

**ENVIRONEMNT & FOREST DEPARTMENT  
NORTH EASTERN COALFIELDS  
COAL INDIA LIMITED  
MARGHERITA, ASSAM**

Quotation No: NEC/EMLR/80/QTN/ 2026-27/390

दिनांक/Date: 01.07.2026

**कोटेशन सूचना / QUOTATION NOTICE**

Sealed item rate quotations in single part are hereby invited from the experienced, interested parties / agencies for the work as detailed below: -

**1. Quotation details :**

Name of the work : Quarterly Monitoring of Ambient Air/ Heavy Metal/ Effluent Water/ Drinking Water Samples and Noise Level by Environmental laboratories approved/recognised by Pollution Control Board of Assam/CPCB/ MoEF&CC and should have valid ISO 9001 along with OHSAS 18001 (Occupational Health and Safety Management System)/ISO 45001 (Occupational Health and Safety Management System).

Estimate cost put to tender (including GST) : Rs. 1,88,953.40/- (One Lakh Eighty-Eight Thousand Nine Hundred Fifty-Three and Four Paise only)

Period of work : 120 (One Hundred and Twenty) days

Earnest Money : Rs. 2,400/-

Location of work : Various Units under NEC, Margherita (As specified in the Scope of Work)

**2. Important Dates :**

Sl.No.	Particulars	Date & Time
1.	Start date for downloading / collecting quotation document	02.07.2026 from 15.00 PM
2.	Last date for downloading / collecting quotation document	07.07.2026 upto 17.00 PM
3.	Start date of submission of bids	02.07.2026 from 15.00 pM
4.	Last date for submission of bids	07.07.2026 upto 17.00 PM
5.	Date of opening of bids	08.07.2026 at 15.30 PM

The quotation documents can be downloaded from the NEC website <https://neccoal.co.in>

**3. Important details and instructions:-**

I) Sealed filed up quotations in single part will be received in the prescribed quotation box placed in the Office of the Area Manager (Environment & Forest), Environment & Forest Department, NEC, CIL, Margherita in the aforementioned time period along with the following documents: -

- i. Copy of PAN card duly attested (with signature and seal) by the bidding agency.
- ii. The bidder is required to select his relevant Goods and Service Tax status (one of the three) from the following and submit the required documents: -

Sl. No	Goods and Service Tax Status	Document required to be submitted	Tick (/) any one of the three
1.	GST Registered bidder under regular scheme	Document: GST registration certificate (i.e GST Identification number) issued by appropriate Authority of India, duly attested (with signature and seal) by the bidding agency	
2.	GST Registered Under composition scheme	Document: GST registration certificate (i.e GST Identification number) issued by appropriate Authority of India, duly attested (with signature and seal) by the bidding agency	
3.	GST Unregistered bidder / Dealer	Document: A certificate having UDIN from a practicing Chartered	

	Accountant having membership number with Institute of Chartered Accountants of India certifying that the bidder is GST unregistered bidder in compliance with the relevant GST rules of India duly attested (with signature and seal) by the bidding agency
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iii. Earnest money of Rs.2,400/- in the form of Banker's Cheque / Demand draft drawn from a scheduled bank in favour of Coal India Limited payable at Margherita or through NEFT at the following bank details:  
Name of the Account Holder: COAL INDIA LIMITED, Account No: 0018050012856, IFS Code: PUNB0001820, PUNJAB NATIONAL BANK, P.O: Margherita, Dist: Tinsukia, Assam.  
(Note: If EMD deposited through NEFT then Payment acknowledgement receipt of the same should be submitted along with the quotation.)

iv. Environment Laboratory

Environmental Laboratory	<ul style="list-style-type: none"> <li>Valid Recognition/Approval of Environment Laboratory by Pollution Control Board of Assam/CPCB/MoEF&amp;CC, owned by Bidder mentioning the parameter which can be analysed</li> <li>Valid ISO 9001 along with OHSAS 18001 (Occupational Health and Safety Management System)/ISO 45001 (Occupational Health and Safety Management System).</li> </ul>
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**Note:** Micro and Small Enterprises (MSEs) as defined in the MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) are exempted from submission of EMD, for which they have to submit Udyam Registration Certificate (**Applicable for Service tenders**)

- v. Quotation Inviting Notice documents as downloaded from CIL/Subsidiary website duly attested (with signature and seal) by the bidding agency as token of acceptance of Terms & Conditions and same shall be submitted along with the bid.
- vi. All the documents submitted should be sealed and signed by the bidder or his authorized representative. In case the authorized representative is signing documents/submitted bid, then an Authorization Letter to that effect has to be submitted along with the bid.
- vii. If the bidder is unsuccessful, then the EMD deposited by the bidder will be electronically refunded. For this purpose, the bidders are also required to fill and submit the Bank Mandate (enclosed).
- viii. Price Bid as per the instructions stipulated below.
- ix. Quotations will be shall be dropped in person in the prescribed quotation box placed at the following address only before the deadline for bid submission: -

II). It is the responsibility of the bidder to ensure that the bid is received in the prescribed quotation box in the **office of the Area Manager (Environment & Forest), Environment & Forest Department**, North Eastern Coalfields, Coal India Limited, Margherita before the last date (and time) of bid submission, failing which the bid will be considered invalid.

II) In Quotation Notice (below Rs. 2 lakhs) bid shall be submitted in the following manner: -Envelope/ cover shall contain the following duly stamped and signed -

- The earnest money/ Valid EMD exemption document (as applicable)
- PAN details
- Document to support GST status of bidder
- Valid Trade License, if required
- Power of Attorney, as applicable
- Bid document duly signed
- BOQ duly filled in.
- Environmental Laboratory Document

The envelope/ covers shall be sealed and submitted by the bidder. The envelope/ cover shall indicate the name of the work, name of the bidder along with the address, reference Tender Notice No., Contact Number and E-mail ID.

The evaluation of quotations received shall be done in line with evaluation done in Single cover system. The evaluation will be done based on the documents submitted by the bidder along with his bid and no clarification shall be sought from bidders.

Quotation without earnest money or valid EMD exemption document (as applicable) shall be rejected.

III). It is the responsibility of the bidder to ensure that the bid is received in the office of the **Area Manager (Environment & Forest), Environment & Forest Department**, North Eastern Coalfields, Coal India Limited, Margherita within the deadline for bid submission. The sealed quotations will be opened on the scheduled date in the presence of the bidders or their authorized representatives who choose to be present.

IV) Bids determined to be substantially responsive will be checked by the employer for any arithmetical errors. Errors will be corrected by the employer as follows:

a) In case of discrepancy in rates between description in words and figures, the rate which corresponds to the amount worked out by the contractor shall be taken as correct.

b) In case of discrepancy in amount quoted by the contractor due to calculation mistakes of the unit rates and quantity, the unit rate shall be regarded as firm and amount corrected.

c) When the amount of an item is not worked out by the contractor or if it does not correspond with the rates written either in figures or words, then the rates quoted by the contractor in words shall be taken as correct.

d) Discrepancy in totaling or carry forward in the amount quoted by the contractor shall be corrected.

V) After checking for calculation errors, the documents submitted by L-1 bidder as enlisted in the NIQ will be put up to the Tender Committee. The tender Committee will examine the documents. In case the L-1 bidder submits requisite documents as per NIQ, then the bidder will be considered eligible for award of Contract.

In case the L-1 bidder fails to comply the eligibility requirement as per NIQ, then his bid shall be rejected and EMD of L-1 bidder will be forfeited. The quotation notice shall be cancelled and re-invited.

In case the L1 bidder is technically eligible but rejection is due to high rate quoted by him/her then the quotation notice shall be cancelled and reinvited.

It is responsibility of Bidders to submit legible/clearly readable scanned copy of all the required documents.

If L1 bidder backs out (i.e. Techno commercially established L1 bidder), the EMD will be forfeited and the bidder will be debarred for minimum one (1) year from participating in tenders in CIL/Subsidiary.

VI) The price bid must be carefully filled in by the bidder. All duties, taxes (excluding Goods and Services Tax (GST) & GST Compensation Cess (if applicable) only) and other levies, royalty, building and construction workers cess (as applicable in States) payable by the bidder/Contractor under the Contract, or for any other cause as applicable on the last date of submission of Bid, shall be included in the rates, prices and the total Bid Price submitted by the Bidder. The Rates must be quoted against each item in words as well as figures. Any kind of cutting and overwriting should be avoided. In case of any discrepancy in the Quoted Rate in Words and in Figures, the one mentioned in Words shall be considered as final. Hence, bidders must fill in the Price Bid very carefully. The Price Bid should also contain Name of Agency, Address, Signature and Seal of the Agency failing which the Price Bid will be considered invalid.

The L-1 will be decided based on "COST TO COMPANY"

Applicable GST, if any, either payable by bidder or by company under reverse charge mechanism shall be applicable.

All investments, operating expenses, incidentals, overheads, leads, lifts, carriages, tools and plants etc. as may be attendant upon execution and completion of works shall also be included in the rates, prices and total Bid price submitted by the bidder.

However, such duties, taxes, levies etc. which is notified after the last date of submission of Bid and/or any increase over the rate existing on the last date of submission of Bid shall be reimbursed by the company on production of documentary evidence in support of payment actually made to the concerned authorities.

Similarly, if there is any decrease in such duties, taxes and levies the same shall become recoverable from the contractor. The details of such duties, taxes and other levies along with rates shall be declared by the bidder.

The item wise rate quoted by bidder shall be inclusive of all taxes, duties & levies but excluding GST & GST Compensation Cess, if applicable. The payment of GST and GST Compensation Cess by service availer (i.e. CIL/Subsidiary) to bidder/contractor (if GST payable by bidder/contractor) would be made only on the latter submitting a Bill/invoice in accordance with the provision of relevant GST Act and the rules made there under and after online filing of valid return on GST portal. Payment of GST & GST Compensation Cess is responsibility of the service provider/contractor.

However, in case bidder/contractor is GST unregistered bidder/dealer or GST registered under composition scheme in compliance with GST rules, the bidder/dealer shall not charge any GST and/or GST Compensation Cess on the bill/invoice. In case of unregistered dealer/bidder, GST, if applicable will be deposited by CIL/Subsidiary directly to concerned authorities in terms with GST provisions.

Input tax credit is to be availed by CIL/Subsidiary as per rule.

If CIL/Subsidiary fails to claim Input Tax Credit(ITC) on eligible Inputs, input services and Capital Goods or the ITC claimed is disallowed due to failure on the part of supplier/vendor of goods and services in incorporating the tax invoice issued to CIL/Subsidiary in its relevant returns under GST, payment of CGST & SGST or IGST, GST (Compensation to State) Cess shown in tax invoice to the tax authorities, issue of proper tax invoice or any other reason whatsoever, the applicable taxes & cess paid based on such Tax invoice shall be recovered from the current bills or any other dues of the supplier/vendor along with interest and penalty, if any.

Note:

During the execution of the contract if the GST status of the bidder changes, then the payment of GST, if any, to the contractor will be made as per the GST status declared by the bidder during tender stage based on which cost to company has been ascertained or at actuals, whichever is lower.

VII) The participating agencies are hereby advised to keep checking the websites <https://neccoal.co.in> i.e., Coal India/ Subsidiary Website) and [www.eprocure.gov.in](http://www.eprocure.gov.in) (i.e., Central Public Procurement Portal) for any corrigenda issued in respect of this Notice Inviting Quotation, extension in Document Download Dates, Bid Submission Dates and Date of Bid Opening, etc., to keep themselves updated.

VIII) Security Deposit shall consist of only one part i.e. Retention money:

a) Retention Money to be recovered from running bills. The security deposit shall bear no interest.

Since there is no Performance Security, therefore refund of the same does not arise.

All running on account bills shall be paid at 95% (ninety-five percent) of work value. The balance 5% shall be treated as retention money and will be second part of security deposit.

Retention Money should be refunded after issue of No Defect Certificate.

The Company shall be at liberty to deduct/appropriate from the security deposit such sums as are due and payable by the contractor to the company as may be determined in terms of the contract, and the amount appropriated from the security deposit shall have to be restored by further deduction from the contractors subsequent on account running bills, if any.

**REFUND OF SECURITY DEPOSIT:** The refund of security deposit shall be subject to company's right to deduct/ appropriate its due against the contractor under this contract or under any other contract.

On completion of the entire work and issue of defect liability certificate (taking over certificate with a list of defects) by the Engineer-in-charge, one half of the security deposit remaining with the company (Performance Security) shall be refunded as elaborated above.

The other half (Retention Money) shall be refunded to the contractor after issue of No Defect Certificate by the Engineer-in-Charge on the expiry of Defect Liability Period of six months, subject to the following conditions:

a) Any defect/defects in the work, if detected after issue of defect liability certificate (Taking over certificate with list of defects) is/are rectified to the satisfaction of the Engineer-in-Charge within the said defect liability period of six months or on its due extension till completion of the rectification works as required.

b) In the case of building work or other work of similar nature, the refund shall be made on the expiry of the said six month's period or at the end of one full monsoon period i.e. June to September, whichever is later in point of time and any defects such as leakages in roof, effloresces in walls, dampness, defects in drainage etc. should be rectified to the satisfaction of Engineer-in-Charge.

**NB:** In case of Maintenance contracts, that ends with successful completion of work, where question of Defect Liability Period does not arise (e.g. sweeping / cleaning, horticulture, tank cleaning, jungle cutting, grass cutting, surface dressing etc.), the performance security and retention money (second part of bid security) can be released simultaneously after completion of work and taking over by department.

**IX) Bid Validity:** The Bid Validity Period will be 120 (one hundred twenty) days from the end date of bid submission. The validity period of tender shall be decided based on the final end date of submission of bids.

**X) Provisions for dealing with variations in respect of Abnormally High Rate (AHR) and Abnormally Low Rate (ALR) items:**

The abnormally high rate items are those whose quoted rates are more than 20% of the justified rates decided by the owner.

The abnormally low rate items are those whose quoted rates are less than 20% of the justified rates decided by the owner.

In case of Item Rate Tenders, the revision of rates for (i) abnormally high rate items and (ii) abnormally low rate items, shall become operative under the following circumstances: -

For increase in quantity of more than 25% in respect of works executed below plinth level and 10% in respect of works executed above plinth level.

Quantity variation beyond the limit mentioned above shall be dealt by arriving at new rate based on prevalent market rate of materials and labour analyzed as per standard analysis of rate of CPWD/NBO. Payment of extra quantity over the permitted quantity as explained above would be made on the basis of the new analyzed rate.

The variation in quantity of abnormally low rate items for item rate tenders shall not be permitted below 25% for the items below plinth level and below 10% for the items above plinth level of the agreed schedule quantity, but in exceptional cases with written consent of Engineer-in-Charge arising out of technical necessity.

The above provisions shall be applicable for item rate tenders only and not applicable for percentage rate tenders for works based on standard schedule of rates of the company.

For the purpose of operation, the following works shall be treated as works related to foundation, unless otherwise defined in the contract:

- a) For Buildings: All works up to 1.2 meters above ground level or up to floor 1 level whichever is lower.
- b) For abutments, piers and well steining: All works up to 1.2m above the bed level.
- c) For retaining walls, wing walls, compound walls, chimneys, overhead reservoirs / tanks and other elevated structures: all works up to 1.2 meters above the ground level.
- d) For reservoirs / tanks (other than overhead reservoirs / tanks): All works up to 1.2 meters above the ground level.
- e) For basement: all works up to 1.2m above ground level or up to floor 1 level whichever is lower.
- f) For Roads, all items of excavation and filling including treatment of sub base.

#### **XI) Procurement from Micro and Small Enterprises (MSEs) (APPLICABLE FOR NATURE OF SERVICE TENDERS)**

i) Subject to meeting terms and conditions stated in the tender document including but not limiting to prequalification criteria, 25% of the work will be awarded to MSE as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) for the tendered work/item. Where the tendered work can be split, MSE quoting a price within a price band of L1 + 15% shall be awarded at least 25% of total tendered work provided they match L1 price. In case the tendered work cannot be split, MSE shall be awarded full work provided their quoted price is within a price band of L1 + 15% and they match the L1 price.

ii) In case of more than one such MSEs are in the price band of L1 + 15% and matches the L1 price, the work may be shared proportionately if the job can be split.

If the job cannot be split, then the opportunity to match the L-1 rate of the tender shall be given first to MSE who has quoted lowest rate among the MSEs and the total job shall be awarded to them after matching the L-1 price of the tender, in case the L1 is other than MSE. If MSE is a L1 bidder, full work will be awarded to such bidder. If the MSE who have quoted lowest rate among the MSEs in the price band of L1 + 15% do not agree to match the rate of L1 of the tender, then the MSE with next higher quoted rate in the price band of L1 + 15% shall be given chance to match the rate of L1 for award of the complete job. This process to be repeated in till work is awarded to MSE or MSE bidders are exhausted.

iii) Out of the 25% target of annual procurement from micro and small enterprises 3(three) percent shall be earmarked for procurement from micro and small enterprises owned by women. In the event of failure of such MSEs to participate in the tender process or meet the tender requirements and L1 price, 3(three) percent sub-target so earmarked shall be met from other MSEs.

iv) Out of the 25% target of annual procurement from micro and small enterprises 4(four) percent shall be earmarked for procurement from micro and small enterprises owned by Scheduled Caste & Scheduled Tribe entrepreneurs. In the event of failure of such MSEs to participate in the tender process or meet the tender requirements and L1 price, four percent sub-target so earmarked shall be met from other MSEs.

v) To qualify for entitlement as SC/ST owned MSE, the SC/ST certificate issued by District Authority must be submitted by the bidder in addition to certificate of registration with anyone of the agencies mentioned in paragraph (I) above. The bidder shall be responsible to furnish necessary documentary evidence for enabling CIL/ Subsidiary to ascertain that the MSE is owned by SC/ST. MSE owned by SC/ST is defined as:

- In case of proprietary MSE, proprietor(s) shall be SC /ST
  - In case of partnership MSE, The SC/ST partners shall be holding at least 51% shares in the enterprise.
  - In case of Private Limited Companies, at least 51% share shall be held by SC/ST promoters.
- In case of Public Limited Companies, at least 51% share shall be held by SC/ST entrepreneurs at any given point of time.

vi) Classification of Micro and Small Enterprise are as under:

- a) Micro Enterprise –Enterprise where the investment in plant and machinery or equipment does not exceed one crore Rupees and turnover does not exceed five core rupees.
- b) Small Enterprise- Enterprise where the investment in plant and machinery or equipment does not exceed ten crore Rupees and turnover does not exceed fifty core rupees.

vii) Micro and Small Enterprises (MSEs) registered under Udyam Registration are eligible to avail the benefits under the policy.

viii) The MSEs are required to submit copy of documentary evidence, issued by their registering authority whether they are small enterprise or micro enterprise as per provisions of Public Procurement Policy for Micro and Small Enterprise (MSEs) Order, 2012 with latest

guidelines/clarifications provided by MoMSME.

ix) If MSE Bidder withdraws his offers after last date of bid submission or fails to sign the Agreement or commence the work as per Conditions of Contract then such Bidder shall be debarred for a minimum period of 1(One) year in line with provisions of Guidelines on Debarment of firms from Bidding.

#### **4. Penal Clauses/Recovery of Damages: -**

- i. The work shall be started within 10 days of issue of work order or 7<sup>th</sup> day of handing over of the site whichever is later.
- ii. In case of failure to complete the work on or before the scheduled date of completion, compensation shall be payable @ 0.5% of contract price/revised contract price whichever is less per week of delay. The total value of such compensation shall not exceed 10% of awarded value/revised completion value whichever is lower.
- iii. In case of failure to start the work within stipulated time, the company shall be at liberty by giving 15 days' notice in writing to start the work, failing which to forfeit the earnest money deposited by the bidder and to rescind the work order. Additionally, the bidder will be debarred from participating in future tenders for a minimum period of 12 months.

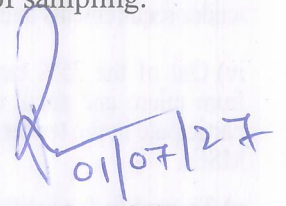
5. The tenderer shall have to ensure implementation of CMPF/EPF, if applicable, in respect of the workers deployed by him. Payable statutory payments like PF & ESI contributions paid to the contract workers as applicable shall be reimbursed to the contractor on production of proof of payment limited to the maximum likely number of workmen to be deployed as indicated in the quotation document.

6. CIL/Subsidiary reserves its right to accept or reject any or all the quotations without assigning any reason whatsoever or to distribute the work amongst the bidders.

*Note: BoQ and Format of Bank Mandate is enclosed herewith.*

#### **6. Special Terms and Conditions**

- a. Specific locations will be decided by Engineering in Charge.
- b. Date/Timing of drawing samples will be as per Work Schedule.
- c. Collection, preservation, transportation and analysis of water samples (effluent Water/Ground Water/Drinking Water/Surface Water) shall be done as per the relevant clause of the CPCB guidelines documented as "Guidelines on Water Quality Monitoring, 2017" in addition to the prevailing statutes mentioned above.
- d. All samples should be immediately transported to the laboratory for analysis. In case there is any delay in transportation, the preservation time is to be as short as possible and preservation/storing of sample should be done as per relevant testing method such as IS 5182, IS 3025, etc. as applicable or instructed by Engineer -in- Charge so that sample should be suitable for analysis.
- e. The monitoring report should be submitted within the 15 (fifteen) days from the date of sampling.



**Area Manager  
(Environment & Forest),  
North Eastern Coalfields,  
Coal India Limited,  
Margherita, Assam,**

**MANDATE FORM FOR ELECTRONIC FUND TRANSFER / INTERNET BANKING PAYMENT.**

1. Name of the Bidder : .....

2. Address of the Bidder : .....

.....  
 City..... Pin Code.....  
 E-mail Id .....  
 Permanent Account Number .....

3. Particulars of Bank:

Bank Name		Branch Name	
Branch Place		Branch City	
Pin Code		Branch Code	
MICR No.			
( Digital Code number appearing on the MICR Band of the cheque supplied by the Bank. Please attach Xerox copy of a cheque of your Bank for ensuring accuracy of the Bank Name, Branch Name and Code Number.			
RTGS CODE			
Account Type	Savings	Current	Cash Credit
Account Number(as appearing in the Cheque Book.			

4. Date from which the mandate should be effective.

I hereby declare that the particulars given above are correct and complete. If any transaction is delayed or not effected for reasons of incomplete or incorrect information. I shall not hold Company responsible. I also undertake to advise any change in the particulars of my account to facilitate updation of records for purpose of credit of amount through NEFT/ RTGS transfer. I agree to discharge responsibility expected of me as a participant under the scheme. Any bank charges levied by the bank for such e-transfer shall be borne by us.

Place :

Date:

Signature of the Party / Authorised Signatory

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 Certified that particulars furnished above are correct as per our records.

Banker's Stamp

Date

Signature of the Authorised official from the Bank

## SCOPE OF WORK

### A. DETAIL WORKS OF MONITORING OF AIR AS PER NAAQS

1. **PARAMETERS TO BE MONITORED AND ANALYSED** – under the methods of measurement and for Industrial, Residential & Rural area and other areas as per National Ambient Air Quality Standard (NAAQS) notified by CPCB on 18<sup>th</sup> November 2009 vide notification no. No. B-29016/20/90/PCI-L.

1. Sulphur Dioxide (SO<sub>2</sub>) µg/m<sup>3</sup>
2. Nitrogen Dioxide (NO<sub>2</sub>) µg/m<sup>3</sup>
3. Particulate Matter (size less than 10 µg/m<sup>3</sup>) or PM<sub>10</sub> µg/m<sup>3</sup>
4. Particulate Matter (size less than 2.5 µg/m<sup>3</sup>) or PM<sub>2.5</sub> µg/m<sup>3</sup>
5. Ozone (O<sub>3</sub>) µg/m<sup>3</sup>
6. Lead (Pb) µg/m<sup>3</sup>
7. Carbon Monoxide (CO) mg/m<sup>3</sup>
8. Ammonia (NH<sub>3</sub>) µg/m<sup>3</sup>
9. Benzene (C<sub>6</sub>H<sub>6</sub>) µg/m<sup>3</sup>
10. Benzo(a)Pyrene (BaP) particulate phase only, ng/m<sup>3</sup>
11. Arsenic (As) ng/m<sup>3</sup>
12. Nickel (Ni) ng/m<sup>3</sup>

2. **Frequency of Monitoring:** As per mentioned in the table against each units. The sampling is to be done for one quarter i.e. July 2026– September, 2026; or for a quarter for Central Workshop, Margherita, Tikak OCP, Tikak Extension OCP, Railway Siding Tikak Colliery, Tirap Colliery and Railway Siding Tirap Colliery.

3. **Locations for sampling:**

Colliery/Project	Locations	Frequency	No. of Samples/Quarter
Margherita	Central Workshop	(Once/Quarter)	1
<b>Sub-Total</b>			<b>1</b>
Tikak OCP	1. Mine Area	Twice/Quarter)	2
	2. Near Namdang Mine	Twice/Quarter)	2
	3. Near Coal Dump	Twice/Quarter)	2
	4. Near Namghar	Twice/Quarter)	2
	5. Kolpara Gaon (Near Panchayat Office)	Twice/Quarter)	2
<b>Sub-total</b>			<b>10</b>
Tikak Extension OCP	1. Mine Area (Near Workshop)	Twice/Quarter)	2
	2. Near Malugaon No. 2	Twice/Quarter)	2
	3. Residential Colony of Tikak Colliery	Twice/Quarter)	2
	4. Kolpara Gaon (Near Panchayat Office)	Already Monitored under Tikak OCP, So it is a common point.	
<b>Sub-total</b>			<b>6</b>
Railway Siding Tikak Colliery	1. Near Settling Tank	(Twice/Quarter)	2
<b>Sub-total</b>			<b>2</b>
Railway Siding Tirap Colliery	1. Near Workshop (Manager Officer)	(Twice/Quarter)	2
<b>Sub-total</b>			<b>2</b>
<b>Sub-total</b>			<b>Sub-total</b>

Tirap Colliery	1. Tirap East Mine	(Twice/Quarter)	2
	2. Tirap West Mine	(Twice/Quarter)	2
	3. Sipegaon	(Twice/Quarter)	2
	4. Ledo Gaon, Pero Field	(Twice/Quarter)	2
	5. Pachagaon	(Twice/Quarter)	2
	6. Malamkhan Gaon	(Twice/Quarter)	2
<b>Sub-Total</b>			<b>12</b>
<b>Grand Total number of Air Samples</b>			<b>33</b>

#### 4. Taking samples:

- a) Time and date of sampling and necessary infrastructural arrangements should be informed to the concerned authorities of respective units well in advance.
- b) Programme of sampling for each quarter should be intimated to Area Manager (Environment & Forest) and concerned authorities at the beginning of each quarter.
- c) The name and designation of persons taking the samples should be mentioned in the above programme.
- d) The Contractor should make arrangements to inspect the sampling sites.

#### 5. Submission of Report:

- a) Results of monitoring to be submitted in a report, containing the following:
  - i. Location
  - ii. Date of Sampling
  - iii. Parameters
  - iv. Sample analyzed result as per parameters.
  - v. Limits of standards as per locations
- b) The report should be submitted within the following month of particular season, signed under seal and signature of the Contractor.
- c) Fortnightly/Monthly/Quarterly/yearly, as applicable, reports of respective units to be submitted within the following month, signed under seal and signature of the Contractor.

### **B. DETAILED WORKS OF MONITORING OF HEAVY METAL IN AIR AS PER CONDITION OF EC**

1. Parameters to be monitored for Tikak Extension OCP:
  - (a) Mercury as Hg.
  - (b) Chromium as Cr.
  - (c) Cadmium as Cd.

Colliery/Project	Locations	Frequency	No. of Samples/Quarter
Tikak Extension OCP	1. Mine Area (Near Workshop)	Once/Half Yearly)	1
	2. Near Malugaon No. 2	Once/Half Yearly)	1
	3. Residential Colony of Tikak Colliery	Once/Half Yearly)	1
	4. Kolpara Gaon (Near Panchayat Office)	Once/Half Yearly)	1
		<b>Sub-total</b>	<b>4</b>
<b>Grand Total number of Air Samples</b>			<b>4</b>

**C. DETAIL WORKS OF MONITORING OF EFFLUENT WATER AS PER GSR 422 (E) DATED 19<sup>TH</sup> MAY 1993 & 31<sup>ST</sup> DEC 1993**

**1. PARAMETERS TO BE MONITORED AND ANALYSED – under General Standards for Discharge of Environmental Pollutants Part A: Effluents, applicable standards “Inland Surface Water”.**

Sl. No.	Parameters	Units	Standards for Inland Surface Water
1.	Colour and odour		
2.	Suspended Solids	mg/l	100
3.	Particulate size of suspended solids		Shall pass 850 Micron IS sieve
4.	pH Value		5.5 – 9.0
5.	Temperature	°C	Shall not exceed 5°C above the receiving water temperature
6.	Oil & Grease	mg/l	Max. 10
7.	Total residual chlorine	mg/l	Max. 1.0
8.	Ammonical nitrogen as N	mg/l	Max. 50
9.	Total Kjeldahl Nitrogen (NH <sub>3</sub> )	mg/l	Max. 100
10.	Free ammonia (NH <sub>3</sub> )	mg/l	Max. 5.0
11.	Biochemical Oxygen demand (3 days at 27°C )	mg/l	Max. 30
12.	Chemical Oxygen Demand	mg/l	Max. 250
13.	Arsenic (As)	mg/l	Max. 0.2
14.	Mercury (Hg)	mg/l	Max. 0.01
15.	Lead (Pb)	mg/l	Max. 0.1
16.	Cadmium (Cd)	mg/l	Max. 2.0
17.	Hexavalent Chromium (Cr <sup>+6</sup> )	mg/l	Max. 2.0
18.	Total chromium (Cr)	mg/l	Max. 2.0
19.	Copper (Cu)	mg/l	Max. 3.0
20.	Zinc (Zn)	mg/l	Max. 5.0
21.	Selenium (Se)	mg/l	Max. 0.05
22.	Nickel (Ni)	mg/l	Max. 3.0
23.	Cyanide (CN)	mg/l	Max. 0.2
24.	Fluoride (F)	mg/l	Max. 2.0
25.	Dissolved Phosphates (P)	mg/l	Max. 5.0
26.	Sulphide ((S)	mg/l	Max. 2.0
27.	Phenoile compounds (C <sub>6</sub> H <sub>5</sub> OH)	mg/l	Max. 1.0
28.	Bio-assay test		90% survival of fish after 96 hours in 100% effluent
29.	Manganese (Mn)	mg/l	Max. 2.0
30.	Iron (Fe)	mg/l	Max. 3.0
31.	Vandadium (V)	mg/l	Max. 0.2
32.	Nitrate Nitrogen	mg/	Max. 10

2. **Frequency of Monitoring:** As per mentioned in the table against each unit. The sampling is to be done for one quarter i.e. July 2026– September, 2026; or for a quarter for Central Workshop, Margherita, Tikak OCP, Tikak Extension OCP, Railway Siding Tikak Colliery, Tirap Colliery and Railway Siding Tirap Colliery.

**Note:**

- Sampling testing to be done for 32 parameters for samples to be collected on **quarterly/yearly** basis as applicable. For Railway Siding of Tikak Colliery and Tirap Colliery fortnightly sampling to be monitored for 32 parameters.
- For fortnightly sample, only four parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil & Grease to be monitored as per CTO (FY – 2022-23) conditions as applicable except for Railway Siding of Tikak Colliery and Tirap Colliery.

**3. Locations for sampling:**

Colliery/Project	Locations	Frequency	No. of Samples	Total nos. of samples per Quarter
Tikak OCP	1. Mine Raw Water before Coal Stock Yard	<p><b>Monitoring:</b> (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil &amp; Grease.</p> <p>So Total 1 * 7 = 7 Nos. of sample/Quarter for each locations</p> <p>But each location samples to be monitored for 32 parameters once in a quarter.</p> <p>Therefore, 6 (7-1) samples to be monitored for 4 parameters and 1 sample to be monitored for 32 parameters so effectively 7 samples to be monitored in a quarter for each locations.</p>	1 No.	7
	2. Near Coal Dump before ETP		6 Nos.	
	3. Up-Stream of Namdang River		1 No.	7
	4. Down-Stream of Namdang River		6 Nos.	
	5. Treated Water of ETP		1 No.	7
			6 Nos.	
			Already Monitor ed under Railway Siding Tikak Colliery, So it is a common point.	
			<b>Sub-Total</b>	<b>28</b>

Tikak Extension OCP	1. K-Drift Drain (Near Agent office)	<b>Monitoring:</b> (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil & Grease.  So Total $1 * 7 = 7$ Nos. of sample/Quarter	1 No.  6 Nos.	7
	2. Downstream Ledo Pani Nallah (It was monitored under Ledo OCP but as it has been taken under Tikak Extension OCP as the monitoring parameters for Ledo OCP will be monitored as per the FMCP and the sites identified by PCB, Assam)	But each location samples to be monitored for 32 parameters once in a quarter.  Therefore, 6 (7-1) samples to be monitored for 4 parameters and 1 sample to be monitored for 32 parameters so effectively 7 samples to be monitored in a quarter.	1 No.  6 Nos.	7
	3. Treated Water of ETP	Already Monitored under Railway Siding Tikak Colliery, So it is a common point.		-----
	<b>Sub-Total</b>			<b>14</b>
Railway Siding Tikak Colliery	1. Treated Water of ETP	(Fortnightly)  So Total $1 * 7 = 7$ Nos. of sample/Year  Each location samples to be monitored for 32 parameters.		7
	<b>Sub-total</b>			<b>7</b>
Tirap Colliery	1. West Mine Raw Water	<b>Monitoring:</b> (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil &	1 No.  6 Nos.	7
	2. Treated Water of Neutralization Pond		1 No.  6 Nos.	7

	3. East Mine Raw Water	Grease.  So Total $1 * 7 = 7$ Nos. of sample/Quarter for each locations	1 No.  6 Nos.	7
	4. East Mine Treated Water	But each location samples to be monitored for 32 parameters once in a quarter.	1 No.  6 Nos.	7
	5. Sipe Gaon Nallah Water	Therefore, $6(7-1)$ samples to be monitored for 4 parameters and 1 sample to be monitored for 32 parameters so effectively 7 samples to be monitored in a year for each locations.	1 No.  6 Nos.	7
	6. Up-Stream of Tirap River		1 No.  6 Nos.	7
	7. Down-Stream of Tirap River		1 No.  6 Nos.	7
	<b>Sub-Total</b>			<b>49</b>
	Railway Siding Tirap Colliery	1. Near Workshop (Manager Office)	<b>Monitoring:</b> (Fortnightly)  So Total $1 * 7 = 7$ Nos. of sample/Quarter  Each location samples to be monitored for 32 parameters.	
<b>Sub-total</b>			<b>7</b>	
Margherita	1. Drain water near OPD of Central Hospital	(Once/Quarter)	1 No.	1
	2. South of Workshop Godown Drain Water of Central Workshop	(Once/Quarter)	1 No.	1
	3. Treated Water of STP, Dehing Colony Guest House	<b>Monitoring:</b> (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil &	1 No.  6 Nos.	7

		Grease.  So Total 1 * 7 = 7 Nos. of sample/quarter for each locations  But each location samples to be monitored for 32 parameters once in a quarter.  Therefore, 6 (7-1) samples to be monitored for 4 parameters and 1 sample to be monitored for 32 parameters so effectively 7 samples to be monitored in a year for each locations.		
			<b>Sub-Total</b>	<b>9</b>
<b>Grand Total number of Effluent Water Samples</b>				<b>107</b>

**4. Taking samples:**

- a) Time and date of sampling and necessary infrastructural arrangements should be informed to the concerned authorities of respective units well in advance.
- b) Programme of sampling for each quarter should be intimated to Area Manager (Environment & Forest) and concerned authorities at the beginning of each quarter.
- c) The name and designation of persons taking the samples should be mentioned in the above programme
- d) The Contractor should make arrangements to inspect the sampling sites.

**5. Submission of Report:**

- a) Results of monitoring to be submitted in a report, containing the following:
  - i. Location
  - ii. Date of Sampling
  - iii. Parameters
  - iv. Sample analyzed result as per parameters.
  - v. Limits of standards as per locations
- b) The report should be submitted within the following month of particular season, signed under seal and signature of the Contractor.
- c) Fortnightly/Monthly/Quarterly/Yearly, as applicable, reports of respective units to be submitted within the following month, signed under seal and signature of the Contractor.

**D. DETAIL WORKS OF MONITORING OF DRINKING WATER AS PER IS:10500, 2012**

**1. PARAMETERS TO BE MONITORED AND ANALYSED:**

Sl.	Parameters	Units	Requirement	Permissible	Methods of
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No.			(Acceptable Limits)	Limit in the absence of Alternate Source	Test
1.	Colour	Hazen Units	5	15	IS:3025 Part 4,
2.	Odour		Agreeable	Agreeable	IS:3025 Part 5
3.	Turbidity	NTU	Max. 1	Max. 5	IS:3025 Part 10
4.	pH		6.5-8.5	No Relaxation	IS:3025 Part 11
5.	Total Hardness (CaCO <sub>3</sub> )	mg/l	Max. 200	Max. 600	IS:3025 Part 21
6.	Iron (Fe)	mg/l	Max. 0.3	No Relaxation	IS:3025 Part 53
7.	Chloride (Cl)	mg/l	Max. 250	1000	IS:3025 Part 32
8.	Residual Free Chlorine	mg/l	Min. 0.2	1	IS:3025 Part 26
9.	Fluoride (F)	mg/l	Max. 1	Max 1.5	IS:3025 Part 60
10.	Dissolved Solids	mg/l	Max. 500	Max. 2000	IS:3025 Part 16
11.	Calcium (Ca)	mg/l	Max. 75	Max. 200	IS:3025 Part 40
12.	Magnesium (Mg)	mg/l	Max. 30	Max. 100	IS:3025 Part 46
13.	Sulphate (SO <sub>4</sub> )	mg/l	Max. 200	Max. 400	IS:3025 Part 24
14.	Nitrate (NO <sub>2</sub> )	mg/l	Max. 45	No Relaxation	IS:3025 Part 34
15.	Phenolic Compounds C <sub>6</sub> H <sub>5</sub> OH	mg/l	Max. 0.001	Max. 0.002	IS:3025 Part 43
16.	Arsenic (As)	mg/l	Max. 0.01	Max. 0.05	IS:3025 Part 37
17.	Lead (Pb)	mg/l	Max. 0.01	No Relaxation	IS:3025 Part 47
18.	Alkalinity	mg/l	Max.200	Max. 600	IS:3025 Part 21

2. **Frequency of Monitoring: As per mentioned in the table against each unit.** The sampling is to be done for one quarter i.e. July 2026– September, 2026; or for a quarter for Central Workshop, Margherita, Tikak OCP, Tikak Extension OCP, Railway Siding Tikak Colliery, Tirap Colliery and Railway Siding Tirap Colliery.

3. Locations for sampling:

Colliery/Project	Locations	Frequency	No. of Samples/Quarter
Tikak OCP and Tikak Extension OCP	1. Tube well Water of Samukjan Village	(Once/Quarter)	1
	<b>Sub Total</b>		<b>1</b>
Tirap Colliery	1. Drinking water of Residential area	(Once/Quarter)	1
	<b>Sub Total</b>		<b>1</b>
Margherita	1. Tube well Water nearby Central Hospital	(Once/Quarter)	1
	2. Borehole water of Hospital pump house	(Once/Quarter)	1
<b>Sub Total</b>			<b>2</b>
<b>Grand Total number of Drinking Water Samples</b>			<b>4</b>

4. **Taking samples:**

- a) Time and date of sampling and necessary infrastructural arrangements should be informed to the concerned authorities of respective units well in advance.

- b) Programme of sampling for each quarter should be intimated to Area Manager (Environment & Forest) and concerned authorities at the beginning of each quarter.
- c) The name and designation of persons taking the samples should be mentioned in the above programme
- d) The Contractor should make arrangements to inspect the sampling sites.

**5. Submission of Report:**

- a) Results of monitoring to be submitted in a report, containing the following:
  - i. Location
  - ii. Date of Sampling
  - iii. Parameters
  - iv. Sample analyzed result as per parameters.
  - v. Limits of standards as per locations
- b) The report should be submitted within the following month of particular season, signed under seal and signature of the Contractor.
- c) Fortnightly/Monthly/Quarterly/Yearly, as applicable, reports of respective units to be submitted within the following month, signed under seal and signature of the Contractor.

**E. DETAIL WORKS OF MONITORING OF NOISE LEVELS AS PER The NOISE POLLUTION (REGULATION & CONTROL) RULLES 2000**

**1. PARAMETERS TO BE MONITORED AND ANALYSED – under Rule 3(1) & 4(1) of the said Rules.**

Category of Area/Zone	Limits in dB(A) Leq		Remarks
	Day Time	Night Time	
			Day time – 6.00 am to 10 pm. Night time – 10.00 pm to 6.00 am
<b>Industrial Area</b>	75	70	
<b>Commercial Area</b>	65	55	
<b>Residential Area</b>	55	45	
<b>Silence Zone</b>	50	40	

2. **Frequency of Monitoring:** As per mentioned in the table against each unit. The sampling is to be done for one quarter i.e. July 2026– September, 2026; or for a quarter for Central Workshop, Margherita, Tikak OCP, Tikak Extension OCP, Railway Siding Tikak Colliery, Tirap Colliery and Railway Siding Tirap Colliery.

**3. Locations for sampling:**

Colliery/Project	Locations	Frequency	No. of Samples/ Quarter
Tikak OCP	1. Mine Area	(Fortnightly)	7
	2. Near Namghar	(Fortnightly)	7
	3. Near Coal Dump	(Fortnightly)	7
	4. Kolpara Gaon, Near Panchayat Office	(Fortnightly)	7
		<b>Subtotal</b>	<b>28</b>
Tikak Extension OCP	1. Mine Area (Near Workshop)	(Fortnightly)	7
	2. Near Malugaon No. 2	(Fortnightly)	7
	3. Residential Colony of	(Fortnightly)	7

	Tikak Colliery		
	4. *Kolpara Gaon (Near Panchayat Office)	Already Monitored under Tikak OCP, So it is a common point.	
		<b>Subtotal</b>	<b>21</b>
Railway Siding Tikak Colliery	1. Near Settling Tank	(Fortnightly)	7
		<b>Sub-total</b>	<b>7</b>
Tirap Colliery	1. Mine Area	(Fortnightly)	7
	2. Coal Dump Area	(Fortnightly)	7
		<b>Sub-Total</b>	<b>14</b>
Railway Siding Tirap Colliery	1. Near Settling Tank	(Fortnightly)	7
		<b>Sub-total</b>	<b>7</b>
Margherita	1. Near Entrance to Central Hospital	(Once/Quarter)	1
	2. In-front of Civil Chali	(Once/Quarter)	1
		<b>Subtotal</b>	<b>2</b>
	<b>Grand Total number of Noise Samples</b>		<b>79</b>

#### 4. Taking samples:

- a) Time and date of sampling and necessary infrastructural arrangements should be informed to the concerned authorities of respective units well in advance.
- b) Programme of sampling for each quarter should be intimated to Area Manager (Environment & Forest) and concerned authorities at the beginning of each quarter.
- c) The name and designation of persons taking the samples should be mentioned in the above programme
- e) The Contractor should make arrangements to inspect the sampling sites.

#### 5. Submission of Report:

- a) Results of monitoring to be submitted in a report, containing the following:
  - i. Location
  - ii. Date of Sampling
  - iii. Parameters
  - iv. Sample analyzed result as per parameters.
  - v. Limits of standards as per locations
- b) The report should be submitted within the following month of particular quarter, signed under seal and signature of the Contractor.
- d) Fortnightly/Monthly/Quarterly/Yearly, as applicable, reports of respective units to be submitted within the following month, signed under seal and signature of the Contractor.

## SCHEDULE OF WORK

Pollutant Parameters under different standards

### National Ambient Air Quality Standards (NAAQS) 2009

Sl	Pollutant	Unit	Time Weighted Average	Concentration in Ambient Air	Methods of Measurement
1	SO <sub>2</sub>	µg/m <sup>3</sup>	24 Hrly	80	- Improved West and Gaeke - Ultraviolet fluorescence
2	NO <sub>2</sub>	µg/m <sup>3</sup>	24 Hrly	80	- Modified Jacob Hochheiser (Na-Arsenite) - Chemiluminescence
3	PM <sub>10</sub>	µg/m <sup>3</sup>	24 Hrly	100	- Gravimetric - TOEM - Beta attenuation
4	PM <sub>2.5</sub>	µg/m <sup>3</sup>	24 Hrly	60	- Gravimetric - TOEM - Beta attenuation
5	O <sub>3</sub>	µg/m <sup>3</sup>	8 Hrly	100	- UV photometric - Chemiluminescence - Chemical method
6	Pb	µg/m <sup>3</sup>	24 Hrly	1.0	- AAS/ ICP method for sampling on EPM 2000 or equivalent filter paper - ED-XRF using Teflon filter
7	CO	mg/m <sup>3</sup>	8 Hrly	2	- Non-dispersive infrared (NDIR) spectroscopy
8	NH <sub>3</sub>	µg/m <sup>3</sup>	24 Hrly	400	- Chemiluminescence - Indophenol blue method
9	C <sub>6</sub> H <sub>6</sub>	µg/m <sup>3</sup>	Annual	5	- Guess chromatography based continuous analyser - adsorption and desorption followed by GC analyses
10	BaP <i>particulate phase</i>	ng/m <sup>3</sup>	Annual	1	- Solvent extraction followed by HPLC/GC analyses
11	As	ng/m <sup>3</sup>	Annual	6	- AAS/ICP method after sampling on EPM 2000 all equivalent filter paper.
12	Ni	ng/m <sup>3</sup>	Annual	20	- AAS/ICP method after sampling on EPM 2000 all equivalent filter paper.
<b>- Additional Parameters Heavy Metals for Ledo OCP in Pit No. 1</b>					
	Mercury (Hg) and Chromium (Cr)				-

**Effluent Water - GSR 422(E)**

SL. NO.	PARAMETERS	UNITS	STANDARDS FOR INLAND SURFACE WATER
1	Colour and odor		
2	Suspended Solids	mg/l	100
3	Particulate size of suspended solids		Shall pass 850 Micron IS sieve
4	pH Value		5.5 – 9.0
5	Temperature	°C	Shall not exceed 5°C above the receiving water temperature
6	Oil & Grease	mg/l	Max. 10
7	Total residual chlorine	mg/l	Max. 1.0
8	Ammonical nitrogen as N	mg/l	Max. 50
9	Total Kjeldahl Nitrogen (NH <sub>3</sub> )	mg/l	Max. 100
10	Free ammonia (NH <sub>3</sub> )	mg/l	Max. 5.0
11	Biochemical Oxygen demand (3 days at 27°C )	mg/l	Max. 30
12	Chemical Oxygen Demand	mg/l	Max. 250
13	Arsenic (As)	mg/l	Max. 0.2
14	Mercury (Hg)	mg/l	Max. 0.01
15	Lead (Pb)	mg/l	Max. 0.1
16	Cadmium (Cd)	mg/l	Max. 2.0
17	Hexavalent Chromium (Cr+6)	mg/l	Max. 0.1
18	Total chromium (Cr)	mg/l	Max. 2.0
19	Copper (Cu)	mg/l	Max. 3.0
20	Zinc (Zn)	mg/l	Max. 5.0
21	Selenium (Se)	mg/l	Max. 0.05
22	Nickel (Ni)	mg/l	Max. 3.0
23	Cyanide (CN)	mg/l	Max. 0.2
24	Fluoride (F)	mg/l	Max. 2.0
25	Dissolved Phosphates (P)	mg/l	Max. 5.0
26	Sulphide (S)	mg/l	Max. 2.0
27	Phenoile compounds (C <sub>6</sub> H <sub>5</sub> OH)	mg/l	Max. 1.0
28	Bio-assay test		90% survival of fish after 96 hours in 100% effluent
29	Manganese (Mn)	mg/l	Max. 2.0
30	Iron (Fe)	mg/l	Max. 3.0
31	Vandadium (V)	mg/l	Max. 0.2
32	Nitrate Nitrogen	mg/l	Max. 10

**Drinking water - IS: 10500 2012**

Sl	Parameters	Units	Requirement (Acceptable Limits)	Permissible Limit in the absence of Alternate Source	Methods of Test
19.	Colour	Hazen Units	5	15	IS:3025 Part 4,
20.	Odour		Agreeable	Agreeable	IS:3025 Part 5
21.	Turbidity	NTU	Max. 1	Max. 5	IS:3025 Part 10
22.	pH		6.5-8.5	No	IS:3025 Part 11

				Relaxation	
23.	Total Hardness (CaCO <sub>3</sub> )	mg/l	Max. 200	Max. 600	IS:3025 Part 21
24.	Iron (Fe)	mg/l	Max. 0.3	No Relaxation	IS:3025 Part 53
25.	Chloride (Cl)	mg/l	Max. 250	1000	IS:3025 Part 32
26.	Residual Free Chlorine	mg/l	Min. 0.2	1	IS:3025 Part 26
27.	Fluoride (F)	mg/l	Max. 1	Max 1.5	IS:3025 Part 60
28.	Dissolved Solids	mg/l	Max. 500	Max. 2000	IS:3025 Part 16
29.	Calcium (Ca)	mg/l	Max. 75	Max. 200	IS:3025 Part 40
30.	Magnesium (Mg)	mg/l	Max. 30	Max. 100	IS:3025 Part 46
31.	Sulphate (SO <sub>4</sub> )	mg/l	Max. 200	Max. 400	IS:3025 Part 24
32.	Nitrate (NO <sub>2</sub> )	mg/l	Max. 45	No Relaxation	IS:3025 Part 34
33.	Phenolic Compounds C <sub>6</sub> H <sub>5</sub> OH	mg/l	Max. 0.001	Max. 0.002	IS:3025 Part 43
34.	Arsenic (As)	mg/l	Max. 0.01	Max. 0.05	IS:3025 Part 37
35.	Lead (Pb)	mg/l	Max. 0.01	No Relaxation	IS:3025 Part 47
36.	Alkalinity	mg/l	Max.200	Max. 600	IS:3025 Part 21

#### Noise

CATEGORY OF AREA	LIMITS IN DB(A) LEQ		REMARKS
	Day Time (6.00 am to 10 pm)	Night Time (10.00 pm to 6.00 am)	
Industrial Area	75	70	Mining area
Commercial Area	65	55	
Residential Area	55	45	Office, Colonies, Police Station
Silence Zone	50	40	Hospital

#### SAMPLE LOCATIONS

UNIT	AIR	EFFLUENT WATER	DRINKING WATER	NOISE
Margherita Res.	_____	1. Treated Water of STP, Dehing Colony Guest House	1. Bore-well water hospital pump house.	_____
Central Workshop	1. In-front to Civil Chali.	1. South of Workshop Godown Drain Water	_____	1. In-front to Civil Chali.
Central Hospital	_____	1. Drain Water near OPD	1. Tubewell water nearby Hospital	1. Near Entrance to Hospital
Tikak OCP	1. Mine Area 2. Near Namdang Mine 3. Near Coal Dump 4. Near Namghar 5. *Kolpara Gaon (Near Panchayat Office)	1. Mine Raw Water before Coal Stock Yard 2. Near Coal Dump before ETP 3. Up-Stream Namdang River 4. Down-Stream Namdang River	1. *Tubewell Water of Samukjan Village	1. Mine Area 2. Near Namghar 3. Near Coal Dump 4. *Kolpara Gaon, Near Panchayat Office

UNIT	AIR	EFFLUENT WATER	DRINKING WATER	NOISE
		5. *Treated Water of ETP		
<b>Tikak Extension OCP</b>	5. Mine Area (Near Workshop) 6. Near Malugaon No. 2 7. Residential Colony of Tikak Colliery 8. *Kolpara Gaon (Near Panchayat Office)	4. K-Drift Drain (Near Agent office) 5. **Downstream Ledo Pani Nallah 6. *Treated Water of ETP	1. *Tubewell Water of Samukjan Village	1. Mine Area (Near Workshop) 2. Near Malugaon No. 2 3. Residential Colony of Tikak Colliery 4. *Kolpara Gaon (Near Panchayat Office)
<b>Railway Siding Tikak Colliery</b>	2. Near Settling Tank	1. *Treated Water of ETP		1. Near Settling Tank
<b>Tikak Extension OCP (Heavy Metal)</b>	1. Mine Area (Near Workshop) 2. Near Malugaon No. 2 3. Residential Colony of Tikak Colliery 4. *Kolpara Gaon (Near Panchayat Office)			
<b>Tirap OCP</b>	1. Tirap East Mine 2. Tirap West Mine 3. Sipegaon 4. Ledo Gaon, Pero Field 5. Pachagaon 6. Malamkhan Gaon	1. West Mine Raw Water 2. Treated Water of Neutralization Pond 3. East Mine Raw Water 4. East Mine Treated Water 5. Sipe Gaon Nallah Water 6. Down-Stream of Tirap River 7. Up-Stream Tirap River	1. Drinking water of residential area.	1. Coal Dump Area 2. Mine Area
<b>Railway Siding Tirap Colliery</b>	1. Near Work shop (Manager Office)	1. Near Entrance Gate		1. Near Work shop (Manager Office)
<b>Total Locations</b>	<b>17</b>	<b>20</b>	<b>4</b>	<b>13</b>

(\* ) marked are common points between Tikak OCP, Tikak Extension OCP and Railway Siding Tikak Colliery in their respective category.

**BILL OF QUANTITIES**

**Monitoring of Ambient Air, Heavy Metals, Effluent Water, Drinking Water and Noise Level of Units of North Eastern Coalfields**

The bidders are mandatorily required to submit Bill of Quantity in the format as given below:

<b>Tender Inviting Authority:</b>	Environment and Forest Department, NEC, CIL, Margherita, Assam	
<b>Name of the Work:</b>	Drawing & Analysis of Ambient Air/Heavy Metal//Effluent Water/Drinking Water/Noise Level samples and Ground Water Monitoring by Environmental Laboratories approved/recognized by Pollution Control Board of Assam/CPCB/MoEF&CC and should have valid ISO 9001 along with OHSAS 18001 (Occupational Health and Safety Management System)/ISO 45001 (Occupational Health and Safety Management System).	
<b>Input Tax Credit Available</b>	Available	
<b>Category of Bidder ( To Be Selected by Bidder from the three category listed here) (Mandatory)</b>	1. GST Registered Bidder Under Regular Scheme 2. GST Registered Bidder under Composition Scheme 3. GST Unregistered Bidder	To be selected and filled here by bidder from the three category of GST registration  .....
<b>Rate of GST</b>	Rate of GST (in %) 18%	Total GST (in Rs.) (To be filled by bidder as applicable)  .....
<b>PRICE SCHEDULE</b> (This template must not be modified/ replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender).		
Name of the Bidder	.....Write Name Here.....	

**BOQ Table:**

S. No.	Particulars	Name of Units	No. of Locations/unit	Sampling Frequency at each location	No. of Samples per Quarter	Rate per Sample Rs.P.	Total Amount Rs.P.
1	Ambient Air	Tirap OCP	6	(Twice/Quarter)	12		
		Railway Siding Tirap Colliery	1	(Twice/Quarter)	2		
		Tikak OCP	5	(Twice/Quarter)	10		
		Tikak Extension OCP	3	(Twice/Quarter)	6		
		Railway Siding Tikak Colliery	1	(Twice/Quarter)	2		
		Central Workshop, Margherita	1	(Once/Quarter)	1		
		Total	Total	Total	33		
		Tikak Extension OCP (Heavy Metal)	4	(Once/Half Yearly)	1		

		<b>Total</b>			<b>4</b>		
2	<b>Effluent Water</b>	Tirap OCP	7	<p>Monitoring: (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil &amp; Grease.</p> <p>So Total 7 * 7(approx 7 fortnights for a quarter) = 49 Nos. of sample/quarter</p> <p>But each location samples to be monitored for 32 parameters once in a year.</p> <p>Therefore, 35 (49-7) samples to be monitored for 4 parameters and 7 samples to be monitored for 32 parameters. So effectively 49 samples to be monitored in a quarter.</p>	7		
		Tirap OCP	7	<p>Monitoring: (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil &amp; Grease.</p> <p>So Total 7 * 7(approx 7 fortnights for a quarter) = 49 Nos. of sample/quarter</p> <p>But each location samples to be monitored for 32 parameters once in a year.</p> <p>Therefore, 35 (49-7) samples to be monitored for 4 parameters and 7 samples to be monitored for 32 parameters. So effectively 49 samples to be monitored in a quarter.</p>	35		
		Railway Siding Tirap Colliery	1	<p>Monitoring: (Fortnightly)</p> <p>So Total 1 * 7 = 7 Nos. of sample/Year</p> <p>Each location samples to be monitored for 32 parameters.</p>	7		
		Tikak OCP	5	<p>Present/Proposed No. of location = 5 but one point (Treated Water of ETP) is common with Railway Siding Tikak Colliery, so for estimation only 4 location has been considered.</p>	4		

				<p>Monitoring: (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil &amp; Grease.</p> <p>So Total 4 * 7 (approx 7 fortnights for a quarter) = 28 Nos. of sample/quarter</p> <p>But each location samples to be monitored for 32 parameters once in a quarter.</p> <p>Therefore, 24 (28-4) samples to be monitored for 4 parameters and 1 sample to be monitored for 32 parameters so effectively 28 samples to be monitored in a quarter.</p> <p>Common point (Treated Water of ETP) value for 26 samples will be taken from Railway Siding Tikak Colliery.</p>			
		Tikak OCP	5	<p>Present/Proposed No. of location = 5 but one point (Treated Water of ETP) is common with Railway Siding Tikak Colliery, so for estimation only 4 location has been considered.</p> <p>Monitoring: (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil &amp; Grease.</p> <p>So Total 4 * 7 (approx 7 fortnights for a quarter) = 28 Nos. of sample/quarter</p> <p>But each location samples to be monitored for 32 parameters once in a quarter.</p> <p>Therefore, 24 (28-4) samples to be monitored for 4 parameters and 1 sample to be monitored for 32 parameters so effectively 28 samples to be monitored in a quarter.</p> <p>Common point (Treated Water of ETP) value for 26 samples will be taken from</p>	24		

				Railway Siding Tikak Colliery.			
		Tikak Extension OCP	3	<p>No. of location = 3 but two points i.e. Treated Water of ETP &amp; Downstream of Ledo Pani Nullah is common with Railway Siding Tikak Colliery and Ledo OCP respectively.</p> <p>However, Downstream Ledo Pani Nallah point which was considered earlier under Ledo OCP has been taken under Tikak Extension OCP as the monitoring of parameters for Ledo OCP will be monitored as per the Final Mine Closure Plan and the sites identified by Pollution Control Board, Assam.</p> <p>And Treat water of ETP for Railway siding Tikak Colliery will be monitored for 32 parameters for 26 times in a year. So not counted here for estimation. Thereby, total 2 no of locations will be considered for this estimation.</p> <p>Monitoring: (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil &amp; Grease for remaining one location i.e. K-Drift Drain (Near Agent office) So Total 2 * 7 = 14 Nos. of sample/Year But each location samples to be monitored for 32 parameters once in a year. Therefore, 12 (14-2) samples to be monitored for 4 parameters and 2 sample to be monitored for 32 parameters so effectively 14 samples to be monitored in a quarter.</p>	2		

				<p>No. of location = 3 but two points i.e. Treated Water of ETP &amp; Downstream of Ledo Pani Nullah is common with Railway Siding Tikak Colliery and Ledo OCP respectively.</p> <p>However, Downstream Ledo Pani Nallah point which was considered earlier under Ledo OCP has been taken under Tikak Extension OCP as the monitoring of parameters for Ledo OCP will be monitored as per the Final Mine Closure Plan and the sites identified by Pollution Control Board, Assam.</p> <p>And Treat water of ETP for Railway siding Tikak Colliery will be monitored for 32 parameters for 26 times in a year. So not counted here for estimation. Thereby, total 2 no of locations will be considered for this estimation.</p> <p>Monitoring: (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil &amp; Grease for remaining one location i.e. K-Drift Drain (Near Agent office) So Total <math>2 * 7 = 14</math> Nos. of sample/Year But each location samples to be monitored for 32 parameters once in a year. Therefore, 12 (14-2) samples to be monitored for 4 parameters and 2 sample to be monitored for 32 parameters so effectively 14 samples to be monitored in a quarter.</p>			
		Tikak Extension OCP	3		12		
		Railway Siding Tikak Colliery	1	<p>Monitoring: (Fortnightly)</p> <p>So Total <math>1 * 7 = 7</math> Nos. of sample/quarter</p> <p>Each location samples to be monitored for 32 parameters.</p>	7		

		Central Workshop, Margherita	1	(Once/Quarter)	1		
		Central Hospital	1	(Once/Quarter)	1		
		Margherita Residential	1	Monitoring: (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil & Grease.  So Total $1 * 7 = 7$ Nos. of sample/Quarter  But each location samples to be monitored for 32 parameters once in a year.  Therefore, 6 (7-1) samples to be monitored for 4 parameters and 1 sample to be monitored for 32 parameters so effectively 7 samples to be monitored in a year.	1		
		Margherita Residential	1	Monitoring: (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil & Grease.  So Total $1 * 7 = 7$ Nos. of sample/Quarter  But each location samples to be monitored for 32 parameters once in a year.  Therefore, 6 (7-1) samples to be monitored for 4 parameters and 1 sample to be monitored for 32 parameters so effectively 7 samples to be monitored in a year.	6		
		<b>Total Samples</b>			<b>107</b>		
		Tirap OCP	1	(Once/Quarter)	1		
3	Drinking Water	Tikak OCP and Tikak Extension OCP	1	(Once/Quarter)	1		
		Central Hospital	1	(Once/Quarter)	1		
		Margherita Residential Area	1	(Once/Quarter)	1		
		<b>Total Samples</b>			<b>4</b>		
		Tirap OCP	2	(Fortnightly)	14		

4	Noise Level	Railway Siding Tirap Colliery	1	(Fortnightly)	7		
		Tikak OCP	4	(Fortnightly)	28		
		Tikak Extension OCP	No. of location = 4 but one point is common with Tikak OCP, so only 3 locations have been counted for estimation.	(Fortnightly)	21		
		Railway Siding Tikak Colliery	1	(Fortnightly)	7		
		Central Workshop, Margherita	1	(Once/Quarter)	1		
		Central Hospital	1	(Once/Quarter)	1		
		<b>Total Samples</b>			<b>79</b>		
		<b>Total Samples</b>			<b>79</b>		
		<b>Total for one Quarter</b>					
<b>GST @ 18%</b>							
<b>Grand Total including GST for one year</b>							

(NB: Rates should be quoted in words and Digits. Quotation having rates without words will be treated as invalid / incomplete and shall be rejected)

### **SCHEDULE OF WORK**

“Quarterly Monitoring of Ambient Air/ Heavy Metal/ Effluent Water/ Drinking Water Samples and Noise Level by Environmental laboratories approved/recognised by Pollution Control Board of Assam/CPCB/ MoEF&CC and should have valid ISO 9001 along with OHSAS 18001 (Occupational Health and Safety Management System)/ISO 45001 (Occupational Health and Safety Management System).”

(Quotation Notice NEC/EMLR/80/QTN/ 2026-27/390 Date: 01.07.2026)

(All the rates are inclusive of cost of Materials and Labor)

Pollutant Parameters under different standards

**National Ambient Air Quality Standards (NAAQS) 2009**

Sl	Pollutant	Unit	Time Weighted Average	Concentration in Ambient Air	Methods of Measurement
1	SO <sub>2</sub>	µg/m <sup>3</sup>	24 Hrly	80	- Improved West and Gaeke - Ultraviolet fluorescence
2	NO <sub>2</sub>	µg/m <sup>3</sup>	24 Hrly	80	- Modified Jacob Hochheiser (Na-Arsenite) - Chemiluminescence
3	PM <sub>10</sub>	µg/m <sup>3</sup>	24 Hrly	100	- Gravimetric - TOEM - Beta attenuation
4	PM <sub>2.5</sub>	µg/m <sup>3</sup>	24 Hrly	60	- Gravimetric - TOEM - Beta attenuation
5	O <sub>3</sub>	µg/m <sup>3</sup>	8 Hrly	100	- UV photometric - Chemiluminescence - Chemical method
6	Pb	µg/m <sup>3</sup>	24 Hrly	1.0	- AAS/ ICP method for sampling on EPM 2000 or equivalent filter paper - ED-XRF using Teflon filter
7	CO	mg/m <sup>3</sup>	8 Hrly	2	- Non-dispersive infrared (NDIR) spectroscopy
8	NH <sub>3</sub>	µg/m <sup>3</sup>	24 Hrly	400	- Chemiluminescence - Indophenol blue method
9	C <sub>6</sub> H <sub>6</sub>	µg/m <sup>3</sup>	Annual	5	- Guess chromatography based continuous analyser - adsorption and desorption followed by GC analyses
10	BaP particulate phase	ng/m <sup>3</sup>	Annual	1	- Solvent extraction followed by HPLC/GC analyses
11	As	ng/m <sup>3</sup>	Annual	6	- AAS/ICP method after sampling on EPM 2000 all equivalent filter paper.
12	Ni	ng/m <sup>3</sup>	Annual	20	- AAS/ICP method after sampling on EPM 2000 all equivalent filter paper.

- Additional Parameters Heavy Metals for Ledo OCP in Pit No. 1

Sl	Pollutant	Unit	Time Weighted Average	Concentration in Ambient Air	Methods of Measurement
	Mercury (Hg) and Chromium (Cr)				-

#### Effluent Water - GSR 422(E)

SL. NO.	PARAMETERS	UNITS	STANDARDS FOR INLAND SURFACE WATER
1	Colour and odor		
2	Suspended Solids	mg/l	100
3	Particulate size of suspended solids		Shall pass 850 Micron IS sieve
4	pH Value		5.5 – 9.0
5	Temperature	°C	Shall not exceed 5°C above the receiving water temperature
6	Oil & Grease	mg/l	Max. 10
7	Total residual chlorine	mg/l	Max. 1.0
8	Ammonical nitrogen as N	mg/l	Max. 50
9	Total Kjeldahl Nitrogen (NH <sub>3</sub> )	mg/l	Max. 100
10	Free ammonia (NH <sub>3</sub> )	mg/l	Max. 5.0
11	Biochemical Oxygen demand (3 days at 27°C )	mg/l	Max. 30
12	Chemical Oxygen Demand	mg/l	Max. 250
13	Arsenic (As)	mg/l	Max. 0.2
14	Mercury (Hg)	mg/l	Max. 0.01
15	Lead (Pb)	mg/l	Max. 0.1
16	Cadmium (Cd)	mg/l	Max. 2.0
17	Hexavalent Chromium (Cr+6)	mg/l	Max. 0.1
18	Total chromium (Cr)	mg/l	Max. 2.0
19	Copper (Cu)	mg/l	Max. 3.0
20	Zinc (Zn)	mg/l	Max. 5.0
21	Selenium (Se)	mg/l	Max. 0.05
22	Nickel (Ni)	mg/l	Max. 3.0
23	Cyanide (CN)	mg/l	Max. 0.2
24	Fluoride (F)	mg/l	Max. 2.0
25	Dissolved Phosphates (P)	mg/l	Max. 5.0
26	Sulphide (S)	mg/l	Max. 2.0
27	Phenoile compounds (C <sub>6</sub> H <sub>5</sub> OH)	mg/l	Max. 1.0
28	Bio-assay test		90% survival of fish after 96 hours in 100% effluent
29	Manganese (Mn)	mg/l	Max. 2.0
30	Iron (Fe)	mg/l	Max. 3.0
31	Vandadium (V)	mg/l	Max. 0.2
32	Nitrate Nitrogen	mg/l	Max. 10

start

#### Drinking water - IS: 10500 2012

Sl	Parameters	Units	Requirement (Acceptable Limits)	Permissible Limit in the absence of Alternate Source	Methods of Test

37.	Colour	Hazen Units	5	15	IS:3025 Part 4,
38.	Odour		Agreeable	Agreeable	IS:3025 Part 5
39.	Turbidity	NTU	Max. 1	Max. 5	IS:3025 Part 10
40.	pH		6.5-8.5	No Relaxation	IS:3025 Part 11
41.	Total Hardness (CaCO <sub>3</sub> )	mg/l	Max. 200	Max. 600	IS:3025 Part 21
42.	Iron (Fe)	mg/l	Max. 0.3	No Relaxation	IS:3025 Part 53
43.	Chloride (Cl)	mg/l	Max. 250	1000	IS:3025 Part 32
44.	Residual Free Chlorine	mg/l	Min. 0.2	1	IS:3025 Part 26
45.	Fluoride (F)	mg/l	Max. 1	Max 1.5	IS:3025 Part 60
46.	Dissolved Solids	mg/l	Max. 500	Max. 2000	IS:3025 Part 16
47.	Calcium (Ca)	mg/l	Max. 75	Max. 200	IS:3025 Part 40
48.	Magnesium (Mg)	mg/l	Max. 30	Max. 100	IS:3025 Part 46
49.	Sulphate (SO <sub>4</sub> )	mg/l	Max. 200	Max. 400	IS:3025 Part 24
50.	Nitrate (NO <sub>2</sub> )	mg/l	Max. 45	No Relaxation	IS:3025 Part 34
51.	Phenolic Compounds C <sub>6</sub> H <sub>5</sub> OH	mg/l	Max. 0.001	Max. 0.002	IS:3025 Part 43
52.	Arsenic (As)	mg/l	Max. 0.01	Max. 0.05	IS:3025 Part 37
53.	Lead (Pb)	mg/l	Max. 0.01	No Relaxation	IS:3025 Part 47
54.	Alkalinity	mg/l	Max.200	Max. 600	IS:3025 Part 21

### Noise

CATEGORY OF AREA	LIMITS IN DB(A) LEQ		REMARKS
	Day Time (6.00 am to 10 pm)	Night Time (10.00 pm to 6.00 am)	
Industrial Area	75	70	Mining area
Commercial Area	65	55	
Residential Area	55	45	Office, Colonies, Police Station
Silence Zone	50	40	Hospital

### SAMPLE LOCATIONS

UNIT	AIR	EFFLUENT WATER	DRINKING WATER	NOISE
Margherita Res.	_____	2. Treated Water of STP, Dehing Colony Guest House	2. Bore-well water hospital pump house.	_____
Central Workshop	2. In-front to Civil Chali.	2. South of Workshop Godown Drain Water	_____	2. In-front to Civil Chali.
Central Hospital	_____	2. Drain Water near OPD	2. Tubewell water nearby Hospital	2. Near Entrance to Hospital

UNIT	AIR	EFFLUENT WATER	DRINKING WATER	NOISE
<b>Tikak OCP</b>	6. Mine Area 7. Near Namdang Mine 8. Near Coal Dump 9. Near Namghar 10. *Kolpara Gaon (Near Panchayat Office)	6. Mine Raw Water before Coal Stock Yard 7. Near Coal Dump before ETP 8. Up-Stream Namdang River 9. Down-Stream Namdang River 10. *Treated Water of ETP	2. *Tubewell Water of Samukjan Village	5. Mine Area 6. Near Namghar 7. Near Coal Dump 8. *Kolpara Gaon, Near Panchayat Office
<b>Tikak Extension OCP</b>	9. Mine Area (Near Workshop) 10. Near Malugaon No. 2 11. Residential Colony of Tikak Colliery 12. *Kolpara Gaon (Near Panchayat Office)	7. K-Drift Drain (Near Agent office) 8. **Downstream Ledo Pani Nallah 9. *Treated Water of ETP	2. *Tubewell Water of Samukjan Village	5. Mine Area (Near Workshop) 6. Near Malugaon No. 2 7. Residential Colony of Tikak Colliery 8. *Kolpara Gaon (Near Panchayat Office)
<b>Railway Siding Tikak Colliery</b>	3. Near Settling Tank	2. *Treated Water of ETP		2. Near Settling Tank
<b>Tikak Extension OCP (Heavy Metal)</b>	5. Mine Area (Near Workshop) 6. Near Malugaon No. 2 7. Residential Colony of Tikak Colliery 8. *Kolpara Gaon (Near Panchayat Office)			
<b>Tirap OCP</b>	7. Tirap East Mine 8. Tirap West Mine 9. Sipegaon 10. Ledo Gaon, Pero Field 11. Pachagaon 12. Malamkhan Gaon	8. West Mine Raw Water 9. Treated Water of Neutralization Pond 10. East Mine Raw Water 11. East Mine Treated Water 12. Sipe Gaon Nallah Water 13. Down-Stream of Tirap River 14. Up-Stream Tirap River	2. Drinking water of residential area.	3. Coal Dump Area 4. Mine Area
<b>Railway Siding Tirap Colliery</b>	1. Near Work shop (Manager Office)	2. Near Entrance Gate		2. Near Work shop (Manager Office)
<b>Total Locations</b>	<b>17</b>	<b>20</b>	<b>4</b>	<b>13</b>

(\* ) marked are common points between Tikak OCP, Tikak Extension OCP and Railway Siding Tikak Colliery in their respective category.

## BILL OF QUANTITY

The bidders are mandatorily required to submit Bill of Quantity in the format as given below:

<b>Tender Inviting Authority:</b>	<b>Environment and Forest Department, NEC, CIL, Margherita, Assam</b>	
<b>Name of the Work:</b>	<b>Drawing &amp; Analysis of Ambient Air/Heavy Metal//Effluent Water/Drinking Water/Noise Level samples and Ground Water Monitoring by Environmental Laboratories approved/recognized by Pollution Control Board of Assam/CPCB/ MoEF&amp;CC and should have valid ISO 9001 along with OHSAS 18001 (Occupational Health and Safety Management System)/ISO 45001 (Occupational Health and Safety Management System).</b>	
<b>Input Tax Credit Available</b>	Available	
<b>Category of Bidder ( To Be Selected by Bidder from the three category listed here) (Mandatory)</b>	4. GST Registered Bidder Under Regular Scheme 5. GST Registered Bidder under Composition Scheme 6. GST Unregistered Bidder	To be selected and filled here by bidder from the three category of GST registration  .....
Rate of GST	<b>Rate of GST (in %)</b> 18%	<b>Total GST (in Rs.)</b> <b>(To be filled by bidder as applicable)</b>  .....
<b>PRICE SCHEDULE</b>		
<b>(This template must not be modified/ replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender).</b>		
Name of the Bidder	.....Write Name Here.....	

**Table:**

S. No.	Particulars	Name of Units	No. of Locations/unit	Sampling Frequency at each location	No. of Samples per Quarter	Rate per Sample Rs.P.	Total Amount Rs.P.
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		Tikak OCP	5	(Twice/Quarter)	10		
		Tikak Extension OCP	3	(Twice/Quarter)	6		
		Railway Siding Tikak Colliery	1	(Twice/Quarter)	2		
		Central Workshop, Margherita	1	(Once/Quarter)	1		
		Total	Total	Total	33		
		Tikak Extension	4	(Once/Half Yearly)	1		

		OCP (Heavy Metal)					
		<b>Total</b>			<b>4</b>		
2	<b>Effluent Water</b>	Tirap OCP	7	<p>Monitoring: (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil &amp; Grease.</p> <p>So Total 7 * 7 (approx 7 fortnights for a quarter) = 49 Nos. of sample/quarter</p> <p>But each location samples to be monitored for 32 parameters once in a year.</p> <p>Therefore, 35 (49-7) samples to be monitored for 4 parameters and 7 samples to be monitored for 32 parameters. So effectively 49 samples to be monitored in a quarter.</p>	7		
		Tirap OCP	7	<p>Monitoring: (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil &amp; Grease.</p> <p>So Total 7 * 7 (approx 7 fortnights for a quarter) = 49 Nos. of sample/quarter</p> <p>But each location samples to be monitored for 32 parameters once in a year.</p> <p>Therefore, 35 (49-7) samples to be monitored for 4 parameters and 7 samples to be monitored for 32 parameters. So effectively 49 samples to be monitored in a quarter.</p>	35		

		Railway Siding Tirap Colliery	1	<p>Monitoring: (Fortnightly)</p> <p>So Total <math>1 * 7 = 7</math> Nos. of sample/Year</p> <p>Each location samples to be monitored for 32 parameters.</p>	7		
		Tikak OCP	5	<p>Present/Proposed No. of location = 5 but one point (Treated Water of ETP) is common with Railway Siding Tikak Colliery, so for estimation only 4 location has been considered.</p> <p>Monitoring: (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil &amp; Grease.</p> <p>So Total <math>4 * 7</math> (approx 7 fortnights for a quarter) = 28 Nos. of sample/quarter</p> <p>But each location samples to be monitored for 32 parameters once in a quarter.</p> <p>Therefore, 24 (28-4) samples to be monitored for 4 parameters and 1 sample to be monitored for 32 parameters so effectively 28 samples to be monitored in a quarter.</p> <p>Common point (Treated Water of ETP) value for 26 samples will be taken from Railway Siding Tikak Colliery.</p>	4		

		Tikak OCP	5	<p>Present/Proposed No. of location = 5 but one point (Treated Water of ETP) is common with Railway Siding Tikak Colliery, so for estimation only 4 location has been considered.</p> <p>Monitoring: (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil &amp; Grease.</p> <p>So Total <math>4 * 7</math> (approx 7 fortnights for a quarter) = 28 Nos. of sample/quarter</p> <p>But each location samples to be monitored for 32 parameters once in a quarter.</p> <p>Therefore, 24 (28-4) samples to be monitored for 4 parameters and 1 sample to be monitored for 32 parameters so effectively 28 samples to be monitored in a quarter.</p> <p>Common point (Treated Water of ETP) value for 26 samples will be taken from Railway Siding Tikak Colliery.</p>	24		
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		Tikak Extension OCP	3	<p>No. of location = 3 but two points i.e. Treated Water of ETP &amp; Downstream of Ledo Pani Nullah is common with Railway Siding Tikak Colliery and Ledo OCP respectively.</p> <p>However, Downstream Ledo Pani Nallah point which was considered earlier under Ledo OCP has been taken under Tikak Extension OCP as the monitoring of parameters for Ledo OCP will be monitored as per the Final Mine Closure Plan and the sites identified by Pollution Control Board, Assam.</p> <p>And Treat water of ETP for Railway siding Tikak Colliery will be monitored for 32 parameters for 26 times in a year. So not counted here for estimation. Thereby, total 2 no of locations will be considered for this estimation.</p> <p>Monitoring: (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil &amp; Grease for remaining one location i.e. K-Drift Drain (Near Agent office) So Total <math>2 * 7 = 14</math> Nos. of sample/Year But each location samples to be monitored for 32 parameters once in a year. Therefore, 12 (14-2) samples to be monitored for 4 parameters and 2 sample to be monitored for 32 parameters so effectively 14 samples to be monitored in a quarter.</p>	2		
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		Tikak Extension OCP	3	<p>No. of location = 3 but two points i.e. Treated Water of ETP &amp; Downstream of Ledo Pani Nullah is common with Railway Siding Tikak Colliery and Ledo OCP respectively.</p> <p>However, Downstream Ledo Pani Nallah point which was considered earlier under Ledo OCP has been taken under Tikak Extension OCP as the monitoring of parameters for Ledo OCP will be monitored as per the Final Mine Closure Plan and the sites identified by Pollution Control Board, Assam.</p> <p>And Treat water of ETP for Railway siding Tikak Colliery will be monitored for 32 parameters for 26 times in a year. So not counted here for estimation. Thereby, total 2 no of locations will be considered for this estimation.</p> <p>Monitoring: (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil &amp; Grease for remaining one location i.e. K-Drift Drain (Near Agent office) So Total <math>2 * 7 = 14</math> Nos. of sample/Year But each location samples to be monitored for 32 parameters once in a year. Therefore, 12 (14-2) samples to be monitored for 4 parameters and 2 sample to be monitored for 32 parameters so effectively 14 samples to be monitored in a quarter.</p>	12		
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		Railway Siding Tikak Colliery	1	<p>Monitoring: (Fortnightly)</p> <p>So Total <math>1 * 7 = 7</math> Nos. of sample/quarter</p> <p>Each location samples to be monitored for 32 parameters.</p>	7		
		Central Workshop, Margherita	1	(Once/Quarter)	1		
		Central Hospital	1	(Once/Quarter)	1		
		Margherita Residential	1	<p>Monitoring: (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil &amp; Grease.</p> <p>So Total <math>1 * 7 = 7</math> Nos. of sample/Quarter</p> <p>But each location samples to be monitored for 32 parameters once in a year.</p> <p>Therefore, 6 (7-1) samples to be monitored for 4 parameters and 1 sample to be monitored for 32 parameters so effectively 7 samples to be monitored in a year.</p>	1		
		Margherita Residential	1	<p>Monitoring: (Fortnightly) for 4 parameters namely pH, Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Oil &amp; Grease.</p> <p>So Total <math>1 * 7 = 7</math> Nos. of sample/Quarter</p> <p>But each location samples to be monitored for 32 parameters once in a year.</p>	6		

				Therefore, 6 (7-1) samples to be monitored for 4 parameters and 1 sample to be monitored for 32 parameters so effectively 7 samples to be monitored in a year.			
		<b>Total Samples</b>			<b>107</b>		
3	Drinking Water	Tirap OCP	1	(Once/Quarter)	1		
		Tikak OCP and Tikak Extension OCP	1	(Once/Quarter)	1		
		Central Hospital	1	(Once/Quarter)	1		
		Margherita Residential Area	1	(Once/Quarter)	1		
		<b>Total Samples</b>			<b>4</b>		
4	Noise Level	Tirap OCP	2	(Fortnightly)	14		
		Railway Siding Tirap Colliery	1	(Fortnightly)	7		
		Tikak OCP	4	(Fortnightly)	28		
		Tikak Extension OCP	No. of location = 4 but one point is common with Tikak OCP, so only 3 locations have been counted for estimation.	(Fortnightly)	21		
		Railway Siding Tikak Colliery	1	(Fortnightly)	7		
		Central Workshop, Margherita	1	(Once/Quarter)	1		
		Central Hospital	1	(Once/Quarter)	1		
		<b>Total Samples</b>			<b>79</b>		
<b>Total for one Quarter</b>							
<b>GST @ 18%</b>							
<b>Grand Total including GST for one year</b>							

(NB: Rates should be quoted in words and Digits. Quotation having rates without words will be treated as invalid / incomplete and shall be rejected)