BEFORE THE NATIONAL GREEN TRIBUNAL

EASTERN ZONE BENCH, KOLKATA

Appeal No. 12 of 2024/EZ

"SEVASETU" & Ors

..... Petitioners

Verses

The State Environment Impact Assessment Authority

..... Respondents

Affidavit on Behalf of the Opposite Party/Respondent No. 01

State Environment Impact Assessment Authority (SEIAA)

BIHAR

VOLUME NO. II

Page No. 199-388

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STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), BIHAR

2nd Floor, BELTRON Bhawan, Shastri Nagar, Patna – 800023.

Ref. No. - 431 Patna Dated: - 15/07/2024

MINUTES OF 42nd MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), BIHAR CONSTITUTED ON 12.08.2021

VENUE: SEIAA Office

DATE: 13th July, 2024.

Minutes/Proceeding of the Meeting

1. **Opening Remarks of the Chairman:** The Chairman and Members extended a warm welcome to each other and among participants of the meeting. Thereafter, the meeting was opened for the proceedings as per the agenda adopted for the meeting.

2. **Confirmations of Minutes of 41st Meeting (41/2024) vide** Ref. No.- 359, dated:- 21.06.2024 **of State Expert Appraisal Committee held on** 15th June, 2024. The State Expert Appraisal Committee, hereinafter referred to as SEAC, was informed that no representation has been received regarding projects considered in the meeting held on 15th June, 2024 but a typo errors were observed in the said Minutes of meeting. So, in the said minutes, EC condition no. 5 in Annexure – A of agenda item no. (1), (2), & (3) in the place of "sand mining limited to 1 meter (one meter) depth by semi-mechanised method (without using any heavy machine), preferably by manual excavation" may be read as "the sand mining limited to 1 meter (one meter) depth only by manual excavation". The minutes of the said SEAC meeting was confirmed by the Committee.

3. **Consideration of Proposals**: The SEAC considered the proposals received as per the agenda adopted for the 42nd meeting (42/2024) vide Agenda ID No. – EC/AGENDA/SEAC/106417/7/2024, dated- 10.07.2024. The key points of the deliberations held were as follows.

4. With regard to the proposals submitted for the Real-estate / apartment / Residential building projects, industry, Sand Mining project, etc. and various issues concerning the green belt area/greenery, public health, and status of Waste Management, etc. were thoroughly discussed and scrutinized.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Expdt.-29.05.2027 GOVT OF BIHAR

local government schools and Anganwadi Kendra. A display board of the CER activities must be fixed for the information to the public. The Project Proponent has to intimate the concerned District Magistrate and the concerned district level officers of the concerned departments for record and information, with copy marked the Bihar State Pollution Control Board (BSPCB), Patna.

3. Under the Corporate Environment Responsibilities the modalities of all expenditure on skill development programme need to be done in consultation with and guidance of Bihar Skill Devolvement Mission, with intimation to the concerned District Magistrate, State Environment Impact Assessment Authority and Bihar State Pollution Control Board, Patna.
4. Project Proponent has to fix display board on each mining site mentioning thereupon various activities to be done under Environment Management Plan (EMP).
5. The project proponent shall limit the sand mining upto 3 meters (three meters) depth. Mining should be done by semi-mechanised method without using any heavy machine, preferably by manual excavation.
6. The Project Proponent must maintain nearby existing ponds if any.
7. Proper care should to be taken during transportation of sand from the sand mining site by covering the loaded sand. There should be a freeboard of atleast 3 inches from the body level of the vehicle, so that the sand doesn't get spilled over on the road and doesn't affect the air quality as well.
8. Proponent should submit high resolution satellite images with stereoscopic 3D view from the National Remote Sensing Center (NRSC), Hyderabad for any day in the month of June and December of every year, along with the respective half-yearly compliance report in hard and soft copy [as received from the National Remote Sensing Center (NRSC)].

AGENDA ITEM NO. 09

Sand Mining Project on Sone River at Rohtas Sone – 08 Sand Ghat of District – Rohtas, Area – 96.50 Ha., (File No.- SIA/1(a)/2428/2023), Online Proposal No.:- SIA/BR/MIN/476700/2024).

Proponent:- Shivam Coke Private Ltd

Environment Consultant:- M/s Rian Enviro Private Limited

Application along with filled up 'Form - I 'and Pre-feasibility report in the prescribed format was submitted to SEIAA, Bihar on 05th June, 2023 for obtaining Terms of Reference

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

(ToR). SEIAA, Bihar issued System Generated ToR Vide SIA/1(a)/2428/2023, dated 06.06.2023 and public hearing for the proposed project was conducted by Bihar State Pollution Control Board on 15.03.2024. Online Final EIA report was submitted by Project Proponent in the prescribed format to SEIAA, Bihar on 21.06.2024 for obtaining Environmental Clarence (EC).

The sand ghat under the proposal has been mentioned in the District Survey Report (DSR) approved by the State Environment Impact Assessment Authority (SEIAA), Bihar vide letter no. 269, dated 23.05.2022.

The Project Proponent along with their environmental consultant M/s Rian Enviro Private Limited, made a presentation on the key parameters and salient features of the project. Based on the discussion, the Committee found their presentation and proposal satisfactory and acceptable, hence the Committee decided to recommend the proposed proposal for grant of Environmental Clearance subject to the following additional conditions along with standard conditions mentioned in Annexure **"A"**.

1. The proposed plantation consisting of mixture of indigenous and fast growing species of trees must be done and proper care must be taken. Plantation of a minimum of 5 feet tall plants must be done in the 1st year of lease period itself and properly maintained till the validity of Environmental Clearance and preserve the existing trees at the proposed site.
2. The Project Proponent shall execute and conduct measurable CER activities like facilities for drinking water supply, infrastructure creation, solar power, Rain Water Harvesting, Solid Waste Management Facilities, sanitation, essential furniture's for the local government schools and Anganwadi Kendra. A display board of the CER activities must be fixed for the information to the public. The Project Proponent has to intimate the concerned District Magistrate and the concerned district level officers of the concerned departments for record and information, with copy marked the Bihar State Pollution Control Board (BSPCB), Patna.
3. Under the Corporate Environment Responsibilities the modalities of all expenditure on skill development programme need to be done in consultation with and guidance of Bihar Skill Devolvement Mission, with intimation to the concerned District Magistrate, State Environment Impact Assessment Authority and Bihar State Pollution Control Board, Patna.
4. Project Proponent has to fix display board on each mining site mentioning thereupon various activities to be done under Environment Management Plan (EMP).

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883/ Exp.dt.-29.05.2027 GOVT OF BIHAR

5. The project proponent shall limit the sand mining upto 3 meters (three meters) depth. Mining should be done by semi-mechanised method without using any heavy machine, preferably by manual excavation.
6. The Project Proponent must maintain nearby existing ponds if any.
7. Proper care should to be taken during transportation of sand from the sand mining site by covering the loaded sand. There should be a freeboard of atleast 3 inches from the body level of the vehicle, so that the sand doesn't get spilled over on the road and doesn't affect the air quality as well.
8. Proponent should submit high resolution satellite images with stereoscopic 3D view from the National Remote Sensing Center (NRSC), Hyderabad for any day in the month of June and December of every year, along with the respective half-yearly compliance report in hard and soft copy [as received from the National Remote Sensing Center (NRSC)].

AGENDA ITEM NO. 10

Sand Mining Project on Sone River at Rohtas Sone – 03 A Sand Ghat of District – Rohtas, Area – 35.50 Ha., (File No.- SIA/1(a)/2509/2024), Online Proposal No.:- SIA/BR/MIN/486030/2024).

Proponent:- Amendra Thakur

Environment Consultant:- M/s Rian Enviro Private Limited

Application along with filled up 'Form - I 'and Pre-feasibility report in the prescribed format was submitted to SEIAA, Bihar on 04th March, 2024 for obtaining Terms of Reference (ToR). SEIAA, Bihar issued System Generated ToR Vide SIA/1(a)/2509/2024, dated 06.03.2024 and public hearing for the proposed project was conducted by Bihar State Pollution Control Board on 22.06.2024. Online Final EIA report was submitted by Project Proponent in the prescribed format to SEIAA, Bihar on 08.07.2024 for obtaining Environmental Clarence (EC).

The sand ghat under the proposal has been mentioned in the District Survey Report (DSR) approved by the State Environment Impact Assessment Authority (SEIAA), Bihar vide letter no. 269, dated 23.05.2022.

The Project Proponent along with their environmental consultant M/s Rian Enviro Private Limited, made a presentation on the key parameters and salient features of the project. Based on the discussion, the Committee found their presentation and proposal

NOTARY A. K. LAL Distt.-PATNA Reg. No.-18851 Exp.dt.-29.05.2027 GOVT OF BIHAR

205

Annexure – A (Sand Mining Projects – EC) for three meters depth

A. Specific Condition

1. The Project Proponent shall obtain all necessary clearance/ permission from all concerned departments before commencement of mining works.
2. The Environmental Clearance will be valid for mine lease period subject to a ceiling of 5 years.
3. The project proponent before starting any activity /preparation of ground, on the leased area shall demarcate his lease hold by RCC pillars erected at the cost of lease holder after certification of the mining officer. On each pillar Geo-Coordinate and fore bearing/ back bearing shall be written with permanent paint mark as described in the mining plan. All the pillars should remain intact at same geo–coordinate. Establishment/ labeling of Benchmark at each pillars or ground control points.
4. Extraction of sand beyond annual production capacity is not permitted.
5. The Project Proponent should undertake the sand mining limited to 03 meters (three meters) depth by semi-mechanised method (without using any heavy machine), preferably by manual excavation.
6. Extraction will be carried out up to a maximum depth of 01 meter from surface of mineral deposit and not less than one meter from the water level of the River channel whichever is earlier.
7. No mining shall be carried out in the areas prominently used by wild animals (birds and reptiles) for nesting. Restricted working hours-Sand mining operation has to be carried out between 6 am to 7 pm.
8. No mining shall be carried out in 3 meter wide strip from the river bank in a River flood plain and within flowing/live water channel.
9. To maintain the safety and stability of Riverbanks, 3 meter or 10% of the width of the River whichever is more will be left intact as "No Mining Zone".
10. No stream shall be diverted for the purpose of sand mining. No natural water course and / or water reservoirs shall be obstructed due to mining operations.

NOTARY A. K. LAL Distt.-PATNA Reg No.-18833 Exp.dt.-29.05.2017 GOVT OF BIHAR

11. The pollution due to transportation load on the environment will be effectively controlled & water sprinkling will also be done regularly. Vehicles with PUCC only will be allowed to ply. The mineral transportation shall be carried out through covered vehicles / trucks only and the vehicle shall not be overloaded. Project should obtain 'PUC' certificate for all the vehicles from authorized pollution testing centre.

12. The stacking area of mined-out sand which shall be situated near the mining site within a fenced area from all sides to avoid being spread in the nearby areas by high winds and the height of stacking should not exceed 2 meter. Transportation shall be confined to day time only that is from sunrise to sunset, to avoid inconvenience to local population in anyway.

13. Rubbish burial shall not be done in the Rivers.

14. Adequate steps shall be taken to check soil erosion and control of debris flow etc. by constructing engineering structures.

15. Mining activity shall not be done for mine lease where mining can cause danger to site of flood protection works, places of cultural, religious, historical, and archaeological importance.

16. The approach road from loading point upto main road shall be properly developed with proper width and geometry required for safe movement of traffic by lease holder at his own cost.

17. Main haulage road in the mine shall be provided with permanent water sprinklers and other roads shall be regularly wetted with water tankers fitted with sprinklers.

18. Transportation of the Minerals by road passing through the village shall not be allowed. A 'bypass' road should be constructed (say, leaving a gap of at least 200 meters) for the purpose of transportation of the minerals so that the impact of sound, dust and accidents could be mitigated. The Project Proponent shall bear the cost towards the widening and strengthening of existing public road-network in case the same is proposed to be used for the Project. No road movement should be allowed on existing village road network without appropriately increasing the carrying capacity of such roads.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

19. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

20. Project Proponent shall appoint a Monitoring committee to monitor the replenishment study, traffic management, levels of production, river Bank erosion and maintenance of Road etc.

21. Project Proponent shall submit the annual replenishment report certified by an authorized agency. In case the replenishment is lower than the approved rate of production, then the mining activity / production levels shall be decreased / stopped accordingly till the replenishment is completed.

22. Regular monitoring of the flow rate of the springs and seasonal stream flowing in and around the mine lease shall be carried out and records maintained. Regular monitoring of water quality upstream and downstream of water bodies shall be carried out and record of monitoring data should be maintained and submitted to the SEIAA, Bihar, Regional office, Ranchi, Central Ground water Authority, Regional Director, Central Ground water Board, State Pollution Control Board and Central Pollution Control Board.

23. The project proponent shall abide by the Hon'ble Supreme Court order dated 08.01.2020 [Writ Petition 9 (s) (Civil No. (s) 114/2014]. Proposal of re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. In compliance to the direction dated 8th January, 2020 of Hon'ble Supreme Court in Writ Petitioner(s) Civil No. 114/2014, Common Cause Vs Union of India &Ors.

24. The individual sand ghat-miner will take appropriate measures to avoid parking of empty / loaded vehicles on nearest highway/ public roads to avoid traffic congestion.

25. Project Proponent will adhere to all applicable provisions of Sustainable Sand Mining Management Guidelines 2016 and Enforcement & Monitoring Guidelines for Sand Mining, 2020 (EMGSM – 2020) issued by Ministry of Environment, Forest and Climate Change, Government of India. In case, any ambiguity or variation between the provision of both these document arises, the provision made in "Enforcement and Monitoring Guidelines for Sand Mining – 2020" shall prevail.

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

208

26. All specific and general conditions which are of public concern at large shall be permanently displayed at a prominent place for public along with address and contact details of authority where the violation of EC conditions can be reported.

27. Project proponent shall erect a signboard on his project site and display information regarding name of the project, No. & date of validity period of EC, annual production capacity of the mineral and other relevant information for the general public.

B. General condition

1. No stacking of sand is allowed on road side of any public road including national highways/ State highways.

2. No labour camp shall be allowed in riverbed.

3. Provision shall be made for housing labour with all necessary infrastructure and facilities (outside mining Block and river-bed) such as fuel for cooking, toilets / mobile toilets, safe drinking water, First-Aid facilities, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

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

5. The Project Proponent shall make arrangements for safe drinking water, first aid facility along With anti-venom injection, in case of emergency for the workers.

6. The project proponent shall maintain register for production and dispatch of mineral and submit periodic return (six-monthly) to the SEIAA, Bihar / Regional Office of Ministry of Environment, Forest and Climate Change, Government of India, Ranchi. If the remaining period of lease is for less than a year, the Project Proponent shall submit a monthly return of production.

7. The EC holder shall keep a correct account of quantity of mineral mined out, dispatched from the mine, mode of transport, registration number of vehicle and mine

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

plan. This should be produced before officers of Central and State Government for inspection whenever asked for.

8. Regular monitoring of ground water table shall be carried out at the upstream and depth of water available in the adjoining dug-well.

9. Monitoring of Ambient Air Quality, Water Quality & Noise Quality shall be carried out as per the Notification, as amended from time to time by the Central Pollution Control Board. Water sprinkling should be increased at places of loading and unloading points & transfer points to reduce all sorts of fugitive emissions.

10. The funds earmarked for environmental protection measures should be kept in a separate bank account and should not be diverted for other purpose. Year-wise expenditure should be reported to the SEIAA, Bihar.

11. The Project proponent shall provide all necessary logistic support to the authorized officer of this authority as and when required. They will facilitate and assist the authority in site inspection and monitoring.

12. All the provisions made and restrictions imposed as envisaged in the Bihar Minor Mineral Rule, shall be complied with; particularly regarding Environment Management and payment of compensation to the affected land owner(s).

13. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Bihar.

14. The Ministry / SEIAA may alter / modify the above conditions or stipulate any additional condition(s) in the interest of environment.

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

16. The instruction contained herein above regarding air and noise pollution and details of mining proposals shall be displayed on Signboard in Hindi for the public information.

17. The SEIAA may impose additional conditions in the interest of Environment& Ecology whenever it becomes necessary to do so.

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883/J Exp.dt.-29.05.2021 GOVT OF BIHAR

210

18. Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

NOTARY
A. K. LAL
Distt.-PATNA
Reg. No.-1883J
Exp.dt.-29.05.2027
GOVT OF BIHAR

2428

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211

State Environment Impact Assessment Authority, Bihar

2nd floor, Beltron Bhawan, Shastri Nagar, Patna - 800 023.

Ref. No. - 445 Patna, Date:- 26/07/2024

Minutes of the 57th meeting of SEIAA, Bihar, constituted on 12-08-2021 convened on 24th& 25thJuly, 2024

A meeting of SEIAA was convened on Wednesday& Thursday, 24.07.2024&25.07.2024. Following members were present in the meeting.

Present: -

1.	Shri Atul Aditya Pandey	-	Chairman.
2.	Shri Arun Prakash	-	Member.
3.	Shri Abhay Kumar, IFS	-	Member Secretary

Agenda Item No.- 01

Sand Mining Project on Gaya Morhar River at Block No. – 32, (Gaya Morhar – 19) Sand Ghat of District- Gaya Area – 25 Ha.. **(File No. - SIA/1(a)/2460/2023). Online Proposal No.:- SIA/BR/MIN/456744/2023).**

- **Proposal discussed in SEAC** on 13th July, 2024 and recommended for Environmental Clearance with Standard conditions along with special conditions.

- **Resolve of the SEIAA:-**

The proposal was referred back to SEAC to review the recommendation for Environmental Clearance granted earlier. After perusal of the proposal, attached copies of the comments on public hearing and the opinion of the District enquiry committee, it is resolved to refer the proposal to the Department of Mines and Geology, Govt. of Bihar for specific comments. It has been mentioned in the report that cases of drowning has been reported in the area and problem of availability of ground water for drinking purpose is incessant.

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Exp.dt.-29.05.2027 GOVT. OF BIHAR

essential furniture's for the local government schools and Anganwadi Kendra. A display board of the CER activities must be fixed for the information to the public. The Project Proponent has to intimate the concerned District Magistrate and the concerned district level officers of the concerned departments for record and information, with copy marked to the Bihar State Pollution Control Board (BSPCB), Patna. **(c)**Under the Corporate Environment Responsibilities the modalities of all expenditure on skill development programme need to be done in consultation with and guidance of Bihar Skill Devolvement Mission, with intimation to the concerned District Magistrate, State Environment Impact Assessment Authority and Bihar State Pollution Control Board, Patna. **(d)**Project Proponent has to fix display board on each mining site mentioning thereupon various activities to be done under Environment Management Plan (EMP). **(e)**The project proponent shall limit the sand mining upto 3 meters (three meters) depth. Mining should be done by semi-mechanised method without using any heavy machine, preferably by manual excavation. **(f)**The Project Proponent must maintain nearby existing ponds if any. **(g)**Proper care should to be taken during transportation of sand from the sand mining site by covering the loaded sand. There should be a freeboard of atleast 3 inches from the body level of the vehicle, so that the sand doesn't get spilled over on the road and doesn't affect the air quality as well. **(h)** Observing the increase in the number of deaths due to lightning in Bihar, the SEIAA resolved to direct the Project Proponent to install lightning arrestor in the area concerned to protect the inhabitants from hazards like lightning. **(i)** The Proponent must submit untreated high resolution satellite images with stereoscopic 3D view from the National Remote Sensing Center (NRSC), Hyderabad for the month of June and December every year, along with the respective half-yearly compliance report in hard and soft copy. The conditions be fulfilled along with standard conditions as imposed by the SEAC (Annexure – A) in its MoM (Ref. No. 431, dated 15.07.2024).

Agenda Item No.- 07

Sand Mining Project on Sone River at Rohtas Sone – 08 Sand Ghat of District – Rohtas, Area – 96.50 Ha., **(File No.- SIA/1(a)/2428/2023), Online Proposal No.:- SIA/BR/MIN/476700/2024).**

- **Proposal discussed in SEAC** on 13th July, 2024 and recommended for Environmental Clearance with Standard conditions along with special conditions.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

213

➢ **Resolve of the SEIAA:-**

In the view of consideration of SEAC and its recommendation to grant of Environmental Clearance (EC), the SEIAA resolved to grant EC with standard conditions in addition to special conditions i.e. **(a)**The proposed plantation consisting of mixture of indigenous and fast growing species of trees must be done and proper care must be taken. Plantation of a minimum of 5 feet tall plants must be done in the 1st year of lease period itself and properly maintained till the validity of Environmental Clearance and preserve the existing trees at the proposed site. **(b)**The Project Proponent shall execute and conduct measurable CER activities like facilities for drinking water supply, infrastructure creation, solar power, Rain Water Harvesting, Solid Waste Management Facilities, sanitation, essential furniture's for the local government schools and Anganwadi Kendra. A display board of the CER activities must be fixed for the information to the public. The Project Proponent has to intimate the concerned District Magistrate and the concerned district level officers of the concerned departments for record and information, with copy marked to the Bihar State Pollution Control Board (BSPCB), Patna. **(c)**Under the Corporate Environment Responsibilities the modalities of all expenditure on skill development programme need to be done in consultation with and guidance of Bihar Skill Devolvement Mission, with intimation to the concerned District Magistrate, State Environment Impact Assessment Authority and Bihar State Pollution Control Board, Patna. **(d)**Project Proponent has to fix display board on each mining site mentioning thereupon various activities to be done under Environment Management Plan (EMP). **(e)**The project proponent shall limit the sand mining upto 3 meters (three meters) depth. Mining should be done by semi-mechanised method without using any heavy machine, preferably by manual excavation. **(f)**The Project Proponent must maintain nearby existing ponds if any. **(g)**Proper care should to be taken during transportation of sand from the sand mining site by covering the loaded sand. There should be a freeboard of atleast 3 inches from the body level of the vehicle, so that the sand doesn't get spilled over on the road and doesn't affect the air quality as well. **(h)** Observing the increase in the number of deaths due to lightning in Bihar, the SEIAA resolved to direct the Project Proponent to install lightning arrestor in the area concerned to protect the inhabitants from hazards like lightning. **(i)** The Proponent must submit untreated high resolution satellite images with stereoscopic 3D view from the National Remote Sensing Center (NRSC), Hyderabad for the month of June and December every year, along with the

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

respective half-yearly compliance report in hard and soft copy. The conditions be fulfilled along with standard conditions as imposed by the SEAC (Annexure – A) in its MoM (Ref. No. 431, dated 15.07.2024).

Agenda Item No.- 08

Sand Mining Project on Sone River at Rohtas Sone – 03 A Sand Ghat of District – Rohtas, Area – 35.50 Ha., **(File No.- SIA/1(a)/2509/2024), Online Proposal No.:- SIA/BR/MIN/486030/2024).**

- **Proposal discussed in SEAC** on 13th July, 2024 and recommended for Environmental Clearance with Standard conditions along with special conditions.

- **Resolve of the SEIAA:-**

In the view of consideration of SEAC and its recommendation to grant of Environmental Clearance (EC), the SEIAA resolved to grant EC with standard conditions in addition to special conditions i.e. **(a)**The proposed plantation consisting of mixture of indigenous and fast growing species of trees must be done and proper care must be taken. Plantation of a minimum of 5 feet tall plants must be done in the 1st year of lease period itself and properly maintained till the validity of Environmental Clearance and preserve the existing trees at the proposed site. **(b)**The Project Proponent shall execute and conduct measurable CER activities like facilities for drinking water supply, infrastructure creation, solar power, Rain Water Harvesting, Solid Waste Management Facilities, sanitation, essential furniture's for the local government schools and Anganwadi Kendra. A display board of the CER activities must be fixed for the information to the public. The Project Proponent has to intimate the concerned District Magistrate and the concerned district level officers of the concerned departments for record and information, with copy marked to the Bihar State Pollution Control Board (BSPCB), Patna. **(c)**Under the Corporate Environment Responsibilities the modalities of all expenditure on skill development programme need to be done in consultation with and guidance of Bihar Skill Devolvement Mission, with intimation to the concerned District Magistrate, State Environment Impact Assessment Authority and Bihar State Pollution Control Board, Patna. **(d)**Project Proponent has to fix display board on each mining site mentioning thereupon various activities to be done under Environment Management Plan (EMP). **(e)**The project proponent shall limit the sand mining upto 3 meters (three meters) depth. Mining should be done by semi-mechanised method

NOTARY A. K. LAL Distt.-PATNA Reg No.- 18833 Exp.dt.-29.05.2027 GOVT OF BIHAR

- **Proposal discussed in SEAC** on 13th July, 2024 and recommended for rejection from Environmental Clearance.

- **Resolve of the SEIAA:-**

In the view of consideration of SEAC and its recommendation for rejection of Environmental Clearance (EC), the SEIAA resolved to reject the proposal for Environmental Clearance as mentioned in the SEAC in its MoM (Ref. No. 431, dated 15.07.2024).

Agenda Item No.- 24

Proposed Metallurgical Project of Magadh Industries Private Limited at District:- Patna, Bihar **(File No.- SIA/3(a)/2530(Amend.)/2024), Online Proposal No.:- SIA/BR/IND1/465384/2024).**

- **Proposal discussed in SEAC** on 13th July, 2024 and recommended for rejection from Environmental Clearance.

- **Resolve of the SEIAA:-**

A letter in this regard has been submitted by Magadh Industries Private Limited on 19.07.2024. After perusal of the letter it was resolved that the Project Proponent will strictly follow the directives given by SEAC. The proponent is directed to submit the action taken report along with the latest site specific photographs. The action must be taken within 45 days from the date on which the resolution is uploaded on the Parivesh Portal.

26/7/24

(Abhay Kumar)
Member Secretary, SEIAA

Sd/-

(Arun Prakash),
Member, SEIAA

26/7/24

(Atul Aditya Pandey)
Chairman, SEIAA

Copy to:-

1. The Chairman, SEAC, Bihar
2. Member Secretary, SEAC, Bihar for information and necessary action

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

सत्यमेव जयते

File No.: SIA/1(a)/2428/2023
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment Authority(SEIAA), BIHAR)
****

Dated **10/08/2024**

To,

Rakesh Kumar
SHIVAM COKE PRIVATE LTD
Bunglow No.-06, At- Chanchani Colony, Near Hirak Point, Dhanbad, Jharkhand,826004
shivamcokejamui13@gmail.com

Subject: Grant of prior Environmental Clearance (EC) to the proposed Mining Project under the provisions of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application submitted to SEIAA, BIHAR vide proposal number SIA/BR/MIN/476700/2024 dated 15/06/2024 for grant of prior Environmental Clearance (EC) to the project under the provision of the EIA Notification 2006-and as amended thereof.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC24B0107BR5305265N
(ii) File No.	SIA/1(a)/2428/2023
(iii) Clearance Type	Fresh EC
(iv) Category	B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vii) Name of Project	Proposed Sand Mining Project of Area 96.50 Ha at Rohtas Sone Ghat 08 on Sone River of District-Rohtas State-Bihar.
(ix) Location of Project (District, State)	ROHTAS, BIHAR
(x) Issuing Authority	SEIAA, BIHAR
(xii) Applicability of General Conditions	No

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

3. In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1 (Part A, B and C)/ EIA & EMP Reports were submitted to the SEIAA, Bihar for an appraisal by the SEAC under the provision of EIA notification 2006 and its subsequent amendments.

4. The above-mentioned proposal has been considered by SEIAA, Bihar in the meeting held on 24/07/2024 & 25/07/2024. The minutes of the meeting and all the project documents are available on PARIVESH portal which

can be accessed from the PARIVESH portal by scanning the QR Code above.

5. Details of the minerals to be mined along with production capacity and the brief on the salient features of the project as submitted by the project proponent in Form 1 (Part A, B and C) in the reports and as presented during SEIAA are annexed to this EC .

6. The SEIAA, Bihar in its meeting held on 24/07/2024 & 25/07/2024, based on information submitted viz: Form 1 (Part A, B and C), EIA/EMP report etc & clarifications provided by the project proponent and after detailed deliberations on all technical aspects and public hearing issues and compliance thereto furnished by the Project Proponent, recommended the proposal for grant of Environment Clearance under the provision of EIA Notification, 2006 and as amended thereof subject to stipulation of Specific and Standard EC conditions as detailed in the point below.

7. The SEIAA, Bihar has examined the proposal in accordance with the provisions contained in the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and based on the recommendations of the SEAC hereby accords Environment Clearance for the instant proposal to M/s. Rakesh Kumar under the provisions of EIA Notification, 2006 and as amended thereof subject to compliance of the Specific and Standard EC conditions as given in Annexure (2)

8. The SEIAA, Bihar reserves the right to stipulate additional conditions, if found necessary.

9. The Environmental Clearance to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

10. The PP is under obligation to implement commitments made in the Environment Management Plan, which forms part of this EC.

11. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

12. This issue with an approval of the Competent Authority.

Annexure 2

Details of the Project

S. No.	Particulars	Details
a.	Details of the Project	Proposed Sand Mining Project of Area 96.50 Ha at Rohtas Sone Ghat 08 on Sone River of District-Rohtas State-Bihar.
b.	Latitude and Longitude of the project site	24.9537491884568,84.25099011692994 24.96684860600852,84.26808871701195
c.	Land Requirement (in Ha) of the project or activity	

Nature of Land involved	Area in Ha
Non-Forest Land (A)	0
Forest Land (B)	0

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

S. No.	Particulars	Details
		Nature of Land involved: Total Land (A+B) — Area in Ha: 96.5
d.	Date of Public Consultation	Public consultation for the project was held on 2024-03-15
e.	Rehabilitation and Resettlement (R&R) involvement	NO
f.	Project Cost (in lacs)	2963.05
g.	EMP Cost (in lacs)	81.45
h.	Employment Details	

Details of Minerals Products & By-products

Name of the Mineral to be mined	Classification of mineral [Major/Minor]	Production capacity in MTPA	Remarks
Ordinary Sand	Minor	3.1266	None

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY, BIHAR

F. No.:- SIA/1(a)/2428/2023

Sub: **Proposed Sand Mining Project on Sone River at "Rohtas Sone-08" Sand Ghat, at Mauza:– Darihat/Majhiawan, Block:– Dehri, District:– Rohtas, State:– Bihar; Area:– 96.50 Ha [Total Production Capacity:- 1737000 cum per Annum] – Environmental Clearance regarding.**

Reference:-

1. MoEF&CC ToR Proposal No. - **SIA/BR/MIN/430619/2023,** MoEF&CC EC Proposal No. - **SIA/BR/MIN/476700/2024** & SEIAA File No.:- **SIA/1(a)/2428/2023**.
2. Scrutiny fee submission dated 05-06-2023.
3. ToR issued date 06-06-2023.
4. Online Final EIA submission dated 15-06-2024.
5. SEAC meeting held on 13.07.2024 (For EC).
6. SEIAA meeting held on 24-07-2024 and 25-07-2024 (For EC).

Sir,

This has reference to your online application for River Sand Mining by M/s **Shivam Coke Pvt. Ltd.** for Mining of **Rohtas Sone – 08** Sand Ghat on Sone River of District:- Rohtas, State:- Bihar. The details of the projects as mentioned in application are as below:-

Sl. No.	Item	Details		
1.	Name of the project	Proposed Sand Mining Project on Sone River at " **Rohtas Sone – 08**" Sand Ghat		
2.	Area of the project	96.50 Ha		
3.	Proposed Production	1737000 cum per Annum		
4.	Depth of Mining	03 Meter		
5.	Name of River	Sone River		
6.	Name of Mineral	Sand		
7.	Location of the Project	Mauza:– Darihat/Majhiawan, Block:– Dehri, District:– Rohtas, State:– Bihar;		
8.	Latitude & Longitude	**Sl. No.**	**Latitudes**	**Longitudes**
		1	24° 57' 59.643" N	84° 16' 5.119" E
		2	24° 57' 13.497" N	84° 15' 23.231" E
		3	24° 57' 26.095" N	84° 15' 3.564" E
		4	24° 57' 38.911" N	84° 15' 16.547" E
		5	24° 57' 52.668" N	84° 15' 26.989" E
		6	24° 57' 54.403" N	84° 15' 31.334" E
		7	24° 57' 51.984" N	84° 15' 36.761" E
		8	24° 57' 55.004" N	84° 15' 46.190" E
		9	24° 58' 0.569" N	84° 15' 58.053" E
		10	24° 58' 0.655" N	84° 16' 2.558" E

NOTARY A. K. LAL Distt.-PATNA Reg. No.-18831 Exp.dt.-29.05.2027 GOVT OF BIHAR

		11	24° 57' 59.643" N	84° 16' 5.119" E
9.	Water Requirement	Domestic Water – 0.97 KLD Dust Suppression –5.0 KLD Green Development – 2.99 KLD Total Water Requirement – 8.96 KLD		
10.	Manpower	97		
11.	Environment Management Plan Cost	**Description**	**Capital Cost (Lakh)**	**Recurring Cost (Lakh)**
		Pollution Control & Dust Suppression	Nil	4.0
		Pollution Monitoring	--	2.0
		Plantation and Salary for one gardener (part time basis)	19.94	1.0
		Haul Road Maintenance Cost	1.25	1.44
		Occupational Health and Safety of the workers	1.0	3.0
		CER Budget (PH Commitment)	59.26	--
		Grand Total	**81.45**	**11.44**
12.	Project Cost of Project Site	Total Project Cost – **₹ 2963.05 Lakhs/-**		

PREMISES OF THE ENVIRONMENTAL CLEARANCE

This Environmental Clearance is being issued on the premises which have been substantiated / described in detail in the format of application along with enclosed affidavits / certificates / undertakings etc. furnished therewith by the project proponent:-

(i) Information provided, descriptions mentioned are complete, true and actual and no relevant fact has been concealed to obtain Environmental Clearance deceitfully by the project proponent.

(ii) River Sand Mining shall not be done in rainy Season (mid June to mid October) of each calendar year.

(iii) The Environmental Clearance holder shall take all possible precautions and safeguards for protection of Environment and control of pollution as well as road safety and mining shall be done in socially responsible manner.

Air, water, Noise pollution and visual impact due to mining operations / extraction / Transportation of mined mineral / over burden etc. shall be kept within prescribed limits in the operational area.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

(iv) Mining shall only be done after obtaining valid mining lease / permit from the competent authorities and operations shall take place only within validity period of lease / permit.
All the provisions made and restrictions imposed as covered in the relevant minor mineral Rule, shall be complied with, particularly regarding EMP.

(v) *Dept. of Mines & Geology, Govt. of Bihar shall keep a strict vigil in the compliance of relevant provisions of applicable Bihar Minerals (Concession, Prevention of Illegal mining, Transportation and Storage) Rule 2019 and its amendment especially scientific execution of mining plan (as approved by they themselves) and report violations if any is found as well as action taken for the same.*

(vi) Project Proponent shall submit (to the SEIAA, Bihar, Regional Office of MoEF&CC at Ranchi, Bihar State Pollution Control Board) six monthly compliance report with evidence of the conditions within a fortnight after the end of every six month till validity period of Environmental Clearance.

(vii) *Environmental Clearance shall be liable to be revoked if furnished information, provided description / Certificates / Affidavits / Undertaking etc. are found false / concocted at any stage of its validity.*

(viii) *This Environmental Clearance is issued without affecting any court order / statutory other institutions as well as relevant other laws enacted by MoEF&CC, GoI, New Delhi.*

(ix) Mining and transportation of mined material from mine site to stock yard shall be done in the day time only to avoid noise pollution in the nearby human habitation area.

(x) No part of the mining area is in a protected or Reserve forest and it also does not fall either within a wildlife protected area or within its eco-sensitive zone.

(xi) Project Proponent shall intimate SEIAA immediately if there is any change in their official address / E-mail / Ph. No / Cell. no etc failing which communication sent to them on old address shall be considered as delivered.

A. Specific Condition

1. The Project Proponent shall obtain all necessary clearance/ permission from all concerned departments before commencement of mining works.

2. **The Environmental Clearance will be valid for mine lease period subject to a ceiling of 5 years.**

NOTARY A. K. LAL Distt.-PATNA Reg. No.-18833 Exp.dt.-29.05.2027 GOVT OF BIHAR

3. The project proponent before starting any activity /preparation of ground, on the leased area shall demarcate his lease hold by RCC pillars erected at the cost of lease holder after certification of the mining officer. On each pillar Geo-Coordinate and fore bearing/ back bearing shall be written with permanent paint mark as described in the mining plan. All the pillars should remain intact at same geo–coordinate. Establishment/ labeling of Benchmark at each pillars or ground control points.

4. Extraction of sand beyond annual production capacity is not permitted.

5. The Project Proponent should undertake the sand mining limited to 03 meter (three meter) depth by semi-mechanised method (without using any heavy machine), preferably by manual excavation.

6. Extraction will be carried out up to a maximum depth of 03 meter from surface of mineral deposit and not less than one meter from the water level of the River channel whichever is earlier.

7. No mining shall be carried out in the areas prominently used by wild animals (birds and reptiles) for nesting. Restricted working hours-Sand mining operation has to be carried out between 6 am to 7 pm.

8. No mining shall be carried out in 3 meter wide strip from the river bank in a River flood plain and within flowing/live water channel.

9. To maintain the safety and stability of Riverbanks, 3 meter or 10% of the width of the River whichever is more will be left intact as "No Mining Zone".

10. No stream shall be diverted for the purpose of sand mining. No natural water course and / or water reservoirs shall be obstructed due to mining operations.

11. The pollution due to transportation load on the environment will be effectively controlled & water sprinkling will also be done regularly. Vehicles with PUCC only will be allowed to ply. The mineral transportation shall be carried out through covered vehicles / trucks only and the vehicle shall not be overloaded. Project should obtain 'PUC' certificate for all the vehicles from authorized pollution testing centre.

12. The stacking area of mined-out sand which shall be situated near the mining site within a fenced area from all sides to avoid being spread in the nearby areas by high winds and the height of stacking should not exceed 2 meter. Transportation shall be confined to day time only that is from sunrise to sunset, to avoid inconvenience to local population in anyway.

13. Rubbish burial shall not be done in the Rivers.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1983/ Exp.dt.-09.05.2027 GOVT OF BIHAR

14. Adequate steps shall be taken to check soil erosion and control of debris flow etc. by constructing engineering structures.

15. Mining activity shall not be done for mine lease where mining can cause danger to site of flood protection works, places of cultural, religious, historical, and archaeological importance.

16. The approach road from loading point upto main road shall be properly developed with proper width and geometry required for safe movement of traffic by lease holder at his own cost.

17. Main haulage road in the mine shall be provided with permanent water sprinklers and other roads shall be regularly wetted with water tankers fitted with sprinklers.

18. Transportation of the Minerals by road passing through the village shall not be allowed. A 'bypass' road should be constructed (say, leaving a gap of at least 200 meters) for the purpose of transportation of the minerals so that the impact of sound, dust and accidents could be mitigated. The Project Proponent shall bear the cost towards the widening and strengthening of existing public road-network in case the same is proposed to be used for the Project. No road movement should be allowed on existing village road network without appropriately increasing the carrying capacity of such roads.

19. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

20. Project Proponent shall appoint a Monitoring committee to monitor the replenishment study, traffic management, levels of production, river Bank erosion and maintenance of Road etc.

21. Project Proponent shall submit the annual replenishment report certified by an authorized agency. In case the replenishment is lower than the approved rate of production, then the mining activity / production levels shall be decreased / stopped accordingly till the replenishment is completed.

22. Regular monitoring of the flow rate of the springs and seasonal stream flowing in and around the mine lease shall be carried out and records maintained. Regular monitoring of water quality upstream and downstream of water bodies shall be carried out and record of monitoring data should be maintained and submitted to the SEIAA, Bihar, Regional office, Ranchi, Central Ground water Authority, Regional Director, Central Ground water Board, State Pollution Control Board and Central Pollution Control Board.

23. The project proponent shall abide by the Hon'ble Supreme Court order dated 08.01.2020 [Writ Petition 9 (s) (Civil No. (s) 114/2014]. Proposal of re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a

NOTARY A. K. LAL Distt.-PATNA Reg. No.-18833 Exp.dt.-29.05.2027 GOVT OF BIHAR

condition which is fit for growth of fodder, flora, fauna etc. In compliance to the direction dated 8th January, 2020 of Hon'ble Supreme Court in Writ Petitioner(s) Civil No. 114/2014, Common Cause Vs Union of India & Ors.

24. The individual sand ghat-miner will take appropriate measures to avoid parking of empty / loaded vehicles on nearest highway/ public roads to avoid traffic congestion.

25. Project Proponent will adhere to all applicable provisions of Sustainable Sand Mining Management Guidelines 2016 and Enforcement & Monitoring Guidelines for Sand Mining, 2020 (EMGSM – 2020) issued by Ministry of Environment, Forest and Climate Change, Government of India. In case, any ambiguity or variation between the provision of both these document arises, the provision made in "Enforcement and Monitoring Guidelines for Sand Mining – 2020" shall prevail.

26. All specific and general conditions which are of public concern at large shall be permanently displayed at a prominent place for public along with address and contact details of authority where the violation of EC conditions can be reported.

27. Project proponent shall erect a signboard on his project site and display information regarding name of the project, No. & date of validity period of EC, annual production capacity of the mineral and other relevant information for the general public.

B. General condition

1. No stacking of sand is allowed on road side of any public road including national highways/ State highways.

2. No labour camp shall be allowed in riverbed.

3. Provision shall be made for housing labour with all necessary infrastructure and facilities (outside mining Block and river-bed) such as fuel for cooking, toilets / mobile toilets, safe drinking water, First-Aid facilities, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

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

5. The Project Proponent shall make arrangements for safe drinking water, first aid facility along With anti-venom injection, in case of emergency for the workers.

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1867 Expire-29.05.2027 GOVT OF BIHAR

6. The project proponent shall maintain register for production and dispatch of mineral and submit periodic return (six-monthly) to the SEIAA, Bihar / Regional Office of Ministry of Environment, Forest and Climate Change, Government of India, Ranchi. If the remaining period of lease is for less than a year, the Project Proponent shall submit a monthly return of production.

7. The EC holder shall keep a correct account of quantity of mineral mined out, dispatched from the mine, mode of transport, registration number of vehicle and mine plan. This should be produced before officers of Central and State Government for inspection whenever asked for.

8. Regular monitoring of ground water table shall be carried out at the upstream and depth of water available in the adjoining dug-well.

9. Monitoring of Ambient Air Quality, Water Quality & Noise Quality shall be carried out as per the Notification, as amended from time to time by the Central Pollution Control Board. Water sprinkling should be increased at places of loading and unloading points & transfer points to reduce all sorts of fugitive emissions.

10. The funds earmarked for environmental protection measures should be kept in a separate bank account and should not be diverted for other purpose. Year-wise expenditure should be reported to the SEIAA, Bihar.

11. The Project proponent shall provide all necessary logistic support to the authorized officer of this authority as and when required. They will facilitate and assist the authority in site inspection and monitoring.

12. All the provisions made and restrictions imposed as envisaged in the Bihar Minor Mineral Rule, shall be complied with; particularly regarding Environment Management and payment of compensation to the affected land owner(s).

13. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Bihar.

14. The Ministry / SEIAA may alter / modify the above conditions or stipulate any additional condition(s) in the interest of environment.

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

16. The instruction contained herein above regarding air and noise pollution and details of mining proposals shall be displayed on Signboard in Hindi for the public information.

NOTARY A. K. LAL Distt.-PATNA Reg No-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

17. The SEIAA may impose additional conditions in the interest of Environment & Ecology whenever it becomes necessary to do so.

18. Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

C. Special Conditions

1. The proposed plantation consisting of mixture of indigenous and fast growing species of trees must be done and proper care must be taken. Plantation of a minimum of 5 feet tall plants must be done in the 1st year of lease period itself and properly maintained till the validity of Environmental Clearance and preserve the existing trees at the proposed site.

2. The Project Proponent shall execute and conduct measurable Corporate Environment Responsibility (CER) activities like facilities for drinking water supply, infrastructure creation, solar power, Rain Water Harvesting, Solid Waste Management Facilities, sanitation, essential furnitures for the local government schools and Anganwadi Kendra. A display board of the CER activities must be fixed for the information to the public. The Project Proponent has to intimate the concerned District Magistrate and the concerned district level officers of the concerned departments for record and information, with copy marked to the Bihar State Pollution Control Board, (BSPCB) Patna.

3. Under the Corporate Environment Responsibilities the modalities of all expenditure on skill development programme need to be done in consultation with and guidance of Bihar Skill Devolvement Mission, with intimation to the concerned District Magistrate, State Environment Impact Assessment Authority and Bihar State Pollution Control Board, Patna.

4. Project Proponent has to fix display board on each mining site mentioning thereupon various activities to be done under Environment Management Plan (EMP).

5. The Project Proponent must maintain existing ponds nearby, if any.

6. Proper care should to be taken during transportation of sand from the sand mining site by covering the loaded sand. There should be freeboard of atleast 03 inches from the body level of the vehicle, so that the sand doesn't get spilled on the road and doesn't affect the air quality as well.

7. The Project Proponent to install lightning arrestor in the area concerned to protect the inhabitants from hazards like lightning.

NOTARY A. K. LAL Distt.-PATNA Reg No.-18659 Exp.dt.-29.05.2027 GOVT OF BIHAR

8. The Proponent must submit untreated high resolution satellite images with stereoscopic 3D view from the National Remote Sensing Centre (NRSC), Hyderabad for the month of June and December every year, along with the respective half-yearly compliance report in hard and soft copy.

Sd/-

(Abhay Kumar)
Member-Secretary
SEIAA, Bihar

Copy, through email, for information and necessary action to :–

1. The Secretary, Environment, Forest and Climate Change Deptt., Govt. of Bihar, Sinchai Bhawan, Patna - 15.
2. The Additional Chief Secretary, Mines and Geology Deptt., Govt. of Bihar, Vikas Bhawan, Patna - 15
3. The Chairman, SEAC, Bihar.
4. The Member Secretary, Bihar State Pollution Control Board, Patna-23.
5. The Director, Mines and Geology Deptt., Govt. Of Bihar, Vikash Bhawan, Patna – 15.
6. MoEF&CC, Integrated Regional Office, Ranchi, 2nd Floor, Headquarter - Jharkhand State Housing Board, Harmu Chowk, Ranchi, Jharkhand - 834002.
7. Guard file.

(Abhay Kumar)
Member Secretary,
SEIAA, Bihar

NOTARY
A. K. LAL
Distt.-PATNA
Reg No.-1883J
Exp.dt.-29.05.2027
GOVT OF BIHAR

Signature Not Verified
Digitally Signed by : Shri Abhay Kumar IFS
Member Secretary, SEIAA
Date: 10/08/2024

बिहार राज्य पर्यावरण समाघात निर्धारण प्राधिकरण,
द्वितीय तल, बेल्ट्रॉन भवन, शास्त्रीनगर, पटना–23

पत्रांक :– 269

पटना, दिनांक :– 23/05/2022

प्रेषक

सदस्य सचिव,
SEIAA, Bihar

सेवा में,

जिलाधिकारी,
रोहतास (सासाराम)।

विषय :– माननीय उच्चतम न्यायालय के सरकार द्वारा दायर सिविल अपील संख्या–3661–3662/2020 बिहार राज्य एवं अन्य बनाम पवन कुमार एवं अन्य मामले में दिनांक–10.11.2021 को पारित आदेश के त्वरित अनुपालन के आलोक में जिला सर्वेक्षण प्रतिवेदन के अनुमोदन के संबंध में ।

महाशय,

निदेशानुसार उपर्युक्त विषयक के संबंध में सूचित करना है कि आपके द्वारा समर्पित **रोहतास (सासाराम)** जिला के बालु खनिज हेतु जिला सर्वेक्षण प्रतिवेदन (DSR) को अनुमोदित कर इसकी एक प्रति संलग्न कर भेजी जा रही है।

अनु0:–यथोक्त।

विश्वासभाजन

23.5.2022

(सदस्य सचिव)
SEIAA, Bihar

Original copy received

29/04

NOTARY
A. K. LAL
Distt.-PATNA
Reg No.-1883J
Exp.dt.-29.05.2027
GOVT OF BIHAR

Translated Copy

State Environment Impact Assessment Authority,

2nd Floor, Beltron Building, Shastri Nagar, Patna-23

Letter no. :- 269 Patna, Date :- 23/05/2022

From,

Member Secretary
SEIAA, Bihar

To,

District Magistrate,
Rohtas (Sasaram).

Subject: - Regarding approval of the District Survey Report in the light of prompt compliance of the order passed on 10.11.2021 in the case of Civil Appeal No. 3661-3662/2020 State of Bihar and others vs. Pawan Kumar and others filed by the Government in Hon'ble Supreme Court.

Sir,

As per the instructions, it is to be informed regarding the above mentioned subject that the District Survey Report (DSR) for sand mineral of Rohtas (Sasaram) district submitted by you is approved and a copy of it is being sent along with the attachment.

Yours faithfully

(Member Secretary)
SEIAA, Bihar

NOTARY
A. K. LAL
Distt.-PATNA
Reg No.-1883J
Exp.dt.-29.05.2027
GOVT OF BIHAR

L

230

समाहरणालय, रोहतास, सासाराम।

(खनन शाखा)

पत्रांकः– 1148 /खनन, सासाराम।

दिनांकः– 28/04 /2022

ई–मेल :– miningrohtas@gmail.com

प्रेषक,

जिला पदाधिकारी,
रोहतास, सासाराम।

सेवा में,

सदस्य सचिव,
State Environment Impact Assessement Authority (SEIAA), Bihar,
2nd Floor, BELTRON Bhawan, Shastri Nagar, Patna, Bihar-800023

विषयः– रोहतास जिला का सर्वेक्षण प्रतिवेदन (DSR) प्रारूप भेजने के संबंध में।

महाशय,

उपर्युक्त विषय के संबंध में सादर कहना है कि माननीय उच्चतम न्यायालय द्वारा पारित आदेश तथा खान एवं भूतत्व विभाग, बिहार, पटना से प्राप्त निदेश के आलोक में गठित अनुमण्डल स्तरीय समिति द्वारा आपत्तियों का निराकरण कर सर्वेक्षण प्रतिवेदन (प्रारूप) तैयार कर अद्योहस्ताक्षरी को समर्पित किया गया। जिसे इस पत्र के साथ संलग्न कर समीक्षा एवं मूल्यांकन हेतु भेजा जा रहा है।

अनुलग्नकः–यथोक्त।

विश्वासभाजन
28/04/22
जिला पदाधिकारी,
रोहतास, सासाराम।

BIHAR
Amit 429
26 APR 2022

NOTARY
A. K. LAL
Distt.-PATNA
Reg No.-1883J
Exp.dt.-29.05.2027
GOVT OF BIHAR

समाहरणालय, रोहतास, सासाराम।

(खनन शाखा)

पत्रांक:– 1162 /खनन, सासाराम।

दिनांक:– 28/04 /2022

ई–मेल :– miningrohtas@gmail.com

पूर्व में तैयार किए गए जिला सर्वेक्षण प्रतिवेदन (DSR) प्रारूप में उपर्युक्त के अनुसार Revised Information के साथ संशोधित (DSR) तैयार की गई है। समिति द्वारा संशोधित जिला सर्वेक्षण प्रतिवेदन (DSR) प्रारूप को समाहर्त्ता, रोहतास को भेजने हेतु निर्णय लिया गया। साथ ही समिति द्वारा खनिज विकास पदाधिकारी, रोहतास, सासाराम को निदेश दिया गया, कि अगली बैठक में संशोधित जिला सर्वेक्षण प्रतिवेदन (DSR) प्रारूप को जिला पदाधिकारी, रोहतास के अवलोकनार्थ भेजी जा सकें।

28/4

अनुमण्डल पदाधिकारी,
सासाराम सदर (अध्यक्ष)

28/4/22

अनुमण्डल पदाधिकारी,
बिक्रमगंज (अध्यक्ष)

29/4/22

अनुमण्डल पदाधिकारी,
डेहरी (अध्यक्ष)

28/04/2022

कार्यपालक अभियंता,
लघु सिंचाई प्रमण्डल,
सासाराम।

28/4/22

कार्यपालक अभियंता,
सोन नहर प्रमण्डल,
बिक्रमगंज।

28.4.22

कार्यपालक अभियंता,
रूपांकन (Design) डिहरी।

28/4/22

रेंज ऑफिसर सासाराम,
पर्यावरण वन एवं जलवायु
परिवर्तन, बिक्रमगंज।

नलिनी मोहन सिंह

वैज्ञानिक, बिहार राज्य
प्रदूषण नियंत्रण पर्षद्।

28/4/22

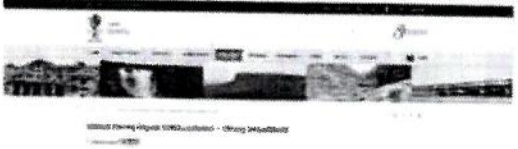
खजिन विकास पदाधिकारी,
जिला खनन कार्यालय,
रोहतास, सासाराम।

28/4/22

खान निरीक्षक,
जिला खनन कार्यालय,
रोहतास, सासाराम।

NOTARY
A. K. LAL
Distt.-PATNA
Reg. No.-1883J
Exp.dt.-29.05.2027
GOVT OF BIHAR

COMPLIANCE TO THE MINUTES HELD ON 25.03.2022 OF THE EIGHTI MEETING OF THE STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC BIHAR VIDE LETTER NO REF NO. 132, PATNA, DATED 07.04.2022

SL.NO.	OBSERVATION	COMPLIANCE
1	Clear and High resolution Color Image of the proposed ghat should be submitted with DSR including the date of photographs and GPS location for identification of potential sand mining area.	We have provided ESRI BASE MAP (Pre Monsoon) having resolution 5 M & FCC USGS LANDSET 8 (Post-Monsoon having resolution 30 M in the DSR. Al Satellite Imageries are furnished as **Annexure XII**
2	The specific gravity of the material also needs to be ascertained by analyzing the sample from a NABL accredited lab.	Sp. Gravity and bulk density of sand is analyzed from NABL lab The report of the same is attached as **Annexure V**
3	The permanent boundary pillars need to be erected after identification of an area of aggradation and deposition outside the bank of the at a safe location for future surveying. The distance between boundary pillar on each side of the bank shall not be more than 100 meters.	Noted, Permanent boundary pillars will be fixed after Approval of Mining Plan.
4	Demand and supply of the Riverbed Material through market survey needs to be carried out. In addition to this future demand for the next 5 years also needs to be considered, to justify the number and area of the sand ghats.	Complied with. Please refer 2.3 Demand and Supply of Sand.
5	Mining area may be so selected as to cover the entire deposition area' Dividing a large area of deposition/aggradation into smaller mining leases should be avoided as it leads to loss of mineral and indirectly promotes illegal mining.	Complied with.
6	The DSRs should be placed in the public domain for at least one month from the date of publication of the advertisement for obtaining comments of the general public. The comments so received shall be placed before the sub-divisional committee for active consideration. Only after such consultation of the DSR should be submitted before the SEAC'	Complied with. Already uploaded in the District Portal. Upload on Dated 24.02.2022.  No complain/Comments received.
7	The committee observed that sand ghats have been proposed on the	No mining lease has been proposed on the confluence/active Channels of the Rivers.

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Exp.dt.-29.05.2027 GOVT. OF BIHAR

SEIAA, Bihar

233

COMPLIANCE TO THE MINUTES HELD ON 25.03.2022 OF THE EIGHTH MEETING OF THE STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), BIHAR VIDE LETTER NO REF NO. 132, PATNA, DATED 07.04.2022

	confluence/meanders/concavities/active channels which require to be excluded from the DSR. No mining area should be proposed at any bank concavities to avoid bank erosion and river stability'	While the few lease which are proposed on the concave side of the river will be strictly mined at the depth 3 m or above ground water level. The replenishment study also proved 100 % replenishment rate of sand. Please refer Table no. 7.10, Table no. 7.11, Table no. 7.12 & Table no. 7.13.
8	The Committee was not shown any such map where 1/4th part of the area has been separated from central 3/4th part of the river as a minable and non-minable zone.	Complied with. Please refer to Plates.
9	In case sand ghat is located near by the forest/wildlife protected area (Bird Sanctuary/Wildlife Sanctuary/ National Park/ Tiger reserve) a certificate regarding distance of such ghat from the boundary of the forest/ protected area as well as the notification status and extent of the Eco sensitive zone issued by the ministry of Environment, forest and climate change, govt of India should be enclosed with the DSR.	No sand mining is proposed within Forest / Wildlife Protected Area, (Bird/Wildlife Sanctuary / National Park/ Tiger Reserve). The ENVIS data showing Forest/Wildlife Protected Area, (Bird/ Wildlife Sanctuary/ National Park / Tiger Reserve) is reconfirmed through the GIS. A certificate is furnished as Annexure X
10	If the proposed mining area has over lapping areas with previously allotted existing lease or already working or worked out mining lease then the same should be clearly depicted in the proposed mining area with different colour. Details about the quantity of Sand extracted from the overlapped area should be furnished duly certified from the concerned Department.	Complied with. Please refer Plate attached.
11	Provide different colour map for proposed and existing sand mining area and also submit State, District Wildlife Sanctuary, Eco-Sensitive Zone boundary in different colour map and KML file to check the suitability of the mining site.	Complied with.
12	Submit a map and KML file regarding aquatic animal found in river.	Complied with.

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Exp.dt.-29.06.2027 GOVT. OF BIHAR

SEIAA, Bihar

COMPLIANCE TO THE MINUTES HELD ON 25.03.2022 OF THE EIGHTH MEETING OF THE STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), BIHAR VIDE LETTER NO REF NO. 132, PATNA, DATED 07.04.2022

13	Calculate the Minable Mineral potential for each sand ghat in the prescribed format (SSMG 2016, as prescribed in page no.25 and 26).	Complied with.
14	It should be for each mine area with respect to sand mining done. [Ghats wise details of quantity of sand extracted and revenue generated (annually) for the past three years]. Only Sand mining revenue should be included in DSR not brick kiln/other minerals revenue.	Complied with. Please refer Table 9.1.
15	All the Annexures as prescribed in the EMGSM 2020 should be duly filled and complete.	All the annexures has been attached as per EMGSM 2020.
16	Old and new proposed Ghats must be mentioned in all the DSR. (List, Map & KML file).	Complied with.
17	District Border line (Bold mark) should be mentioned in the maps/images/KMl file in all DSR.	Complied with.
18	All the primary and secondary data should be supported by proper references and documentary support.	The DSR hence prepared by considering proper references and documentary support.
19	The replenishment study is not conducted by the concerned district. Whenever replenishment study conducted submit the table of estimation of sand resource in pre monsoon and post monsoon period for the sand deposit, with respect to the reduced level	The entire potential zone is demarcated on the basis of replenishment study report in last 4 years. Replenishment study data is attached in Page No 66-67 of DSR.
20	FMISC (Flood Management Improvement Support Center), a R&D unit under WRD (Water Resource Department) at Anishabad, has high resolution satellite maps of river	We have provided ESRI BASE MAP (Pre-Monsoon) having resolution 5 M & FCC-USGS LANDSET 8 (Post-Monsoon) having resolution 30 M in the DSR. These Maps have high

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

235

COMPLIANCE TO THE MINUTES HELD ON 25.03.2022 OF THE EIGHTH MEETING OF THE STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), BIHAR VIDE LETTER NO REF NO. 132, PATNA, DATED 07.04.2022

	systems of Bihar. These comprise of recent as well as of past years. District Authorities may contact the office of FMISC for procurement of geo-referenced maps of the river to support the DSR.	resolution and used in place of FMISC Maps. Furnished as Annexure XIV

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Expdt.-29.05.2027 GOVT OF BIHAR

SEIAA, Bihar

236

Collectorate, Rohtas, Sasaram.

(Mining Branch)

Letter No. – 1148/Khanan, Sasaram, Email: miningrohtas@gmail.com

Date- 28/04/2022

From,

The District Magistrate,
Rohtas, Sasaram.

To,

Member Secretary,
State Environment Impact Assessment Authority (SEIAA), Bihar. 2nd Floor, BELTRON Bhawan, Shastri Nagar, Patna, Bihar-800023

Subject:- Regarding sending the District survey report (DSR) format of Rohtas district.

Sir,

Regarding the above mentioned subject, it is to be respectfully stated that in the light of the order passed by the Hon'ble Supreme Court and the direction received from the Mines and Geology Department, Bihar, the Sub-Divisional Level Committee constituted resolved the objections and prepared the Survey Report (draft) and submitted it to the undersigned. Which is being sent for review and evaluation.
Annexure: As mentioned.

Yours faithfully

District Magistrate,
Rohtas, Sasaram

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

Collectorate, Rohtas, Sasaram.

(Mining Branch)

Ref. No.- 1162/ Mining, Sasaram. Email miningrohtas@gmail.com

Date- 28/04 / /2022

The District Survey Report (DSR) format prepared earlier has been revised with revised information as per above. The committee decided to send the revised District Survey Report (DSR) format to the Collector, Rohtas. Also, the committee directed the Mineral Development Officer, Rohtas, Sasaram to send the revised District Survey Report (DSR) format to the District Magistrate, Rohtas for perusal in the next meeting.

Sub-Divisional Officer Sasaram Sadar, (Chairman)	Sub-Divisional Officer Bikramganj, (Chairman)	Sub-Divisional Officer Dehri, (Chairman)
Executive Engineer Minor Irrigation Division Sasaram	Executive Engineer Sone Nahar Division Bikarmganj	Executive Engineer Design, Dehri
Range Officer, Sasaram Env. Forest & Cliamte Change Change, Bikramganj	Scientist, Bihar State Pollution Control Board Bikarmganj	Mineral Development Officer District Mining Office Rohtas, Sasaram

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Exp. Dt.-29.05.2027 GOVT OF BIHAR

Mining Inspector,
District Mining Office
Rohtas, Sasaram

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233

बिहार सरकार
खान एवं भूतत्व विभाग

सं०सं०– 2–एम0एम0(बा0)–07 / 22–3128 / एम०, पटना, दिनांक– 16/6/2023

प्रेषक,

मो0 नैय्यर इकबाल, भा0प्र0से0
निदेशक, खान।

सेवा में,

सदस्य सचिव,
राज्य पर्यावरण समाघात निर्धारण प्राधिकरण,
बिहार, पटना।

विषयः– राज्यान्तर्गत 04 नदियों (यथा–सोन, किउल, फल्गु एवं चानन) का पुर्नभरण अध्ययन – अंतिम रिपोर्ट के संबंध में।

महाशय,

उपर्युक्त विषयक संबंध में कहना है कि राज्यान्तर्गत 04 नदियों (यथा–सोन, किउल, फल्गु एवं चानन) का पुर्नभरण अध्ययन सेन्ट्रल माईन प्लानिंग एण्ड डिजाईन इंस्टीच्यूट (CMPDI), राँची से कराया गया है। सेन्ट्रल माईन प्लानिंग एण्ड डिजाईन इंस्टीच्यूट (CMPDI), राँची द्वारा समर्पित पुर्नभरण अध्ययन – अंतिम रिपोर्ट की छायाप्रति संलग्न कर अग्रेतर कार्यार्थ प्रेषित किया जा रहा है।

कृपया प्राप्ति स्वीकार किया जाय।

अनुलग्नकः–यथोक्त।

विश्वासभाजन
निदेशक, खान।
6/6/23

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

SEIAA, BIHAR
Amit 284
16 JUN 2023
प्राप्त किया

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Chapter 5: Summary and Conclusion

5.0 Summary and Conclusion

i. In order to determine the sand replenished in Sone river in five districts of Bihar i.e. Aurangabad, Arwal, Bhojpur, Patna and Rohtas, measurement of river bed levels at strategic locations were undertaken both at pre- monsoon and post-monsoon level of season ending 2022. The sand samples were collected for grain size distribution analysis.

ii. The field survey was undertaken at 14 sand mine locations across all the five districts in the month of May-June 2022. The survey provides the records of the RL at identified places that will work as base level for further observation and analysis for determining the amount of sand replenished during the monsoon season. The replenishment rate estimated is dynamic in nature and it varies according to factors like catchment area, annual rainfall pattern, flooding, meandering in the river, construction of dams, geometry of river channel, and various physiographic and morphological parameters in the upstream of the river.

iii. The determination of volume of sand deposited has been worked out based on the difference between pre-monsoon RL (June 2022) and post monsoon RL (December 2022) of the surveyed sites. The average annual rainfall during June to August 2022 in the studied district is below normal as per the Directorate of Economics and Statistics, Department of Planning and Development, Govt. of Bihar.

iv. The summary of outcome of Sand replenishment rate through DGPS survey is hereunder:

- As per DGPS survey, 2022, the estimated annual average sand replenishment rate of Sone river in Bhojpur district is 14,767 cum/ha based on study carried out in surveyed area.
- As per DGPS survey, 2022, the estimated annual average sand replenishment rate of Sone river in Patna district is 16,825 cum/ha based on study carried out in surveyed area.
- As per DGPS survey, 2022, the estimated annual average sand replenishment rate of Sone river in Arwal district is 15,350 cum/ha based on study carried out in surveyed area.
- As per DGPS survey, 2022, the estimated annual average sand replenishment rate of Sone river in Aurangabad district is 15,467 cum/ha based on study carried out in surveyed area.
- As per DGPS survey, 2022, the estimated annual average sand replenishment rate of Sone river in Rohtas district is 17,016 cum/ha based on study carried out in surveyed area.

v. From the above, the highest quantity of sand replenishment rate is in Sone river in Mahuar Mines of Patna district with 18,800 cum/ha and the lowest sand replenishment rate in Sone river in Andhari Mines of Bhojpur district with 13,600 cum/ha.

vi. As per theoretical estimation of bedload through Mayer-Peter's equation, the average replenishment rate in all the five districts of Sone river is coming out to be 17,534 cum/ha. The theoretical estimation on an average is approximately 10 % higher than the average estimated rate obtained through DGPS survey.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1863 Dated-29.05.2027 GOVT OF BIHAR

Bihar Government
Mines and Geology Department

S.No.- 2-MM(B)-07/22-3128/M, Patna, Date- 16/6/2023

From,

Md. Nayyar Iqbal, IAS
Director, Mines.

To,

Member Secretary,
State Environment Impact Assessment Authority,
Bihar, Patna.

Subject:- Regarding the final report of replenishment study of 04 rivers within the state (i.e. Son, Kiul, Falgu and Chanan).

Sir

In relation to the above mentioned subject, it is to be said that replenishment study of 04 rivers (i.e. Son, Kiul, Falgu and Chanan) within the state has been done by Central Mine Planning and Design Institute (CMPDI), Ranchi. A photocopy of the replenishment study final report submitted by Central Mine Planning and Design Institute (CMPDI), Ranchi is being attached and sent for further action.

Please acknowledge receipt.

Attachment: As mentioned.

Yours faithfully

Director, Mines

NOTARY
A. K. LAL
Distt.-PATNA
Reg. No.-1883J
Exp. dt.-29.05.2027
GOVT. OF BIHAR

ITEM NO.1501 COURT NO.5 SECTION XVII

S U P R E M E C O U R T O F I N D I A
RECORD OF PROCEEDINGS

Civil Appeal No(s).3661-3662/2020

THE STATE OF BIHAR & ORS. Appellant(s)

VERSUS

PAWAN KUMAR & ORS. ETC. Respondent(s)

(HEARD BY HON'BLE L.NAGESWARA RAO, HON'BLE SANJIV KHANNA AND HON'BLE B.R.GAVAI, JJ.] IA No.115437/2020-EX-PARTE AD-INTERIM RELIEF and IA No.115442/2020-EXEMPTION FROM FILING C/C OF THE IMPUGNED JUDGMENT and IA No.115441/2020-EXEMPTION FROM FILING O.T. and IA No.115436/2020-PERMISSION TO FILE ADDITIONAL DOCUMENTS/ FACTS/ANNEXURES)

Date : 10-11-2021 These appeals were called on for pronouncement of order today.

For Appellant(s) Mr. Azmat Hayat Amanullah, AOR
Mr. Rishi Kr. Awasthi,Adv.
Ms. Piyush Vatsa,Adv.

For Respondent(s) Mr. Rajiv Shankar Dvivedi, AOR
Mr. Alok Sangwan, Adv.
Mr. Sumit Kumar Sharma, Adv.
Mr. Anurag Kulharia, Adv.
Mr. Sandeep, Adv.
Mr. Krishan Yadav, Adv.
Ms. Diksha Sharma, Adv.
Mr. S.K. Sarkar,Adv.
Mr. Rishabh Jain,Adv.

Mr. P.S.Patwalia,Sr.Adv.
Mr. Vanshdeep Dalmia, AOR
Ms. Natasha Dalmia,Adv.
Ms. Shevali Choudhary,Adv.
Mr. G.S.Patwalia,Adv.
Mr. Harshik Verma,Adv.
Mr. Sadapurma Mukherjee,Adv.

Ms. Aishwarya Bhati, Ld. ASG
Mr. Bimal Roy Jad, Sr. Adv.
Mr. Gurmeet Singh Makker, AOR
Mr. Anish Kr. Gupta, Adv.
Ms. Archana Pathak Dave, Adv.

Mr. Arvind Kumar,Adv.
Mr. Aditya Singh, AOR
Mr. Shubham Singh,Adv.
Mr. Anubhav Singh,Adv.

Mr. Dharmendra Kumar Sinha, AOR
Mr. Ajit Upadhyay,Adv.

Mr. Rohit Kumar Singh, AOR
Ms. Sadapuran Mukherjee,Adv.
Mr. Rahul Kumar Gupta,Adv.
Ms. Chandni Arora,Adv.
Ms. Aditi Shahi,Adv.

Mr. Pankaj Bhagat, AOR
Mr. Sadapurna Mukherjee,Adv.

Mr. Anand Varma, AOR

Hon'ble Mr.Justice B.R. Gavai pronounced the order of the Bench comprising Hon'ble Mr.Justice L.Nageswara Rao, Hon'ble Mr.Justice Sanjiv Khanna and His Lordship.

The directions issued by the Tribunal vide judgment and order dated 14th October 2020, are substituted as follows:

(i) The exercise of preparation of DSR for the purpose of mining in the State of Bihar in all the districts shall be undertaken afresh. The draft DSRs shall be prepared by the sub-divisional committees consisting of the Sub-Divisional Magistrate, Officers from Irrigation Department, State Pollution Control Board or Committee, Forest Department, Geological or mining officer. The same shall be prepared by undertaking site visits and also by using modern technology. The said draft DSRs shall be prepared within a period of

6 weeks from the date of this order. After the draft DSRs are prepared, the District Magistrate of the concerned District shall forward the same for examination and evaluation by the SEAC. The same shall be examined by the SEAC within a period of 6 weeks and its report shall be forwarded to the SEIAA within the aforesaid period of 6 weeks from the receipt of it. The SEIAA will thereafter consider the grant of approval to such DSRs within a period of 6 weeks from the receipt thereon;

(ii) Needless to state that while preparing DSRs and the appraisal thereof by SEAC and SEIAA, it should be ensured that a strict adherence to the procedure and parameters laid down in the policy of January 2020 should be followed;

(iii) Until further orders, we permit the State Government to carry on mining activities through Bihar State Mining Corporation for which it may employ the services of the contractors. However, while doing so, the State Government shall ensure that all environmental concerns are taken care of and no damage is caused to the environment.

List the matter after 20 weeks.

(B. Parvathi)
Court Master

(Anand Prakash)
Court Master

(Signed reportable order is placed on the file)

ITEM NO.1 COURT NO.5 SECTION XVII

S U P R E M E C O U R T O F I N D I A
RECORD OF PROCEEDINGS

Civil Appeal No(s).3661-3662/2020

THE STATE OF BIHAR & ORS. Appellant(s)

VERSUS

PAWAN KUMAR & ORS. Respondent(s)

(IA No. 43428/2022 - APPROPRIATE ORDERS/DIRECTIONS
IA No. 43430/2022 - EXEMPTION FROM FILING O.T.)

Date : 31-03-2022 These matters were called on for hearing today.

CORAM :
HON'BLE MR. JUSTICE L. NAGESWARA RAO
HON'BLE MR. JUSTICE B.R. GAVAI

For Appellant(s) Mr. Atmaram N.S.Nadkarni,Sr.Adv.
Mr. Azmat Hayat Amanullah, AOR
Mr. Rishik K.Awasthi,Adv.
Mr. Piyush Vatsa,Adv.
Mr. Sumeet Raj,Adv.

Ms. Aishwarya Bhati, Ld. ASG
Mr. Gurmeet Singh Makkar, AOR
Mr. Anish Kr. Gupta, Adv.
Ms. Archana Pathak Dave, Adv
Mr. Bimal Roy Jad, Adv
Ms. Suhasini Sen, Adv.

For Respondent(s) Mr. Alok Sangwan, Adv.
Mr. Rajiv Shankar Dvivedi, AOR

Mr. Vanshdeep Dalmia, AOR
Mr. Suchakshu Jain,Adv.

Ms. Aishwarya Bhati,ASG
Mr. Bimal Roy Jad,Sr.Adv.
Mr. Anish Kumar Gupta,Adv.
Ms. Suhasini Sen,Adv.
Ms. Archana Pathk Dave,Adv.
Mr. Gurmeet Singh Makker, AOR

Mr. Arvind Kumar,Adv.
Mr. Aditya Singh, AOR
Mr. Shubham Singh,Adv.

Mr. Santosh Mishra,AOR

Mr. Anand Varma, AOR
Ms. Apoorva Pandey,Adv.

Mr. Dharmendra Kumar Sinha, AOR
Mr. Ajit Upadhyay,Adv.
Mr. Raju S.,Adv.

Mr. Rohit Kumar Singh, AOR
Ms. Sadapuran Mukherjee,Adv.
Mr. Shivkrit Rai,Adv.
Mr. Rahul Kumar Gupta,Adv.
Ms. Chandni Arora,Adv.
Mr. Shubham V.Gawande,Adv.

Mr. Siddhant Buxy, AOR
Mr. Pankaj Bhagat, AOR
Mr. Aakash Sirohi, AOR

Mr. Ajit Kumar Sinha, Sr. Adv
Mr. Sumit Kumar Sharma, Adv.
Ms. Shehla Chaudhary, Adv.
Mr. Md. Anas Chaudhary, Adv
Mr. Ansar Ahmad Chaudhary, AOR

Ms. Rita Jha, AOR
Ms. Nishtha Kumar, AOR
Mr. Ankit Kumar Lal, AOR

UPON hearing the counsel the Court made the following

O R D E R

I.A. No. 43428/2022.

This application is filed on behalf of the State of Bihar seeking extension of time that was stipulated in the Order dated 10.11.2021 for SEIAA to consider granting approval of DSRs.

We are informed by Mr. Atmaram N.S.Nadkarni, learned Additional Solicitor General appearing for the applicant(s) that for around 22 districts, the updated DSRs have already been forwarded to the SEAC after placing them on the public portal. It is

further stated that the remaining DSRs in respect of some districts are already in the public domain and shall be forwarded to the SEAC.

The SEAC is directed to complete its process and send its recommendations to the SEIAA within a period of 3 weeks from today.

Mr. Bimal Roy Jad, learned counsel appearing for the Union of India submitted that SEIAA will be instructed to complete the process of granting approval to the DSRs within a period of three weeks thereafter.

Time granted vide Order dated 10.11.2021 is extended before the next date of hearing.

List in the 1st week of ensuing summer vacations, 2022.

(Geeta Ahuja)
Court Master

(Anand Prakash)
Court Master

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

M1 211 430

ITEM NO.61 COURT NO.12 SECTION XVII

S U P R E M E C O U R T O F I N D I A
RECORD OF PROCEEDINGS

Civil Appeal No(s). 3661-3662/2020

THE STATE OF BIHAR & ORS. Appellant(s)

VERSUS

PAWAN KUMAR & ORS. Respondent(s)

(IA No. 137877/2022 - APPROPRIATE ORDERS/DIRECTIONS AND IA No. 127070/2022 - MODIFICATION OF COURT ORDER)

Date : 26-09-2022 These matters were called on for hearing today.

CORAM :
HON'BLE MR. JUSTICE B.R. GAVAI
HON'BLE MRS. JUSTICE B.V. NAGARATHNA

For Appellant(s)
Mr. Azmat Hayat Amanullah, AOR
Mr. Atmaram N.S. Nadkarni, Sr. Adv.
Mr. Rishi K. Awasthi, Adv.
Mr. Prashant Kumar, Adv.
Ms. Ritu Arora, Adv.
Mr. Piyush Vatsa, Adv.

For Respondent(s)
Mr. Rajiv Shankar Dvivedi, AOR
Mr. Vanshdeep Dalmia, AOR

Ms. Aishwarya Bhati, ASG
Ms. Archana Pathak Dave, Adv
Ms. Suhasini Sen, Adv.
Ms. Ruchi Kohli, Adv.
Mr. Gurmeet Singh Makker, AOR

Mr. Suchakshu Jain, Adv.
Ms. Shreya Chugh, Adv.

Mr. Arvind Kumar, Adv.
Mr. Aditya Singh, AOR

Mr. Santosh Mishra, AOR
Mr. Pankaj Bhagat, AOR
Mr. Aakash Sirohi, AOR
Mr. Ansar Ahmad Chaudhary, AOR
Ms. Rita Jha, AOR
Ms. Nishtha Kumar, AOR
Mr. Ankit Kumar Lal, AOR

Mr. Anand Varma, AOR
Mr. Dharmendra Kumar Sinha, AOR

Ms. Savita Singh, AOR
Mr. K.V. Muthu Kumar, Adv.

Mr. Rohit Kumar Singh, AOR
Mr. Rajat Mittal, AOR
Mr. Siddhant Buxy, AOR
Mr. Ajit Upadhay, Adv.
Mr. Raju Sonkar, Adv.
Mr. Raja Ram Tripathi, Adv.
Mr. Dama Seshadri Naidu, Sr. Adv.
Ms. Kripa Shankar Prasad, Adv.

UPON hearing the counsel the Court made the following

O R D E R

I.A. No. 137877 of 2022

With regards to prayer clause(a), the SEIAA, Bihar is directed to grant Environment Clearances for the fresh sand mining ghats expeditiously and, in any case, not later than three months.

With regards to prayer clause (b), we further extend the time period for three months from today, which was granted by this Court vide order dated 10.11.2021, for carrying out sand mining through BSMCL by appointing contractors.

This application is disposed of accordingly.

I.A. No. 127070 of 2022

Issue notice, returnable within four weeks.

As prayed, list these I.A. Nos. 143002 and 143010 of 2022 alongwith this application.

NOTARY A. K. LAL Regd.-PATNA No.-1883J Exp.dt.-29.05.2027 GOVT. OF BIHAR

(DEEPAK SINGH)
COURT MASTER (SH)

(ANJU KAPOOR)
COURT MASTER (NSH)

ITEM NO.52 COURT NO.9 SECTION XVII

S U P R E M E C O U R T O F I N D I A
RECORD OF PROCEEDINGS

Civil Appeal No(s). 3661-3662/2020

THE STATE OF BIHAR & ORS. Appellant(s)

VERSUS

PAWAN KUMAR & ORS. Respondent(s)

(IA No. 197500/2022 - APPROPRIATE ORDERS/DIRECTIONS)

Date : 15-12-2022 These matters were called on for hearing today.

CORAM :
HON'BLE MR. JUSTICE B.R. GAVAI
HON'BLE MR. JUSTICE VIKRAM NATH

For parties:

Mr. A.N.S. Nadkarni, Sr. Adv.
Mr. Rishi K. Awasthi, Adv.
Mr. Piyush Vatsa, Adv.
Mr. Prashant Kumar, Adv.
Mr. Rishi K. Awasti, Adv.
Ms. Ritu Arora, Adv.

Mr. K.S.Upadhyaya, Sr. Adv.
Mr. Hitesh Kumar Sharma, Adv.
Mr. Akhileshwar Jha, Adv.
Ms. Niharika Dewivedi, Adv.
Mr. Narendra Pal Sharma, Adv.
Mr. Vinod Kumar, Adv.
Mr Narender Kumar, Adv.

Mr. Vanshdeep Dalmia, AOR
Ms. Natasha Dalmia, Adv.

Ms. Aishwarya Bhati, ASG
Ms. Ruchi Kohli, Adv.
Ms. Archana Pathak Dave, Adv.
Ms. Suhsini Sen, Adv.
Mr. Gurmeet Singh Makker, AOR

Mr. Rajiv Shankar Dvivedi, AOR

Mr. Arvind Kumar, Adv.
Mr. Aditya Singh, AOR

Mr. Santosh Mishra, AOR
Ms. Rita Jha, AOR

Ms. Nishtha Kumar, AOR
Mr. Ankit Kumar Lal, AOR
Mr. Anand Varma, AOR
Mr. Dharmendra Kumar Sinha, AOR

Ms. Savita Singh, AOR
Ms. Ruma Pathak, Adv.

Mr. Rohit Kumar Singh, AOR
Mr. Sadhapurana Mukherjee, Adv.
Mr. Rohit Khurana, Adv.

Mr. Rajat Mittal, AOR
Mr. Siddhant Buxy, AOR
Mr. Pankaj Bhagat, AOR
Mr. Aakash Sirohi, AOR
Mr. Ansar Ahmad Chaudhary, AOR

UPON hearing the counsel the Court made the following

O R D E R

IA 197500 OF 2022

This application is allowed in terms of prayer Clause (a).

However, we direct the SEIAA, Ministry of Environment, Forest and Climate Change to consider granting environmental clearances expeditiously in accordance with law.

(DEEPAK SINGH)
COURT MASTER (SH)

(ANJU KAPOOR)
COURT MASTER (NSH)

ITEM NO.45 COURT NO.8 SECTION XVII

S U P R E M E C O U R T O F I N D I A
RECORD OF PROCEEDINGS

Civil Appeal No(s). 3661-3662/2020

THE STATE OF BIHAR & ORS. Appellant(s)

VERSUS

PAWAN KUMAR & ORS. Respondent(s)

(IA No. 143010/2022 - INTERVENTION APPLICATION
IA No. 143002/2022 - MODIFICATION OF COURT ORDER AND IA NOS. 59157 OF 2023)

Date : 28-03-2023 These matters were called on for hearing today.

CORAM :
HON'BLE MR. JUSTICE B.R. GAVAI
HON'BLE MR. JUSTICE VIKRAM NATH

For Appellant(s)

Mr. A.N.S. Nadkarni, Sr. Adv.
Mr. Rishi K. Awasthi, Adv.
Mr. Azmat Hayat Amanullah, AOR
Mr. Piyush Vatsa, Adv.

For Respondent(s)

Mr. Pinaki Misra, Sr. Adv.
Mr. Gopal Sankaranarayanan, Sr. Adv.
Mr. Kripa Shanka Prasad, Adv.
Mr. Pankaj Bhagat, AOR

Mr. Rajiv Shankar Dvivedi, AOR

Mr. Vanshdeep Dalmia, AOR
Mr. Anis Jain, Adv.

Ms. Aishwarya Bhati, A.S.G.
Mr. Gurmeet Singh Makker, AOR
Ms. Archana Pathak Dave, Adv.

Ms. Suhashini Sen, Adv.
Ms. Ruchi Kohli, Adv.

Mr. Arvind Kumar, Adv.
Mr. Aditya Singh, AOR

Mr. Santosh Mishra, AOR
Mr. Ansar Ahmad Chaudhary, AOR

Ms. Rita Jha, AOR
Ms. Nishtha Kumar, AOR
Mr. Ankit Kumar Lal, AOR
Mr. Anand Varma, AOR
Mr. Dharmendra Kumar Sinha, AOR

Mr. Rohit Kumar Singh, AOR
Ms. Sardhapurana Mukherjee, Adv.
Mr. Shubham V. Gawande, Adv.
Mr. Rohit Khurana, Adv.
Ms. Shweta Priyadarshini, Adv.
Ms. Jahanvi Worah, Adv.
Ms. Chandani Arora, Adv.

Mr. Pankaj Bhagat, AOR
Ms. Savita Singh, AOR
Mr. Rajat Mittal, AOR
Mr. Siddhant Buxy, AOR
Mr. Aakash Sirohi, AOR

Ms. Fauzia Shakil, Adv.
Mr. Ujjwal Singh, Adv.
Mr. Madhan Raj, Adv.

UPON hearing the counsel the Court made the following

O R D E R

IA Nos. 59157 of 2023

1. The present application is filed with following prayers:

(a) Consider and allow the Applicant State to carry out sand mining by BSMCL through contractors, as an interim measure till 30.06.2023; and/or

(b) Direct SEIAA to grant the Environmental Clearances already uploaded on the portal prior to the expiry of the aforesaid date i.e. 30.06.2023;

2. In so far as prayer clause (a) is concerned, the application is vehemently opposed by Mr. Pinaki Misra, Mr. Gopal Sankaranarayanan, learned senior counsel and Mr. Vanshdeep Dalmia, Ms. Fauzia Shakil, learned counsel, appearing for the different parties.

3. It is submitted that on the one hand, the State is not finalizing the DSRs and on the other hand in the garb of seeking extension, the mining activities, contrary to law, are permitted.

4. The Court while granting the permission had taken into consideration, the conflict between legal mining and illegal mining. The need of sand for construction and development activities had also taken into consideration.

5. The extension for mining activities is sought on the ground that the SEIAA has not yet granted environmental clearances.

6. Since the environmental clearances have not been granted by the SEIAA, the State cannot be prevented from carrying out the mining activities.

7. We find that it will be more appropriate that the State is permitted to carry out the mining activities and earn revenue for the State rather than illegal mining being permitted, whereby causing loss to the public exchequer also.

8. However, we are inclined to grant the extension by way of last chance. The application is allowed in terms of the prayer clause (a) and (b).

8. However, we clarify that in no circumstances, the SEIAA would be granted further extension for considering the grant of

environmental clearances.

9. We request the learned counsel for the SEIAA to communicate this order to the Chairman of the SEIAA.

10. In case, the direction, as issued, is not followed, we will be constraint to take serious view of the matter.

(DEEPAK SINGH)
COURT MASTER (SH)

(ANJU KAPOOR)
COURT MASTER (NSH)

Final EIA/EMP Report of

Proposed "Sand Mining Project"

of Rohtas Sone 08 Sand Ghat on River Sone at Mauza-Darihat/Majhiawan, Block- Dehri, District- Rohtas, Bihar.

(Area: 96.50 Ha / 238.35 Acre).

(Annual Production: 1737000 cum per annum or 3126600 TPA)
(Monitoring Date: 1st of October 2023 to 31st of December 2023)
(Public Hearing Date: 15th of March 2024)

By

M/S Shivam Coke Pvt. Ltd.
Director- Rajive Ojha
S/o- Baleeshwar Ojha
Gram+Post- Semariya, Thana-Shahpur,
Semariya Palti Ojha, PO- Semaria Patti Ojha
Bhojpur, Bihar-802165
Email- antimprasad@gmail.com

ENVIRONMENT CONSULTANT

Rian Enviro Private Limited

QCI – NABET Certificate No: NABET/EIA/2124/SA 0197

Patna Office: 202 &402 Mangal Market, Sheikhpura, Raja Bazar, Patna, Bihar- 800014

Contact Nos.: +91 9031863631, 0612-2295632
info@rianenviro.in

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

Contents

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp. dt.-29.05.2027 GOVT OF BIHAR

NOTARY A. K. LAL Distt. PATNA Reg No.- 1893/ Exp. 29.05.2025 GOVT OF BIHAR

NOTARA A.K. LALA Distt.-PATNA Reg. No.-18851 Exp.dt.-20.05.2027 GOVT OF BIHAR

List of Tables

NOTARY A. K. LALA Distt.-PATNA Reg. No.-1831 Exp.dt.-19.05.2027 GOVT OF BIHAR

List of Figures

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

List of Annexure

Annexure	Title
Annexure -I	Letter of Intent (LOI)
Annexure -II	Mine Plan Approval Letter
Annexure -III	Public Hearing Proceedings
Annexure -IV	Terms of Reference (ToR)
Annexure -V	Satellite Imaginary Last 3 Years
Annexure -VI	Letter from DMO, Rohtas

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

Annexure -VII	Monitoring reports
Annexure -VIII	2.5 Km Map showing Public Utility
Annexure -IX	Questionnaire
Annexure -X	DSR Letter, Rohtas

NOTARY
A. K. LAL
Distt.-PATNA
Reg No.-1883J
Exp.dt.-29.05.2027
GOVT OF BIHAR

1 INTRODUCTION

1.1 Preamble

The term Environment Impact Assessment (EIA) refers to the anticipation of various impacts a project will have on the environment and the local community. It is a decision-making tool, which guides decision makers in taking appropriate decisions prior to sanctioning clearance. Environmental Impact Assessment (EIA) is a tool used to identify the environmental, social and economic impacts of a project prior to decision-making. It aims to predict environmental impacts at an early stage in project planning and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment and present the predictions and options to decision-makers. By using EIA both environmental and economic benefits can be achieved, such as reduced cost and time of project implementation and design, avoided treatment/clean-up costs and impacts of laws and regulations.

1.2 General Information

The proposed sand mining project at Rohtas Sone -08 Balu Ghat on Sone River, Area: 96.50 Hectares, Mauza- Darihat/Majhiawan, Block- Dehri, District-Rohtas, Bihar. The state government has issued the LOI for a period of five years vide letter no- 969/M, dated 20-04-2023 in favor of **M/S Shivam Coke Pvt. Ltd. (Director- Rajive Ojha).** A copy of LOI is attached as **Annexure-I.**

Mine plan and Progressive Mine Closure Plan: Mining Plan and Progressive Mine Closure Plan of the proposed mine lease area is prepared by United Exploration India Pvt. Ltd having QCI NABET accreditation No. NABET/APA-MPPA/IA/006, with validity up to 11th March, 2024.

The mining plan for the Rohtas Sone -08 Balu Ghat has been approved with production capacity of 1737000 Cum Per Annum or 3126600 TPA from the Department of Mines & Geology, Govt. of Bihar through vide letter No. 2640/M Patna, dated 19/05/2023 under the Bihar Minor Minerals Concession Rules 2019. Copy of approval Letter of Mining Plan and Approved Mine Plan & Progressive Mine Closure Plan has attached as **Annexure II.**

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt. 19.05.2027 GOVT OF BIHAR

Environment Consultant: The lessee has hired an Environment Consultant Rian Enviro Private Limited, H/O- 202 & 402, Mangal Market, Raza Bazar, Sheikhpura, Patna, Pin code: 800014 for preparation of Environment Impact Assessment Report for obtaining Environment Clearance from SEIAA, Bihar.

ToR Letter: It is in this context, hard copy of Form-I and Pre-Feasibility Report has been submitted to SEIAA, Bihar on 25.05.2023 requesting for issue of "Terms of Reference" (ToR). The ToR Letter has been issued on date 06.06.2023 by SEIAA, (File No. SIA/1(a)/2428/2023). Validity of TOR is for period of three years.

Baseline data collection: The baseline data was collected in Post-monsoon season form 1st of October 2023 to 31st of December 2023.

Public hearing: PH was conducted on 15th March, 2024, venue Block- Auditorium Dehri, District- Rohtas, Bihar.

1.3 Identification of Project and Project Proponent

1.3.1 Identification of Project

Mining of Minor mineral (Sand) from the river Sone by M/S Shivam Coke Pvt. Ltd. (Director- Rajive Ojha) having an area of 96.50 ha with production capacity of 1737000 Cum Per Annum or 3126600 TPA. The mine is situated in the Mauza- Darihat/Majhiawan, Block- Dehri, District- Rohtas, Bihar. The mine lease area falls in the survey of India Toposheet no. G45S1, G45S5, G45M4, G45M8.

1.3.2 Identification of Project Proponent

The applicant details are given below: -

NOTARY A. K. LAL Distt.-PATNA Reg No:-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

Table 1-1: Applicant Details

Sl No.	Name of the Mine lease area	Applicant
1	Rohtas Sone–08 Sand Ghat on River Sone Area 96.50 hectare	M/S Shivam Coke Pvt. Ltd. Director- Rajive Ojha S/o- Baleeshwar Ojha Gram+Post- Semariya, Thana-Shahpur, Semariya Palti Ojha, PO- Semaria Patti Ojha

		Bhojpur, Bihar-802165

1.4 Environmental Clearance

The Proposed Sand Mining Project of Rohtas Sone – 08 Sand Ghat on Sone River, Area: 96.50 Hectares, Khata No.- 783, 109, Khasra No.- 3659(P), 695 Mauza- Darihat/Majhiawan, Block- Dehri, District- Rohtas, Bihar falls in Category "B1", 1(a), due to Mining lease area is more than 5.0 Ha as per honorable NGT order and as per OM dated 12.12.2018. Project will be assessed by SEIAA, Bihar. Lessee will have to take Environmental Clearance from SEIAA, Bihar as per EIA notification September, 2006 amended in December 2009 and April 2011 and amendment thereof to start the mining operation.

NOTARY
A. K. LAL
Distt.-PATNA
Reg No.-1883J
Exp.dt.-29.05.2027
GOVT OF BIHAR

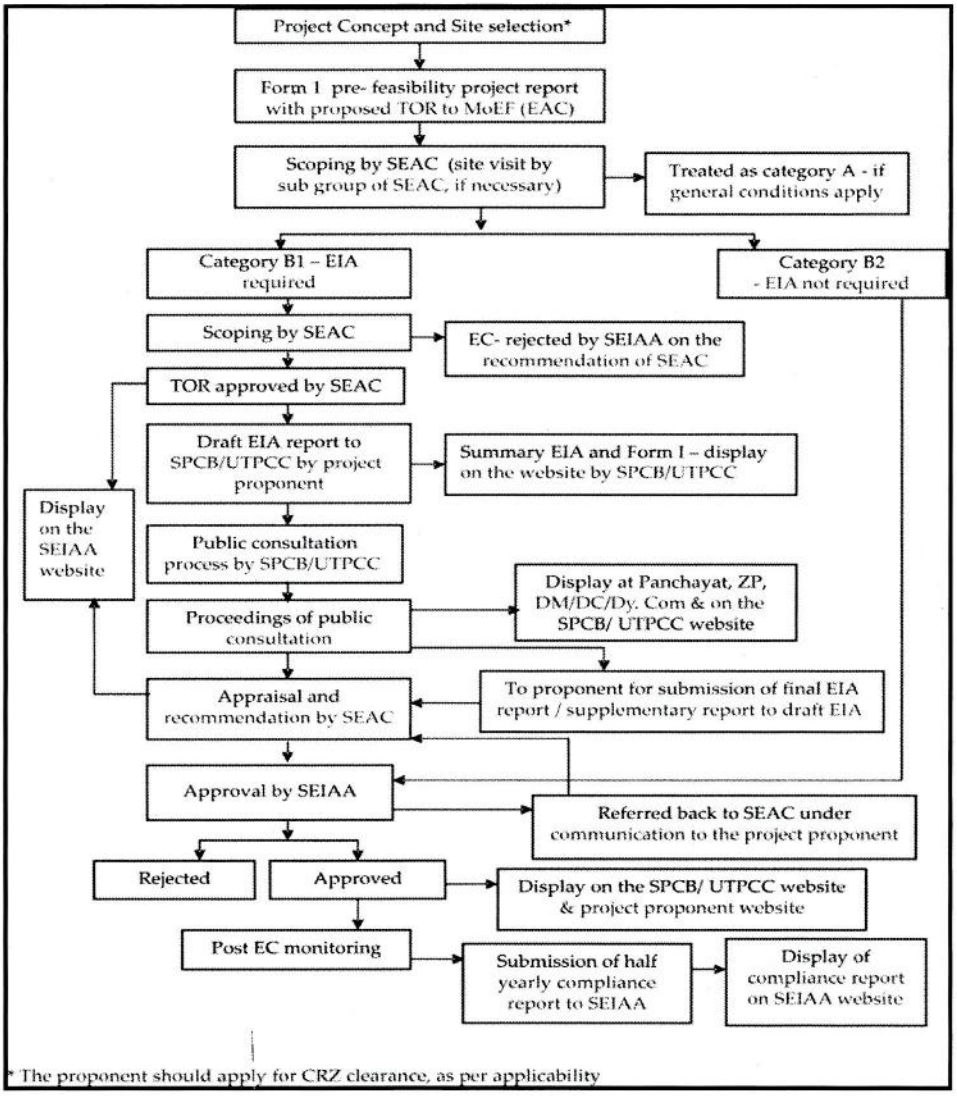

Figure 1-1: Environmental Clearance Process

1.5 Brief Description of Nature, Size, Location of the Project

Table 1-2: Description of the Project

S. No.	Particulars	Details
1.	Nature and Size of the Project	Mining of Sand Minor Minerals with Production Capacity of 1737000 Cum Per Annum or 3126600 (M.L. Area- 96.50 ha).
2.	Location	
	Plot/Survey/Khasra No.	River Name: Sone; Khata no: 783, 109; Khasra no: 3659(P), 695; Name of the Ghat: Rohtas Ghat-08; Area (Ha.): 96.50
	Village	Mauza- Darihat/Majhiawan
	Block	Block- Dehri

<table>
<tr><td></td><td>District</td><td>Rohtas</td></tr>
<tr><td></td><td>State</td><td>Bihar</td></tr>
<tr><td>3.</td><td>Geographical Coordinates Latitude and Longitude of</td><td>Rohtas Sone 08 Sand Ghat: -
<table>
<tr><th colspan="3">Coordinates of the Lease Boundary</th></tr>
<tr><th>Sl. no.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>1</td><td>24° 57' 59.643" N</td><td>84° 16' 5.119" E</td></tr>
<tr><td>2</td><td>24° 57' 13.497" N</td><td>84° 15' 23.231" E</td></tr>
<tr><td>3</td><td>24° 57' 26.095" N</td><td>84° 15' 3.564" E</td></tr>
<tr><td>4</td><td>24° 57' 38.911" N</td><td>84° 15' 16.547" E</td></tr>
<tr><td>5</td><td>24° 57' 52.668" N</td><td>84° 15' 26.989" E</td></tr>
<tr><td>6</td><td>24° 57' 54.403" N</td><td>84° 15' 31.334" E</td></tr>
<tr><td>7</td><td>24° 57' 51.948" N</td><td>84° 15' 36.761" E</td></tr>
<tr><td>8</td><td>24° 57' 55.004" N</td><td>84° 15' 46.190" E</td></tr>
<tr><td>9</td><td>24° 58' 0.569" N</td><td>84° 15' 58.053" E</td></tr>
<tr><td>10</td><td>24° 58' 0.655" N</td><td>84° 16' 2.558" E</td></tr>
<tr><td>11</td><td>24° 57' 59.643" N</td><td>84° 16' 5.119" E</td></tr>
</table></td></tr>
<tr><td>4.</td><td>Toposheet (OSM) No.</td><td>G45S1, G45S5, G45M4, G45M8.</td></tr>
<tr><td>5.</td><td colspan="2">Lease Area Details</td></tr>
<tr><td></td><td>Lease Area</td><td>96.50 Ha.</td></tr>
<tr><td></td><td>Type of Land</td><td>River bed of Sone</td></tr>
<tr><td></td><td>Topography</td><td>Undulated (Riverbed)</td></tr>
<tr><td></td><td>Site Elevation Range</td><td>115.3 m to 115.1 m</td></tr>
<tr><td>6.</td><td>Cost Details</td><td></td></tr>
<tr><td></td><td>Cost of the project</td><td>Rs. 2963.05 lakhs. (Including Auction Cost)</td></tr>
<tr><td></td><td>Cost for EMP</td><td>22.19 Lakh (Capital Cost) & 11.44 Lakhs (Recurring Cost)</td></tr>
<tr><td>7.</td><td colspan="2">Environmental Settings of the area</td></tr>
<tr><td></td><td>Ecological Sensitive Areas (National Park, Wild Life Sanctuary, Biosphere Reserve, Reserve/ Protected Forest etc.) within 10</td><td>There is no any Ecological Sensitive Areas (National Park, Wild Life Sanctuary, Biosphere Reserve, Reserve/ Protected Forest etc.) within 10 Km radius.</td></tr>
</table>

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

	Km radius	
	Nearest Town/ Major City with population	Dehri, Approx. 8.34 km towards SW
	Nearest Railway Station	Dehri on Son Railway Station, approx. 8.93 Km towards SW.
	Nearest National/State Highway	SH-15, Approx. 2.57 Km towards NW.
	Nearest Airport	Gaya International Airport, approx. 73.76 Km towards ESE.
	Nearest Post Office	Darihat, Post Office, Approx. 2.44 Km towards NW direction.
	Medical Facilities	Govt. Hospital, Darihat, Approx. 2.53 Km towards WNW direction. Adisenal Primary Hospital, Approx. 4.21 Km towards SW direction.
	Education Facilities	Prathmik School Arjun Bigha, Darihat, Approx. 1.03 Km towards WNW direction. Ashok Kumar Jain High School, Darihat, Approx. 2.58 Km towards WNW direction.
	Archaeological sites	There is no Archaeological sites within 10 km radius from project site.
	Seismic Zone	Zone III (IS 1893: 2002)
	Water Body	Sone River (Riverbed)

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

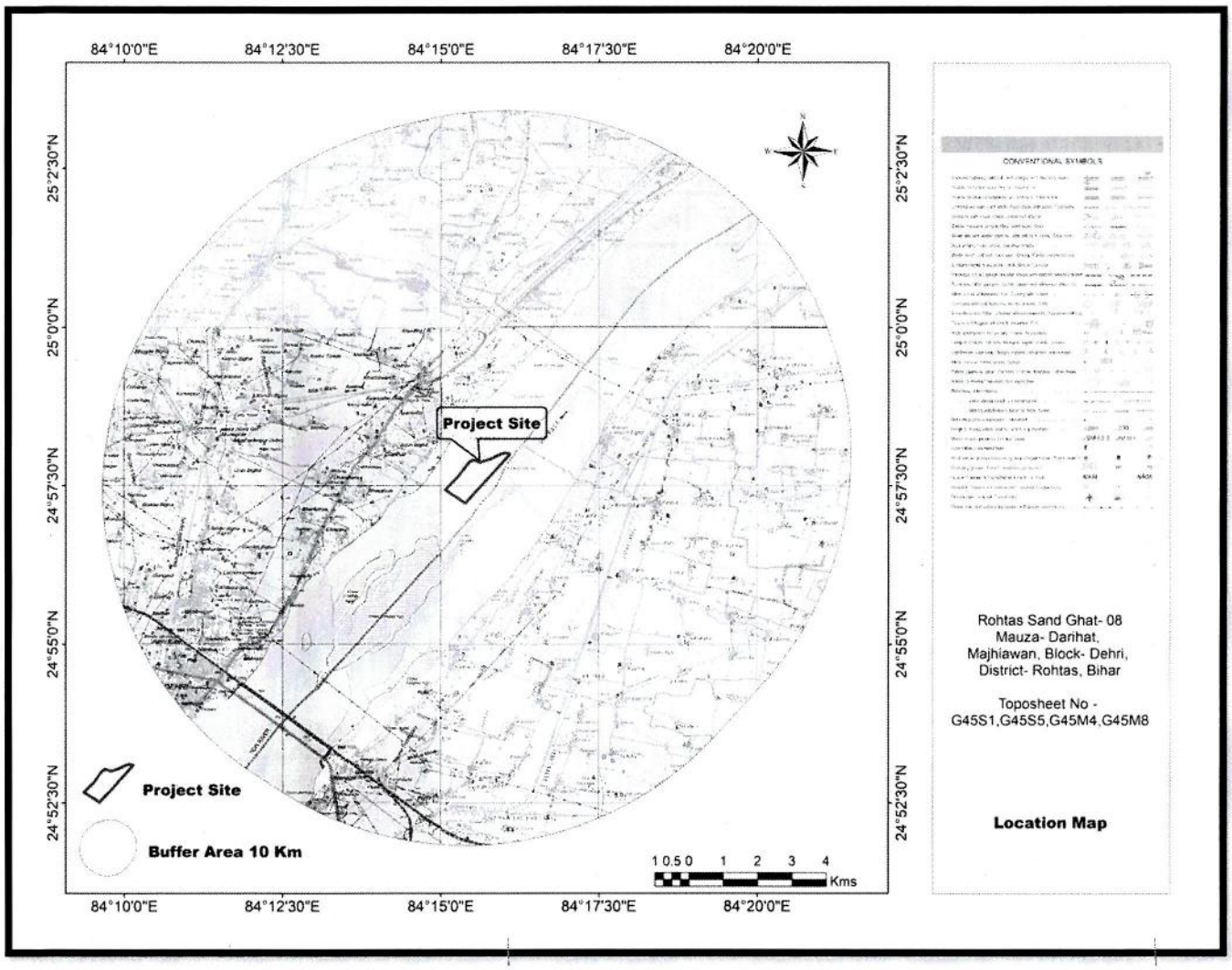

Figure 1-2: Toposheet Map of Rohtas Sone 08

NOTARY
A. K. LAL
Distt.-PATNA
Reg No.-1883J
Exp.dt.-29.05.2027
GOVT OF BIHAR

1.6 Scope of Study

The scope of the study includes a detailed characterization of the environment in an area of 10 Km radius of the Mine Lease Area for various environmental parameters like Ambient Air, Water, Noise, and Land, Biological and Socio-economic aspects.

1.7 Preparation of EIA

The EIA includes the following details:

1) Study of the reports like Geological report, Pre-Feasibility Report (PFR) or mining plan made available by the client.
2) Present Environmental Setting
3) Identification, prediction and evaluation of Anticipated Environmental Impact due to the proposed mine and related facilities.

The environmental impacts would be anticipated in core and buffer zone on:

- Topography and drainage,
- Climate,
- Water quality (Surface/Ground),
- Hydro-geological Regime,
- Air quality,
- Noise Levels,
- Soil Quality,
- Flora and Fauna,
- Traffic density survey,
- Land-Use,
- Socio-Economic Conditions,
- Habitat,
- Health, culture, human environment including public health, occupational health and safety
- Sensitive Places/Historical Monuments.

This EIA Report is prepared in accordance with has been divided into twelve chapters (in addition to Executive Summary) as briefed hereunder:

Chapter 1 – Introduction

The chapter provides description of project background, site and surroundings, objectives, scope and organization of the study and format of this report as well as Point Wise Term of Reference reply (TOR) Replies.

Chapter 2 – Project Description

This chapter provides information on project and capacity; need for the project; location, size or magnitude of operation; technology and process description; maps showing project layout, component of projects etc.

Chapter 3– Description of the Environment

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

This chapter deals with the methodology and findings of field studies undertaken with respect to ambient air, meteorology, water, soils, noise levels, ecology to define the various existing environmental status in the area of the project. This also deals with the infrastructural development as a part of project and sources of pollution from the proposed mining project.

Chapter 4 – Anticipated Environmental Impacts and Mitigation Measures

In this chapter, the potential impacts of the proposed mining and allied activities, which could cause significant environmental concerns, are identified and discussed. This discussion will form the basis for environmental management activities.

Chapter 5 – Analysis of Alternatives (Technology and Site)

This chapter will include alternatives to determine the best method of achieving the project objectives with minimum environmental impacts or indicates the most environmentally friendly and cost effective options, if any.

Chapter 6 – Environmental Monitoring Program

This chapter will include ascertaining the environmental impacts; state of pollution within the mine lease and in its vicinity; planning for predictive or corrective actions in respect of pollution to keep it within permissible limits.

Chapter 7 – Additional Studies

This chapter will include outcomes of public consultation, risk assessment, social impact assessment, R&R action plan, biodiversity conservation plan, watershed management etc which will be studied in surrounding of the project area.

Chapter 8 – Project Benefits

This chapter deals with improvements in the physical infrastructure, social infrastructure, employment potential and other tangible benefits due to proposed project activity.

Chapter 9: Environmental Cost Benefit Analysis

This chapter includes Project Cost, cost of pollution control facilities and project implementation schedule.

Chapter 10 – Environmental Management Plan

This chapter will include the description of administrative aspects of ensuring that the mitigation measures suggested are implemented and their effectiveness is monitored, after approval of the EIA.

Chapter 11 – Summary & Conclusion

This will constitute the summary of EIA Report.

Chapter 12 – Disclosure of Consultant

This will include the names of the consultants engaged in preparation of EIA and nature of consultancy rendered.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Expdt 29.05.2027 GOVT OF BIHAR

1.8 Laws Applicable to This Project

The Acts, Notifications, Rules and Amendments applicable for setting up a new mining industry or its expansion of an existing mine and for operation of a mine include the following:

- EIA Notification, 2006 under EPA Act, 1986.
- Bihar Sand Mining Policy-2019 as amended and Bihar Minerals (Concession, Prevention of Illegal Mining, Transportation & Storage) Rules, 2019 (as amended in 2021
- The Mines and Mineral (Development and Regulation) Act, 1957.
- The Mines Act, 1952.
- Mines Rules, 1955.
- Mineral Concession Rules, 1960.
- Mineral Conservation and Development Rules, 1968
- The Water (Prevention & Control of Pollution) Acts1974/ Rules1975
- The Air (Prevention & Control of Pollution) Acts 1981/ Rules1982
- The Environment (Protection) Acts1986/Rules 1986
- The Factory Act 1948 (as amended till 1987) & Bihar Factory Rules, 1950
- Contract Labor (Regulation & Abolition) Act 1970 & Its Central Rule 1971
- The Central Motor Vehicle Rules 1989(Under Motor Vehicle Act 1988)
- The Workmen's Compensation Act 1923 as amended up to 2000/ Rule 1924, 1935, 1991 & 1996.
- Enforcement & Monitoring Guidelines for Sand Mining, 2020
- Sustainable Sand Mining Management Guideline, 2016

1.9 Term of Reference (Tor)

The project proposal was submitted to State Level Environment Impact Assessment Authority-Bihar for its appraisal. ToR of proposed Sand mining project has been issued by SEIAA, Bihar vide File no- SIA/1(a)/2428/2023 dated 06-06-2023. The compliance of ToR is described below.

NOTARY
A. K. LAL
Distt.-PATNA
Reg No.-1883J
Exp.dt.-29.05.2027
GOVT OF BIHAR

Table 1-3: Point Wise Compliance for ToR

Sr. No.	TOR	Compliance
1	Year-vise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. lt may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.	This is the new auctioned sand mining Ghat project. The state government has issued the LOI for a period of five years vide letter no- 969/Khanan, Sasaram, dated 20-04-2023 in favor of **M/s Shivam Coke Pvt. Ltd. (Dir: -Rajive Ojha)**. LOI details Attached as **Annexure I** The operation will be started after obtaining environmental clearance.
2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.	This is the new auctioned sand mining Ghat project. The state government has issued the LOI for a period of five years vide letter no- 969/Khanan, Sasaram, dated 20-04-2023 in favor of **M/s Shivam Coke Pvt. Ltd. (Dir.–Rajive Ojha).** Copy of LOI is enclosed as **Annexure No. I**
3	All documents including approved mine plan, EIA and public hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.	The documents including mine plan and Final EIA being submitted are compatible with one another. **Mine Lease area-** Rohtas Son 08 Ghat- 96.50 Ha. **Production Capacity:** 1737000 cum per annum or 3126600 TPA. No mines waste will be generated as whole mined material is saleable. Approx. **14.55 Kg/day** amount of Solid waste will be generated on the project site. The waste will be managed as per the Solid Waste Management Rules 2016. Separate bins will be provided near mine site. Mining Method-Opencast semi-mechanized. **Refer Chapter-2** for all above information's.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

4	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).	All Corner Coordinates of mining lease area superimposed on Map has been incorporated in EIA/EMP Report **Refer Chapter-2, Figure no-2-3** The land-use of the study area with proper demarcated features is enclosed with the report, **Refer Chapter-3, section-3.6**
5	Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.	Land Use pattern & land use map is given in **chapter 3, Refer Chapter-3, section-3.6, Figure No. 3-13**
6	Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.	The proposed land is a dry bed of river. The mining process will be done land use policy of the State & there is no land diversion has been proposed.
7	It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating processes /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 insuring compliances with the EC conditions may also	Yes, the proponent Company has a well laid down Environment Policy. The hierarchical system or administrative order of the company has been given in the EIA report. **Refer Chapter-10, Figure No. 6-1 & Figure 10-1.**

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

	be given. The system of reporting of non-compliances/ violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.	
8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.	Please refer to **Chapter 7** of EIA report
9	The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA.	The 10 km zone from periphery of the lease has been considered as the study area. The Buffer map of the study area is attached with report. No waste will be generated except small amount of municipal solid waste, which will be managed as per law. All the details in the EIA report are for the life of the mine period. **Refer Chapter-2.**
10	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.	Land use pattern of 10 km from the periphery of the lease area has been prepared and incorporated with the report. The study area lies in Sone River. No National parks or WLS is found within 10 km study area, **Refer Chapter-3. Section 3.11.**
11	Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land	There is no overburden generated from this mining activity.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

	use R&R issues, if any, should be given.	
12	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.	There is no forest land within the lease area.
13	Status of forestry clearance for the broken-up area and virgin forestland involved in the Project including deposition of net present value (NPV) and Compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.	No forest land is involved in the lease area, therefore, deposition of net present value (NPV) and compensated Afforestation is not indicated.
14	Implementation status of reorganization of forest rights under the schedule tribes and other traditional forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.	There is no forest land involved in the leased-out area. Hence, this act is not applicable for this project.
15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	No RF/PF is present within the 10 km radius of the lease area. However, the vegetation details of the study area is incorporated with the report, Refer **Chapter-3, section 3.11**
16	A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and	The details Impacts & their mitigation measures are given in **chapter 4** of EIA/EMP Report.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT. OF BIHAR

	any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.	
17	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger / Elephant Reserves / (existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.	There is no any National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsarsite Tiger / Elephant Reserves are present within 10 km study area. Topomap on Survey of India topo sheet has been incorporated in EIA/EMP report. **Refer Chapter-1, Fig- 1-2**
18	A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any Scheduled-I fauna found in the study area, the necessary plan 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	Detailed biological study of core zone and buffer zone within 10 km radius of the periphery of the mine lease for flora fauna, endangered & endemic species has been incorporated in the EIA/EMP report. **Refer Chapter-3, Section-3.11**

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

	of the project cost.	
19	Proximity to areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where to required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. should be secured and furnished to the effect that the proposed mining activities could be considered.	This project is not coming in critically polluted area.
20	Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).	Not applicable
21	R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation &Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues	This is a River Bed Mining Project. There are no inhabited areas in the allotted mine area which lies on the Sone River, therefore no R&R Plan is proposed.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

	relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.	
22	One 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.	Baseline study was carried out for Post- monsoon Season from 1st October 2023 to 31st December 2023. Details are provided in **Chapter-3** of EIA report. The locations of the monitoring stations were decided on the basis of prevailing micro - meteorological conditions (Wind direction & wind speed) of the study area. The wind rose has been given in **chapter III** of EIA/EMP Report. One location has been selected in downwind direction within 500 m from the lease boundary. The location of the monitoring sites has been shown in map. **Refer Chapter- 3 & 4**
23	Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.	Air quality modeling has been carried out for prediction of impact of the project on the air quality of the area. Air Modeling has been carried out for tracking impact of air pollutant due to mining activity as well as Transportation activity. Details of Air modeling is given in **chapter 4 section 4.4**

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

24	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.	The water requirement for the project is **8.96 KLD** out of which **5.0 KLD** for dust suppression and **0.97 KLD** for use for domestic purpose and **2.99 KLD** for plantation which will be taken from nearby villages and supplied by private water tankers. A detailed water balance is being provided in the report. **Refer Chapter-2, Table-2.6**
25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.	Water requirement for the proposed project for drinking use, dust suppression and plantation will be **8.96 KLD** which will be taken from nearby villages and supplied by private water tankers. So, no clearance is required.
26	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	The project does not consume any process water except for drinking, dust suppression & plantation. Plantation is proposed, which will increase the water holding capacity & help in recharging of ground water. No artificial rainwater harvesting is proposed for the present project in lease area.
27	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.	Mining activity will be done on Dry Bed of River so there is no impact on surface water. Mining will be up to 3 m below ground level or above the ground water table whichever comes first. This will not intersect the ground water table.
28	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities	Mining will be up to 3 m below ground level or above the ground water table whichever comes first. This will not intersect the ground water table. Therefore, Hydro geological Report will not require for this project. Please refer to section **10.5 of Chapter 10 of EIA**

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

<table>
<tr><td></td><td>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.</td><td></td></tr>
<tr><td>29</td><td>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.</td><td>The project site lies on Sone river. No diversion is proposed.</td></tr>
<tr><td>30</td><td>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.</td><td>The Elevation of the applied area is 115.3 m to 115.1 m in the stretch. Mining will be up to 3 m below ground level or above the ground water table whichever comes first.</td></tr>
<tr><td>31</td><td>A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and Quantities 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.</td><td>Plantation/afforestation will be done as per program i.e. along the road sides and near civic amenities, as per mine plan. Post plantation, the area will be regularly monitored in every season for evaluation of success rate. List of plants selected for green belt development is incorporated in Chapter-4. Section-4.6 under Table-4-6.

GREENBELT DEVELOPMENT PROGRAM
<table><tr><th>Year</th><th>No. of Trees</th></tr><tr><td>1st Year</td><td>997</td></tr><tr><td>2nd Year</td><td>Maintenance</td></tr><tr><td>3rd Year</td><td>Maintenance</td></tr><tr><td>4rt Year</td><td>Maintenance</td></tr><tr><td>5th Year</td><td>Maintenance</td></tr><tr><td>Total</td><td>997</td></tr></table></td></tr>
<tr><td>32</td><td>Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project</td><td>Trucks/ Tractor will be used for carrying the minerals per day from all the sand ghats. The projection has been done based on the mineral</td></tr>
</table>

NOTARY A.K. LALY Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

	in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.	transportation. The details of traffic analysis are discussed in the report. **Refer Chapter-3 under section 3.13**
33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report	A temporary rest shelter will be provided for the workers near to the site with provisions of water, first aid facility, protective equipment's, etc. Details are given in the EIA/EMP Report. **Refer Chapter-2.**
34	Conceptual post mining land use and Reclamation and Restoration of mined out area (with plans and with adequate number of sections) should be given in the EIA report.	**Refer to Chapter 2**
35	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational health impact mainly is expected due air pollution due to fugitive dust emission because of movement of vehicles. However, appropriate mitigation measures for air pollution control have been given in the report, discussed in **Chapter-10.** Each labour will undergo pre-placement medical examination. Thereafter, periodical heath checkup will be arranged as stated in the report. **Refer Chapter-10, Table-10-2** for budgetary allocation.
36	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	The proposed project being a small scale semi-mechanized mining project, there will be hardly any process related health implication on the population of the nearby villages except fugitive dust emissions due to transportation. Budgetary allocation is given

NOTARY A. KALAM Distt.-PATNA Reg. No.-18899 Exp.dt.-29.05.2027 GOVT. OF BIHAR

		in **Chapter-10.** However, protective equipments will be provided & health camps & awareness programs will be arranged for them. Details are given in **Chapter 10, Table No. 10-3.** **Refer Chapter-10.**
37	Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time to time for implementation.	Socio-economic significance provided to the local community i.e. to the nearby villagers is given in the EIA/EMP Report, Employment to the local 97 people from nearby village on the basis of their skills. Rs. 59.26 Lakhs has been earmarked for the Corporate Environment Responsibility (CER) to meet expenditures for the development of the surrounding villages. **Refer. Chapter-10, Section- 10.8 & Chapter 7 of Table No. 7-3.**
38	Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project	The detailed environmental management plan to mitigate the environmental impacts has been mentioned in of the EIA/EMP Report. **Refer Chapter-10.**
39	Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.	Public Hearing points raised and commitment of the project proponent and Action plan with budgetary is given in chapter 7. **Refer to Chapter 7, Table No. 7-2 & Table No. 7-3**
40	Details of litigation pending against the project, if any, with direction /order passed by any	No litigation is pending against the project.

NOTARY A.K.LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

	Court of Law against the Project should be given.	
41	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.	The capital cost of 22.19 Lakhs for capital and 11.44 Lakhs recurring cost has been earmarked for EMP. **Refer, Chapter-10. Table-10.3**

Name of Ghat	Capital Cost (Lakh)	Recurring Cost (Lakh)
Rohtas Son 08	22.19	11.44

42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report.	A Disaster Management Plan has been given in EIA report. **Refer Chapter-7, Section 7.7**
43	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.	Benefits of the project is discussed in detail under **Chapter -8** As per MoEFCC OM dated 30th Sept., 2020 adequate funds shall be earmarked as per the commitments made by project proponent and requirements to address the issues raised during the public hearing in lieu of corporate Environment Responsibility (CER) and this will be covered under EMP. Detailed action plan for the activities along with the budgetary allocation will be incorporated in this EIA/EMP Report upon completion of public hearing.
44	Besides the above, the below mentioned general points are also to be followed:-	
a)	All documents to be properly referenced with index and continuous page numbering.	All documents is properly referenced with index and continuous page numbering.
b)	Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.	Complied with EIA Report.
c)	Project Proponent shall enclose all the	Details of testing reports of air, water, soil & noise

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1983/1 Exp.dt.-29.05.2027 GOVT OF BIHAR

	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.	have been enclosed in EIA report. **Refer Chapter-3.** Monitoring reports will be submitted along with Final EIA report.
d)	Where the document provided are in language other than English , an English translation should be provided	Executive summary and Hindi Executive Summary is attached as **Annexure VI & VII.**
e)	The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.	The Questionnaire will be submitted along with Final EIA Report.
f)	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.	All 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 are being followed.
g)	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 final EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with then revised documentation.	Agreed & Complied.
h)	As per the circular no. J-l 1011/618/2010-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	The EC points will be complied after grant of EC.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

	from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.	
i)	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.	Surface plan cum geological section, geological is given in **Chapter 2, Figure No. 2-4 & Figure 2-5.**
	Additional Specific Conditions	
1	Submit a report based on cumulative assessment of increase in air pollutants due to increase in traffic load in view of proposed mining activities on all the roads located within aerial distance of 10 km using suitable air model.	Cumulative assessment of increase in air pollutants due to increase in traffic load in view of proposed mining activities on all the roads located within aerial distance of 10 km using suitable air model has been done. **Please refer to chapter 4.**
2	If the proposed mining lease is overlapping with the previously allotted mining lease or already working or worked out mining lease, the same must be clearly shown (on the map). The details about quantity of sand extracted from overlapped area should also be furnished duly certified from the concerned District Mining Officer.	The Mining Ghat is proposed as per the approved DSR.
3	The Satellite imageries (high resolution) of last three years in succession for summer, rainy and winter seasons of each proposed mining lease shall be submitted. A map on appropriate scale be submitted to show extraction paths to be used outside the mining lease boundary to approach major public roads (Rural/District road or State/National Highway).	Google Image of is shown in **Figure No. 2-1 of Chapter 2**. The Satellite imageries of last three years is attached in **Annexure IV.**

NOTARY
A. K. LAL
Distt.-PATNA
Reg No.-1883J
Exp.dt.-29.05.2027
GOVT OF BIHAR

4	Alternative route shall be explored if extraction path is passing through dense population / human settlements.	Map showing extraction path to be used outside the mining lease area to approach major public roads is attached as **Figure 3-29, Chapter 3.**
5	A Cumulative traffic management plan for cluster sand mining proposal must be submitted.	**Please refer to Chapter 3 of section 3.13 & chapter 4 section 4.10**
6	A map of the area falling within 2.5 km radius from boundary of each mining lease showing all man-made public utility features such as bridge/public civil structure (including water intake points), culverts etc. and highways, and a table showing distance of the above mentioned man-made features from the mining lease boundary to facilitate decision making pertaining to relevant rules / Guidelines be submitted.	A map of the area falling within 2.5 km radius from boundary of each mining lease showing all man made public utility features such as bridge/public civil structure (including water intake points), culverts etc. and highways is attached in **Annexure V**
7	A report of the cumulative EIA / EMP study for the cluster sand mining blocks of the proposed mining site.	This is the cluster mine lease. Total cluster area of mine is 538.21 Ha. ***(As per Approved DSR)*** Cluster details is given below:

SL. No.	Name of Ghat	Area (Ha.)
1	Rohtas Son 08 Ghat	96.5
2	Rohtas Son 09 Ghat	98.3
3	Rohtas Son 10 Ghat	98.95
4	Rohtas Son 11 Ghat	96.7
5	Rohtas Son 12 Ghat	89.96
6	Rohtas Son 13 Ghat	57.8
Total		**538.21**

NOTARY
A. K. LAL
Distt.-PATNA
Reg No.-1883J
Exp.dt.-29.05.2027
GOVT OF BIHAR

2 PROJECT DESCRIPTION

2.1 General

This chapter gives broad description of the project, location, type of ore deposit(s), quality of reserve, Mining Methodology, various site utilities and infrastructure, etc. The downstream use of mineral for value addition and its importance is also described.

2.2 Type of the Project

The project is proposed for mining of "Sand" from the allotted mine lease area on River Sone It is an opencast Semi mechanized mining project. **M/S Shivam Coke Pvt. Ltd. (Director-Rajive Ojha)** S/o- Baleshwar Ojha, Gram+Post- Semariya, Thana- Shahpur, Semariya Palti Ojha, PO- Semaria Patti Ojha, Bhojpur, Bihar-802165 is the project proponent who is seeking prior environmental clearance for the proposed project.

The proposed project planning needs "Environmental Clearance" from the MoEF & CC, as per the EIA Notification, 2006. The Proposed Sand Mining Project of Rohtas Sone Ghat 08 on Sone River, Area: 96.50 Hectares is classified under Category B-1 as 1(a) "Mining of minerals" due to Mining lease area is more than 5.0 Ha as per honorable NGT order and as per OM dated 12.12.2018.

2.3 Need for the Project

Sand is used in almost any type of construction activity. It is also the most important input in domestic activity. Further, the material can also be used for nonindustrial purposes. Thus, in current times, where the focus of the governments is on improvement of basic infrastructure like roads, railways, dams and other social infrastructure – both in rural and urban areas, there is a constant need for ensuring regular supply of these minor minerals.

2.4 Description of the Project

The Proposed Sand Mining Project at Rohtas Sone Ghat 08, Khata No.- 783, 109, Khasra No.- 3659(P), 695 Mauza- Darihat/Majhiawan, Block- Dehri, District- Rohtas, Bihar for production capacity of 1737000 Cum Per Annum or 3126600 over an area of 96.50 Hectare or 238.35 Acre.

Table 2-1: Location Details

River Name	Khata No.	Khasra No.	Name of the Ghat	Area(Ha)

Sone	783, 109	3659(P), 695	Rohtas Sone Ghat 08	96.50

2.4.1 Location Details

Table 2-2: Location of the Project

Location	**Rohtas Sone Ghat 08: -** **Coordinates of the Lease Boundary** **Sl. no. / Latitudes / Longitudes** 1 / 24° 57' 59.643" N / 84° 16' 5.119" E 2 / 24° 57' 13.497" N / 84° 15' 23.231" E 3 / 24° 57' 26.095" N / 84° 15' 3.564" E 4 / 24° 57' 38.911" N / 84° 15' 16.547" E 5 / 24° 57' 52.668" N / 84° 15' 26.989" E 6 / 24° 57' 54.403" N / 84° 15' 31.334" E 7 / 24° 57' 51.948" N / 84° 15' 36.761" E 8 / 24° 57' 55.004" N / 84° 15' 46.190" E 9 / 24° 58' 0.569" N / 84° 15' 58.053" E 10 / 24° 58' 0.655" N / 84° 16' 2.558" E 11 / 24° 57' 59.643" N / 84° 16' 5.119" E Rohtas Sone Ghat -08 on Sone River Mauza- Darihat/Majhiawan, Block-Dehri, District-Rohtas, Bihar
Toposheet Number	G45S1, G45S5, G45M4, G45M8.
Nearest Settlements	Darihat, Approx. 1.27 Km towards NW direction. Majhiawan, Approx. 1.87 km towards NW direction.
Nearest Highway	SH-15, Approx. 2.57 Km towards NW.
Nearest Railway Station	Dehri on Son Railway Station, approx. 8.93 Km towards SW
Nearest Airport	Gaya International Airport, approx. 72.63 Km towards ESE.
Nearest River	Sone River

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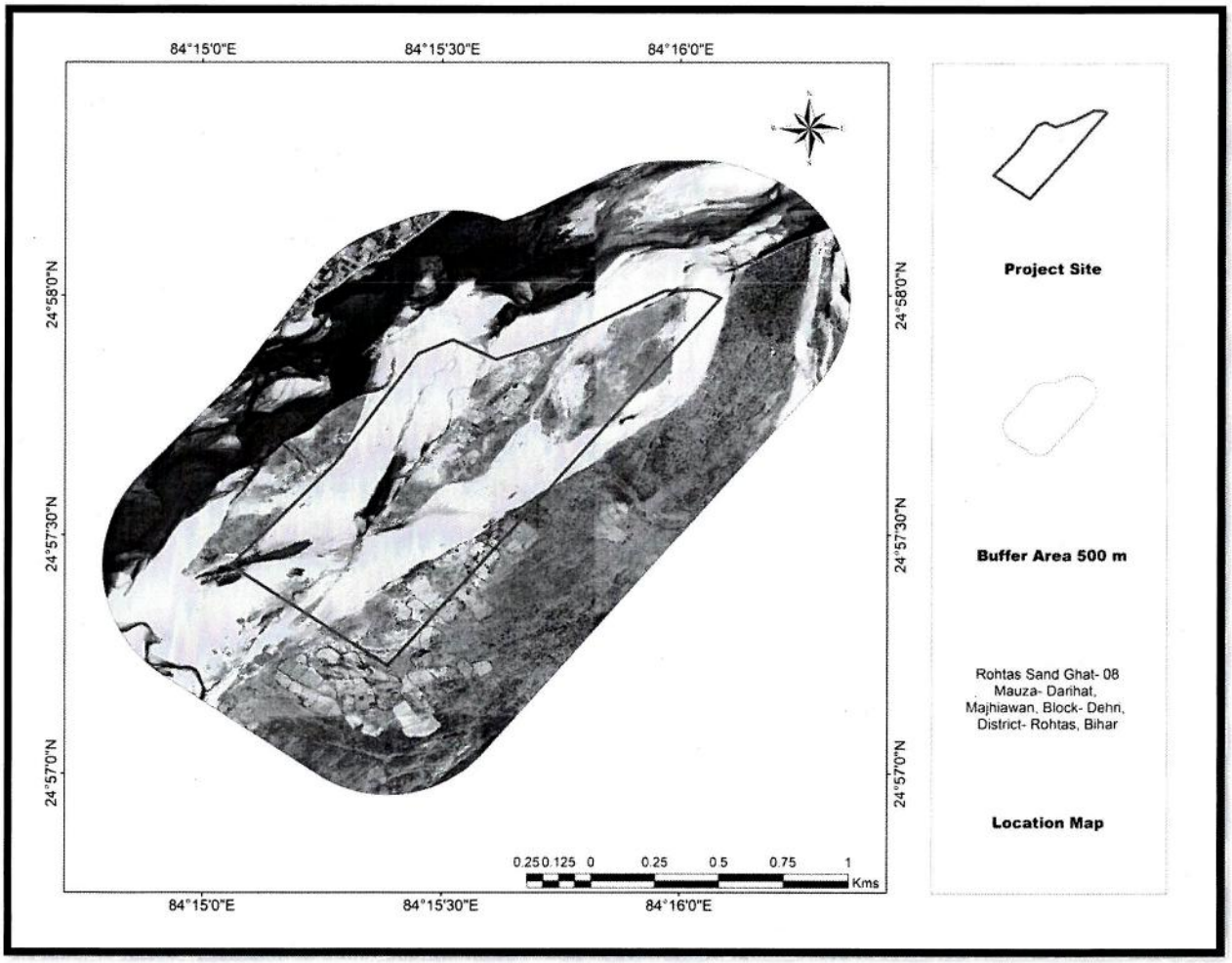

Figure 2-1: 500 m Buffer Google Map

The location map and pillar co-ordinate maps of the project site is given below:

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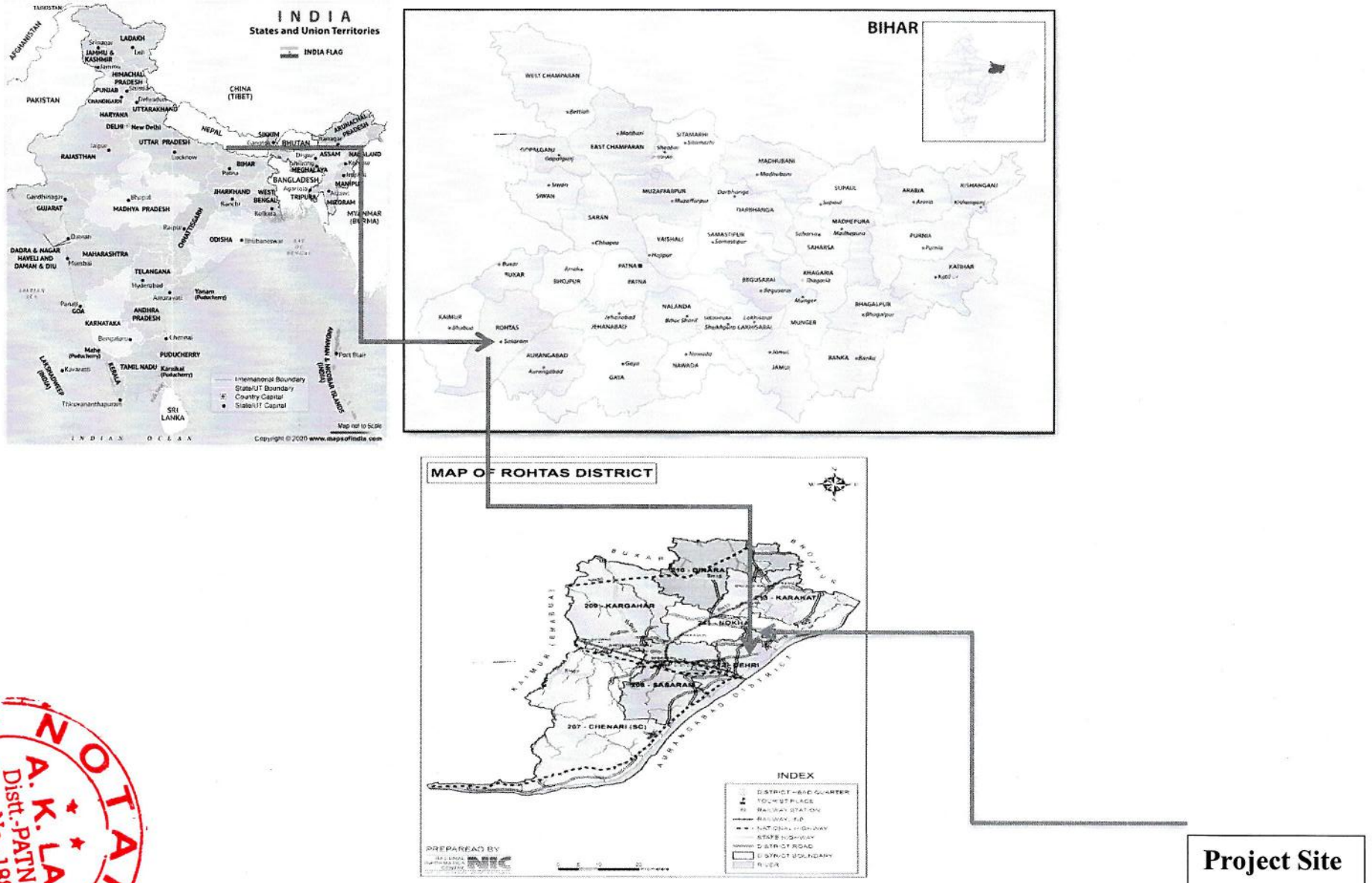

Figure 2-2: Location Map of the Project Site

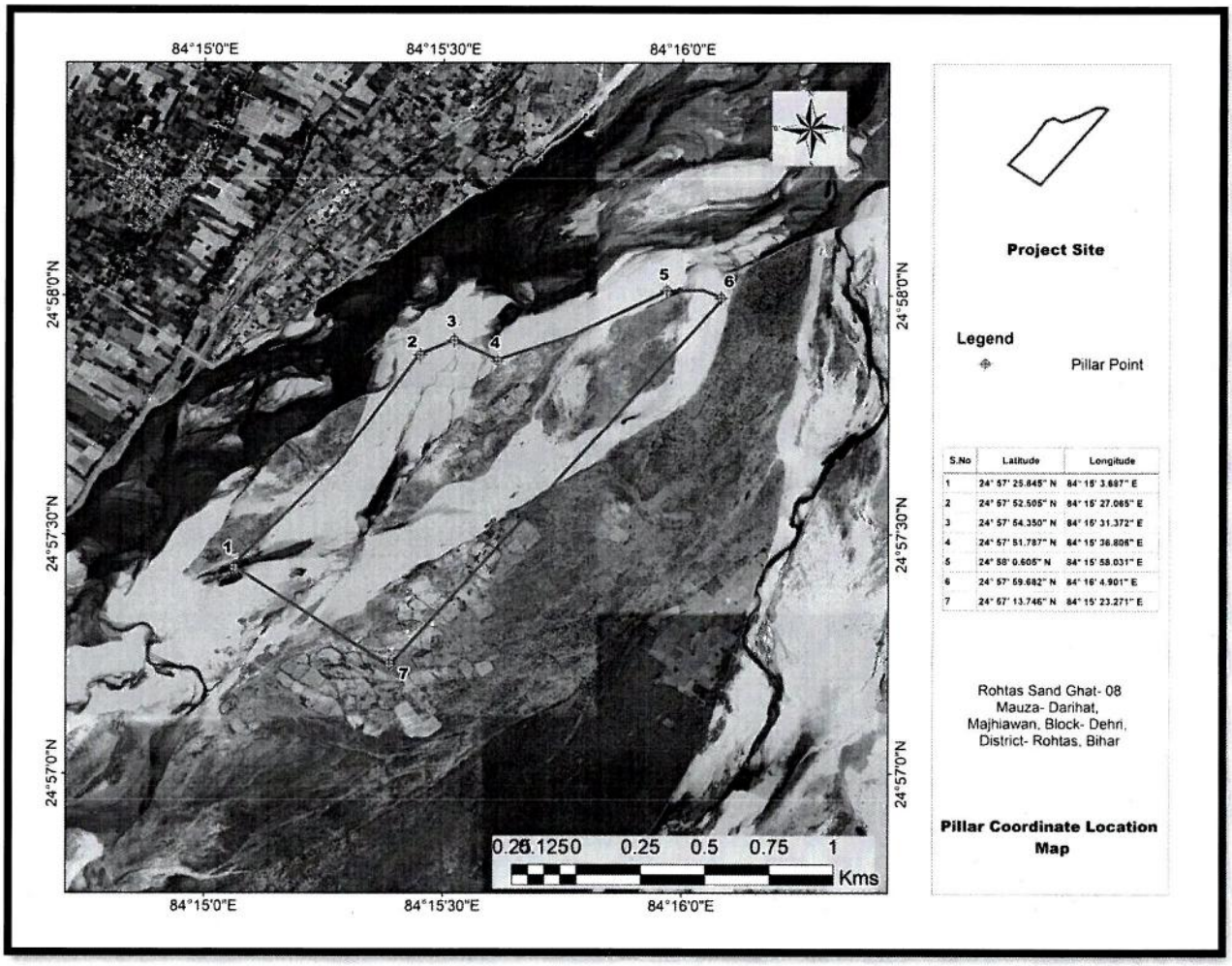

Figure 2-3: Pillar co-ordinate map of the Project Site

2.5 Available Reserves and Production

2.5.1 Geological Reserves

The geological reserve of the sand has been estimated keeping the river water level as ultimate Pit Level where the mining for sand shall cease. Considering 7.5 meter of safety zone all along the lease boundary, effective area for resource calculations has been done. Resources are falling in measured (331) category while, pit slope resources are considered as 221 categories and are termed as blocked resources. After deductions of the blocked resources, remaining resources are considered as mineable and is categorized as 211 as per UNFC because the feasibility and economic axis are already analyzed prior to auction.

2.5.2 Local Geology

The sand deposits of river Son are fluviatile in nature and are result of deposition of sediments in the flood plains of its flowing course. River Son is an important tributary of river Ganga and is perennial in nature. Being fluviatile /alluvial in nature, the topography of the area is plain and gently sloping causing the gradient for the river Son.

River bed sand mining shall be restricted within the central 3/4th width of the river/rivulet or 7.5 meters (inward) from river banks but up to 10% of the width of the river. Mandatory distance to be left from both banks of river channel is kept in mind while deriving the mineable reserves from the geological reserves.

Table 2-3: Geological and Minable Reserve Estimation

S. No.	Particulars	Details
1.	Name of Sand Ghat	Rohtas Sone 08 Balu Ghat
2.	Total ML Area in Hectare	96.50
3.	Average Depth (m)	3
4.	Sp. gr. of sand	1.8
5.	Geological reserves of sand cu. m	2895000
6.	Geological reserves (tonnes)	5211000
7.	Mineable reserves c.u.m.	1737000
8.	Mineable Reserves (tonnes)	3126600

2.5.3 Targeted Production

Year wise sand reserve according to EMGSM guideline is given below. The targeted production is 1737000 cum per year.

Serial Year	Production in Cum
Year-1	1737000
Year-2	1737000
Year-3	1737000
Year-4	1737000
Year-5	1737000
Total	**8685000**

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2.5.4 Life of Mine

It is presumed that the mineral will be replenished every year during the rainy season. New mineral will be added every year in the river bed. The present reserves are sufficient for the proposed rate of production.

Source: Approved Mine Plan

2.6 Mine Drainage

The water table in the river occurs at a depth of 6-8 meters during post monsoon period while it remains at a depth between 3-4 meters below the ultimate pit bottom depth of 3m as measured from the highest elevation on the ground surface.

During the course of mining, the water table in the river shall not be intercepted. The mining shall be restricted to the top 3 m from the general ground level.

Ground water shall not be intercepted during the mining of sand. In view of it, dewatering of sand pits shall not be required or discharged elsewhere.

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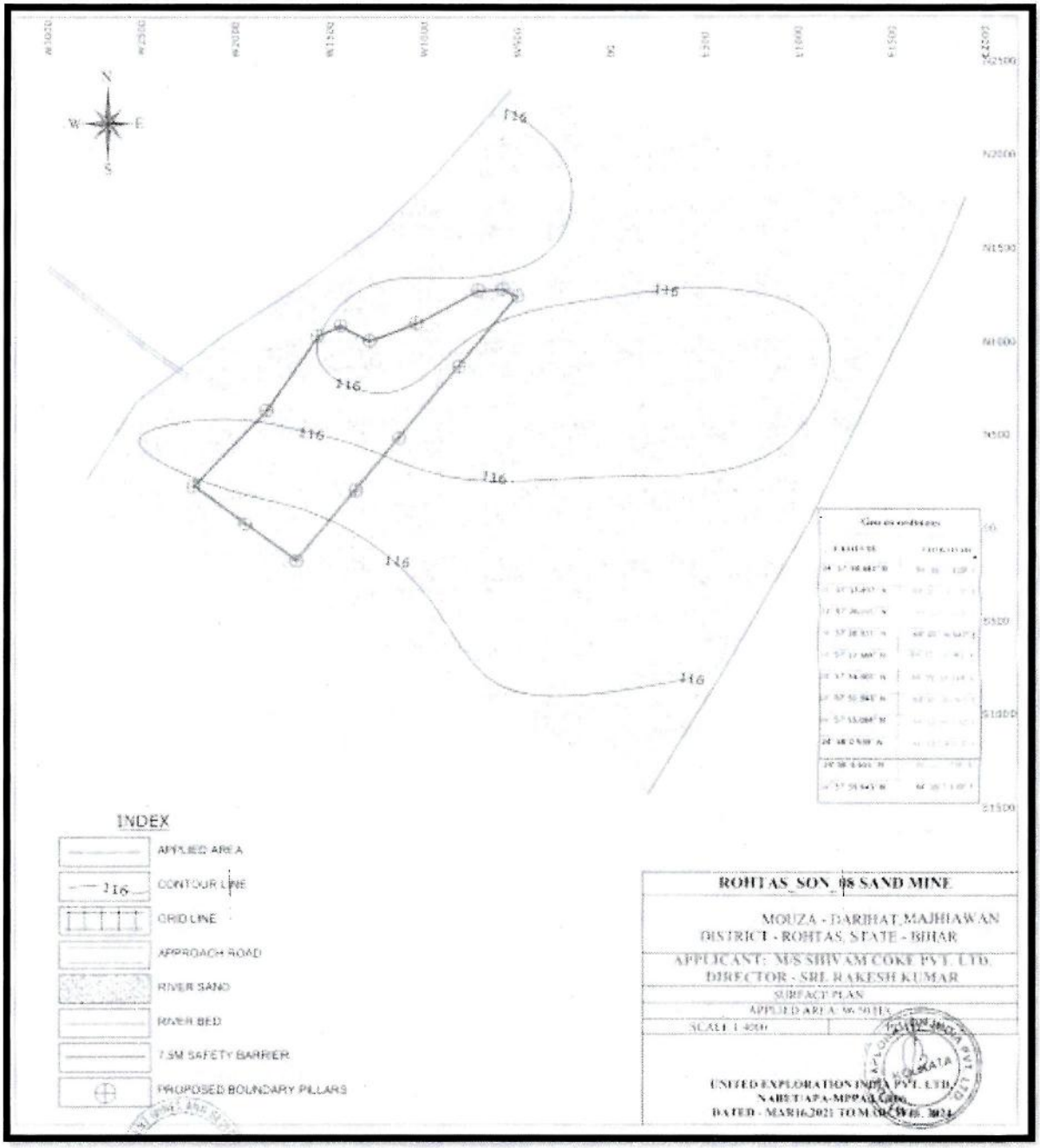

Figure 2-4: Surface Plan of Rohtas Son 08 Ghat

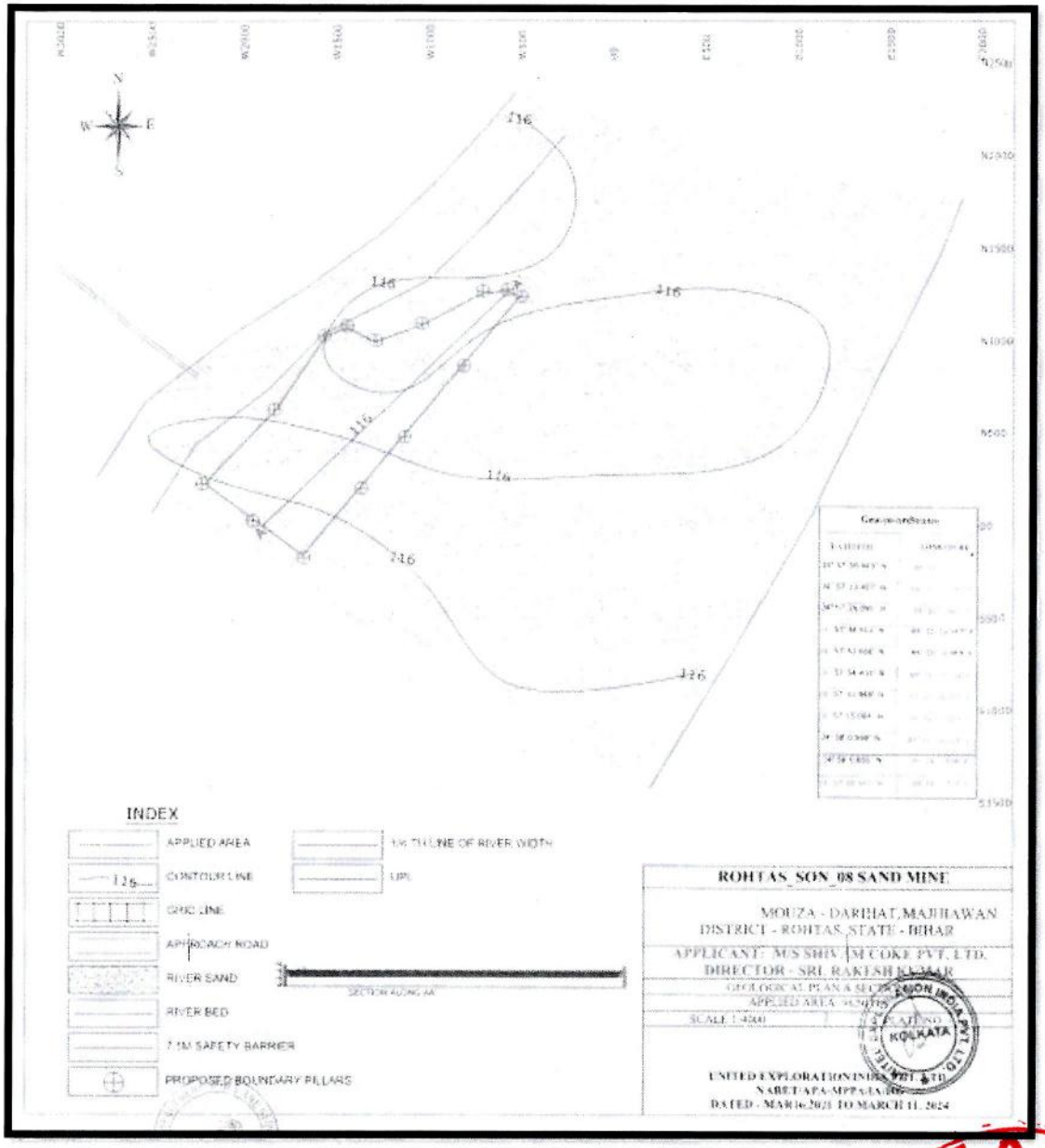

Figure 2-5: Geological Section of Rohtas 08 Balu Ghat

2.7 Method Mining

2.7.1 Proposed Mining Method –Semi Mechanized Mining.

1. The mining for the entire stretch of proposed sand ghats of river Sone, using Semi-Mechanized Method comprising use of crawler mounted JCB / Poclain back hoe (bucket capacity varying between 0.42 m^3 to 1.2 m^3 depending upon the quantity of sand reserves)

for primary excavation/winning and loading of sand, and JCB loader for secondary loading of sand on the river banks. Trucks or tippers of 12 metric tonne capacity and requisite manpower shall be put to use to support the operating machinery.

2. The mining lease area shall be demarcated and pillars of appropriate material shall be erected at reasonable distance to identify the same. The distance of 7.5 m shall be further marked from the lease boundary and this zone constituting the 'safety zone' shall be identified.
3. The excavated sand shall be sieved at pit head to remove the silt load washed in. It shall be used in making river bank embankment to raise the bank height. This shall prevent flooding of adjoining areas.
4. The sand only fraction shall be loaded primarily at the pit head and unloaded at the secondary loading point/location on the river bank.
5. At the secondary loading point requisite, no of JCB loaders shall be deployed as given in Table to follow. The secondary loading operations shall be day and night in order to meet the demands.
6. No mining activities shall be undertaken within this 'safety zone'. This shall be in accordance of Metalliferous Mines Regulations 1961 (MMR-1961) vide Chapter-XI sr.no. 111 and section 3[(2)].
7. The sand shall be mined out in successive vertical benches/slices from top of ground surface or sand surface downwards, and shall be 1.0 meter thick.
8. At no point of time the vertical mine face shall be more than 1.0 m high. Further, the width of the bench shall be minimum 1.5 m in width in horizontal plane in accordance with the MMR-1961 sub rules. This shall prevent development of mine face more than 1.0 m high which may be cause of concern from the safety aspects. This is important to prevent machine operators/ workers from falling into the pit while working near the machinery.
9. The mining operations shall be performed between sunrise to sun set hours.
10. The use of semi mechanized mining shall require use of electricity to illuminate the working area and accordingly electricity shall be tapped after grant of due approval/ permission from competent authorities concerned.

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2.7.2 Conceptual Plan of Mining

The lease period for Five years from the date of execution. Considering individual sand deposits and restricting the mining to top 3 m from the present ground surface, the sand deposit shall be worked upon up to a depth of 3 m. The mining shall cease at a depth of 3 m. A pole (wooden or metal) shall be fixed in the sand deposit at a suitable location, with datum levels - 0m to 3m painted on it to work as a guide in depth restriction. The river channel is free of water and the ground water table lies about 6-8 m below the dry channel of the river exposed. In general, this condition prevails in almost all of the sand deposits on this river stretch.

The mineralized zone or the sand zone in particular of the river does not follow any specific trend. It occurs as lensoid body. The relative occurrence of ground surface with the sand zone thickness varies from place to place and depends upon factors such as stream/river flow characteristics, geometry of the river banks, sediment load, rate of water flow, rainfall and surface run off characteristics etc. However, due to UNFC guidelines on reserve estimation, sand reserves have been considered too few meters below the minable depth of 3 m.

In view of this, it is not possible to prepare a conceptual plan due to lack of specific spatial trend of the sand zone.

The longitudinal section of the river channel is explained in the **Figure 2-6** given below. The longitudinal section exhibits the generic upstream to downstream flow of river along with the sand deposits contained with it. AS seen in the illustration, the top surface of the sand deposit is undulating and gently dipping and the contours of sand deposit vary with the factors an enumerated in above paragraph.

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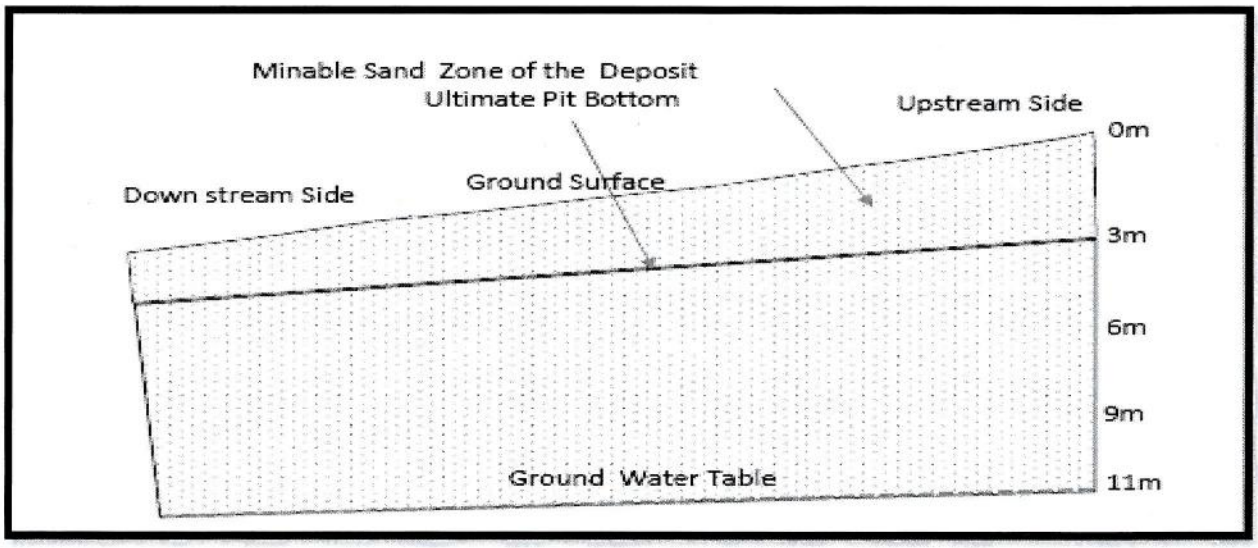

Figure 2-6: Conceptual Longitudinal Section of River Channel

2.7.3 Machinery Requirement

This is a new mining contract. Following equipment's are proposed to be deployed for the desired production.

Table 2-4: List of Machinery

S. L. No.	Name of Machinery	Capacity (Cum) / Ton	Max. Nos.	Fuel Consumptions (Lit Per Hour)	Fuel Consumption in day (Liters)
1	JCB/ Shovel	1.2	3	12	360
2	Trucks Tippers	12	31	7	2170
3	Water Sprinklers	4	4	4	160
4	Light vehicles	-	4	3	120
5	Tractor	4	17	2.5	425
			TOTAL		**3235**

2.8 Transportation of Minerals

Mineral Sand will be transported by trucks. Loaded trucks will travel on Kaccha road made for plying of trucks. The temporary road will provide access to the river bed and the movement of loaded trucks. The village has its outlet meeting the tar road on the nearby villages and from where the mineral is sent to various destinations. Similarly, mineral will be transported on the other side through approach roads which finally merge with tar roads for final destinations.

9	*Vallisneria spirallis*	Eelgrass	Hydrocharitaceae
Source: Primary data from field visits and secondary data			

Fishes: Son River is adobe for variety of fishes. To have an idea about the fishes' local people were asked along the proposed project, sand deposited areas within the river and on the bank. Secondary information about fishes noticed from study is Catla, Rohu etc. The species of fishes given are commonly reported in the fresh water bodies like river, streams, lakes, pond and estuaries They are cosmopolitan in distribution and are reported all over India and Indian Sub continents. These species of fishes are commonly used in aqua culture practice and had good commercial importance.

Table 3-21: Fish species of Sone River

S.No.	Local Name	Scientific Name
1.	Catla	Catla catla
2.	Common Carp	Cyprinus carpio
3.	Mangur	Clarius batrachus
4.	Mrigal	Cirrhina mrigala
5.	Padhan (Magur)	Wallago attu
6.	Putiya	Puntius cirrahana
7.	Mud Fish	Channa striata
8.	Rohu	Lebeo rohita
9.	Tengra/Tengan	Mystus vittatus
Source: Primary and Secondary data		

3.11.8 Results and Discussion

The study shows that the project area is having a total of 52 floral species and 44 faunal species. Out of all plant species, trees were found to be the most dominant with a total of 28 species followed by, 9 aquatic plants, 8 herbs and 7 shrubs in the core and buffer zone. Similarly, out of 43 faunal species, Birds happen to be the most dominant one with a total of 15 species followed by 9 Fishes, 7 Mammals, 5 Insects, 4 Reptiles and 4 Amphibians and there is no **national park, wildlife sanctuary and critically polluted area** in 10km radius from the project site. There are no **protected forests** within 5 Km from the boundary of the project site.

3.12 Socio-Economic Environment

This section of the EIA report deals with Socio-Economic Impact assessment of the Proposed Sand Mining Project of Area 96.50 Ha at Rohtas Sone -08, **Mauza- Darihat/Majhiawan, Block- Dehri, District- Rohtas, Bihar** on Sone River.

Data Collection: Following steps were considered for the collection of primary data:

1. Identifying of Study Area
2. Site Visit
3. Questionnaire based surveys, Focus Groups Discussion (FGD) & other methods and tools for collection of primary data
4. Analysis of Data Collected

The data on socio-economic aspects in the study area has been carried out through the analysis of the secondary data available for the study area.

Methodology- The methodology adopted in the assessment of socio-economic condition is as given below;

- Evaluation of the parameters defining the socio-economic conditions of the population.

- Analysis of the identification of social attributes like population distribution, sex ratio, occupational structure, available public utilities, etc., through literatures like district census hand book.

- Public opinion for the future development in the study area.

Sociological aspects include human settlements, demographic and socio-economic aspects and infrastructural facilities available in the study area. The economic aspects include agriculture, industry and occupational structure of workers.

The studies carried out are descriptive and exploratory in nature and are done by FAE, Socio-Economic.

Table 3-22: Methodologies & Data

SL No.	Collection of data	With Effect From
Secondary Sources		
1.	Census of India, 2011	Latest Update available from 2012
Primary Sources		**Method / Technique**
Field observations		Market area survey
Extensive site-specific survey Survey period Type		Non-Probability Random Sampling Target sample of people interviewed of near road side, through Open Interview Manner and the order of Sub-round/ per monitoring season Residence Shopkeeper etc.

3.12.1 Demography structure of the district

In 2011, Rohtas had population of 2,959,918 of which male and female were 1,543,546 and 1,416,372 respectively. In 2001 census, Rohtas had a population of 2,450,748 of which males were 1,283,485 and remaining 1,167,263 were females.

There was change of 20.78 percent in the population compared to population as per 2001. In the previous census of India 2001, Rohtas District recorded increase of 27.71 percent to its population compared to 1991.

Average literacy rate of Rohtas in 2011 were 73.37 compared to 73.37 of 2001. If things are looked out at gender wise, male and female literacy were 82.88 and 62.97 respectively. For 2001 census, same figures stood at 75.29 and 45.69 in Rohtas District. Total literate in Rohtas District were 1,799,832 of which male and female were 1,061,783 and 738,049 respectively. In 2001, Rohtas District had 1,205,287 in its district.

(Source: District Census Handbook Rohtas)

Table 3-23: List of Villages in Study Area

Sr. No.	Name of the Village	No. House Hold	Total Population	Total Male	Total Female	Total Population (0-06 year)	Total Male Population (0-06 year)	Total Female Population (0-06 year)
1	Pauni	508	3274	1658	1616	604	318	286
2	Khutaha	133	943	487	456	164	87	77
3	Sabdala	260	1546	814	732	319	168	151
4	Bharkol	87	512	267	245	98	51	47
5	Sohra	25	142	77	65	22	12	10
6	Kaithi	615	4118	2161	1957	851	439	412
7	Barawan	674	4521	2301	2220	839	443	396
8	Ahirawan	283	1942	992	950	379	192	187
9	Khudrawan	225	1439	741	698	276	135	141
10	Chilbila	239	1380	718	662	260	136	124
11	Kusmhara	226	1355	685	670	228	109	119
12	Chhotki Biseni	338	2364	1220	1144	461	226	235
13	Chhapra	651	3928	2081	1847	601	320	281
14	Basantpur	81	496	264	232	73	35	38
15	Chanda	130	939	491	448	140	74	66
16	Gamharia	346	2335	1220	1115	390	198	192
17	Nawadih	329	2100	1110	990	405	227	178
18	Munriar	517	3343	1691	1652	600	296	304
19	Barka tenua	235	1683	871	812	325	162	163
20	Tenua Khurd	120	671	338	333	114	50	64

21	Kaupa	304	1736	894	842	252	138	114
22	Tewari Dih	76	578	292	286	94	38	56
23	Mathurapur	291	1689	889	800	279	146	133
24	Dharahara	617	3834	1987	1847	611	317	294
25	Shiupur	157	932	486	446	166	89	77
26	Sherpur	131	754	385	369	89	49	40
27	Akorhi	601	3810	2027	1783	535	273	262
28	Baruna	649	4231	2209	2022	620	325	295
29	Karkatpur	269	1511	782	729	212	105	107
30	Bararhi	1243	7394	3846	3548	1232	661	571
31	Madhurampur Dehri	756	5249	2654	2595	933	468	465
32	Bank	1773	10444	5484	4960	1768	948	820
33	Zorawarpur	203	1279	668	611	231	112	119
34	Chandi	882	5441	2814	2627	1017	545	472
35	Bagen	218	1306	672	634	228	102	126
36	Gobardhanpur	578	3699	1945	1754	603	303	300
37	Bahoranpur	78	493	254	239	95	44	51
38	Ugra	161	945	482	463	168	93	75
39	Maudiha	256	1727	913	814	293	142	151
40	Tanrwa	175	1177	632	545	188	95	93
41	Majhiawan	267	1839	967	872	292	149	143
42	Ayar Kotha	166	1138	590	548	194	95	99
43	Darihat	1953	11953	6222	5731	1995	1004	991
44	Bhusahula	479	2953	1516	1437	503	247	256
45	Chainpur	162	876	467	409	142	81	61
46	Berkap	491	2893	1528	1365	512	268	244
47	Bharkunria	278	1885	970	915	314	157	157
48	Ahibaranpur	296	2065	1092	973	358	186	172
49	Hurka	322	1982	1024	958	321	162	159
50	Sidhauli	344	2320	1177	1143	423	198	225
51	Gangauli	881	5279	2777	2502	861	450	411
52	Pahleza	1111	6464	3314	3150	1103	559	544
Total		**22190**	**138907**	**72146**	**66761**	**23781**	**12227**	**11554**

3.12.2 Demographic structure of the study area

Socio-economic status of the population is an indicator of development of the region. Any developmental project of any magnitude will have a bearing on the living condition and the economic bearing of the population in particular and the region as a whole. The section delineates the overall appraisal of the socially relevant attributes. The data on socio-economic aspects in the study area has been carried out through the analysis of the secondary data available for the study area.

3.12.3 Population in Core Zone

The project site is vacant area.

3.12.4 Population in Buffer Zone

The study area is involving 52 villages. The Total Population of study area is 138907 individuals and 22190 numbers of households. A comparative assessment has been made for the respective demographic aspects, based on the year 2011 data, which has been discussed in the following sections.

The total population of study area is 138907 the percentages of male & female population are 52 % & 48 % respectively. Breakup of the population for male and female is given in **Table No. 3-25.**

Table 3-24: Breakup of the Population

Particulars	Number
No of households	22190
Total population	138907
Male population	72146
Female population	66761
Average family size	5

(Source: As per Census Data 2011)

3.12.5 Social structure

In 2011, about 22 % of the total population belonged to Scheduled Castes (SC) and 0.1 % of the total population belonged to Scheduled Tribes (ST). The distribution of population in the study area by social structure is presented in **Table No. 3-26.**

Table 3-25: Distribution of Population by Social structure in Study Area

Particulars	Number
Total Scheduled Castes	30608
Scheduled Castes Male	15934
Scheduled Castes Female	14674
Total Scheduled Tribes	157
Scheduled Tribes Male	81
Scheduled Tribes Female	76

(Source: As per Census Data 2011)

3.12.6 Literacy levels

In 2011, about 59 % of the total population belonged to Literates population and 41 % of the total population belonged to Illiterates population. The male literacy rate is 60 % and the female literacy rate was 40 %. The details are presented in **Table No. 3-27.**

Table 3-26: Distribution of Literates in Study Area

Particulars	Number

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Total Literates	82311
Male	49241
Female	33070
Total illiterates	56596
Male	22905
Female	33691

(Source: As per Census Data 2011)

3.12.7 Occupation Pattern of the study area

The occupational structure of the population in the study area has been studied with reference to the total workers and non-workers. Further total workers grouped into two categories main workers and marginal workers. Main workers have been grouped into four categories namely: Cultivators, agricultural laborers, household workers and other workers.

3.12.7.1 Total workers

Work is defined as participation in any economically productive activity with or without compensation, wage. Such participation may be physical and/ or mental in nature. Work involves not only actual work but also include supervision and direction of work. It even includes part time help or unpaid work on farm, family enterprise or its economic activity. All persons engaged in 'work' as defined above are workers.

The number of total workers in the study area is 41668 which are 30 % of total population. Out of total 41668 workers, which are 33963 males (82 %) and 7705 are Females (18 %). Total workers further divided into main workers and marginal workers.

3.12.7.2 Main workers

Those workers who had worked for the major part of the reference period (i.e., 6 months or more) are term main workers. Total number of main workers is 22297 which are male 89 % & Female 11 % and 16 % of total population.

3.12.7.3 Marginal Workers

The marginal workers are those workers, who are engaged in some work for a period of less than six months, during the reference year prior to the census survey. Total number of marginal workers is 19371 which are approx. 73 % Males & 27 % Females.

3.12.7.4 Cultivator

A person is classified as cultivator if he or she is engaged in cultivation of land own or from government or held from private persons or institutions for payment in money, kind or share. Cultivation work includes effective supervision or direction in cultivation. A person who has given out her/his land to another person or institution(s) for cultivation for money, kind or share of crop and who does not even supervise or direct cultivation process is not treated as cultivator. Similarly, a person working on another person's land for wages in cash or kind or combination of both is not treated as cultivator.

Total cultivators are 8033 which are 19 % of Total workers. The distribution of cultivators is male percentage is 93 % and female percentage is 7 %.

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3.12.7.5 Agricultural Labourers

A Persons working on the land of others for wages or share in the yield have been treated as agricultural labourers. The total Agriculture workers of this category are about 5927 which are 4 % of the total population.

3.12.7.6 Household Worker

Household industry relates to production, processing, servicing, repairing or making and selling but not includes professions such as a pleader, Doctor, Musician, Dancer, Waterman, Astrologer, Dhobi, Barber, even if such professions, trade or services are run at home by members of the household. The total Household workers of this category are about 643 (2 % of total workers) in which 77 % are male and 23 % are female.

3.12.7.7 Other Workers

The Other-workers are in study area 6 % of the total population in 2011. Out of total 7694 Other- workers, males are 6757 while females are 937. Also, the male percentage is 88 % and the female percentage is 12 %.

3.12.7.8 Non Workers

The non-workers are in study area 70 % of the total population in 2011. Out of total 97239 non- workers, males are 38183 while females are 59056. Also, the male percentage is 39 % and the female percentage is 61 %.

Table 3-27: Distribution of Workers in Study Area

S. No.	Particulars	Number of Workers in the study area		
		Total	Male	Female
1.	Total Workers	41668	33963	7705
2.	Main Workers	22297	19786	2511
3.	Marginal Worker	19371	14177	5194
4.	Cultivators	8033	7508	525
5.	Agricultural Labour	5927	5024	903
6.	Household Worker	643	497	146
7.	Other Workers	7694	6757	937
8.	Non-workers	97239	38183	59056

(Source: As per Census Data 2011)

3.12.8 Rehabilitation &Resettlement (R&R) Action Plan

No further land acquisition required for the project; hence no R & R Action plan is required. There is no Land Acquisition.

3.12.9 Social infrastructure nearby project site

a) Nearest Habitation: -

- Darihat, Approx. 1.27 Km towards NW direction.
- Majhiawan, Approx. 1.87 km towards NW direction.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

b) Educational Facilities: -

- Prathmik School Arjun Bigha, Darihat, Approx. 1.03 Km towards WNW direction.
- Ashok Kumar Jain High School, Darihat, Approx. 2.58 Km towards WNW direction.

c) Medical Facilities:

- Govt. Hospital, Darihat, Approx. 2.53 Km towards WNW direction.
- Adisenal Primary Hospital, Approx. 4.21 Km towards SW direction.

d) Religious facilities: -

- Navgrha Shiva Temple, Approx. 0.67 Km towards WNW direction.
- Maa Kali Mandi, Arjun Bigha, Darihat, Approx. 1.04 Km towards WNW direction.

e) Post office & Police Station: -

- Darihat, Post Office, Approx. 2.44 Km towards NW direction.
- Darihat Police Station, Approx. 2.53 km towards WNW direction.

f) Drinking water: - Drinking water facility will be provided by the Project proponent. It will be managed by private tankers.

g) Electricity: All the habitations in the study area are provided with electricity and the same is available for domestic.

Table 3-28 :- Demographic particulars of the study area

SL No.	Descriptions	Number	Percentage (%)
1	Total no. of villages in the study area	52	
2	Total Population of the Study Area	138907	
	Male	72146	52
	Female	66761	48
	Sex Ratio (No. of females per 1000 males)	925	
3	0-6 Year Population in Study Area	23781	17
	Male	12227	51
	Female	11554	49
	Sex Ratio (No. of females per 1000 males)	945	
4	Total number of Households	22190	
	Average Household size in the Study Area as a whole	5	
5	Total Population of Schedule Caste Community in the Study Area	30608	22
	Male	15934	52
	Female	14674	48
6	Total Population of Schedule Tribe Community in the Study Area	157	01
	Male	81	52
	Female	76	48

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

7	Total Literates in the Study Area	82311	59
	Male	49241	60
	Female	33070	40
8	Total illiterates in the Study Area	56596	41
	Male	22905	40
	Female	33691	60
9	Total Worker Population	41668	30
	Male	33963	82
	Female	7705	18
10	Main Worker Population	22297	16
	Male	19786	89
	Female	2511	11
11	Marginal Workers	19371	14
	Male	14177	73
	Female	5194	27
12	Cultivators	8033	19
	Male	7508	93
	Female	525	7
13	Agricultural Labour	5927	4
	Male	5024	85
	Female	903	15
14	Household Worker	643	2
	Male	497	77
	Female	146	23
15	Others Workers	7694	6
	Male	6757	88
	Female	937	12
16	Non- Workers	97239	70
	Male	38183	39
	Female	59056	61

Source: Census of India 2011

NOTARY
A. K. LAL
Distt.-PATNA
Reg No.-1883J
Exp.dt.-29.05.2027
GOVT OF BIHAR

SL.N.	Village Name	CD Block Name	Gram Panchayat Name	Total Households	Total Population of Village	Govt Primary School (Numbers)	Govt Middle School (Numbers)	Govt Secondary School (Numbers)	Govt Senior Secondary School (Numbers)	Primary / Sub Health Centre (Numbers)	Veterinary Hospital (Numbers)	Nutritional Centres-Anganwadi Centre (Status)
1.	Khutaha	Nasriganj	Pawani	150	950	1	0	0	0	0	0	1
2.	Sabdala	Nasriganj	Paruri	300	1850	2	2	1	0	1	0	2
3.	Bharkol	Nasriganj	Pawani	100	600	1	0	0	0	0	0	1
4.	Sohra	Nasriganj	Pawani	40	250	0	0	0	0	0	0	1
5.	Barawan	Dehri	Brawnkala	800	4900	4	3	2	1	1	1	2
6.	Ahirawan	Dehri	Brawnkala	350	2100	2	1	1	0	1	0	1
7.	Khudrawan	Dehri	Majhiawn	300	1900	2	2	0	0	0	0	1
8.	Chilbila	Dehri	Majhiawn	300	1800	2	1	0	0	0	0	1
9.	Chhapra	Akorhi Gola	Baruna	750	4500	3	2	2	1	1	1	2
10.	Basantpur	Akorhi Gola	Baruna	100	600	1	0	0	0	0	0	1
11.	Chanda	Akorhi Gola	Baruna	150	900	1	1	0	0	0	0	1
12.	Gamharia	Akorhi Gola	Baruna	400	2500	2	2	1	1	1	0	2
13.	Nawadih	Akorhi Gola	Baruna	400	2400	2	1	0	0	1	0	1
14.	Munriar	Akorhi Gola	Baruna, Muriar	600	3600	3	2	1	1	1	1	2
15.	Barka tenua	Akorhi Gola	Muriar	250	1500	2	1	0	0	1	0	1
16.	Tenua Khurd	Akorhi Gola	Muriar	150	850	1	1	0	0	0	0	1
17.	Kaupa	Akorhi Gola	Muriar	350	2100	2	2	1	1	1	0	2
18.	Tewari Dih	Akorhi Gola	Muriar	100	650	1	1	0	0	0	0	1
19.	Sherpur	Akorhi Gola	Akorhi	150	900	1	1	0	0	0	0	1
20.	Akorhi	Akorhi Gola	Akorhi	700	4300	3	3	2	1	1	0	2
21.	Baruna	Akorhi Gola	Akorhi	750	4500	4	3	2	1	1	1	2
22.	Karkatpur	Akorhi Gola	Akorhi	300	1850	2	2	1	0	1	0	1
23.	Bararhi	Akorhi Gola	Akorhi, Bararhi	1400	8500	5	4	3	2	2	1	3
24.	Madhurampur Dehri	Akorhi Gola	Bararhi	850	5300	4	3	3	2	1	1	2

NOTARY A. K. LAL Distt. PATNA Reg. No.- 1883J Exp. dt.-29.05.202 GOVT OF BIHAR

25.	Bank	Akorhi Gola	Chandi	2000	13000	6	5	3	3	2	1	3
26.	Zorawarpur	Akorhi Gola	Chandi, Bank	250	1450	2	1	0	0	0	0	1
27.	Chandi	Akorhi Gola	Bank	1000	6100	4	3	2	1	2	1	2
28.	Bagen	Akorhi Gola	Bank	250	1400	2	2	0	0	0	0	1
29.	Gobardhanpur	Akorhi Gola	Bank	700	4200	3	2	2	1	1	0	2
30.	Bahoranpur	Akorhi Gola	Bank	100	600	1	0	0	0	0	0	1
31.	Ugra	Akorhi Gola	Bank	200	1200	1	1	0	0	0	0	1

(Source: Primary Data)

NOTARY GOVT OF BIHAR A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027

314

499

3.12.10Social setup in the study area:

The social set up in the study area was studied using a combination of methods, including Focus Groups Discussion (FGD) tools and techniques, direct visits, community observations, and informal and formal questionnaire based surveys. Direct observation based methods were implemented to help identifying current socioeconomic environmental scenario and potential impacts of upcoming project"s activities as to be experienced by the local people in the study area. The range in collected data reflected various socioeconomic variables and direct-indirect impacts between working and non-working individuals of communities. Major findings based on the survey are as follows:

- Mostly kachcha and semi constructed type of households owned by the local residents was observed in the nearby villages during the study.
- Agriculture is the predominant occupation but the local inhabitants from the villages like Chainpur, Gamharia, Nawadih and Munriar people works in the metro cities mostly as a Government and Private Sectors. Migration in the villages were found to be quite rampant.
- The economic status and the demand pattern has changed paving way for economic diversification and up liftment in the villages of the study area. Remittances from the out migration family members have added to the income of the families.
- People are engaged in crop production, vegetable farming and agriculture allied activities. Livestock farming is also practiced in the villages of the study area.
- Water availability and accessibility to suffice since the intervention of various drinking water and irrigation schemes was seen satisfactory, hence reported by the group of farmers.
- Power line and electricity meter connections for electricity supply.
- Status of rural sanitation in progress since the Swachh Bharat Mission is on ground but still the sanitary conditions and health status of public infrastructures such as Aanganwari Centers, Primary and Middle Schools either poorly managed or not functional. The Aganwadi Centre located In the villages were mostly found to be running in the rented premises. The sanitation facilities at the schools, PHCs and Aganwadi centers were found to

satisfactory. The Aganwadi center Sevikas demanded for the provisions of water purifiers at the AWCs.

- Health related assistance such as referral services in case of emergencies was not found satisfactory but some village has no Primary Health Center (PHC) and villagers go to Block hospital to avail medical facilities.

Impact:

- The impact on air pollution, water contamination and consequent health hazard are the main concerns of the inhabitants in the nearby villages.
- Impact of project may be envisaged as dust emission due to regular truck movements and also the road safety issues.

Mitigation Measures

- As the measures for mitigation of air pollution and other anticipated impacts has already been incorporated, Awareness among the local and nearby villagers must be raised about the mitigation measures and good health practices.
- Generation of direct and indirect employment like business, contract works and development work like roads, etc. and other welfare amenities such as medical facilities, conveyance, education, drinking water supply etc. should be provided.
- Improvement of infrastructure, transportation, health care and education facility
- Provision of need base activities

People perceive that the project will bring handful gains by the way of creating significant employment opportunities and consequent development of household assets and public infrastructure. The impacts on the different components viz. employment and livelihoods, housing, educational, sanitary, medical, transport facilities, fuel availability, economic status, agriculture, though are not negligible but socioeconomic development initiatives must be performed to compensate the same.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

3.12.11 Conclusion

The project activity together with inflow of capital, in-migration and employment of local inhabitants will show positive impact on the overall social and economic condition of the people of the area. The project will provide a direct job opportunity to the local persons as

both technical and non-technical workers. Literacy may further increase because of better income and awareness amongst the people. The project will provide direct employment opportunity to local people. Indirect employment is being generated in trade and other ancillary services. Employment in these sectors is both permanent and temporary or contractual and involvement of unskilled labour. A major part of this labour force is mainly from nearby villages that are expected to engage themselves both in agriculture and project activities. This will enhance their income and lead to overall economic growth of the area. The following socio-economic changes may take place due to project activities:

- The project will have a positive employment and income effect, both direct as well as indirect.
- Expected Improvement of infrastructure& transportation.
- The project will have positive impact on consumption behavior by way of raising average consumption and income through multiplier effect.
- The project will bring changes in the pattern of demand from food to non-food items as sufficient income will generate.
- People located in the project area and in close vicinity, enjoying positive changes in life style and better quality of life.

3.13 Traffic Analysis

Transportation Route:

The minerals excavated will be loaded directly into trucks and transported to the concerned market. The Mining Site Rohtas Son-08 is well connected to nearest metaled road going towards SH-15 via an approach road of approx. 2.57 km towards NW direction. Two skilled persons were deployed on SH-15 road for a day on dated 18.10.2023 for traffic analysis. The evacuation route is shown in the map as given below:

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

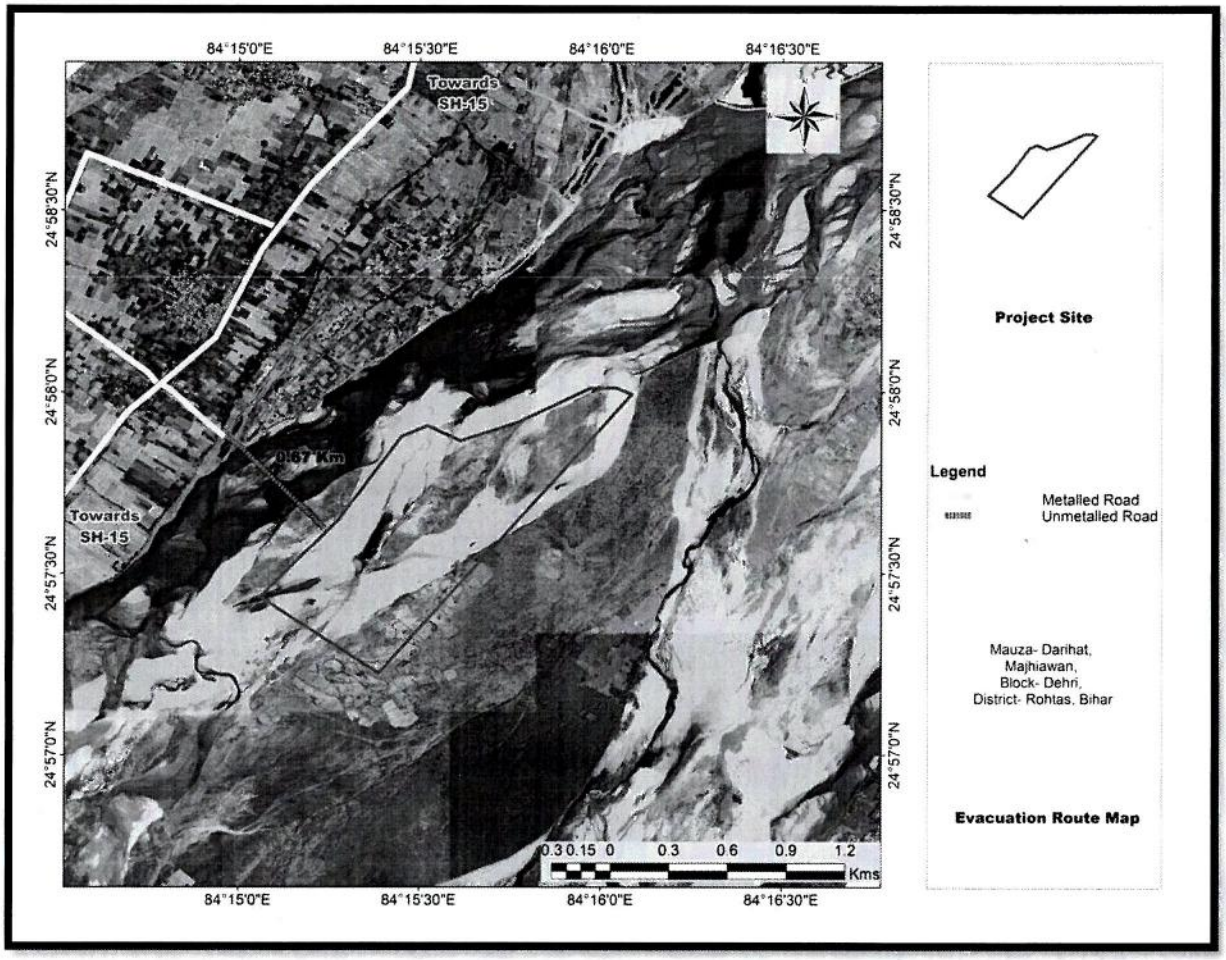


Figure 3-29: Map Showing Evacuation Route

Traffic analysis is carried out by understanding the existing carrying capacity of the roads near to the project site and the connecting main roads in the area. Then depending on the capacity of the mine, the number of trucks that will be added to the present scenario will be compared to the carrying capacity. Traffic density measurement were made continuously for 24 hours by visual observation and counting of vehicles under three categories, viz., heavy motor vehicles, light motor vehicles and two/three wheelers.

Table 3-29: -Traffic Analysis

DURING MINE OPERATION						
Proposed Capacity of mine/annum	**No. of working days**	**Proposed Capacity of mine/day**	**Truck Capacity -tonnes**	**Frequency of trucks deployed/day**	**No. of working hours per days**	**Frequency of trucks deployed/hour**
3126600 TPA	240	13028	12 Ton	1086	10	109

Table 3-30: Current Traffic Analysis

Classification of Traffic	Adopted PCU Value	Traffic on SH-15	
		ADT (Existing)	PCU (Existing)
Cars	1	720	720
Three Wheeler	1	60	60
Two wheeler	0.5	1100	550
Buses	3	30	90
LCV	1.5	380	570
Trucks	3	560	1680
Tractor-Trailer	4.5	350	1575
Cycle	0.5	320	160
Total Vehicles			**5405**

Existing V/C: 5405/18000 = 0.30

Traffic due to proposed Project

Trucks due to proposed project: 1086

Trucks per day

PCU: 1086 x 3 = 3258

Cumulative PCUs = 3258+5405 = 8663

V/C: 8663/ 18000 = 0.48

Table 3-31: Capacity as per IRC: 64-1990

V/C	LOS	Performance
0.0 - 0.2	A	Excellent
0.2 - 0.4	B	Very Good
0.4 - 0.6	C	Good / Average / Fair
0.6 - 0.8	D	Poor
0.8 - 1.0	E	Very Poor

V/C Ratio for the existing and proposed project comes under 0.6 hence, the Level of Service of the Road will be of C quality i.e. Good to Average LOS.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

4 ANTICIPATED IMPACTS AND THEIR MITIGATION MEASURES

4.1 General

All Mining projects, whether existing or new, have positive or negative impacts on the surrounding environment. Depending on the nature of activities and baseline environment status, the impacts are assessed for their importance. The results of these assessments are used to formulate mitigation measures and future methodology for Environmental Monitoring and Environmental Management plan.

The environmental parameters likely to be affected by mining are related to many factors, i.e. physical, social, economic, agriculture and aesthetic. The excavated sand will be transported via trucks to outsiders. The operations may disturb environment of the area in various ways, such as removal of mass, change of landscape, flora and fauna of the area, surface drainage, and change in air, water and soil quality. While for the purpose of development and economic up-liftmen of people, there is need for establishment of mining industries, but these should be environment friendly. Therefore, it is essential to assess the impacts of mining on different environmental parameters, before starting the mining operations, so that abatement measures could be planned in advance for eco-friendly mining in the area. The likely impacts on different environmental parameters due to this mining project are discussed here.

Several scientific techniques and methodologies are available to predict impacts of physical environment. Mathematical models are the best tools to quantitatively describe the cause and effect relationships between sources of pollution and different components of environment. In cases where it is not possible to identify and validate a model for a particular situation, predictions have been arrived at based on logical reasoning/consultation/extrapolation.

The following parameters are of significance in the Environmental Impact Assessment and are being discussed in detail:

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

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

Based on the environmental baseline scenario as detailed in Chapter 3 and the proposed mining activity in Chapter 2, this chapter assesses the likely impact and their extent on various environmental parameters along with the mitigation measures.

4.2 Land Environment

The proposed extraction of stream bed materials, mining below the existing streambed, and alteration of channel-bed form and shape may lead to several impacts such as erosion of channel bed and banks, increase in channel slope, and change in channel morphology if, the operations are not carried out scientific & systematically.

The mining and allied activities involved due to mining result in creation of temporary haul roads and formation of mined pits, etc. affecting the land use pattern. In this project, silt and clay are also produced as a constituent along with minerals, which are considered to be waste.

4.2.1 Anticipated Impacts

- Mining activity will impact river bed topography by formation of excavation voids.
- Undercutting and collapse of river banks.
- River bed mining may bring in some change in topography at the nearby area of the mine lease.
- Stacks of solid waste generated from mining activity may hinder the flow of water in monsoon season.

4.2.2 Mitigation measures

Adopting suitable, site-specific mitigation measures can reduce the degree of impact of mining on land. Some of the land-related mitigation measures are as follows:

- Excavated pits will get replenished annually in monsoon itself & will be restored to original.
- Excessive sand mining should not be done.
- Mineral will be mined out after leaving safety distances from both side from the bank as "No mining zone "for bank stability.
- The mine working will remain confined to allotted river bed only, so it will not disturb any surface area outside the mine lease area which may affect topography or drainage.
- Solid waste will not be stacked on the bank side as it will hinder the flow of water in monsoon season.

NOTARY A.K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT. OF BIHAR

4.3 Water Environment

4.3.1 Anticipated Impacts

Mining of sand from within or near *river* has an indirect impact on the physico-chemical habitat characteristics during monsoon season. These characteristics include in stream roughness elements, depth, velocity, turbidity, sediment transport and stream discharge.

The detrimental effects, if any, to biota resulting from bed material mining are caused by following:

- Alteration of flow patterns resulting from modification of the *river*
- An excess of suspended sediment during monsoon season.

4.3.2 Mitigation measures

Project activity will be carried out only in the dry part of the Sone River. Hence, none of the project activities affect the water environment directly. In the project, it is not proposed to divert or truncate any stream in monsoon season only. No proposal is envisaged for pumping of water either from the *River* (in monsoon) or tapping the ground water.

In the lean months, the proposed mining will not expose the base flow of the *River* and hence, there will not be any adverse impact on surface hydrology.

The deposit will be worked from the top surface up to a maximum depth of 3 m below ground level or above the ground water table whichever comes first. Hence mining will not affect the ground water regime as well.

Further mining will be completely stopped during the monsoon seasons to allow the excavated area to regain its natural profile.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT. OF BIHAR

4.4 Air Environment

4.4.1 Anticipated Impacts

Emission of fugitive dust is envisaged due to:

- Mining Activities includes excavation and lifting of minerals. The whole process will be done by semi-mechanized process without drilling and blasting. Therefore,

the dust generated is likely to be insignificant as compared to mining processes involving drilling, blasting, mechanized loading etc.

- Transportation of minerals will be done by road using trucks. Fugitive dust emission is expected from the transportation of trucks on the haul roads. Evaluation of fugitive dust emission has been done by using line source model as given below:

4.4.2 Air quality modeling

Objective

Atmospheric modelling is used by air quality managers to make decisions on effective and efficient ways to implement the National Ambient Air Quality Standards (NAAQS) and improve air quality. Air quality modelling is done to estimate the relationship between sources of pollution and their effects on ambient air quality, predict the impacts from potential emission sources, and simulate ambient pollution concentrations under different policy scenarios. They are critical for determining the relative contributions from different sources, monitoring compliance of air quality regulations, and making policy decisions

4.4.3 The Air Quality Model

In order to estimate the ground level concentrations due to the emissions from the proposed project, EPA approved American Meteorological Society/Environmental Protection Agency Regulatory Model - AERMOD View 10.0.1 dispersion Model has been used. AERMOD View Dispersion Model provides option to model emissions from a wide range of sources that are present at a typical industrial source complex. The model considers the sources and receptors in undulated terrain as well as plain terrain and the combination of both. The basis of the model is the steady state Gaussian Plume Equation, with modifications to model simple point source emissions from stacks that experience the effect of aerodynamic down wash due to nearby buildings, isolated vents, multiple vents, storage piles etc. AERMOD View dispersion model with the following options has been used to predict the cumulative ground level concentrations due to the proposed emissions. Area being rural, the rural dispersion parameters are considered as below:

- Predictions have been carried out to estimate concentration values over radial distance of 10 km around the sources.
- Cartesian receptor network has been considered.
- Emission rates from the sources were considered as constant during the entire period.

- The ground level concentrations computed were as in basis without any consideration of decay coefficient.
- Calm winds recorded during the study period were also taken into consideration.
- 24-hour mean meteorological data, extracted from the meteorological data collected during the study period as per guidelines of IMD/CPCB has been used to compute the mean ground level concentrations to study the impact of proposed activity.
- Stability class was evaluated based on wind direction fluctuation.
- The mathematical equations used for the dispersion modelling assumes that the earth surface acts as a perfect reflector of plume and physico-chemical processes such as dry and wet deposition and chemical transformation of pollutants are negligible.
- Washout by rain is not considered.
- Source of emission is continuous and at steady state.

Sources of Pollution/Emission

1. Active Mining Area: 100m x 100m **(Area Source)**
2. Mine Road **(Line Source)**

4.4.4 Emission Calculation

An emissions factor is a representative value that attempts to relate the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant. The general equation for emissions estimation is:

E = A x EF x (1- ER/100)

Where;

E = emissions in (gm/sec);

A = activity rate (Tonnes/Hr);

EF = emission factor (Kg/Tonnes), and

ER = Overall emission reduction efficiency, %

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

Emission rate of pollutants from operation of mining is calculated based on the emission factors given in the AP-42 published by USEPA. As per the emission factors published in the above documents, the emission rate has been computed and is provided below.

Sr. No.	Emission Source Details	Value
1	Average Wind Velocity, m/s	2.24
2	Moisture Content, %	18
	Mineral Excavation	
1	Production capacity of the mine, TPA	3126600
2	Operational hours (Working Days x Working Hours, 240x10)	2400
3	Activity rate, TPH	1302.75
4	USEPA emission factor (EF), kg/MT	2.64497E-05
5	Emission rate (A*EF*1000/3600), g/s	0.009571501
6	Area of activity, m2	10000
7	Uncontrolled emission rate, g/m2/s	9.5715E-07
8	Controlled (90%)emission rate, g/m2/s, (APCM-Water Sprinkling),a	**9.5715E-08**
	Mineral Loading	
1	USEPA emission factor (EF), kg/MT	0.00015
2	Emission rate,g/s	0.05428125
3	Area of activity, m2	10000
4	Uncontrolled emission rate, g/m2/s	5.42813E-06
5	Controlled (90%)emission rate, g/m2/s, b	**5.42813E-07**
Overall Emission Factor, g/m2/s (a+b)		**6.38528E-07**
Haulage Emission		
1	Surface Silt Content, % by Wt	3
2	Gross Vehicle Weight, Tonnes	30
3	Truck Capacity, MT	12
4	No of Trips /Yr	260550
5	Lead Length/Trip, KM (To & Fro)	20
6	Emission factor, kg/VKmT	0.357526481
7	Total VKT/yr	5211000
8	Emission in Kg/Year	1863070.495
9	Emission in g/s	59.07757783
10	Uncontrolled Emission g/s/m2 (considering road width 10 m)	0.000295388
11	**Controlled Emission g/s/m2 considering 99% suppression due to water sprinkling**	**2.95388E-06**

4.4.5 Quantitative estimation of impacts on air environment

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF INDIA

An attempt has been made to predict the incremental rise of various ground level concentrations (GLCs) above the baseline status in respect of air pollution due to mining operations. The mathematical model used for predictions in the study is USEPA approved AERMOD View 10.0.1 software which is designed for point source, line source and area sources for the prediction of impacts due to mine operations. For estimation of the GLC in worst case scenario, the mining operations are assumed to be carried out on the flat terrain. The predicted GLC computed using AERMOD View developed by Lakes Environment model is plotted on isopleths and are shown in Figure given below.

4.4.6 Meteorological Data

The meteorological data recorded continuously during season of **Post monsoon Season (1st October to 31st December 2023)** on hourly basis for wind speed, wind direction, relative humidity, precipitation and temperature and the same is processed to extract the 24-hour mean meteorological data as per the guidelines of IMD and MoEF for application of AERMOD Version 10.0.1 model. Stability classes computed for the mean hours is based on the guidelines issued by CPCB on modelling. Mixing heights representative of the region have been taken from the available published literature.

4.4.7 Stability Classification

Wind direction fluctuation method (CPCB PROBES/70/1997-1998) is adopted for hourly stability as determined by wind direction fluctuation method as suggested by Slade (1965).

$$\sigma_\Theta = Wdr/6$$

Wdr: the overall wind direction fluctuation or width of the wind direction in degrees, over the averaging period.

σ_Θ : the standard deviation of wind direction fluctuation.

The stability classes are as detailed below:

Table 4-1: Slades Stability Classification based Wind direction fluctuation

Stability Class	σ_Θ (degree)
A (Extremely Unstable)	**>22.5**

B (Moderately Unstable)	22.4-17.5
C (Slightly Unstable)	17.4-12.5
D (Neutral)	12.4-7.5
E (Slightly Stable)	7.4-3.5
F (Stable)	<3.5

4.4.8 Dispersion Parameters

The area is classified as urban when more than 50% of land inside a circle of **3 km** radius around the source can be considered built up with heady or medium industrial, commercial or residential units.

Table 4-2: Brigg`s Dispersion Parameters σ_y (m) and σ_z (m) (100m<x<10000m)

S.No.	Stability Class	σ_y(m)	σ_z(m)
For Rural Conditions			
1	A	$0.22x(1+0.0001x)^{-0.5}$	0.2x
2	B	$0.16x(1+0.0001x)^{-0.5}$	0.12x
3	C	$0.11x(1+0.0001x)^{-0.5}$	$0.08x(1+0.0002x)^{-0.5}$
4	D	$0.08x(1+0.0001x)^{-0.5}$	$0.06x(1+0.0015x)^{-0.5}$
5	E	$0.06x(1+0.0001x)^{-0.5}$	$0.03x(1+0.0003x)^{-1}$
6	F	$0.04x(1+0.0001x)^{-0.5}$	$0.016x(1+0.0003x)^{-1}$
For Urban Conditions			
1	A-B	$0.32x(1+0.0004x)^{-0.5}$	$0.24x(1+0.001x)^{-0.5}$
2	C	$0.22x(1+0.0004x)^{-0.5}$	0.20X
3	D	$0.16x(1+0.0004x)^{-0.5}$	$0.14x(1+0.0003x)^{-0.5}$
4	E-F	$0.11x(1+0.0004x)^{-0.5}$	$0.08x(1+0.0015x)$

Where x is the downwind distance in meters.

4.4.9 Mixing Height

As site specific mixing height were not available, mixing height based on CPCB publication, "Spatial Distribution of Hourly Mixing Depth over Indian Region", PROBES/88/2002-03 has been considered for model to establish the worst-case scenario.

NOTARY A.K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

4.4.10 Monthly Wind Speed and Wind Direction

The weather is one of the main factors affecting the air quality. Weather can help to clear away pollutants from atmosphere to improve air quality, or it can make air pollution extremely worse by helping to form highly polluted regions. The concentration of air pollutants in ambient air is governed by the meteorological parameters such as atmospheric wind speed, wind direction, relative humidity, and temperature. Rainfall can effectively remove atmospheric particulate pollutants, and the removal rate of PM10 is greater than the removal rate of PM2.5. In general wind speed more than 7 m/s can lift dust. Heavier particles will settle near the source area, with the smaller ones settling farther away. The site-specific weather data has been collected by installation of weather monitoring station at site.

Table 4-3: Meteorological Data Rohtas: (Oct-Dec)

Particulars	Unit	Min	Max	Avrg
Temp	C	4.5	34.5	25.5
RH	%	32	68	44
Wind Speed	m/s	0.5	8.8	2.24
Solar Radiation	W/m2	5100	5500	5350
Wind Direction	West			
Rainfall	18 mm			
No of Rainy Days	08			
Avrg Annual Rainfall	1144.2 mm			

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

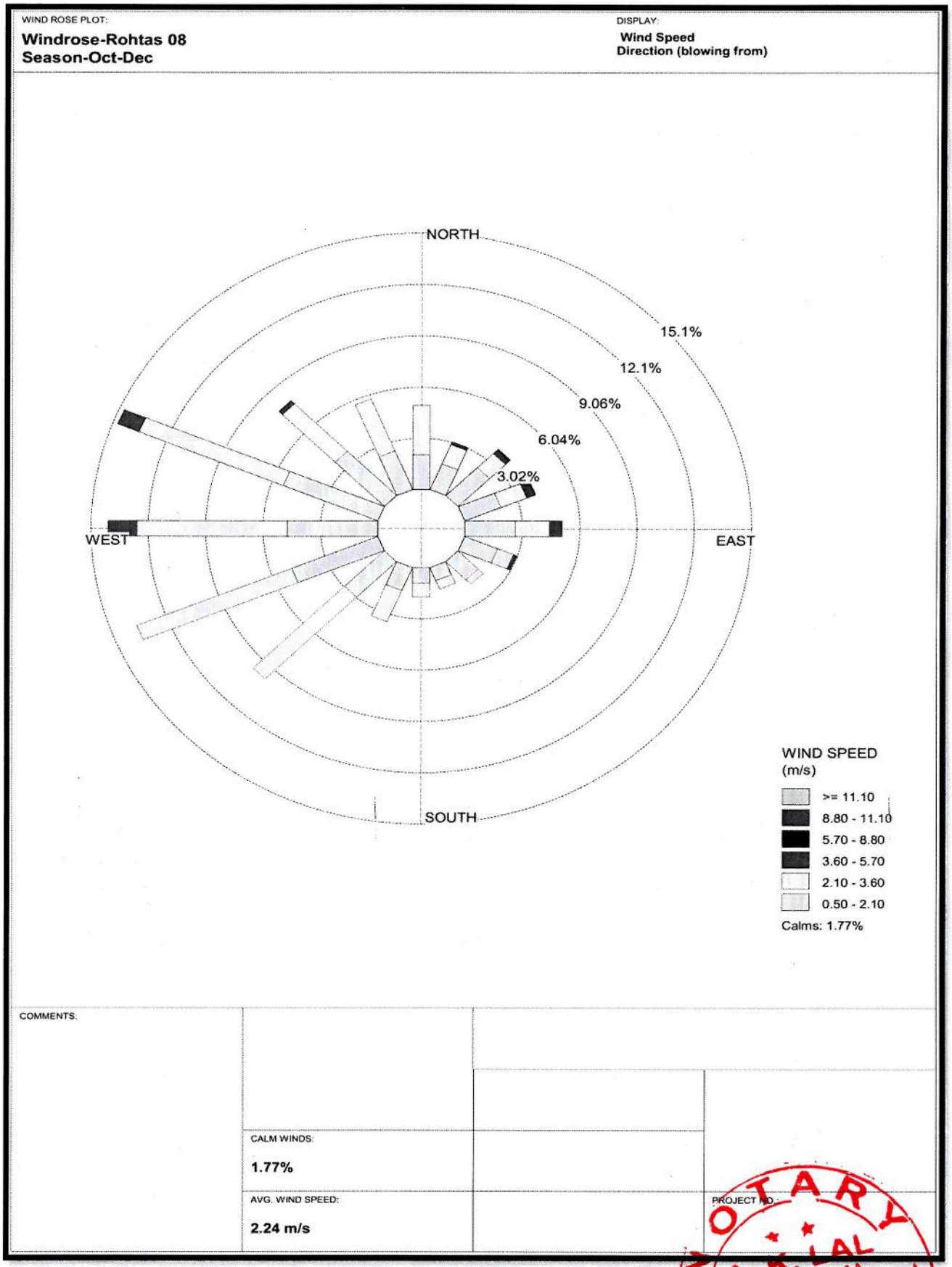


Figure 4-1: Windrose Data of the Site

4.4.11 Model Results

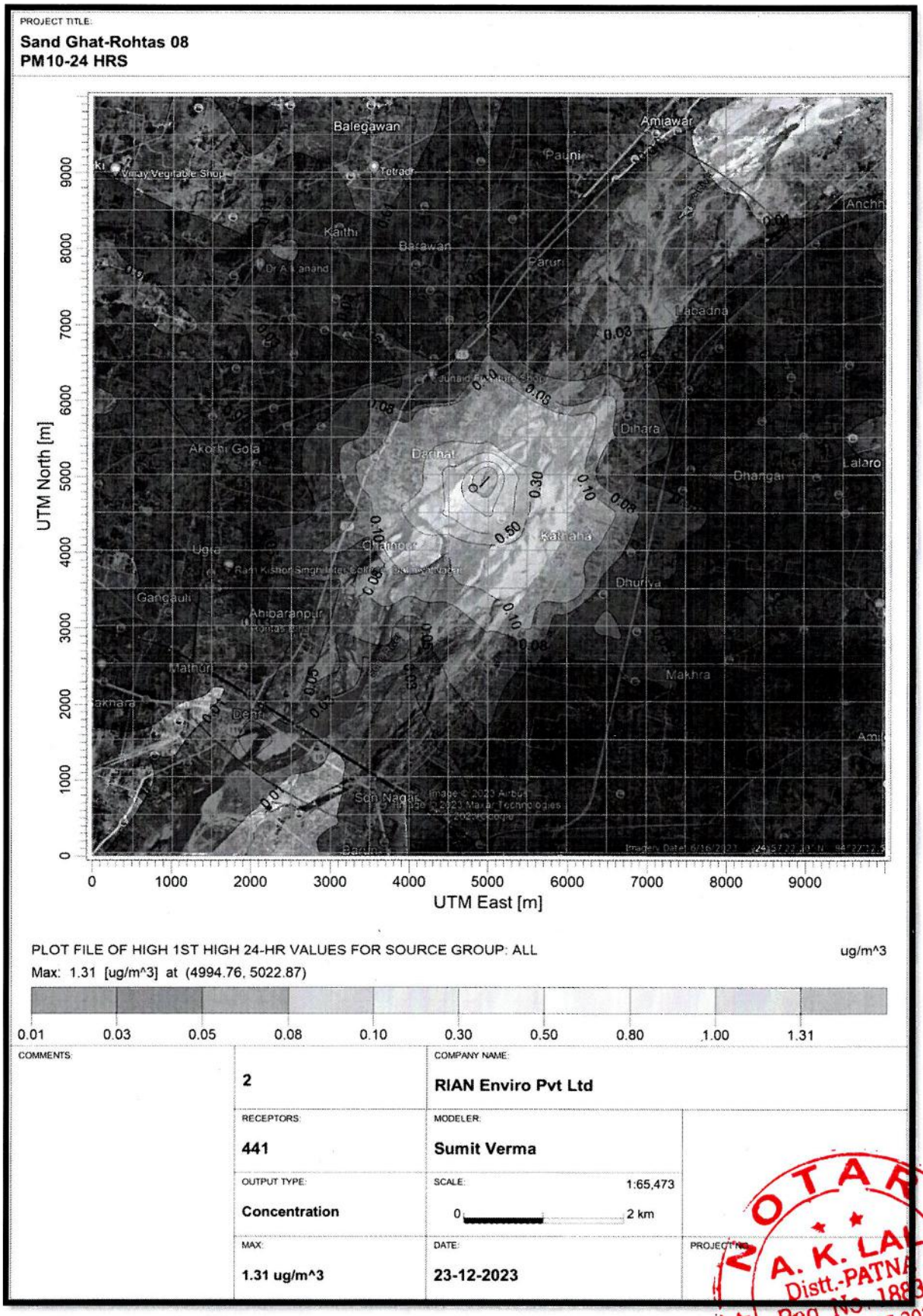


Figure 4-2: Predicted GLC concentration of PM10

Table 4-4: Impact of PM10 due to Loading-unloading and transportation of sand by Trucks

Pollutants	Locations Code	Ambient Air Quality in µg/m3	Incremental GLC in µg/m3	Total Predicted GLC in µg/m3
PM10	AAQ1	88.9	1.31	90.21

4.4.12 Mitigation measures

The collection and lifting of minerals will be done by loaders. Therefore, the dust generated is likely to be insignificant as there will be no drilling & blasting. The only air pollution sources are the road transport network of the trucks. The mitigation measures like the following will be resorted:

- ✓ Water sprinkling will be done on the haul roads twice in a day. This will reduce dust emission further by 74%
- ✓ Speed limits will be enforced to reduce airborne fugitive dust from vehicular traffic.
- ✓ Spillage from the trucks will be prevented by covering tarpaulin over the trucks.
- ✓ Deploying PUC certified vehicles to reduce their emissions.
- ✓ Proper tuning of vehicles to keep the gas emissions under check.
- ✓ Monitoring to ensure compliance with emission limits would be carried out during operation.

4.5 Noise Environment

The proposed mining activity is semi-mechanized in nature. No drilling & blasting is envisaged for the mining activity. Hence, the only impact is anticipated is due to movement of vehicles deployed for transportation of minerals.

4.5.1 Anticipated Impacts

- Mental disturbance, stress & impaired hearing.
- Decrease in speech reception & communication.
- Distraction and diminished concentration affecting job performance efficiency.

The noise level in the working environment are compared with the standards prescribed by Occupational Safety and Health Administration (OSHA-USA) which has been adopted and enforced by the Govt. of India through model rules framed under Factories Act, 1980 and

NOTARY A. K. LAL Dist.- PATNA Reg No.-18833 Exp.dt.-29.05.2027 GOVT OF BIHAR

CPCB 2000 norms. The summary of the permissible exposures in cases of continuous noise as per above rules is given below:

Table 4-5 :- Damage risk criteria for hearing loss OSHA regulations

Maximum allowable duration per day in hour	Sound pressure dB(A)	Remarks
(1)	(2)	(3)
8.0	90	1. For any period of exposure falling in between any figure and lower figure as indicated in column (1), the permissible sound is to be determined by extrapolation or proportionate scale. 2. No exposure in excess of 115 dB(A) is permissible.
6.0	92	
4.0	95	
3.0	97	
2.0	100	
1 ½	102	
1	105	
¾	107	
½	110	
¼	115	

Noise at lower levels (sound pressure) is quite acceptable and does not have any bad effect on human beings, but when it is abnormally high- it incurs some maleficent effects.

a. Mitigation measures

The following measures have been envisaged to reduce the impact from the transportation of minerals:

- The vehicles will be maintained in good running condition so that noise will be reduced to minimum possible level.
- In addition, truck drivers will be instructed to make minimum use of horns in the village area and sensitive zones.
- No such machinery is used for mining which will create noise to have ill effects.
- Awareness will be imparted to the workers about the permissible noise levels & maximum exposure to those levels.

4.6 Biological Environment

Mining which leads to the removal of channel substrate, re-suspension of streambed sediment and stockpiling on the streambed, will have ecological impacts. These impacts may have an effect on the direct loss of stream reserve habitat, disturbances of species attached to

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Regd.-29.05.2027 GOVT OF BIHAR

streambed deposits, reduced light penetration, reduced primary production, and reduced feeding opportunities. Sand mining generates additional traffic, which negatively impairs the environment.

4.6.1 Anticipated Impacts

a) Flora

The proposed project of river bed sand mining shall be carried out on the riverbed of Son River. There are no trees in the project area. The project shall also not lead to any change in land use and will be replenished every year after successive rains. The proposed mining activity, which although is an economically gainful activity, also constitutes river training work. It allows for necessary dredging activity which may otherwise lead to flooding of the valley.

There shall be negligible air emissions or effluents from the project site during loading of the truck. This shall be a temporary effect and not anticipated to affect the surrounding vegetation significantly.

b) Fauna

Animals are sensitive to noise and avoid human territory. The project stretch of the river is not an identified drinking water point for the animals. However, any animal desirous of accessing the river can continue to do so upstream or downstream of the stretch during the mining activities, as there will not be any damming or diverting of water. Hence, no significant impact is anticipated from the proposed project.

4.6.2 Mitigation measures

As the proposed mining will be carried out in a scientific manner, not much significant impact is anticipated, however, the following mitigation measures will be taken to further minimize it:

a) Flora

Although, the project will not lead to any tree cutting, plantation activities shall be undertaken to improve the vegetation cover of the area. To avoid dust emissions, the mined materials will be covered with tarpaulin during transportation and water sprinkling will also be done.

The list of plants proposed for green belt is as follows.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

Table 4-6 : List of Trees proposed for Greenbelt (Evergreen, quick growing)

S. No.	*Scientific Name*	Family	Common Name	Hindi Name
1	*Aegle marmelos*	Rutaceae	Stone apple	Bael
2	*Azadirachta indica*	Meliaceae	Indian Lilac	Neem
3	*Alstonia scholaris*	Apocynaceae	Blackboard tree	Chitvan
4	*Cassia fistula*	Fabaceae	Cassia fistula Linn	Amaltas
5	*Callistemon*	Myrtaceae	Bottle brush	Cheel
6	*Delonix regia*	Fabaceae	Royal Poinciana	Gulmohar
7	*Ficus racemosa*	Moraceae	Cluster fig	Gular
8	*Mangifera indica*	Anacardiaceae	Mango Tree	Aam
9	*Psidium guajava*	Myrtaceae	Guava Tree	Amrud
10	*Phyllanthus emblica*	Phyllanthaceae	Indian gooseberry	Amla
11	*Putranjiva roxburghii*	Putranjivaceae	Putranjiva	Putijia
12	*Saraca asoca*	Fabaceae	Asoka- Tree	Ashok
13	*Syzgium cumini*	Myrtaceae	Java Plum	Jamun
14	*Terminalia arjuna*	Combretaceae	Arjun	Kahu
15	*Tectona grandis*	Lamiaceae	Teak	Sagwan

b) Fauna

The workers shall be directed to not venture out of the leased area for collecting fuel wood or hunting. They shall also be trained not to harm any wildlife. No work shall be carried out after sunset.

4.7 Socio-Economic Environment

4.7.1 Management Plan for Socio-Economic Environment

I. In general, socio-economic environment will have positive impact due to the mining project in the area.

II. The deployed laborers will be from nearby villages only as these people are mainly dependent upon such mining activities.

III. In order to further improve the socio-economic conditions of the area, the management will contribute for development works in consultation with local bodies.

4.8 Soil Environment

Movement of vehicles on the mine lease will also cause soil erosion. It is also anticipated that the garbage from the labour force and discharge of domestic wastewater will also cause the soil pollution.

I. Wastes and debris generated at the site will be collected time to time and disposed suitably to avoid any contamination.
II. Fuel oil for mining equipment will be stored on the cemented floor.

4.9 Solid Waste Management

Waste management is an important facet of environment management. Thus, solid waste management is important from both aesthetics and environment viewpoints. The solid waste will be generated approx. **14.55 Kg/day** on the project site.

I. Generated food waste or any other domestic waste will be collected in dustbins and will be properly disposed of as per Solid Waste Management Rules 2016.
II. There are no toxic elements present in the mineral which may contaminate the soil or river water.

4.10 Traffic Management

1. Roads will be repaired regularly and maintained in good conditions.
2. Haul roads will be sprinkled with water to keep the dust suppressed.
3. A supervisor will be appointed to regulate the traffic movement near the site.
4. Speed breakers or sign board will be constructed with near accident-prone areas to calm the traffic and its speed.
5. Signage will be erected at the sensitive & precarious places to caution or provide information to road users.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

5 ANALYSIS OF ALTERNATIVES (TECHNOLOGY AND SITE)

5.1 Introduction

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

5.2 Alternative for Mine Lease

Sand (minor mineral) deposits are site specific. It is present in inside river bed **(96.50 Ha.)** The mining of the material will be done by open cast semi-mechanized method inside riverbed. The mining will be done as per laid down procedures Bihar Minerals (Concession, Prevention of Illegal Mining, Transportation & Storage) Rules, 2019 (as amended in 2021. **No overburden** from inside riverbed block will be produced. Therefore, no alternates it is suggested as the mineral is site specific.

5.3 Alternative for Technology and other Parameters

Some alternatives considered during EIA study are discussed below:

Table 5-1: Alternative for Technology and other Parameters

S. No.	Particular	Alternative Option 1	Alternative Option 2	Remarks
1.	Technology	Opencast Semi mechanized and mechanized mining.	Opencast Mechanized mining.	Opencast semi-mechanized for Riverbed is preferred **Benefits:** •No electric power requirement •Minimal noise will be generated •Minimal air pollution will be generated.
2.	Employment	Local employment	Outsource employment	Local employment is preferred. **Benefits:** •Provides employment to local people along with financial benefits •No residential building/housing is required.
3.	Laborer transportation	Public transport	Private transport	Local labors will be deployed so They will either reach mine site by

				Bicycle or by foot. **Benefits:** •Cost of transportation of men will be negligible.
4.	Material transportation	Public transport	Private transport	Material will be transported through trucks/trolleys on the contract basis **Benefits:** •It will give indirect employment.
5.	Water requirement	Tanker supplier	Ground water/surface water supply	Tanker supply will be preferred. **Benefits:** •No change in the surface water or ground water quality.
6.	Road	Haul road	Metallic road	Haul road will be considered for Linking mine site from. Minimum distance will be measured along with less number of trees for considering optimum haul road roots. **Benefits**: Less distance, less fuel used, minimum or negligible no. of trees will be cut in best opted haul road root.

5.4 Summary

We have analyzed all the option for alternative so the proposed mine site. This project is sand specific project and existing land use of mine lease classified as River Body which will continue to be even after the current mining project is over, hence no alternate site is suggested for this project.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

6 ENVIRONMENTAL MONITORING PROGRAM

6.1 Introduction

Regular monitoring of the various environmental parameters is necessary to evaluate the effectiveness of the management programme so that the necessary corrective measures can be taken in case there are some drawbacks in the proposed programme. Since environmental quality parameters at work zone and surrounding area are important for maintaining sound operating practices of the project in conformity with environmental regulations, the post project monitoring work forms part of Environmental Monitoring Program. Environmental Monitoring Program will be implemented once the project activity commences. Environmental Monitoring Program includes: (i) Environmental surveillance (ii) Analysis and interpretation of data (iii) Preparation of reports to support environmental management system and (iv) Organizational set up responsible for the implementation of the programme. Environmental Monitoring will be taken up for various environmental components as per conditions stipulated in Environmental Clearance Letter issued by MoEF&CC and Consent to Operate issued by the State Pollution Control Board. Compliance of same will be submitted to respective authorities on regular basis.

6.2 Environmental Management Cell

In order to maintain the environmental quality within the stipulated standards, regular monitoring of various environmental components is necessary which will be complied as per conditions. For this the lessee **M/S Shivam Coke Pvt. Ltd. (Director- Rajive Ojha)** has taken decision to formulate an Environment Policy of the mine and constitute an Environmental Management Cell and committed to operate the proposed mine with the objectives mentioned in approved Environment Policy. The system of reporting of Non-conformances /violation of any Environmental Law/Policy will be as per quality management system. The internal audit will be conducted on periodic basis and any Non-conformances/violation to Environmental Law/Policy will be closed and discussed during Management Review Meetings of board of directors/partners.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

6.2.1 Hierarchy

An EHS Manager will be appointed to look after all environmental issues and ensure compliance with Environmental Clearance conditions/SPCB norms. An Assistant Manager and Executive Environment Engineer will be appointed under the EHS Manager. EHS Manager will report to the Lessee directly and discuss the non-compliance if so any. An immediate solution will be arrived to ensure compliance with no

6.2.2 Responsibilities for Environmental Management Cell (EMC)

The responsibilities of the EMC include the following:

- Environmental Monitoring of the surrounding area
- Development the green belt/Plantation
- Ensuring minimal use of water
- Proper implementation of pollution control measures
- Access the risk area
- Implementation of QMS
- Conducting Internal Audits
- Closing of NCs and conduction Management Review Meetings.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

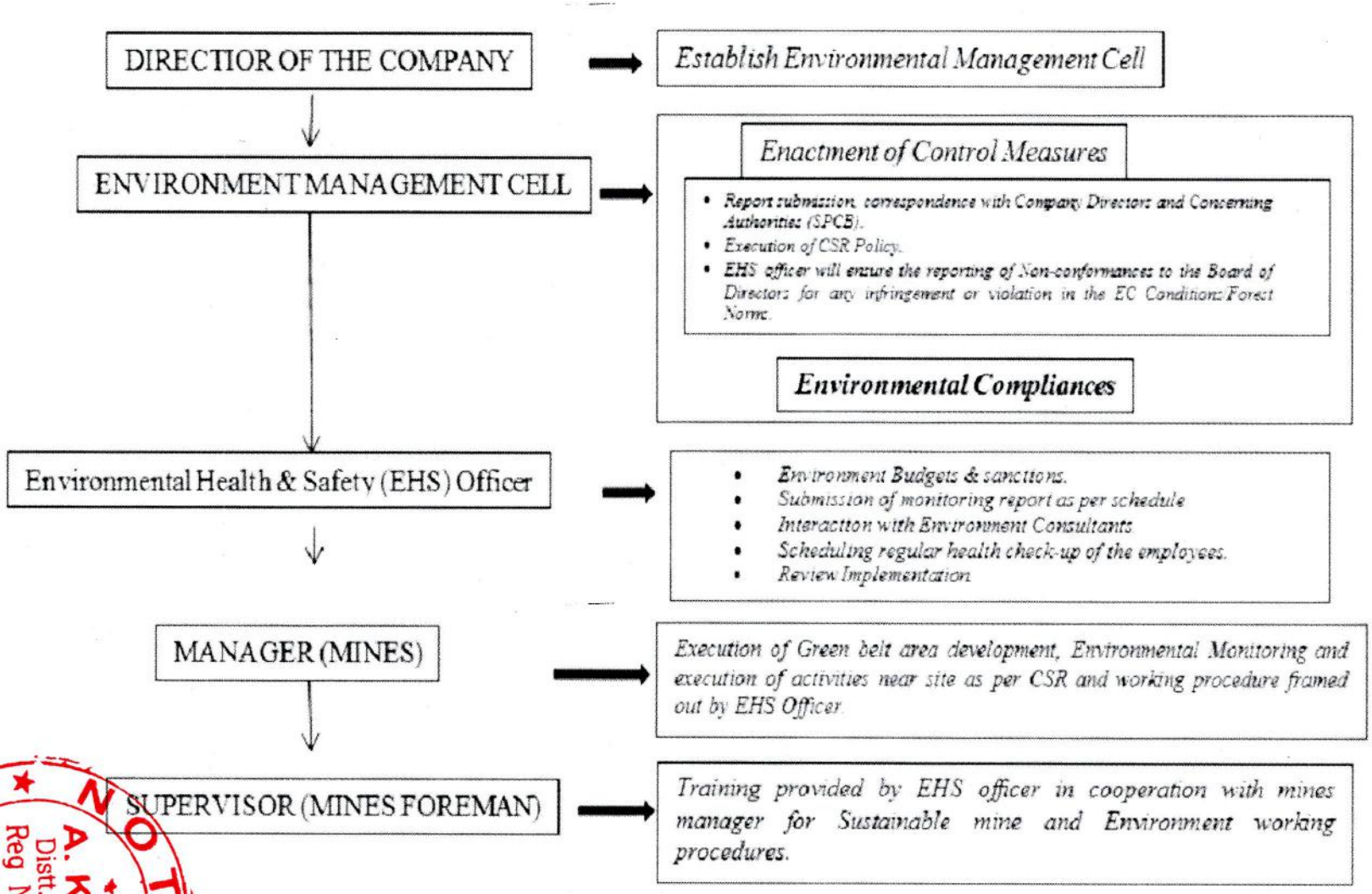


Figure 6-1: Organizational Structure of Environmental Management Cell: With respective roles

6.3 Environmental Monitoring and Reporting Procedure

Monitoring shall confirm that commitments are being met. This may take the form of direct measurement and recording of quantitative information, such as amounts and concentrations of discharges and wastes, for measurement against corporate or statutory standards, consent limits or targets. It may also require measurement of ambient environmental quality in the vicinity of a sit using ecological/biological, physical and chemical indicators. Monitoring may include socio-economic interaction, through local liaison activities or even assessment of complaints.

The key aims of environmental monitoring are:

- To ensure that results/ conditions are as forecast during the planning stage, and where they are not, to pinpoint the cause and implement action to remedy the situation.
- To verify the evaluations made during the planning process, in particular with risk and impact assessments and standards and target setting and to measure operational and process efficiency.
- Monitoring will also be required to meet compliance with statutory and corporate requirements. Finally, monitoring results provide the basis for auditing, *i.e.* to identify unexpected changes.
- To assess and monitors the environmental impacts.

6.4 Monitoring Schedule

Regular Monitoring of all the environmental parameters *viz.*, air, water, noise and soil as per the formulated program based on CPCB and MoEF&CC guidelines will be carried out every year in order to detect any changes from the baseline status.

Table 6-1 :- Monitoring Schedule

S.No.	Description of Parameters	Schedule of Monitoring
1	Air Quality	24 hourly samples twice a week in each season except monsoon
2	Water Quality (Surface & Groundwater)	Once a season for 4 seasons in a year
3	Soil Quality	Once in a year in project area
4	Noise Level	Twice a year for first two years & then once a year
5	Socio-economic Condition	Once in 3 years

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

6	Plantation Monitoring	Once in a season

6.4.1 Locations of Monitoring Stations

The location of the monitoring stations was selected on the basis of prevailing micro meteorological conditions of the area like; wind direction and wind speed, relative humidity, temperature. Locations for the post project monitoring shall be as under.

Table 6-2: Locations of Monitoring Stations

S. No.	Description	Location
1.	Ambient Air Quality	Lease area, Villages in down Wind direction from the Lease Boundary
2.	Noise Level Monitoring	Lease Boundary, High noise generating areas within the lease boundary like joining highways, nearest village, sensitive areas in the surrounding of the mine lease.
3.	Water Level and Quality	Nearby Surface and Ground water sources
4.	Soil Quality	Lease area and Villages within study area.

Table 6-3 :- Budget for Environment monitoring

S. No.	Description	Cost to be incurred (in lakhs/annum)
1.	Water Quality (Surface & Groundwater)	0.40
2.	Soil Quality	0.40
3.	Air Quality	1.0
4.	Noise Level	0.2
5.	Plantation Monitoring	0.5
6.	Socio- economy condition	0.5
TOTAL		**3.0**

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

6.5 Reporting Schedule during Operation of Mine

After completion of analysis, copies of all the analysis reports will be sent to MoEF&CC Regional Office and SPCB. Copies of the reports will be maintained in the office and will be made available to the concerned inspecting authorities.

6.6 Budget Allocation for Monitoring

Budget for monitoring of Air, water, Noise and Soil will be **Rs. 2.0 Lakhs** to be incurred by the project proponent for undertaking pollution prevention measures during the mining activity.

6.7 Summary

In order to maintain the environmental quality within the stipulated standards, regular monitoring of various environmental components is necessary which will be complied as per conditions. For this lessee **M/S Shivam Coke Pvt. Ltd. (Director- Rajive Ojha)** has taken decision to establish an Environment Policy of the mine and constitute an Environmental Management Cell and committed to operate the proposed mine with the objectives mentioned in approved Environment Policy. EMP may also require measurement of ambient environmental quality in the vicinity of a site using ecological/biological, physical and chemical indicators. Monitoring may include socio-economic interaction, through local liaison activities or even assessment of complaints. Regular Monitoring of all the environmental parameters *viz.*, air, water, noise and soil as per the formulated program based on CPCB and MoEF&CC guidelines will be carried out every year. The location of the monitoring stations was selected on the basis of prevailing micro meteorological conditions of the area like; wind direction and wind speed, relative humidity, temperature. A budget for monitoring of Air, water, Noise and Soil will be incurred by the project proponent for undertaking pollution prevention measures during the mining activity.

NOTARY
A. K. LAL
Distt.-PATNA
Reg No.-1883J
Exp.dt.-29.05.2027
GOVT OF BIHAR

7 ADDITIONAL STUDIES

7.1 General

This chapter will highlight the additional studies that had been performed based on feedback from internal quality assessment, regulatory authority and stakeholder. Mining operations are associated with several potential hazards that affect adversely the human health and environment. It would normally require the assistance of emergency services to handle it effectively. The mining operation will be taken up under the supervision and control of qualified staff including Mine Manager (Grade I). Similarly, Sand mines also have impending dangers and risk which need to bead dressed for which a disaster management plan has been prepared with an aim of taking precautionary steps to avert disasters and also to take such action after the disaster which limits the damage to the minimum.

7.2 Items Identified by Proponent

No requirements of additional studies have been identified due to the unique location and proposed method of mining to be adopted.

7.3 Items Identified by Regulatory Authority

All studies identified by regulatory authority have been discussed in detail in Chapter 4.

7.4 Items Identified by the Public and Other Stakeholders

As per the appendix IV of EIA Notification 2006 & ToR issued by SEIAA Bihar, public Hearing/consultation was held on 15th of March, 2024 under the chairmanship of "ADM, Rohtas, Sasaram– Shree Chandrashekhar Prasad Singh (Nominated by District Collector- Rohtas) at Block-Auditorium Dehri, District- Rohtas, Bihar. In Public Hearing no local persons participate in the environmental impacts of the project. Proper video recording was done for this meeting.

The Public Hearing was arranged by the regional office of Bihar State Pollution Control Board-Patna (BSPCB).

Table 7-1: Public hearing details

Particular	Description
Advertisement for Public Hearing	
➢ Date of Advertisement in Newspapers	10.02.2024
➢ Name of Newspapers	Hindustan, Dainik Bhaskar

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

Date of Public Hearing	15th of March, 2024
Venue	At Block – Auditorium Dehri, District- Rohtas, Bihar.
Members	• ADM– Shree Chandrashekhar Prasad Singh (Nominated by District Collector-Rohtas) • Shree Ashish Kumar, Regional Officer, BSPCB, Patna

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

बिहार राज्य प्रदूषण नियंत्रण पर्षद्

परिवेश भवन, पाटलीपुत्र औद्योगिक क्षेत्र, पटना-800 010

दूरभाष नं0-0612-2281250 / 2282206, फैक्स-0612-2281050;

E-mail: mshspcb-bih@gov.in, वेबसाईट-http://bspcb.bih.nic.in.

पत्रांक :- पटना, दिनांक:-

प्रेषक

एस. चन्द्रशेखर, भा०व०से०,

सदस्य-सचिव

सेवा में,

जिला पदाधिकारी,

रोहतास।

विषय: बालु घाटों का रोहतास जिला में परियोजना से संबंधित पर्यावरणीय स्वीकृति के वास्ते लोक-सुनवाई की अध्यक्षता करने के संबंध में।

महाशय,

उपरोक्त विषयक के प्रसंग में सूचित करना है कि पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार के अधिसूचना सं0-एस.ओ. 1533, दिनांक 14 सितम्बर, 2006 के आलोक में मेसर्स शिवम कोक प्राइवेट लिमिटेड, निदेशक–श्री राजीव ओझा, पिता–श्री बालेश्वर ओझा, ग्राम+पोस्ट–सेमरिया, थाना–शाहपुर, सेमरिया पट्टी ओझा, जिला–भोजपुर द्वारा रोहतास सोन –08 बालू घाट, मौजा–दरिहट/मझियावां, ब्लॉक–डेहरी, जिला–रोहतास द्वारा परियोजना से संबंधित प्रस्ताव प्राप्त है। इस परियोजना के कार्यान्वयन के पूर्व पर्यावरणी स्वीकृति कराने हेतु अनुरोध पत्र वांछित कागजात के साथ उपलब्ध कराया गया है। **लोक-सुनवाई की अध्यक्षता जिला पदाधिकारी या उनके प्रतिनिधि (जो अपर समाहर्त्ता से कम न हो) द्वारा की जानी है।**

सूचित करना है कि प्रस्तावित परियोजना के पर्यावरणीय स्वीकृति हेतु लोक-सुनवाई निम्नरूपेण सुनिश्चित की गयी है:-

दिनांक	समय	अंचल का नाम	बालू घाट का मौजा	बालू घाट का नाम	लोक–सुनवाई का स्थल
15.03.2024	अपराह्न 01:00 बजे	डेहरी	दरिहट/मझियावां	रोहतास सोन –08 बालू घाट	अंचल कार्यालय, डेहरी, जिला–रोहतास।

इसकी सूचना दैनिक समाचार पत्रों के माध्यम से भी प्रकाशित की गयी है। जिसकी छायाप्रति सुलभ जानकारी हेतु संलग्न की जा रही है।

आवेदक से प्राप्त परियोजना के ड्राफ्ट ई0आई0ए0 एवं कार्यपालक सार (हिन्दी एवं अंग्रेजी में) की एक-एक प्रति हार्ड एवं सॉफ्ट कॉपी अलग-अलग संलग्न कर भेजी जा रही है, ताकि परियोजना से प्रभावित होनेवाले क्षेत्र के लोगों के अवलोकनार्थ इसे प्रदर्शित कराया जा सके।

Figure 7-1:- Newspaper Advertisement

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

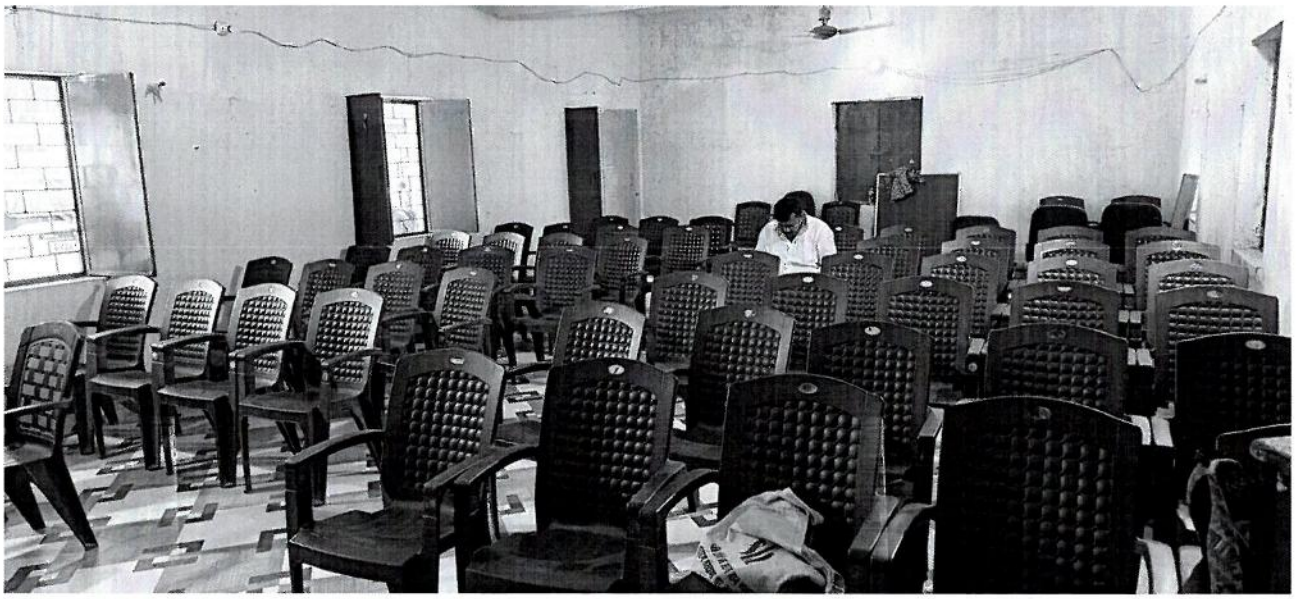


Figure 7-2:- Public Hearing Photographs

Table 7-2: Details of action plan for the issues raised during the public hearing

S. No.	Name & Address	Questions	Answer
1.	The general public did not attend the public hearing	-	

7.5 Corporate Environment Responsibility

The proposed Corporate Environment Responsibility includes the activities based on the need and priorities of the villagers identified during the Social Economic study and issues that arise in the public hearing.

From discussion with villagers during Socio-Economic Survey

- Health Camp for villagers
- Education facility

Major issues raised during Public Hearing

- Plantation around the project site
- Road maintenance and dust suppression
- Employment to local people
- CSR activity for nearby villages

Employment Opportunity

- Employment to the local people from nearby village on the basis of their skills.

Rs. 59.26 Lakhs has been earmarked for the Corporate Environment Responsibility (CER) to meet expenditures for the development of the surrounding villages. The details of activities to be undertaken and the budget allocated are given in Table below:

Table 7-3: Corporate Environment Responsibility (CER)

SL. No	Area of Concern	Action Plan	Budget Allocated (in Lakh)	Time Period
1.	School Infrastructure	Infrastructure development for 2 villages school campus renovation for (Toilet, Drinking Water Facility, Desk, Benches, Computer, Projectors)	40	1st Year
2.	Development activities in the nearest village with CER	Installation of solar lighting in 2 villages namely as Darihat, Majhiawan, (Rs. 25,000 x 40 nos.)	10.0	2nd Year
3.	Medical Health Checkup for Villagers	Medical Health Checkup for Villagers in Darihat, Majhiawan	4.26	Yearly
4.	Transportation Route Maintenance	Regular maintenance of Transportation route	5.0	Yearly
	Total		**59.26**	

7.6 Risk Analysis and Disaster Management Plan

All types of industries face certain types of hazards which can disrupt normal activities abruptly. Similarly, river bed mines also have risks which need to be addressed for which a disaster management plan has been formulated with an aim of taking precautionary steps to avert disasters and also take such action after disasters which limits the damage to minimum. In the sections below, the identification of various hazards, probable risks during the operational phase of the mining, maximum credible accident analysis and consequences analysis are addressed either qualitatively or quantitatively.

Risk assessments will help mine operators to identify high, medium and low risk levels. This is a requirement of the Occupational Health and Safety Act 2000. Risk assessments will help to priorities the risks and provide information on the need to safely control the risks. In this way, mine owners and operators will be able to implement safety improvements. The following natural/industrial problem may be encountered during the mining operation.

- ✓ Inundation: Filling of the mine pit due to excessive rains
- ✓ Slope failures at the mine face so stacks
- ✓ Accident due to fire (in forested areas)

As per proposal made under the mining plan the area will be developed by means opencast mining method. Extraction of minerals is to be carried out by open cast semi-mechanized method. Water table will not be touched during the mining process. No high-risk accidents like landslides, subsidence flood etc. have been apprehended.

7.6.1 Risks due to Inundation

Mining will be done during the non-monsoon periods (October-June); therefore, problem of inundation is not likely to happen.

7.6.2 Risks Due to Failure of Pit Slope

In order to allay dangers due to open cast slope failure, final pit, slope stability estimations will be made for the existing mines. Determining the factor of safety, the slopes should be monitored at regular intervals to check for any possible failure.

7.6.3 Risks due to Failure of Waste Dumps

All the Material excavated during mining will be saleable, therefore no waste dumps are proposed.

NOTARY A. K. LAL Distt.-PATNA Reg No.-18835 Exp.dt.-29.05.2027 GOVT OF BIHAR

7.6.4 Risks of Accidents due to Trucks and Dumpers

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- ✓ Rough access roads
- ✓ Time pressure
- ✓ Inadequate brakes (Possibly from lack of maintenance)
- ✓ Careless parked vehicles (*e.g.* being parked on aslope without being adequately secured)
- ✓ Unsafe coupling and uncoupling of trailers, and
- ✓ Untrained drivers
- ✓ Overturning vehicles
- ✓ Over speeding of the vehicles

To avoid such instances, trainings will be given to the workers and their representatives and involve them in the risk assessment process and train them what to do, to reduce risk. All transportation within the mine lease area should be carried out directly under the supervision and control of management.

The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.

- ✓ Road signs will be provided at each and every turning point up to the main road (wherever required).
- ✓ To avoid danger while reversing the vehicles especially at working place /loading points, stopper should be posted to properly guide reversing/spotting operating.
- ✓ Only trained drivers will be hired.

7.7 Disasters and Its Management

Mining and allied activities are associated with several potential hazards to both the employees and the public at large. A worker in a mine will be able to work under conditions, which are adequately safe and healthy. At the same time the environmental conditions also will not impair his working efficiency. This is possible only when there is adequate safety in mines. Hence mine safety is one of the most essential aspects of any working mine. The safety of the mine and the employees is taken care of by the Mines Act 1952, which is well defined with laid down procedure to ensure safety and constantly monitored and supervised by Directorate General of Mines Safety and Department of

Mines, State Government.

7.7.1 Identification of Hazards

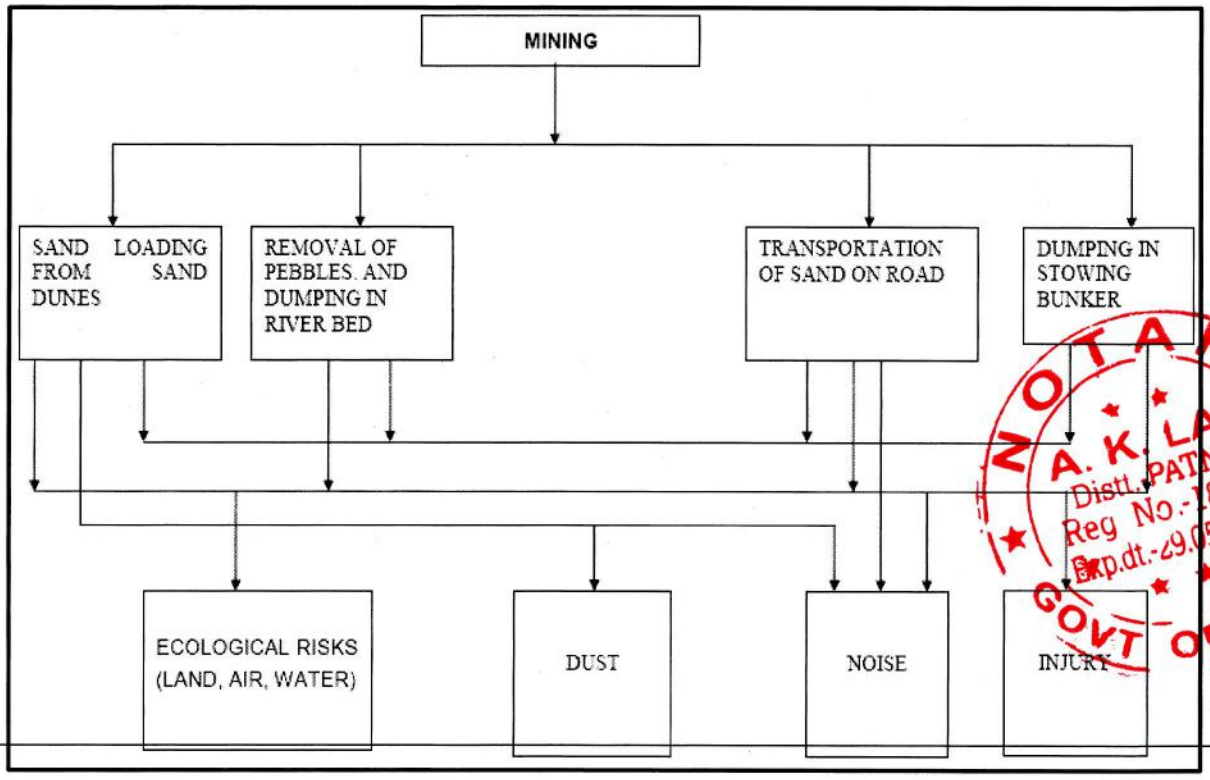
There are various factors, which can create disaster in sand mine. These hazards are as follows:

- ✓ Inundation / Flooding.
- ✓ Quick Sand Condition.
- ✓ Drowning.
- ✓ Accident due to vehicular movement.
- ✓ Accident during sand loading, transporting and dumping.

7.7.2 Sand Loading

The sand is loaded in the trucks using hand shovels and back-hoe. There are possibilities of injury in the hands during loading with shovels and staying under bucket movement.

- ✓ There are possibilities that the workers standing on the other side of loading may get injury due to over thrown sands with pebbles.
- ✓ There are possibilities of workers getting injured during opening of side covers of the trucks to facilitate sand loading.
- ✓ There are possibilities of riverbank collapse due to close proximity of sand extraction.
- ✓ There are chances of falling of cattle/children into sand pit in river bed, may be fatal due to fall in such pits were reported from other areas to the Department of Mines.
- ✓ Chance of workers getting injured due to improper balancing of truck while loading.



7.7.3 Heavy Machinery

Most of the accidents occur during transportation by dumpers, trucks and other heavy vehicles and are often attributable to mechanical failures, in which the factor of human errors cannot be ruled out.

7.7.4 Inundation / Flooding

- ✓ The possibility of inundation/flooding of the sand mines are very high during monsoon or during heavy rains in lean season as the mine area lies over the sand dunes of a riverbed.
- ✓ There are dangers to the trucks and other machineries due to flooding.
- ✓ There are dangers to the workers working in the sand dunes. Inundation or flooding is expected and beneficial for these sand mines as during this time only the sand reserve gets replenished.

7.7.5 Safety Features Required in Tippers/Trucks

- ✓ **Rear Vision System:** For assisting operator to have back view during reversing.
- ✓ **Auto dipping System:** To reduce glaring of eyes of operator during night.
- ✓ **Load Indicator and Recorder:** Enables management to detect and prevent over loading.
- ✓ **Global Positioning system:** To prevent illegal transport and selling of sand, restricting short-cut routes other than stipulated routes and computerized monitoring.
- ✓ **Seat belt reminder:** To alert operator for using the seat belt.

7.7.6 Mitigation of Hazards

7.7.6.1 Measures to Prevent Accidents during Sand Loading.

- ✓ The trucks will be brought to a level so that the sand loading operation suits to the ergonomic Condition of the workers and the back-hoe.
- ✓ The loading will be done from one side of the truck only.
- ✓ The workers will be provided with gloves and safety shoes during loading.
- ✓ Opening of the side covers (pattas) will be done carefully and with warning to prevent injury to the loaders.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Expiry-29.05.2027 GOVT OF BIHAR

- ✓ No sand will be collected within 7.5m from bank, especially from outer bank of the meandering river. Safe clearance will be mainly determined by the height of the river bank and thickness of sand to be extracted from the close vicinity of that bank.
- ✓ Ponding in the river bed shall not be allowed.
- ✓ Operations during daylight only.
- ✓ No foreign material (garbage's) will be allowed to remain/spill in river bed and catchment area, or no pits/pockets are allowed to be filled with such material.
- ✓ Stockpiling of harvested sand on the river bank will be avoided.
- ✓ For particular operations, approaching river bed from both the banks will be avoided.

7.8 Replenishment of Sand Deposits

The replenishment study has been carried out during the preparation of DSR by Sub Divisional Committee, Rohats after analyzing datasets of consecutive calendar years. Both field-based surveys coupled with satellite imagery study and empirical study were carried out to determine the rate of replenishment in each river of the district. The determined values of various methods as adopted for replenishment study gives a comparable value and in all cases the values are found to be much more as compared to the capping limit (60%) as suggested in the Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) January 2020, Issued by Ministry of Environment, Forest and Climate Change (MoEF & CC) 2020. It is suggested to have a periodical review along with field data acquisition during pre and post monsoon periods to record the seasonal variance of the sedimentation rate on annual basis and update this DSR in case of any abnormal findings.

Theoretical Replenishment study based on mining lease shows variation from 74.50% to 95.60% with an average of 81.52% of replenishment rate in the district. An average replenishment rate for the year for Rohtas District comes to about 86.39%.

(Source Approved DSR, Rohtas)

7.9 Social Impact Assessment, Rehabilitation & Resettlement (R&R) Action Plan

Socio Economic Impact Assessment (SEIA) refers to systematic analysis of various social and economic characteristics of human being living in a given geographical area during a given period. SEIA is carried out separately but concurrently with Environment Impact Assessment (EIA). It focuses the effect of the project on social and economic well-being of the community.

NOTARY A.K. LAL DIST. PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

7.9.1 Impact on Demographic Composition

The proposed project will hardly make any difference in the demographic composition of the study area as the additional employment is envisages to create that will be met locally to the maximum extent. Hence, the chances of in-migration of people from outside the study area are remote. Accordingly, there will be no variation in the total population of the study area including that of sex ratio, when the mine starts operating.

7.9.2 Employment Opportunities

The proposed project will provide employment to the local people. It has been estimated that 58peoplewill get direct employment in this mining project. It is a positive impact of the project since it is providing employment opportunities to the local people.

7.9.3 Increased Supply of Sand in the Market

With the commencement of the proposed mining project the supply of sand will increase and the gap between demand and supply will decrease to some extent, if not fully.

7.9.4 Impact on Agriculture

The entire mining area is part of river bed and the entire land is Government Revenue Land. It is a non-forest land and the proposed activity is to take place in the bed of river Son & agriculture field. There will be no negative impact on agriculture because compensation will be made to the land owners and agriculture land is reclaimed & give back to the land owners after the completion of mining contract so that they will again use the field for cultivation. Scientific mining will be adopted in the proposed mining project the area will be free from annual floods, which destroy standing crops, land and property. This is a positive impact of the proposed mining project.

7.9.5 Impact on Road Development

Movement of tractor-trolleys and other vehicles to and fro the mining site is expected to increase substantially, when mining will start. The existing roads connecting the quarry with the National and State Highways are mostly narrow mud roads. There will be mud slide and traffic bottle neck if these roads are not widened and their conditions are not improved. Hence, there is good scope for road development in the mining area. Further, there are risks of accidents during loading of extracted minerals into tractor-trolleys and transportation to markets for sell. However, accidents can be avoided by taking due care & precautions.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp. dt.-29.05.2027 GOVT OF BIHAR

7.9.6 Income to Government

The proposed mining activity will benefit the State in the form of royalty, dead rent, fees & earning from taxes.

7.9.7 Impact on Law and Order

As most of the workers to be employed in the proposed mining project are local residents no law &order problem is envisaged. It is expected that the workers will attend to their duties from their residence and return to their homes after the day's work. There would have been law & order problem if the workers were migrants and lived in shanties closed to the mining area. However, to meet any untoward incident one police post may be set up closed to the mining area.

7.9.8 Impact on Health

There are no chances of occurring diseases, due to manual mining of sand. Sand is non-toxic. However, sand mining activities such as excavation and loading unloading of sand require precautions since it create respiratory problems among mine workers. Excessive inhalation of sand is a serious health concern. To avoid respiratory problem from sand necessary protection should be taken.

Few safety measures are outlined below:

a) Safe Working Environment: The project proponent shall ensure health and safety of all the employees at work. Efforts will be made to provide and maintain a safe work environment and ensure that the machinery and equipment in use is safe for employees. Further, it will be ensured that working arrangements are not hazardous to employees.

b) Provision of First Aid: The first aid treatment reflects the hazards associated with the mining of minerals. The first-aiders will be well trained in handling patients working in the Project.

c) Regular Health Examination: For all mine worker's regular health examination will be made compulsory. Treatment of serious back injury; existing asthma or respiratory diseases, existing skin diseases, lung function test (pre and post Ventolin), Audiograms, Chest X- ray etc. will also be taken care of.

d) Health Education: Adequate health education and information related to the job will be provided to the workers. Baseline health information will be recorded for future references.

e) Tie-up with the Nearest Hospital for Medical Assistance: To meet the medical needs of the mine worker's tie-up with nearest hospitals will be made. Efforts will be made to reserve few beds in the

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Regd.-29.05.2027 GOVT. OF BIHAR

above hospitals for the workers of the mining project. This will ensure timely medical aid to the affected persons.

f) Supply of Mask and Gloves: The workers in the Sand mining project are subject to respiratory diseases. For protection from dust it will be made compulsory for all workers to wear masks and gloves, while working in the mine.

Rehabilitation and Resettlement (R&R) action plan is not applicable for this project.

7.10 Summary

Risk assessments will help to priorities the risks and provide information on the need to safely control the risks. In this way, mine owners and operators will be able to implement safety improvements. Mining and allied activities are associated with several potential hazards to both the employees and the public at large. A worker in amine will be able to work under conditions, which are adequately safe and healthy. At the same time the environmental conditions also will not impair his working efficiency. This is possible only when their inadequate safety in mines. Hence mine safety is one of the most essential aspects of any working mine. It is very important to conserve the scheduled fauna in the area by the local authority as well as by the forest officials. People are not aware about the wildlife and protection of wild animals. There is an urgent need of education and awareness to local people about the wild life and their importance. A green belt will be developed around the core zone. Green belt plantation will be started with the beginning of the mining and will be completed at the end of mine lease. This mining project has positive impact on social and economic well-being of the community because this project provides employment opportunities to local people and many social welfares works done by project proponent. There is no displacement of the population within the project area and adjacent nearby area.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

8 PROJECT BENEFITS

8.1 General

The proposed sand mining project will improve the socio-economic and reduce the chances of flood. This will be in form of roads, water supply, employment and economic growth.

8.2 Physical benefits

- ✓ Generate useful economic resource for construction.
- ✓ Improve Socio-economic conditions of surrounding areas.
- ✓ Protecting river banks.
- ✓ Reduce the probability of submergence of adjoining agricultural lands.
- ✓ Protection of crops being cultivated along the river bank.
- ✓ Reducing aggradations of river level.
- ✓ **Improvements in the physical infrastructure:** -The Proposed Sand mine will have numerous induced impacts on society such as growth in schools, hospitals, hotels & restaurants, transport etc.
- ✓ **Improvements in the social infrastructure:** -The social infrastructure like repairing of handpumps, submersibles for agriculture, maintenance of nearby school infrastructure and maintenance of haulage path and village roads.
- ✓ **Employment potential —** The present project will provide employment to **97** people.
- ✓ **Other tangible benefits:** -Deepening and cleaning of the river flood plain/bed will help in reduction of flood in the area, job opportunity to the labours. The CER activity will add aid to educational infrastructure, maintenance of the village road and also health check -up of the nearby villagers.

8.3 Social Benefits

The mining in the area will create rural employment. It has been observed that conditions of the village around mining areas are better than that of distant villages. The mining activity in the region will have positive impact on the social economic condition of the area by way of providing employment to the local in-habitants; wages paid to them will increase the per capita income, housing, education, medical and transportation facilities, economic status, health and agriculture.

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

A detailed programme for socio economic development of the area has been framed. The salient features of the programme are as follows:

- ✓ Social welfare programme like provision of medical facilities educational facilities, water supply for the employees as well as for nearby villagers will be taken.
- ✓ A well laid plan for employment of the local people has been prepared by giving priority to local people.
- ✓ Supplementing Govt. efforts in health monitoring camps, social welfare and various awareness programs among the rural population.
- ✓ Assisting social forestry programme.
- ✓ Adoption of villages for general development.
- ✓ Supply of water to village nearby villages.
- ✓ Development of facilities within villages like roads, etc.

8.4 Corporate Environmental Responsibilities

As per OM dated 1st May 2018, 2% of capital cost of the project cost will be allotted for the Corporate Environmental Responsibility. The following has been proposed considering the needs & demand of the people.

CER cost will be 2% of the total project cost. This amount will be used for social welfare.

CER COST is 296305000 x 2.0% = Rs. 5926100/.

The funds have been decided after discussing with the local authority/people during Public Hearing. It has been planned to undertake a concurrent evaluation of the activities to be taken up under the CER programme. Detailed action plan for the activities along with the budgetary allocation is incorporated in **Chapter 7, Table 7-3, of EIA/EMP Report.**

8.5 Ecological Benefits

A green belt will be developed along the boundary of the mining lease area. The area for green belt plantation consists of undisturbed soil; hence plantation could be made as in any garden or road side plantation. Green belt is erected not from biodiversity conservation point of view but is basically developed as a screen to check the spread of dust pollution. It is proposed to plant **997** Nos. of native species along with some fruit bearing and medicinal trees during the plan period

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883/ Regd.-29.05.2027 GOVT OF BIHAR

and a budget of capital Cost **Rs. 19.94 Lakh and recurring Cost. 1.0 Lakhs** for plantation is given in **EMP.**

8.6 Conclusion

The management will recruit the semi-skilled and unskilled workers from the nearby villages. The project activity and the management will definitely support the local Panchayat and provide other form of assistance for the development of public amenities in this region. The company management will contribute to the local schools, dispensaries for the welfare of the villagers. A suitable combination of trees that can grow fast and also have good leaf cover will be adopted to develop the green belt. It is proposed to plant **997 Nos**. native species per during the mining plan period.

9 ENVIRONMENTAL COST BENEFIT ANALYSIS

9.1 Environmental Cost Benefit Analysis

As per EIA Notification dated 14th September, 2006 as amended from time to time; the chapter on "Environmental Cost Benefit Analysis" is applicable only, if the same is recommended at the Scoping Stage.

As per the ToR points issued on dated 06-06-2023 by SEIAA Bihar, (File No. SIA/1(a)/2428/2023) the Environmental Cost Benefit Analysis is not required.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

10 ENVIRONMENT MANAGEMENT PLAN

10.1 General

Environmental Management Plan is a guiding document for environmental impacts associated with the proposed projects. It is a guiding document for management of good environmental condition on the site & surrounding of the proposed sand mine. The Environmental Management Plan (EMP) has been formulated and integrated with the sand mine planning keeping in view overall scientific development of local habitat and reduce the adverse impact that may be caused due to the sand mining operation. A scientific assessment of these impacts those are likely to influence the existing environmental scenario is needed. This could also facilitate in formulating a suitable environmental management plan depicting all mitigation measures. It can help in implementing the project in an eco-friendly manner. The project activities influencing the following environmental attributes have been studied and their impacts on the following attributes have been assessed.

The Environment Management Plan (EMP) will outline the measures that will be undertaken to ensure compliance with environmental legislation and recommendations from the EAC / SEAC to minimize adverse impacts on the environment. The environmental management plan consists of the set of mitigation, management, monitoring and institutional measures to be taken during the implementation and operation of the project, to eliminate adverse environmental impacts or reduce them to acceptable levels. The present environmental management plan addresses the components of environment, which are likely to be affected by the different operations in a mine area. The environmental management must be integrated into the process of mine planning so that ecological balance of the area is maintained and adverse effects are minimized. An Environmental Management Plan (EMP) is a site specific plan developed to ensure that the project is implemented in an environmentally sustainable manner. An effective EMP ensures the application of best practice environment management to a project the purpose of an EMP is to:

I. Assists proponent in the preparation of an effective and user friendly EMP.
II. Improve the contribution that an EMP can make to the effectiveness of the environmental management process.
III. Ensure a minimum standard and consistent approach to the preparation of EMP's.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

IV. Ensure that the commitments made as part of the project's EIA are implemented throughout the project life.

V. Ensure that environment management details are captured and documented at all stages of a project.

The design of EMP for operational phase has been aimed to achieve the following objectives:

I. To ensure adoption of state of art technological environmental control measures and implementing them satisfactorily.

II. Effectiveness of mitigatory measures in mitigation of impacts.

III. Description of monitoring program of the surrounding environment.

IV. Institution arrangements to monitor effectively and take suitable corrective steps for implementation of proper EMP.

V. An Environmental Management Cell (EMC) should be set up to take care of all environment aspects and to maintain environmental quality in the project area.

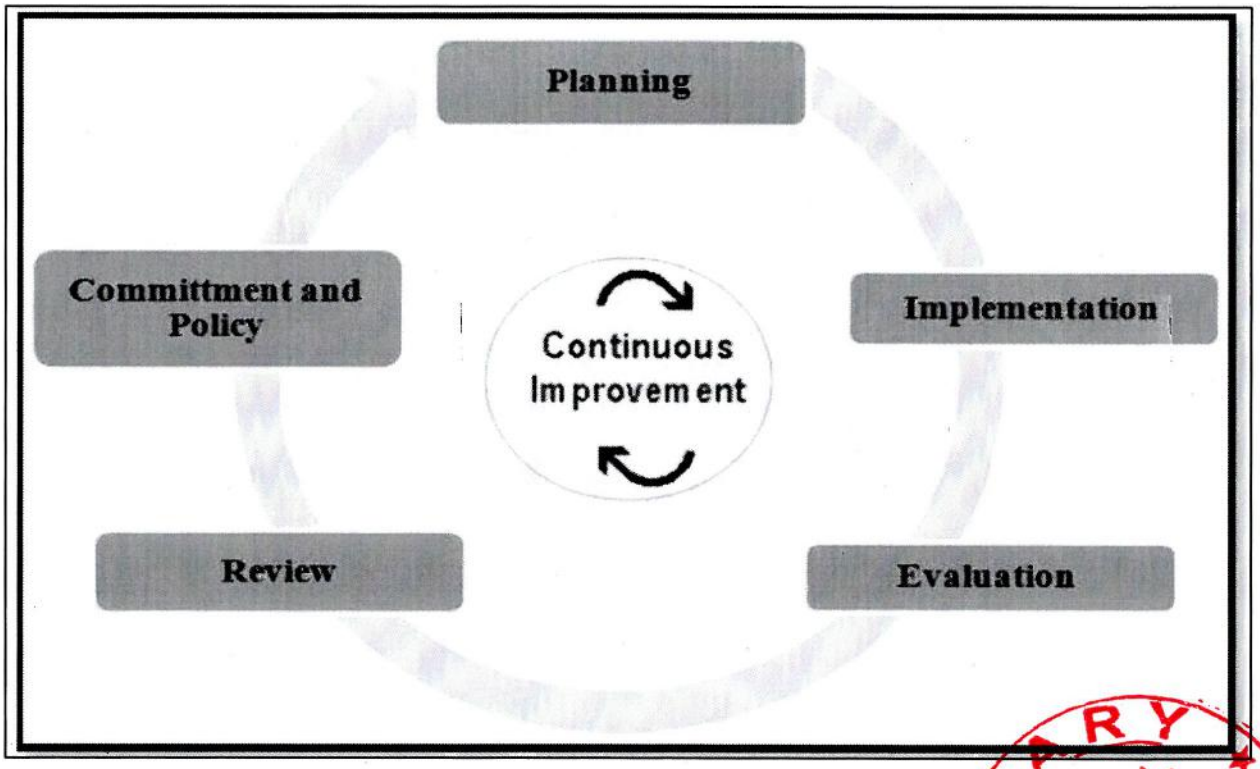


Figure 10-1 :-Flow Chart of EMP

10.2 Land Use Pattern

River bed mining can lead to river bank erosion and sedimentation arising from changes in hydrology due to alteration in water depths and river bed morphology. Sand and gravel in low land river land forms are biologically important and an economic asset. Keeping this in mind, the following management plans are suggested:

I. Mineral will be mined out after leaving sufficient safety zone from the bank as per sand Enforcement & Monitoring Guidelines for Sand Mining 2020.
II. The mining is planned in non-monsoon seasons only, so that the excavated area gets replenished during the monsoon each year.
III. Pits will get replenished naturally every year after monsoon.
IV. Grass/plants will be planted on the bank of the river for their stability.
V. Slopes of the sides in mine will be at least 45° to prevent any erosion.

10.3 Air Environment Management

Mitigative measures suggested for air emission control will be based on the baseline ambient air Quality monitoring data. From the point of view of maintenance of an acceptable ambient air quality in the region, it is desirable that the air quality needs to be monitored on a regular basis to check it vis-à-vis the NAAQS prescribed by MoEF&CC and in cases of non-compliance, appropriate mitigative measures will be adopted. In order to minimize impacts of mining on air and to maintain it within the prescribed limits of CPCB/ SPCB, an Environmental Management Plan (EMP) has been prepared. This will help in resolving all environmental and ecological issues likely to cause due to mining in the area.

During the course of mining no toxic substances are released into the atmosphere as such there seems to be no potential threat to health of human beings. In the mining activities, the only source of dust emission from loading & gaseous emissions is from the engines of vehicles. The reasons may be quality of fuel, improper operation of the engine, etc. proper maintenance of engines will improve combustion process and brings reduction in pollution.

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Exp.dt.-29.05.2027 GOVT. OF BIHAR

10.3.1 Control of Gaseous Pollution

In mining activities, the only source of gaseous emissions is from the engines of transport vehicles. The emissions from the diesel engines of the machinery can be controlled by proper maintenance and monitoring of machines.

10.3.2 Control of Dust Pollution

The main pollutant in air is PM10, which is generated due to various mining activities. However, to reduce the impact of dust pollution the following steps have been taken during various mining Activities.

a) During loading operation

I. Latest loading equipment like hydraulic excavators will be used with dumpers. This reduces the number of buckets to fill from height and thus have comparatively less dust generation. The propagation of this dust is confined to loading point only and does not affect any person both the operators of excavator and dumpers who will sit in closed chamber and will be equipped with dust mask.
II. Skilled operators will operate excavators.
III. Avoid overloading of dumpers and consequent spillage on the roads.
IV. In Truck loading sand, freeboard space to be provided and vehicles should be covered.

b) During Transport operation

I. All the haulage roads including the main ramp be kept wide, leveled, compacted and properly maintained and watered regularly during the shift operation to prevent generation of dust due to movement of dumpers, and other vehicles.
II. Mineral carrying trucks will be effectively covered by Tarpaulin to avoid escape of fines to atmosphere and air pollution.
III. Regular Compaction and grading of haul roads to clear accumulation of loose material.
IV. Air quality will be regularly monitored both in the core zone and the buffer zone.

c) Plantation work carried out

In order to reduce air pollution in the surroundings, green belt will be developed along mine approach road. The plantation will be done along the bank of a river.

d) Monitoring of air pollution

Periodic air quality survey will be carried out to monitor the changes consequent upon mining activities as per the norms of CPCB.

10.4 Noise and Vibration Environment

The ambient noise level monitoring carried out in and around the proposed mine lease area shows that ambient noise levels are well within the stipulated limits of MoEF&CC. There is no drilling and blasting for mineral extraction. Noise pollution will only be due to loading and transporting equipment. Effective steps will be taken to keep the noise level well below the limit of 85 dbA as prescribed by DGMS.

10.4.1 Noise Abatement and Control

I. Proper maintenance of all machines is being carried out, which help in reducing generation of noise during operations.

II. No other equipment's accept the Transportation vehicles and Excavator and Loaders (as and when required) for loading is allowed.

III. Noise generated by this equipment is intermittent and does not cause much adverse impact.

IV. Periodical monitoring of noise will be done to adopt corrective actions wherever needed.

V. Plantation will be taken up along the approach roads. The plantation minimizes propagation of noise and also arrests dust.

VI. Mining will be done on day time only.

10.5 Surface and Ground Water Management

During the operational phase of mine no waste water or industrial effluent will be generated. The environmental management for water pollution control includes:

I. Water requirements for drinking, plantation and dust suppression will be met by private tanker supply on the daily basis.

II. Mining will neither intersect the ground water table of the area. So not at all disturbing water environment.

III. The mining does not have any impact on topography and natural drainage of surrounding area.

NOTARY A. K. LAL Distt.-PATNA Reg No.-18833 Exp. Upto-29.05.2027 GOVT OF BIHAR

IV. Local people will be employed and no permanent housing will be done so no permanent drainage pattern for sewerage system is required as domestic sewage shall be disposed of into septic tank followed by soak pits.

V. Monitoring of water quality of nearby surface water, ground water and domestic water will be conducted once in every season except monsoon to evaluate the performance of the mitigation measures.

10.5.1 Waste Water Management

No waste water is generated from the mining activity of minor minerals as the project only involves lifting/excavation of Sand and transportation directly to the consumers.

10.5.2 Water Conservation

The project does not consume any process water except for drinking, dust suppression and plantation. Plantation is proposed, which will increase the water holding capacity and help in recharging of ground water.

10.6 Solid Waste Management

Waste management is an important facet of environment management. Thus, solid waste management is important from both aesthetics and environment viewpoints.

I. Generated food waste or any other domestic waste will be collected in dustbins and will be properly disposed of.

II. There are no toxic elements present in the mineral which may contaminate the soil or river water.

10.7 Biological Environment

Although, there are no significant adverse impacts from the project, the following measures are proposed to minimize anticipated impacts:

I. It will be ensured that no mining activity will be carried out during the monsoon season to minimize impact on aquatic life which is mainly breeding season for many of the species.

II. As the mining site has no vegetation, no clearance of vegetation will be done.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

III. Prior to closure of mining operations / during the rainy season the eroded bank will be restored / reclaimed to minimize negative impacts on aquatic habitats.

IV. Sprinkling will be done on the haul roads with water to avoid the dust emission, thus avoiding damage to the crops.

V. Mining will be carried out on the dry part of the lease area to avoid disturbance to the aquatic habitat and movement of fish species.

VI. No discard of food, polythene waste etc. will be allowed in the lease area which would distract/attract the wildlife.

VII. No night time mining will be allowed which may catch the attention of wild life.

VIII. Workers will be made aware of the importance of the wildlife and signage will be displayed at the sensitive areas to caution the workers & other passer-by.

10.7.1 Green Belt Development

The proposed green belt in the lease area is to be developed taking into consideration the availability of area as the efficiency of green belt in pollution control mainly depends on tree species, its width, distance from pollution sources, side of the habitat from working place and tree height. The proposed green belt has been designed to control PM10, gaseous pollutants, noise, surface run off and soil erosion etc. While considering the above aspects due care will be taken for selecting the suitable characteristics plant species such as fast growing, locally suitable plant species, resistant to specific pollutant and those which would maintain the regional ecological balance, soil and hydrological conditions.

10.7.2 Plantation Program

Under the afforestation plan, plantation in nearby villages and connecting roads will be undertaken. The implementation for development of greenbelt will be of paramount importance as it will not only add up as an aesthetic feature but will also act as a pollution sink. The species to be grown in the areas will be dust tolerant and fast growing species so that a permanent greenbelt is created. Plantation in the barrier zone and roads is necessary as these areas will contain fine particulates resulting from mining operation and vehicle movement. Mining activities will not cause any harm to riparian vegetation cover as the working will not extend beyond the offset left against the banks in the river. It is proposed to have plantation on both

sides of the roads as greenbelt to provide cover against dust dissemination. River banks will be strengthened by way of plantation on the banks. Plantation will also be carried out as social forestry programme in village, school and the areas allocated by the Panchayat/State authorities. Native plants and other local species will be planted. A suitable combination of trees that can grow fast and also have good leaf cover shall be adopted to develop the greenbelt. It is proposed to plant **997 numbers** of native species will be planted during the plan period. List of Species for Greenbelt Development is given in **Table 10-1.** Plantation will increase the water holding capacity and help in recharging of ground water. No artificial rainwater harvesting is proposed for the present project.

Table 10-1: Greenbelt Development Program for five years

Year	No. of Trees	Capital Cost(Lakh)	Recurring Cost(Lakhs)
1st year	997	997*2000=19.94	1.0
2nd year	Maintenance	-	1.0
3rd year	Maintenance	-	1.0
4th year	Maintenance	-	1.0
5th year	Maintenance	-	1.0
Total	**997**	**19.94**	**5.0**

Table 10-2 : List of Species for Greenbelt Development

S. No.	*Scientific Name*	Family	Common Name	Hindi Name
1	*Aegle marmelos*	Rutaceae	Stone apple	Bael
2	*Azadirachta indica*	Meliaceae	Indian Lilac	Neem
3	*Alstonia scholaris*	Apocynaceae	Blackboard tree	Chitvan
4	*Cassia fistula*	Fabaceae	Cassia fistula Linn	Amaltas
5	*Callistemon*	Myrtaceae	Bottle brush	Cheel
6	*Delonix regia*	Fabaceae	Royal Poinciana	Gulmohar
7	*Ficus racemosa*	Moraceae	Cluster fig	Gular
8	*Mangifera indica*	Anacardiaceae	Mango Tree	Aam
9	*Psidium guajava*	Myrtaceae	Guava Tree	Amrud
10	*Phyllanthus emblica*	Phyllanthaceae	Indian gooseberry	Amla
11	*Putranjiva roxburghii*	Putranjivaceae	Putranjiva	Putijia
12	*Saraca asoca*	Fabaceae	Asoka- Tree	Ashok

13	*Syzgium cumini*	Myrtaceae	Java Plum	Jamun
14	*Terminalia arjuna*	Combretaceae	Arjun	Kahu
15	*Tectona grandis*	Lamiaceae	Teak	Sagwan

10.8 Socio-Economic Environment

10.8.1 Management Plan for Socio-Economic Environment

I. In general, socio-economic environment will have positive impact due to the mining project in the area.

II. The deployed laborers will be from nearby villages only as these people are mainly dependent upon such mining activities.

III. In order to further improve the socio-economic conditions of the area, the management will contribute for development works in consultation with local bodies.

IV. Employment to the local 97 people from nearby village on the basis of their skills.

V. Rs. 59.26 Lakhs has been earmarked for the Corporate Environment Responsibility (CER) to meet expenditures for the development of the surrounding villages.

10.9 Occupational Health and Safety

Occupational Health and Safety professionals develop and coordinate safety and health systems and strategies within organizations. They identify workplace hazards, assess risks to employee health and safety, and recommend solutions. Increasingly, Health and Safety Professionals are also responsible for many of the environmental aspects of their workplace. As this profession matures there is an increased emphasis on risk management strategy and on the development of workplace culture.

Occupational Health and Safety professionals in the minerals industry may perform the Following tasks-

I. The collection of minor minerals from the Sand mine does not cause any occupational ill effects.

II. Except fugitive dust generation there is no source which can show a low probability for health-related diseases and proper dust suppression will control dust generation and dispersion.

III. Dust masks will be provided to the workers working in the dust prone areas as additional personal protective equipment.

NOTARY A. K. LAL Distt. PATNA Reg. No - 10831 Exp.dt.-29.05.2021 GOVT OF BIHAR

IV. The occupational health hazards have so far not been reported.

V. Awareness program will be conducted about likely occupational health hazards so as to have preventive action in place.

VI. Any worker's health related problem will be properly addressed.

VII. Periodical medical checkup will be conducted.

VIII. Promote occupational health and safety within their organization and develop safer and healthier ways of working;

IX. Help supervise the investigation of accidents and unsafe working conditions, study possible causes and recommend remedial action;

X. Develop and implement training sessions for management, supervisors and workers on health and safety practices and legislation;

XI. Coordinate emergency procedures, mine rescues, firefighting and first aid crews;

XII. Communicate frequently with management to report on the status of the health and safety strategy and risk management strategy, and Develop occupational health and safety strategies and systems, including policies, procedures and manuals.

Table 10-3: Budget for Occupational Health and Safety of the workers

S. No.	Activities recommended for communities' level services	Capital Cost	Recurring cost (Lakh Rs.)
1	Periodical medical checkup to the workers	-	1.0
2	PPE and first aid kit to the worker	-	0.5
3	Awareness camp	1.0	1.5
Total		**1.0**	**3.0**

10.10 Cost of EMP Measures

Following provisions are proposed to be taken for improving, control and monitoring of environment protection measures.

Table 10-4: Budget for EMP (Lakhs)

Sl. No	Description	Capital Cost (lakh)	Recurring Cost (lakh)

NOTARY A. K. LAL Distt.-PATNA Reg. No.-18811 Regd.-29.05.2027 GOVT OF BIHAR

1	Pollution Control & Dust Suppression	Nil	4.0
2	Pollution Monitoring i) Air pollution ii) Water pollution iii) Noise Pollution iv) Soil Pollution	--	2.0
3	Plantation and salary for one gardener (part time basis).	19.94	1.0
4.	Haul road Maintenance Cost	1.25	1.44
5.	Occupational Health and Safety of the workers	1.0	3.0
6.	CER Budget	59.26	
Grand Total		**81.45**	**11.44**

10.11 Summary

As per Above discussion there is no measure impact on the environment due to mining except fugitive mission in the form of dust generated during handling of mineral. The adequate preventive measures will be adopted to contain the various pollutants within permissible limits. Plantation development will be carried out in the mine premises, along the approach roads, around Govt. buildings, schools approx**. 997 trees** during plan period**.** It will prove an effective pollution mitigate technique, and help avoid soil erosion during monsoon season. Employment opportunities will be provided to the locals only as providing extraction of minerals from the mine site is the only prevailing occupation for them for their livelihood. A budget of Rs. **22.19** Lakh (Capital Cost) & **11.44** Lakhs (Recurring Cost) for EMP is incurred by Project Proponent.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

11 SUMMARY & CONCLUSION

11.1 Introduction

As per MoEF & CC, New Delhi Gazette dated 14th September 2006 and amended thereof, the proposed mining project is categorized as category B-1 due to project area is more than 5.0 Ha. The LOI was granted in favor of M/S Shivam Coke Pvt. Ltd. (Director- Rajive Ojha) S/o- Baleeshwar Ojha, Gram+Post- Semariya, Thana-Shahpur, Semariya Palti Ojha, PO- Semaria Patti Ojha, Bhojpur, Bihar-802165 vide letter no- 969/Kh, dated 20-04-2023., for the period of 5 years.

Mining Plan: The mining plan for the Rohtas Son Ghat 08 has been approved with production capacity of 1737000 Cum Per Annum or 3126600 TPA from the Department of Mines & Geology, Govt. of Bihar through vide letter No. 2640/M Patna, dated 19/05/2023 under the Bihar Minor Minerals Concession Rules 2019.

ToR Letter: It is in this context, hard copy of Form-I and Pre-Feasibility Report has been submitted to SEIAA, Bihar on 25.05.2023 requesting for issue of "Terms of Reference" (ToR). The ToR Letter has been issued on date 06.06.2023 by SEIAA, (File No. SIA/1(a)/2428/2023). Validity of TOR is for period of three years.

Baseline data collection: The baseline data was collected in Post-monsoon season form 1st of October 2023 to 31st of December 2023.

Public hearing: PH was conducted on 15th March, 2024, venue Block- Auditorium Dehri, District- Rohtas, Bihar.

The Proposed Sand Mining Project at Khata No. 783, 109 Khasra No. 3659(P), 695 in Mauza- Darihat/Majhiawan, Block- Dehri, District- Rohtas, Bihar. Mine Lease Area – 96.50 Ha for production of 1737000 Cum per annum or 3126600 TPA.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

Table 11-1: Details of the Project

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th></tr>
<tr><td>1.</td><td>Nature and Size of the Project</td><td>Mining of Sand Minor Minerals with Production Capacity of 1737000 cum per annum or 3126600 TPA (M.L. Area- 96.50 ha).</td></tr>
<tr><td>2.</td><td>Location</td><td></td></tr>
<tr><td></td><td>Plot/Survey/Khasra No.</td><td>
<table>
<tr><th>River Name</th><th>Khata no</th><th>Khasra no</th><th>Name of the Ghat</th><th>Area (Ha.)</th></tr>
<tr><td>Sone</td><td>783, 109</td><td>3659(P), 695</td><td>Rohtas Ghat 08</td><td>96.50</td></tr>
</table>
</td></tr>
<tr><td></td><td>Village</td><td>Mauza- Darihat/Majhiawan</td></tr>
<tr><td></td><td>Block</td><td>Block- Dehri</td></tr>
<tr><td></td><td>District</td><td>Rohtas</td></tr>
<tr><td></td><td>State</td><td>Bihar</td></tr>
<tr><td>3.</td><td>Geographical Coordinates Latitude and Longitude of</td><td>Rohtas 08 Balu Ghat: -
<table>
<tr><th colspan="3">Coordinates of the Lease Boundary</th></tr>
<tr><th>Sl. no.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>1</td><td>24° 57' 59.643" N</td><td>84° 16' 5.119" E</td></tr>
<tr><td>2</td><td>24° 57' 13.497" N</td><td>84° 15' 23.231" E</td></tr>
<tr><td>3</td><td>24° 57' 26.095" N</td><td>84° 15' 3.564" E</td></tr>
<tr><td>4</td><td>24° 57' 38.911" N</td><td>84° 15' 16.547" E</td></tr>
<tr><td>5</td><td>24° 57' 52.668" N</td><td>84° 15' 26.989" E</td></tr>
<tr><td>6</td><td>24° 57' 54.403" N</td><td>84° 15' 31.334" E</td></tr>
<tr><td>7</td><td>24° 57' 51.948" N</td><td>84° 15' 36.761" E</td></tr>
<tr><td>8</td><td>24° 57' 55.004" N</td><td>84° 15' 46.190" E</td></tr>
<tr><td>9</td><td>24° 58' 0.569" N</td><td>84° 15' 58.053" E</td></tr>
<tr><td>10</td><td>24° 58' 0.655" N</td><td>84° 16' 2.558" E</td></tr>
<tr><td>11</td><td>24° 57' 59.643" N</td><td>84° 16' 5.119" E</td></tr>
</table>
</td></tr>
<tr><td>4.</td><td>Toposheet (OSM) No.</td><td>G45S1, G45S5, G45M4, G45M8.</td></tr>
<tr><td>5.</td><td>Lease Area Details</td><td></td></tr>
<tr><td></td><td>Lease Area</td><td>96.50 Ha.</td></tr>
<tr><td></td><td>Type of Land</td><td>River bed of Sone</td></tr>
<tr><td></td><td>Topography</td><td>Undulated (Riverbed)</td></tr>
<tr><td></td><td>Site Elevation Range</td><td>115.3 m to 115.1 m</td></tr>
<tr><td>6.</td><td>Cost Details</td><td></td></tr>
<tr><td></td><td>Cost of the project</td><td>Rs. 2963.05 lakhs. (Including Auction Cost)</td></tr>
<tr><td></td><td>Cost for EMP</td><td>22.19 Lakh (Capital Cost) & 11.44 Lakhs (Recurring Cost)</td></tr>
<tr><td>7.</td><td>Environmental Settings of the area</td><td></td></tr>
</table>

NOTARY A. K. LAL Distt.-PATNA Reg No -1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

	Ecological Sensitive Areas (National Park, Wild Life Sanctuary, Biosphere Reserve, Reserve/ Protected Forest etc.) within 10 Km radius	There is no any Ecological Sensitive Areas (National Park, Wild Life Sanctuary, Biosphere Reserve, Reserve/ Protected Forest etc.) within 10 Km radius.
	Nearest Town/ Major City with population	Dehri, Approx. 8.34 km towards SW
	Nearest Railway Station	Dehri on Son Railway Station, approx. 8.93 Km towards SW.
	Nearest National/State Highway	SH-15, Approx. 2.57 Km towards NW.
	Nearest Airport	Gaya International Airport, approx. 73.76 Km towards ESE.
	Nearest Post Office	Darihat, Post Office, Approx. 2.44 Km towards NW direction.
	Medical Facilities	Govt. Hospital, Darihat, Approx. 2.53 Km towards WNW direction. Adisenal Primary Hospital, Approx. 4.21 Km towards SW direction.
	Education Facilities	Prathmik School Arjun Bigha, Darihat, Approx. 1.03 Km towards WNW direction. Ashok Kumar Jain High School, Darihat, Approx. 2.58 Km towards WNW direction.
	Archaeological sites	There is no Archaeological sites within 10 km radius from project site.
	Seismic Zone	Zone III (IS 1893: 2002)
	Water Body	Sone River (Riverbed)

11.2 Project Description

The proposed project is for mining of Sand (Minor Mineral) by open cast semi-mechanized method in over an area of **96.50 Ha.** by **M/S Shivam Coke Pvt. Ltd. (Director- Rajive Ojha).** The total geological reserve is **2895000 cum** and mineable reserve is **1737000 Cum** Mine lease area will be worked in benches and the digging depth will be restricted to 3.0 m only or before water table, whichever come fast. This will be further replenished during rainy season. Mineral Sand will be transported by trucks. The deposit is moderate to good quality sand. It is widely used in construction, buildings, bridges and other infrastructure. It is free from clay and non-

sticky in nature. Total water requirement for the project is **8.96 KLD**. Total man power requirement for the project is **97.** The site facilities like temporary, rest-shelter, first aid facility; drinking water facility etc. will be provided as per requirement. There is no litigation pending against this project.

11.3 Description of Environment

The generation of primary data as well as collection of secondary data and information from the site and surroundings was carried in Post- monsoon Season during 1st October 2023 to 31st December 2023. The EIA study is being done for the Mine Lease (core zone) and area within 10 Km distance from mine lease boundary (buffer zone), both of which together comprise the study area. Baseline environment was determined within the study area, which represents 10 km radius of the surrounding area to the project site. This collected data was further used to identify potential impacts of the mining activity on the surrounding environment and formulate mitigation measures. Summary of the baseline data collected is detailed in **Table 11.2.**

Table 11-2 :- Baseline Environmental Status

Attribute	Baseline status
Ambient Air Quality	The ambient air quality study for the 8 village (AAQ8) monitoring stations shows that the maximum and minimum ground level concentration for PM_{10} is respectively 90.3µg/m^3 at Inglis (AAQ8) and 61.5µg/m^3 at Dihra (AAQ7). Whereas the maximum and minimum ground level concentration for $PM_{2.5}$ ranges between 50.6µg/m^3 at Inglis (AAQ8) and 30.0µg/m^3 at Nawadih (AAQ3) respectively. Similarly, for SO_2, the maximum and minimum ground level concentration varies between 19.1µg/m^3 and 7.9µg/m^3 for respectively Inglis (AAQ8) and Bank (AAQ4) stations. For NO_2 the maximum and minimum ground level concentration varies between 37.6µg/m^3 & 15.1µg/m^{3}for respectively Inglis (AAQ8) and Makhra (AAQ6) stations. For CO the maximum and minimum ground level concentration varies between 0.85µg/m^3 & 0.21µg/m^{3}for respectively Bagahi (AAQ5) and Inglis (AAQ8) stations.
Noise Levels	Noise monitoring study reveals that the minimum & maximum noise levels at day time were recorded as 46.1 dB (A) at Bagahi (NQ5) & 53.3 dB (A) at Inglis (NQ8). The minimum & maximum noise levels at night time were found to be 35.1 dB (A) at Bagahi (NQ5) & 42.4 dB (A) at Dihra (NQ7). There are no other major noise producing sources in the study area except some domestic activities, which contributes to the local noise level of the

	area. Traffic movements in nearby villages also add to the ambient noise level of the area.
Water Quality	5 Groundwater samples and 4 surface water samples were analyzed and concluded that: The ground water from all sources remains suitable for drinking purposes as all the constituents are within the limits prescribed by drinking water standards by Indian Standards IS: 10500. From the Surface water analysis it is evident that most of the parameters of the samples comply with 'Category 'D' of DBU Criteria of CPCB for its suitability for wild life and fisheries.
Soil Quality	Samples collected from identified locations indicate pH value ranging from 7.35 to 7.85, which shows that the soil is slightly alkaline in nature. Organic Matter ranges from 1.04 % to 1.37 % in the soil samples and, whereas the Potassium is found to be ranging from 251.30 mg/kg to 350.70 mg/kg.
Ecology and Bio-diversity	There are no Ecologically Sensitive Areas present in the study area.

11.4 Anticipated Impacts and Mitigation Measures

Based on the Baseline Environment, as determined in Chapter 3, environmental impacts of the mining activity on the surrounding environment are described in following sub-sections.

11.4.1 Impact on Land Use Pattern

Presently there is no activity on the land. The project site is located on bank of river. There is no human settlement in the near vicinity of the project. Restoration of mine lease area is a natural process. There would not be cutting & felling of trees.

11.4.2 Impact on Air Quality

Information on air quality was studied and predicted that the mining activity will not affect the air quality in a significant manner. In mining operations, loading, and transportation operations may cause the deterioration in air quality. In the present case, only wet materials will be handled. The collection and lifting of minerals will be done Semi mechanized mining method shall be adopted for the mining of sand. Therefore, the dust generated is insignificant. Water sprinkling will be done in regular manner for dust suppression.

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

11.4.3 Impact of Noise Levels

Noise level will increase due to transportation. The project site away from the villages no major impact of the noise level will be there. Vehicle with low noise level will be preferred for the project.

11.4.4 Impact on Water Quality

More over due to small scale of mining operation using minimum machineries, dust suppression is by water spraying through water sprinkler limited to haulage road. Rainwater flowing through the exposed mine cuts would carry some sediment of soil and rock. These are found to be nontoxic in nature and the runoff from mining area are the deposits of the river which were carried in past. Surface runoff water from mines has only high turbidity during monsoon. As discussed, the mining activity will require very less quantity of water in comparison to the recharging. Hence, it will not affect the water regime of the area.

11.4.5 Impact on Soil Quality

The soil textures a yellowish, light-colored variety of red soil. The basin land of the rivers is mostly sandy soil, and the land adjacent to the rivers is sandy loam. It is due to settling of air borne dust or due to wash off of solid particulates by surface or ground water. This may lead to change in porosity, permeability & other such physical characteristics of soil of the area.

11.4.6 Flora & Fauna

Flora

Floral environment is affected by mining activities due to:

- Air Pollution i.e. both dust & gaseous pollution
- Water pollution
- Land Pollution

Pollutant like dust, gaseous emanations, solid & liquid effluents will be minimized at the generation point itself and adequate measures will be taken to prevent their impact on environment.

ii) There is no forest in the core zone of mining lease area and its surrounding. So, there will be no deforestation due to mining.

iii) The mining lease area is devoid of vegetation. So, the greenery to be developed under green belt development programme will improve the floral environment of the area.

Fauna

NOTARY A. K. LAL Distt.-PATNA Reg. No.-1883J Expiry:-29.05.2027 GOVT OF BIHAR

There is no likelihood of any adverse impact on the faunal environment too due to mining activities.

11.4.7 Socio-Economic Profile

The social demographic profile of the area is not likely to be much affected, as there is not much displacement of people due to the project. The mining in the area will create rural employment. The mining activity in the region has positive impact on the social economic condition of the area by providing employment to the local in habitants; wages paid increase the per capita income.

11.5 Analysis of Alternatives (Technology and Site)

We have analyzed all the option for alternatives of the proposed mine site. This project is sand specific project and existing land use of mine lease classified as River Body which will continue to be so even after the current mining project is over, hence no alternate site is suggested for this project.

11.6 Environmental Monitoring Program

This chapter includes the technical aspects of monitoring the effectiveness of mitigation measures (including measurement methodologies, data analysis, reporting schedules, emergency procedures, detailed budget & procurement schedules). In order to maintain the environmental quality within the stipulated standards, regular monitoring of various environmental components is necessary which will have complied as per conditions. For this lessee **M/S Shivam Coke Pvt. Ltd. (Director- Rajive Ojha)** taken decision to formulate an Environment Policy of the mine and constitute an Environmental Management Cell and committed to operate the proposed mine with the objectives mentioned in approved Environment Policy. EMP may also require measurement of ambient environmental quality in the vicinity of a sit using ecological/biological, physical and chemical indicators. Monitoring may include socio-economic interaction, through local liaison activities or even assessment of complaints. Regular Monitoring of all the environmental parameters *viz.*, air, water, noise and soil as per the formulated program based on CPCB and MoEF&CC guidelines will be carried out every year. The location of the monitoring stations was selected on the basis of prevailing micro meteorological conditions of the area like; wind direction and wind speed, relative humidity, temperature. A budget for

NOTARY A. K. LAL Distt.-PATNA Reg. No.-18835 Exp.dt.-29.05.2027 GOVT OF BIHAR

monitoring of Air, water, Noise and Soil will be **Rs. 2.0 Lakhs** to be incurred by the project proponent for undertaking pollution prevention measures during the mining activity.

11.7 Additional Studies

Risk assessments will help to priorities the risks and provide information on the need to safely control the risks. In this way, mine owners and operators will be able to implement safety improvements. Mining and allied activities are associated with several potential hazards to both the employees and the public at large. A worker in a mine will be able to work under conditions, which are adequately safe and healthy. At the same time the environmental conditions also will not impair his working efficiency. This is possible only when there is adequate safety in mines. Hence mine safety is one of the most essential aspects of any working mine. It is very important to conserve the scheduled fauna in the area by the local authority as well as by the forest officials. People are not aware about the wildlife and protection of wild animals. There is an urgent need of education and awareness to local people about the wild life and their importance. A green belt will be developed around the core zone. Green belt plantation will be done upto completion of plan period. This mining project has positive impact on social and economic well-being of the community because this project provides employment opportunities to local people and many social welfare works done by project proponent. There is no displacement of the population within the project area and adjacent nearby area.

11.8 Project Benefits

The management will recruit the semi-skilled and unskilled workers from the nearby villages. The project activity and the management will definitely support the local Panchayat and provide other form of assistance for the development of public amenities in this region. The company management will contribute to the local schools, dispensaries for the welfare of the villagers. A suitable combination of trees that can grow fast and also have good leaf cover will be adopted to develop the green belt. It is proposed to plant **997** Nos. of native species will be planted during the mining plan period. Other than this social development of village will be considered as per social activities. Socio-economic environment will have positive impact due to the mining project in the area. The mining activity will create employment opportunities to local communities. The project will not only improve the living standard of local people but also create an aesthetic value to the river banks where green belt will be developed.

11.9 Environment Management Plan

As per Above discussion there is no measure impact on the environment due to mining except fugitive emission in the form of dust generated during handling of mineral. The adequate preventive measures will be adopted to contain the various pollutants within permissible limits. Plantation development will be carried out in the mine premises, along the approach roads, around Govt. buildings, schools approx**. 997 trees during plan period.** It will prove an effective pollution mitigate technique, and he provided to the locals only as providing extraction of minerals from the mine site is the only prevailing occupation for them for their livelihood. A budget **of Rs 22.19 Lakh (Capital Cost) & 11.44 Lakhs (Recurring Cost)** per year for **EMP** is incurred by Project Proponent.

11.9.1 Air Quality Management

The only air pollution sources are the road transport network of the trucks. The dust suppression measures like water spraying will be done on the roads. Utmost care will be taken to prevent spillage from the trucks. Overloading will be prevented. Plantation activities along the roads will also reduce the impact of dust in the nearby villages.

11.9.2 Management for Noise Pollution

As the only impact is due to transportation of sand to the construction though village roads, emphasis will be given on the following points.

- Minimum use of Horns at the village area.
- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Phasing out of old and worn out trucks.
- Provision of green belts along the road networks.
- Care will be taken to produce minimum sound during loading.

It was found that the sand mining activity will not have any significant impact on the biological environment of the region. Since mining activity is carried out only during the day time, the movement of animals during the night will not be hindered.

11.9.3 Water Management

The deposits occur in the middle/bottom of the river. During the entire lease period, the deposit will be worked from the top surface to 3 m bgl or above ground water level, whichever comes first.

11.9.4 Soil Management

Topsoil is stored separately and used for plantation work in the mined out area. Green belt development around the area minimizes the impact of mining on soil characteristics like its texture, chemistry & even Soil Erosion in the area.

11.9.5 Green Belt Development

The green belts will be designed to control PM 10, gaseous pollutants, noise, surface run off and soil erosion etc.

11.10 Conclusion

This Project will provide several benefits to the nearby Villages by a proper planning and management. This project will employ most of the worker from nearby villages. Only supervisor Staff will be hired from outside. There will not be any increase in population due to the project. However, few people from other area may migrate in this area for business opportunities. During the operation of this project no adverse impact on the surrounding environment. So project is beneficiary for the surrounding village. From the baseline study and various discussions on probable impacts of all the operational activity, it has been concluded that this project will have more positive impact and will generate the revenue and employment in the area. On the above facts and baseline study, the proposed activity is recommended for the commencement with proper mitigation measure as suggested.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

12 DISCLOSURE OF CONSULTANTS ENGAGED

Declaration by Experts contributing to the final EIA/EMP Report for Proposed Sand Mining Project of Area 96.50 Ha at Rohtas Ghat 08 on Sone River of District- Rohtas, State- Bihar.

The one season baseline data used in the report was collected in Post Monsoon Season (1st October 2023 to 31st December 2023) by our empanelled lab Enviro Tech Services.

12.1 Brief profile of REPL is as given below

Director	Mr. Manish Kumar
Name of the Consultant	Rian Enviro Pvt. Ltd.
Address	Mangal Market Patna -800014

12.2 Personnel involved in the preparation of Final EIA/EMP report are stated below

Accreditation Certificate of the Consultant Engaged:

EIA coordinator:	**Date**
Name: - Amir Akhtar	**13/01/2024**
Amir Akhtar	

Functional Area Experts:

S. No.	Functional Area	Name of the experts	Involvement Period and Task	Signature
1.	WP	Bhuwan Bhaskar (WP)	Preparation of WP input, impact assessment & mitigation measures	
2.	AP	Muzaffar Ahmad	Collected the ambient air data through secondary sources and suggested Air pollution control measures	

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

S. No.	Functional Area	Name of the experts	Involvement Period and Task	Signature
3.	LU	Debarati Ghosh	Development of landuse maps of study area using GIS / related tools, site visit for ground reality survey, finalization of landuse maps, and contribution to EIA documentation.	
4.	Geo	Mohan ShriramBhagwat	Collection of secondary data as well as drafting of report with respect to Geological Aspect.	
5.	HG		Collection of secondary data as well as drafting of report with respect to Hydro-geological condition in around the study.	
6.	SW	SumitVerma	Preparation of SW input, impact assessment & mitigation measures	
7.	AQ	Vishal Duggal (AQ)	Collected the meteorological data and AAQ data through secondary sources, predicted impacts on air quality using suitable AQ model and suggested air pollution control measures	
8.	SC	Mrs. NimishaVatsyayan	Proposing the soil management practices during construction and operation phase of project.	
9.	EB	Dr Shatrunjay Singh	Generating the ground truthing ecological assessment with secondary data from different departments, earmarking rare and endangered species.	

NOTARY A. K. LAL Distt.-PATNA Reg No.-18831 Exp.dt.-29.05.2027 GOVT OF BIHAR

S. No.	Functional Area	Name of the experts	Involvement Period and Task	Signature
10.	SE	Manish Kumar	Collected the primary and Secondary data, livestock inventory/ impacts, identified village-wise amenities/ needs.	
11.	RH	KailashNath Sharma	Preparation of RH input, impact assessment & mitigation measures	
12.	HW	KailashNath Sharma	Preparation of HW input, impact assessment & mitigation measures	
13.	NV (Team Member)	Bhuwan Bhaskar	Collected the ambient noise data through secondary sources and suggested Noise pollution control measures during project	

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

QUALITY COUNCIL® OF INDIA
Creating an Ecosystem for Quality

NABET

National Accreditation Board for Education and Training

Certificate of Accreditation

Rian Enviro Private Limited (REPL)
202 & 402, Mangal Market, Sheikhpura, Raja Bazar, Patna, Bihar- 800 014

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

S. No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1	Mining of minerals (opencast only)	1	1 (a) (i)	A
2	Thermal power plants	4	1 (d)	B
3	Metallurgical industries - both primary & secondary	8	3 (a)	B
4	Cement Plants	9	3(b)	A
5	Synthetic organic chemicals industry	21	5 (f)	B
6	Distilleries	22	5 (g)	A
7	Bio-medical waste treatment facilities	32A	7 (da)	B
8	Highways	34	7 (f)	A
9	Building and construction projects	38	8 (a)	B
10	Townships and Area development projects	39	8 (b)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in SAAC minutes dated May 16, 2023 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no. QCI/NABET/ENV/ACO/23/2793 dated July 07, 2023. The accreditation needs to be renewed before the expiry date by Rian Enviro Private Limited (REPL), Patna following due process of assessment.

Sr. Director, NABET
Dated: July 07, 2023

Certificate No.
NABET/EIA/2124/SA 0197

Valid up to
Sep. 11, 2024

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

NOTARY A. KUMAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

बिहार राज्य पर्यावरण समाघात निर्धारण प्राधिकरण,

द्वितीय तल, बेल्ट्रॉन भवन, शास्त्रीनगर, पटना–23

पत्रांकः– 503. पटना, दिनांकः– 20/09/2024.

प्रेषक,

अभय कुमार, भा0व0से0,
सदस्य सचिव,
राज्य पर्यावरण समाघात निर्धारण प्राधिकरण, बिहार।

सेवा में,

1. **श्री विराट राज,**
   पिता–श्री राजेन्द्र सिंह,
   ग्राम–मझिऑव, पो0–पडुहार, थाना–दरिहट,
   परूहार, जिला–रोहतास–821306
2. **श्री देवा सिंह,**
   पिता–श्री राजेन्द्र सिंह,
   ग्राम–मझिऑव, पो0–पडुहार, थाना–दरिहट,
   परूहार, जिला–रोहतास–821306
3. **श्री सूरज कुमार,**
   पिता–श्री ददन सिंह,
   ग्राम–मझिऑव, पो0–पडुहार, थाना–दरिहट,
   परूहार, जिला–रोहतास–821306

एवं

4. **श्री पवन कुमार,**
   पिता–श्री भीम सिंह,
   ग्राम–मझिऑव, पो0–पडुहार, थाना–दरिहट,
   परूहार, जिला–रोहतास–821306

विषय :– रोहतास जिलान्तर्गत सोन नदी दरिहट बालू घाट (ब्लॉक संख्या–08) के पर्यावरणीय स्वीकृति के संबंध मे।

प्रसंगः– आपका आवेदन प्राधिकरण में प्राप्ति तिथि–22.08.2024

महाशय,

उपर्युक्त प्रसंगाधीन विषय के संबंध में कहना है कि रोहतास जिलान्तर्गत सोन नदी दरिहट बालू घाट (ब्लॉक संख्या–08) को विधिवत सभी प्रक्रिया पूर्ण कर प्राधिकरण द्वारा पर्यावरणीय स्वीकृति (E.C.) निर्गत की गयी है।

विश्वासभाजन

20/09/24

(अभय कुमार)
सदस्य सचिव

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

387

Translated Copy

State Environment Impact Assessment Authority,

2nd Floor, Beltron Bhawan, Shastri Nagar, Patna-23

Letter no. :- 503 Patna, Date :- 20/09/2024

From,

Abhay Kumar, I.F.S.
Member Secretary
SEIAA, Bihar

To,

1. **Shri Virat Raj,**
Father- Shri Rajendra Singh,
Village- Majhiaov, Post- Paduhar,
P.S.- Darihat Paruhar,
District- Rohtas- 821306

2. **Shri Deva Singh,**
Father- Shri Rajendra Singh,
Village- Majhiaov PO- Paduhar,
P.S.- Darihat. Paruhar,
District- Rohtas- 821306

3. **Shri Suraj Kumar,**
Father- Shri Dadan Singh,
Village-Majhiav, PO-Paduhar,
P.S.-Darihat, Paruhar,
District-Rohtas-821306

and

4. **Shri Pawan Kumar,**
Father- Shri Bhim Singh,
Village- Majhiav PO- Paduhar,
P.S.- Darihat Paruhar,
District- Rohtas- 821306

Subject: - Regarding Environmental Clearance of Son River Darihat Sand Ghat (Block No. 08) under Rohtas District.

Ref: - Date of receipt of your application in the authority-22.08.2024.

NOTARY A. K. LAL Distt.-PATNA Reg No.-1883J Exp.dt.-29.05.2027 GOVT OF BIHAR

Sir,

Regarding the above mentioned subject, it is to be said that Environmental Clearance (E.C.) has been issued by the Authority to the Son River Darihat Sand Ghat (Block No.-08) under Rohtas District after completing all due procedures.

Yours faithfully

(Abhay Kumar)
Member Secretary

NOTARY
A. K. LAL
Distt.-PATNA
Reg No.-1883J
Exp.dt.-29.05.2027
GOVT OF BIHAR