. AND GLASS BOTTLE

S. No.	Test Parameters	Unit	Result	Test Method
1.	Colour	Hazen	<5.0	IS:3025 (Pt-4)
2.	Odour	---	Agreeable	IS:3025 (Pt-5)
3.	pH	---	7.82	IS:3025 (Pt-11)
4.	Turbidity	NTU	11.6	IS:3025 (Pt-10)
5.	Total Dissolve Solid (TDS)	mg/L	407.7	IS:3025 (Pt-16)
6.	Total Alkalinity (CaCO ₃)	mg/L	189.6	IS:3025 (Pt-23)
7.	Total Hardness(CaCO ₃)	mg/L	271.3	IS:3025 (Pt-21)
8.	Chloride (Cl)	mg/L	96.1	IS:3025 (Pt-32)
9.	Calcium (Ca)	mg/L	57.0	IS:3025 (Pt-40)
10.	Mineral Oil	mg/L	<0.01	IS:3025 (Pt-39)
11.	Sulphate (SO ₄)	mg/L	40.70	IS:3025 (Pt-24)
12.	Nitrate (NO ₃)	mg/L	5.32	IS:3025 (Pt-34)
13.	Fluoride (F)	mg/L	0.35	IS:3025 (Pt-60)
14.	Iron (Fe)	mg/L	0.18	IS:3025 (Pt-53)
15.	Aluminium (Al)	mg/L	<0.01	APHA-3500 (B)
16.	Selenium (Se)	mg/L	<0.01	APHA-3113 (B)
17.	Cyanide (Cn)	mg/L	<0.02	APHA-4500 (C)
18.	Copper(Cu)	mg/L	<0.05	APHA-3111(B)
19.	Magnesium (Mg)	mg/L	23.3	IS:3025 (Pt-45)
20.	Manganese(Mn)	mg/L	<0.1	APHA-3111(B)
21.	Zinc(Zn)	mg/L	0.54	APHA-3111 (B)
22.	Cadmium(Cd)	mg/L	<0.001	APHA-3111 (B)
23.	Lead(Pb)	mg/L	<0.01	APHA-3111 (B)
24.	Boron	Mg/L	<0.05	IS:3026(Pt-57)
25.	Mercury(Hg)	mg/L	<0.001	APHA-3112 (B)
26.	Molybdenum(mo)	mg/L	<0.05	IS:3025(Pt-2)
27.	Nickel (Ni)	mg/L	<0.01	APHA-3111 (B)
28.	Arsenic(As)	mg/L	<0.01	APHA-3500 (B)
29.	Chromium (Cr+6)	mg/L	<0.01	APHA-3500 Cr-B
30.	Conductivity (25 °C)	µs/Cm	655.7	APHA-2510
31.	Chemical Oxygen Demand (COD)	mg/L	21.6	APHA-5220 (B)
32.	Biological Oxygen Demand (BOD at 27°C for 3 day)	mg/L	3.73	APHA-4500 (D)
33.	Dissolve Oxygen (DO)	mg/L	5.96	APHA-5210
34.	E. Coli	MPN/100ml	340.4	IS:1622-1981
35.	Total Coliform	MPN/100ml	610.8	IS:1622-1981

****End of Test Report****

Note:-

- Test reports without ETS LAB HOLOGRAM are not issued by our laboratory.
- The results are valid only for the tested samples and listed applicable parameters.
- No complaint will be entertained if received after 7 days of issue of test report.
- Our liability is limited to invoice value only. ETS /LAB/TR-09 Issue No 04 dt 01/06/2019 Rev No 03 dt 01/05/2019
- The sample shall be destroyed after 15 days & Biological / Perishable sample shall be destroyed immediately after issue of test report.
- This test report shall not be used in any advertising media or as evidence in the court of Law without prior written permission of the laboratory.

For ENVIRO-TECH SERVICES

AUTHORIZED SIGNATORY
Quality Manager

TEST REPORT

TEST REPORT NO : ETS/2186/02/2024

DATE OF REPORT : 10.03.2024

WATER SAMPLE ANALYSIS REPORT

Name And Address of Customer : M/S KHAKHANDUWA STONE DEPOSIT PROJECT
(AREA 16.0 ACRES / 6.475 HA.) AT MAUZA- KHAKHANDUWA, PLOT NO.-
1(P), THANA NO - 309, THANA- GOVINDPUR, ANCHAL-GOVINDPUR,
DISTRICT-NAWADA, BIHAR.

Date of Sampling : 15.02.2024
Analysis Start Date : 18.02.2024
Analysis End Date : 22.02.2024
Sampling Done By : ETS STAFF
Sampling Description : SURFACE WATER
Sampling Location : SW-5 PANCHANE RIVER (DOWNSTREAM)
Sampling Method : ETS/STP/WATER-01
Sampling Quantity : 2.0 +0.5 Lt.
Packing Condition : SEALED
Packed In : P.V.C. AND GLASS BOTTLE

S. No.	Test Parameters	Unit	Result	Test Method
1.	Colour	Hazen	<5.0	IS:3025 (Pt-4)
2.	Odour	---	Agreeable	IS:3025 (Pt-5)
3.	pH	---	7.27	IS:3025 (Pt-11)
4.	Turbidity	NTU	11.0	IS:3025 (Pt-10)
5.	Total Dissolve Solid (TDS)	mg/L	438.1	IS:3025 (Pt-16)
6.	Total Alkalinity (CaCO ₃)	mg/L	181.3	IS:3025 (Pt-23)
7.	Total Hardness(CaCO ₃)	mg/L	143.9	IS:3025 (Pt-21)
8.	Chloride (Cl)	mg/L	130.4	IS:3025 (Pt-32)
9.	Calcium (Ca)	mg/L	90.1	IS:3025 (Pt-40)
10.	Mineral Oil	mg/L	<0.01	IS:3025 (Pt-39)
11.	Sulphate (SO ₄)	mg/L	30.20	IS:3025 (Pt-24)
12.	Nitrate (NO ₃)	mg/L	4.26	IS:3025 (Pt-34)
13.	Fluoride (F)	mg/L	0.36	IS:3025 (Pt-60)
14.	Iron (Fe)	mg/L	0.14	IS:3025 (Pt-53)
15.	Aluminium (Al)	mg/L	<0.01	APHA-3500 (B)
16.	Selenium (Se)	mg/L	<0.01	APHA-3113 (B)
17.	Cyanide (Cn)	mg/L	<0.02	APHA-4500 (C)
18.	Copper(Cu)	mg/L	<0.05	APHA-3111(B)
19.	Magnesium (Mg)	mg/L	23.3	IS:3025 (Pt-45)
20.	Manganese(Mn)	mg/L	<0.1	APHA-3111(B)
21.	Zinc(Zn)	mg/L	0.50	APHA-3111 (B)
22.	Cadmium(Cd)	mg/L	<0.001	APHA-3111 (B)
23.	Lead(Pb)	mg/L	<0.01	APHA-3111 (B)
24.	Boron	Mg/L	<0.05	IS:3026(Pt-57)
25.	Mercury(Hg)	mg/L	<0.001	APHA-3112 (B)
26.	Molybdenum(mo)	mg/L	<0.05	IS:3025(Pt-2)
27.	Nickel (Ni)	mg/L	<0.01	APHA-3111 (B)
28.	Arsenic(As)	mg/L	<0.01	APHA-3500 (B)
29.	Chromium (Cr+6)	mg/L	<0.01	APHA-3500 Cr-B
30.	Conductivity (25 °C)	µs/Cm	735.3	APHA-2510
31.	Chemical Oxygen Demand (COD)	mg/L	21.2	APHA-5220 (B)
32.	Biological Oxygen Demand (BOD at 27°C for 3 day)	mg/L	4.43	APHA-4500 (D)
33.	Dissolve Oxygen (DO)	mg/L	5.45	APHA-5210
34.	E. Coli	MPN/100ml	310.6	IS:1622-1981
35.	Total Coliform	MPN/100ml	580.5	IS:1622-1981

****End of Test Report****

Note:-

1. Test reports without ETS LAB HOLOGRAM are not issued by our laboratory.

2. The results of the test shall refer to the tested samples and listed applicable parameters.

3. No complaint shall be entertained if received after 7 days of issue of test report.

4. Our liability is limited to invoice value only. ETS /LAB/TR-09 Issue No 04 dt 01/08/2019 Rev No 03 dt 01/08/2019

5. The sample shall be destroyed after 15 days & Biological / Perishable sample shall be destroyed immediately after issue of test report.

6. This test report shall not be used in any advertising media or as evidence in the court of Law without prior written permission of the laboratory.

For ENVIRO-TECH SERVICES

MO HUMRAJ
AUTHORIZED SIGNATORY

ANNEXURE-VIII
(PROCEEDING OF PUBLIC
HEARING)

लोक सुनवाई का वृत्त

मेसर्स पटेल एग्री इण्डस्ट्रीज प्रा० लि०, निदेशक: श्री कुनकुन प्रसाद, C/O संजीव कुमार रंजन, B/116, पी.सी. कॉलोनी लोहिया नगर, थाना- कंकड़बाग, जिला- पटना द्वारा मौजा- खखंदुआ, खाता संख्या- 85, प्लॉट संख्या- 1 (P) ग्राम-खखंदुआ, थाना संख्या- 309, थाना- गोविंदपुर, अंचल- गोविंदपुर, जिला- नवादा अवस्थित पत्थर भूखण्ड संख्या- ब्लॉक- 'बी' रकबा- 16.00 एकड़ का नवादा जिला अन्तर्गत बालू खनन परियोजना से संबंधित पर्यावरणीय स्वीकृति के वास्ते अधिसूचना सं०-एस.ओ. 1533, दिनांक 14 सितम्बर, 2006 एवं यथा संशोधित के तहत दिनांक 12.07.2024 को अपराह्न 12:00 बजे अंचल कार्यालय, गोविंदपुर, जिला- नवादा के प्रांगण में लोक सुनवाई की गयी।

यह लोक सुनवाई पर्यावरण प्रभाव मूल्यांकन अधिसूचना सं०-एस.ओ.1533, दिनांक 14 सितम्बर 2006 एवं यथा संशोधित के तहत पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार के द्वारा निर्गत TOR File. No. SIA/1(a)/2493/2023, dated 13.03.2024 के आलोक में श्री चन्द्रशेखर आजाद, अपर समाहर्ता, नवादा (जिला पदाधिकारी, नवादा के प्रतिनिधि) की अध्यक्षता में बिहार राज्य प्रदूषण नियंत्रण पर्षद द्वारा दिनांक 12.07.2024 को अपराह्न 12:00 बजे प्रखण्ड कार्यालय, गोविंदपुर, जिला-नवादा में लोक-सुनवाई आयोजित की गयी। उपस्थिति पंजी संलग्न (अनुलग्नक-1)

इस लोक-सुनवाई की सूचना बिहार राज्य प्रदूषण नियंत्रण पर्षद द्वारा दैनिक समाचार पत्रों यथा दैनिक भास्कर एवं हिन्दुस्तान के माध्यम से दिनांक 07.06.2024 को प्रकाशित की गयी थी (प्रतिलिपि संलग्न)। लोक-सुनवाई के दौरान श्री मनोरंजन कुमार सिंह, क्षेत्रीय पदाधिकारी, बिहार राज्य प्रदूषण नियंत्रण पर्षद, गया द्वारा लोक-सुनवाई में उपस्थित जन-समुदाय एवं सभी संबंधित पदाधिकारियों का स्वागत करते हुए पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार द्वारा अधिसूचित पर्यावरण प्रभाव मूल्यांकन अधिसूचना सं०-एस.ओ.1533, दिनांक 14 सितम्बर 2006 एवं यथा संशोधित के तहत इकाई के पर्यावरणीय स्वीकृति हेतु लोक-सुनवाई की पृष्ठ-भूमि पर प्रकाश डाला गया।

क्षेत्रीय पदाधिकारी द्वारा मौजा- खखंदुआ, खाता संख्या- 85, प्लॉट संख्या- 1 (P) ग्राम-खखंदुआ, थाना संख्या- 309, थाना- गोविंदपुर, अंचल- गोविंदपुर, जिला- नवादा अवस्थित पत्थर भूखण्ड संख्या- ब्लॉक- 'बी' रकबा- 16.00 एकड़ जिला- नवादा के लेसी को मंच के समीप आकर अपना परिचय देने के लिए कहा गया। तदनुसार लेसी के द्वारा अपना परिचय लोक सुनवाई में उपस्थित सभी महानुभावों को दिया गया।

अपर समाहर्ता महोदय द्वारा Video Conferencing के माध्यम से लोक हित में कार्य योजना से संबंधित सुनवाई के उद्देश्य से उपस्थित लोगों को अवगत कराया गया। साथ ही स्थानीय लोगों से पर्यावरण संरक्षण एवं लोक हित के संबंध में सुझाव मँगा गया।

लोक सुनवाई कार्यक्रम के अध्यक्ष के अनुमति से परियोजना प्रस्तावक के पर्यावरणीय सलाहकार मो० आमीर अख्तर ने इकाई की खनन कार्य परियोजना, प्रदूषण नियंत्रण व्यवस्था एवं कॉरपोरेट की सामाजिक जिम्मेदारी (Corporate Social Responsibility) आदि के संबंध में आमजनों को विस्तृत रूप से अवगत कराया। इनके द्वारा सूचित किया गया कि खनन कार्य के उपरान्त परिवहन के दौरान उत्सर्जित होने वाले धूल-कण की रोक-थाम हेतु सड़को पर नियमित रूप से जल छिड़काव किया जायेगा साथ ही वाहनों पर ओवरलोडिंग नहीं की जायेगी एवं वाहनों को तिरपाल से ढक कर ले जाया जायेगा। ध्वनि प्रदूषण को नियंत्रित करने हेतु वाहनो में ध्वनि यंत्र (हार्न) का न्यूनतम उपयोग किया जायेगा। पुराने एवं खराब वाहनों का इस्तेमाल नहीं किया जायेगा। सड़क के किनारे एवं खनन पट्टा क्षेत्र में वृक्षारोपण का कार्य किया जायेगा। परियोजना प्रस्तुतिकरण के पश्चात् उपस्थित महानुभावों द्वारा दिए गए सुझाव/मंतव्य निम्नवत हैं:-

क्रमांक	नाम एवं पता	प्रतिक्रिया/सुझाव
1.	श्री वीरमणी कुमार, पिता- श्री सिद्धेश्वर प्रसाद, ग्राम- खखंदुआ जिला: नवादा।	इनके द्वारा स्थानीय लोगो के रोजगार से संबंधित प्रश्न पूछा गया। इस संबंध में परियोजना प्रस्तावक के पर्यावरणीय सलाहकार द्वारा बतलाया गया कि प्राथमिकता के आधार पर स्थानीय लोगो को उनकी योग्यता के अनुसार रोजगार दिया जायेगा।
2.	श्री विपीन कुमार, पिता- श्री अनिल कुमार सिंह, ग्राम- खखंदुआ जिला: नवादा।	इनके द्वारा पत्थर परिवहन के दौरान सड़क टूटने एवं खराब होने से संबंधित प्रश्न पूछा गया। इस संबंध में परियोजना प्रस्तावक के पर्यावरणीय सलाहकार द्वारा बताया गया की परिवहन के लिए अन्य पहुंच पथ का निर्माण किया जाएगा, जिससे ग्रामीणों को किसी भी प्रकार की असुविधा नहीं हो।
3.	श्री अरविन्द यादव, पिता- श्री रामजी प्रसाद, ग्राम- खखंदुआ जिला: नवादा।	इनके द्वारा उक्त इकाई में कार्य करने वाले मजदूरों के स्वास्थ्य समस्याओं से संबंधित प्रश्न पूछा गया। परियोजना प्रस्तावक के पर्यावरणीय सलाहकार द्वारा बताया गया कि कार्य करने वाले मजदूरों को पी० पी० ई० कीट, फेस मास्क एवं अन्य स्वास्थ्य संबंधित उपकरण मुहैया करवाया जायेगा तथा समय-समय पर कार्य करने वाले मजदूरों का स्वास्थ्य जाँच भी करवाया जायेगा।

लोक सुनवाई के दौरान ही उपस्थित सभी लोगों से इस पत्थर खनन परियोजना के पक्ष में या विपक्ष में अपने-अपने मत देने का अनुरोध किया गया। तत्पश्चात् उपस्थित सभी लोगों ने अपने हाथ उठाकर परियोजना स्वीकृति किये जाने के पक्ष में अपना मत दिया।

इसी क्रम में अध्यक्ष द्वारा परियोजना प्रस्तावक को निदेश दिया गया कि वाहनों से पत्थर ढुलाई के क्रम में नियमित रूप से परिवहन मार्ग पर जल छिड़काव करेंगे एवं पत्थर से लदे वाहनों को तिरपाल से ढक कर ही ले जायेंगे। परिवहन के दौरान तीव्र ध्वनि वाले हॉर्न का उपयोग नहीं करेंगे। उन्होंने उम्मीद जताया कि इकाई प्रबंधन द्वारा इन उपरोक्त बिन्दुओं पर गम्भीरता से ध्यान रखा जायेगा। साथ ही वैज्ञानिक तरीके से पत्थर खनन का कार्य एवं विभागीय निदेश का अनुपालन किया जायेगा।

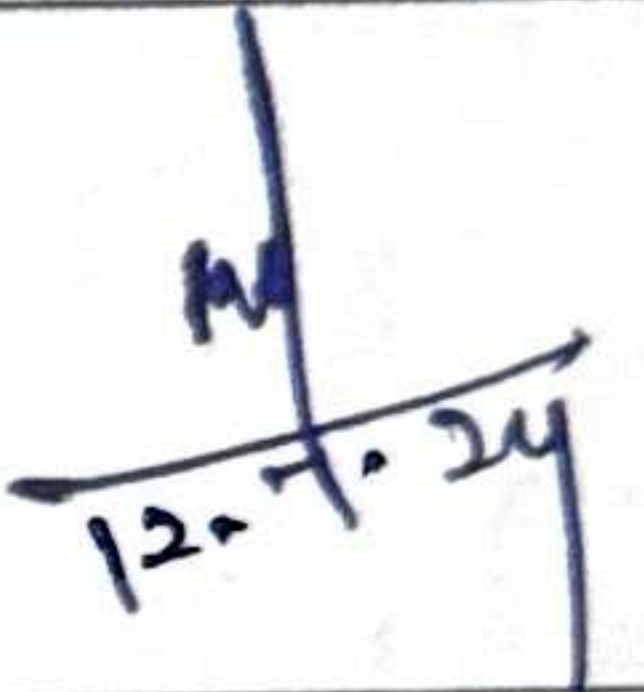
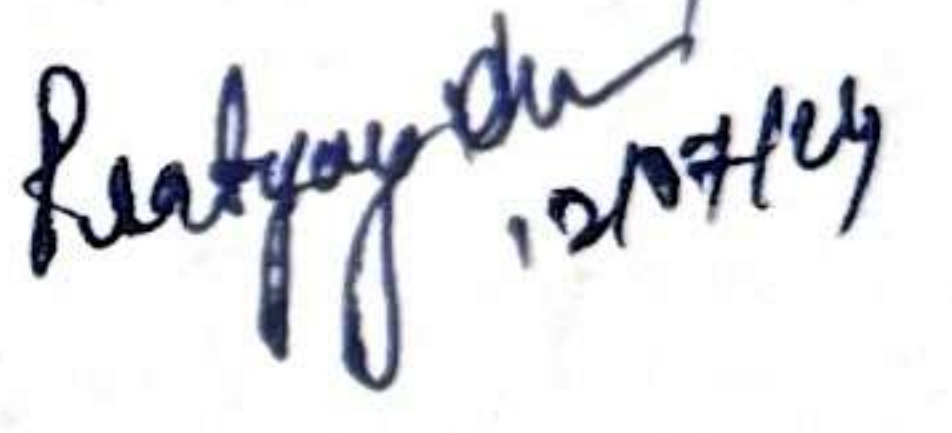
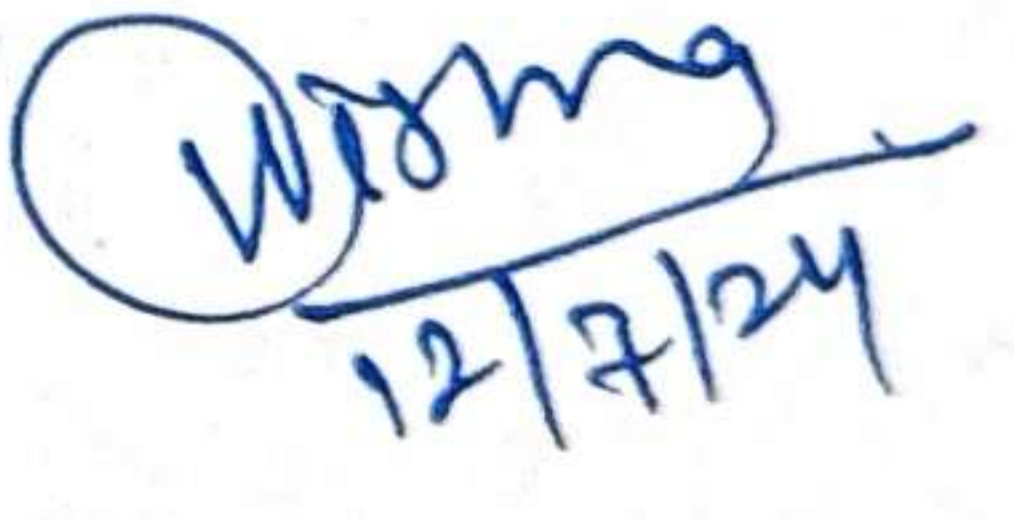
जन-सुनवाई के अंत में उपस्थित जनता के सुझाव एवं अपर समाहर्ता, नवादा (जिला पदाधिकारी, नवादा के प्रतिनिधि) द्वारा दिये गये जानकारी को संग्रहित करते हुए सर्वसम्मति से इस पत्थर खनन परियोजना को प्रारंभ करने के लिए सक्षम प्राधिकार को अनुसंशा करने का निर्णय लिया गया। तत्पश्चात् लोक-सुनवाई सधन्यवाद समाप्त करने की घोषणा की गयी।

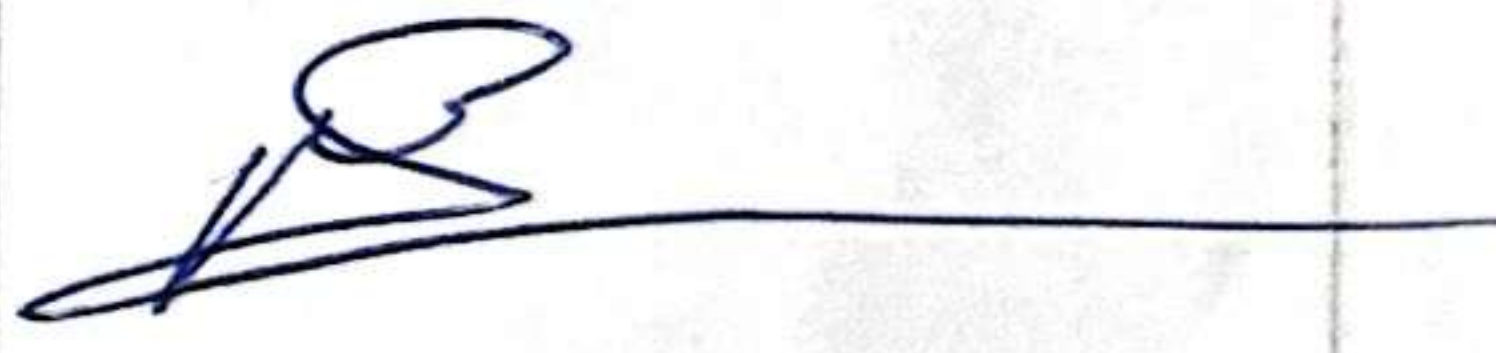

क्षेत्रीय पदाधिकारी
बि.रा.प्र.नि.पर्वद, गया


अपर समाहर्ता
नवादा

उपस्थिति सूची

मेसर्स पटेल एग्री इण्डस्ट्रीज प्रा० लि०, निदेशक: श्री कुनकुन प्रसाद, C/O संजीव कुमार रंजन, B/116, पी.सी. कॉलोनी लोहिया नगर, थाना-कंकड़बाग, जिला- पटना द्वारा मौजा- खखंदुआ, खाता संख्या- 85, प्लॉट संख्या- 1 (P) ग्राम-खखंदुआ, थाना संख्या- 309, थाना- गोविंदपुर, अंचल- गोविंदपुर, जिला- नवादा अवस्थित पत्थर भूखण्ड संख्या- ब्लॉक- 'बी' रकबा- 16.00 एकड़ में परियोजना से संबंधित पर्यावरणीय स्वीकृति दिनांक: 12.07.2024 को 12:00 बजे अपराह्न में अंचल कार्यालय गोविंदपुर, जिला-नवादा में आयोजित लोक सुनवाई के दौरान उपस्थित महानुभावों की सूची:

क्र०सं०	नाम	पता	हस्ताक्षर
1.	Chandrashekhar Azaad	A.D.M. Nawada	
2.	Manoj Kumar Singh	R.O. B.S.P. C. Road Nawa	
3.	Rajyash Chandra	MDO, Nawada	
4.	Vijay Mishra	Rajan Kumar Pat LAL Senior manager	
5.	Raj Kumar	Danapur, Patna. (Representative, Patel Agri Industries (P) Ltd.)	Raj Kumar. 12/07/2024.
6.	विमिन अनिता कुमार सिंह	खखंदुआ 9102446258	विमिन
7.	सुधीर कुमार नरेश प्रसाद	खखंदुआ 980187895+	Sudhir Kumar
8.	कारु प्रसाद कुलदीप यादव	खखंदुआ	कारु प्रसाद

9.	રામેશ કુમાર રામારૂપ કુમાર	બુભન - નવાપર 9801625753	<u>રામેશ કુમાર</u>
10.	વિનોદ કિર રના અયેસકીર	નાક - નવાપર 1485050432	વિનોદ કિર
11.	સોનુ કુમાર શી બેનનાથમણી	પબી - નવાપર 9060245511	સોનુ કુમાર
12.	મિટુન ચૌધરી મમદેવ ચૌધરી	સ્વસ્વંદુર	મિટુન ચૌધરી
13.	દીપક કુમાર અર્જુન તમર	ગોગાન નવાપર 9386171842	દીપક કુમાર
14.	વીરમગી કુમાર રિપ્પ સ્વરૂપ	સ્વસ્વંદુર 9798551335	<u>વીરમ</u>
15.	અરવિંદ ચાવ્લા રામ શી પુલાડ	સ્વસ્વંદુર 7004220520	
16.	પવન કુમાર રામ વાલુચિદ	નાક નવાપર 8709861079	<u>પવન કુમાર</u>
17.	રિતેશ કુમાર વિલાશ ચાવ્લા	સ્વસ્વંદુર 7296027398	રિતેશ - કુમાર
18.	Vikash Kumar ચાવ્લા રિદ	સ્વસ્વંદુર 9661392632	વિલાશ કુમાર
19.	Amit Patel Ajay Singh	Gogani, Manadan 7739333415	Amit Patel

20.	Babansingh Rajeshsingh	બબાનસિંઘ નાવાદા 934191406	Babansingh
21.	રાજેશ કુમાર	ગાંધીનગર, નવાદા 9149983548	રાજેશ કુમાર
22.	RAVI RAJ KUMAR	Wardsligam manada 9097151793	Ravi Raj
23.	અનુભવ શાહ	નિર્મલ નગર 9031066804	Anu
24.	અરુણ કુમાર	નવાદા રાજકોટ 7004760477	અરુણ કુમાર
25.	Vinay Kumar	Chaukhunda, Nawada Nawada 7004137655	Vinay Kumar
26.	Arshikr.	Khe Kuma 934563435	Arshikr.
27.	Rohit Kr.	Khaknua nawada 9334914664	Rohit Kr.
28.	Priya Kumar	Khaknua Nawada 8789945862	Priya Kumar
29.	Rishav Raj	Kha knua Nawada 7070256531	Rishav Raj
30.	Sohan Kumar	Kha Kua Nawada 9031063382	Sohan Kumar

ANNEXURE-IX
(QUESTIONNAIRE)

PROFORMA FOR ENVIRONMENTAL APPRAISAL OF MINING PROJECTS
(MINING SECTOR PROJECTS)

- Note 1: All information to be given in the form of Annex/s should be properly numbered and form part of reply to this Performa.
- Note 2: Please enter √ in appropriate box where answer is Yes / No
- Note 3: No abbreviation to be used - **Not available** or **Not applicable** should be clearly mentioned.
- Note 4: **Core zone** is the mining lease area.
Buffer zone in case of ML area up to 25 ha is to be considered as **5 km** all around the periphery of the core zone and for ML area above 25 ha an area **10 km** all around the periphery of the core zone.
- Note 5: Adopt **Scoping process** in carrying out EIA study.

1. General Information

1.	General information	
a	Name of the project	Khakhanduwa Stone Deposit Project
I	Name of the proponent	M/S Patel Agri Industries Pvt. Ltd Director- Sri Kunkun Prasad
ii	Mailing Address	M/S Patel Agri Industries Pvt. Ltd Director- Sri Kunkun Prasad C/O Sanjeev Kumar Ranjan B/116, Pc Colony Lohiya Nagar, Thana- Kankarbagh, Patna, State- Bihar
	E-mail	khakhanduastone@gmail.com
	Telephone	--
	Fax No.	--
b	Objective of the project	Mining of Stone
c	Location of mine	
	Village	Mauza- Khakhanduwa
	Tehsil	Govindpur
	District	Nawada
	State	Bihar

d	Does the proposal relate to	Yes	No
i	New mine	√	-
ii	Expansion	-	√
iii	Increase in ML area	-	√
iv	Increase in annual production	-	√
v	Renewal of ML	-	√
vi	Modernization	-	√
e	Site Information		
i	Geographical Location		
	Latitude	24°47'03.444"N to 24°47'13.796"N	
	Longitude	85°36'01.845"E to 85°36'15.000"E	
	Survey of India Topo sheet number	G45T9, G45T10	
	Elevation above Mean Sea Level	185 m	
	Total mining lease area (in ha.)	6.475 Ha.	
ii	Dominant nature of terrain	Yes	No
	Flat	-	√
	Undulated	-	√
	Hilly	√	-
2.	Land usage of the mining lease area (in ha.)		
a	Agricultural	-	
b	Forest (Jungle-jhari)	-	
c	Waste land (G.M.Land)	6.475 Ha.	
d	Grazing	--	
e	Surface water bodies	-	
f	Others (Private Land)	--	
g	Others (Own Land)	--	
	Total	6.475 Ha.	
3.	Indicate the seismic zone in which ML area falls. In case of zone IV & V, details of earth quakes in last 10 years.	Seismic Zone– III	
a	Severity (Richter Scale)		
b	Impact i.e. Damage to	Yes	No
	Life	-	√
	Property	-	√
	Existing mine	-	√

4. Break-up of mining lease area (in ha.) as per approved conceptual plan:

Purpose		Mining Lease Area				Total	Area acquired				Area to be acquired			
		Government		Private			Government		Private		Government		Private	
		Forest	Others	Agri .	Other s		Fore st	Others	Agri	Others	For est	Other	Agri .	Others
1. Area to be excavated		-	5.917 Ha.	-	--	6.475 Ha.	-	6.475 Ha.	-	--	-	-	-	-
2. Storage for top soil		-	-	-	-	-	-	-	-	-	-	-	-	-
3. Overburden / Dumps		-	-	-	--	-	-	-	-	--	-	-	-	-
4. Mineral storage		-	-	-	-	-	-	-	-	-	-	-	-	-
5. Infrastructure (Workshop, Administrative Building)		-	-	-	--	--	-	-	-	--	-	-	-	-
6. Roads		-	-	-	--	--	-	-	-	--	-	-	-	-
7. Railways		-	-	-	-	-	-	-	-	-	-	-	-	-
8. Green Belt		-	0.558 Ha.	-	--	0.558 Ha.	-	0.558 Ha.	-	--	-	-	-	-
9.Parapet wall		-	-	-	--	--	-	-	-	--	-	-	-	-
10.Garland Drain		-	-	-	--	--	-	-	-	--	-	-	-	-
11.Coal handling plant / mineral separation plant		-	-	-	--	--	-	-	-	--	-	-	-	-
12. Township area		-	-	--	-	-	-	-	-	-	-	-	-	-
13. Area under Canal			-					-				-		
14. Undisturbed												-		
13.Other	Water reservoir	-	--	-	--	--	--	--		--	--	-	-	-
	Rehab. & Rehabilitation by plantation	-	--		--	--	--	--		-	--	-	-	-
	Undisturbed	-	---		--	--		--		--	--	-	-	-
TOTAL		-	6.475 Ha.	-	-	6.475 Ha.	--	6.475 Ha.	-	-	--		-	-

5	Township (outside mining lease)		Not Applicable		
a	Total area (in ha)		-		
b	No. of dwelling units		-		
c	Distance from mine site		-		
6	Distance of water bodies (in km)				
	Distance from	River Bank *	Other Water bodies * Sea / creek / lake / nalla etc. (specify)		
	Mining lease boundary	Sakri River, Approx. 3.2 Km towards NE Panchane River, Approx. 1.3 Km towards SSW	Tetaria Pond, Approx. 5.3 Km towards ESE. Sangat Pond, Approx. 6.2 Km towards SW		
	Ancillary facilities	-	-		
[* From highest flood line / high tide line]					
7	For projects falling within the Coastal Regulation Zone (CRZ)				
	Whether the mineral to be mined is of rare nature and not available outside CRZ?	Yes	-	No	√
if yes, annex a scaled location map showing low tide line (LTL), high tide line (HTL) duly demarcated by one of the authorized agencies* [*Director, Space Application Centre, Ahmedabad: Centre for Earth Sciences Studies, Thiruvananthapuram: Institute of Remote Sensing, Anna University, Chennai: Institute of Wetland Management & Ecological Designs, Kolkata: Naval Hydrographers' Office, Dehradun: National Institute of Oceanography, Panjim, Goa: and National Institute of Ocean Technology, Chennai], boundary of mining lease area, distance of ML area from LTL and HTL CRZ boundary and CRZ classification of the project area as per the approved Coastal Zone Management Plan, and settlements, sand dunes, mangroves, forest land/patches, turtles breeding and nesting sites etc., if any, in the project area.					
8	Indicate aerial distance from the periphery of core zone / area from the periphery of the buffer zone to the boundary of following (up to 10 km):				
S. No.	Area	Name	Aerial distance from (in km.)		
			Core Zone	Buffer Zone	
1.	National Park / Sanctuary	Nil	-	-	
2.	Biosphere Reserve / Tiger Reserve / Elephant Reserve / any other Reserve	Nil	-	-	
3.	Forest (RF / PF / unclassified)	Protected Forest Protected Forest Protected Forest	-	Approx. 4.5 Km towards WSW Approx. 2.69 Km towards WSW Approx. 1.52 Km towards SW	

		Protected Forest Protected Forest Protected Forest Bucua PF Protected Forest		Approx. 6.49 Km towards ESE Approx. 8.44 Km towards ESE Approx. 4.28 Km towards ENE Approx. 7.0 Km towards South Approx. 50m towards ESE
4.	Habitat for migratory birds	Nil	-	-
5.	Corridor for animals of schedule I & II of the Wildlife (Protection) Act, 1972	Nil	-	-
6.	Archaeological sites * Notified * Others	Nil	-	-
7.	Defense Installation	Nil	-	-
8.	Industries / Thermal Power Plants	Nil	-	-
9.	Other Mines	Khakhanduwa Block No. A	-	Adjacent to Khankhanduwa Block B
10.	Airport	Nil	-	-
11.	Railway Lines	Nil	-	-
12.	National / State Highways	NH-20 (Ranchi-Patna Rd)	-	Approx. 6.5 Km towards West.

[* Buffer zone in case of ML area up to 25 ha. is to be considered as **5 km** all around the periphery of the core zone and for ML area above 25 ha. an area **10 km** all around the periphery of the core zone].

-

9. Description of flora & fauna separately in the core and buffer zones. *

[* Consult the Wildlife (Protection) Act, 1972 as amended subsequently and list species with (1) Common name (2) Scientific name and (3) under which schedule of the Wildlife (Protection) Act the identified species fall. Get the list authenticated by an Expert in the field / credible scientific institute / University / Chief Wildlife Warden Office. **Information to be based on field survey.**]

Details are given in Chapter 3 of the EIA report.

10	Details of mineral reserves (as per approved Mining Plan)	Quantity (In tons)
a	Proved	-
b	Indicated	-
c	Inferred	-

d	Mineable reserves	15049029.45	
11	Major geological formation / disturbances in the mining lease area	Yes	No
a	Geological maps submitted	√	-
b	Geological sections submitted	√	-
c	Contour map submitted	√	-
d	Whether the presence, if any, noted of		
I	Faults	-	√
Ii	Dykes	-	√
Iii	Shear Zone	-	√
Iv	Folds	-	√
V	Other weak zones	-	√
e	Source of data (Indicate)	-	
12	Production of mineral(s) and life of mine		
a	Rated capacity of mine mineral wise (Tonnes / annum)	3000000 TPA	
b	Life of mine at proposed capacity (Years)	5 Year	
c	Lease period (Years)	LOI issued letter no-1702/Khanan, Nawada, dated 31.12.18 for the period of Five Years	
d	Date of expiry of lease (D /M /Y)	-	
e	Indicate in case of existing mines	-	
i	Date of opening of mine	-	
ii	Production in the last 5 Years	-	
iii	Projected production for the next 6 th to 10 th year	-	
iv	Whether mining was suspended after opening of the mine?	-	
v	If yes, details there of including last production figure and reason for the same.	--	
f	Whether plans & sections provided?	Yes	
13	Type and method of mining operations		
TYPE		METHOD	
Opencast	√	Manual	-
Underground	-	Mechanized	√
Both	-	Semi-mechanized	-
14	Details of ancillary operations for mineral processing		
a	Existing	-	
b	Additional	-	
15	Mine details		
a	Opencast mine		
i	Stripping ratio (mineral in tonnes to over burden in m ³)	1:0.007	
ii	Ultimate working depth (in m bgl)	50 m	
iii	Indicate present working depth in case of existing mine (in m bgl.)	--	
iv	Thickness of top soil (in m.)	--	

a	Minimum	0.0
b	Maximum	0.0
c	Average	0.0
v	Thickness of overburden (in m.)	
a	Minimum	0.0
b	Maximum	0
c	Average	--
vi	Mining Plan	
a	Height and width of the bench in overburden / waste.	0
b	Height & width of the bench in ore body / coal seam.	Height: 9 m Width not less than 10 m
c	Proposed inclination / slope of the sides of the opencast mine (separately for overburden, coal / ore and overall slope of the pit sides) both while operating the mine as well as at the time of closure of the mine.	42°
d	Whether transverse sections across the opencast mine at the end of fifth year and at the end of the life of the mine have been submitted?	--
vii	Type of blasting, if any, to be adopted	Slurry Explosive with Electric Detonators
b	Underground mine-	<u>Not Applicable</u>
i	Seam / Ore body	
	Min.Depth (m)	-
	Max. Depth (m)	-
	Avg. thickness (m)	-
	Rate of dip	-
	Direction of dip in degree	-
ii	Mode of entry into the mine	
	Shaft	-
	Adit	-
	Incline	-
iii	Details of machinery	
	On surface	-
	At Face	-
	For transportation	-
	Others	-
iv	Method of stopping	
	Open	-
	Filled	-
	Shrinkage	-
	Caving	-
	Combination of above	-
	Others (Specify)	-
v	Extraction method	

	Caving	-	
	Stowing	-	
	Partial extraction	-	
vi	Subsidence		
	Predicted max. subsidence (in m)	-	
	Max. value of tensile strain (in mm/m)	-	
	Max. slope change (in mm/m)	-	
	Whether identified possible subsidence area(s) superimposed on Surface Plan has been submitted?	-	
	Major impacts on surface features like natural drainage pattern, houses, buildings, water bodies, roads, forest, etc.	-	
	Salient features of subsidence management (monitoring and control).	-	
16	Surface drainage pattern at mine site	Yes	No
a	Whether the pre-mining surface drainage plan submitted?		√
b	Do you propose any modification / diversion in the existing natural drainage pattern at any stage? If yes, when. Provide location map indicating contours, dimensions of water body to be diverted, direction of flow of water and proposed route / changes, if any i.e. realignment of river / nallah / any other water body falling within core zone and its impact	-	√
17	Embankment and / or weir construction		
a	Do you propose, at any stage, construction of		
i	Embankment for protection against flood?	No	
ii	Weir for water storage for the mine?	No	
b	If so, provide details thereof.	-	
c	Impact of embankment on HFL and settlement around.	-	
d	Impact of weir on downstream users of water	-	
18	Vehicular traffic density (outside the ML area)		
		Type of vehicles	No. of vehicles per day (in PCU)
a	Existing	tractor/trolley	2570
b	After the proposed activity		2720
c	Whether the existing road network is adequate?		Yes
	If no, provide details of alternative proposal?		-
19	Loading, transportation and unloading of mineral and waste rocks on surface	Yes	No
a	Manual	√	
b	Tubs, mine cars, etc.	-	√
c	Scraper, shovels, dumpers / trucks	√	-
d	Conveyors (belt, chain, etc.)	-	√
e	Others (specify)	-	√

20	Mineral(s) transportation outside the ML area			
		Qty. (in tonne)	Percentage (%)	Length (in km)
a	Road	3000000 TPA	100	2.7
b	Rail	-	-	-
c	Conveyors	-	-	-
d	Rope way	-	-	-
e	Water ways	-	-	-
f	Pipeline	-	-	-
g	Others (Specify)	-	-	-
Total		3000000 TPA	100	2.7

21. Baseline Meteorological and Air Quality data

(a) Micro-meteorological data

[Continuous monitoring through autographic instrument for one full season other than monsoon]

(i) Wind rose pattern for one full season (16 points of compass i.e. N, NNE, NE, ---) based on 24-hourly data. For coastal area also furnish day-time and night time data. (Given in Chapter 3 of EIA report)

- Day time
- Night time
- 24 – hours period

(ii) Site specific monitored data (IMD)

Site-specific meteorological data

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Nov	Oct	Dec	Year
Record high °C	30.0	37.0	40.0	46.0	47.0	47.0	40.0	39.0	36.0	36.0	33.0	30.0	47.0
Average high °C	24.0	28.1	34.3	39.7	41.9	39.7	35.3	34.3	33.1	31.3	30.2	25.4	33.1
Daily mean °C	20.4	24.3	31.0	36.4	38.8	37.1	33.1	32.2	30.8	28.8	27.0	22.1	30.2
Average low °C	14.5	17.1	23.0	27.9	30.9	31.0	28.59	27.4	26.27	23.6	20.8	16.0	23.9
Record low °C	11.0	12.0	14.	20.0	20.0	25.0	25.0	20.0	22.0	19.0	17.0	10.0	10.0
Average precipitation mm	2.	9.08	5.0	6.0	9.76	38.7	119.95	97.62	112.89	20.73	0.07	2.87	35.4
Average precipitation days (≥ 1.0 mm)	0.45	1.09	0.82	0.91	1.18	4.45	7.0	7.09	6.0	1.91	0.0	0.45	2.61
Average relative humidity (%)	54.28	49.4	30.16	29.21	33.22	45.51	64.65	70.97	73.79	65.11	48.3	45.56	50.85
Mean	8.45	8.47	10.68	12.83	13.19	12.95	11.47	11.39	10.03	10.77	9.53	8.5	10.69

monthly sunshine hours													
------------------------------	--	--	--	--	--	--	--	--	--	--	--	--	--

- * 24-hours rainfall should be reported from 08:30 hrs. IST of previous day to 08:30 hrs. IST of the day.
 - * Rainy day is considered when 24 hrs. rainfall is ≥ 2.5 mm.
 - ** Visual observations of cloud cover should be recorded four times a day at regular intervals.
- (iii) Indicate name and distance of the nearest IMD meteorological station from which climatological data have been obtained for reporting in the EIA report, if any.

(b) Ambient air quality data* (RPM, SPM, SO₂, and NO_x)

[*Monitoring should be carried out covering one full season except monsoon – same season as in 21 (a) (i)]

[*Frequency of sampling: Sampling to be done twice a week for the entire season 24 hourly for SPM & RPM. For gaseous pollutants 24-hourly data be given irrespective of the sampling period.]

(i) Season and period for which monitoring has been carried out in Summer Season **(Dec 2023 to Feb 2024)**

(ii) No. of samples collected at each monitoring station: **24**

Name of monitoring equipment used	PM _{2.5} (µg/m ³)	PM ₁₀ (µg/m ³)	SO ₂ (µg/m ³)	No _x (µg/m ³)	Pb**
	Envirotech FPS – APM 5.50	RDS 460 BL	APM 411 attachment with RDS 460 BL	APM 411 attachment with RDS 460 BL	-
Equipment sensitivity	< 0.5 µg/m ³ from 0.000 mg to 0.100 mg/ m ³	< 0.5 µg/m ³ from 0.000 mg to 0.100 mg/ m ³	< 0.5 µg/m ³ from 0.000 mg to 0.100 mg/ m ³	< 0.5 µg/m ³ from 0.000 mg to 0.100 mg/ m ³	-
Permissible AAQ standard (CPCB) R,LS	60 µg/m ³	100 µg/m ³	80 µg/m ³	80 µg/m ³	-
	60 µg/m ³	100 µg/m ³	80 µg/m ³	80 µg/m ³	-
	60 µg/m ³	100 µg/m ³	80 µg/m ³	80 µg/m ³	-

Monitoring Location	No. of Samples Drawn	Category* (R, I, S)	Min	Max	98% tile	Min	Max	98% tile	Min.	Max.	98% tile	Min.	Max.	98% tile	Min	Max	98% tile
AAQ1	24		30.8	37.7	37.62	57.3	67.8	67.63	9.6	16.8	16.2	19	28	27.46	-	-	-
AAQ2	24		29.4	40.2	39.79	58.1	70.8	70.66	7.9	11.6	11.31	18.3	28.8	28.61	-	-	-
AAQ3	24		30.9	40.7	40.18	61.8	72.1	71.83	10.3	14.6	14.51	18	26.8	26.02	-	-	-
AAQ4	24		26	33.7	33.63	56.5	68.8	68.55	8.2	11.1	10.93	20.2	25.4	25.04	-	-	-
AAQ5	24		27.8	36.3	36.21	66.3	74.8	74.61	8.6	12.3	12.03	16.5	27.7	26.67	-	-	-
AAQ6	24		32	41.6	41.49	69	78	77.75	9.8	14.1	13.79	15.8	26.5	25.49	-	-	-
AAQ7	24		24.8	34.9	33.53	55.7	65.2	64.25	6.6	11.7	10.8	15	18.8	18.24	-	-	-
AAQ8	24		33.8	45	44.92	70.8	82.4	81.38	11.8	17.7	16.82	23.6	30.8	30.67	-	-	-

*R = Residential; I = Industrial; S = Sensitive

**Pb for mineral specific sites only.

Annex a location map indicating location of AAQ stations, their direction and distance with respect to project site.

22. Stack and emission details, if any*

Not Applicable

S. No.	Process / unit of operation (e.g. DG Set, Boiler)	Height of stack (m)	Internal top dia. (m)	Flue gas exit velocity (m/sec)	Emission rate (kg/hr)				Heat emission rate from top of stack (K.cal/hr)	Exhaust / Flue gas			
					SPM	SO ₂	NO _x	CO		Temp °C	Density	Specific Heat	Volumetric flow rate (m ³ /hr.)
	-	-	-	-	-	-	-	-	-	-	-	-	-

23. Details of fugitive emissions during mining operations*

Given in Chapter 4

24. Air Quality Impact Prediction (AQIP)*Not Applicable

- (a) Details of model(s) used for AQIP including grid size, terrain features, and input meteorological data
- (b) Maximum incremental GLC values of pollutants based on prediction exercise

(in $\mu\text{g}/\text{m}^3$)

S. No.	Pollutants	Incremental Value	Ambient Air Quality	Resultant Air Quality
1.	PM10	26.6	67.8	94.4
2**.	PM2.5	5.33	37.7	43.03
3**.		-	-	-

[* Question Number 22, 23 & 24 need not be filled-in for mines having ML area of **25 ha. or less.**]

[**Information on item no. 2 & 3 to be provided in cases with captive power generation of 500 KVA and above]

25. Water requirement (m³/day)

Purpose	Avg. Demand	Peak Demand
A. Mine site		
1. Mine operation	-	-
2. Land reclamation	-	-
3. Dust suppression	10.0	10.0
4. Drinking & domestic	0.72	0.72
5. Green Belt	4.2	4.2
6. Beneficiation	-	-
7. Washeries	-	-
8. Fire Service	-	-
9. Others (Mining and Allied Activities))	-	-
B. <u>Township</u>		
1. Green Belt	-	-
2. Domestic	-	-
C. Other (specify)	-	-
Total	14.92	14.92

26. Source of water supply*

S. No.	Source	m ³ /day
1	River (name)	-
2	Ground water	-
3	Mine water (sump / pit)	--
4	Other surface water bodies (Tanker Supply)	14.2

[*Annex a copy of sanction letter / permission from the concerned authority (Central Ground Water Authority in case of ground water abstraction is from notified area / State Ground Water Board in case of non-notified area / State Irrigation Department for surface water pumping) for drawing water.

27	Lean season flow in case of pumping from river / nalla (cumecs)	Not applicable
----	--	-----------------------

28	Ground water potential of the study area	-
28.1	Ground water availability	
a	Range of water table (m bgl)	-
i	Pre-monsoon (April/May)	
	Core Zone	-
	Buffer zone	-
ii	Post-monsoon (November)	
	Core Zone	-
	Buffer zone	-
b	Total annual replenish able recharge (million m ³ / year)	
i	By ground water table fluctuation method	-
ii	By rainfall infiltration factor method	-
c	Annual draft excluding estimated draft through mine discharge (million m ³ / year)	-
d	Estimated draft through mine discharge (million m ³ / year)	-
e	Net annual ground water availability (million m ³ / year)	-
f	Stage of ground water development (%)	-

28.2. Water demand - Competing users of the water source

S. No.	Usage	Present Consumption (m ³ /day)		Additional proposed as per local plan (m ³ /day)		Total (m ³ /day)	
		Surface	Ground	Surface	Ground	Surface	Ground
1	Domestic	-	-	-	-	-	-
2	Irrigation	-	-	-	-	-	-
3	Industry	-	-	-	-	-	-
4	Mining	-	-	-	-	-	-
5	Others (Dust suppression+ Green belt)	-	-	-	-	-	-
Total		--	--	-	-	-	-

29. Water quality*

(a) Annex physio -chemical analysis of water at intake point **

(Given in chapter 3 of EIA report.).

(b) In case of existing mine, annex report on quality of water discharge
i.e. complete physico - chemical analysis**

[*For non-discharging mines at least four ground water samples to be taken preferably from downstream direction of the mine in pre-monsoon and post-monsoon periods and analysed. For discharging mines six samples are to be analysed]

**All parameters as per BIS 10500. Indicate name of Methodology, Equipment used for analysis, and Detection Level (DL) for each parameter.

*** Wherever any analytical parameter is below detection level, “BDL” (Below Detection Level) should be written instead of ‘NIL’.

30.	Impact on ground water regime / stream / lake / springs due to mine dewatering *	Not required
a	Radius of influence (in m) [To be estimated based on analysis of pumping test data and application of empirical formula]	-
b	Whether saline water ingress will take place?(applicable to coastal areas)	-
c	Impact on stream / lake / springs	-
[* Provide a comprehensive hydro-geological assessment report if the average mine dewatering is more than 100 m³/day and or going below water table in non-monsoon period. The report should be based on preferably latest one-year pre-monsoon and post-monsoon baseline data covering information on ground water situation, aquifer characteristics, water level conditions (April – May and November), estimate of ground water resources, predicted impact of the project on ground water regime and detailed remedial / conservation measures such as artificial recharge of ground water etc. The report should be based on actual field inventory out of existing wells, at least 30 observation wells in the buffer zone with supplementary information from secondary sources (mention name). For estimation** of ground water resource (refer question no. 28 above) be designated study area of the buffer zone may be sub-divided into command and non-command areas, watershed-wise (in case of hard rock / consolidated formations) / block-wise / Mandal-wise in case of alluvial / unconsolidated formations)] **For estimating ground water resources in the area follow the Ground Water Estimation Committee recommendations of 1997]		
31.	Waste Water Management	Not Applicable
a	Daily average discharge (m ³ /day) from different sources	-
i	Mine water discharge during	-
	Lean period	-
	Monsoon period	-
ii	Workshop	-
iii	Domestic (mine site)	0.72
iv	Beneficiation / Washeries	-
v	Coal Handling Plant	-
vi	Tailings pond	-
vii	Others (Specify)	-

	Total	-	
b	Waste water treatment plant; flow sheet for treatment process attached.	Soak Pits	
C	Quantity of water recycled / reused / to be recycled in	-	
i	Percentage	-	
ii	m ³ /day	-	
d	Point of final discharge	-	
	Final Point	-	
1	Surface	-	
i	Agricultural land	-	
ii	Waste land	-	
iii	Forest land	-	
iv	Green belt	-	
2	River / nallah	-	
3	Lake	-	
4	Sea	-	
5	Others (specify)	-	
	Total	-	
e	Users of discharge water	Yes	No
i	Human		
ii	Livestock		
iii	Irrigation		
iv	Industry		
v	Others (specify)		
F	Details of the river / nalla, if final effluent is / will be discharged (cumecs)		
i	Average flow rate		
ii	Lean season flow rate		
iii	Aquatic life		
iv	Analysis of river water 100 meters upstream and 100 meters downstream of discharge point submitted.		
G	Township		
a	Waste water generation from township (m ³ /day)		
b	Are you planning to provide sewage treatment plant?		
C	Usage of treated water		
32.	Attach water balance statement in the form of a flow diagram indicating source (s), consumption (Section-wise) and output. Given in chapter 2 of EIA report		
33	Ambient noise level leq dB(A)	Details given in Chapter III	
34	Solid Waste-	-	
a	Top soil and Solid waste quantity and quality		
Name		Composition	Quantity
			Method of

(Lump/fines/slurry/Sludge/others)			(cum)	disposal
Mining activity*				
a. Top Soil			--	--
b. Over burden			--	--
c. Others (20% intercalated waste)			--	--
Effluent Treatment Plant (sludge)			--	--
Total			--	--
[* Annex layout plan indicating the dump sites.]				
b (i)	Does waste (s) contain any hazardous/toxic substance/radioactive materials or heavy metals?		No	
(ii)	If yes, whether details and precautionary measures provided?		NA	
c	Recovery and recycling possibilities.		NA	
d	Possible user(s) of the solid waste.		NA	
e (i)	Is the solid waste suitable for backfilling?		NA	
(ii)	If yes, when do you propose to start backfilling?		NA	
Solid waste (s)		Already accumulated (A)	To be generated (B)	% of A & B to be backfilled
				A B
Over burden			--	--
Others (20% intercalated waste)			--	- -
		<u>Land reclamation Plan</u>		
f	In case waste is to be dumped on the ground, indicate		--	
i	Associated environmental problems			
ii	Number & type of waste dumps			
	No. of external dumps		Nil	
	Max. projected height of dumps (in m)		--	
	No. of terraces and height of each stage			
	Overall slope of the dump (degree)		--	
	Proposed reclamation measures		NA	
iii	Section of the waste dump in relation to the adjacent ground profile attached		NA	
35	Fuel / Energy requirements* [*To be furnished for mines having ML area more than 25 ha. or captive power generation of 500KVA and above]		Not Applicable	
a	Total power requirement		(in MW)	

S. No.		Mine Site	Township	Others (specify)	Total
1	Present				
2	Proposed / additional				
Total					
b	Source of power			(in MW)	
S. No.		SEB/Grid*	Captive power plant	DG Sets	
1	Present				
2	Proposed / additional				
Total					
[* Annex a copy of the sanction letter from the concerned authority]					
c	Details of fuels				
S.No.	Fuel	Daily Consumption (TPD)		Calorific value (Kcals/kg)	% Ash
.		Existing	Proposed		% Sulphur
1	HSD				
2	LSHS				
3	Other (specify)				
36	Storage of inflammable / explosive materials				Not Applicable
S. No.	Name	Number of Storages	Consumption (in TPD)	Maximum Quantity at any point of time	
1	Fuels				
2	Explosives				
37	Human Settlement				
		Core Zone		Buffer Zone	
Population*		-		Details given in Chapter III	
No. of villages		-			
Number of households village-wise		-			
[* As per 2001 census record or actual survey]					
38.	Rehabilitation & Resettlement (R&R) Plan* [*Provide a comprehensive rehabilitation plan, if more than 1000 people are likely to be displaced, other-wise a summary plan]			Not Applicable	
a	Villages falling within the study area				
		Villages			
		Number	Name		
Core zone					
500 m from the blasting site (s)					
Buffer zone					
Township site					

b	Details of village(s) in the core zone					
S. No.	Village name	Population*		Average Annual Income		
		Tribal	Others			
1						
[*As per 2001 census / actual survey]						
c	Population to be displaced and / or Land Oustees					
Name of village(s) falling within		Number of oustees				
		Land (only)	Homestead (only)	Land and Homestead (both)		
<u>Mining Lease</u>						
1.						
<u>Township Site</u>						
1.						
d	Whether R&R package has been finalized? If yes, salient features of R&R plan for oustees.			Not Applicable		
i	Site details where the people are proposed to be resettled & facilities existing / to be created.					
ii	Funds earmarked for compensation package					
iii	Agency / Authority responsible for their resettlement.					
iv	Time of commencement of resettlement of Project Affected People (PAP).					
v	Period by which resettlement of PAP will be over.					
39	Lease -wise plantation details					
a	Lease area (in ha.)			Existing	Proposed	
	i.	Area broken up		--	-	
	ii.	To be broken up		-	6.475 Ha.	
	iii.	Area not to be broken-up		-	-	
b	Township area (in ha.)			-		
c	Area afforested and proposed (in ha.)			-		
		Peripheral	Dumps	Roads	Township	Others
i	Existing					
ii	Proposed					
d	No. and type of trees planted and proposed					
i	Existing			-		
	When plantation was started?			-		
No. of plant species planted				-		
				10		
Survival rate %				Avg. height		
80 %				-		
ii	Proposed					
	No. of plant species to be planted			Number of saplings (per ha.)		
	1400			0.558		

40	Environmental health and safety	
a	What major health and safety hazards are anticipated?	Refer Chapter VII
	What provisions have been made/proposed to be made to conform to health and safety requirements?	As per Mines Act/ Rules
	In case of an existing mine	
i	Comprehensive report on health status of the workers as under the Mines Act annexed	As per Mines Act/ Rules
ii	Mineralogical composition of RPM (dust)	
	• Free silica	Not applicable
	• Chromium* (Total as well as Hexavalent)	Not applicable
	• Lead** [* Only for Chromite mines] [**Only for Base Metal mines]	Not applicable
	Information on radiation protection measures, if applicable	Not applicable

41. Environmental Management Plan

Salient features of environmental protection measures

S. No.	Environmental issues*	Already practiced, if applicable	Proposed
1	Air pollution	-	Regular water sprinkling, plantation ☐ Plantation will be done on both sides of the road
2	Water pollution	-	Soak Pits
3.	Water conservation	-	Use of stored rain water
4.	Noise pollution	-	Regular maintenance of machinery, Greenbelt development
5.	Solid waste / Tailings	-	Use of Dustbins
6.	Land degradation	-	Reclamation and rehabilitation by afforestation and conversion into water reservoir.
7.	Erosion & Sediment	-	NA
8.	Top soil	-	NA
9.	Ground vibration	-	NA
10.	Wildlife conservation	-	NA
11.	Forest protection	-	NA
12.	Others (specify)	-	Social training and general awareness

[* As applicable]

10	Vocational training on mining methods and safe work practices (@twice/year)@ 250 x 2 x 16)	-	8000
Emergency Rescue Plan			
11	Fire Extinguishers (2 Nos.) @ 50000 / firefighting and, first aid @ 2000 per kit	100000	1000
12	Safety signage and warning boards like sirens, red flags, cones etc.	100000	5000
Solid Waste Management			
13	a) Bins 2 Nos. @ Rs. 1500 each	3000	3000
	b) Pit and Composting	5000	
Others			
14	Conservation Plan	1500000	-
Total		3956000	378400

47. Amount earmarked for socio-economic welfare measures for the nearby villages other than R&R plans.

SL. NO	ACTIVITIES	COST IN LAKH	Time Bond
1	Infrastructure development (renovation of Building, Toilet, Drinking Water Facility, Desk, Benches, Computer, Projectors) in Gajodih Primary School, Primary school Nad, Primary school Baliya & Government Middle School Kulna.	80.0	In 5 Year
2	Medical camp, Medical Check-up & free medicines to poor	10.0	Per Year 2.0 Lakh
3.	Maintained and repaired the villages road near to project site	30.0	Per Year 6.0 Lakh
4.	Donation for welfare to the nearest hospital (PHC Akbarpur & Referral Hospital, Govindpur)	89.0	In 5 Year
5.	Installation of solar lighting in	31.25	In 5 Year

	Khakhanduwa, Dhakni, Sirampur, Gajodih & Nad village (Rs. 25,000 x 125 nos.)		
6.	Greenbelt development Plantation (Additional) nearby the project site/villages (2000).	20.0	In 3 Year
7.	Construction of Wall(Stone)	60.0	First year
8.	Drinking water Facility (05 Hand pump)	5.75	First year
Total		326.0	

48. Public Hearing

a	Date of Advertisement	07.06.2024	
b	Newspapers in which the advertisement appeared	Dainik Bhaskar and Hindustan	
c	Date of public hearing (DD/MM/YYYY)	12 th of July, 2024	
d	Public Hearing Panel chaired by & members present	➤ “Shri Chandrashekhar Azad, ADM, Nawada (Nominated by District Collector- Nawada) ➤ Mr. Manoranjan Kumar Singh, Regional Officer, BSPCB	
e	No. of people attended the public hearing meeting and number of people from the lease area.	Around 31.	
f	Summary/details of public hearing in tabular form Given in chapter 7 of the EIA report.		
49	Whether the following approvals* (wherever	YES	NO
a	Site clearance from MoEF	-	√
b	Consent for Establishment’ from the State Pollution Control Board	-	√
c	NOC from Atomic Mineral Division	-	√
d	Mining plan approval from IBM / Ministry of Coal	√	-

e	In case of existing mines, mining scheme approval from IBM	-	√
f	Forestry clearance under FCA, 1980	-	√
g	NOC from Chief Controller of Explosives	-	√
h	Commitment regarding availability / pumping of water from the concerned Authorities	√	-
i	In case of ML area falling in notified areas of the Central Ground Water Authority, NOC from them.	-	√
[* Annex copies of approvals and number them]			
50	Was / is there any court case relating to the project or related activities? If so, provide	No	

ANNEXURE-X
(CONSERVATION PLAN)

**CONSERVATION PLAN OF SCHEDULE-I SPECIES
FOUND IN STUDY AREA OF KHAKHANDUWA STONE MINING PROJECT,
GOVINDPUR, DISTRICT NAWADA, BIHAR, INDIA**



Prepared by



Rian Enviro, Patna (Bihar)

2024

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1. Introduction

Biodiversity conservation plan is developed with the aim to reduce adverse impact on the natural habitat of various wild animals. Day by day issues related to the threats to natural terrestrial and aquatic ecosystems arises due to high anthropogenic activities and loss of natural habitat due to climate change.

Today, when wildlife habitats are under severe pressure and a large number of species of wild fauna have become endangered, the effective conservation of wild animals is of great significance. Because every one of us depends on plants and animals for all vital components of our welfare. Presence or absence of an animal or plant in a region is determined by ecological and historical factors. Animals and plants are living indicators of the characteristics of their environment; their ranges mark the places where environmental conditions are the same or similar. To interpret the range of a species properly, it is necessary to know, in detail, the conditions required for the species to live and thrive (Hundal, 2004).

Conservation is the practice of protecting wild plant and animal species and their habitats. The goal of wildlife conservation is to ensure that nature will be around for future generations to enjoy and also to recognize the importance of wildlife and wilderness for humans and other species alike (CARE, 2012).

A conservation plan is needed for the conservation of critical habitats of wildlife and endangered and Schedule-I species along with their scientific management strategy. During the mining and activities related to it, natural resources (Land, Biodiversity, Forest, animals and Humans) are likely to exert tremendous pressure due to various activities in the respective region while the present management plan will ensure mitigation of such impacts.

1.1: Brief Description of the Study Area

Proposed Khakhanduwa Stone mining project located at Mauza- Khakhanduwa, Anchal- Govindpur, District- Nawada (Bihar). Kankarbagh stone mining project is spread over an area of 6.475 ha. The project is open cast mining of minor mineral in the form of Boulder stone. Proposed production capacity of the mine is about 1034482.75 Cum Per Annum or 3000000 MT/Annum for 5 years. Lease has been granted for 05 years. Method of Mining will be Open Cast Other than Fully Mechanized Method (OFTM), Control Drilling & Blasting will be deployed. The project has been proposed by M/S Patel Agri Industries Pvt. Ltd.

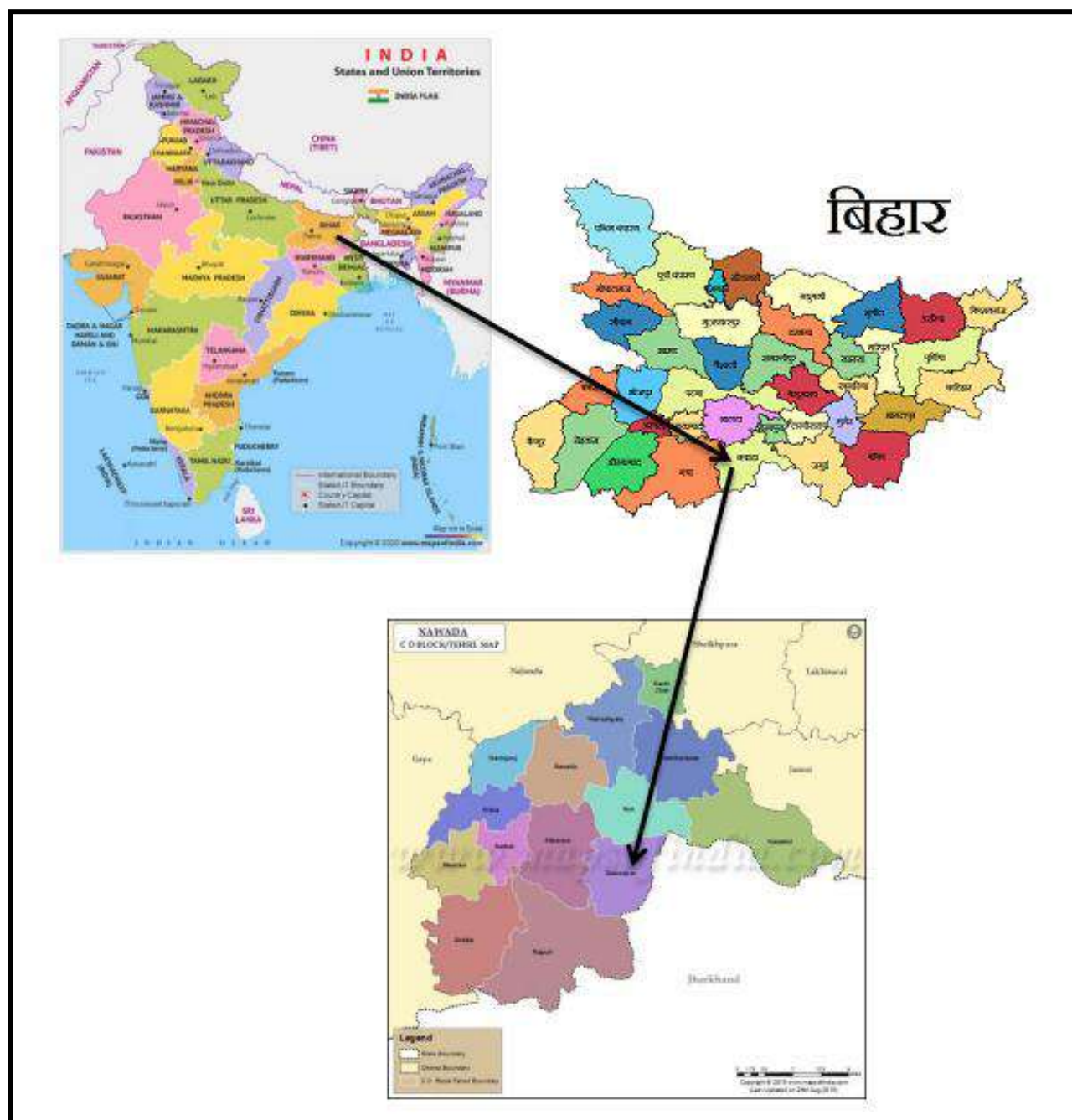


Fig. 1: Location of Khakhanduwa Stone Mining Project in the Nawada district of Bihar

1.2. Need of the Project and Wildlife Conversion Plan

Achieving a huge infrastructure as being envisaged by Government of India particularly in road and housing sector requires basic building materials. The stone is one of primary building material required for the purpose. The stone mining activities as proposed are the backbone of all construction and infrastructure projects as the raw material for construction is available only from such mining. The stone extracted is in high demand at the local market for road construction and real estate industry. The usage of stone is very much project specific, and market demand stands from very large size boulder to fined

grained dust. Apart from its use in building construction and in making of roads, it can directly use as boulders of different sizes for River Anti-erosion, Dam Construction, embankments etc. The State Environment Impact Assessment Authority (SEIAA), Bihar considered the project during its meeting for grant of TOR. Based on the information contained in the documents submitted and the presentation made, SEIAA, Bihar prescribed the Terms of Reference (TOR) SIA/1(a)/2493/2023 dated 13-03-2024.

Apart from the above, study area of the proposed project has some wildlife species, generally found near by the moist areas, jungle jhari land, forests, and aquatic habitat such as rivers, ponds, wetlands, etc. During the study conducted for the ecological survey, several faunal species were recorded, and Monitor lizard/ Goh (**Varanus bengalensis**) and Dhaman Snake (**Ptyas mucosa**) were among them. As per the Wildlife (Protection) Act, 1972 and its recent amendment in December, 2022, both these species are listed under the category of **Schedule-I** fauna. Hence, it is importance to prepare and submit a site-specific conservation plan for these species. Considering the above, present conservation plan has been prepared to protect Monitor lizard/ Goh (**Varanus bengalensis**) and Dhaman Snake (**Ptyas mucosa**), and their habitat in the study area.



Fig. 2: Core Zone of the proposed Khakhanduwa Stone Mining Project (Image source: Google earth)

The present Khakhandua Stone mining project is located in the non-forest land; however, a protected forest is adjacent to the lease area. There is chance to affect the forest flora-fauna due to mining activities or procedures. Activities such as material stocking, loading and un-loading will be done only within the define area. Also, a wall (7-8 feet height) will be constructed at the boundary of the lease to avoid the human-animal encounter and also to restrict the animal movements in the activity area (mining area).

There is no permanent habitat in core zone, however, the buffer zone of the project is occasionally visited by Schedule -I fauna such as Goh/Monitor lizard (*Varanus bengalensis*) and Dhaman Snake (*Ptyas mucosa*). A site-specific conservation plan for the schedule-I fauna have been prepared by an expert team of the Rian Enviro, Patna to ensure the minimum impact on the faunal habitats due to the various mining activities.

2. Ecological status of the Study Area

2.1. Description of Eco-sensitive zones in the Study Area (Wildlife Sanctuary/ National Parks / Animal or Elephant Corridors/ Protected Wetlands etc.).

There are no national parks, wildlife sanctuaries, biosphere reserves, or wildlife corridors (existing as well as proposed) within 10 km from the core zone of the Khakhandua Stone mining project, Govindpur, Nawada (Bihar). However, the Sakri River (which is a tributary of the Ganga River) is located in a north east direction, at a distance of 3.3 km from the lease area. Although, all the mining and related activities will be done within the lease area. Moreover, for the protection, conservation, and management of the wild animals, proper care will be taken by the project Proponent and expert team. Other areas protected under international conventions, and national or local legislation for their ecological, landscape, cultural or other related values are doesn't exist in the core and buffer zone of the present project.

2.2. Forest and Trees status in the Project Area (Core zone)

There is no forest land involved in the core zone of the proposed stone mining Project. Hence, forest clearance isn't required. There is no provision to cut or demolish trees for the mining activities. Only shrubs, herbs, and seasonal grasses will be removed during the site preparation for mining.

2.3. Drainage /Water Bodies of the Study Area

The proposed project area as a whole is located in the Ganga River basin, however, Sakri river is located at a distance of 3.3 kn in North east direction. A seasonal river, popularly known as Pachane river is also part of the study area. The drainage of the study area is mainly governed by the Sakri river and its adjoining small seasonal streams and canals. The Sakri River is the largest perennial riverine system in the study area and supports a variety of aquatic flora-fauna. But, during the summer season, river dried

up due to the lack of water. Apart from the lotic water bodies, a large number of lentic habitats (ponds or fish ponds) are found in the study area (buffer zone), mainly used for pisciculture practices. A variety of fish, reptiles, amphibians, and aquatic floral species are found in and around these ponds.

Some part of the core zone is part of Khadan Jheel (A abundant mine pit). Although, mining activities will be done after safety zone to avoid the accident and to protect the entire environment of the khadan Jheel including its flora -fauna.

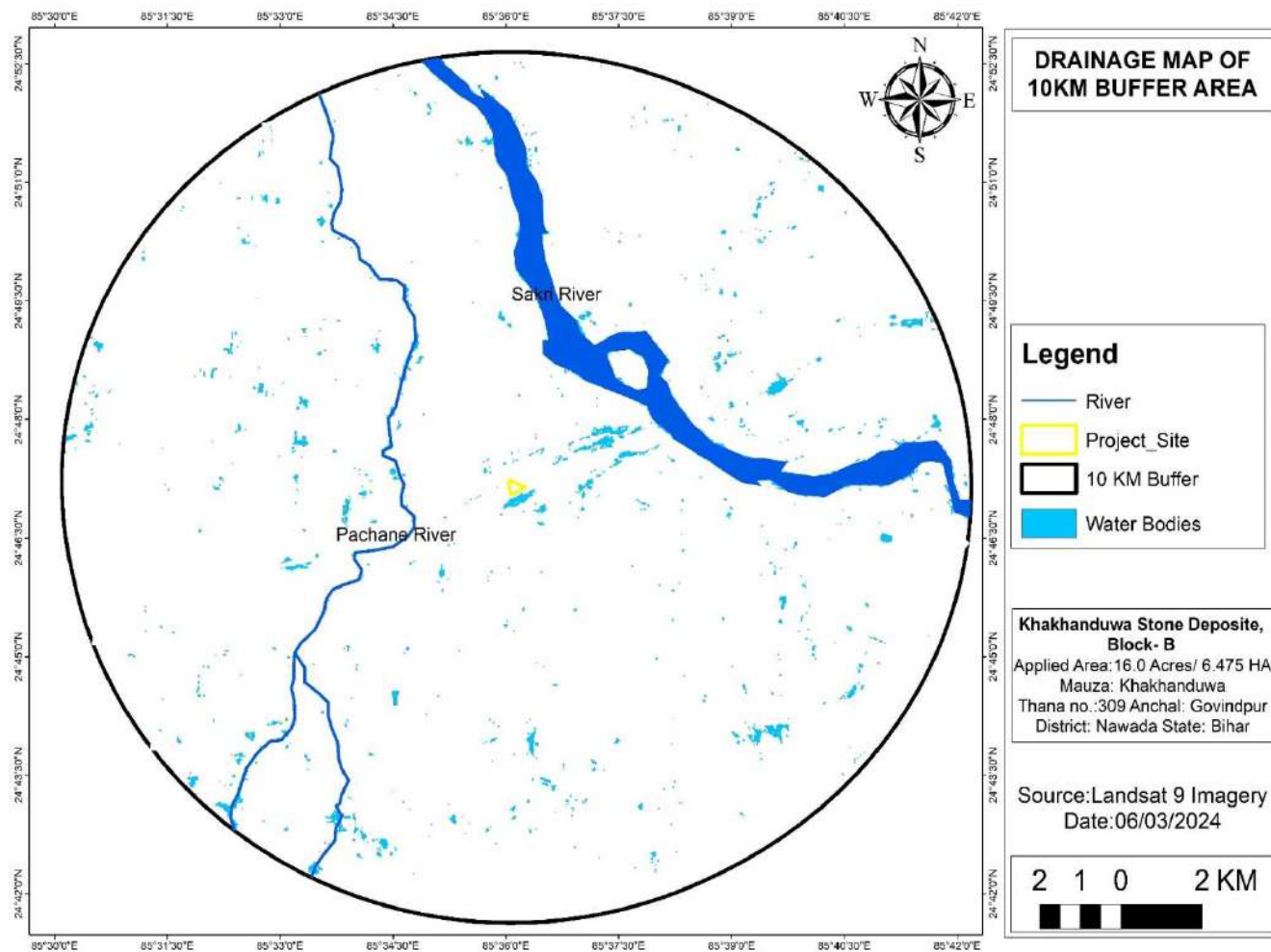


Figure showing Drainage system in the Study Area

2.4. Climate and Temperature

The climate of Nawada district is characterized by a hot summer and general dryness except rainfall during the south- west monsoon season. The year can be divided into four seasons. The cold season, December to February is followed by hot season from March to about first week of June is the summer season. The period from the middle June to September is the south-west monsoon season. May is the hottest month of the year with average temperature of 39°C. The minimum during the December is 8°C.

The normal annual mean maximum and minimum temperature is 30°C and 17°C respectively (CGWB, 2013).

2.5. Rainfall

Monsoon rainfall initiates in the district by third week of June and continues till end of September. South West monsoon contributes major part of monsoon rainfall. The district receives maximum rainfall during the months of July and August. Winter season starts from month of November and lasts till February. Winter rain occurs in January and February. Normal rainfall (from 1951 to 2000) of the district is 1063 mm.

3. Land Reclamation Plan

The land reclamation is part of ecological reclamation to ensure the availability of a healthy topography in the form of water bodies/ greenbelt/ man-made forest to enhance the area or to develop the area for all kind of flora fauna (naturally occur in the area). Hence, after the full extraction of mineable stone deposit and completion of quarrying operation the excavated vacant area will be reclaimed to the extent possible and rest area will be used as water reservoir.

Production of the stone will mainly depend on the actual demand of the market. Therefore, it is very difficult to give time schedule for abandonment at this stage. Due to the less production of overburden as compare to the building stone, abandoned pit is not inferred to be fully reclaimed by the process of back filling. Therefore, the year wise schedule of reclamation of the production pit will not be inferred at this stage. The Schedule of Reclamation of the mined-out lease area will be done only at final mine closure period. The abandoned pit will be used for storage of water reservoir for irrigation / fishery purpose.

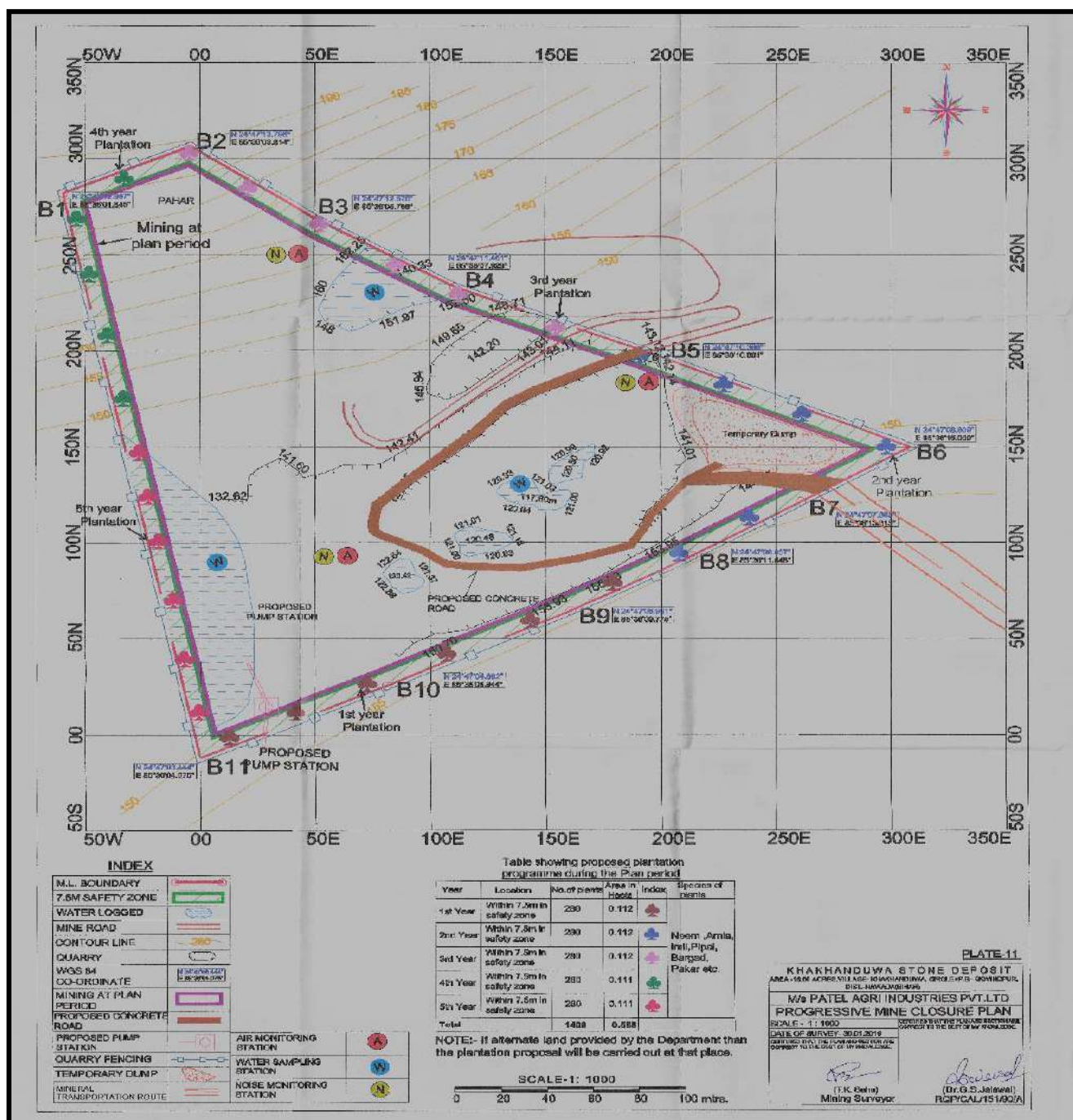


Figure showing Progressive Mine Closure Plan

Table 1: Land Use pattern of the proposed Mine Lease

Category	Existing	At the end of plan period	At Conceptual period
	Area in Hectares	Area in Hectares	Area in Hectares
Excavation	3.354	5.917	5.917 (3.337 ha area shall be left as water reservoir for rain water.
Waste Dump	-	0.205(Comes under mining)	Nil (Utilized for road maintained)

Road	0.773	-	Nil (Utilized for local villagers)
Infrastructure	0.030	-	Nil (Dismantled comes under Mining)
Plantation (Greenbelt)	Nil	0.558(Within safety zone)	0.558(Within safety zone)
Total	4.157	6.475	6.475

4. Ecological Profile of the Study Area

Nawada district is situated in the southern part in Bihar. Nawada town is the administrative headquarters of this district. Nawada district comes in South Bihar Alluvial plain zone – III. This district is drought prone and the agriculture is mainly rainfed type. Soil of the district is sandy, sandy loam, clay and clay loam. The district is falls under the tropical climatic condition. The district has maximum tree covered hilly terrain followed by forest and agricultural land out of its total geographical area. The major crops of the area are Rice, Wheat, Barley, Corn, Soybean, Maize, Cotton etc. The climatic and soil conditions allow growing sub-tropical and tropical fruits, vegetables and ornamentals. The various fruits grown in the state include mango, citrus, guava and jackfruit etc. The land use details of the present study area is given below in the table.

Land use patterns of the study area (10 km radius)

Class Name	Area (Ha)	Area (%)
River/Water Bodies	14.17.59	4.35
Agricultural Land	3924.18	12.06
Built-up Land	6606.81	20.31
Agricultural Fallow land	4925.79	15.14
Vegetation	6793.02	20.88
Scrub Land	5119.92	15.74
Open Land	3735.09	11.48
Total	32,522.4	100.00

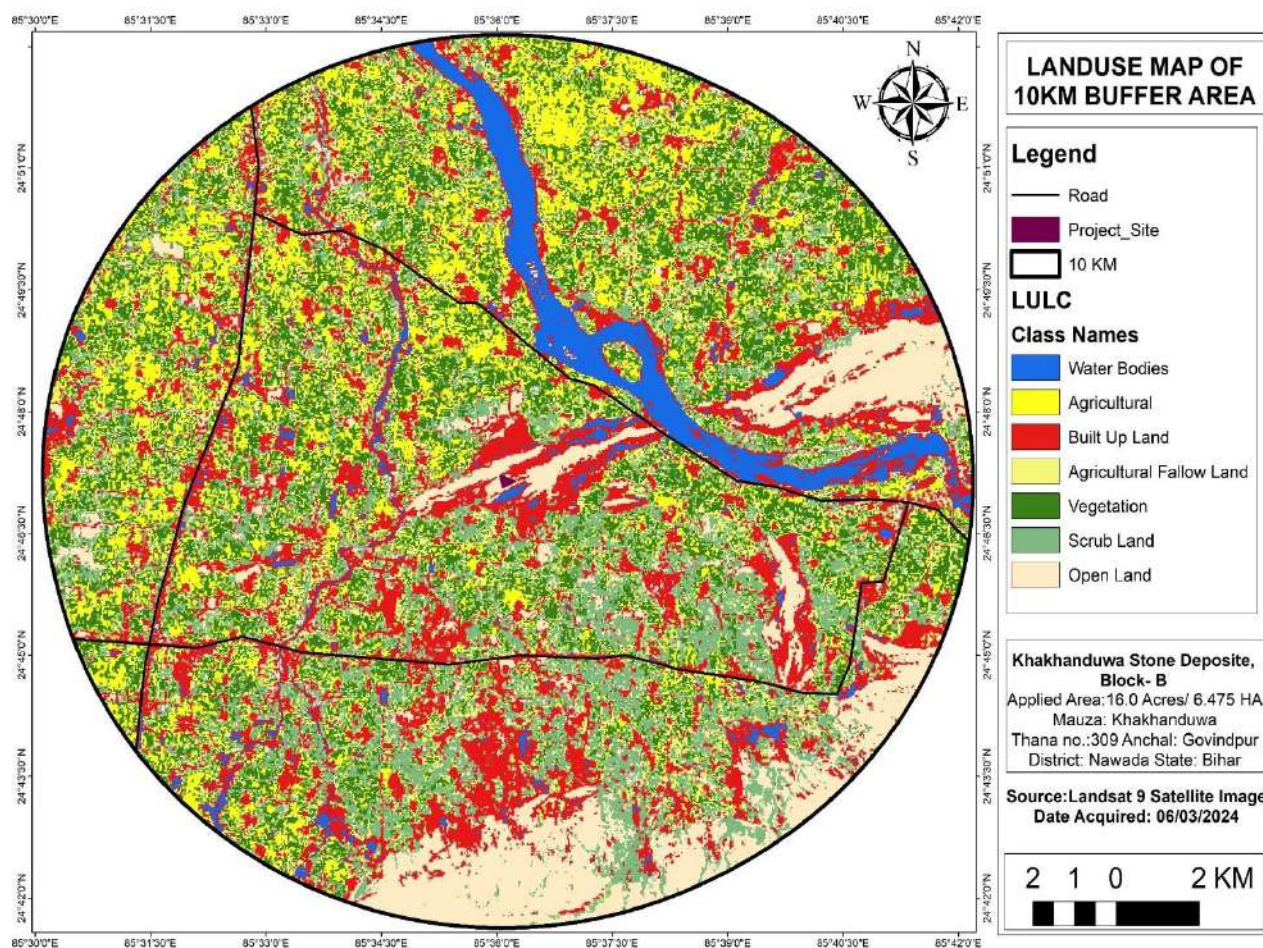


Figure showing Land use patterns of the study area (10 km radius)

4.1: Flora of the Study Area

The forests of the Nawada district are comprises of tropical deciduous vegetation due to medium & high temperature, and humidity. Total forest area in Nawada district is 2494 Sq.km (State of Forest Report, 2019). Some protected Forests are present within the districts Nawada as declared protected under “Wildlife (Protection) Act-1972” and Forest Conservation Act (1980). Details of forest status of Nawada district is given in **Table 2**.

Table 2: Forest Cover Area in Nawada District, Bihar (Area in sq.km)

Geographic Area	Very Dense Forest	Mod. Dense Forest	Open Forest	Total	% of GA (%)	Change	Scrub
2494	0	187	323	510	20.45	1	10
Source: State of Forest Report, 2019.							

Agricultural vegetation/ Commercial vegetation of the buffer zone.

The variety of cropping done by the native farmers in different part of the study area. The vegetation details of the buffer zone were collected from different selected sites. The details of the agricultural vegetation and commercial crops of the buffer zone is given in **Table 3**.

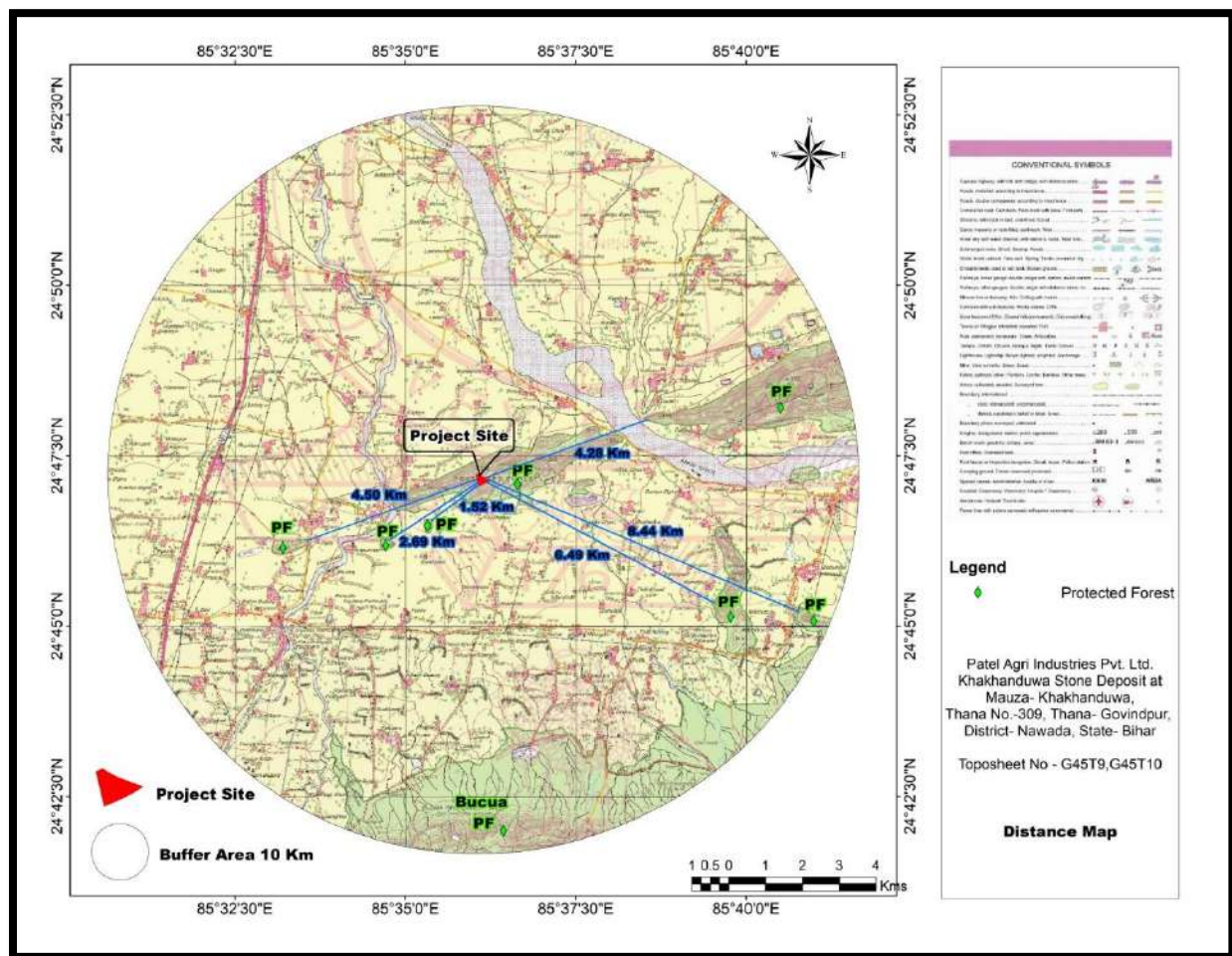
Table 3: List of crops seasonally planted by respective farmers in the study area

Family Name	Botanical Name	Local/Trade Name
Musaceae	<i>Musa Paradisiaca</i>	Kela
Poaceae	<i>Zey mays</i>	Makkha/Maize
	<i>Triticum aestivum</i>	Wheat
	<i>Oryza sativa</i>	Paddy
Fabacea	<i>Split Pigeon Peas</i>	Toor Dal /Arhar Dal
	<i>Cicer arietinum</i>	Channa
Apiaceae	<i>Coriander sativum</i>	Dhaniya
Amaranthacea	<i>Abelmoschus esculentus</i>	Bhendi
Cucurbiataceae	<i>Mamordica charanta</i>	Karela
	<i>Capsicum annum</i>	Mirchi
	<i>Lycopersicon lycopersicum</i>	Tomato
Solanaceae	<i>Solanum melongena</i>	Brinjal
	<i>Capsicum annum</i>	Mirchi
	<i>Solanum tuberosum</i>	Potato
Amaryllidaceae	<i>Allium cepa</i>	Onian
Fabaceae	<i>Cajanus cajan</i>	Pigeon pea
Caricaceae	<i>Carica papaya</i>	Papaya
Malvaceae	<i>Okra</i>	Ladyfinger/ Bhindi
Cucurbitaceae	<i>Lagenaria siceraria</i>	Bottle gourd/ Lauki
	<i>Luffa aegyptiaca</i>	Sponge gourd / Nenua
Brassicaceae	<i>Brassica juncea</i>	Mustard / Sarso
Amaryllidaceae	<i>Allium sativum</i>	Lahsun
Source: Present survey data of the Rian Enviro, Patna and the data supported by Agriculture Department of Bihar.		

Flora of the Core Zone: The core zone was devoid of any major plant or tree naturally growing over there. Only some seasonal herbs and grasses were recorded during the present survey such as Doob, Motha, Jugli chaulai, Jungli tulsi, Chakwad, Munj and Madar etc.

Flora of the Buffer Zone: In the buffer zone, there are no any eco-sensitive zone present withing 10 km radius of present stone mining project. Buffer zone of the study area is mainly agricultural land followed by semi urban and rural areas. There is no major forest in the buffer zone except roadside plantations

(Protected Footrests). However, vegetation in patches was observed at different locations in the study area. During the field survey, major vegetation was recorded only in and around the villages and along the roadside plantations (in the form of protected forests). The vegetation nearby the human settlement was different from the other locations, and mostly edible (fruit bearing) or useful plants. In the rural areas, most of the trees are part of agroforestry.



Forest Distance Map form the proposed Lear Area

The dominant species recorded from the buffer zone of the study area were *Mangifera indica* (Aam), *Magnolia champaca* (Champa), *Artocarpus heterophyllus* (Kathal), *Pongamia pinnata* (Karanj), *Anthocephalus cadamba* (Kadamb), *Azadirachta indica* (Neem), *Cascabela thevetia* (Pila Kaner), *Delonix regia* (Gulmohar), *Ficus benghalensis* (Bargad), *Ficus benjamina* (Pakar), *Ficus religiosa* (Peepal), *Ficus racemosa* (Gular), *Ficus religiosa* (Pipal), *Urhul*, *Pisidium guava* (Guava), *Cassia siamea* (Kasod/Siris), and *Tectona grandis* (Sagwan) have been preferred for plantation along the road, nearby the buildings and parks, etc.

The study area of the present project (Core and Buffer zone) enriched with moderate quantity of vegetation and with variety of species of grasses, creepers, herbs, shrubs and trees etc. Some common vegetation found in the study area are listed in the below

Table 4: Common vegetation found in Core and Buffer zone, including forest area of the present study area

S.N.	Botanical Names	Local Names	English Name	Family
Trees				
1	<i>Mangifera indica</i>	Aam	Mango	Anacardiaceae
2	<i>Aegle marmelos</i>	Bel	Bengal quince	Rutaceae
3	<i>Albizia lebeck</i>	Siris	Lebbek tree	Mimosaceae
4	<i>Alstonia scholaris</i>	Saptaparni	Blackboard Tree	Apocynaceae
5	<i>Artocarpus heterophyllus</i>	Kathal	Jackfruit	Moraceae
6	<i>Azadirachta indica</i>	Neem	Indian Lilac	Meliaceae
7	<i>Bauhinia purpurea</i>	Kachnar	Orchid tree	Leguminosae
8	<i>Bombax ceiba</i>	Semal	Silk Cotton Tree	Malvaceae
9	<i>Carica papaya</i>	Papita	Papaya	Caricaceae
10	<i>Cascabela thevetia</i>	Kaner	Yellow Oleander	Apocyanaceae
11	<i>Cassia fistula</i>	Amaltas	Golden shower tree	Fabaceae
12	<i>Dalbergia sissoo</i>	Sisham	North Indian rosewood	Fabaceae
13	<i>Datura stramoniu</i>	Dhatura	Locoweed	Solanaceae
14	<i>Delonix regia</i>	Gulmohar	Flamboyant	Fabaceae
15	<i>Ficus benghalensis</i>	Bargad	Banyan	Moraceae
16	<i>Ficus religiosa</i>	Peepal	Sacred fig	Moraceae
17	<i>Moringa Oleifera</i>	Shaijan	Drum stick	Moringaceae
18	<i>Musa acuminata</i>	Kela	Banana	Musaceae
19	<i>Neolamarckia cadamba</i>	Kadamb	Burflower-tree	Rubiaceae
20	<i>Peltophorum pterocarpum</i>	Peela Gulmohar	Yellow Poinciana	Moraceae
21	<i>Phoenix sylvestris</i>	Khajoor	Date palm	Arecaceae
22	<i>Pithecellobium dulce</i>	Jungle Jalebi	Jungle Jalebi	Fabaceae
23	<i>Psidium guajava</i>	Amrud	Guava	Myrtaceae
24	<i>Saraca asoka</i>	Ashok	Asoka	Fabaceae
25	<i>Syzygium cumini</i>	Jamun	black plum	Myrtaceae
26	<i>Tamarindus indica</i>	Imli	Tamarind	Fabaceae
27	<i>Tectona grandis</i>	Sagwan	Teak	Lamiaceae
28	<i>Termenalia arjuna</i>	Arjun	Arjuna	Combretaceae
29	<i>Terminalia arjuna</i>	Arjun	Arjun Tree	Combretaceae
30	<i>Vachellia nilotica</i>	Babool	Babool	Fabaceae
31	<i>Ziziphus jujube</i>	Ber	Indian date	Rhamnaceae
Shrubs/Herbs/Climbers				

1	<i>Aloe vera</i>	Ghratkumari	Aloe vera	Asphodelaceae
2	<i>Alternanthera sessilis</i>	-	Joyweed	Amaranthaceae
3	<i>Argemone mexicana</i>	Peeli Kantili	Mexican Poppy	Papaveraceae
4	<i>Asparagus racemosus</i>	Shatavari	-	Asparagaceae
5	<i>Bougainvillea spectabilis</i>	Bougainvillea	Bougainvillea	Nyctagynaceae
6	<i>Casuarina equisetifolia</i>	-	Coastal She- Oak	Casuarinaceae
7	<i>Catharanthus roseus</i>	Sadabahar	Periwinkle	Apocynaceae
8	<i>Calotropis gigantea</i>	Aak	-	Apocynaceae
9	<i>Coccinia grandis</i>	Kundari	Scarlet guard	Cucurbitaceae
10	<i>Galinsoga quadriradiata</i>	Shaggy Soldier	-	Asteraceae
11	<i>Hibiscus rosa- sinensis</i>	Gurhal	Hibiscus	Malvaceae
12	<i>Ipomoea batatas</i>	Sweet Potato	-	Convolvulaceae
13	<i>Luffa acutangula</i>	Ridge guard	-	Cucurbitaceae
14	<i>Manihot esculenta</i>	Cassava	Tapioca	Euphorbiaceae
15	<i>Nyctanthes arbor-tristis</i>	Harsingar	Night Jasmine	Oleaceae
16	<i>Ocimum tenuiflorum</i>	Tulsi	Holy Basil	Lamiaceae
17	<i>Opuntia elatior</i>	Nag Phani	Cactus	Cactaceae
18	<i>Phyllanthus niruri</i>	Bhumi Amla	-	Phyllanthaceae
19	<i>Phyllanthus urinaria</i>	-	Gripeweed	Phyllanthaceae
20	<i>Plumeria alba</i>	Champa	Plumeria	Apocynaceae
21	<i>Portulaca grandifolia</i>	Gul- e- Shama	Moss- Rose	Portulacaceae
22	<i>Rawolfia serpentina</i>	Sarpagandha	Serpentina root	Apocynaceae
23	<i>Thevetia peruviana</i>	Peela Kaner	Yellow Oleander	Apocynaceae
24	<i>Tinospora cordifolia</i>	Giloy	Heart leaved Monnseed	Menispermaceae
Grasses				
1	<i>Amaranthus tricolor</i>	Amaranth	-	Amaranthaceae
2	<i>Amaranthus viridis</i>	Amaranth	-	Amaranthaceae
3	<i>Cenchrus ciliaris</i>	Anjan Grass	Buffel Grass	Poaceae
4	<i>Cymbopogon citratus</i>	Nimbu Ghas	Lemon Grass	Poaceae
5	<i>Cynodon dactylon</i>	Doob	Bermuda Grass	Poaceae
6	<i>Cynodon radiatus</i>	Doob	-	Poaceae
7	<i>Desmostachya bipinnata</i>	Kush	Halfa Grass	Poaceae
8	<i>Digitaria ciliaris</i>	-	Finger Grass	Poaceae
9	<i>Parthenium Hysterophorus</i>	-	Santa Maria feverfew	Poaceae
10	<i>Paspalum vaginatum</i>	-	Silt grass	Poaceae
11	<i>Pennisetum Podicellatum</i>	Dinanath Grass	-	Poaceae
12	<i>Rottboillia cochinchinensis</i>	-	Corn grass	Poaceae
13	<i>Sida acuta</i>	-	Wire weed	Malvaceae
Source: Present survey data of Rian Environ and the data supported by Department of Forest, Bihar.				

4.2: Fauna of the Study Area

The assessment of the faunal population was done on the basis of the primary survey as well as secondary data collected from different government offices like the forest department, wildlife department, etc. The presence of wildlife was also confirmed by the local inhabitants depending on the animal sightings and the frequency of their visits nearby the project area. During the present study period, several bird species were observed in the core as well as buffer zone of the study area. It is highly recommended to the client to develop greenbelt through local and native species which may provide food and shelter to the birds and insects, etc.

Fauna of the Core Zone: The fauna visiting the core zone includes Squirrels (*Funambulus pulmarum*), crows (*Corvus splendens*), Dogs, Goat, Lotni, Myna (*Acridotheres tristis*), etc.

Fauna of the Buffer Zone

The present stone mining project is located on the southern part of the river Ganga, whereas, the drainage slop of the study area is shared by Sakri River and Pachane River. Due to absence of forest and other desirable natural habitat, study area has very a lesser number of terrestrial wildlife animals especially mammals. Very a lesser number of reptiles, amphibians, and avian fauna were observed in the study area due to the summer impact (high temperature/drought). The study area is devoid of any major natural forest, so, wildlife animals are rarely found in the rural areas also, except Nilgai, Wild boar, Jackal, Khargos, Chamgadar, Rats, and Snakes etc. On the other hand, only some moving domesticated animals were observed nearby the villages in the study area.

Presence of Dhaman snake (*Ptyas mucosa*) and Goh (*Monitor lizard*) have been seen by several local inhabitants near the Sakri river in the north eastern and Southern part of the study area. Dhaman snake have been observed near the lease area only during the monsoon period. The wildlife fauna mainly found in the open forests in the study area are given in **Table 5**.

Table 5: Fauna commonly found in Buffer zone of Proposed Khakhandua Stone mining project

Scientific Name	Common Name	Schedule Status as per WPA, 1972 & 2022
Mammals		
<i>Bao Taurus</i>	Cow	IV
<i>Bubalus bubalis</i>	Domestic Water Buffallo	IV
<i>Canis lupus familiaris</i>	Indian Pariah Dog	IV

<i>Capra hircus</i>	Goats	IV
<i>Funambulus pennanti</i>	Palm Squirrel	IV
<i>Lepusni gricolis</i>	Indian Hare	IV
<i>Pteropus giganteus</i>	Flying Fox (Bat)	II
<i>Sus scrofa</i>	Indian Boar	II
Rodent		
<i>Bandicota bengalensis</i>	Indian Mole Rat	IV
<i>Mus booduga</i>	Indian Field Mouse	IV
<i>Rattus rattus</i>	House Rat	IV
Reptiles		
<i>Bungarus caeruleus</i>	Common krait	II
<i>Calotes versicolor</i>	Garden Lizard	IV
<i>Hemidactylus frenatus</i>	Common house gecko	IV
<i>Hemidactylus maculates</i>	Rock Gecko	IV
<i>Lycodon aulicus</i>	Indian Wolf Snake	II
<i>Lygosoma punctata</i>	Common Dotted Garden Skink	IV
<i>Mabuya carinata</i>	Brahminy (Golden) skink	IV
<i>Ptyas mucosa</i>	Indian Rat Snake	I
<i>Varanus bengalensis</i>	Monitor lizard / Goh	I
Amphibians		
<i>Duttaphrynus melanostictus</i>	Common Indian Toad	IV
<i>Fejervaryali mnocharis</i>	Indian Cricket Frog	IV
<i>Hoplobatrachus tigerinus</i>	Indian Bull Frog	IV
Insects		
<i>Actias selene</i>	Indian Moon Moth	Sarurniidae
<i>Amata cyssea</i>	Handmaiden moth	Arctiinae
<i>Apis indica</i>	Indian Hive Bee	Apidae
<i>Attacus atlas</i>	Atlas Moth	Saturniidae
<i>Coccinella septempunctata</i>	Lady Bug	Coccinellidae
<i>Cryptotermes dudleyi</i>	Indian Drywood Termites	Termitoideae
<i>Danaus genutia</i>	Striped Tiger	Nymphalidae
<i>Junonia almana</i>	Peacock Pansy	Nymphalidae
<i>Pareronia valeria</i>	Common Wanderer	Pieridae
<i>Ropalidia marginata</i>	Common Social Wasp	Vespidae
<i>Selonopsis invicta)</i>	Fire ants (red ants)	Formicidae
<i>Thomisidae</i>	Crab spiders	Thomicidae
Avifauna		
<i>Acridotheres ginginianus</i>	Bank Myna	II
<i>Acridotheres tristis</i>	Common Myna	II
<i>Anthus rufulus</i>	Paddy field Pipit	II
<i>Ardeola grayii</i>	Indian Pond Heron	II

<i>Aredea intermedia</i>	Intermediate Egret	II
<i>Bubulcus ibis</i>	Cattle egret	II
<i>Centropus sinensis</i>	Greater Coucal	II
<i>Ceryle rudis</i>	Pied Kingfisher	II
<i>Columba livia</i>	Rock Pigeon	IV
<i>Copsychus saularis</i>	Oriental Magpie Robin	II
<i>Coracias benghalensis</i>	Indian Roller	II
<i>Corvus splendens</i>	House Crow	IV
<i>Dicrurus macrocercus</i>	Black Drongo	II
<i>Egretta garzetta</i>	Little Egret	II
<i>Eudynamys scolopacea</i>	Asian Koel	II
<i>Galerida cristata</i>	Common Crested Lark	II
<i>Gracupica contra</i>	Asian Pied Starling	II
<i>Halcyon smyrnensis</i>	White-breasted Kingfisher	II
<i>Himantopus himantopus</i>	Black- winged Stilt	II
<i>Hydrophasianus chirurgus</i>	Pheasant- tailed Jacana	IV
<i>Lanius cristatus</i>	Brown Shrike	II
<i>Megalaima haemacephala</i>	Coppersmith Barbet	II
<i>Megalaima zeylanica</i>	Brown- headed Barbet	II
<i>Merops orientalis</i>	Green Bee Eater	II
<i>Metopidius indicus</i>	Bronze- winged Jacana	IV
<i>Microcarbo niger</i>	Little cormorant	IV
<i>Milvus migrans</i>	Black kite	IV
<i>Monticola solitarius</i>	Blue Rock Thrush	IV
<i>Ocyrceros birostris</i>	Indian Grey Hornbill	II
<i>Oriolus oriolus</i>	Golden Oriole	II
<i>Oriolus xanthornus</i>	Black- hooded Oriole	IV
<i>Orthotomus sutorius</i>	Common Tailorbird	II
<i>Passer domesticus</i>	House Sparrow	II
<i>Podiceps cristatus</i>	Great Crested Grebe	II
<i>Porphyrio porphyrio</i>	Purple Swamphen	II
<i>Pseudibis papillosa</i>	Red- naped Ibis	II
<i>Psittacula krameri</i>	Rose Ringed Parakeet	II
<i>Pycnonotus cafer</i>	Red- Vented Bulbul	II
<i>Pycnonotus jojocus</i>	Red- whiskered Bulbul	II
<i>Recurvirostra avosetta</i>	Pied Avocet	II
<i>Saxicoloides fulicata</i>	Indian Robin	IV
<i>Streptopelia chinensis</i>	Spotted Dove	II
<i>Sturnus pagodarum</i>	Brahminy Starling	IV
<i>Tachybaptus rucollis</i>	Little Grebe	II
<i>Treron phoenicopterus</i>	Yellow- footed Green Pigeon	II

<i>Turdoides striata</i>	Jungle Babbler	IV
<i>Upupa epops</i>	Eurasian Hoopoe	IV
<i>Vanellus duvaucelii</i>	River Lapwing	II
<i>Vanellus malabaricus</i>	Yellow Wattled Lapwing	II
Source: Present survey data of Rian Environ and the data supported by Department of Forest, Bihar.		

As per the above list of flora and fauna of the study area, no rare, endangered, endemic and threatened flora was recorded from the core and buffer zone, whereas, among faunal species, Dhaman snake (*Ptyas mucosa*) and Goh (*Monitor lizard*) are present in the buffer zone of the present study area. They have been seen by several local inhabitants near the Sakri river in the north eastern and Southern part of the study area.

5. Conservation Plan of Schedule-I Species

Biological profile of present study area of the proposed Khakhanduwa Stone mining project (which is located at Mauza- Khakhanduwa, Anchal- Govindpur, District-Nawada, Bihar) revealed the presence of two (2) schedule-I species which are listed in **Table 6**.

Table 6: List of Schedule-I species present in Study Area

Scientific Name	Common Name	Schedule Status as per WPA, 1972 & 2022
Reptiles		
<i>Ptyas mucosa</i>	Indian Rat Snake	I
<i>Varanus bengalensis</i>	Monitor lizard / Goh	I

Biological importance of all schedule-I species recorded of found in the study area along with their conservation and management plan and environmental mitigation are as follows:

5.1. Conservation Plan of *Ptyas Mucosa* (Dhaman)



Source: <https://www.google.com>

5.1.1: Taxonomical classification

Kingdom	Animalia
Phylum	Chordata
Class	Reptilia
Order	Squamata
Family	Colubridae
Genus	Ptyas
species	<i>P. mucosa</i>

Indian rat snakes are non-venomous by nature, and yet, this fact is not enough to save them from regular persecution. Their patterned skin, length and general appearance have caused many misguided individuals to mistake them for being the Indian cobra.

5.1.2: Conservation Status

The Indian Rat Snake (*Ptyas mucosa*) is classified as **Least Concern (LC)** on the IUCN Red List of Threatened species; moreover, this species is mentioned under the Schedule-I category of Wildlife Protection Act (1972) and its recent amendment in December, 2022. This listing indicates that it may become threatened with extinction and is in need of frequent reassessment in Indian territory.

5.1.3: Habitat

Ptyas mucosa occurs in a wide range of habitats, including grasslands, swamps, marshes, rocky foothills and woodlands. They depend on a permanent source of water. Sometimes they can be found in abandoned mammal burrows, hollow trees, dense water reeds and mangrove thickets.

In the present study area, *Ptyas mucosa* are occasionally found in nearby the core zone of the study area however, it is found in different parts of the buffer area. They are mostly found in southern part of the study area in forest land, and sometime it has been sighted near the Sakri river where, animals on which rat snake feeds are found in good numbers.

5.1.4: Food and Feeding

Ptyas mucosa mainly are carnivorous animals and feed on small mammals, birds and reptiles indiscriminately, but seem to prefer mammals and reptiles. Live prey is constricted and killed by *Ptyas mucosa*. After a heavy meal, an individual may fast for few days.

5.1.5: Shape and Size

The longest recorded rat snake is 3.7 m, which is a little over 12 feet in India. However, it is rare to see an individual over 2.5 meters. Rat snakes have very long tapering tails. Its size, speed, and lack of stealth

have made it one of the most frequently seen snakes around human habitation. Mostly, they are found paired (male and female individuals).

5.1.6: Ecological Threats and Conservation Plan

5.1.6.1: Direct Population Threats

Direct population threats include all reasons and actions which directly reduce the number of Indian Rat Snake in their respective habitats other than the natural death. Loss of forest areas along with the reduction of different small size animals due to climate change and deforestation are a major threat to Indian Rat Snake in India. But, the present area is enriched with forests patches, scrubby land and prey materials for Indian Rat Snake population.

• Conservation Plan

The Wild Life Protection Act (1972) and its recent amendment in 2022 provides us with the statutory framework for wildlife conservation, and declared that hunting of Indian Rat Snake is a deadly crime against wildlife. For improvement of habitats, forestation will be done and grassland will be enhanced surrounding the project area to ensure the enhancement of habitat and protecting the loss of population of Indian Rat Snake.

5.1.6.2: Conflicts with Human/Farmer

Several Indian Rat Snakes are killed due to ignorance or out of fear when they enter habitation and capture small mammals or poultry. For some strange reasons, snakes have always been associated with fear in the minds of most people. The inborn fear regarding their toxic venom plays a key role in killing most snakes, irrespective of whether they are harmful or not. As far as rat snakes are concerned, they are fast-moving reptiles, and they rarely try to attack even when attacked. While humans, upon encountering any rat snake, tried to kill them to save them from damage.

• Conservation Plan

The most basic requirements are willingness and inclination to learn and differentiate the poisonous and the non-venomous snakes. The minute the farmers or the workers, spot a snake; they should be in a position to distinguish between a triangular and a round headed snake and the patterns associated with the snake. Both local villagers and workers will be educated facilitate to avoid the any snake bite. Following precautionary measures will be taken:

- Adequate lighting in and around the living places/ huts, etc.
- Fire wood stacks to be set up far away from the house.
- Workers need to be protected with footwear.

- Workers need to be provided with adequate lighting (torch lights) during night times.

5.1.6.3: Poaching

The beautiful and shiny skin of the Indian Rat Snakes makes them target species for poachers. In some area it is killed for extracting the oil by locals/ tribals as the fat of it purported to have medicinal value. Also, Rat Snakes are hunted extensively for their patterned skin, which is made into leather. The skin of Indian Rat Snakes has high value in international market as used to manufacture leather goods, etc.

• Conservation Plan

During formal interview and discussion with locals it was noted that study area is not prone to poaching or any other wildlife violence related of Rat Snakes. But precaution will be always taken while dealing with wildlife. If any kind of poaching or other offense is noticed; it will be immediately clued-up to the concern Forest and Wildlife Officials. Moreover, workers will be trained and educated about the importance of Rat Snakes for ecology and will be made aware of wildlife crime, subsequent penalties and punishment also.

5.1.6.4: Habitat threats/Loss

Rapid degradation of forest areas due to illegal encroachment of forest land, due to climate change degradation of grassland, swamps and marshes is a major threat to Indian Rat Snakes because it causes population fragmentation. Furthermore, habitat degradation caused by overgrazing, overharvest of forest products, expansion of agricultural areas, and use huge amounts of pesticides agricultural areas also poses threats to the habitat of Indian Rat Snakes as well as their prey material.

• Habitat Improvement

For habitat improvement of Indian Rat Snakes all possible activities will be carried out in the study area. Their habitat will be artificially improved in the study area by planting suitable species along with the development of grasslands in the respective area. Any existing stream and pond will be preserved and no discharge of any harmful effluent will be drained in the stream of the study area. If needed artificial wetlands will be created to improve the micro-habitat of species. If any Rat Snakes individual is spotted within or nearby the lease area, it will be immediately informed to concern authority and suitable rescue plan will be adopted. Workers will be instructed not to disturb or damage any kind of wildlife.

5.2: Conservation Plan of *Varanus bengalensis* (Indian Monitor lizard)



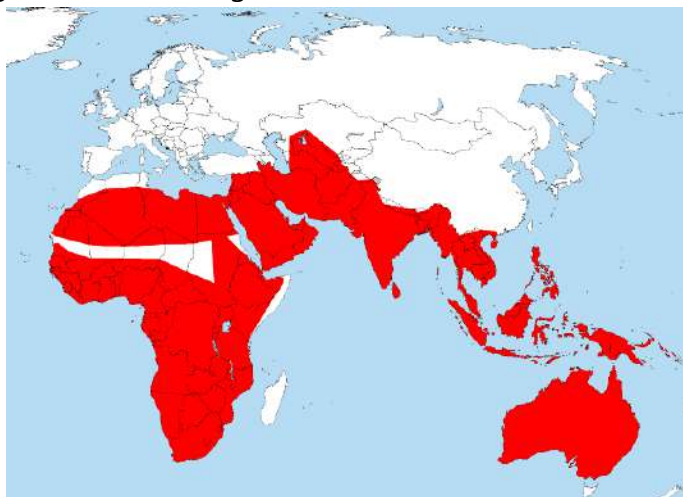
Source: <https://www.google.com>

5.2.1: Taxonomical classification

Kingdom	Animalia
Phylum	Chordata
Class	Reptilia
Order	Squamata
Family	Varanidae
Genus	<i>Varanus</i>
species	<i>V. bengalensis</i>

Common Indian Monitor lizard (*Varanus bengalensis*) famous in Indian subcontinent and popularly known as Goh/ Goha/ Badi Chhipkali, etc. Indian Monitor lizard is distinguished by their long and flattened body, long tail, long neck and the extremely elongated, slender, forked tongue, similar to that of snakes.

5.2.2: Distribution range of *Varanus bengalensis*



Indian Monitor lizard (*Varanus bengalensis*) is found in all the Indian states including Andaman and Nicobar Islands, and Indian subcontinent. It is commonly found in Afghanistan, Bangladesh, Myanmar, Tibet, Sri Lanka, Nepal, Myanmar, and Pakistan (Sindh area).

5.2.3: Conservation Status

The Indian Monitor Lizard (*Varanus bengalensis*) is classified as **Near Threatened (NT)** on the IUCN Red List of Threatened species based on its wide geographic range. However, there are increasing pressures on the species. Moreover, this species is mentioned under the **Schedule-I category of Wildlife Protection Act (1972) and its recent amendment in December, 2022**. This listing indicates that it may become threatened with extinction and is in need of frequent reassessment in Indian territory. CITES is a multilateral treaty to protect endangered plants and animals from the threats of international trade. Also, it is mentioned in appendix-I in the CITES list.

5.2.3: Habitat

Varanus bengalensis has very rich distribution in the various areas and show different types of habitats. It is observed that there is wide variation in habitat types. The Indian Monitor Lizard is diurnal in habits. It inhabits dry and moist deciduous forests of moderately dense, scrub and thorny landscapes, river banks, by the side of ‘nallah’ and ravines. It occupies burrows, dense vegetation, hollows of trees and cervices. It makes use of abandoned termite mounds. It is a good climber, runner and also a good swimmer. They are often found in agricultural fields. They are usually shy in nature.

In present study area, the movement of the species was found mostly in open areas away from the core zone and around agriculture field. They are often found in agricultural areas, nearby the riverine sites, and near the ponds, etc.

5.2.4: Food and Feeding

The Indian Monitor lizards (*Varanus bengalensis*) tend to remain active throughout the whole day. The species is a generalist and by nature it is carnivorous. They consume almost anything that is smaller than themselves and that they can easily overpower the prey. Their normal prey consists of beetles, grubs, orthopterans, scorpions, ants and other invertebrates. Vertebrate prey is comparatively rare, and includes frogs, lizards, squirrels, rodents, ground birds, eggs and fish, small turtle and snakes also. It probably seeks its prey both by smell & sight.

Large adults may ascend vertical tree trunks, where they sometimes stalk and capture roosting bats. They are known to scavenge carcasses of previously killed/thrown dead animals. In areas where livestock are common, they often visit dung, where they forage for beetles and other insects. As with most Varanids, they swallow prey whole but are also capable of ripping and tearing flesh from larger animals and carcasses. Young monitors may be more arboreal, but adults mainly hunt on the ground.

5.2.5: Shape and Size

Adult Indian Monitor lizard is generally grey or dark grey in colour, with a ventral pattern of grey to black cross bars from the chin to the tail. It measures up to 70 cm in body length and along with tail the total body length is about 100 cm. Young monitor lizards are more colourful than adults. Young have a series of dark crossbars on the neck, throat and back. The belly is white, banded with dark crossbars and are spotted with grey or yellow (particularly in the eastern part of the range). On the dorsal surface of young monitors, there are a series of yellow spots with dark transverse bars connecting them. As they mature, the ground colour becomes light brown or grey, and dark spots give them a speckled appearance. Hatchlings tend to have a series of backward pointing, V-shaped bands on their necks. Thus, adults display a less pronounced, less contrasting pattern than younger Indian Monitors.

5.2.6: Ecological Threats and Conservation Plan

5.2.6.1: Direct Population Threats

Direct population threats include all reasons and actions which directly reduce the number of The Indian Monitor lizards (*Varanus bengalensis*) in their respective habitats other than the natural death. Loss of forest areas along with the reduction of different small size animals due to climate change and deforestation are a major threat to Indian Monitor lizards in different parts of the India. But, the present area has some forests patches, scrubby land and pray materials for their population.

• Conservation Plan

The Wild Life Protection Act (1972) and its recent amendment in 2022 provides us with the statutory framework for wildlife conservation, and declared that hunting of Indian Monitor lizards (*Varanus bengalensis*) is a deadly crime against wildlife. For improvement of habitats, forestation will be done and grassland will be enhanced surrounding the project area to ensure the enhancement of habitat and protecting the loss of population of Monitor lizards (*Varanus bengalensis*).

5.2.6.2: Conflicts with Human/Farmer

Several Indian Monitor lizards (*Varanus bengalensis*) are killed due to ignorance or out of fear when they enter habitation and capture small mammals or poultry. For some strange reasons, they have always been associated with fear in the minds of most people. The inborn fear regarding their toxic venom plays a key role in killing most of the monitor lizard, irrespective of whether they are harmful or not. As far as monitor lizard snakes are concerned, they are slow-moving reptiles, and they rarely try to attack even when attacked. While humans, upon encountering any monitor lizard, tried to kill them to save them from damage.

• Conservation Plan

The most basic requirements are willingness and inclination to learn and differentiate the poisonous and non-venomous lizards' species. The minute the farmers or the workers near the proposed mining project, spot a monitor lizard; they should be in a position to identify them by their morphological features. Both local villagers and workers will be educated facilitate to avoid the any conflict with them or their bite. Following precautionary measures will be taken:

- Adequate lighting in and around the mining area (Core zone) and related activities area, etc.
- Workers need to be protected with footwear.
- Workers need to be provided with adequate lighting (torch lights) at their accommodation.

5.2.6.3: Poaching

The beautiful and shiny skin of the Indian Monitor lizards (*Varanus bengalensis*) makes them target species for poachers. In some area it is killed meat and for extracting the oil by locals/ tribals as the fat of it purported to have medicinal value. Also, Indian Monitor lizards (*Varanus bengalensis*) are hunted extensively for their patterned skin, which is made into leather. The skin of Indian Monitor lizards has high value in international market as used to manufacture leather goods, etc.

• Conservation Plan

During formal interview and discussion with locals it was noted that study area is not prone to poaching or any other wildlife violence related of Indian Monitor lizards (*Varanus bengalensis*). But precaution will be always taken while dealing with wildlife. If any kind of poaching or other offense is noticed; it will be immediately clued-up to the concern Forest and Wildlife Officials. Moreover, workers will be trained and educated about the importance of Indian Monitor lizards for ecology and will be made aware of wildlife crime, subsequent penalties and punishment also.

5.2.6.4: Habitat threats/Loss

Rapid degradation of forest areas due to illegal encroachment of forest land, due to climate change degradation of grassland, swamps and marshes is a major threat to Indian Monitor lizards because it causes population fragmentation. Furthermore, habitat degradation caused by overgrazing, overharvest of forest products, expansion of agricultural areas, and use huge amounts of pesticides agricultural areas also poses threats to the habitat of Indian Monitor lizards as well as their prey material.

• Habitat Improvement

For habitat improvement of Indian Monitor lizards all possible activities will be carried out in the study area. Their habitat will be artificially improved in the study area by planting suitable species along with the development of grasslands in the respective area. Any existing stream and pond will be preserved and no discharge of any harmful effluent will be drained in the stream of the study area. If needed artificial wetlands will be created to improve the micro-habitat of species. If any Indian Monitor lizards individual is spotted within or nearby the lease area, it will be immediately informed to concern authority and suitable rescue plan will be adopted. Workers will be instructed not to disturb or damage any kind of wildlife in the study area.

6. Habitat Improvement Plan

There are several faunal species are present in the forest areas, scrubby lands, agricultural land and nearby the aquatic habitats of the Nawada district. In recent decades, it has been identified that the numbers of wildlife animals degrading day by day due to various factors such as loss of habitat, degradation forest and grassland ecosystems, forest fires, heavy rain and climate change etc. On the other hand, lack of preferred pray and food material are also responsible for rapid declining of wildlife.

For the improvement of habitat for different wildlife fauna, grassland and forestation will be done in the study area to ensure to availability of preferred pray and food source. The trees and grass species preferred by them in the study area will also be conserved to reduce the conflict with humans.

Plantation will be started with the beginning of the mining and will be completed within four years from the beginning. For plantation, sapling will be purchased from the local forest department. Seedlings of only local species, will be done in the nearby area especially in protected forests. If need arises then the saplings will be protected with tree guards. Together with the tree's plantation, shrubs, herbs and some grass species also will be planted. Plantation or greenbelt will help in reducing the spread of fugitive dust and noise from the mining area and transportation roads.

• Criteria for selection of plant/tree species for Ggreenbelt development :

1. Having tolerance to dust pollution.
2. Should maintain leaves for as longer a time as possible.
3. Combination of plants should be such so that almost a screen of plants is formed to check the dust from escaping the area. Thus the green belt plants will consist of mainly the trees and shrubs with some herbs also.
4. The trees should provide shade.
5. Plants possessing economic or aesthetic value should be given preference.
6. Trees less affected due to pruning should be given preference because pruning will yield fuel wood.
7. Every plant species to be planted should have some basis for its selection to be planted in the greenbelt.
8. Only local species (grasses, herbs, shrubs and trees) will be taken for plantation.

• Saplings:

Saplings for planting will be procured from the nurseries of the District Forest Department. Saplings will be planted after the commencement of the monsoons. Saplings will be planted in pits at specific distance/intervals. The pits will be filled with a mixture of good quality soil and organic manure (cattle dung, agricultural waste, kitchen waste). The saplings will be planted just after the commencement of the monsoons to ensure maximum survival. The species selected for plantation must be locally growing varieties with fast growth rate and ability to flourish even in thin, dry soils.

• Post Plantation Management

Watering will be done immediately after plantation. Further watering will depend on the rain while during dry seasons watering will be regularly done at least twice a week. Saplings will be regularly monitored and remedial actions will be undertaken as required. Casualties will be replaced at the beginning of each monsoon up to five years. For the plantation species may be selected from the below mentioned list.

Table 7: List of Trees/ Herbs/ Shrubs / Grass species for Greenbelt development and Habitat improvement

S.N.	Botanical Name	Common/Hindi Name	Name of family
Trees			
1	<i>Aegle marmelos</i>	Bel	Rutaceae
2	<i>Albizia lebbeck</i>	Sirish	Mimosaceae
3	<i>Anthocephalus cadamba</i>	Kadamb	Rubiaceae
4	<i>Artocarpus heterophyllus</i>	Kathal	Moraceae
5	<i>Azadirachta indica</i>	Neem	Meliaceae
6	<i>Bauhinia variegata</i>	Kachnar	Leguminosae
7	<i>Bombax ceiba</i>	Semal	Malvaceae

8	<i>Cassia fistula</i>	Amaltas	Caesalpinaceae
9	<i>Ceiba pentandra</i>	Kapok tree	Malvaceae
10	<i>Cordia dichotoma</i>	Lasora	Boraginaceae
11	<i>Dalbergia latifolia</i>	Kala-shisham	Fabaceae
12	<i>Dalbergia sissoo</i>	Sissoo	Fabaceae
13	<i>Delonix regia</i>	Gulmohar	Caesalpinaceae
14	<i>Ficus benghalensis</i>	Bargad	Moraceae
15	<i>Ficus benjamina</i>	Pakar	Moraceae
16	<i>Ficus elastica</i>	Rubber Plant	Moraceae
17	<i>Ficus hispida</i>	Gular	Moraceae
18	<i>Ficus racemosa</i>	Gular	Moraceae
19	<i>Ficus religiosa</i>	Pipal	Moraceae
20	<i>Gmelina arborea</i>	Gamhar	Verbenaceae
21	<i>Lagerstroemia speciosa</i>	Jarul	Lythraceae
22	<i>Madhuca indica</i>	Mohua tree	Sapotaceae
23	<i>Magnifera indica</i>	Aam	Anacardiaceae
24	<i>Pongamia pinnata</i>	Karanj	Fabaceae
25	<i>Sarracca indica</i>	Ashok	Annonaceae
26	<i>Swietenia mahagoni</i>	Mahogany	Meliaceae
27	<i>Syzygium cumini</i>	Jamun	Myrtaceae
28	<i>Tectona grandis</i>	Sagwan	Verbenaceae
29	<i>Terminalia arjuna</i>	Arjun	Combretaceae
30	<i>Trema orientalis</i>	Charcoal-tree	Cannabaceae
31	<i>Zizyphus jujube</i>	Ber	Rhamnaceae
Shrub & Herbs			
1	<i>Acanthospermum hispidum</i>	Kanti	Asteraceae
2	<i>Argemone mexicana</i>	Pila dhtura	Papaveraceae
3	<i>Bambusa arundinacea</i>	Katang bamboo	Poaceae
4	<i>Dendrocalamus strictus</i>	Katang bamboo	Poaceae
5	<i>Bougainvillia glabra</i>	Paper flower	Nyctaginaceae
6	<i>Calotropis procera</i>	Aakra	Asclepiadaceae
7	<i>Cassia auriculata</i>	Tarwar	Fabaceae
8	<i>Dalura metel</i>	Dhotra	Solanaceae
9	<i>Ervatamia divaricata</i>	Chandani	Apocynaceae
10	<i>Euphorbia hirta</i>	Mothi dudhi	Evphorbiaceae
11	<i>Jatropha gossipifolia</i>	Cotton-leaf	Euphorbiaceae
12	<i>Lantana camara</i>	Ghaneri	Verbenaceae
13	<i>Ocimum sanctum</i>	Tulsi	Labiatae
14	<i>Ricinus communis</i>	Arandi	Euphorbiaceae
15	<i>Tridax procumbens</i>	Kambarmodi	Asteraceae
16	<i>Xanthium strumarium</i>	Chota Dhatura	Asteraceae
Climbers			
1	<i>Abrus precatorius</i>	Gunja	Fabaceae

2	<i>Antigonon leptopus</i>	Anantalata	Polygonaceae
3	<i>Bougainvillea glabra</i>	Booganbel	Nyctaginaceae
4	<i>Celastrus paniculata</i>	Kujari	Celastraceae
5	<i>Cissampelos pareira</i>	Khariya lata	Menispermaceae
6	<i>Clitoria ternatea</i>	Aprajita, Shankhpushpi	Fabaceae
7	<i>Coccinia grandis</i>	Jungli Kundru/ Kundri	Cucurbitaceae
8	<i>Combretum indicum</i>	Madhu Malati	Combretaceae
9	<i>Cuscuta reflexa</i>	Amarbel	Convolvulaceae
10	<i>Hemidesmus indicus</i>	Anantamul	Apocynaceae
11	<i>Ipomoea cairica</i>	Neeli Bel	Convolvulaceae
12	<i>Tilospora cordifolia</i>	Giloy	Menispermaceae
13	<i>Zizyphus oenoplia</i>	Makor	Rhamnaceae
Grasses			
1	<i>Apluda mutica</i>	Mauntian grass	Poaceae
2	<i>Apluda mutica</i>	Banjura grass	Poaceae
3	<i>Commelina benghalensis</i>	Bokna	Commelinaceae
4	<i>Cynodon dactylon</i>	Doob	Poaceae
5	<i>Cyperus rotundus</i>	Motha	Cyperaceae
6	<i>dactyloctenium aegyptium</i>	Crow foot grass	Poaceae
7	<i>Digitaria ternate</i>	--	Graminae
8	<i>Kyllinga tenuifolia</i>	--	Cyperaceae
9	<i>Pennisetum purpureum</i>	Elephant grass	Poaceae
10	<i>Saccharum spontaneum</i>	Kans	Poaceae

7. Common Public Awareness Program for Wildlife Protection and Conservation

Among all the threats of biodiversity, lack of awareness is the major cause for their loss. Hence, public awareness programs will be conducted regarding the issues, conflicts and facts of wildlife, especially for the entire **schedule-I species** present in the study area / buffer zone of proposed Khakhanduwa Stone mining project located at Mauza- Khakhanduwa, Anchal- Govindpur, District- Nawada (Bihar). Conservation education and public awareness are useful tools in changing the behavior of people or local inhabitants /farmers etc. Illegal entry into the forest for collection of forest products should be stopped. Awareness programs about various wildlife species, their ecology, habitat, food & feeding and behavior will be conducted in the study area especially nearby or at the proposed project site. Programs will target to make aware of all groups (Community Forest User Group, Women's groups, Villagers of the Buffer Zone, School Teachers and Students). Recommendations against walking inside or at the edge of the forest during night hours, and at dawn or dusk should also be avoided to reduce human and animal encounters.

Involvement of local people in conservation activities will be ensured by the organizing of meetings /seminars/workshop in multiple villages around the project site to carry the people along with implementation. Functions like Van Mahotsav, Wildlife Week, World Forestry Day, and World Environment Day will be organized with the help of Gram Panchayat and local Forest Department. Moreover, a training workshop for all mine workers will be conducted in starting of the project. It will include the formal training on the importance of biodiversity and also to make available the information of the flora and fauna of high conservation value present in the surrounding areas. Information/awareness on Wildlife policies, Government regulation and penalties will be provided to the workers.

8. Tentative Budget for the Conservation Plan of Schedule-I Species

Following budget for conservation plan is include in total EIA-EMP budget of the proposed Khakhandua Stone mining project located at Khakhanduwa village, District-Nawada (Bihar). The proposed Khakhandua Stone mining project is located adjacent to the three is likely impact on the wildlife and wildlife landscape of this area. The wildlife is forced to move to adjoining areas. All the adjoining forest areas are already under degraded categories & under tremendous biotic pressure. Suitable mitigative and rehabilitative measures can compensate the impact. These works will help in restoration and amelioration of landscape for wildlife in general and Schedule-I animals in particular. The user agency/ Project Proponent will provide a safety zone of 50 feet meter towards the Protected forests, where a gap planting will be done. To fulfill the requirements for conservation measures the various activities are proposed as mentioned in the **Table 8**.

Table 8: Expenditure For Conservation Plan (Amount in lakhs)

S. N.	Proposed Conservation Activity	Capital Cost	1 st year	2 nd year	3 rd year	4 th year
1	Improvement of Water Resources • Maintenance of existing Ponds and water Holes;	4=00	2=00	1=00	0.5=00	0.5=00
2	Greenbelt and Habitat Improvement (2000 trees in four year) • Improvement Food Sources; • Creation village forests on Gram Panchayat land of selected villages/ School & College Campus • Plantations over open land and in scrub land	8=00	5=00	1=00	1=00	1=00
3	Awareness and Habitat Protection • Protection of habitat area of schedule-1 species by participatory program of public and Forest Department; • Training and Public Awareness Program / Workshop for Wildlife Conservation	3=00	1=00	1=00	0.5=00	0.5=00
Total		15=00	08=00	3=00	2=00	2=00

9. TEAM FOR THE PREPARATION OF CONSERVATION PLAN

The present conservation plan has been prepared by an expert team (in-house) of Rian Enviro, Patna (Bihar) and following members were in the team:

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