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ANNEXURE I

I /A	Issuance of NIT on 5th July 2019
I /B	Tender Document including five corrigendum
I /C	Letter of technically qualified bidder
I /D	Letter of Preferred Bidder
I /E	Letter and Proof of payment for Upfront amount
I /F	Letter of Intent

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MINERAL RESOURCES DEPARTMENT
DIRECTORATE OF GEOLOGY AND MINING,
MADHYA PRADESH
29- A Khanij Bhawan, Arera Hills Bhopal
Phone and fax 0755-2551795
Email: dgm.auction@mp.gov.in

No- 9402 /Auction/Geology/ F.No. 3/2019-20 July 05, 2019

Notice Inviting Tender

"Invitation of bids for grant of Mining Lease for Limestone, Base Metal, Gold, Bauxite and Diamond minerals and for grant of Composite Licence for Graphite mineral"

In exercise of the powers conferred by Section 10 (B) and Section 11 of the Mines and Minerals (Development and Regulation) Act, 1957 and in accordance with the Mineral (Auction) Rules, 2015 notified thereunder, as amended from time to time, the Government of Madhya Pradesh has identified:

a) 12 (twelve) mineral blocks (5 (five) blocks of Limestone, 3 (three) blocks of Base metal, 2 (two) blocks of Gold and 1 (one) block each of Bauxite (Cement Grade) and Diamond mineral) for electronic auction and hereby invites tenders for the purposes of grant of *Mining Lease.*
b) 1 (one) mineral block, (Graphite mineral) for electronic auction and hereby invites tenders for the purposes of grant of *Composite Licence.*

Accordingly, financial bids are invited in digital format only and technical bids are invited both in digital and physical format from eligible bidders.

Eligibility conditions, date and time, terms and conditions etc. for participating in the electronic auction are provided in the Tender Document. Detailed Tender Documents along with timelines, notifications, updates and other details for the e-auction process for the mineral blocks are available in electronic form only and can be downloaded from the website of MSTC Limited (https://www.mstcecommerce.com/auctionhome/mlcl/index.jsp).

Interested and eligible bidders can register themselves on the above website. On successful registration, eligible bidders will obtain login ID and password necessary for participation in the e-auction process. Interested and eligible bidders can participate in the bidding only after online purchase of the Tender Document on payment of the Tender fee from the above website. Any revision, clarifications, addendum, corrigendum, time extensions, etc. to the tender document will be hosted on the above website and on https://www.ekhanij.mp.gov.in/ only

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and no separate notifications shall be issued in the press. Therefore, Bidders are advised to regularly visit and check the above website for any updates.

Model Tender Document and Mineral Block Summaries are available free of cost on the website of MSTC Limited (https://www.mstcecommerce.com/auctionhome/mlcl/index.jsp) and Directorate of geology and Mining (https://www.ekhanij.mp.gov.in).

List of Mineral Blocks for Auction

Name of the Block	District	Mineral	Price of Tender Document *(in Rs.)**
Mining Lease			
Karondi Sagodi Limestone block	Damoh	Limestone	2,00,000
Nimarmunda Limestone block	Damoh	Limestone	1,00,000
Badarkha Limestone block	Satna	Limestone	1,00,000
Ghuinsa Limestone block	Satna	Limestone	1,00,000
Kosdana Limestone block	Dhar	Limestone	1,00,000
Biskhan Basemetal block	Betul	Basemetal	1,00,000
Jangaldehri Basemetal block	Chhindwara	Basemetal	1,00,000
Ghisi Basemetal block	Betul	Basemetal	1,00,000
Imaliya Gold block	Katni	Gold	1,00,000
Chakariya Gold block	Singrauli	Gold	1,00,000
Baghreli Sani Bauxite block	Dindori	Bauxite (Cement Grade)	1,00,000
Bunder Diamond block	Chhatarpur	Diamond	5,00,000
Composite Licence			
Gauthana Graphite block	Betul	Graphite	1,00,000

**this price is exclusive of GST*

The block specific Tender documents are available for purchase on the website of MSTC Limited (https://www.mstcecommerce.com/auctionhome/mlcl/index.jsp). Last date for purchase of Tender Document, on website of e-auction platform provider is **August 21, 2019 (Wednesday)** and the last date for submission of the bid is **August 26, 2019 (Monday)** [on or before 17:00 hours (IST)].

DIRECTOR

Directorate of Geology and Mining, Madhya Pradesh

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GOVERNMENT OF MADHYA PRADESH

Tender Document

Mining Lease

Bunder Diamond Block

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This Tender Document is non-transferable. The Price of this Tender Document is INR 5,00,000 (Rupees Five Lakh) plus applicable GST.

July 05, 2019

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1. Important information

1.1. This Tender Document has been issued pursuant to notification of an area with the intent to carry out e-auction for grant of a Mining Lease for Diamond pursuant to the Act and the Rules framed thereunder. All information provided in this Tender Document should be read together with the Act and the Rules framed thereunder. In the event of a conflict between this Tender Document and the Act or the Rules, the Act or the Rules (as amended from time to time), as the case may be, shall prevail.

1.2. The information contained in this Tender Document or subsequently provided to Bidder(s), in writing by or on behalf of the State Government, is provided to Bidder(s) on the terms and conditions as set out in this Tender Document. It is hereby clarified that for the purposes hereof, till the issuance of letter of intent by the State Government to the Preferred Bidder, only Directorate of Geology and Mining, State Government is authorized to issue any communication hereunder and only a written communication from the Directorate of Geology and Mining, State Government shall be considered as an official communication by the State Government. The said written communication will also be uploaded (till the issuance of letter of intent by the State Government to the Preferred Bidder) on the e-auction website of MSTC Limited.

1.3. This Tender Document is neither an agreement nor an offer by the State Government to the prospective Bidders or any other person. The purpose of this Tender Document is to provide interested parties with information that may be useful to them in making their bids pursuant to this Tender Document. This Tender Document includes statements which reflect various assumptions and assessments arrived at by the State Government in relation to the mineral block. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This Tender Document may not be appropriate for all persons, and it is not possible for the State Government, its employees or advisors to consider the investment objectives, financial situation and particular needs of each party who reads or uses this Tender Document. The assumptions, assessments, statements and information contained in the Tender Document may not be complete, accurate, adequate or correct. Each Bidder should, therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this Tender Document and obtain independent advice from appropriate sources.

1.4. Information provided in this Tender Document to the Bidder(s) has been collated from several sources some of which may depend upon interpretation of Applicable Law. The information given is not intended to be an exhaustive account of statutory requirements and should not be regarded as complete. The

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State Government accepts no responsibility for the accuracy or otherwise for any statement contained in this Tender Document.

1.5. The State Government, its employees and advisors make no representation or warranty and shall have no liability to any person, including any Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this Tender Document or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the Tender Document and any assessment, assumption, statement or information contained therein or deemed to form part of this Tender Document or arising in any way from participation in this tender process.

1.6. The State Government also accepts no liability of any nature howsoever caused arising from reliance of any Bidder upon the statements contained in this Tender Document.

1.7. The State Government may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this Tender Document.

1.8. The issue of this Tender Document does not imply that the State Government is bound to select a Bidder or to appoint the Preferred Bidder as Successful Bidder for the mineral block and the State Government reserves the right to reject all or any of the Bidders or bids without assigning any reason whatsoever.

1.9. Each Bidder shall bear all its costs associated with or relating to the preparation and submission of its bid including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by the State Government or any other costs incurred in connection with or relating to its bid.

1.10. This Tender Document is not transferable. The price paid by the Bidder for the Tender Document shall not be refunded.

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2. Definitions

The words and expressions used herein but not defined herein shall have the same meaning as assigned to them in the Act or the Rules made thereunder. The following definitions apply to this Tender Document, unless the context otherwise requires:

2.1. **"Acceptable Bank"** shall mean a Scheduled Bank as listed in the Second Schedule of the Reserve Bank of India Act, 1934, excluding those listed under the headings of Gramin Banks, Urban Co-operative Banks and State Co-operative Banks.

2.2. **"Act"** means the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957) as amended from time to time

2.3. **"Applicable Law"** shall mean all applicable statutes, laws, by-laws, rules, regulations, orders, ordinances, protocols, codes, guidelines, notices, directions, judgments, decrees or other requirements or official directive of any governmental authority or court or other law, rule or regulation approval from the relevant governmental authority, government resolution, directive, or other government restriction or any similar form of decision of, or determination by, or any interpretation or adjudication having the force of law in India at the relevant point in time.

2.4. **"Auction Rules"** mean the Mineral (Auction) Rules, 2015 as amended by the Mineral (Auction) Amendment Rules, 2017 and from time to time.

2.5. **"Authorised Signatory"** shall mean the individual representing a Bidder who has been duly authorised on behalf of such Bidder to execute and submit the Bid in accordance with the terms hereof.

2.6. **"Bidder"** means a person who has purchased this Tender Document, and the expression Bidders shall include all such persons.

2.7. **"Bid Due Date"** shall mean the date on which the Technical Bid and the initial price offer is required to be submitted in accordance with Clause 8.1A(a).

2.8. **"Bid Security"** shall have the meaning given to such expression in Clause 14.

2.9. **"Final Price Offer"** shall have the meaning given to such expression in Clause 8.1B(a).

2.10. **"Floor Price"** shall have the meaning given to such expression in Clause 8.1A(d).

2.11. **"Information Memorandum"** means the information memorandum provided separately containing amongst others, information specified in Clause 4.1.

2.12. **"MDPA"** means the Mine Development and Production Agreement in the format as specified in Schedule IV (*Format of MDPA*).

2.13. **"Mineral Block"** means Bunder Diamond Block

2.14. **"Mining Lease"** shall have the meaning given to such expression in the Act and the Rules made thereunder.

2.15. **"Performance Security"** means a bank guarantee in the format as provided in Schedule III of the Auction Rules or a non-interest bearing security deposit to be provided pursuant to the Auction Rules.

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2.16. **"Preferred Bidder"** shall have the meaning given to such expression in Clause 8.1B(c).

2.17. **"Qualified Bidders"** shall have the meaning given to such expression in Clause 8.1A(e).

2.18. **"Reserve Price"** shall be as provided under Clause 9.

2.19. **"Rules"** shall, as the context may require, mean the Auction Rules and/or the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016 and/or the Minerals (Evidence of Mineral Contents) Rules, 2015 and/or any other rules (including any amendments thereof) formulated under the Act, as maybe applicable at any point of time.

2.20. **"Section"** means Section of the Act;

2.21. **"State Government"** means Government of Madhya Pradesh.

2.22. **"Successful Bidder"** shall have the meaning given to such expression in Clause 10.2.

2.23. **"Technical Bid"** shall have the meaning given to such expression in Clause 8.1A(a)(i)

2.24. **"Technically Qualified Bidders"** shall have the meaning given to such expression in Clause 8.1A(c).

2.25. **"Tender Document"** means this tender document together with the schedules and documents referred to herein, including the Information Memorandum and any addenda to this Tender Document.

2.26. **"Upfront Payment"** means an amount equal to INR 275,24,84,400 (Rupees Two Hundred Seventy Five Crore Twenty Four Lakh Eighty Four Thousand Four Hundred) payable pursuant to the Auction Rules.

2.27. **"Value of Estimated Resources"** means an amount equal to the product of, -

   i. the estimated quantity of mineral resources for which the mineral block is being auctioned, expressed in metric tonne; and

   ii. the average price per metric tonne of such mineral as published by Indian Bureau of Mines for the relevant State for a period of twelve months immediately preceding the month of computation of the Value of Estimated Resources:

   Provided that if for any mineral or mineral grade, the average sale price in respect of the relevant State for any month is not published by Indian Bureau of Mines, the all India average sale price published by Indian Bureau of Mines for such mineral or mineral grade for that month shall be used.

2.28. **"Value of Mineral Despatched"** shall have the meaning given to such expression in Clause 9.1.

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3. Introduction

3.1. The Act stipulates grant of Mining Lease through e-auction in respect of minerals which vest in the government other than:

i. minerals notified as Minor Mineral(s) specified in clause (e) of section 3 of the Act;

ii. minerals specified in Part A of the First Schedule to the Act; and

iii. minerals specified in Part B of the First Schedule to the Act having grade equal to or more than the threshold value as specified and notified under the Atomic Minerals Concession Rules, 2016.

3.2. In exercise of powers conferred by Section 13, the Central Government has notified the Auction Rules and the Minerals (Evidence of Mineral Contents) Rules, 2015. The Bidders are encouraged to acquaint themselves with the Act and the Rules made thereunder.

3.3. This Tender Document is being issued by the State Government, for e-auction for grant of a Mining Lease over the Mineral Block.

3.4. The e-auction would be conducted in accordance with the Act, the Auction Rules, the Minerals (Evidence of Mineral Contents) Rules, 2015 and any other order or notification issued by the Central Government pursuant to the Act and this Tender Document.

3.5. The Bidders are expected to conduct due diligence regarding the land to be comprised in the Mining Lease and also familiarise themselves with all Applicable Laws relating to acquisition of rights over such land to be comprised in the Mining Lease including without limitation, the Act, the Forest Conservation Act, 1980, the Panchayats (Extension to the Scheduled Areas) Act, 1996, Madhya Pradesh Land Revenue Code, 1959, the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation & Resettlement Act 2013 and any other Applicable Law. At the request and cost of the Preferred Bidder, the State Government may consider providing support (without incurring any obligation whatsoever) regarding acquisition of land comprised in the Mining Lease.

3.6. The State Government has decided to impose certain additional conditions in respect of the Mining Lease, the terms of which are set out in **Schedule VII** hereto (the "**Additional Conditions**"). Subject to approval of the Central Government, the Additional Conditions shall be deemed to be incorporated into and form part of this Tender Document and the MDPA, and shall be applicable and binding notwithstanding anything to the contrary in this Tender Document and/ or the MDPA. It is clarified that in case of any conflict or repugnancy between the provisions of the Additional Conditions and the terms of the Tender Document and/ or the MDPA, the provisions of the Additional Conditions shall prevail and have overriding effect.

4. The Mineral Block

4.1. The following information regarding the Mineral Block is included in a separate "**Information Memorandum**" attached along with this Tender Document as Schedule V:

(i) precise map of the Mineral Block identified including geographical co-ordinates, revenue survey details, demarcated using total station and differential global positioning system and divided into forest land, land owned by the State Government and land not owned by the State Government;

(ii) the geological report of the Mineral Block specifying particulars and estimated mineral resources of Diamond found in the identified Mineral Block determined pursuant to the Minerals (Evidence of Mineral Content) Rules, 2015; and

(iii) an indicative list of clearances and permissions required to be obtained with respect to such area for commencing mining operations;

4.2. Bidders are strongly encouraged to review the Information Memorandum.

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5. Eligibility

Pursuant to Rule 6 of the Auction Rules, the eligibility for participating in the e-auction shall be as follows:

(a) The Bidder must meet the Conditions specified in Section 5 which is quoted below:

"5. *Restrictions on the grant of prospecting licences or mining leases*

(1) *A State Government shall not grant a reconnaissance permit, prospecting licence or mining lease to any person unless such person--*

(a) *is an Indian national, or company as defined in clause (20) of section 2 of the Companies Act, 2013; and*

(b) *satisfies such conditions as may be prescribed:*

Provided that in respect of any mineral specified in Part A and Part B of the First Schedule, no reconnaissance permit, prospecting licence or mining lease shall be granted except with the previous approval of the Central Government.

Explanation.--For the purposes of this sub-section, a person shall be deemed to be an Indian national,--

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(a) *in the case of a firm or other association of individuals, only if all the members of the firm or members of the association are citizens of India; and*

(b) *in the case of an individual, only if he is a citizen of India.*

(2) *No mining lease shall be granted by the State Government unless it is satisfied that--*

(a) *there is evidence to show the existence of mineral contents in the area for which the application for a mining lease has been made in accordance with such parameters as may be prescribed for this purpose by the Central Government;*

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(b) there is mining plan duly approved by the Central Government, or by the State Government, in respect of such category of mines as may be specified by the Central Government, for the development of mineral deposits in the area concerned.

Provided that a mining lease may be granted upon the filing of a mining plan in accordance with a system established by the State Government for preparation, certification, and monitoring of such plan, with the approval of the Central Government."

(b) The Bidder must meet the terms and conditions regarding eligibility as stipulated in Schedule I of the Auction Rules for e-auction of Mineral Block for grant of Mining Lease as quoted below. Accordingly, the net worth of the Bidder must be more than INR 1,100,99,37,600 (Rupees Eleven Hundred Crore Ninety Nine Lakh Thirty Seven Thousand Six Hundred), calculated in accordance with the following conditions, as applicable:

a. *If the Value of Estimated Resources equal or more than one thousand crore rupees, the applicant, including an individual, shall have a net worth more than 2 per cent. of Value of Estimated Resources.*
b. *If the Value of Estimated Resources is less than one thousand crore rupees but more than one hundred crore rupees, the applicant, including an individual, shall have a net worth more than 1 per cent of Value of Estimated Resources.*
c. *If the Value of Estimated Resources is less than or equal to one hundred crore rupees, the applicant, including an individual shall have a net worth of more than 0.5 per cent. of the Value of Estimated Resources.*

Explanation:

(1) In case an applicant is a subsidiary of another company incorporated in India, the net worth of such holding company may also be considered:
Provided that, in such case, the applicant shall continue to be a subsidiary of such holding company until such time the applicant meets the aforementioned net worth threshold.

(2) In case of a company, the net worth shall be the sum of paid up share capital and the free reserves as per the audited balance sheet of the financial year ended immediately preceding the date of issuance of notice inviting tender.

(3) In case the notice inviting tender is issued between 1st April to 30th September (both days inclusive) of a year, the audited

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balance sheet of the financial year before the immediately preceding financial year, from the date of issuance of notice inviting tender, may be submitted by the bidder, if the audited balance sheet of the immediately preceding financial year is not available

(4) In case of an individual, the net worth shall be the closing cash balance on the last date for submission of application, and such amount may include amount in savings bank accounts in Scheduled Bank or Post Office, free and un-encumbered fixed deposits in Scheduled Banks, Post Office, Listed Companies or Government organisation or Public Sector Undertakings of a State and the Central Government, Kisan Vikas Patra, National Saving certificate, Bonds, Shares of Listed Companies, Listed Mutual Funds, Unit Linked Insurance Plan, Public Provident Fund, Surrender Value of Life Insurance policies, and un-encumbered immovable property in the name of Applicant."

In case of an individual, the valuation of un-encumbered immovable property shall be based on the relevant circle rate published by the relevant government authority, and such valuation must be certified by a chartered accountant and supported by true copies of the relevant published circle rates. The individual shall submit an undertaking, on a stamp paper of adequate value stating, *inter alia*, that the immovable property (accounted for the calculation of net worth) is un-encumbered and free from all charges (including, but not limited to, lien, mortgage and pledge), and that the said individual is the owner of the immovable property.

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Further, in case an individual accounts for the un-encumbered immovable properties (valuation undertaken as explained above) owned by their proprietorship firm, then they must submit either:

(i) A certificate from the bank in which such proprietorship firm has a current account certifying that they are the proprietor of the proprietorship firm; or

(ii) GST registration certificate clearly showing the details of the proprietor.

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(c) The eligibility conditions shall be used only for the purposes of determination of eligibility for participating in the e-auction set out in this Tender Document. The Preferred Bidder/Successful Bidder shall be decided solely on the basis of financial bids submitted by the eligible Bidders. Provided that, the Preferred Bidder/Successful Bidder shall be obliged to remain in continuous compliance with eligibility conditions provided in this Clause 5 till the execution of the Mining Lease deed, which the State Government may test anytime at its discretion.

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6. Review period and site visit

6.1. Pursuant to sub-rule (3) of Rule 9 of the Auction Rules, the Bidders shall be provided a fixed period to study the Tender Document and the bidding process shall commence only after such date as mentioned in Clause 11.

6.2. The Bidders may undertake the site visit to Mineral Block at their cost and risk to ascertain for themselves the site conditions, location, communication, climate, availability of power, and any other matter considered relevant by them.

6.3. This Tender Document does not however give an unconditional or unrestricted right to access the Mineral Block or the right to the Bidders to prospect for minerals. The site visit must be in compliance with Applicable Law and rights of person(s) having surface rights over the Mineral Block.

6.4. In the event a Bidder undertakes a site visit, then such Bidder shall be liable towards any loss or damage caused to the site and/or the person(s) having surface rights over the Mineral Block, on account of any act of commission or omission of such Bidder or its employees, authorised representatives, agents, advisors etc.

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7. Pre-bid conference

7.1. Potential bidders may seek clarifications or request further information regarding this Tender Document.

7.2. Any queries or requests for additional information concerning this Tender Document may be sent in *.doc, .docx, .xls, .xlsx* format only to the State Government by email to dgm.auction@mp.gov.in in the format specified in <u>Schedule II</u> (*Format for seeking clarifications regarding the Tender Document*).

7.3. The email should clearly bear the following subject line: "Queries/Request for Additional Information: Tender Document for "*Bunder Diamond Block*".

7.4. Each query should contain complete details of facts, information and Applicable Law relevant to the query and also the particulars of the person posing the query. The State Government reserves the right to not answer any query, including any query which is incomplete or anonymous.

7.5. The queries should be emailed on or before the date specified in Clause 11 for receiving queries.

7.6. The State Government shall endeavour to respond to the queries within the period specified in Clause 11. However, the State Government reserves the right to not respond to any question or provide any clarification, in its sole discretion, and nothing in this Tender Document shall be taken or read as compelling or requiring the State Government to respond to any question or to provide any clarification.

7.7. The State Government shall publish the queries for which response has been provided on a website, without identifying the source of queries.

7.8. Pre-bid conference(s) of the potential bidders shall be convened at the designated date as mentioned in Clause 11 at a time and place specified by the State Government.

7.9. A maximum of 3 (three) representatives of each potential bidder shall be allowed to participate on production of duly issued authority letter from the potential bidder and identity documents. During the course of pre-bid conference(s), they may seek additional clarifications and make suggestions for consideration of the State Government.

7.10. The State Government shall endeavour to provide clarifications and such further information, as it may, in its sole discretion, consider appropriate for facilitating a fair, transparent and competitive tender process.

7.11. The State Government may also on its own motion, if deemed necessary, issue interpretations and clarifications to all potential bidders. All clarifications and interpretations issued by the State Government shall be deemed to be part of the Tender Document. Provided, however, that any non-written clarifications and information provided by the State Government, its employees or representatives in any manner whatsoever shall not in any way or manner be binding on the State Government.

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8. Bidding Process

8.1. Pursuant to sub-rule (4) of Rule 9 of the Auction Rules, the e-auction shall be an ascending forward online electronic auction and shall comprise of attempts of auction with each attempt of auction consisting of a first round of auction and a second round of auction as follows:

A. First round of e-auction

(a) In the first round, the Bidders shall be required to submit on or prior to 17:00 hours (IST) on August 26, 2019 (**"Bid Due Date"**):

(i) The Technical Bid comprising amongst others, documentary evidence to confirm eligibility as per the provisions of Clause 5 hereof, and of the Act and the rule made thereunder to participate in the auction, bid security and such other documents and payments as specified in this Tender Document (**"Technical Bid"**); and

(ii) initial price offer, which shall be a percentage of Value of Mineral Despatched and must be equal to or greater than the Reserve Price as specified in Clause 9.

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The Technical Bid and the initial price offer must be submitted electronically as provided in Schedule III (*Technical details regarding online electronic auction*). The duly executed original physical copy of the Technical Bid must be sent to the address specified in Clause 13.1.2 so that they are received on or prior to the Bid Due Date, failing which the Technical Bid shall be deemed to be not received. In case of a conflict between documents submitted electronically and document submitted physically, the documents submitted physically shall prevail. It is clarified that only the Technical Bid is required to be submitted physically, and the Bidders must not submit the initial price offer physically. In case the Bidder submits the initial price offer physically, the Technical Bid and the initial price offer will be summarily rejected.

(b) The Technical Bid shall be evaluated to ascertain compliance of the Bidder with the eligibility conditions and requirements under this Tender Document. While examining the Technical Bids the State Government may consider such

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parameters as it may deem relevant, including considerations that the Technical Bid:

(i) is received as per the prescribed formats along with all required documents and information;

(ii) is received by the Bid Due Date including any extension thereof;

(iii) is submitted electronically in the manner prescribed in Schedule III (*Technical details regarding online electronic auction*);

(iv) contains all the information (complete in all respects) including the initial price offer as requested in this Tender Document;

(v) does not contain any condition or qualification;

(vi) only one Technical Bid has been made by the Bidder;

(vii) is generally considered to be in compliance in terms of any other parameters as may be considered relevant by the State Government.

(c) Only those Bidders who are found to be eligible in accordance with the prescribed eligibility conditions as per Clause 5 of this Tender Document and whose initial price offer is equal to or greater than the Reserve Price and whose Technical Bids meet the requirements under this Tender Document (the "**Technically Qualified Bidders**") shall be considered for the second round of the auction.

(d) The highest initial price offer amongst the Technically Qualified Bidders shall be the floor price for the second round of online electronic auction ("**Floor Price**").

(e) The Technically Qualified Bidders shall be ranked on the basis of the descending initial price offer submitted by them. On the basis of such ranking the Technically Qualified Bidders, holding first 50% (fifty per cent) of the ranks (with any fraction rounded off to higher integer) or the top five Technically Qualified Bidders, whichever is higher, shall qualify as qualified bidders for participating in the second round of online electronic auction (the "**Qualified**

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Bidders"). Intimation shall be restricted only to the Qualified Bidders.

Provided that if the number of Technically Qualified Bidders is between three and five, then all the Technically Qualified Bidders shall be considered as Qualified Bidders:

Provided further that in the event of identical initial price offers being submitted by two or more Technically Qualified Bidders, all such Technically Qualified Bidders shall be assigned the same rank for the purposes of determination of Qualified Bidders and in such case, the aforementioned 50% (fifty per cent) shall stand enhanced to extent of tie occurring within the first fifty per cent.

Illustration:

(i) In the event there are a total of ten Technically Qualified Bidders, and each Technically Qualified Bidder submits different initial price offer, then the Technically Qualified Bidders holding the first 50% (fifty percent) of ranks shall be considered to be Qualified Bidders.

(ii) If three Technically Qualified Bidders submit the same initial price offer and are ranked in first 50% (fifty percent) of the total number of ranks, then all such three Technically Qualified Bidders shall be considered to be Qualified Bidders and the total number of Qualified Bidders shall stand increased by two.

a. The State Government is not obliged to provide any explanation or clarification on their disqualification to Bidders who fail to qualify as Technically Qualified Bidders.

b. Technical Bids shall be deemed to be under consideration immediately after the submission and until such time the State Government makes official intimation of award / rejection to the Bidders. While the tender process is on-going, Bidders and/ or their representatives or other interested parties are advised to refrain, save and except as required/permitted under the

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Tender Document, from contacting by any means, the State Government and/ or their employees/ representatives on matters related to the bids under consideration

c. Save and except as provided in this Tender Document, the State Government shall not entertain any correspondence with any Bidder in relation to acceptance or rejection of any bid or the tender process.

(f) Where the total number of Technically Qualified Bidders is less than three, then no Technically Qualified Bidder shall be considered to be Qualified Bidder and the first attempt of auction shall be annulled.

(g) On annulment of the first attempt of auction, the State Government may decide to:

i. commence the auction process de novo with a separate set of terms and conditions and reserve price as it may deem fit and necessary; or

ii. conduct the second attempt of auction.

(h) In case the State Government decides to conduct the second attempt of auction as per clause (ii) of sub-clause (g) above, the terms and conditions of the second attempt of auction shall remain the same as in the first annulled attempt of auction subject to the conditions that:

i. the highest initial price offer of the technically qualified bidders if any in the first annulled attempt shall be the reserve price in first round of the second attempt; and

ii. the bidding shall continue to the second round even in case the number of technically qualified bidders is less than three.

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B. Second round of e-auction

Where the total number of technically qualified bidders is three or more, the auction process shall proceed to second round of auction which shall be held in the following manner, namely:-

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(a) In the second round, the Qualified Bidders may submit their final price offers which shall be a percentage of Value of Mineral Despatched (the "**Final Price Offer**") and greater than the Floor Price. The Final Price Offer may be revised till the conclusion of the e-auction in accordance with the technical specifications of the e-auction platform as specified in Schedule III (*Technical details regarding online electronic auction*)

(b) The e-auction process shall be annulled if none of the Qualified Bidders submits a Final Price Offer on the online electronic auction platform. In case the e-auction process is annulled due to non-submission of at least one Final Price Offer on the electronic auction platform, the Bid Security of all such Qualified Bidders who have submitted the highest initial price offer i.e. the applicable Floor Price for the second round of e-auction, shall be forfeited in accordance with Clause 14.6.

(c) The Qualified Bidder who submits the highest Final Price Offer shall be declared as the "**Preferred Bidder**" immediately on conclusion of the e-auction.

8.2. The Mining Lease shall be for minerals found in the area pursuant to exploration prior to the e-auction:

Provided that where, subsequent to the e-auction, any new mineral is discovered, then the holder of Mining Lease shall follow the provisions of the Act and the Rules made thereunder' for inclusion of such new mineral in the Mining Lease deed. It is clarified that:

i. Where, subsequent to grant of a Mining Lease, one or more new major minerals are discovered, the percentage of value of mineral despatched as quoted by the Successful Bidder under sub-rule (3) of rule (8) of Auction Rules read with the terms hereof shall be applicable for the purpose of payment to the State Government in respect of each such mineral.

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ii. Where subsequent to the e-auction, the presence of a minor mineral(s) is established or discovered, the treatment of the Minor Mineral(s) shall be as per the provisions of the Madhya Pradesh Minor Mineral Rules, 1996 (as amended or replaced from time to time).

8.3. Special provisions relating to minerals specified in Part B of the First Schedule to the Act

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i. if the holder of a Mining Lease discovers any mineral specified in Part B of the First Schedule to the Act and not specified in such licence or lease, in the area granted under such lease, the discovery of such mineral shall be reported to the Director, Atomic Minerals Directorate for Exploration and Research, Hyderabad within sixty days from the date of discovery of such mineral;

ii. the lessee shall not win or dispose of any mineral specified in Part B of the First Schedule to the Act unless such mineral is included in the Mining Lease granted pursuant to this Tender Document or a separate licence or lease with respect to such mineral has been obtained;

iii. the quantities of any mineral specified in Part B of the First Schedule to the Act recovered incidental to the mining operations to be undertaken pursuant to this Tender Document and related Mining Lease shall be collected and stacked separately and a report to that effect shall be sent to the Director, Atomic Minerals Directorate for Exploration and Research, Hyderabad every month for such further action by the lessee as may be directed by the Atomic Minerals Directorate for Exploration and Research.

iv. the lessee referred above shall, within sixty days from the date of discovery of any mineral specified in Part B of the First Schedule to the Act, apply to the Secretary, Department of Atomic Energy, Mumbai, through the State Government, for grant of a licence to handle such minerals under the provisions of the Atomic Energy Act, 1962 (33 of 1962) and the rules made thereunder and the Department of Atomic Energy shall intimate to the State Government regarding issue of the licence in this regard.

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9. Reserve Price

9.1. The Reserve Price is 5% [five percent] of Value of Mineral Despatched. The **"Value of Mineral Despatched"** shall be an amount equal to the product of-

(i) mineral despatched in a month; and

(ii) sale price of the mineral (grade-wise and State-wise) as published by Indian Bureau of Mines for such month of despatch.

9.2. It is clarified that payment in accordance with the Final Price Offer shall be required to be paid monthly in addition to the payment of royalty or dead rent, as applicable.

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10. Declaration of Successful Bidder and Grant of Mining Lease

Pursuant to Rule 10 of the Auction Rules, the Mining Lease shall be granted to the Successful Bidder subject to the following:

10.1. Issuance of letter of intent:

10.1.1. As per Section 6 of the Act;

"(1) No person shall acquire in respect of any mineral or prescribed group of associated minerals in a State-........

(b) one or more mining leases covering a total area of more than ten square kilometres;

Provided that if the Central Government is of the opinion that in the interest of the development of any mineral or industry, it is necessary so to do, it may, for reasons to be recorded in writing, increase the aforesaid area limits in respect of prospecting licence or mining lease, in so far as it pertains to any particular mineral, or to any specified category of deposits of such mineral, or to any particular mineral located in any particular area."

The Central Government, in exercise of the powers conferred under the proviso to clause (b) of sub-section (1) of Section 6 of the Act, has conveyed its approval vide order No. 16/70/2016-M.VI dated September 15, 2016, for increasing the area limits specified under Section 6(1)(b) of the Act, in the State of Madhya Pradesh, as below:

Name of Mineral	Mining Lease (sq. km.)
Bauxite	25
Limestone	75

Accordingly, the State Government shall not issue a letter of intent without prior approval from the Central Government in case the bidder holds or may hold (including the area relating to the auction hereunder) one or more Mining Leases covering a total area of more than:

(i) twenty five square kilometres, in case of bauxite, in the State of Madhya Pradesh

(ii) seventy five square kilometres, in case of limestone, in the State of Madhya Pradesh.

(iii) ten square kilometres, in case of diamond, gold and base metal, in the State of Madhya Pradesh.

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10.1.2. Subject to sub-clause 10.1.1 above, a letter of intent, as per the format provided in Schedule VI, shall be issued by the State Government to the Preferred Bidder upon payment of the first instalment of the Upfront Payment which is INR 27,52,48,440 (Rupees Twenty Seven Crore Fifty Two Lakh Forty Eight Thousand Four Hundred Forty)

10.2. Declaration as a Successful Bidder:
The Preferred Bidder shall be considered to be the "**Successful Bidder**" upon:

(a) continuing to be in compliance with all the terms and conditions of eligibility;

(b) payment of the second instalment of the Upfront Payment which is INR 27,52,48,440 (Rupees Twenty Seven Crore Fifty Two Lakh Forty Eight Thousand Four Hundred Forty) ;

(c) furnishing an irrevocable and unconditional Performance Security to the State Government from an Acceptable Bank and payable at Bhopal, Madhya Pradesh, pursuant to the Auction Rules. This Security should be valid for the period as specified in Clause 4 of the MDPA, for an amount equal to INR 275,24,84,400 (Rupees Two Hundred Seventy Five Crore Twenty Four Lakh Eighty Four Thousand Four Hundred). Pursuant to sub-rule (1) of rule 12 of the Auction Rules, the Performance Security shall be adjusted every five years so that it continues to correspond to 0.5% of the reassessed Value of Estimated Resources (determined in accordance with the Auction Rules) including the value of any newly discovered mineral that may be included in the Mining Lease deed on its discovery. In such case, bank guarantee constituting the Performance Security shall be substituted with another bank guarantee from an Acceptable Bank of the reassessed value issued in accordance with this Clause 10.2, which is for the revised amount or if the Performance Security has been provided through a security deposit, additional amount towards security deposit shall be provided; and

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(d) satisfying the conditions specified in clause (b) of sub-Section (2) of Section 5 with respect to a mining plan.

10.3. Execution of Mine Development and Production Agreement:
The State Government and the Successful Bidder shall enter into the MDPA upon the Successful Bidder having obtained all consents, approvals, permits, no-objections and the like as may be required under Applicable Law for commencement of mining operations.

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10.4. Grant of Mining Lease:

Subsequent to execution of the MDPA, the Successful Bidder shall pay third instalment of the Upfront Payment which is INR 220,19,87,520 (Rupees Two Hundred Twenty Crore Nineteen Lakh Eighty Seven Thousand Five Hundred Twenty). Upon such payment the State Government shall grant a Mining Lease to the Successful Bidder within a period of 30 days from the date of payment. The date of the commencement of the period for which a Mining Lease is granted shall be the date on which a duly executed Mining Lease deed is registered.

Provided that no Mining Lease deed shall be executed on expiry of a period of three years from the date of the letter of intent, and the letter of intent shall be invalidated leading to annulment of the entire auction process:

Provided further that the State Government may allow a further period of two years for execution of the Mining Lease deed if the reasons for delay were beyond the control of the Preferred Bidder.

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11. Timetable

The following timetable shall apply to the tender process. The timetable may be amended by the State Government through issuance of a corrigendum/ addendum to the Tender Document.

S. No.	Event Description	Estimated Date
Stage I – E-auction process for selection of Preferred Bidder		
1.	Publication of notice inviting tender in at least one English national newspaper and one local language newspaper and on the State Government website & Commencement of sale of Tender Document	Friday, July 05, 2019
2.	Last date of receiving queries from Bidders [on or before 17:00 hours (IST)]	Tuesday, July 30, 2019
3.	Pre-bid conference	Monday, August 05, 2019
4.	Last date for responses to queries by the State Government	Tuesday, August 20, 2019
5.	Last date for sale of Tender Document [on or before 17:00 hours (IST)]	Wednesday, August 21, 2019
6.	Bid Due Date (Technical + initial price offer) [on or before 17:00 hours (IST)]	Monday, August 26, 2019
7.	Opening of the Technical Bids	Tuesday, August 27, 2019
8.	Start date for examination of the Technical Bids	Tuesday, August 27, 2019
9.	Training and mock-auctions for all the Bidders on e-auction platform by the e-auction platform provider	Tuesday, September 03, 2019 - Monday, September 09, 2019
10.	Announcement of Technically Qualified Bidders as per the tender document	Friday, September 13, 2019
11.	Opening of initial price offer, of only Technically Qualified Bidders and intimation to Qualified Bidders one day prior to the scheduled date of e-auction of the respective mineral block (to Qualified Bidders only)	Monday, September 16, 2019 - Monday, September 23, 2019
12.	Conduct of ascending forward electronic auction and submission of Final Price Offer on the electronic auction platform	Tuesday, September 17, 2019 - Tuesday, September 24, 2019
13.	Announcement of Preferred Bidder	Wednesday, September 18, 2019 - Thursday, September 26, 2019
14.	Payment of first installment (10%) of Upfront Payment by the Preferred Bidder for Mining Lease	Wednesday, October 09, 2019
15.	Issuance of letter of intent by State Government	Wednesday, October 23, 2019

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Stage II – Process for Grant of Mining Lease*		
1.	Submission of Performance Security and mining plan along with second installment (10%) of Upfront Payment by the Preferred Bidder to become Successful Bidder	T_1
2.	Issuance of order by State Government acknowledging Preferred Bidder as the Successful Bidder subject to compliance with all the terms and conditions of eligibility	T_1+15
3.	Mine Development Production Agreement (MDPA) to be executed between State Government & Successful Bidder upon obtaining all consents, approvals, permits, no-objections from various government agencies/departments required under applicable laws for commencement of mining operations.	T_1+25
4.	Payment of third installment (80%) of Upfront Payment (T_2)	T_1+50
5.	Mining Lease deed to be executed by State Government. Successful Bidder to become holder of Mining Lease	T_2+30

Note:

- *The timeline shown above is based on calendar days*
- *Due dates will be updated if any holidays are announced by government in the intervening period*
- *The State Government reserves the right to update/ change or modify any of the above dates*

** In case the bidder gets an extension from Government of Madhya Pradesh, the date will be deemed to be extended for the duration of such extension.*

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12. Payments by the Successful Bidder

12.1. Upfront Payment

The Upfront Payment paid by the Successful Bidder shall be adjusted in full at the earliest against the amount payable in accordance with the percentage of Value of Mineral Despatched quoted as the Final Price Offer on commencement of production of mineral(s) as specified in MDPA.

12.2. Periodic payments

A holder of Mining Lease shall make such payments as specified in rule 13 of the Auction Rules. It is clarified that, the holder of Mining Lease shall pay the applicable payments quoted under Rule 8 of Auction Rules with respect to the Value of Mineral Despatched or the minimum production requirement, as specified in the MDPA.

12.3. Interest

The State Government shall charge simple interest at the rate of 24% (twenty four percent) per annum on any payment due to State Government which is delayed beyond sixty days from the due date thereof, as per rule 14 of Auction Rules.

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13. General conditions regarding tender process

13.1. Submission of Technical Bid

13.1.1. The Technical Bid shall comprise of the following:

(a) Bid letter in the format specified in Annexure I of Schedule I (*Format of bid letter*);

(b) Bid Security by an Acceptable Bank in the form of a bank guarantee for an amount equal to INR 55,04,96,880 (Rupees Fifty Five Crore Four Lakh Ninety Six Thousand Eight Hundred Eighty) in the format specified in Annexure II of Schedule I (*Format of Bid Security*), which shall be subject to Clause 14;

(c) In case of Bidder being a company, a power of attorney in the format specified in Annexure III of Schedule I (*Format of power of attorney*) authorising the signatory of the bid to participate in the tender process and do all acts pursuant thereto on behalf of the Bidder, including usage of the digital signature on behalf of the Bidder. In case of Bidder being an individual, power of attorney would not be required but such individual must personally sign;

(d) Affidavit in the format specified in Annexure IV of Schedule I (*Format of affidavit*); and

(e) In case of Bidder being a company, duly certified copy of the corporate authorisation, such as board resolution to participate in the tender process and submit a bid, provided that such document should pre-date the Power of Attorney as stated in Clause 13.1.1(c).

13.1.2. The Technical Bid shall be submitted on the electronic platform and the duly executed original physical copies must be sent in an envelope with "Technical Bid for Bunder Diamond Block" clearly written on it to the following address so that they are received on or prior to the Bid Due Date, failing which the Technical Bid shall be deemed to be not received.

Directorate of Geology and Mining
29-A, Khanij Bhawan,
Arera Hills, Bhopal
Madhya Pradesh - 462002

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13.2. Language

The Bid and all communications in relation to or concerning the Tender Document and the Bid are required to be in the English language.

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13.3. Documents and information

The documents including this Tender Document and all attached documents, provided by the State Government are and shall remain or become the properties of the State Government and are transmitted to the Bidders solely for the purpose of preparation and the submission of a bid in accordance herewith. Bidders are required to treat all such information as strictly confidential and shall not use it for any purpose other than for preparation and submission of their bid. The provisions of this Clause shall also apply to bids and all other documents submitted by the Bidders in relation to the bid, and the State Government will not return to the Bidders any bid, document or any information provided along therewith.

13.4. Overriding effect

If there is a conflict between the Mining Lease which is inclusive of the MDPA and this Tender Document, the Mining Lease which is inclusive of the MDPA would have overriding effect.

13.5. Cost of bidding

The Bidders shall be responsible for all of the costs associated with the preparation of their bids and their participation in the tender process. The State Government will not be responsible or in any way liable for such costs, regardless of the conduct or outcome of the tender process.

13.6. Verification of information by the Bidders

13.6.1. It shall be deemed that by submitting a bid, the Bidder has:

(a) made a complete and careful examination of the Tender Document and unconditionally and irrevocably accepted the terms thereof;

(b) reviewed all relevant information provided by the State Government, as may be relevant to the bid;

(c) accepted the risk of inadequacy, error or mistake in the information provided in the Tender Document or furnished by or on behalf of the State Government relating to any of the matters related to the e-auction process.

(d) satisfied itself about all matters regarding the e-auction process for submitting an informed bid, in accordance with this Tender Document and performance of all of its obligations;

(e) acknowledged and agreed that inadequacy, lack of completeness or incorrectness of information provided in the Tender Document or ignorance of any of the matters related to the e-auction process hereinabove shall not be a basis for any claim for compensation, damages, extension of time for performance of its obligations, loss of profits etc. from the State Government, or a ground for termination of the MDPA by the Successful Bidder; and

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(f) agreed to be bound by the undertakings provided by it under and in terms hereof.

13.6.2. The State Government shall not be liable for any omission, mistake or error in respect of any of the information provided or on account of any matter or thing arising out of or concerning or relating to the Tender Document or the tender process, including any error or mistake therein or in any information or data given by the State Government.

13.7. Verification by the State Government and disqualification

13.7.1. The State Government reserves the right to verify all statements, information and documents submitted by the Bidder in response to the Tender Document and the Bidder shall, when so required by the State Government, make available all such information, evidence and documents as may be necessary for such verification. Any such verification or lack of such verification by the State Government shall not relieve the Bidder of its obligations or liabilities hereunder nor will it affect any rights of the State Government thereunder.

13.7.2. The State Government reserves the right to reject any bid, and appropriate the entire Bid Security or Performance Security, as may be applicable, if:

(a) at any time, a misrepresentation is made or uncovered,

(b) if the Bidder/Preferred Bidder/Successful Bidder engages in a Corrupt Practice, Fraudulent Practice, Coercive Practice, Undesirable Practice or Restrictive Practice

(c) the Bidder does not provide, within the time specified by the State Government, the supplemental information sought by the State Government for evaluation of the bid, or

(d) any act or omission of the Bidder/Preferred Bidder/Successful Bidder results in violation of or non- compliance with the Act, the Rules thereunder, this Tender Document, or any other document referred therein or issued pursuant thereto or any Applicable Law relevant for the tender process.

13.7.3. Any rejection of a bid under Clause 13.7.2 may lead to the disqualification of the Bidder from bidding for any auction or allotment conducted by the State Government for a period of 5 years starting from the date of appropriation of the Bid Security or any other earlier date specified by the State Government.

13.7.4. In the aforementioned events, the State Government shall be entitled to forfeit and appropriate the Bid Security or Performance Security, as the case may be, without prejudice to any other right or remedy that may be available to the State Government under the Tender Document, or otherwise, without any liability whatsoever.

13.8. Amendment of Tender Document

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13.8.1. At any time prior to the Bid Due Date, the State Government may, for any reason, whether at its own initiative or in response to clarifications requested by a Bidder, amend the Tender Document.

13.8.2. Any amendment issued hereunder will be in writing and shall be accessible to all the Bidders and shall be deemed to be part of the Tender Document.

13.8.3. In order to afford the Bidders a reasonable time for taking an amendment into account, or for any other reason, the State Government may, in its sole discretion, extend the Bid Due Date in accordance with Clause 13.9.

13.9. Bid Due Date and extension

13.9.1. Technical Bids should be uploaded and the documents required to be submitted physically in original pursuant to Clause 13.1.2 must be received before the Bid Due Date. Technical Bids received by the State Government after the specified time on the Bid Due Date shall not be eligible for consideration and shall be summarily rejected.

13.9.2. The State Government may, in its sole discretion, extend the Bid Due Date by issuing an amendment that is made available to all Bidders.

13.10. Modifications/ substitution/ withdrawal of bids

13.10.1. The Bidder may modify, substitute or withdraw its Technical Bid after submission, prior to the Bid Due Date. No Technical Bid shall be modified, substituted or withdrawn by the Bidder after the scheduled closing time for Bid submission on the Bid Due Date, unless the same has been expressly sought by the State Government.

13.11. Rejection of bids

13.11.1. Notwithstanding anything contained in this Tender Document, the State Government reserves the right to reject any bid and/or to annul the tender process and reject all bids at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons thereof.

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13.11.2. In case such cancellation is pursuant to non-compliance by the relevant Bidders vis-à-vis submissions of bid then the State Government reserves the right to appropriate the relevant Bid Security submitted by such non-compliant Bidders.

13.11.3. The State Government reserves the right not to proceed with the tender process at any time, without notice or liability, and to reject any bid without assigning any reasons.

13.11.4. Without prejudice to the generality of the foregoing, the State Government reserves the right to reject any bid on any criteria specified in this Tender Document, including without limitation, the following:

(a) bids have not been submitted with all the information and details listed in this Tender Document.

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(b) bid is not conforming to the terms of Clause 8.1A(b) of this Tender Document.

(c) bids have been submitted without Bid Security or period of validity.

(d) bids have otherwise not been submitted in accordance with the Tender Document.

13.12. Validity of bids

The initial price offer must be valid for a period of not less than 180 (one hundred and eighty) days from the Bid Due Date. If the second round of e-auction is not conducted within a period of 180 days from the Bid Due Date, then the e-auction process will be annulled.

13.13. Change affecting the Bidder

Upon submission of the Technical Bid, any change affecting the Bidder regarding compliance with the eligibility conditions shall result in disqualification of the Bidder. Any change in any information submitted by the Bidder must be immediately communicated to the State Government.

13.14. Minor deviations

The State Government may permit minor deviations from the requirements of this Tender Documents. It is clarified that such minor deviation would not be permitted in matters related to eligibility and shall be permitted only with respect to procedural requirements. The decision of the State Government regarding what constitutes minor deviation shall be final and binding.

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14. Bid Security

14.1. The Bidder shall furnish as part of its Technical Bid, a security in the form of a bank guarantee by an Acceptable Bank and payable at Bhopal, Madhya Pradesh in favour of the State Government in substantially the same format as prescribed at <u>Annexure II of Schedule I</u> (*Format of bid security*), and having a validity period of not less than 240 (two hundred and forty) days from the Bid Due Date, inclusive of a claim period of 60 (sixty) days, and may be substituted with another bank guarantee of the same value issued in accordance with this Clause 14, which is valid for an extended period as may be mutually agreed between the State Government and the Bidder from time to time.

14.2. The Bid Security shall be for INR 55,04,96,880 (Rupees Fifty Five Crore Four Lakh Ninety Six Thousand Eight Hundred Eighty).

14.3. Save and except as provided in this Tender Document, the Bid Security of unsuccessful Bidders will be returned by the State Government, without any interest, as promptly as possible on issuance of Letter of Intent to the Preferred Bidder

14.4. The Preferred Bidder's Bid Security will be returned, without any interest, upon furnishing of the Performance Security in accordance with the provisions thereof and consequently the Preferred Bidder's Bid Security shall remain valid until the time Performance Security is provided.

14.5. The State Government shall be entitled to forfeit and appropriate the Bid Security as damages, amongst others in any of the events specified in this Tender Document. The Bidder, by submitting its bid pursuant to this Tender Document, shall be deemed to have acknowledged and confirmed that the Bidder will suffer loss and damage on account of withdrawal of its bid or for any other default by the Bidder during the period of bid validity as specified in this Tender Document. No relaxation of any kind on Bid Security shall be given to any Bidder.

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14.6. The Bid Security shall be forfeited as damages without prejudice to any other right or remedy that may be available to the State Government under the Tender Document and/, or otherwise, under, inter alia, the following conditions:

(a) If a Bidder submits a Technical Bid which is not conforming to this Tender Document, the Act or the Rules framed thereunder or submits an initial price offer which is less than the Reserve Price;

(b) If a Bidder engages in a Corrupt Practice, Fraudulent Practice, Coercive Practice, Undesirable Practice or Restrictive Practice as specified in Clause 15 of this Tender Document;

(c) If a Bidder withdraws its bid during the period of bid validity as specified in this Tender Document or as extended by mutual consent of the respective Bidder(s)and the State Government;

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(d) If the Successful Bidder fails to furnish the Performance Security or extend the Bid Security or make Upfront Payment as prescribed in this Tender Document.

(e) In the case of all such Qualified Bidders who have submitted the highest initial price offer i.e. the Applicable Floor Price, if the auction process is annulled due to non-submission of at least one Final Price Offer on the electronic auction platform.

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15. Fraud and Corrupt Practices

15.1. The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the tender process and subsequent to the grant of the Mining Lease. Notwithstanding anything to the contrary contained herein, the State Government may reject a bid, withdraw the Mining Lease, or terminate the MDPA, as the case maybe, without being liable in any manner whatsoever to the Bidder, Technically Qualified Bidder, Preferred Bidder, or the Successful Bidder, as the case may be, if the State Government determines that the Bidder, Technically Qualified Bidder, Preferred Bidder, or Successful Bidder, as the case may be, has, directly or indirectly or through an agent, engaged in Corrupt Practice, Fraudulent Practice, Coercive Practice, Undesirable Practice or Restrictive Practice in the tender process. In such an event, the State Government shall be entitled to forfeit and appropriate the Bid Security or Performance Security, as the case maybe, as damages, without prejudice to any other right or remedy that may be available to the State Government under the Tender Document and/ or otherwise.

15.2. Without prejudice to the rights of the State Government under Clause 15.1 herein above and the rights and remedies which the State Government may have under the Mining Lease or the MDPA, otherwise if a Bidder, Preferred Bidder or Successful Bidder, as the case maybe, is found by the State Government to have directly or indirectly or through an agent, engaged or indulged in any Corrupt Practice, Fraudulent Practice, Coercive Practice, Undesirable Practice or Restrictive Practice during the tender process, or after the grant of the Mining Lease or the execution of the MDPA, such Bidder or Successful Bidder shall not be eligible to participate in any tender or Tender Document issued by the State Government during a period of 5 years from the date such Bidder or Successful Bidder, as the case maybe, is found by the State Government to have directly or indirectly or through an agent, engaged or indulged in any Corrupt Practice, Fraudulent Practice, Coercive Practice, Undesirable Practice or Restrictive Practices, as the case maybe.

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15.3. For the purposes of this Tender Document, the following terms shall have the meaning hereinafter respectively assigned to them:

(a) **"Corrupt Practice"** means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the tender process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the State Government who is or has been associated in any manner, directly or indirectly, with the tender process or arising therefrom, before or after the execution thereof, at any time prior to the expiry of 1 year from the date such official resigns or retires from or otherwise ceases to be in the service of the State Government, shall be deemed to constitute

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influencing the actions of a person connected with the tender process); or (ii) save and except as permitted under this Tender Document, engaging in any manner whatsoever, whether during the tender process or after the grant of the Mining Lease or after the execution of the MDPA, as the case maybe;

(b) "**Fraudulent Practice**" means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the tender process;

(c) "**Coercive Practice**" means impairing or harming, or threatening to impair or harm, directly or indirectly, any person or property to influence any person's participation or action in the tender process;

(d) "**Undesirable Practice**" means (i) establishing contact with any person connected with or employed or engaged by the State Government with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the tender process;(ii) having a conflict of interest; or (iii) violating of any Applicable Law; and

(e) "**Restrictive Practice**" means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the tender process.

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16. Other Provisions

16.1. Exploration Obligation

The holder of a Mining Lease shall complete detailed exploration (G1 level exploration) and prepare a detailed feasibility study report conforming to Part IV and V of the Mineral (Evidence of Mineral Contents) Rules, 2015 over the entire area under the Mining Lease, within a period of five years from the date of commencement of such Mining Lease.

16.2. Governing law

The tender process shall be governed by, and construed in accordance with, the laws of India.

16.3. Right of State Government

16.3.1. The State Government, in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, to;

(a) Suspend and/or cancel the tender process and/or amend and/or supplement the tender process or modify the dates or other terms and conditions relating thereto;

(b) Consult with any Bidder in order to receive clarification or further information;

(c) retain any information and/ or evidence submitted to the State Government by, on behalf of, and/or in relation to any Bidder; and/or

(d) independently verify, disqualify, reject and/ or accept any and all submissions or other information and/or evidence submitted by or on behalf of any Bidder.

16.3.2. It shall be deemed that by submitting the bid, the Bidder agrees and releases the State Government, its employees, agents and advisers, irrevocably, unconditionally, fully and finally from any and all liability for claims, losses, damages, costs, expenses or liabilities in any way related to or arising from the exercise of any rights and/ or performance of any obligations hereunder, pursuant hereto and/ or in connection with the tender process and waives, to the fullest extent permitted by Applicable Law, any and all rights and/or claims it may have in this respect, whether actual or contingent, whether present or in future.

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16.4. Proprietary data

All documents and other information supplied by a Bidder to the State Government shall remain with the State Government.

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Schedule I: Format of Technical Bid

A. General instructions:

The Technical Bid comprises of the following documents:

(a) Bid letter in the format specified in Annexure I (*Format of bid letter*);

(b) Bid Security in form of a bank guarantee for an amount equal to INR 55,04,96,880 (Rupees Fifty Five Crore Four Lakh Ninety Six Thousand Eight Hundred Eighty) in the format specified in Annexure II (*Format of bid security*);

(c) In case of Bidder being a company, a power of attorney in the format specified in Annexure III (*Format of power of attorney*) authorising the signatory of the bid to participate in the tender process and do all acts pursuant thereto on behalf of the Bidder, including usage of the digital signature on behalf of the Bidder. In case of Bidder being an individual, power of attorney would not be required but such individual must personally sign; and

(d) In case of Bidder being a company, duly certified copy of the corporate authorisation, such as board resolution to participate in the tender process and submit a bid, provided that such document should pre-date the Power of Attorney stated above in (c);

(e) Affidavit in the format specified in Annexure IV (Format of affidavit).

(f) The Power of Attorney stated in (c) above should pre-date the Bid Letter and Affidavit and other documents submitted as part of the Technical Bid;

All the aforementioned documents are required to be uploaded on the electronic auction platform and the original physical copy must be despatched in accordance with Clause 13.1.2 so that they are received on or prior to the Bid Due Date; failing which the Technical Bid shall be deemed to be not received.

Specific instructions for submission of each of the aforementioned documents are provide below in each part.

B. Instructions for submission of the Bid Letter

(a) The bid letter must be printed on the letterhead of the Bidder, if the Bidder is a company, firm or other association of individuals. In case the Bidder is an individual, it may be printed on plain paper.

(b) The bid letter must be issued on the letterhead of the Bidder and must be signed for and on behalf of the Bidder by the Authorised Signatory of the Bidder on each page, in case the Bidder is a company. In case the Bidder is an individual, the Bidder must personally sign each page of the bid letter.

(c) The corporate authorisation of the Authorised Signatory of the Bidder (which is a company) must be enclosed with the bid letter. It is recommended that the Bidder may authorise one person to deal with all matters related to bid. However, if the Bidder has authorised more than one person, then the corporate authorisation of all such persons should be enclosed. Any change in such corporate authorisation must be immediately intimated to the State Government.

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(d) Documents to evidence compliance with the eligibility conditions must be enclosed with the bid letter, duly certified by the Authorised Signatory of the Bidder, in case the Bidder is a company, or self-attested in case the Bidder is an individual. Such documents must include:

(i) Certificate of registration of the Bidder which is a company, or copy of passport or other nationality document in case Bidder is an individual.

(ii) In case the Bidder is a firm or association of individuals, the constituents documents along with particulars of all the members of the firm or association. In such case each member of the firm or association would be required to comply with the requirements prescribed in the Tender Documents with respect to submission of documents.

(iii) Net worth certificate issued by: (a) In case of a company, statutory auditors of the Bidder (certificate should clearly mention that it has been issued by the statutory auditor of the company and the Net worth stated therein is the sum of paid up share capital and the free reserves, in terms of Explanation No 2 to Schedule I of the Auction Rules); (b) In case of an individual, certificate issued by a chartered accountant regarding the total amount as closing cash balance including un-encumbered immovable property, derived as per Clause 5(b) of the Tender Document. The certificate shall have a list of all immovable property owned by the said individual along with its valuation (which shall have to be certified by the chartered accountant and supported by true copies of the relevant published circle rates) and an undertaking from the individual on a stamp paper of adequate value stating, *inter alia* that the immovable property is un-encumbered and free from all charges (including, but not limited to, lien, mortgage and pledge) and that the said individual is the owner of the immovable property.

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Further, in case an individual accounts for the un-encumbered immovable properties (valuation undertaken as explained above) owned by their proprietorship firm, then they must submit either:

(i) A certificate from the bank in which such proprietorship firm has a current account certifying that they are the proprietor of the proprietorship firm; or

(ii) GST registration certificate clearly showing the details of the proprietor

(iv) Particulars of Mining Lease, reconnaissance permit or prospecting licence held by the Bidder or its affiliates for the purpose of Section 6.

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C. Instructions for submission of the Bid Security

(a) The Bid Security must be in form of a bank guarantee for an amount equal to INR 55,04,96,880 (Rupees Fifty Five Crore Four Lakh Ninety Six Thousand Eight Hundred Eighty).

(b) The Bid Security may be issued at any place in India by an Acceptable Bank (Scheduled Bank as listed in the Second Schedule of the Reserve Bank of India Act, 1934, excluding those listed under the headings of Gramin Banks, Urban Co-operative Banks and State Co-operative Banks) and must be payable at Bhopal, Madhya Pradesh.

(c) The Bid Security must have a validity period of not less than 240 (two hundred and forty) days from the Bid Due Date, exclusive of the Bid Due Date and inclusive of a claim period of 60 (sixty) days.

(d) The Bid Security must be stamped in accordance with Applicable Law.

D. Instructions for submission of the Power of Attorney

(a) The power of attorney must be issued in India in accordance with Applicable Law and it must be in issued in accordance with the constitutional documents of the Bidder after obtaining all corporate approvals as may be required. The extract of constitutional documents and certified copies of the corporate approvals must be enclosed with the power of attorney.

(b) The power of attorney must be issued under the common seal, if any

(c) The power of attorney must be stamped in accordance with Applicable Laws and notarised.

(d) The power of attorney must be issued in the name of a person who is in full time employment of the Bidder.

E. Instructions for submission of the Affidavit

(a) The affidavit must be executed in India in accordance with Applicable Law and it must be in issued in accordance with the constitutional documents of the Bidder after obtaining all corporate approvals as may be required. The extract of constitutional documents and certified copies of the corporate approvals must be enclosed with the power of attorney. In case of Bidder being an individual, the affidavit must be personally signed by the Bidder

(b) The affidavit must be stamped in accordance with Applicable Law and notarised.

(c) The affidavit must be signed by a person who is in full time employment of the Bidder and duly authorised to sign the same.

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Annexure I: Format of Bid Letter

Bid Letter

(On the letter head of the Bidder. Each page of the letter to be signed by the Authorised Signatory)

[date]

To,

Directorate of Geology and Mining
29-A, Khanij Bhawan,
Arera Hills, Bhopal
Madhya Pradesh - 462002

Sub: Bid letter for Bunder Diamond Block (Insert Name of Bidder and MSTC Registration number of Bidder)

Ref: Tender Document dated July 5, 2019 (**"Tender Document"**)

Dear Sir,

I, having examined the Tender Document and understood their contents, hereby submit my Technical Bid. Capitalised expressions used in this letter have the same meaning as ascribed thereto in the Tender Document.

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1. The Technical Bid is unconditional and unqualified.
2. We have reviewed the terms of the Tender Document and hereby unconditionally and irrevocably accept, agree and acknowledge the terms thereof.
3. We acknowledge that the State Government will be relying on the information provided in the Technical Bid and the documents accompanying the Technical Bid for selection of the Preferred Bidder and subsequent selection of the Successful Bidder, and we certify that all information provided therein is true and correct; nothing has been omitted which renders such information misleading; and all documents accompanying the Technical Bid are true copies of their respective originals.
4. This statement is made for the express purpose of our participation in the tender process and possible selection as Successful Bidder.
5. We hereby confirm that we satisfy all the eligibility conditions prescribed in the Tender Document. Specific confirmations with respect to our compliance with

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the eligibility conditions are provided below:

(a) [Insert separate paragraphs for compliance with each of the eligibility conditions of the Tender Documents, with specific reference to enclosed documents as mentioned in the instructions].

6. [For the purposes of Section 6 we do not hold any mineral concession (including a reconnaissance permit, prospecting licence, prospecting licence-cum-mining lease, and/or mining lease) in the State of Madhya Pradesh.] OR [For the purposes of Section 6 we hold the following mineral concessions in the State of Madhya Pradesh:

   Provide details of the mineral concessions (including a reconnaissance permit, prospecting licence, prospecting licence-cum-mining lease, and/or mining lease) held by the Bidder.]

7. [We are not simultaneously participating in any other auction of mineral concession which may result in grant of a mineral concession in the State of Madhya Pradesh] OR [We are simultaneously participating in following auction(s) of mineral concession which may result in grant of a mineral concession in the State of Madhya Pradesh:

   Provide details of the mineral concessions which may be granted if the Bidder is successful in another auction.]

8. We hereby acknowledge that if we submit or produce any document and it is discovered subsequently that such document was false or incorrect then we shall be liable under the Applicable Law for the time being in force.

9. We shall make available to the State Government any additional information it may find necessary or require to supplement or to authenticate the Technical Bid.

10. I acknowledge the right of the State Government to reject our Technical Bid and/or the Final Price Offer without assigning any reason or otherwise and hereby waive, to the fullest extent permitted by Applicable Law, our right to challenge the same on any account whatsoever.

11. We declare that:

    a) We have examined and understood the Act, all Rules framed thereunder, the Tender Document and all documents referred therein including the Information Memorandum;

    b) We have examined and have no reservations to the Tender Document, including any addendum issued by the State Government;

    c) We have not directly or indirectly or through an agent engaged or indulged in any Corrupt Practice, Fraudulent Practice, Coercive Practice, Undesirable Practice or Restrictive Practice, as defined in the Tender Document, in respect of any tender or request for proposal issued by or any agreement

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entered into with the State Government or any other public sector enterprise or any government, central or state; and

d) We hereby certify that we have taken steps to ensure that in conformity with the provisions of Clause 15 of the Tender Document, no person acting for us or on our behalf has engaged or will engage in any Corrupt Practice, Fraudulent Practice, Coercive Practice, Undesirable Practice or Restrictive Practice.

e) We have not been convicted of illegal mining.

f) No mining dues or outstanding payments are pending with any State Government for a period more than 60 days after the due date.

g) There are no pending or threatened litigations or legal or quasi-legal proceedings against us which may impact our ability to perform our obligations under the Tender Document, the letter of intent, the MDPA, the Mining Lease deed, the Act and/or the Auction Rules

12. We understand that you may cancel the tender process at any time and that you are neither bound to accept any bid that you may receive nor to invite the Bidders to bid, without incurring any liability to the Bidders, in accordance with the Tender Document.

13. We hereby irrevocably waive any right or remedy which we may have at any stage at law or howsoever otherwise arising to challenge or question any decision taken by the State Government in connection with the selection of the Preferred Bidder, or in connection with the tender process itself, in respect of the Tender Document and the terms and implementation thereof.

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14. In the event of we being declared as the Successful Bidder, we agree to enter into MDPA and other documents in accordance with the Tender Document and pay such amounts and provide such security as required therein.

15. We have ensured compliance with the Tender Document and to the best of our knowledge this bid is conforming to the terms thereof.

16. We agree and understand that the Bid is subject to the provisions of the Tender Document. In no case, we shall have any claim or right of whatsoever nature if the Mining Lease is not awarded to us or our bid is not opened or rejected.

17. The initial price offer has been and the Final Price Offer shall be quoted by us after taking into consideration all the terms and conditions stated in the Tender Document, MDPA, our own estimates of costs and feasibility and after a careful assessment of the geological and other information, the Information Memorandum and the proposed Mining Lease and all the conditions that may affect the utilisation of minerals.

18. We shall keep this offer valid for 180 days from the Bid Due Date specified in the Tender Document.

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In witness thereof, we submit this bid letter forming part of our Technical Bid under and in accordance with the terms of the Tender Document.

Yours faithfully,
For and on behalf of [*insert name of the Bidder*]

(Signature, name and designation of the Authorised signatory)

Date:
Place:

Enclosed:
(a) [list and description of documents enclosed]

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Annexure II: Format of Bid Security

[Adequate stamp duty to be paid by the Bidder with respect to this document.]

Bank Guarantee

[Bank Guarantee.No.]

[date]

To,

Director of Geology and Mining
29-A, Khanij Bhawan,
Arera Hills, Bhopal
Madhya Pradesh - 462002

1. In consideration of you, being the State Government of Madhya Pradesh ("State Government", which expression shall unless it be repugnant to the subject or context thereof include its, successors and assigns) having agreed to receive, pursuant to the provisions of the Tender Document dated July 5, 2019, the bid of [Name of the Bidder] (a company registered under the Companies Act, [1956/2013]) and having its registered office at [Address of the Bidder] OR [an individual who is citizen of India, having income tax permanent account number [number], residing at [address]] OR [firm/association of persons], all of whom are Indian citizens and resident in India] ("Bidder"), for the auction pursuant to the Tender Document for the Bunder Diamond Block ("Mineral Block") dated July 5, 2019 ("Tender Document"), we [Name of the Bank] having our registered office at [address of the registered office] and one of its branches located at Bhopal, Madhya Pradesh, [name and address of the branch] ("Bank"), at the request of the Bidder, do hereby in terms of the Tender Document, irrevocably, unconditionally and without reservations guarantee the due and faithful fulfilment and compliance of the terms and conditions of the Tender Document by the Bidder and unconditionally and irrevocably undertake to pay forthwith to the State Government an amount of INR 55,04,96,880 (Rupees Fifty Five Crore Four Lakh Ninety Six Thousand Eight Hundred Eighty) ("Guarantee") as our primary obligation without any demur, reservation, recourse, contest or protest and without reference to the Bidder, if the Bidder shall fail to fulfil or comply with all or any of the terms and conditions contained in the Tender Document.
2. Any such written demand made by the State Government stating that the Bidder is in default of the due and faithful fulfilment and compliance with the terms and conditions contained in the Tender Document shall be final, conclusive and binding on the Bank.
3. We, the Bank, do hereby unconditionally undertake to pay the amounts due and payable under this Guarantee without any demur, reservation, recourse, contest or protest and without any reference to the Bidder or any other person and irrespective of whether the claim of the State Government is disputed by the Bidder or not, merely on the first demand from the State Government stating that the amount claimed is due to the State Government by reason of failure of the Bidder to fulfil and comply with the terms and

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conditions contained in the Tender Document. Any such demand made on the Bank shall be conclusive as regards amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding INR 55,04,96,880 (Rupees Fifty Five Crore Four Lakh Ninety Six Thousand Eight Hundred Eighty).

4. This Guarantee shall be irrevocable and remain in full force for a period of 240 days from the Bid Due Date i.e. August 26, 2019 inclusive of a claim period of 60 days or for such extended period as may be mutually agreed between the State Government and the Bidder, and agreed to by the Bank, and shall continue to be enforceable till all amounts under this Guarantee have been paid.
5. We, the Bank, further agree that the State Government shall be the sole judge to decide as to whether the Bidder is in default of due and faithful fulfilment and compliance with the terms and conditions contained in the Tender Document including, amongst others, the failure of the Bidder to keep its bid open during the bid validity period set forth in the Tender Document, and the decision of the State Government that the Bidder is in default as aforesaid shall be final and binding on us, notwithstanding any differences between the State Government and the Bidder or any dispute pending before any court, tribunal, arbitrator or any other authority.
6. The Guarantee shall not be affected by any change in the constitution or winding up of the Bidder or the Bank or any absorption, merger or amalgamation of the Bidder or the Bank with any other person.
7. In order to give full effect to this Guarantee, the State Government shall be entitled to treat the Bank as the principal debtor. The State Government shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee from time to time to vary any of the terms and conditions contained in the Tender Document or to extend time for fulfilment and compliance with all or any of the terms and conditions contained in the Tender Document by the said Bidder or to postpone for any time and from time to time any of the powers exercisable by it against the said Bidder and either to enforce or forbear from enforcing any of the terms and conditions contained in the Tender Document or the securities available to the State Government, and the Bank shall not be released from its liability under these presents by any exercise by the State Government of the liberty with reference to the matters aforesaid or by reason of time being given to the said Bidder or any other forbearance, act or omission on the part of the State Government or any indulgence by the State Government to the said Bidder or by any change in the constitution of the State Government or its absorption, merger or amalgamation with any other person or governmental department or instrumentality, but for this provision, have the effect of releasing the Bank from its such liability.

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8. Any notice by way of request, demand or otherwise hereunder shall be sufficiently given or made if addressed to the Bank and sent by courier or by registered mail to the Bank at the address set forth herein.
9. We undertake to make the payment on receipt of your notice of claim on us addressed to [name of Bank along with branch address at Bhopal, Madhya Pradesh] and delivered at our above branch which shall be deemed to have been duly authorised to receive the said notice of claim.

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10. It shall not be necessary for the State Government to proceed against the said Bidder before proceeding against the Bank and the guarantee herein contained shall be enforceable against the Bank, notwithstanding any other security which the State Government may have obtained from the said Bidder or any other person and which shall, at the time when proceedings are taken against the Bank hereunder, be outstanding or unrealised.
11. We, the Bank, further undertake not to revoke this Guarantee during its currency except with the previous express consent of the State Government in writing.
12. The Bank declares that it has power to issue this Guarantee and discharge the obligations contemplated herein, the undersigned is duly authorised and has full power to execute this Guarantee for and on behalf of the Bank.
13. Notwithstanding anything contained herein,
    a. the liability of the Bank under this Guarantee shall not exceed the Guarantee amount i.e. INR 55,04,96,880 (Rupees Fifty Five Crore Four Lakh Ninety Six Thousand Eight Hundred Eighty).
    b. This Guarantee shall be valid up to [insert date].
    c. This Guarantee shall be payable at [Bhopal], [address of branch of the bank at Bhopal, Madhya Pradesh]

Signed and Delivered by .... Bank

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Annexure III: Format of Power of Attorney

[Adequate stamp duty to be paid by the Bidder with respect to this document.]

Power of Attorney for signing of Bid

Know all men by these presents, We, [name and address of the Bidder] do hereby irrevocably constitute, nominate, appoint and authorise [Name], son/daughter/wife of [name of father/husband] and presently residing at [address], who is presently employed with us and holding the position of [designation], as our true and lawful attorney ("**Attorney**") to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our bid for the Bunder Diamond Block ("**Mineral Block**") in response to the Tender Document, dated July 5, 2019 issued by State Government of Madhya Pradesh ("**State Government**") including but not limited to signing and submission of all applications, affidavits, bids and other documents and writings, participate in Bidders' and other conferences and providing information / responses to the State Government, representing us in all matters before the State Government, and generally dealing with the State Government in all matters in connection with or relating to or arising out of our bid for the Mineral Block and/or upon award thereof to us and/or till the entering into Mine Development and Production Agreement with the State Government and grant of Mining Lease.

AND we hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our Attorney pursuant to and in exercise of the powers conferred by this power of attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

In witness whereof we, [name of Bidder], the above named principal have executed this power of attorney on this [Date] day of [Month], 20[Year]

For.................................

(Signature, name, designation and address)

[under the Common Seal (in case Bidder is a company)]

Witnesses:

1.

2.

[particulars of notarisation]

Accepted

[particulars of authorized person]

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Annexure IV: Format of Affidavit

(To be duly executed and adequate stamp duty to be paid by the Bidder with respect to this document.)

<u>Affidavit</u>

I. [name] aged [age] years, resident of [address]working as [designation] an Authorised Signatory on behalf of [name of the Bidder]("Bidder") hereby state as under:

1. I am the [designation of the deponent] of the Bidder. I am conversant with the facts and circumstances surrounding the subject of this affidavit [and have been authorised to depose to the same pursuant to the power of attorney dated [date] issued pursuant to [particulars of corporate approval]]. I am filing this affidavit to place on record verification of facts and documents in connection with the tender process concerning Bunder Diamond Block.
2. [Insert separate paragraphs for each information/ document brought on record on the website of the e-auction platform or physically submitted with the State Government, in a chronological sequence].
3. [If applicable, also insert separate paragraphs for particulars of mineral concessions (including a reconnaissance permit, prospecting licence, prospecting licence-cum-mining lease, and/or mining lease) held by the Bidder or for which the Bidder would be participating in auction process being conducted simultaneously].
4. That nothing has been concealed in the information submitted as mentioned above.

Solemnly affirmed and verified on this [day] day of [month][year] at [place].

(Signature)
Name, Designation & Address

VERIFICATION

I, [name], [the [designation of the deponent] of] the Bidder above named, having my office at [address], do hereby solemnly declare that what is stated above is on the basis of the books and records of the Bidders, and verify that the contents of the above affidavit are true and correct, no part of it is false and nothing material has been concealed therefrom.

Verified at [day] day of [month] [year] at [place].

Deponent
(Signature)

[particulars of authorisation]

Name, Designation & Address

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Schedule II: Format for seeking clarification regarding Tender Document

(Applicable only for the Pre-Bid conference before submission of the Technical Bid in response to the Tender Document)

S. No.	Document	Clause No. and Existing Provision	Clarification Required	Suggested Text for Amendment, if any	Rationale for Clarification or Amendment

The above data is to be provided in *.doc, .docx, .xls, .xlsx* format only.

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Schedule III: Technical details regarding online electronic auction

1. **Registration Methodology:**

In order to submit online bids in the e-bidding process for Mining Lease/ Composite Licence, a bidder needs to register itself with the e-auction website of MSTC Limited, A Government of India Enterprise. For this the bidder should visit the website at www.mstcecommerce.com/auctionhome/mlcl/index.jsp and click on the button "Registration". Bidders already registered with the said website need not register again.

On the next page, there are two options – Register as Buyer and Register as Seller. The bidder shall have to click on the link Register as Buyer to proceed.

An online Registration Form will appear on screen and the bidder has to fill up the same with correct information. During this process, the bidder shall create his user id and password and keep note of the same. The bidder shall ensure that the secrecy of his user id and password is maintained at all time and he/she shall alone be responsible for any misuse of the user id and password.

After filling up the online form, the bidder should tick both the check boxes for accepting the General Terms 'n' Conditions of e-Auction and Buyer Specific Terms 'n' Conditions of e-Auction. The bidder may click on the respective links to read the General Terms 'n' Conditions of e-Auction and Buyer Specific Terms 'n' Conditions of e-Auction before submitting the form.

The bidder may check the details entered by it from the Preview page before final submission. On successful submission of the online registration Form, the bidder shall receive a confirmation mail in the registered email address advising the bidder to submit the following documents:

i. Self-attested Income Tax PAN Card. In case of a registered Company or Firm, the Firm's PAN card and in case of a proprietorship firm, proprietor's personal PAN card is required. In case of partnership firm, PAN of the firm and that of the authorized partner are to be submitted.
ii. Photocopy of Latest Income Tax Return.
iii. Photocopy of GST Certificates
iv. Signature of the Authorized Signatory verified by Bank on Bank's Letter-head. If such verification is done on Bidder's Letter-head, then the full Address of the Branch of the Bank must be mentioned.
v. PAN Card of the Authorized Signatory.
vi. A letter addressed to MSTC stating the serial number of the DSC to be used by the bidder for login and bidding.
vii. Copy of the confirmation email Letter received from MSTC after successful completion of on-line registration and containing buyer registration details of the

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Bidder.

viii. A non refundable registration fee of INR 10,000/- plus applicable GST (INR 11,800/- at present) to be paid online to the following bank account.

Beneficiary Name: MSTC Limited
Bank Details: Axis Bank, Shakespeare Sarani Branch, Kolkata
Account Details: Axis Bank A/c.No.005010200057840
IFSC Code No.: UTIB0000005.

Please provide details of payment made like UTR No, remitting bank name, date of payment and amount in the covering letter.

Note: In case the documents mentioned in above points ii and iii, are not applicable, the bidder may submit the declaration signed by the Authorized Signatory stating that document (s) is not applicable.

The bidder shall have to submit all the above documents to MSTC Limited for verification and activation of their login ids. The bidders may send scanned copies of the above documents to the designated email id only which is given below.

mlcl@mstcindia.co.in

The bidder should mention the DSC serial number in the body of the email while forwarding the above documents.

It may be noted that bidders need not visit any of the offices of MSTC Limited for submission of the documents. However, the bidders may contact any office of MSTC Limited for seeking assistance on the login process, details of which are available on MSTC website www.mstcindia.co.in.

Once the complete set of documents and requisite registration fee are received from a bidder, MSTC shall activate the bidder's login after verification / scrutiny of the documents. MSTC Limited reserves the right to call for additional documents from the bidder if needed and the bidder shall be obliged to submit the same.

On completion of the above stated registration process, a bidder shall be able to login to MSTC's website.

2. Downloading information of mineral block

There are two sets of documents available for downloading from the website of e-auction platform provider.

First set of documents will be available free of cost in public domain and can be downloaded without registration on e-auction platform provider's website. These documents may include the following:

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(a) Blank format of customized model tender document for this particular e-auction process; and

(b) Mineral block summary

The above information is being made available to all potential Bidders in order to assist them in familiarizing about the tender process and the mineral block on e-auction.

Subsequent to Bidder registration process with MSTC, certain other detailed documents (Particular Tender Document of the mineral block including Information Memorandum containing geological report and other information) shall be made available for download to the Bidder only subsequent to payment of a tender fee of INR 5,00,000 (Rupees Five Lakh) plus applicable GST.

The Tender Document shall be sold in online mode only through website of MSTC. Bidders shall login with its user id and password. Bidder shall have the facility to make payment towards the cost of tender document through RTGS or net banking provided under the login of the Bidder. The Bidder after login shall click on the link for e-payment and then select the event number from the drop down menu for which it intends to make the payment. The bidder should enter the appropriate amount towards cost of the paid document and select either RTGS or net banking and click on submit. The bidder should fill an online RTGS application form and take a printout of the same before proceeding to transfer the fund to the beneficiary account. In case the Bidder has an online banking facility, it can make this payment online as well. After transferring the fund, the bidder shall be required to communicate the UTR No and other details to MSTC through email at the following email addresses.

Sl No	MSTC Office Name	MSTC Office Code	Email
1	Bhopal	BPL	syadav@mstcindia.co.in
2	Bhopal	BPL	mkumar@mstcindia.co.in

The bidder shall send the email regarding the payment details to the email address corresponding to the office of MSTC which is conducting the event.

Once MSTC receives the payment in the designated account and the required information from the bidder, it shall activate the link for downloading of the paid documents for the respective mineral Block(s).

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The bidder may note that the files containing information about the mineral blocks can be in various formats like doc, xls, ppt, pdf, jpg, jpeg, zip etc. and it shall be the responsibility of the Bidder to have suitable facilities at its end to download these documents from the website of MSTC.

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3. Preparation and Submission of Bid

The complete process of bid submission will be divided into 2 stages as follows:

a. Stage 1: Technical Bid

This stage will comprise (i) online submission of the Technical Bid and the initial price offer; and (ii) offline submission of certain original documents as detailed below.

(i) Online submission of Technical Bid and initial price offer with supporting documents

This stage shall be open to all Bidders who have purchased the Tender Document(s) for the specific mineral block(s).

In this process, the Bidder, after logging in to the above stated website, will have to click on the link "click for Auction". In the next page, the Bidder shall have to go to the link "Stage 1 Technical cum IPO Submission". Thereafter, the bidder will have a bouquet under "My Menu" having 3 (three) sub-menus – "Bid Floor Manager", "Upload Documents" and "Attach Documents".

Bid Floor Manager

Once the Bidder clicks on this sub-menu and then clicks on the menu "Live Auctions" on the next page, it will display a list of mine(s) for which the bidder has paid the tender document fees. On clicking on any of these mine(s), the Bidder will be directed to a screen where it can fill up the technical bid template and save the data. The Bidder can edit such data as many times as it wishes.

After saving the Technical Bid, the link / button for Initial Price Offer shall get activated. The Bidder, on clicking this button, will be directed to a screen having a template where it can fill up its Initial Price Offer and click on the Final Submission button. The final submission shall be digitally signed by the Bidder using its registered digital signature. Any digital signature certificate other than the registered one shall not be acceptable for bid submission by the system.

The bidder may note that the "Initial Price Offer" button will be activated only after the Technical Bid has been saved.

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Upload Documents

The Bidder shall also have to upload the supporting documents along with the Technical Bid, as required under the Tender Document. These supporting documents will need to be uploaded in pdf format only (the file size should be

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limited to 4 MB; in case of larger files, they may be split into multiple files with suitable nomenclature). Files in formats other than pdf shall not be accepted. For this, the bidder shall first click on the link "Upload documents" and upload the files in support of its Technical Bid.

Attach Documents

After uploading these documents, the bidder shall have to attach them with the specific tender for the concerned mine for which it is intending to submit the Technical Bid. It may be noted by the Bidder that in case it intends to use the same supporting document for more than one mine, it does not need to upload the same document every time. The supporting document, once uploaded, can be attached with Technical Bid for multiple mineral block(s), if desired.

The bidder should note that only a file which is "attached" with a specific mine(s) shall be considered during evaluation of the Technical Bid. Files which are not attached to any mine(s) shall not be considered for evaluation.

The Bidder should also note that a Bid will be considered as submitted if and only if the Bidder has submitted the Initial Price Offer. Only such Bids will be opened for which Initial Price Offer has been submitted. It is further clarified that saving of Technical Bid without saving of the Initial Price Offer will be treated as non-submission of bid.

Upon successful submission of Initial Price Offer, the Bidder shall receive a bid acknowledgement from the system automatically.

The Bidders may note that the Technical Bid and the Initial Price Offer submitted online as above will be encrypted by the MSTC's own software before storage in the database. This will be done to protect the sanctity and confidentiality of the Bids before the actual opening of the same.

The Bidder has an option to edit Technical Bid and initial price offer as many times as it wishes till the final submission.

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Modification / Withdrawal of Bid

If after submission of Initial Price Offer and before the scheduled closing time for Bid submission a Bidder wishes to make changes in its Bid, it can do so by clicking the "Delete Bid" option. By doing so, the entire Bid submitted by the Bidder will get deleted. A system generated email will be sent to the Bidder acknowledging the deletion. The Bidder will be able to save and submit its new Bid again. If a Bidder deletes its Bid and does not submit its new Bid in the same manner as stated above, its Bid will not come up for opening or further processing.

If after final submission of Bid and before the scheduled closing time for Bid

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submission a Bidder wishes to withdraw its bid, it can do so by clicking the "Withdraw Bid" option. By withdrawing a bid, a Bidder will lose the opportunity to re-submit its Bid against the same mine(s).

(ii) ***Offline submission of certain original documents***

The bidders shall submit the following documents in original in sealed cover within the scheduled closing time for bid on the Bid Due Date. The sealed cover should clearly bear the following identification: *Original Documents (Technical Bid) for Block*and shall indicate the name and address of the Bidder. In addition, the documents shall contain page numbers: *Page* [redacted] *of* [redacted]

(a) Bid Letter as provided in Annexure I of Schedule I

(b) Bid Security in substantially the same format as provided in Annexure II of Schedule I ;

(c) Power of Attorney in substantially the same format as provided in Annexure III of Schedule I, including the extract of the charter documents and documents such as a board or shareholders resolution authorizing the execution of this power of attorney; and

(d) Affidavit in substantially the same format as provided in Annexure IV of Schedule I.

The aforementioned documents shall be submitted at the following address:

Directorate of Geology and Mining
29-A, Khanij Bhawan,
Arera Hills, Bhopal
Madhya Pradesh - 462002

Deadline for online submission of (i) Technical Bid and the initial price offer with supporting documents; and (ii) offline submission of certain original documents

The bidders shall also note that online submission of ***Technical Bid and the initial price offer*** with supporting documents and offline submission of certain original documents shall be allowed only up to time and date as per Bid Due Date specified in Clause 11. Bidders in their own interest are advised to complete the entire process well in advance to avoid any last minute hiccup / technical problems. No complaints shall be entertained in this regard at any stage.

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(iii) *Evaluation of Technical Bid*

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a. **Evaluation of Technical Bid**

Technical Bids shall be evaluated in the manner provided in the Tender Document. The e-auction platform provider will conduct training and mock-auctions for all the Bidders on e-auction platform.

b. **Opening of Initial Price Offer**

Initial price offers shall be opened one day before the scheduled date of e-auction of the respective mineral block.

For example, initial price offers for mineral block(s) scheduled for e-auction on 02.01.20xx will be opened on 01.01.20xx. All Technically Qualified Bidders will be ranked in accordance with Clause8.1A(e).

The Qualified Bidders as per top 50% ranking principle (subject to minimum criteria as specified in the Tender Document) will be intimated by an email by the State Government from the designated email id of the State Government for the particular auction OR the State Government may advise the e-auction platform to intimate from the email id of MSTC for their qualification for the second round of electronic auction against specific mineral block(s) in the e-auction platform provider website within their secured login. The email will only state that the recipient of the email has been qualified for the second round of auction and the Floor Price (highest Initial Price Offer) for the second round of auction.

b. **Stage 2: Electronic Auction – Final Price Offer**

a. **Intimation to Qualified Bidders**

Along with the above intimation, the Bidder shall also receive information regarding applicable Floor Price for second round of e-auction of the mineral block which is the highest initial price offer received from the Technically Qualified Bidders.

It is expressly clarified that Bidders should not expect to receive the information on the second highest IPO received from the Technically Qualified Bidders as a matter of usual course.

It shall be the sole responsibility of the Bidder to regularly check the MSTC website and log in to see whether it has qualified for a certain mineral block or not. MSTC will not be responsible for non-receipt of email by the Bidder and its consequences.

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b. Conduct of e-auction

E-auction is the process of inviting binding Final Price Offer(s) from Qualified Bidders through internet for the purpose of determination of the Preferred Bidder. During this process, the Qualified Bidder will be able to submit its Final Price Offer as many times as it wishes against the same mineral block. The Qualified Bidder will remain anonymous to other Qualified Bidders participating in the electronic auction process as well as to MSTC / State Government. The Qualified Bidder will be able to see the prevailing highest Final Price Offer against the mineral block, but the name of the highest Qualified Bidder at any point of time will not be displayed. The Qualified Bidder shall have to put its Final Price Offer over and above the displayed highest bid by a minimum increment of *0.05%* to become the highest Qualified Bidder. The electronic auction process will have a scheduled start and close time which will be displayed on screen. A Qualified Bidder will be able to put its Final Price Offer after the start of bid time and till the close time of electronic auction. The current server time (IST) will also be displayed on the screen. In the event a Final Price Offer is received during the last *8 (Eight)* minutes before the scheduled close time of electronic auction, the close time of electronic auction will be automatically extended by *8 (Eight)* minutes from the last received bid time to give equal opportunity to all other Qualified Bidders. This process of auto extension will continue till no Final Price Offer is received during a period of *8 (Eight)* minutes.

For example, assuming that the initial scheduled close time for a particular electronic auction is 1:00 pm and a Final Price Offer is received at 12:55 pm, the scheduled close time shall be revised to 1:03 pm. Again if a Final Price Offer is received at 1:01 pm, the scheduled close time shall be revised to 1:09 pm and so on. In the event that no further Final Price Offer is received till 1:09 pm, the electronic auction will close at 1:09 pm. The revised close time will be displayed on screen and the Qualified Bidders are advised to keep refreshing its webpage to get the latest information.

The above example is only illustrative and meant for explaining the e-auction process only.

During the process of electronic auction, the Bidder shall be required to sign their bids with their respective digital signature certificate (DSC) and the use of which has been duly authorised on behalf of the Bidder and which was used at the time of registration. Any digital signature certificate other than the above shall not be acceptable for bid submission by the system

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Bidders in their own interest are advised to get themselves acquainted with the electronic auction process of auction platform provider by getting their Authorised Representative trained beforehand through some demo electronic

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auctions as per Clause 11.

Digital Signature Certificate

A Bidder shall be required to possess a valid Digital Signature Certificate (DSC) of signing type to be able to submit its Bid and to participate in the electronic auction on MSTC website. For this purpose, Bidders shall be required to authorize its Authorized Signatory to procure a class III DSC of signing type from any Certifying Authority or their authorized agencies in India.

The bidder may note that only one user id will be mapped with a given DSC for the Authorized Signatory. DSC once mapped with a particular user id of a bidder will normally not be changed and therefore Bidders are advised to carefully select the DSC.

The Digital Signature Certificate will be used to digitally sign the Bids that the Bidder will submit online.

It will be the sole responsibility of the Bidder and its respective Authorized Signatory to maintain the secrecy of the password for the Digital Signature Certificate. The Bidder and its Authorized Signatory shall be solely responsible for any misuse of the DSC and no complain / representation in this regard shall be entertained at any stage by MSTC/State Government.

The system requirements are as follows:

- Operating System- Windows XP Service Pack III and above
- Web Browser- Preferred IE 7 and above.
- Active-X Controls Should be enabled as follows:

Tools => Internet Options =>Security =>Custom Level =>Enable all Active-X Controls => Disable "Use Pop-up Blocker"

Java (JRE7 and above)

To disable "Protected Mode" for DSC to appear in the signer box following settings may be applied.

- Tools => Internet Options =>Security => Disable protected Mode If enabled- i.e, Remove the tick from the tick box mentioning "Enable Protected Mode".
- Other Settings:

Tools => Internet Options => General => Click On Settings under "browsing history/ Delete Browsing History" => Temporary Internet Files => Activate "Every time I Visit the Webpage".

Schedule IV: Format of MDPA

Mine Development and Production Agreement

Bunder Diamond Block

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[To be executed on stamp paper of adequate value.]

This Mine Development and Production Agreement is made by and between following:
PARTIES:

1 **The Governor of Madhya Pradesh**, acting through the **Directorate of Geology and Mining, Government of Madhya Pradesh** (the "**State Government**").

2 **[Name of the Successful Bidder]** [incorporated in India under the Companies Act, [1956/2013] with corporate identity number [CIN of the Successful Bidder], whose registered office is at [address of registered office], India and principal place of business is at [address of principal place of business, if different from registered [redacted]]] **OR** [an individual who is citizen of India, having income tax permanent account number [number], residing at [address]] **OR** [persons listed in SCHEDULE A organised as a [firm/association of persons], all of whom are Indian citizens and resident in India] (the "**Successful Bidder**").

BACKGROUND:

A. An electronic auction was conducted by the State Government pursuant to the Tender Document (defined hereinafter) for grant of a Mining Lease (defined hereinafter) over the Lease Area (defined hereinafter) for mining of the Mineral (defined hereinafter).

B. The Successful Bidder quoted [Final Price Offer] per cent as the bid parameter in the electronic auction and was declared as the Preferred Bidder (*as defined in the Tender Document*).

C. As a Preferred Bidder, the Successful Bidder made payment of the first instalment of the Upfront Payment which is INR 27,52,48,440 (Rupees Twenty Seven Crore Fifty Two Lakh Forty Eight Thousand Four Hundred Forty) on [[redacted]] through [payment mechanism], upon which the State Government issued a letter of intent dated [date].

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D. The Preferred Bidder completed the conditions specified in Clause 10.2 of the Tender Document and submitted written confirmation of the same to the State Government through a letter dated [date], upon which the Preferred Bidder was considered to be the Successful Bidder by an order of the State Government dated [date].

E. Thereafter, the Successful Bidder obtained all the consents, approvals, permits, no-objections and the like as required under Applicable Law for commencement of mining operation, as listed in SCHEDULE B.

F. Accordingly, the State Government is now entering into this Agreement with the Successful Bidder with respect to matters pertaining to the Mining Lease over the Lease Area and other matters incidental thereto, and this Agreement shall be read together with the Mining Lease.

NOW THEREFORE, in consideration of the mutual covenants, terms and conditions and

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understandings set forth in this Agreement, and other good and valuable consideration (the adequacy of which are hereby mutually acknowledged), the Parties with the intent to be legally bound hereby agree as follows:

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1. DEFINITIONS AND INTERPRETATION

The definitions and rules of interpretation in this clause apply in this Agreement.

1.1. Definitions

1.1.1. "**Agreement**" means this Mine Development and Production Agreement and all attached annexure, schedules, exhibits and instruments supplemental to or amending, modifying or confirming this Agreement in accordance with the provisions of this Agreement.

1.1.2. "**Agreement Date**" shall mean the date on which execution of this Agreement by both the Successful Bidder and the State Government is completed.

1.1.3. "**Applicable Law**" shall mean all applicable statutes, laws, by-laws, rules, regulations, orders, ordinances, protocols, codes, guidelines, notices, directions, judgments, decrees or other requirements or official directive of any governmental authority or court or other law, rule or regulation approval from the relevant governmental authority, government resolution, directive, or other government restriction or any similar form of decision of, or determination by, or any interpretation or adjudication having the force of law in India at the relevant point in time.

1.1.4. "**Adjudication Event**" shall have the meaning given to such expression in Clause 12.5.

1.1.5. "**Auction Rules**" mean the Mineral (Auction) Rules, 2015 as amended by Mineral (Auction) Amendment Rules, 2017 and from time to time

1.1.6. "**Claim**" shall have the meaning given to such expression in Clause 12.3.

1.1.7. "**Commencement Report**" shall have the meaning given to such expression in Clause 5.1(b)

1.1.8. "**Control**" shall include the right to appoint majority of the directors or to control the management or policy decisions exercisable by a person or persons acting individually or in concert, directly or indirectly, including by virtue of their shareholding or management rights or shareholders agreements or voting agreements or in any other manner.

1.1.9. "**Eligibility Conditions**" shall mean the eligibility conditions specified in the Act and the Auction Rules including all the eligibility conditions listed in Clause 5 of the Tender Document.

1.1.10. "**Encumbrances**" means any mortgage, pledge, equitable interest, assignment by way of security, conditional sales contract, hypothecation, right of other Persons, claim, security interest, encumbrance, title defect, title retention agreement, voting trust agreement, interest, option, lien, charge, commitment, restriction or limitation of any

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nature whatsoever, including restriction on use, voting rights, transfer, receipt of income or exercise of any other attribute of ownership, right of set-off, any arrangement (for the purpose of, or which has the effect of, granting security), or any other security interest of any kind whatsoever, or any agreement, whether conditional or otherwise, to create any of the same.

1.1.11. "**Event of Force Majeure**" shall have the meaning given to such expression in Clause 17.1.

1.1.12. "**Final Price Offer**" shall mean [*per cent of Value of Mineral Despatched*], based on which the Successful Bidder was declared successful in the tender process for the Mineral Block. The "Value of Mineral Despatched" being an amount equal to the product of,- (i) mineral despatched in a month; and (ii) sale price of the mineral (grade-wise and State-wise) as published by Indian Bureau of Mines for such month of despatch.

1.1.13. "**Good Industry Practice**" means, in relation to any undertaking and any circumstances, the exercise of that degree of skill, diligence, prudence and foresight which would reasonably and ordinarily be expected from a skilled and experienced Person engaged in the same type of undertaking under the same or similar circumstances.

1.1.14. "**Governmental Approval**" means any authorization, approval, consent, licence or permit required from any Governmental Authority.

1.1.15. "**Governmental Authority**" means any government authority, statutory authority, government department, agency, commission, board, tribunal or court or other law, rule or regulation making entity having or purporting to have jurisdiction on behalf of the Republic of India or any state or other subdivision thereof or any municipality, district or other subdivision thereof.

1.1.16. "**Indemnified Party**" shall have the meaning given to such expression in Clause 12.1.

1.1.17. "**Lease Area**" shall mean the Lease Area as more particularly described in SCHEDULE C.

1.1.18. "**Mineral**" means Diamond.

1.1.19. "**Minimum Production Requirement**" shall have the meaning given to such expression in Clause 8.1.

1.1.20. "**Mining Lease**" shall have the meaning given to such expression in the Act and the Rules made thereunder.

1.1.21. "**Mining Plan**" means a mining plan drawn in accordance with clause (b) of sub-section (2) of Section 5 of the Act.

1.1.22. "**Monthly Payment**" shall have the meaning given to such expression in Clause

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1.1.23. "**Notice**" shall have the meaning given to such expression in Clause 19.11.

1.1.24. "**Parties**" means and refers to the State Government and the Successful Bidder collectively and "**Party**" refers to any one of them.

1.1.25. "**Performance Security**" shall have the meaning given to such expression in Clause 4.1.

1.1.26. "**Pre-Commencement Report**" shall have the meaning given to such expression in Clause 5.1(a).

1.1.27. "**Rules**" shall, as the context may require, mean the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016 and/or the Minerals (Evidence of Mineral Contents) Rules, 2015 and/or any other rules (including any amendments thereof) formulated under the Act, as maybe applicable at any point of time.

1.1.28. "**Term**" shall have the meaning given to such expression in Clause 18.2.

1.1.29. "**Third Party**" means any Person that is not a signatory to this Agreement.

1.1.30. "**Warranties**" shall have the meaning given to such expression in Clause 11.1 read with Schedule E.

1.2. **Interpretation**

1.2.1. Any reference to any statute or statutory provision shall include:

(i) all subordinate legislation made from time to time under that provision (whether or not amended, modified, re-enacted or consolidated); and

(ii) such provision as from time to time amended, modified, re-enacted or consolidated (whether before or after the date of this Agreement) to the extent such amendment, modification, re-enactment or consolidation applies or is capable of applying to any transactions entered into under this Agreement prior to the Agreement Date and (to the extent liability thereunder may exist or can arise) shall include any past statutory provision (as from time to time amended, modified, re-enacted or consolidated) which the provision referred to has directly or indirectly replaced.

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1.2.2. Unless the context otherwise requires, words in the singular shall include the plural and the plural shall include the singular.

1.2.3. References to the masculine, the feminine and the neuter shall include each other.

1.2.4. References to a "**company**" shall include a company, corporation or other body corporate, wherever and however incorporated or established.

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1.2.5. The recitals and schedules form part of this Agreement and shall have the same force and effect as if expressly set out in the body of this Agreement, and any reference to this Agreement shall include any recitals and schedules to it. Any references to clauses and schedules are to clauses and schedules to this Agreement. Any references to parts or paragraphs are, unless otherwise stated, references to parts or paragraphs of the schedule in which the reference appears.

1.2.6. A reference to **this Agreement** or **any other document** shall be construed as references to this Agreement or that other document as amended, varied, novated, supplemented or replaced from time to time.

1.2.7. A reference to **this Clause** shall, unless followed by reference to a specific provision, be deemed to refer to the whole Clause (not merely the sub-Clause, paragraph or other provision) in which the expression occurs.

1.2.8. A reference to a **party** shall include that party's representatives, permitted successors and permitted assigns.

1.2.9. Each of the representations and warranties provided in this Agreement is independent of other representations and warranties and unless the contrary is expressly stated, no Clause in this Agreement limits the extent or application of another Clause.

1.2.10. Headings to Clauses, parts and paragraphs of schedules and schedules are for convenience only and do not affect the interpretation of this Agreement.

1.2.11. A reference to "**in writing**" includes any communication made by letter or fax **but not e-mail** (unless otherwise expressly provided in this Agreement.).

1.2.12. Unless otherwise specified, any reference to a time of day is to Indian Standard Time.

1.2.13. Any words following the terms **including, include, in particular, for example or any similar expression** shall be construed as illustrative and shall not limit the sense of the words, description, definition, phrase or term preceding those terms.

1.2.14. Where the context permits, **other** and **otherwise** are illustrative and shall not limit the sense of the words preceding them.

1.2.15. Any obligation on a party not to do something includes an obligation not to allow that thing to be done.

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2. COMPLIANCE

2.1. The Successful Bidder hereby represents and warrants to the State Government that it has complied with all the terms and conditions of the Act and the Rules made thereunder, the Tender Document and other Applicable Law, as were required to be complied with by the Successful Bidder, with respect to tender process for the Lease Area and the Successful Bidder is eligible in all respects to receive Mining Lease over the Lease Area. The Successful Bidder also represents and warrants to the State Government that it is in compliance with all the Eligibility Conditions.

2.2. Relying on the representations and warranties of the Successful Bidder and the information, documents and other undertaking provided by the Successful Bidder, including the Warranties provided under Clause 11, the State Government is pleased to enter into this Agreement with the Successful Bidder for grant of Mining Lease over the Lease Area to the Successful Bidder subject to terms and conditions specified in this Agreement.

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3. CONDITION FOR GRANT OF MINING LEASE

3.1. Grant of Mining Lease over the Lease Area shall be conditional upon prior payment of the third instalment of the Upfront Payment which is INR 220,19,87,520 (Rupees Two Hundred Twenty Crore Nineteen Lakh Eighty Seven Thousand Five Hundred Twenty) within a period of 30 days from the Agreement Date.

3.2. Upon such payment, the State Government shall grant a Mining Lease to the Successful Bidder within a period of 30 days from the date of receipt of the payment.

3.3. The date of the commencement of the period for which a Mining Lease is granted shall be the date on which a duly executed Mining Lease is registered.

3.4. Notwithstanding anything contained in this Clause 3, no Mining Lease shall be executed on the expiry of the period of three years from the date of letter of intent and the letter of intent shall be invalidated leading to annulment of the entire auction process. The State Government may, however, allow a further period of two years for execution of the Mining Lease deed if the reasons for delay were beyond the control of the Successful Bidder.

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4. PERFORMANCE SECURITY AND APPROPRIATION

4.1. Performance Security

4.1.1. The Successful Bidder has provided to the State Government [an irrevocable and unconditional bank guarantee, dated [[redacted]] from [name of bank] issued at [[redacted]] and payable at Bhopal/ security deposit] for an amount equal to INR 275,24,84,400 (Rupees Two Hundred Seventy Five Crore Twenty Four Lakh Eighty Four Thousand Four Hundred) (the "**Performance Security**") in the format provided in Schedule III of the Auction Rules.

4.1.2. The amount of Performance Security shall be reassessed every five years commencing from the date of issuance of the Performance Security i.e. [date], so that the amount of Performance Security corresponds to 0.5% of the reassessed Value of Estimated Resources including the value of any newly discovered mineral that may be included in the Mining Lease deed on its discovery.

4.1.3. For the purposes of such reassessment, the Successful Bidder shall submit an application in writing to the State Government at least three months prior to the expiry of the aforementioned period of five years. Such application must contain in sufficient details, documentary evidence confirming the reassessed Value of Estimated Resources including the value of any newly discovered mineral that may be included in the Mining Lease deed on its discovery on the date of such application.

4.1.4. The State Government shall dispose such application within three months from the date of receipt of duly completed application. If the State Government does not dispose such application within the aforementioned period of three months, then the application shall be deemed to be approved. In such case. [bank guarantee constituting the Performance Security shall be substituted with another bank guarantee] OR [additional amount shall be deposited towards the security deposit] of the reassessed value issued in accordance with this Clause 4, within a period of 15 (fifteen) days expiry of the aforementioned period of [three] months. In case the Performance Security has been provided in the form of security deposit and the value of Performance Security reduces after reassessment, the State Government shall refund the excess value of security deposit.

4.1.5 The Performance Security should remain valid for an initial period of five years and thereafter, for subsequent periods of five years or remaining Lease term, whichever is lower.

4.2. Events for appropriation of the Performance Security

4.2.1. The Performance Security may be appropriated by the State Government upon occurrence of any of the events specified in Table 4.3.1 (the "**Appropriation Event**"), to be determined by the State Government in its sole discretion. In case the Performance Security is in form of a bank guarantee, the State Government may invoke the same on an Appropriation Event. In case the Performance Security is in

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form of a security deposit, the State Government may deduct an amount from such security deposit on an Appropriation Event.

4.2.2. Provided however that in the event an Appropriation Event has occurred solely on account of an Event of Force Majeure which could not have been mitigated by the Successful Bidder through Good Industry Practice as provided in Clause 17, then the Performance Security shall not be appropriated for such specific Appropriation Event.

4.3. **Manner of appropriation of the Performance Security**

4.3.1. Upon occurrence of an Appropriation Event, to be determined by the State Government, the State Government shall have the unconditional right to appropriate the Performance Security in the following proportion by providing a written notice to the Successful Bidder:

Table 4.3.1

S.No.	Appropriation Event	Amount of the Performance Security to be appropriated
1.	Failure of the Successful Bidder to pay the third installment of the Upfront Payment within the time specified in Clause 3.1	An amount equal to the third installment of the Upfront Payment together with interest computed in accordance with rule 14 of the Auction Rules.
2.	Failure of the Successful Bidder to comply with the Minimum Production Requirement as required under Clause 8	Value of the Performance Security for each failure to comply with the Minimum Production Requirement as specified in SCHEDULE D.
3.	Any transfer of the Mining Lease which is not in conformity with the Act and Rules made thereunder.	Entire Performance Security.
4.	Failure of the Successful Bidder to make the Monthly Payment and payments as per Clause 7.1.2	The amount of such Payment due and payable, along with interest computed in accordance with rule 14 the Auction Rules.
5.	In case of lapse of the Mining Lease, to carry out protective, reclamation and rehabilitation measures in the Lease Area	Such proportion as may be determined by the State Government as per sub rule (10) of Rule 20 of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.
6.	In case of surrender of the entire area of the Mining Lease by the lessee	Entire Performance Security as per sub rule (3) of Rule 21 of Minerals (Other than Atomic and Hydro Carbons

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Table 4.3.1

S.No.	**Appropriation Event**	**Amount of the Performance Security to be appropriated**
		Energy Minerals) Concession Rules, 2016.
7.	Any other breach or non-compliance with any of the provisions of this Agreement, including in case of the Warranties being untrue or misleading or incorrect in any manner whatsoever.	Such proportion as may be determined by the State Government in its sole discretion.

4.3.2. In the event of a part or total appropriation of the Performance Security, the Successful Bidder shall be required to: (i) rectify the Appropriation Event; and (ii) substitute the bank guarantee constituting the Performance Security OR deposit additional amount towards security deposit within fifteen days of receipt of a notice under Clause 4.3.1.

4.3.3. Any one or more Appropriation Events resulting in appropriation of the entire Performance Security shall give the State Government a right to terminate the Mining Lease, without prejudice to any other proceeding to be taken against the Mining Lease holder.

It is clarified that for the purposes of this Clause the Performance Security provided under Clause 4.1.1 for INR 275,24,84,400 (Rupees Two Hundred Seventy Five Crore Twenty Four Lakh Eighty Four Thousand Four Hundred) shall be reckoned, and not the reassessed Performance Security under Clause 4.1.2.

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5. INFORMATION

5.1. In addition to information that may be required to be provided in accordance with Applicable Law, the Successful Bidder shall provide periodic reports to the State Government (or such other Governmental Authority as may be specified by the State Government) regarding mining operations at the Lease Area, including compliance with the Minimum Production Requirement, in accordance with the following provisions:

(a) Pre-Commencement Report

Prior to commencement of mining operations at the Lease Area, the Successful Bidder shall provide a written intimation ("**Pre-Commencement Report**") to the State Government once every 3 (three) months regarding the following:

(i) the actions taken by the Successful Bidder towards commencement of the mining operations at the Lease Area, including compliance with the Mining Plan and a tentative date for commencement of the mining operations;

(ii) any deviations from the Mining Plan, the reasons for such deviations and the steps taken by the Successful Bidder to rectify such deviation; and

(iii) whether in the opinion of the Successful Bidder, it shall be able to commence mining operations at the Lease Area within the time specified under sub-clause (i) above for commencement of the mining operations.

(b) Commencement Report

Within 7 (seven) days of the commencement of mining operations at the Lease Area, the Successful Bidder shall provide a written intimation to the State Government confirming commencement of mining operations at the Lease Area (the "**Commencement Report**").

(c) Periodic reporting

The Successful Bidder shall also submit such reports and information as required under the Act and the Rules made thereunder.

5.2. The reports under Clause 5.1 shall be provided to the State Government as attachments to an email addressed to the following e-mail address dgm.auction@mp.gov.in or at such other e-mail address as may be specified in writing by the State Government from time to time. Such attachments must be digitally signed by the Successful Bidder using a Class III digital signature certificate issued by a certifying authority in India.

5.3. The State Government shall have the right to seek such further information regarding

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the reports provided under Clause 5.1 and also seek independent verification of the same.

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6. UTILISATION OF MINERAL

6.1. The Successful Bidder shall utilise the Mineral strictly in compliance with Applicable Law, including the Act and the Rules framed thereunder.

6.2. The Mining Lease shall be for all major mineral(s) found in the area subsequent to the auction. The percentage of value of mineral despatched as quoted by the successful bidder under sub-rule (3) of rule (8) of Auction Rules shall be applicable for the purpose of payment to the State Government in respect of each such mineral.

Where subsequent to the e-auction, the presence of a minor mineral is established or discovered, the treatment of the Minor Mineral(s) shall be as per the provisions of the Madhya Pradesh Minor Mineral Rules, 1996 (as amended or replaced from time to time).

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7. PAYMENTS

7.1. Payment of bid amount

7.1.1. The Successful Bidder shall make monthly payments on the basis of the Final Price Offer (the "**Monthly Payment**"). The Monthly Payment shall be computed on the basis of the Value of Mineral Despatched.

7.1.2. In case the annual production is less than the Minimum Production Requirement specified in Clause 8, the Successful Bidder shall make payment on the basis of the Final Price Offer on the shortfall within 20 (twenty) days from the end of such year. For the purpose of compliance with the Minimum Production Requirement, the expression "year" shall mean the period of 12 months commencing from the effective date of Mining Lease, and each subsequent 12 month period thereafter. The Upfront Payment paid by the Successful Bidder shall be adjusted in full at the earliest against the amount payable in accordance with the per cent of Value of Mineral Despatched quoted as the Final Price Offer on commencement of production of mineral(s).

7.1.3. The Monthly Payment is required to be made within 20 calendar days of expiry of each month with respect to Mineral extracted from the Lease Area in such calendar month

7.1.4. All payments required to be made by the Successful Bidder shall be made net of all applicable taxes. In the event, taxes are payable, the Successful Bidder shall gross-up the amount payable and make payment of the aggregate amount.

7.2. Other payments

The Successful Bidder shall also be required to make payments as required under Applicable Law, including the Act and the Rules framed thereunder.

7.3. Additional Conditions

The additional conditions set out in Schedule VII of the Tender Document (the "**Additional Conditions**") are deemed to be incorporated into and form part of this Agreement, and shall be applicable and binding notwithstanding anything to the contrary in the Tender Document and/ or this Agreement. It is clarified that in case of any conflict or repugnancy between the provisions of the Additional Conditions and the terms of the Tender Document and/ or this Agreement, the provisions of the Additional Conditions shall prevail and have overriding effect.

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8. MINIMUM PRODUCTION REQUIREMENT

8.1. The conduct of mining operations at the Lease Area shall be subject to the annual milestones listed in SCHEDULE D with respect to production (the "**Minimum Production Requirement**").

8.2. The Successful Bidder would provide periodic information to the State Government regarding compliance with the Minimum Production Requirement in the manner stipulated in Clause 5 (INFORMATION).

8.3. Any non-compliance with the Minimum Production Requirement would result in appropriation of the Performance Security in the manner stipulated in Clause 4 (PERFORMANCE SECURITY AND APPROPRIATION) and in case where non-compliance with the Minimum Production Requirement exceeds more than five instances during the term of the lease or occurs consecutively for three years, such non-compliance shall give the State Government a right to terminate the Mining Lease without prejudice to any other proceedings to be taken against the Mining Lease holder.

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9. GENERAL RIGHTS AND OBLIGATIONS

9.1. Limited mining rights

Pursuant to this agreement the Successful Bidder shall be entitled to conduct mining operations only in the Lease Area and shall not be entitled to conduct the mining operations in any other area outside the Lease Area. The rights granted to the Successful Bidder herein to conduct mining operations are exclusive within the Lease Area.

9.2. Authorisations

The Successful Bidder shall obtain and maintain all Governmental Approvals required for conducting the mining operations at the Lease Area and performing its obligations under this Agreement.

9.3. Geological and archaeological finds

It is expressly agreed that other than rights to mine for the Mineral(s) (as may be granted under any Mining Lease pursuant hereto), geological or archaeological rights do not form part of the rights granted to the Successful Bidder under this Agreement and the Successful Bidder hereby acknowledges that except in relation to the Mineral(s) (as may be granted under any Mining Lease pursuant hereto), it shall not have any mining rights or interest in the underlying minerals, metals, gas, oil, fossils, antiquities, structures or other remnants or things either of particular geological or archaeological interest and that such rights, interest and property on or under the Lease Area shall vest in and belong to the Central/ State Government or the concerned Governmental Authority under Applicable Law. The Successful Bidder shall take all reasonable precautions to prevent its workmen or any other person from removing or damaging such interest or property and shall inform the Central/ State Government forthwith of the discovery thereof and comply with such instructions as the concerned Governmental Authority may reasonably give for the removal of such property.

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10. MINING PLAN AND COMPLIANCE WITH APPLICABLE LAW

The Mining Plan applicable pursuant to clause (b) of sub-section (2) of the Section 5 of the Act shall be complied with by the Successful Bidder at all times. The Successful Bidder shall also comply with Applicable Law in relation to conduct of mining operations.

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11. REPRESENTATIONS AND WARRANTIES

11.1. The Successful Bidder represents and warrants to the State Government (save as otherwise disclosed to the State Government in writing), as of the Agreement Date in the manner as detailed in SCHEDULE E ("**Warranties**").

11.2. None of the representations, warranties and/ or statements contained in this Agreement shall be treated as qualified by any actual or constructive knowledge on the part of the State Government or the Central Government or any of its respective agents, representatives, officers, employees or advisers.

11.3. In the event that any of the representations or warranties made or given by the Successful Bidder ceases to be true or stands changed, the Successful Bidder shall promptly notify the State Government of the same. The Successful Bidder hereby waives all its rights to invoke and shall not invoke the State Government's knowledge (actual, constructive or imputed) of a fact or circumstance that might make a statement untrue, inaccurate, incomplete or misleading as a defence to a claim for breach of Warranties or covenant or obligation of the Successful Bidder.

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12. INDEMNITIES

12.1. In this clause, a reference to the State Government shall include the State Government; any of the departments or ministries of the State Government; and of the officers, employees, staff, advisors, representatives or agents of the State Government (collectively the "**Indemnified Party**") and the provisions of this Clause shall be for the benefit of the Indemnified Party and shall be enforceable by each such Indemnified Party.

12.2. The Successful Bidder shall indemnify the Indemnified Party against all liabilities, costs, expenses, damages and losses (including but not limited to any interest, penalties and legal costs (calculated on a full indemnity basis) and all other professional costs and expenses) suffered or incurred by the Indemnified Party arising out of or in connection with:

(a) any breach of the Warranties;

(b) Successful Bidder's breach or negligent performance or non-performance of this Agreement;

(c) the enforcement of this Agreement;

(d) any claim made against the Indemnified Party for actual or alleged infringement of a Third Party's rights arising out of or in connection with mining operations at the Lease Area or performance or non-performance of any of the obligations under this Agreement to the extent that such claim arises out of the breach, negligent performance or failure or delay in performance of this Agreement by the Successful Bidder, its employees, agents or contractors;

(e) any claim made against the Indemnified Party by a Third Party for death, personal injury or damage to property arising out of or in connection with mining operations at the Lease Area or performance or non-performance of any of the obligations under this Agreement; or

(f) any loss or damages caused on account of breach of any Applicable Law by the Successful Bidder, including without limitation any costs incurred by the State Government in cleaning or rectifying of any environmental damages caused by the Successful Bidder on account of, lack of Good Industry Practice; breach, negligent performance or failure or delay in performance of this Agreement; or non-compliance with Applicable Law.

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12.3. If any Third Party makes a claim, or notifies an intention to make a claim, against the Indemnified Party which may reasonably be considered likely to give rise to a liability under this indemnity (a "**Claim**"), the Indemnified Party shall as soon as reasonably practicable, give written notice of the Claim to the Successful Bidder, specifying the nature of the Claim in reasonable detail.

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12.4. Subject to the Successful Bidder providing security to the Indemnified Party, to the Indemnified Party's sole and absolute satisfaction against any claim, liability, costs, expenses, damages or losses which may be incurred, the Successful Bidder may take such action as it may reasonably deem fit to avoid, dispute, compromise or defend the Claim.

12.5. Payments of the amount of Claim shall become due and payable within [thirty] days of receipt of notice of Claim. If a payment due from the Successful Bidder under this clause is subject to Tax (whether by way of direct assessment or withholding at its source), the Indemnified Party shall be entitled to receive from the Successful Bidder such amounts as shall ensure that the net receipt, after Tax, to the Indemnified Party in respect of the payment is the same as it would have been were the payment not subject to Tax.

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13. ASSIGNMENT, SECURITY FOR FINANCING

13.1. Prohibition on assignment

13.1.1. Except as provided in this Clause 13, the Successful Bidder shall not assign this Agreement.

13.1.2. In situations where the Mining Lease of the Successful Bidder has been transferred in accordance with the provisions of the Act and Rules made thereunder, this Agreement shall be promptly assigned by the Successful Bidder to the transferee of such Mining Lease and the relevant assignee shall comply with the provisions of Clause 13.2.

13.2. Assignment conditions

Assignment of this Agreement under Clause 13.3 shall be subject to the following conditions precedent:

(a) the proposed assignee must meet the applicable Eligibility Conditions;

(b) the proposed assignee must agree to unconditionally and irrevocably adhere to the provisions of the Act and Rules made thereunder and this Agreement and must enter into a deed of adherence/ assignment agreement in such form as may be satisfactory to the State Government;

(c) the proposed assignee must have furnished the Performance Security, to substitute any subsisting Performance Security provided by the Successful Bidder; and

(d) the proposed assignee must have paid any other amount due from the Successful Bidder and agree to indemnify and hold the State Government harmless in all respects against any claims from any Third Party or the Successful Bidder with respect to such assignment.

13.3. Security for financing

13.3.1. Subject to Applicable Law, the Successful Bidder shall be entitled to create security over the Lease Area through mortgage for the purposes of availing financing from a bank or financial institutions for the purposes of financing of mining operations at the Lease Area and such security creation shall not require prior approval by the State Government or the Central Government.

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14. INSURANCE

At all times during the Term hereof, the Successful Bidder will maintain, and cause its contractors and sub-contractors to maintain, with financially sound and reputable insurers, insurance against such casualties and contingencies, of such types, on such terms and in such amounts (including deductibles, co-insurance and self-insurance, if adequate reserves are maintained with respect thereto) as is consistent with Good Industry Practice.

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15. ACCOUNTS AND AUDIT

15.1. Audited accounts

The Successful Bidder shall maintain books of accounts recording all its receipts, income, expenditure, payment, assets and liabilities in accordance with Good Industry Practice and Applicable Law.

15.2. Appointment of auditors

The State Government shall have the right, but not the obligation, to appoint at its cost at any time, an auditing firm or an auditor to audit and verify all those matters, expenses, costs, realizations and things with respect to the Lease Area or which the statutory auditors are required to do, undertake or certify pursuant to this Agreement.

15.3. Certification of claims by statutory auditors

Any claim or document provided by the Successful Bidder to the State Government in connection with or relating to receipts, income, payments, costs, expenses, accounts or audit, and any matter incidental thereto shall be valid and effective only if certified by its statutory auditors.

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16. GOVERNMENT INSPECTION

16.1. The Central Government or the State Government, through its authorized representatives shall have the right to free ingress and egress within any part of the Lease Area at any time to inspect works or activities being undertaken or implemented by the Successful Bidder in order to monitor and verify compliance with the terms of this Agreement and Applicable Law.

16.2. The Central Government or the State Government, through its authorized representatives, shall have access to the Successful Bidder's financial and other records and transactions (relatable to any period) at any time upon reasonable advance notice, the right to copy therefrom, for the purpose of assessing the performance and compliance of the Successful Bidder with the terms of this Agreement and Applicable Law, Act, Rules and regulations or to aid in the enforcement of the same.

16.3. The Central Government or the State Government shall have the right to conduct, either directly or indirectly through any Third Party, a performance audit to verify compliance by the Successful Bidder, of its obligations hereunder.

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17. EVENT OF FORCE MAJEURE

17.1. Event of Force Majeure means any of the following events or circumstances or combination of the following events or circumstances which are beyond the reasonable control of the Successful Bidder, which could not have been prevented by Good Industry Practice or by the exercise of reasonable skill and care and which or any consequences of which, have a material and adverse effect upon the performance by the Successful Bidder of its obligations or enjoyment of its rights:

(i) acts of God, flood, drought, earthquake or other natural disaster;

(ii) epidemic or pandemic;

(iii) terrorist attack, civil war, civil commotion or riots, war, threat of or preparation for war, armed conflict, imposition of sanctions, embargo, or breaking off of diplomatic relations;

(iv) nuclear, chemical or biological contamination or sonic boom;

(v) collapse of buildings, fire, explosion or accident; or

(vi) any labour or trade dispute, strikes, industrial action or lockouts (other than those solely affecting Successful Bidder claiming the same as an Event of Force Majeure and attributable to such Successful Bidder's policies regarding labour, compensation or employment or labour related conditions).

17.2. Provided it has complied with Clause 17.3, if the Successful Bidder is prevented, hindered or delayed in or from performing any of its obligations under this Agreement by an Event of Force Majeure, the Successful Bidder shall not be in breach of this Agreement or otherwise liable for any such failure or delay in the performance of such obligations.

17.3. Upon occurrence of an Event of Force Majeure, the Successful Bidder shall:

(i) as soon as reasonably practicable after the start of the Event of Force Majeure but no later than thirty days from its start, notify the State Government in writing of the Event of Force Majeure, the date on which it started, its likely or potential duration, and the effect of the Event of Force Majeure on its ability to perform any of its obligations under this Agreement; and

(ii) use all reasonable endeavours to mitigate the effect of the Event of Force Majeure on the performance of its obligations including following of Good Industry Practice.

17.4. If an obligation is suspended by reason of an Event of Force Majeure for more than [one] month continuously, the Parties shall enter into good faith negotiations to revise the terms of this Agreement to reflect the changed circumstances, provided that this Agreement shall remain in effect during the period during which the Parties are negotiating the terms of any such revision.

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18. EFFECTIVE DATE AND TERM

18.1. Effective Date

This Agreement shall come into effect on the Agreement Date i.e. [date].

18.2. Term

This Agreement shall commence on the dates mentioned in Clause 18.1and shall continue for the period of validity of the Mining Lease granted to the Successful Bidder ("**Term**").

18.3. Retention of Books and Records

Upon termination of this Agreement, the Successful Bidder shall retain all documents, books and records related to the Lease Area for a period of [three] years or such longer period as may specified under Applicable Law. It is clarified that the Successful Bidder may also retain such books and records in electronic form if permitted under Applicable Law.

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19. MISCELLANEOUS

19.1. Time of essence

Each of the Parties hereby agrees that, with regard to all dates and time periods set forth or referred to in this Agreement, time is of the essence.

19.2. Publicity

The Successful Bidder shall not issue any information, document or article for publication in any news or communications media or make any public statement in relation to this Agreement without the prior written consent of the State Government unless required to do so by Applicable Law, provided that prior to any disclosure of any such information required by Applicable Law, the Successful Bidder must first notify the State Government, who shall then have the opportunity to respond to and/or dispute such intended disclosure.

19.3. Severability

19.3.1. If any term, provision, covenant or restriction of this Agreement or the application thereof to any Person or circumstance shall be held invalid, void or unenforceable by a court of competent jurisdiction or other Governmental Authority to any extent, the remainder of the terms, provisions, covenants and restrictions of this Agreement and the application thereof to Persons or circumstances (other than those as to which any portion of this Agreement is held invalid, void or unenforceable) shall not be affected thereby and shall remain in full force and effect to the fullest extent permitted by law, so long as the economic or legal substance of the transactions contemplated hereby is not affected in any manner materially adverse to any Party.

19.3.2. Upon such a determination, the Parties shall negotiate in good faith to modify this Agreement so as to effect the original intent of the Parties as closely as possible in an acceptable manner in order that the transactions contemplated hereby be consummated as originally contemplated to the fullest extent possible.

19.4. Costs and expenses

19.4.1. The Successful Bidder shall bear its own costs in connection with the execution of this Agreement.

19.4.2. The stamp duty payable for this Agreement shall be borne by the Successful Bidder

19.5. Further assurance

The Successful Bidder shall cooperate with the State Government and execute and deliver to the State Government such instruments and documents and take such other actions as may be requested from time to time in order to carry out, evidence and confirm their rights and the intended purpose of this Agreement.

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19.6. **Legal and prior rights**

All rights and remedies of the State Government hereto shall be in addition to all other legal rights and remedies belonging to the State Government and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid and it is hereby expressly agreed and declared by and between the Parties hereto, that the determination of this Agreement for any cause whatsoever shall be without prejudice to any and all rights and claims of the State Government, which shall or may have accrued prior thereto.

19.7. **Waiver**

19.7.1. The waiver of any default or breach under this Agreement by the State Government shall not constitute a waiver of the right to terminate this Agreement for any substantial default of a similar nature or under any other terms and conditions of this Agreement.

19.7.2. No failure or delay by the State Government in exercising any right or remedy provided by Applicable Law under or pursuant to this Agreement shall impair such right or remedy or operate or be construed as a waiver or variation of it or preclude its exercise at any subsequent time and no single or partial exercise of any such right or remedy shall preclude any other or further exercise of it or the exercise of any other right or remedy. The rights and remedies of the State Government under or pursuant to this Agreement are cumulative, may be exercised as often as it considers appropriate and are in addition to its rights and remedies under Applicable Law.

19.7.3. Submission of any document, information, report or notice, which contains any information or reference to any default or breach under this Agreement or any Applicable Law, to the State Government shall not be construed to be a deemed approval of such breach or default and the State Government may exercise any rights or remedies with respect to such default at any time.

19.8. **Amendments**

No amendment of this Agreement (or of any of the documents referred to in this Agreement) shall be valid unless it is in writing and signed by or on behalf of each of the Parties to it. The expression "amendment" shall include any amendment, variation, supplement, deletion or replacement however effected. Unless expressly agreed, no amendment shall constitute a general waiver of any provisions of this Agreement, nor shall it affect any rights, obligations or liabilities under or pursuant to this Agreement which have already accrued up to the date of amendment, and the rights and obligations of the Parties under or pursuant to this Agreement shall remain in full force and effect, except and only to the extent that they are so amended.

19.9. **Counterparts**

This Agreement may be executed in two counterparts, each of which will be deemed an original, with the same effect as if the signatures thereto and hereto were upon the same instrument, but all of which together will constitute one and the same instrument.

19.10. **No agency or partnership**

The Parties agree that nothing in this Agreement shall be in any manner interpreted to constitute an agency for and on behalf of any other Party. None of the provisions of this Agreement shall be deemed to constitute a partnership between the Parties hereto and no Party shall have any authority to bind the other Party or shall be deemed to be the agent of the other Party in any way.

19.11. **Notices**

All notices, requests, demands or other communication (**"Notice"**) required or permitted to be given under this Agreement and the provisions contained herein shall be written in English and shall be deemed to be duly sent by registered post with acknowledgment due, or transmitted by facsimile transmission to the other Parties at the address indicated in SCHEDULE F thereof or at such other address as the Party to whom such notices, requests, demands or other communication is to be given shall have last notified to the Party giving the same in the manner provided in this Clause, but no such change of address shall be deemed to have been given until it is actually received by the Party sought to be charged with the knowledge of its contents. Any notice, request, demand or other communication delivered to the Party to whom it is addressed as provided in this Clause 19.11 shall be deemed to have been given and received on the day of its receipt at such address.

A copy of the Notice sent by registered post with acknowledgment due, or transmitted by facsimile transmission may also be sent through email to the email addresses specified in SCHEDULE F solely for the information of the recipient and shall take effect only when the registered post is actually delivered or the fax is received by the recipient, as the case may be.

19.12. **Entire Agreement**

The Mining Lease inclusive of this Agreement (including all such deeds and documents issued or executed pursuant hereto or referred to herein), and the Tender Document, together with all documents referred herein and thereunder constitutes and represents the entire agreement between the Parties with regard to the rights and obligations of each of the Parties and cancels and supersedes all prior arrangements, agreements or understandings, if any, whether oral or in writing, between the Parties on the subject matter hereof or in respect of matters dealt with herein. If there is a conflict between the Mining Lease inclusive of this Agreement and the Tender Document, the Mining Lease inclusive of this Agreement would have overriding effect.

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19.13. Specific performance of obligations

The State Government shall be entitled to an injunction or injunctions to prevent breaches of this Agreement or to seek or enforce specific performance of this Agreement, in addition to any other legal rights and remedies, without the necessity of demonstrating the inadequacy of monetary damages.

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SCHEDULE A – LIST OF PERSONS

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SCHEDULE B – LIST OF CONSENTS AND APPROVALS

[To be provided prior to execution.]

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SCHEDULE C - PARTICULARS OF THE LEASE AREA

[To be provided prior to execution.]

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SCHEDULE D - MINIMUM PRODUCTION REQUIREMENT

The Successful Bidder shall meet the annual Minimum Production Requirement as stated in the table below:

Year (since commencement of Mining Lease)	Minimum Production Requirement (% of yearly production as per approved Mining Plan)	Value of Performance Security to be appropriated
Year 1	0%	Equivalent to amount of Royalty+ DMF + NMET applicable on shortfall quantity [minimum production requirement (minus) actual annual production]
Year 2	0%	
Year 3	40%	
Year 4	50%	
Year 5	60%	
Year 6 onwards	60%	

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SCHEDULE E - WARRANTIES

1. **INFORMATION**

1.1. The information, provided to the State Government during the tender process and any time thereafter, including but not limited to the information contained in this Agreement, by the Successful Bidder is true, accurate and not misleading in any manner whatsoever.

1.2. Neither this Agreement nor any of the information and documents provided during the tender process exercise contains any untrue statement of fact, or omits to state a material fact necessary to make the statements herein or therein not misleading. The documents provided to the State Government and/or its advisors during the conduct of the tender process, are true and complete copies of such documents and none of the information provided to the State Government and/or its advisors during the tender process was incorrect, inaccurate or misleading in any manner whatsoever.

2. **AUTHORITY**

2.1. The Successful Bidder has full legal capacity to enter into this Agreement and to perform its obligations under it and has taken all action necessary to authorise such execution and delivery and the performance of such obligations.

2.2. This Agreement has been duly executed and delivered by the Successful Bidder, and (assuming due authorisation, execution and delivery and performance by the Parties), constitutes a legal, valid and binding obligation of the Successful Bidder, enforceable against the Successful Bidder in accordance with the terms of the Agreement.

2.3. The Successful Bidder has obtained requisite corporate authorisation, including passing of all necessary resolutions at the meeting of its board of directors held on [date] to execute this Agreement and carry out all transactions and actions contemplated under this Agreement and do all necessary acts incidental to this Agreement.

2.4. The execution and delivery of this Agreement by the Successful Bidder and the performance of the obligations under it do not and shall not:

(a) conflict with or violate any provision of the memorandum of association or articles of association of the Successful Bidder;

(b) require on the part of the Successful Bidder, any filing with, or permission, authorisation, consent or approval of, any Governmental Authority;

(c) conflict with, result in breach of, constitute (with or without due notice or lapse of time or both) a default under, result in the acceleration of obligations under, create in favour of any party any right to terminate, modify or cancel, or require any notice, consent or waiver under, any contract or instrument to

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which the Successful Bidder is party or by which it is bound or to which its assets are subject; and

(d) violate, conflict with or constitute a default under any Applicable Law, lien, lease, judgement, award, Act, order, writ, injunction, decree, statute, rule or regulation or any other restriction of any kind or character applicable to the Successful Bidder or its properties or assets.

2.5. No person is entitled to any brokerage, finder's, or other similar fee or commission in connection with the transactions contemplated by this Agreement.

3. **GENERAL**

The Successful Bidder

(a) is duly organised, validly existing and in good standing under the laws of India;

(b) meets all the Eligibility Conditions prescribed under the Act read with the Auction Rules and the Tender Documents;

(c) has the financial standing and capacity to undertake mining operations at the Lease Area in accordance with the Production Requirement;

(d) is subject to civil and commercial laws of India with respect to this Agreement and it hereby expressly and irrevocably waives any immunity in any jurisdiction in respect thereof;

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(e) there are no actions, suits, proceedings or investigations pending or to the Successful Bidder's knowledge threatened against it at law or in equity before any court or before any other judicial, quasi judicial or other authority, the outcome of which may constitute an event of default hereunder;

(f) has neither violated or defaulted nor has knowledge of any violation or default with respect to any order, writ, injunction or any decree of any court or any legally binding order of any Governmental Authority;

(g) has complied with Applicable Law and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities;

(h) except as set forth in any Mining Lease, all rights and interests of the Successful Bidder in and to the Lease Area shall pass to and vest in the relevant Governmental Authority on the date of termination or expiry hereof, free and clear of all Encumbrances without any further act or deed on the part of the Successful Bidder or the Central Government;

(i) no bribe or illegal gratification or any other illegal amount has been paid or will be paid in cash or kind by or on behalf of the Successful Bidder to any

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Person to procure the rights granted hereunder; and

(j) Without prejudice to any express provision contained in this Agreement, the Successful Bidder acknowledges that prior to the execution of this Agreement, the Successful Bidder has after a complete and careful examination made an independent evaluation of the Lease Area and the information provided by the State Government, and has determined to its satisfaction the nature and extent of risks and hazards as are likely to arise or may be faced by the Successful Bidder in the course of performance of its obligations hereunder. The Successful Bidder also acknowledges and hereby accepts the risk of inadequacy, mistake or error in or relating to any of the matters set forth above and hereby confirms that the State Government and any Governmental Authority shall not be liable for the same in any manner whatsoever to the Successful Bidder.

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SCHEDULE F - ADDRESS FOR PROVIDING NOTICES

A. Notice to the State Government

Address	
Telephone	
Fax	
E-mail (only for information)	

With CC to the **Central Government**

Address	Ministry of Mines
Telephone	
Fax	
E-mail (only for information)	

B. Notice to the Successful Bidder

Address	
Telephone	
Fax	
E-mail (only for information)	

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IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorised representatives on the date and year written below, at Bhopal:

Signatories

Government of Madhya Pradesh	[Name of the Successful Bidder]
....	....
Name:	**Name:**
Designation:	**Designation**
Date:	**Date:**
	Duly authorized to execute this Agreement pursuant to resolution passed by the board of directors of the [*name of the Successful Bidder*] on [*date*].

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Schedule V: Format of Information Memorandum

[Attached separately to the Tender Document]

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Schedule VI: Indicative Format of Letter of Intent

No.

Mineral Resource Department,
Mantralaya, Vallabh Bhawan,
Bhopal – 462002
Madhya Pradesh

Date:

To,
[Name of Preferred Bidder]
[Address of Preferred Bidder]

Sub: Letter of intent with reference to e-auction dated [Insert Date] for grant of a Mining Lease for [Name of Mineral Block] for [Name of Mineral] in .... village, ... Taluka, ... District on .... Hectare Area of Survey No. ....

1. **Background:**

1.1. The Directorate of Geology and Mining (DGM), Government of Madhya Pradesh, pursuant to the Mines and Minerals (Development and Regulation) Act, 1957 (the "Act") and the Mineral (Auction) Rules, 2015 as amended from time to time (the "Auction Rules"), issued the notice inviting tender dated [Insert Date] to commence the auction process for grant of Mining Lease for [Name of Mineral Block] located in [Name of the District of Madhya Pradesh]. The e-auction process was conducted in accordance with the tender document for the said mineral block and [Name of the Preferred Bidder] was declared as the 'Preferred Bidder' under Rule 9(4)(b)(iii) of the Auction Rules.

1.2. As required under Rule 10(1) of the Auction Rules and the tender document for the said mineral block, [Name of the Preferred Bidder] has made payment of the first instalment, being 10% (ten percent) of the upfront payment of Rs. [Insert Amount (both in number and words)] through [Mode of Payment] dated [date of making of payment], which was received on [Date of receipt of payment].

2. **Grant of Letter of Intent**

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2.1. Accordingly, pursuant to Rule 10(2) of the Auction Rules, the Government of Madhya Pradesh is issuing this letter of intent for grant of Mining Lease for

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[Name of Mineral Block] for [Name of Mineral] in .... village, ... Taluka, ... District on .... Hectare Area of Survey No. ....to [Name of Preferred Bidder] for a period of 50 years.

3. Conditions

3.1. This letter of intent and the subsequent grant of aforementioned Mining Lease shall be subject to the provisions of the Act and the Rules made thereunder, as amended from time to time, and the [Name of the Preferred Bidder] shall be designated as the 'successful bidder' and subsequently granted the Mining Lease only upon satisfactory completion of all the requirements under the Act and the Rules made thereunder.

3.2. This Letter of Intent shall be valid only if [Name of the Preferred Bidder] ensures that the Bid Security is valid until the Performance Security is furnished to the Government of Madhya Pradesh, failing which this Letter of Intent shall become invalid from the date of expiry of the Bid Security.

3.3. For reference, the requirements under the Auction Rules for designation of [Name of the Preferred Bidder] as the 'successful bidder' and subsequent grant of the Mining Lease are reiterated below. It is clarified that the requirements mentioned below are only for reference and in the event of any change in the Act or the Rules made thereunder, the requirements under the modified Act or the Rules made thereunder, as the case may be, shall be applicable.

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(a) Designation as the "Successful Bidder":

[Name of the Preferred Bidder] shall be considered to be the 'successful bidder' upon:

(i) continuing to be in compliance with all the terms and conditions of eligibility;

(ii) payment of the second instalment being 10% (ten percent) of the upfront payment;

(iii) furnishing performance security;

(iv) satisfying the conditions specified in clause (b) of sub-section (2) of section 5 of the Act with respect to a mining plan; and

(v) [Additional condition, if any, to be mentioned – prior approval of the Central Government must have been obtained with respect to such additional condition – as required under Rule 10(3)(e) of the Auction Rules.].

(b) Signing of the Mine Development and Production Agreement

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[Name of the Preferred Bidder/Successful Bidder] shall sign the Mine Development and Production Agreement with the Government of Madhya Pradesh upon obtaining all consents, approvals, permits, no-objections and the like as may be required under applicable laws for commencement of mining operations.

(c) <u>Grant of Mining Lease</u>

Subsequent to signing of the Mine Development and Production Agreement, [Name of the Preferred Bidder/ Successful Bidder] shall make payment of the third instalment being 80% (eighty percent) of the upfront payment and thereafter the Government of Madhya Pradesh shall grant the aforementioned Mining Lease.

4. **Validity**

4.1. This letter of intent is valid for a period of [3 (three)] years from the date of its issuance, within which time all the above conditions must be fulfilled and the Mining Lease deed must be executed between the [Name of the Preferred Bidder] and the Government of Madhya Pradesh. In case there is a delay in execution of Mining Lease deed due to reasons beyond the control of the Preferred Bidder, then it may submit an application to Government of Madhya Pradesh, requesting for further extension

If the Government of Madhya Pradesh is satisfied that there is a delay in execution of Mining Lease deed due to reasons beyond the control of the Preferred Bidder longer period is required to enable the Preferred Bidder to satisfy all or any of the above conditions, it may extend the validity of this letter of intent for such period or periods as the Government of Madhya Pradesh may specify. Provided that: (a) this letter of intent shall be extended for a maximum period of [2 years]; and (b) the total period for which this letter of intent would remain valid must not exceed [5 (five)] years from the date of issuance.

Kindly return the duplicate copy of this Letter of Intent duly signed by authorized signatory of the Company and furnish a suitable Board Resolution in token of having accepted the above terms and conditions. The accepted copy of Letter of Intent along with Board resolution should be submitted latest by [Insert Date].

[Designation]

[Mineral Resource Department]

Copy to:

1.

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Schedule VII: Additional Conditions

म0प्र0 शासन द्वारा गठित अंतर्विभागीय समिति के निर्णय –

1. खदान से खनन होने वाले समस्त हीरा खनिज को नियमानुसार विभाग द्वारा प्रथम दृष्टया आंकलन कर प्रारंभिक एवं अनुमानित मूल्य वर्तमान प्रक्रिया अनुसार हीरा विशेषज्ञ के माध्यम से घोषित किया जाएगा।
2. खननकर्ता लीजधारी कंपनी द्वारा समस्त हीरा खनिज की प्रथम बार नीलामी मध्यप्रदेश में ही की जायेगी। इस हेतु लीजधारी द्वारा आरक्षित मूल्य निर्धारित किया जाएगा जो शासकीय खनिज (हीरा) विशेषज्ञ द्वारा निर्धारित मूल्य से कम नहीं होगा।

   नीलामी सफल होने पर वास्तविक बिक्री मूल्य के आधार पर राज्य को रॉयल्टी प्राप्त होगी।

   नीलामी असफल होने पर खननकर्ता लीजधारी कंपनी द्वारा निर्धारित आरक्षित मूल्य (जो शासकीय मूल्यांकनकर्ता द्वारा निर्धारित मूल्य से कम नहीं होगा) के आधार पर राज्य शासन को अंतरिम रॉयल्टी प्रदान की जाएगी। इसके पश्चात हीरा खनिज को निर्यात या बिक्री या मूल्य संवर्धन के लिए स्वतंत्र रूप से ले जा सकता है, लीज धारी को हीरा खनिज की बिक्री के 02 माह के अंदर राज्य शासन को उक्ताशय की सूचना देना अनिवार्य है। अंतिम रायल्टी का निर्धारण वास्तविक बिक्री मूल्य (जो कंपनी द्वारा सूचित किया गया हो) अथवा प्रथम बार नीलामी के समय निर्धारित किया गया, आरक्षित मूल्य दोनों में से जो भी अधिक हो, के आधार पर निर्धारित किया जाएगा।

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Mineral Resources Department
Directorate of Geology and Mining
Madhya Pradesh
Email: dgm.auction@mp.gov.in

No.10588/Auction-3/Geology/F.No.3/2019-20 Date: August 08, 2019

Corrigendum 1 to Model Tender Documents and block specific Tender Document for grant of Mining Lease for Limestone, Basemetal, Gold, Bauxite and Diamond Mineral in the State of Madhya Pradesh issued by Directorate of Geology & Mining, Government of Madhya Pradesh (Notice Inviting Tender Dated July 05, 2019)

The amendments mentioned in this Corrigendum shall be applicable to the Model Tender Documents and the Block Specific Tender Documents for grant of Mining Lease with reference to "Invitation of bids for grant of Mining Lease for Limestone, Basemetal, Gold, Bauxite and Diamond Mineral and for Composite Licence for Graphite Mineral" dated July 05, 2019 issued by the Directorate of Geology and Mining, Bhopal, Government of Madhya Pradesh.

Sr. No.	Reference to the Tender Document	As appearing in Model Tender Documents and block specific Tender Documents for grant of Mining Leases			To be read as		
		S. No.	Event Description	Estimated Date	S. No.	Event Description	Estimated Date
1	Clause 11 (Timetable)	Stage I – E-auction process for selection of Preferred Bidder			Stage I – E-auction process for selection of Preferred Bidder		
		4	Last date for responses to queries by State Government	Tuesday, August 20, 2019	4	Last date for responses to queries by State Government	Thursday, September 19, 2019
		5	Last date for sale of Tender Document [on or before 17:00 hours (IST)]	Wednesday, August 21, 2019	5	Last date for sale of Tender Document [on or before 17:00 hours (IST)]	Friday, September 20, 2019
		6	Bid Due Date (Technical + initial price offer) [on or before 17:00 hours (IST)]	Monday, August 26, 2019	6	Bid Due Date (Technical + initial price offer) [on or before 17:00 hours (IST)]	Wednesday, September 25, 2019

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Sr. No.	Reference to the Tender Document	As appearing in Model Tender Documents and block-specific Tender Documents for grant of Mining Lease			To be read as		
		7	Opening of the Technical Bids	Tuesday, August 27, 2019	7	Opening of the Technical Bids	Thursday, September 26, 2019
			Start date for examination of the Technical Bids	Tuesday, August 27, 2019	8	Start date for examination of the Technical Bids	Thursday, September 26, 2019
		9	Training and mock-auctions for all the Bidders on e-auction platform by the e-auction platform provider	Tuesday, September 03, 2019 - Monday, September 09, 2019	9	Training and mock-auctions for all the Bidders on e-auction platform by the e-auction platform provider	Thursday, October 03, 2019 - Wednesday, October 09, 2019
		10	Announcement of Technically Qualified Bidders as per the tender document	Friday, September 13, 2019	10	Announcement of Technically Qualified Bidders as per the tender document	Monday, October 14, 2019
		11	Opening of initial price offer, of only Technically Qualified Bidders and intimation to Qualified Bidders one day prior to the scheduled date of e-auction of the respective mineral block (to Qualified Bidders only)	Monday, September 16, 2019 - Monday, September 23, 2019	11	Opening of initial price offer, of only Technically Qualified Bidders and intimation to Qualified Bidders one day prior to the scheduled date of e-auction of the respective mineral block (to Qualified Bidders only)	Tuesday, October 15, 2019 - Tuesday, October 22, 2019
		12	Conduct of ascending forward electronic auction and submission of Final Price Offer on the electronic auction platform	Tuesday, September 17, 2019 - Tuesday, September 24, 2019	12	Conduct of ascending forward electronic auction and submission of Final Price Offer on the electronic auction platform	Wednesday, October 16, 2019 - Wednesday, October 23, 2019

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Sr. No.	Reference to the Tender Document	As appearing in Model Tender Document and block specific Tender Documents for grant of Mining Leases			To be read as		
		13	Announcement of Preferred Bidder	Wednesday, September 18, 2019 - Thursday, September 26, 2019	13	Announcement of Preferred Bidder	Thursday, October 17, 2019 – Friday, October 25, 2019
		14	Payment of first installment (10%) of Upfront Payment by the Preferred Bidder for Mining Lease	Wednesday, October 09, 2019	14	Payment of first installment (10%) of Upfront Payment by the Preferred Bidder for Mining Lease	Friday, November 08, 2019
		15	Issuance of letter of intent by State Government	Wednesday, October 23, 2019	15	Issuance of letter of Intent by State Government	Friday, November 22, 2019

Director
Geology and Mining,
Madhya Pradesh

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Mineral Resources Department
Directorate of Geology and Mining
Madhya Pradesh
Email: dgm.auction@mp.gov.in

No. 17275 /Auction-3/Geology/F.No.3/2019-20 Date: September 24, 2019

Corrigendum(2) to Model Tender Documents and block specific Tender Document for grant of Mining Leasefor Limestone, Basemetal, Gold, Bauxite and Diamond Mineral in the State ofMadhya Pradesh issued by Directorate of Geology & Mining,Government of Madhya Pradesh(Notice Inviting Tender Dated July 05, 2019)

The amendments mentioned in this Corrigendum shall be applicable to the Model Tender Documents and the Block Specific Tender Documentsfor grant of Mining Lease with reference to "Invitation of bids for grant of Mining Lease for Limestone, Basemetal, Gold, Bauxite and Diamond Mineral and for Composite Licence for Graphite Mineral"dated July 05, 2019 issued by the Directorate of Geology and Mining, Bhopal,Government of Madhya Pradesh.

1. The following amendments will be applicable to the Model Tender Documents and Block specific Tender Documents for grant of Mining Lease for Limestone, Basemetal, Gold, Bauxite and Diamond Mineral

Sr. No.	Reference to the Tender Document	As appearing inOriginal Tender Document	To be read as
1	Clause 8.1.A.(a) (Bidding Process)	In the first round, the Bidders shall be required to submit on or prior to 17:00 hours (IST) on August 26, 2019 ("Bid Due Date"):	In the first round, the Bidders shall be required to submit on or prior to 17:00 hours (IST) on October 30, 2019 ("Bid Due Date"):

अनुमोदित / APPROVED

294

U. W. DATEY
QUALIFIED PERSON

<table>
<tr><th>Sr. No.</th><th>Reference to the Tender Document</th><th>As appearing inOriginal Tender Document</th><th>To be read as</th></tr>
<tr><td>2</td><td>Annexure II: Format of Bid Security (Clause No 4)</td><td>This Guarantee shall be irrevocable and remain in full force for a period of 240 days fromthe Bid Due Date i.e. August 26, 2019 inclusive of a claim period of 60 days or for suchextended period as may be mutually agreed between the State Government and theBidder, and agreed to by the Bank, and shall continue to be enforceable till all amountsunder this Guarantee have been paid.</td><td>This Guarantee shall be irrevocable and remain in full force for a period of 240 days fromthe Bid Due Date i.e. October 30, 2019 inclusive of a claim period of 60 days or for suchextended period as may be mutually agreed between the State Government and theBidder, and agreed to by the Bank, and shall continue to be enforceable till all amountsunder this Guarantee have been paid.</td></tr>
<tr><td>3</td><td>Clause 11
(Timetable)</td><td><table>
<tr><th>S. No.</th><th>Event Description</th><th>Estimated Date</th></tr>
<tr><td colspan="3">Stage I - E-auction process for selection of Preferred Bidder</td></tr>
<tr><td>5</td><td>Last date for sale of Tender Document [on or before 17:00 hours (IST)]</td><td>Friday, September 20, 2019</td></tr>
<tr><td>6</td><td>Bid Due Date (Technical + Initial price offer) [on or before 17:00 hours (IST)]</td><td>Wednesday, September 25, 2019</td></tr>
<tr><td>7</td><td>Opening of the Technical Bids</td><td>Thursday, September 26, 2019</td></tr>
<tr><td>8</td><td>Start date for examination of the Technical Bids</td><td>Thursday, September 26, 2019</td></tr>
</table></td><td><table>
<tr><th>S. No.</th><th>Event Description</th><th>Estimated Date</th></tr>
<tr><td colspan="3">Stage I - E-auction process for selection of Preferred Bidder</td></tr>
<tr><td>5</td><td>Last date for sale of Tender Document [on or before 17:00 hours (IST)]</td><td>Tuesday, October 22, 2019</td></tr>
<tr><td>6</td><td>Bid Due Date (Technical + Initial price offer) [on or before 17:00 hours (IST)]</td><td>Wednesday, October 30, 2019</td></tr>
<tr><td>7</td><td>Opening of the Technical Bids</td><td>Thursday, October 31, 2019</td></tr>
<tr><td>8</td><td>Start date for examination of the Technical Bids</td><td>Thursday, October 31, 2019</td></tr>
</table></td></tr>
</table>

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295 U. W. DATEY
QUALIFIED PERSON

Sr. No.	Reference to the Tender Document	As appearing InOriginal Tender Document			To be read as		
		9	Training and mock-auctions for all the Bidders on e-auction platform by the e-auction platform provider	Thursday, October 03, 2019 – Wednesday, October 09, 2019	9	Training and mock-auctions for all the Bidders on e-auction platform by the e-auction platform provider	Monday,November 04, 2019 - Friday, November 08, 2019
		10	Announcement of Technically Qualified Bidders as per the tender document	Monday, October 14, 2019	10	Announcement of Technically Qualified Bidders as per the tender document	Friday, November 15, 2019
		11	Opening of initial price offer, of only Technically Qualified Bidders and Intimation to Qualified Bidders one day prior to the scheduled date of e-auction of the respective mineral block (to Qualified Bidders only)	Tuesday, October 15, 2019 - Tuesday, October 22, 2019	11	Opening of initial price offer, of only Technically Qualified Bidders and intimation to Qualified Bidders one day prior to the scheduled date of e-auction of the respective mineral block (to Qualified Bidders only)	Monday, November 18, 2019 - Monday, November 25, 2019
		12	Conduct of ascending forward electronic auction and submission of Final Price Offer on the electronic auction platform	Wednesday, October 16, 2019 – Wednesday, October 23, 2019	12	Conduct of ascending forward electronic auction and submission of Final Price Offer on the electronic auction platform	Tuesday, November 19, 2019 - Tuesday, November 26, 2019

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Sr. No.	Reference to the Tender Document	As appearing inOriginal Tender Document			To be read as		
		13	Announcement of Preferred Bidder	Thursday, October 17, 2019 - Friday, October 25, 2019	13	Announcement of Preferred Bidder	Wednesday, November 20, 2019 - Wednesday, November 27, 2019
		14	**Payment of first installment (10%) of** Upfront Payment by the Preferred Bidder for Mining Lease	Friday, **November** 08, 2019	14	Payment of first installment (10%) of Upfront Payment by the Preferred Bidder for Mining Lease	Wednesday, December 11, 2019
		15	Issuance of letter of intent by State Government	**Friday, November 22, 2019**	15	**Issuance of letter of intent** by State Government	**Wednesday, December 25, 2019**

Director
Geology and Mining, Madhya Pradesh

/APPROVED

297 U. W. DATEY
QUALIFIED PERSON

ML

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Mineral Resources Department
Directorate of Geology and Mining
Madhya Pradesh
Email: dgm.auction@mp.gov.in

1980
No. /Auction-3/Geology/F.No.3/2019-20 Date:October 29, 2019

CorrigendumNo.(3) to Model Tender Documents and block specific Tender Document for grant of Mining Leasefor Limestone, Basemetal, Gold, Bauxite and Diamond Mineral in the State ofMadhya Pradesh issued by Directorate of Geology & Mining,Government of Madhya Pradesh(Notice Inviting Tender Dated July 05, 2019)

The amendments mentioned in this Corrigendum shall be applicable to the Model Tender Documents and the Block Specific Tender Documentsfor grant of Mining Lease with reference to "Invitation of bids for grant of Mining Lease for Limestone, Basemetal, Gold, Bauxite and Diamond Mineral and for Composite Licence for Graphite Mineral"dated July 05, 2019 issued by the Directorate of Geology and Mining, Bhopal,Government of Madhya Pradesh.

1. The following amendments will be applicable to the Model Tender Documents and Block specific Tender Documents for grant of Mining Lease for Limestone, Basemetal, Gold, Bauxite and Diamond Mineral

Sr. No.	Reference to the Tender Document	As appearing inOriginal Tender Document	To be read as
1	Clause 8.1.A.(a) (Bidding Process)	In the first round, the Bidders shall be required to submit on or prior to 17:00 hours (IST) on October 30, 2019 ("Bid Due Date"):	In the first round, the Bidders shall be required to submit on or prior to 17:00 hours (IST) on November 11, 2019 ("Bid Due Date"):

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QUALIFIED PERSON

<table>
<tr><th>Sr. No.</th><th>Reference to the Tender Document</th><th>As appearing inOriginal Tender Document</th><th>To be read as</th></tr>
<tr><td>2</td><td>Annexure II: Format of Bid Security [Clause No 4]</td><td>This Guarantee shall be irrevocable and remain in full force for a period of 240 days fromthe Bid Due Date i.e. October 30, 2019 inclusive of a claim period of 60 days or for suchextended period as may be mutually agreed between the State Government and theBidder, and agreed to by the Bank, and shall continue to be enforceable till all amountsunder this Guarantee have been paid.</td><td>This Guarantee shall be irrevocable and remain in full force for a period of 240 days fromthe Bid Due Date i.e. November 11, 2019 inclusive of a claim period of 60 days or for suchextended period as may be mutually agreed between the State Government and theBidder, and agreed to by the Bank, and shall continue to be enforceable till all amountsunder this Guarantee have been paid.</td></tr>
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<tr><td>6</td><td>Bid Due Date (Technical + initial price offer) [on or before 17:00 hours (IST)]</td><td>Wednesday, October 30, 2019</td></tr>
<tr><td>7</td><td>Opening of the Technical Bids</td><td>Thursday, October 31, 2019</td></tr>
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<tr><td>9</td><td>Training and mock-auctions for all the Bidders on e-auction platform by the e-auction platform provider</td><td>Monday,November 04, 2019
-
Friday, November 08, 2019</td></tr>
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<tr><td>6</td><td>Bid Due Date (Technical + initial price offer) [on or before 17:00 hours (IST)]</td><td>Monday, November 11, 2019</td></tr>
<tr><td>7</td><td>Opening of the Technical Bids</td><td>Wednesday, November 13, 2019</td></tr>
<tr><td>8</td><td>Start date for examination of the Technical Bids</td><td>Wednesday, November 13, 2019</td></tr>
<tr><td>9</td><td>Training and mock-auctions for all the Bidders on e-auction platform by the e-auction platform provider</td><td>Monday, November 18, 2019
-
Friday, November 22, 2019</td></tr>
</table></td></tr>
</table>

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QUALIFIED PERSON

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Sr. No.	Reference to the Tender Document	As appearing inOriginal Tender Document			To be read as		
			Announcement of Technically Qualified Bidders as per the tender document	Friday, November 15, 2019	10	Announcement of Technically Qualified Bidders as per the tender document	Wednesday,November 27, 2019
			Opening of initial price offer, of only Technically Qualified Bidders and intimation to Qualified Bidders one day prior to the scheduled date of e-auction of the respective mineral block (to Qualified Bidders only)	Monday, November 18, 2019 - Monday, November 25, 2019	11	Opening of initial price offer, of only Technically Qualified Bidders and intimation to Qualified Bidders one day prior to the scheduled date of e-auction of the respective mineral block (to Qualified Bidders only)	Thursday, November 28, 2019 - Thursday,December 05, 2019
		12	Conduct of ascending forward electronic auction and submission of Final Price Offer on the electronic auction platform	Tuesday, November 19, 2019 - Tuesday, November 26, 2019	12	Conduct of ascending forward electronic auction and submission of Final Price Offer on the electronic auction platform	Friday, November 29, 2019 - Friday, December 06, 2019
		13	Announcement of Preferred Bidder'	Wednesday, November 20, 2019 - Wednesday, November 27, 2019	13	Announcement of Preferred Bidder	Monday, December 02, 2019 - Monday, December 09, 2019

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Sr. No.	Reference to the Tender Document	As appearing inOriginal Tender Document			To be read as		
		14	Payment of first installment (10%) of Upfront Payment by the Preferred Bidder for Mining Lease	Wednesday, December 11, 2019	14	Payment of first installment (10%) of Upfront Payment by the Preferred Bidder for Mining Lease	Monday, December 23, 2019
		15	Issuance of letter of intent by State Government	Wednesday, December 25, 2019	15	Issuance of letter of intent by State Government	Monday, January 06, 2020

U. W. DATEY
QUALIFIED PERSON

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Director
Geology and Mining,
Madhya Pradesh

Mineral Resources Department
Directorate of Geology and Mining
Madhya Pradesh
Email: dgm.auction@mp.gov.in

No. 19119 /Auction-3/Geology/F.No.3/2019-20 Date:November 07, 2019

CorrigendumNo. (4) to Model Tender Documents and block specific Tender Document for grant of Mining Leasefor Limestone, Basemetal, Gold, Bauxite and Diamond Mineral in the State ofMadhya Pradesh issued by Directorate of Geology & Mining,Government of Madhya Pradesh(Notice Inviting Tender Dated July 05, 2019)

The amendments mentioned in this Corrigendum shall be applicable to the Model Tender Documents and the Block Specific Tender Documentsfor grant of Mining Lease with reference to "Invitation of bids for grant of Mining Lease for Limestone, Basemetal, Gold, Bauxite and Diamond Mineral and for Composite Licence for Graphite Mineral"dated July 05, 2019 issued by the Directorate of Geology and Mining, Bhopal,Government of Madhya Pradesh.

1. The following amendments will be applicable to the Model Tender Documents and Block specific Tender Documents for grant of Mining Lease for Limestone, Basemetal, Gold, Bauxite and Diamond Mineral

Sr. No.	Reference to the Tender Document	As appearing inOriginal Tender Document	To be read as
1	Clause 13.2 of the MDPA	**13.2 Assignment conditions** Assignment of this Agreement under Clause 13.3 shall be subject to the following conditions precedent: (a) the proposed assignee must meet the applicable Eligibility	**13.2 Assignment conditions** Assignment of this Agreement under Clause 13.1 shall be subject to the following conditions precedent: (a) the proposed assignee must meet the applicable Eligibility

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QUALIFIED PERSON

Sr. No.	Reference to the Tender Document	As appearing inOriginal Tender Document	To be read as
		Conditions; (b) the proposed assignee must agree to unconditionally and irrevocably adhere to the provisions of the Act and Rules made thereunder and this Agreement and must enter into a deed of adherence/ assignment agreement in such form as may be satisfactory to the State Government; (c) the proposed assignee must have furnished the Performance Security, to substitute any subsisting Performance Security provided by the Successful Bidder; and (d) the proposed assignee must have paid any other amount due from the Successful Bidder and agree to indemnify and hold the State Government harmless in all respects against any claims from any Third Party or the Successful Bidder with respect to such assignment.	Conditions; (b) the proposed assignee must agree to unconditionally and irrevocably adhere to the provisions of the Act and Rules made thereunder and this Agreement and must enter into a deed of adherence/ assignment agreement in such form as may be satisfactory to the State Government; (c) the proposed assignee must have furnished the Performance Security, to substitute any subsisting Performance Security provided by the Successful Bidder; and (d) the proposed assignee must have paid any other amount due from the Successful Bidder and agree to indemnify and hold the State Government harmless in all respects against any claims from any Third Party or the Successful Bidder with respect to such assignment.

Director
Geology and Mining,
Madhya Pradesh

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U. W. DATEY
QUALIFIED PERSON

Mineral Resources Department
Directorate of Geology and Mining
Madhya Pradesh
Email: dgm.auction@mp.gov.in

19120

No. /Auction-3/Geology/F.No.3/2019-20 Date:November 07 2019

CorrigendumNo. (4) to Model Tender Document and block specific Tender Document for grant of Composite Licencefor Graphite Mineral inthe State ofMadhya Pradesh issued by Directorate of Geology & Mining,Government of Madhya Pradesh(Notice Inviting Tender Dated July 05, 2019)

The amendments mentioned in this Corrigendum shall be applicable to the Model Tender Document and the Block Specific Tender Documentsfor grant of Composite Licencefor Graphite Mineral with reference to "Invitation of bids for grant of Mining Lease for Limestone, Basemetal, Gold, Bauxite and Diamond Mineral and for Composite Licence for Graphite Mineral"dated July 05, 2019 issued by the Directorate of Geology and Mining, Bhopal,Government of Madhya Pradesh.

1. The following amendments will be applicable to the Model Tender Documents and Block specific Tender Document for grant of **Composite Licence for Graphite Mineral**

Sr. No.	Reference to the Tender Document	As appearing inOriginal Tender Document	To be read as
1	Clause 13.2 of the MDPA	**13.2 Assignment conditions** Assignment of this Agreement under Clause 13.3 shall be subject to the following conditions precedent: (a) the proposed assignee must meet the applicable Eligibility	**13.2 Assignment conditions** Assignment of this Agreement under Clause 13.1 shall be subject to the following conditions precedent: (a) the propo[illegible] assignee must meet the applicable Eligibility

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304 **U. W. DATEY**
QUALIFIED PERSON

Sr. No.	Reference to the Tender Document	As appearing inOriginal Tender Document	To be read as
		Conditions; (b) the proposed assignee must agree to unconditionally and irrevocably adhere to the provisions of the Act and Rules made thereunder and this Agreement and must enter into a deed of adherence/ assignment agreement in such form as may be satisfactory to the State Government; (c) the proposed assignee must have furnished the Performance Security, to substitute any subsisting Performance Security provided by the Successful Bidder; and (d) the proposed assignee must have paid any other amount due from the Successful Bidder and agree to indemnify and hold the State Government harmless in all respects against any claims from any Third Party or the Successful Bidder with respect to such assignment.	Conditions; (b) the proposed assignee must agree to unconditionally and irrevocably adhere to the provisions of the Act and Rules made thereunder and this Agreement and must enter into a deed of adherence/ assignment agreement in such form as may be satisfactory to the State Government; (c) the proposed assignee must have furnished the Performance Security, to substitute any subsisting Performance Security provided by the Successful Bidder; and (d) the proposed assignee must have paid any other amount due from the Successful Bidder and agree to indemnify and hold the State Government harmless in all respects against any claims from any Third Party or the Successful Bidder with respect to such assignment.

Director 7.11.19
Geology and Mining,
Madhya Pradesh

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U. W. DATEY
QUALIFIED PERSON

अनुमोदित / APPROVED

Mineral Resources Department
Directorate of Geology and Mining
Madhya Pradesh
Email: dgm.auction@mp.gov.in

No. 19867/ Auction-3/ Geology/ F.No.3/ 2019-20 **Date: November 27, 2019**

Corrigendum No. (5) to Model Tender Documents and block specific Tender Document for grant of Mining Lease for Limestone, Basemetal, Gold, Bauxite and Diamond Mineral in the State of Madhya Pradesh issued by Directorate of Geology & Mining, Government of Madhya Pradesh (Notice Inviting Tender Dated July 05, 2019)

The amendments mentioned in this Corrigendum shall be applicable to the Model Tender Documents and the Block Specific Tender Documents for grant of Mining Lease with reference to "Invitation of bids for grant of Mining Lease for Limestone, Basemetal, Gold, Bauxite and Diamond Mineral and for Composite Licence for Graphite Mineral" dated July 05, 2019 issued by the Directorate of Geology and Mining, Bhopal, Government of Madhya Pradesh.

1. The following amendments will be applicable to the Model Tender Documents and Block specific Tender Documents for grant of Mining Lease for Limestone, Basemetal, Gold, Bauxite and Diamond Mineral

U. W. DATEY 306
QUALIFIED PERSON

S. No.	Reference to the Tender Document	As appearing in Original Tender Document			To be read as		
		S. No.	Event Description	Estimated Date	S. No.	Event Description	Estimated Date
3	Clause 11 (Timetable)	Stage I – E-auction process for selection of Preferred Bidder			Stage I – E-auction process for selection of Preferred Bidder		
		10	Announcement of Technically Qualified Bidders as per the tender document	Wednesday, November 27, 2019	10	Announcement of Technically Qualified Bidders as per the tender document	Wednesday, November 27, 2019
		11	Opening of initial price offer, of only Technically Qualified Bidders and intimation to Qualified Bidders one day prior to the scheduled date of e-auction of the respective mineral block (to Qualified Bidders only)	Thursday, November 28, 2019 - Thursday, December 05, 2019	11	Opening of initial price offer, of only Technically Qualified Bidders and intimation to Qualified Bidders one day prior to the scheduled date of e-auction of the respective mineral block (to Qualified Bidders only)	Monday, December 9, 2019
		12	Conduct of ascending forward electronic auction and submission of Final Price Offer on the electronic auction platform	Friday, November 29, 2019 - Friday, December 06, 2019	12	Conduct of ascending forward electronic auction and submission of Final Price Offer on the electronic auction platform	Tuesday, December 10, 2019

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QUALIFIED PERSON

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U. W. DATEY
QUALIFIED PERSON

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S. No.	Reference to the Tender Document	As appearing in Original Tender Document			To be read as		
	अनुमोदित / APPROVED	13	Announcement of Preferred Bidder	Monday, December 02, 2019 - Monday, December 09, 2019	13	Announcement of Preferred Bidder	Wednesday, December 11, 2019
		14	Payment of first installment (10%) of Upfront Payment by the Preferred Bidder for Mining Lease	Monday, December 23, 2019	14	Payment of first installment (10%) of Upfront Payment by the Preferred Bidder for Mining Lease	Wednesday, January 01, 2020
		15	Issuance of letter of intent by State Government	Monday, January 06, 2020	15	Issuance of letter of intent by State Government	Thursday, January 16, 2020

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308 **U. W. DATEY**
QUALIFIED PERSON

Director
Geology and Mining
Madhya Pradesh

Annexure I /C

Declaration of the Technically Qualified Bidder

From: Nishikant Hans <nishikanthans50@gmail.com>
Date: 9 December 2019 at 8:32:43 PM IST
To: SHISHUPAL YADAV <shishupalyadav9090@gmail.com>
Cc: sanjay.baid@adityabirla.com, "dgm.auction" <dgm.auction@mp.gov.in>
Subject: Re: Bunder Diamond Block | Declaration of the Qualified Bidder

CAUTION: This email originated from outside of the organization Do not click links or open attachments unless you recognize the sender and know the content is safe

Nishikant Hans
9893262797

On Mon, Dec 9, 2019, 20:14 SHISHUPAL YADAV <shishupalyadav9090@gmail.com> wrote:
REPEAT E-MAIL

To: Essel Mining and Industries Ltd/71515

Subject : Bunder Diamond Block | Declaration of the Qualified Bidder

In reference to the Tender Documents issued by Government of Madhya Pradesh dated July 05, 2019 for grant of Mining Lease of Bunder Diamond Block and subsequent evaluation of the Technical Bid and Initial Price Offer submitted by you, you are hereby declared as the Qualified Bidder in terms of Clause 8.1 A(e) of the Tender Document.

The Floor Price for the second round of online electronic auction in terms of Clause 8.1 A (d) of the Tender Document is 14% (fourteen per cent)

The e-auction is scheduled to start at 11:00 AM on December 10, 2019 (Tuesday) and end at 1:00 PM on December 10, 2019 (Tuesday). The e-auction will have auto extension option of 8 minutes per extension, as notified.

You are requested to note that as per Clause 8.1 (B) (b) of the Tender Document:

The e-auction process shall be annulled if none of the Qualified Bidders submits a Final Price Offer on the online electronic auction platform. In case the e-auction process is annulled due to non-submission of at least one Final Price Offer on the electronic auction platform, the Bid Security of all such Qualified Bidders who have submitted the highest initial price offer i.e. the applicable Floor Price for the second round of e-auction, shall be forfeited in accordance with Clause 14.6

This intimation has already been sent through official e-mail address.

From

MSTC Admin

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U. W. DATEY
QUALIFIED PERSON

Annexure I / D

Mineral Resources Department
Directorate of Geology and Mining
29-A, Khanij Bhawan, Arera Hills
Bhopal, Madhya Pradesh
Email – dgm.auction@mp.gov.in

No. 20495 **/ Auction-3/ Geology/ F.No. 03/ 2019-20** **Date: December 11, 2019**

Essel Mining and Industries Ltd. [MSTC Registration No. 71515]
Aditya Birla Centre
'B' Wing, 4th Floor
S. K. Ahire Marg
Mumbai 400030

Kind Attention: Shri Sanjay Kumar Baid

Dear Sir,

Subject: Payment of first installment of upfront payment to be made by the Preferred Bidder on account of successful conclusion of the auction of the Bunder Diamond Block

1. This is with reference to the Notice Inviting Tender (NIT) dated July 05, 2019 for Invitation of bids for grant of Mining Lease for Limestone, Base Metal, Gold, Bauxite and Diamond mineral and for grant of Composite Licence for Graphite mineral.

2. The forward e-auction for the grant of Mining Lease for Bunder Diamond block was successfully concluded on December 10, 2019.

3. Essel Mining and Industries Ltd. [MSTC Registration No. 71515] has submitted the highest Final Price Offer of 30.05% (Thirty point zero five per cent) and has been declared as Preferred Bidder by the Government of Madhya Pradesh.

4. As per Rule 10 (1) of the Mineral (Auction) Rules, 2015, and the terms and conditions of the Tender Document, Essel Mining and Industries Ltd. is advised to pay the first instalment of Upfront Payment, which is Rs. 27,52,48,440 (Rupees Twenty Seven Crore Fifty Two Lakh Forty Eight Thousand Four Hundred Forty) on or before January 01,

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U. W. DATEY
QUALIFIED PERSON

2020 to the Government of Madhya Pradesh through cyber treasury under the prescribed head: 0853-00-102-0999

Director
Geology and Mining
Madhya Pradesh
11/12/19

Copy to: 20496

1. Principal Secretary, Mineral Resources Department, Govt. of Madhya Pradesh, for information

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U. W. DATEY
QUALIFIED PERSON

Annexure I / E

ADITYA BIRLA

EMIL

The Director
Geology and Mines
Madhya Pradesh, Bhopal (MP)

13th December, 2019

Subject: **Payment of first instalment of upfront amount Rupees twenty seven crore fifty two lakh forty eight thousand four hundred forty.**

References: Notice inviting tender (NIT) dated July 05, 2019

Forward e auction for the grant of mining lease for Bunder Diamond block concluded on December 11, 2019

Your letter no. 20495/Auction-3/Geology/F.No.03/2019-20 dated December 11, 2019

Dear Sir,

We thankfully acknowledge the letter from the Government of Madhya Pradesh regarding Essel Mining and Industries Limited being declared as "Preferred Bidder" in e auction process conducted for grant of mining lease for Bunder Diamond block.

As advised vide letter no. 20495/Auction-3/Geology/F.No.03/2019-20 dated December 11, 2019 (Copy of the same is appended as Annexure I) and as per Rule 10 (1) of the Mineral (Auction) Rules 2015 and the terms and conditions of the tender document, amount of Rs. 27, 52, 48, 440 (Rupees Twenty Seven Crore Fifty Two Lakhs Forty Eight Thousand Four Hundred Forty only) has been deposited towards first instalment of upfront payment.

Transaction has been made through RTGS Mode as per details received from DGM Bhopal vide e mail dated 13 December 2019. UTRN generated for this transaction is HDFCR52019121359372005. (Screenshot of the same is appended as Annexure II).

We have complied with the terms and conditions of the tender document and Rule 10 (1) of the Mineral (Auction) Rules 2015. We may request you to expedite the process of issuance of Letter of Intent (LoI) so that other activities can be initiated.

Looking forward to work together for the growth and prosperity of the state.

For Essel Mining & Industries Limited

Rakesh Paliwal

(Authorized Signatory)

Encl : a/a.

Ccto : Principal Secretary- Minerals Resource Dept.GOMP-Bhopal

Secretary - Minerals Resource Dept.GOMP-Bhopal

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Essel Mining & Industries Ltd.
Aditya Birla Centre, 'B' Wing, 4th Floor, S.K. Ahire Marg, Worli, Mumbai 400 030, India.
T: +91 22 6652 5000 / 2499 5000 | F: +91 22 6652 5831 / 2499 5831 | E: emil.corporate@adityabirla.com
W: www.adityabirla.com / www.esselmining.com
Registered Office: Industry House, 18th floor, 10, Camac Street, Kolkata 700 017, India.
Corporate ID No.: U51109WB1950PLC018728

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2020 to the Government of Madhya Pradesh through cyber treasury under the prescribed head: 0853-00-102-0999

Director
Geology and Mining
Madhya Pradesh

Copy to:

1. Principal Secretary, Mineral Resources Department, Govt. of Madhya Pradesh, for information

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Annexure II

RTGS Cr-SBIN0006159-DIRECTOR GEOLOGY AND MINING-STEPHEN HS --HDFCR52019121359372005	(275,248,440.00)	13/12/2019	HDFCR52019121359372005	STEPHEN HS - KOLKATA

UTRN generated for RTGS Transaction towards 1st Instalment of Upfront Payment

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Annexure I /F

Government of Madhya Pradesh
Mineral Resources Department
Mantralaya

:: Letter of Intent ::

No. - F 3-26/2019/12/1 **Bhopal, Date:- 19/12/2019**

To,

Essel Mining & Industries Ltd.,
Aditya Birla Centre,
'B' Wing, 4th Floor,
S. K. Ahire Marg,
Mumbai, (Maharashtra) - 400030.

<u>**Sub**</u>: **Letter of Intent with reference to e-auction dated December 11, 2019for grant of a Mining Lease for Bunder Diamond Block for Diamond in Sagoria Village, Buxwaha Tehsil, Chattarpur District on 364.00 Hectare Area of Survey of India Toposheet No. 54P/7.**

----

1. Background:

1.1. The Directorate of Geology and Mining (DGM), Government of Madhya Pradesh, pursuant to the Mines and Minerals (Development and Regulation) Act, 1957 (the "Act") and the Mineral (Auction) Rules, 2015 as amended from time to time (the "Auction Rules"), issued the notice inviting tender dated July 05, 2019 to commence the auction process for grant of Mining Lease for Diamond located in Chattarpur District of Madhya Pradesh. The e-auction process was conducted in accordance with the tender document for the said mineral block and Essel Mining & Industries Ltd. was declared as the 'Preferred Bidder' under Rule 9(4)(b)(iii) of the Auction Rules.

1.2. As required under Rule 10(1) of the Auction Rules and the tender document for the said mineral block, Essel Mining & Industries Ltd. has made payment of the first installment, being 10% (ten percent) of the upfront payment of Rs. Rs. 27, 52, 48, 440 (Rupees Twenty Seven Crore Fifty Two Lakhs Forty Eight Thousand Four Hundred Forty only) through RTGS (with UTRN: HDFCR52019121359372005) dated December 13, 2019 which was received on December 13, 2019.

2. Grant of Letter of Intent

2.1. Accordingly, pursuant to Rule 10(2) of the Auction Rules, the Government of Madhya Pradesh is issuing this Letter of Intent for grant of Mining Lease for Bunder Diamond Block for Diamond in Sagoria Village, Buxwaha Tehsil, Chattarpur District on 364.00 Hectare Area of

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Survey of India Toposheet No. 54P/7 to Essel Mining & Industries Ltd. for a period of 50 years.

3. **Conditions**

3.1. This Letter of Intent and the subsequent grant of aforementioned Mining Lease shall be subject to the provisions of the Act and the Rules made there under, as amended from time to time, and the Essel Mining & Industries Ltd. shall be designated as the 'successful bidder' and subsequently granted the Mining Lease only upon satisfactory completion of all the requirements under the Act and the Rules made there under.

3.2. This Letter of Intent shall be valid only if Essel Mining & Industries Ltd. ensures that the Bid Security is valid until the Performance Security is furnished to the Government of Madhya Pradesh, failing which this Letter of Intent shall become invalid from the date of expiry of the Bid Security.

3.3. For reference, the requirements under the Auction Rules for designation of Essel Mining & Industries Ltd. as the 'successful bidder' and subsequent grant of the Mining Lease are reiterated below under para 3.3(a), (b) and (c). It is clarified that the requirements mentioned below under para 3.3(a), (b) and (c) are only for reference and in the event of any change in the Act or the Rules made thereunder, the requirements under the modified Act or the Rules made thereunder, as the case may be, shall be applicable.

(a) <u>Designation as the "Successful Bidder"</u>:

Essel Mining & Industries Ltd. shall be considered to be the 'successful bidder' upon:

(i) continuing to be in compliance with all the terms and conditions of eligibility;

(ii) payment of the second installment being 10% (ten percent) of the upfront payment;

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(iii) furnishing performance security of Rs. 275,24,84,400 (Rupees Two Hundred and Seventy Five Crore Twenty Four Lakh Eighty Four Thousand Four Hundred) ;

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(iv) satisfying the conditions specified in clause (b) of sub-section (2) of section 5 of the Act with respect to a mining plan; and

(v) Complying with the special condition for Bunder Diamond Block as approved by the Ministry of Mines, Government of India vide their letter no 7/46/2015-M.IB which is reproduced below:

म0प्र0 शासन द्वारा गठित अंतर्विभागीय समिति के निर्णय –

1. खदान से खनन होने वाले समस्त हीरा खनिज को नियमानुसार विभाग द्वारा प्रथम दृष्टया आंकलन कर प्रारंभिक एवं अनुमानित मूल्य वर्तमान प्रक्रिया अनुसार हीरा विशेषज्ञ के माध्यम से घोषित किया जाएगा।

2. खननकर्ता लीजधारी कंपनी द्वारा समस्त हीरा खनिज की प्रथम बार नीलामी मध्यप्रदेश में ही की जायेगी। इस हेतु लीजधारी द्वारा आरक्षित मूल्य निर्धारित किया जाएगा जो शासकीय खनिज (हीरा) विशेषज्ञ द्वारा निर्धारित मूल्य से कम नहीं होगा।

   नीलामी सफल होने पर वास्तविक बिक्री मूल्य के आधार पर राज्य को रॉयल्टी प्राप्त होगी।

   नीलामी असफल होने पर खननकर्ता लीजधारी कंपनी द्वारा निर्धारित आरक्षित मूल्य (जो शासकीय मूल्यांकनकर्ता द्वारा निर्धारित मूल्य से कम नहीं होगा) के आधार पर राज्य शासन को अंतरिम रॉयल्टी प्रदान की जाएगी। इसके पश्चात हीरा खनिज को निर्यात या बिक्री या मूल्य संवर्धन के लिए स्वतंत्र रूप से ले जा सकता है, लीजधारी को हीरा खनिज की बिक्री के 02 माह के अंदर राज्य शासन को उक्ताशय की सूचना देना अनिवार्य है। अंतिम रॉयल्टी का निर्धारण वास्तविक बिक्री मूल्य (जो कंपनी द्वारा सूचित किया गया हो) अथवा प्रथम बार नीलामी के समय निर्धारित किया गया, आरक्षित मूल्य दोनों मे से जो भी अधिक हो, के आधार पर निर्धारित किया जाएगा।

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(b) Signing of the Mine Development and Production Agreement

Essel Mining & Industries Ltd. shall sign the Mine Development and Production Agreement with the Government of Madhya Pradesh upon obtaining all consents, approvals, permits, no-objections and the like as may be required under applicable laws for commencement of mining operations.

(c) Grant of Mining Lease

Subsequent to signing of the Mine Development and Production Agreement, Essel Mining & Industries Ltd. shall make payment of the third installment being 80% (eighty percent) of the upfront payment and thereafter the Government of Madhya Pradesh shall grant the aforementioned Mining Lease.

4. Validity

4.1. This letter of intent is valid for a period of 3 (three) years from the date of its issuance, within which time all the above conditions must be fulfilled and the Mining Lease deed must be executed between the Essel Mining & Industries Ltd. and the Government of Madhya Pradesh. In case there is a delay in execution of Mining Lease deed due to reasons beyond the control of the Preferred Bidder, then it may submit an application to Government of Madhya Pradesh, requesting for further extension

If the Government of Madhya Pradesh is satisfied that there is a delay in execution of Mining Lease deed due to reasons beyond the control of the Preferred Bidder longer period is required to enable the Preferred Bidder to satisfy all or any of the above conditions, then it may extend the validity of this letter of intent for such period or periods as the Government of Madhya Pradesh may specify. Provided that: (a) this letter of intent shall be extended for a maximum period of 2 years; and (b) the total period for which this letter of intent would remain valid must not exceed 5 (five) years from the date of issuance.

Kindly return the duplicate copy of this Letter of Intent duly signed by authorized signatory of the Company and furnish a suitable Board Resolution in token of having accepted the above terms and conditions. The accepted copy of Letter of Intent along with Board resolution should be submitted latest within a period of one (1) month from the date of receipt of this Letter of Intent.

19/12/19

(Prakash Pandre)
Under Secretary
Government of Madhya Pradesh
Mineral Resources Department

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Endt. No. - F 3-26/2019/12/1 **Bhopal, Date:- 19/12/2019**

Copy to:

1. Secretary, Government of India, Ministry of Mines, Shastri Bhavan, New Delhi.
2. Additional Chief Secretary, Govt. of M.P., Forest Department, Mantralaya, Bhopal.
3. Chief Controller of Mines, Indian Bureau of Mines, Indira Bhavan Seminiari Hills, Nagpur.
4. Director, Geology and Mining (M.P.) Bhopal.
5. District Collector, District Chhatarpur, (M.P.).
6. Regional Head, Geology and Mining, Regional Office, Jabalpur (M.P.)
7. District Forest Officer, District Satna, (M.P.).

For information and necessary action please.

8. Guard File.

Sd/-

Under Secretary
Government of Madhya Pradesh
Mineral Resources Department

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ANNEXURE II

Geological Report

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Annexure II

INFORMATION MEMORANDUM
OF
BUNDER DIAMOND BLOCK
VILLAGE SAGORIA, TEHSIL - BUXWAHA, DISTRICT- CHHATARPUR, MADHYA PRADESH
(AREA 364 HECTARE)

Directorate of Geology & Mining, Madhya Pradesh

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INFORMATION MEMORENDUM
Part IV-A

Reporting of Mineral Resources for Bunder Diamond Block, Tehsil Buxwaha, Distt. Chhatarpur, (Madhya Pradesh)

(As per Minerals Evidence of Mineral content Rules, 2015)

<table>
<tr><th>S.NO.</th><th>Contents</th><th>Explanation</th></tr>
<tr><td>1</td><td>Title & Ownership</td><td>Directorate of Geology Mining M.P.
e-mail:- dgm.auction@.mp.gov.in
Phone & Fax No. 0755-2551795
Title of Report:- Geological report of Bunder Diamond Block village Sagoria, Tehsil- Buxwaha, District- Chhatarpur Madhya Pradesh (Area 364 Hectare)
Details of Periods of Prospecting -Sep.2006 to sep 2011.
Details of exploration agency- M/S Rio Tinto Exploration India Pvt. Ltd. 3rd floor "The capital Olaf paima marg munika IIIrd New Delhi 110067 India</td></tr>
<tr><td>2</td><td>Details of the area</td><td>Bunder Diamond Block, village –Sagoria, Tehsil- Buxwaha, District- Chhatarpur M.P. 364 Hectare.
Survey of india Toposheet no. 54P/7
The Area is located entirely within Protected forest of Buxwaha forest Range of Chhatarpur district. The following table gives the details of forest compartment number-
Name of forest - Buxwaha protected forest.
<table>
<tr><th>Compartment No.</th><th>Area In Hect.</th></tr>
<tr><td>280</td><td>28.180</td></tr>
<tr><td>281</td><td>12.839</td></tr>
<tr><td>284</td><td>140.044</td></tr>
<tr><td>285</td><td>140.503</td></tr>
<tr><td>302</td><td>5.238</td></tr>
<tr><td>284</td><td>9.466</td></tr>
<tr><td>285</td><td>27.937</td></tr>
</table>
The total area Bunder Diamond block of Bunder area is about 364 hect, out of the total area 16.6 Hect. is Mineralized zone and rest is proposed for dumping and ancillary purpose.</td></tr>
<tr><td>3</td><td>Infrastructure & Environment</td><td>Bunder Diamond Block is located within the Chhatarpur District of M.P. The Block is about 20 to 25 km. South West of Dangwan National highway, on a</td></tr>
</table>

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		road connecting Bajana and Buxwaha. Access to the block (Kimberlite rock) can be made by driving WSW along metal road and a series of trails from Jagana, a small village on the Buxwaha – Bajana road.
4	Previous exploration	The Directorate of Geology and Mining has covered present area during the Mineral inventory of Chhatarpur district in the year 2002-2007 and prepared Reconnaissance geological map on the 1:50000 scale. The Geological survey of India has also prepared geological map on the area 1:50000 scale. The Rio-Tinto Exploration India limited has also worked in area during the Reconnaissance permit period and company selected the present area for further detailed prospecting in the area. The Rio-Tinto India Ltd. obtained prospecting license in the area.
5	Geology	The Bunder Diamond Block is located within the Meso-Protorozoic kaimur Group platform sediments extending into the Paleo – Proterozoic Bijawar Group metasediments to the North, the Kaimur group consist of Monotonous sequence of rocks i.e. sandstone, shale and limestone.
6	Aerial/ ground geophysical/ geochemical data	A desktop study for providing an indicative geotechnical assessment was also conducted in earlier part of the prospecting periods on the geochemical & geophysical parameters, of particularly focusing on the pit as well as during the drilling in kimberlite and host Rocks.
7	Technological investigation	Topographical survey, contouring, detail geological mapping and surface sampling, pit sampling and core drilling and sampling have been carried out during the investigation and their details are given in the geological report.
8	Location of Data Points.	completion of prospecting work during the Prospecting period- 1. Number of pit – 9 no. 2. Depth (m) average 5 m 3. Drilling- a) Number of boreholes completed during PL period 95 (60 volume delineation holes (HQ/NQ), 23 grade estimation holes. (8"Large Diameter core LDC and 12 Grade estimation holes. (PQ holes) b) Total drilling during the period -24,708 m
9	sampling Techniques	The Core was logged on location, sampled for determination of Diamond incidence and coreare mainly broken to a maximum size of 0.80 m.m. The Material was aggregated in to 10 mm intervals and transferred in to 1-3 mtr bulk bags. Aluminum tages inscribed with the sample number were placed inside the bags and sample numbers written on the side of the way samples bags were sealed on the top with security seal, then transported to sample processing's plant (SPP), the samples from LD holes were also transported to processing plant.

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<table>
<tr><td></td><td></td><td></td></tr>
<tr><td>10</td><td>Drilling Technique & drill sampling employed</td><td>Various types of drill machines were used during the Prospecting work, their details are given below
<table>
<tr><th>Type</th><th>Make</th><th>Capacity</th><th>Number of Drill</th></tr>
<tr><td>core</td><td>LF 230 Drill rig(Boart longyear Make)</td><td>8" LDC(203 mm Core size)</td><td>1</td></tr>
<tr><td>core</td><td>PZ 000 drill rig (henjain make</td><td>8"LDC-PQ(203 mm) and 84 mm core size</td><td>1</td></tr>
<tr><td>core</td><td>CT -14 Drill rig (At las- cafco make)</td><td>PQ & HQ (84mm 63 mm core size)</td><td>1</td></tr>
<tr><td>core</td><td>CS 14 Drill rig (At las-cafco make)</td><td>HQ (63 mm core size)</td><td>1</td></tr>
<tr><td>core</td><td>KDR- 600 Drill rig (Kores make)</td><td>HQ (63 mm core size)</td><td>3</td></tr>
</table>
All the above type, of drill machine, have been deployed in the area and Total 95 number of bore holes were drilled in the area. The maximum depth 41.80 mts in borehole number B-41-002 & maximum depth of 635.80 mts in borehole number B-28-018 were drilled in the area. The core samples were often at a regular interval by breaking of core into 80mm size and samples sent to sample processing plant (SPP) the recovery of Diamond and their details are given in the report.</td></tr>
<tr><td>11</td><td>Sub-sampling Techniques and sample preparation</td><td>Each sample was broken into 80 mm size and material was aggregated in to 10 mts interval and transferred into 1-3 mts bulk bags and samples were send to Rio- Tinto sample processing plant (SPP) for recovery of diamond.</td></tr>
<tr><td>12</td><td>Quality of assay data and laboratory test</td><td>Total 349 samples of LDC holes of Atri Kimberlite Rock weighing 262.66 tons. were collected and processed into M/S Rio-Tinto sample processing plant (SPP) for recovery of diamonds 143.97 carats. diamonds have been recovered from 262.66 tonnes of materials.</td></tr>
<tr><td>13</td><td>Moisture</td><td>N/A</td></tr>
<tr><td>14</td><td>Bulk density</td><td>Not Required</td></tr>
<tr><td>15</td><td>Resources estimation techniques</td><td>The resources were estimated on the basis of diamond recovered from samples. Total 349 samples collected from drilling activities have been processed by density media separation and clastic fusion analysis. total</td></tr>
</table>

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		143.97 carats have been recovered from 262.66 tons of Kimberlite. The average grade of diamond is 0.78 carats per ton of Kimberlite rock. A total of 22115 commercial sized stones weighing a total of 2020.40 carats were recovered. In the area total reserves up to depth of 345/350 mts from (100 ms RL) are 53.70 Million Tonns of Kimberlite as under- South Atri- 41.56 Million Tons, 0.78 carats per ton. North Atri-12.14 million Tons, 0.13 carats per ton <u>There are classified as under.</u> Proved Reserve- Upto 200 mts RL 36.46 million tons. UNFC classification(111) <u>Probable Reserve-</u> From 200 mts RL to 100 mts RL 17.24 million tone UNFC classification (122)
16	Further work	-
17	Annexure /enclosures to the report	The Lithologs of boreholes and bulk samples recoveries samples reserves from LDC holes, Domainwise and level wise estimation of reserves, UNFC classification of reserves and resources estimation and survey reports. Detailed geological map on scale, contour Plan, Cross section borehole logs and mineable block including dumps and ancillary purpose. The block has been transferred on to Forest compartment map.
18	Any other information	Based on relevant information mentioned above the Atri Block is recommended for e-auction as G-2 category M.L. block

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(PART IV "B" as per Mineral (Evidence of mineral content) Rule, 2015)

Sr.No.	Content	Explanation
1	Indicator Minerals	A total of 530 numbers of Gravel samples were collected during the course of reconnaissance permit from surface and stream beds which were analyzed to delineate several catchments Shedding "Kimberlite indicator Minerals " or (KIMS) like Ilmenite, garnet, spinel, and crome diopsid to ascertain, diamondiferous Kimberlite.The Soil geochemical survey highlighted several anomalies enriched in key kimberlite Path finder elements ie, (Nb, Ce ,la ,Zr). Loam sampling, Rock sampling and Geological mapping subsequently lead to the discovery of several kimberlite outcrops and float.
2	Source of Diamonds	Total 8 number of Kimberlite Pipes were delineated at Bunder area out of 8 pipe in the Bunder area. The diamond is mainly found in primary source rock kimberlite.
3	Sample collection अनुमोदित / APPROVED	The sample were collected at various stage of the work and their details are given below 1 During the course of Reconnaissance Permit total 530 number of Gravel samples were collected and analyzed to ascertain a total of 8 number of kimberlite pipes in the Bunder area. 2. During the prospecting work, total 9 pits were Dug and total 41 number of samples have been collected, weighing 911 tons of material. Each individual pit was of 40 Sq m surface area. 3. Drilling -During the prospecting period total 349 number of samples weighing 262.66 tons kimberlite from LDC holes. of area, were collected and processed in Rio-Tinto sample processing plant (SPP).
4	Sample treatment	The bulk surface sample and LDC samples were processed at Rio-Tinto mini DMS plant (1 tone per hour) equipped with a crushing/scrubling/screening treatment, end as outlined in the Flow sheet in the report. The process follows simple heavy media separation. The media is

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		created by in agitating column of water and ferro silicon maintaining a constant sp.gr. of 3.2, after crushing through different stages as shown in the flowsheet. The sample lead to the heavy media column, where heavy minerals including diamonds sink. This concentrate of heavy minerals is collected, logged and sealed in uniquely numbered containers.
5	Carat	The carat is measurement unit of Diamonds which is equivalent of 200 Milligram.
6	Sample Grade	A total of 349 samples weighing 262.66 tons of kimberlite have been processed from large diameter (8") core for estimation of incidence of diamonds. These samples yielded usercarats of diamonds. Each samples was 10 mts in length (probable bench hight) with a mean sample weight of 0.725 tons, incidence of diamonds was calculated as " stone per ton"(SPT) the SPT was calculated by the "mean stone size "MSS for the domain to convert the SPT grade to "carats per ton" CPT.
7	Reporting of Bulk exploration Results.	On the basis of exploration data and sample processing, total resources of kimberlite (Up to Depth of 345/350 mt. 100 mRL)are 53.70 million tons, details are as follows- South Atri- 41.56 Million Tons 0.78 carats per ton. North Atri-12.14 million Tons 0.13 carats per ton. <u>These are classified as under.</u> Proved Reserve- Upto 200 mts RL 36.46 million tonns (UNFC Classification 111) <u>Probable Reserve-</u> From 200 mts RL to 100 mts RL 17.24 million tonns UNFC classification (122)
8	Grade estimation for reporting Mineral Resources and Ore Reserves	An open pit mine with a projected diameter of 920 mts and depth of 345 m with over all slope angles 38^0-40^0 would contain 41.56 million tonns of kimberlite in the South Atri domain and 12.14 million tonns in North domains. The average incidence of diamond of the area will be 0.78 carats of diamonds per ton of Kimbierlite reserves in the South Atri and 0.13 carat per ton in North Atri. The estimated recoverable diamonds from 53.70 million tonns of diamondiferous kimberlite material will be approximately 34.20 million carats the confidence level in the tonnage and incidence of diamonds proves it to be economically minable under UNFC classification system

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9	Value estimation	Price have been estimated from LDC and trench samples processed at the bulk samples processing plant. The recovered diamonds are sorted into size, colour at quality categories that have an associated. Price based on accurately recorded market values for Atri deposits of Bunder pipe, present price estimated varies between Rs. 6227 to 7613 per carats this figure as estimate only at prize projection as subject to further changes in market condition. The price of diamond given by IBM in its website/ is average price of diamond is estimated 16400 per carats
10	Classification	Not ascertained and available

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GEOLOGICAL REPORT
ON
EXPLORATION OF DIAMONDS
BUNDER PROJECT AREA AT VILLAGE SAGORIA,TEHSIL BUXWAHA,DISTRICT CHHATARPUR,MADHYA PRADESH
(AREA 364 HECT OUT OF 954 HECT)

<u>RECAST BY</u>

DIRECTORATE OF GEOLOGY AND MINING MADHYA PRADESH, BHOPAL

FROM

PROSPECTING REPORT

SUBMITTED BY

M/s RIO-TINTO EXPLORATION INDIA,PVT. LTD.

2006-2011

May 2017

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DISCLAIMER

Government of Madhya Pradesh, in the year 2006, has granted Prospecting License for a period of 3 years with further extension of 2 years in favour of M/s Rio-Tinto Pvt. Ltd. over an area of 25 km^2 for exploration of diamonds in Buxwaha tehsil district Chhatarpur. The PL period expired in 2011. The In-principle sanction had been given by the state for grant of Mining Lease over an area of 954 hectare in forest land after RTEI submitted PL report. IBM has conditionally approved the Mine Plan, over an area of 954 hectare in favour of RTEI, the approval was subject to condition that RTEI shall carry-out detailed Exploration at Angiras and submit the revised scheme within a period of first five years, RTEI in absence of Environmental Clearance from MoEF,decided to relinquish the area in the mean time.

The enactment of Mineral (Auction)Rules 2015 and MEMC Rules 2015 has resulted in deciding the issue that the Atri block shall be e-auctioned as M.L.(G-2 Level).However the Angiras shall be put for detailed exploration at G-2 level through NMET Fund, by outsourcing agency. The committee constituted for deciding matters has accorded approval on dt.22.04.2017 to state D.G.M. to recast geological report out of prospecting report of RTEI and Mining Plan Approved by IBM. The recast GR shall be submitted before aforesaid committee for perusal and taking appropriate decision by the state govt. Any matter arising out of recast GR shall be subject to PL report of RTEI regarding exploration of diamonds in Buxwaha tehsil district Chhatarpur and thereafter information/data synthesized in Mining Plan, the DGM/ state govt. shall not be held liable or responsible for any such dispute/claim regarding the same

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Contents

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LIST OF ANNEXURES

Ann. No.	Description
1.	Lithologs of Boreholes
2.	Details of slim Drillholes
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INDIAN BUREAU OF MINES

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ABSTRACT

This report summarizes the work completed by Rio Tinto Exploration India Private Limited within Bunder Prospecting License during the period of September 2006 and September 2011. The PL was executed on 6th September 2006 for a period of 3 years. A PL renewal application was submitted for a period of an additional 2 years and granted to enable additional prospecting work within the prospecting License area. With the PL renewal grant received on 29 December 2009 and executed on 25th February 2010. Soon after the drill rigs were mobilized for additional drilling on the already approved locations. The drilling on the already approved locations started on 13th March 2010. This drilling on the already approved locations continued upto April 2011, when the approved locations for drilling were exhausted, causing the drilling to stop.
Permission for additional drilling on 143 locations, applied early in 2010 with the Forest Department, was received in June 2011 leading the resumption of the drilling program which was finally culminated on 5th September 2011, when the Prospecting License has expired. All the drilling and field activities ended on 5th September 2011 with all the drilling equipments removed from the PL area. Meanwhile, the activity of sample processing in the DMS plant was taken up during this period

The area is bounded between N Lat Lat24°18'28.794"to N Lat24°20'04.981"andELong79°16'56.818"toE long79°18'04.343"forming part of toposheet number 54P/7 of SOI covering an area of 364 hectare out of 954 hectare within forest land .The area is located within the Chhatarpur District, Madhya Pradesh, India. Chhatarpur the administrative capital of the district by the same name is located approximately 500km southeast of New Delhi and 225 km northeast of the state capital Bhopal. Primary road access is via National Highway 72 connecting Chhatarpur to Sagar. The highway is in good condition and generally drivable between 50 and 80 km per hour. The Bunder project is located the village of Nimani, approximately 20 km southeast of the Daruwan/ National

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highway junction on a road connecting to Bijna and Buxwaha. Access to the kimberlites can be made by driving WSW along un-metalled road and series of road and series of trails from Jagara, a small village on the Buxwaha-Bajna road.the basal unit comprises of Bundelkhand gneisses which in turn are overlain by Bijawar and Vindhyan Super Group of rocks. Vindhyan sediments particularly sandstone and shale and limestone of kaimur's host the kimberlite and is known to be the key bed horizon in the prospect area.

The Prospecting work conducted within the tenure of the Prospecting license include dominantly drilling and bulk sampling from pits at approved locations which was conducted in multiple phases since September 2006 from the grant of the Prospecting license. The drilling was conducted for the following purposes, undertaking the grade, volume delineation of the ore body, Geotechnical studies, testing of kimberlite targets and sterilization of the infrastructure within the PL area. The bulk samples were collected to get an understanding of the value of the deposit. The bulk samples collected from the pits and the samples collected from the bore holes were processed at the processing plant earlier in Bangalore and later at the project site after establishing the plant in 2009.All the prospecting work has ended on 5th September 2011.Totel of 9 trenches at six locations were laid down with a bulk sample off 36000.85 tonnes of kimberlite extracted from trenches which have yielded 1876.43 carats of Diamond recovery. In view of the exploration schedule, total of 95 numbers of bore holes in the area were drilled with total materages of the order of 24708 m drilling. The drilling was designed to assess the diamond incidence of kimberlite ore body vis-à-vis to delineate the geometry of the pipe. Out of 95 bore holes 60 number of bore holes were of HQ/NQ size, 23 number of bore holes were of 8 inch large dia size and rest 12 number of bore holes were of PQ size. The 60 number of bore holes were drilled for the purpose of volume delineation and rest 23, 12 bore holes were aimed at for grade estimation of the kimberlite ore body.

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Total resources upto depth of 345 / 350 m (100 m RL) are 53.70 Mt as under:

South Atri 41.56 Mt @ 0.78 ct / t
North Atri 12.14 Mt @ 0.13 ct / t
These are classified as under:
Proved- upto 200 mRL - 36.46 Mt UNFC Classification 111
Probable from 200 mRL to 100 mRL -17.24 Mt UNFC Classification 122

As on date MEMC rules 2015 has been enacted by GOI, as per MEMC rules 2015, based on exploration work the estimated resources of Atri block has been ascertained to be of the order G-2 category and has been enumerated above and deserves for auction as M.L.

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1. INTRODUCTION

This report summarizes the work completed by Rio Tinto Exploration India Private Limited (RTEIPL) within Bunder Prospecting license (PL) during the period beginning September 2006 till 5th September 2011. Work during this period includes drilling for grade, delineation, target testing, geotechnical studies, ground sterilization and bulk sampling from approved locations. All the work was conducted in phases since the beginning. The other work outside the Prospecting license area, conducted at the Bunder Project during the PL period, is the sample processing at the sample processing plant at Bunder Project.

The Bunder PL is located within the Chhatarpur District, Madhya Pradesh, India. Chhatarpur the administrative capital of the district by the same name is located approximately 500km southeast of New Delhi and 225 km northeast of the state capital Bhopal. Primary road access is via National Highway 72 connecting Chhatarpur to Sagar. The highway is in good condition and generally drivable between 50 and 80 km per hour. The Bunder project is located at village of Nimani, approximately 20 km southeast of the Daruwan/ National highway junction on a road connecting to Bijna and Buxwaha. Access to the kimberlites can be made by driving WSW along un-metalled road and series of road and series of trails from Jagara, a small village on the Buxwaha -Bajna road.

Mean elevation in the area is 400m above sea level ranging between 350-500 meters. For the most part, topography is gentle and flat with the most of topography being accommodated in moderately steep escarpments defining the margins of gently dipping sedimentary units that define the central and northern parts of the project area. Drainage within the higher topographic level Proterozoic sediments is well developed and active with the Kalidahar and Ken Rivers and their tributaries being the predominant drainage. The creeks and rivers may frequently over flow in monsoons, and most of the water courses flow in the north direction.

The climate in the project area is semi-arid/ monsoonal with hot, frequently exceeding 45°C, and dry summers between April and July and temperature, ~5-35 °C winters from the remainder of the year. Rainfall is typically monsoonal totaling 90 to 120 cm/ annum occurring between middle June- middle September.

The Bunder area is a part of Narmada Valley dry deciduous forests Eco Region. This Region is neither exceptionally species- rich nor high in numbers of endemic species. But it does shelter several large vertebrates, including Asia's

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largest and most charismatic carnivore, the tiger. The forest type is the eco-region has been classified into four types:

- 5A/C-1-B Southern Tropical dry deciduous Teak forest
- 5A/A-C-3 Southern Tropical dry deciduous Mixed forest
- 5A/E Dhawra Forest
- 5A/E Salai Forest

Most of the forests are open scrub influenced by human activities. In many areas, intensive livestock grazing, fire, and non-timber forest product harvest have converted the habitat to scrub. Most of the eco-region's natural habitat has been cleared or degraded.

Almost all of the forest in the Bunder PL are part of Buxwaha subdivision of Chhatarpur Forest Division of Madhya Pradesh. The Forest of Bunder Prospect are of dry deciduous type, with Teak, Mixed, Salai and Khair forest. Factors controlling the forest flora include the Geology, soil type and soil organics, topography, and elevation from the mean sea level, slope and slope direction, temperature and humidity.

There are small natural Teak Forests in the Prospect. Teaks have a preference for hilly sectors, particularly in the wind shadow zones. Regeneration is rare due to intensive livestock grazing and fire. Chief climbers are makor and chilati and grasses such as lampa and bhurbhusi are sparsely distributed. Bamboo forest is found on the general slopes, along the creek flanks of the hills where drainage conditions are good.

Most of the forests are mixed in the prospect; live stock grazing is very common. Normally these are of IV-B, IV-A series of forest and are found in patches, with average density from 0.3 to 0.6 and natural regeneration being patchy and not up to the mark. Thorny shrubs are dominant and grasses are rare. The top canopy includes saja, bija, lendia, haldu, dhawra, kusum, tendu, achar, tinsa, papda, amaltas, amla, ghont, dhudi, teak, palas, rawjha, moyan, and salai. The lower canopy includes amla, achar, khair, amaltas and bamboo. Marodphal, dhawda, Baikal, karonda and jharbari (from the under story). Important climbers are bhurbhusi, doob and marvel, among others.

Sallai and Bomboo Forest are less in the Prospect. They grow in adverse conditions, protecting the soil from erosion and creates favorable environment for other species to grow. These are forest of dry and rocky areas with quartz rich (siliceous) regolith. The roots of salai can penetrate into a solid rock mass

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Bomboo forest is found with Teak and Mixed forest, appears in small bunches and has been declared protected.

These low density forest are characteristic for the area of maximum soil erosion in the prospect. Trees attain the height of 30m, which are knocked and distorted. The associated species with khair are salai, dhawra, saja, ghont, rewjha, makor, teak.

Wildlife is found in the Buxwaha Forest subdivision. No wildlife sanctuary, tiger reserve or national park exists in the Prospect. The faunal assemblage includes both carnivores and herbivores. Common species are jungle cat, sloth bear, jackal, striped hyena, Indian fox and wild dog. Primates found in the Prospect include common languor and rhesus macaque ungulates include blue bull, found in the most of the forest area. Indian wild boar is fairly common. Rodents found in the Prospect include the common Indian hare, rats and porcupines. Common bird species found in the area are peafowl, brown fish owl, blue rock pigeon, koel, Bengal vulture, common pariah kite, gray quail, and crested hawk eagle. Reptile list includes cobra, and krait.

There are about 20 villages within and around the PL and the total population of the prospect area would be around 8000. Children and Youth (below 18) make up more than 50% of the population. Majorty population is Yadav 's and Lodhi's ~50% (milkman by tradition) followed by scheduled caste that make up 30%. Rajput and Brahmins make up about 10-15% of the population. Muslims are <2% and tribes are about 5%. Density of population approx 135per sq km.

Literacy is poor (54%). Most of the villages have a primary school (up to class 5^{th}). Govt. sponsored free noon meal scheme is common in the schools. Dropout cases are common due to poor health of children in many primary schools.

Generally people are tolerant and social. Elders are respected. Caste factor is deeply entrenched. Man to women sex ratio is 1000:850 (less than national average) People have sentimental attachment to land. Many rear cattle. Human: Cattle ratio is almost 1:1.

Economically, the local community survives on primitive agriculture, collection of (non timber forest produce, NTFP) forest products and contractual labour that are the limited opportunities for the community. Nearly 8% of the community depends on this form of livelihood. The lack of proper irrigation, infertile land and small holdings keep the agriculturists on the verge of

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subsistence. A single crop, usually a lentil or soyabean a year is commonly achieved immediately after the monsoons. Thereafter the communities rely on forest produce like Mahua and the Tendu leaves. The Mahua flower is picked in March and April for country liquor, whilst the Mahua seeds are collected in May and June for oil extraction. The Tendu leaves used for manufacture of local cigarettes (Beedi) are collected in Summer. Beedi rolling provides employment to many families. Minor quarries employ a few locals. Barter system is practiced in interior area. Seasonal asset in the family and are given during marriages.

Natal mortality and infant mortality rates are higher than the national average. There are no basic medical facilities in the villages. A health centre located in Buxwaha caters to the medical needs in the Buxwaha Nayab Tehsil. More than 55% infants under 4 years of age are underweight for their age. Seasonal outbreak of diseases and water borne diseases are common. Extreme hot and cold conditions affect the old.

A few environmental and community development NGOs are working in Chhatarpur District. Religious NGOs (education and health care) are found in tribal and socially weaker pockets.

Given below the Rio Tinto project assessment process. The progression of study is as follows:
Conceptual → Order of Magnitude→ Pre-Feasibility → Feasibility

At the completion of each stage critical decisions are made on whether to progress the project. A decision to not proceed will, in most cases end or halt the project. As a project moves through each stage, the level of detail required to be included in the assessment studies increases, as does the effort and cost of complete.

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2. GEOLOGICAL SETTINGS

2.1 Regional setting

Based on the compilation from published 50,000 scale GSI geological maps, the geology of the area is defined by lithologies of the Bundelkhand Craton and overlying Proterozoic sedimentary basins. The oldest rock type includes granitoid gneiss with enclaves of dolerite, gabbro, amphilbolite and quartz reefs. Meta volcano- sedimentary rocks of paleo Proterozoic Bijawar Basin consist of an unstable rift assemblage of clastics, chert, dolomite units and basaltic flows and sills. The Bijawar group of rocks is overlain by Meso to Neo Proterozoic platformal sediments of the Vindhyan Supergroup. These rocks are exposed in the southern most part of the PL area. The Vindhyan Supergroup is thought to have been deposited from about 1400-600 Ma in a down warped zone between the Bundelkhand Craton on the north, and the early-mid Proterozoic mobil belt known as the Son-Narmada-Tapti lineament zone, or "Sonata" lineament to the south. Dates from glauconite in the Semri and Kaimur Groups metasediments suggest an age of 1400 to 900 Ma. The Supergroup consist of a monotonous sequence of sandstone, shale and limestone. There are a number of minor unconformities, disconformities and conglomerate units in the sequence indicating episodic rifting. In the west continental flood basalt (Deccan Traps) of palaeocene age cover the craton and sedimentary rocks of Bijawar and Vindhyan Supergroup. The Bunder West prospect is located within the Meso-Proterozoic Semri and Kaimur group platformal sediments extending into the Palaeo- Proterozoic Bijawar group metasediments to the north. The geology of the Bunder West PL is shown in plan no.3

Historically, in Panna Diamond Belt diamonds are recovered from three sources (i) Majhgawan and Hinota Kimberlite pipes, (ii) Diamondferous conglomerates towards the top of Lower Rewa Sand Stone and base of Jhiri Shales, and (iii) along the Quaternary alluvium of streams draining the diamond belt.

The Panna (Majhgawan) mine is located around 60km to the east north east of the Bunder Project area. The Majhgawan mine is the only hard rock diamond mine in India that produced diamonds from early 19th century until 2007. The mine was ordered closed in 2007 due to environmental concerns as it is within the Panna Tiger Reserve, a Wildlife Conservation Park. Annual production from Majhgawan is estimated to be 70,000 – 80,000 carats from ore grading around 0.1-0.14 carats per tonne (cpt) (Chatterjee, pers comm, 2007). There are

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extensive alluvial diamond activities downstream of the Majhgawan mine, which has been the site of similar activities of hundreds of years.

2.2 Project Setting

The Bunder project is located within the Vindhyan sedimentary basin. The Vindhyan basin is an intra-cratonic synclinorium which abuts the Bundelkhand granite to the north and is truncated by the Narmada-Son Lineament in the south (Anand and Rajaran, 2004). The basin comprises sandstone-shale-limestone sequences which outcrop across Uttar Pradesh, Madhya Pradesh and Rajasthan (Soni et al, 1987). The Vindhyan Supergroup of rocks are divided into the Semri, Kaimur, Rewa and Bhander Groups on the basis of lithology.

In the Bunder project area a series of mainly of vent-facies olivine-kimberlite pipes are hosted within sediments of the Kaimur group comprising sandstones and shales. The kimberlite pipes are converted with a variable, through shallow thickness (4.5 to 23.5m) of colluviums comprising dominantly uncemented sandstone cobbles and boulders.

3. EXPLORATION WORK

During the prospecting operation a total 95 number of bore holes were drilled with a total meterage of 24708 mt. Out of these 60 number of volume delineation holes of HQ/NQ were drilled,23(8" LDC grade estimation) boreholes were drilled , and 12 grade estimation bore holes of PQ size were drilled in the prospecting area. Besides this 9 trenche / pits at six locations have been made in the area of interest.

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3.1 SURFACE PITTING

A total of 36000.85tonnes of kimberlite samples have been collected which resulted in recovery of 1876.43 carats of Diamonds from nine pits situated at six locations (fig.4). Each individual pit was of $40m^2$ surface area. Samples were collected and separately by lithotype (i.e surface overburden and gravels, highly weathered kimberlite, and relatively fresh kimberlite).

Samples were collected in appropriately rated bulk bags. Bags were designed with a bottom "chute" in order to facilitate unloading of the sample. Bags were clearly labeled and sealed with drawstrings, steel wires ties, and uniquely numbered chain of custody seals.

Pits were mapped at 1:2000 scale to facilitate interpretation. Pit dimensions were measured at 1m intervals along the pit.

Geological logging and sampling procedures for pits have been internally reviewed by the registered CP Resources for the project and found to be in compliance with project objectives and documented protocols.

Chain of custody records were maintained from the excavation site to the processing facility. Storage of samples was in the secured areas, fenced, under constant supervision and well lit conditions. All staff working within the sample storage area is required to sign a register.

A complete record of samples coming out of forest using appropriate "Forest Transit Permit" was maintained and verified by forest officials. Similarly, samples sent to Bangalore lab were under "Transit Permit" issued by District Mining Officer after necessary physical verification.

The samples collected from the pits are from a maximum depth of 5 m. These provide data on diamond count and approximate indicative value for the stones recovered from the surface only. In order to test the deposit parameters at depth, Large Diameter Core drilling was employed.

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3.2 DRILLING

3.2.1 DELINEATION DRILLING

The delineation drilling program is an integral part of the study of an ore deposit, as it is an aimed defining the shape of the ore body to give a tonnage estimate to specific depth below surface.

A total of 14574 m drilling is completed in 60 (NQ/QH core) holes on the B28 kimberlite in the granted PL. These delineation holes were aimed-at to know the geometry of the kimberlites.

3.2.2 GRADE DRILLING

During the PL tenure, 8 inch Large Diameter Core (LDC) was considered most suitable method for assessing the grade of the B28 kimberlite body and adopted. This LDC drilling was expected to generate information to enable the estimation of the grade, size/frequency distribution and price of the diamonds in B28 in the drill profile below surface. These are key inputs in determining a resource status at various stages of the project. Achieving these objectives enables a decision on advancing the project to the next stage of work.

In the LDC drilling program a total of 23 holes were completed in the PL tenure which finished in 2008, drilling 5205 m. Large diameter drilling has been designed to generate information to enable the estimation of the grade, size/frequency distribution and price of the diamonds in B28 in the drill profile below surface. Large diameter drilling has been predominantly carried out over B28 kimberlite, with a few holes in B8-48 kimberlite. After the renewal of prospecting license, a revised scheme of prospecting was submitted to the Indian Bureau of Mines, Nagpur to conduct additional prospecting work within the PL area.

This additional study works involves among other things, better evaluation of the resource at B28 kimberlite to a greater confidence level (±15%). This resource evaluation requires conducting sampling (drilling) to get large samples. Taking various factors into consideration, like the size of the samples generated, the pace of drilling, the geology of the deposits, a detailed study of the drilling methods were made and numerous methods including the 8 inch LDC drilling, and PQ-sized core drilling were considered. At last, a combined hybrid method of LDC-PQ method was chosen to test a hypothesis to predict grade by developing a size frequency distribution curve of the macro-micro-diamonds. This method was adopted for the first stage of the study for the grade drilling in 2010. Based on the results of the first phase, the same LDC-PQ

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hybrid sampling approach was adopted for the second phase. The type and number of drill holes for the second stage of the grade drilling were determined based on the results of the first phase. For the first stage, the existing approved locations were for drilling. The second stage of the LDC grade drilling started only after receipt of the forestry approval to drill additional drill holes in June 2011.

3.2.3 LARGE DIAMETER CORE (LDC, 8 INCH CORE) DRILLING (fig-1)

The large Diameter drilling program was conducted for evaluating the grade below the surface up to 250m. The drilling program has since stopped with expiry of the prospecting license on 5th September 2011. South West Pinnacle Exploration Pvt. Ltd. From New Delhi, were contracted to complete the drilling operations using two drill rigs, one a track-mounted LF-230 drill rig, and another Hanjin P7000 rig, for holes with lesser expected depth. (Fig-2&3)

LDC drilling conducted during the PL period with 23 holes on B28 kimberlite totaling 5205m.
A total of 349 samples from LDC holes on Atri weighing 208 tonnes were collected and processed for diamonds yielding147.16cartars)

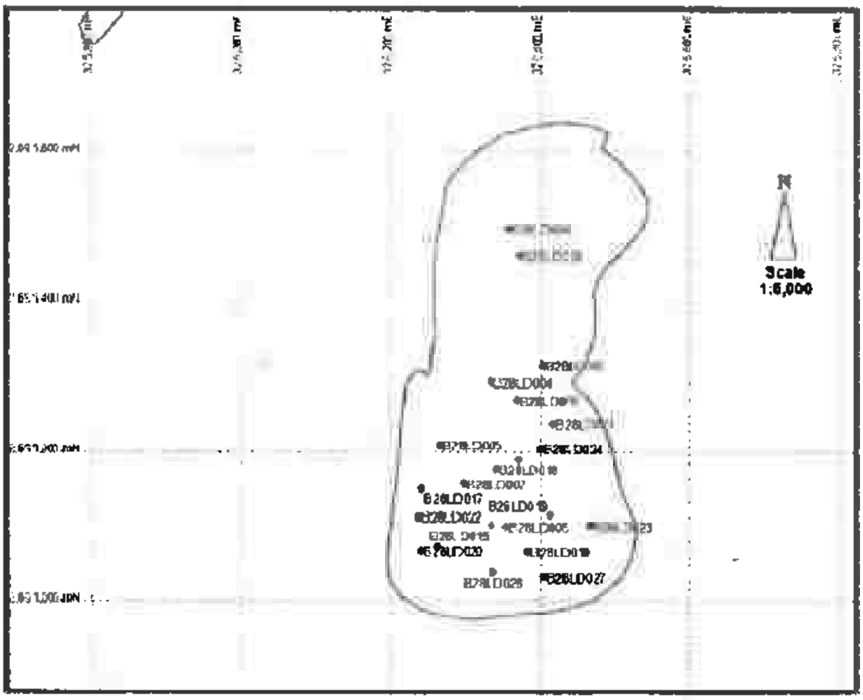

Fig.-1 Location of LDC Boreholes at Atri

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3.2.4 PQ CORE DRILLING

The PQ size drilling was also conducted at the Bunder Project as a part of the hybrid grade-drilling program to determine the grade of B28 kimberlite. This type of drilling was completed as planned for earlier this year in the month of February 2011. South West Pinnacle Exploration Private Ltd., from New Delhi, were contracted to complete the drilling operations. (fig-2)

PQ size drilling was conducted at Bunder project to delineate the boundary of ore body and to support the estimation of incidence of Diamonds from the recovery of fine (Micro) Diamonds. During the PL period 4929 metrage of drilling in 12 holes on B28 kimberlite has been carried-out. (Fig-6B)

* Lithologs of boreholes are given in ~~Annexure 1~~ and details of different types of boreholes drilled are enclosed as ~~Annexure 2,3 and 4~~.

Figure 2 Drill Rig doing PQ drilling

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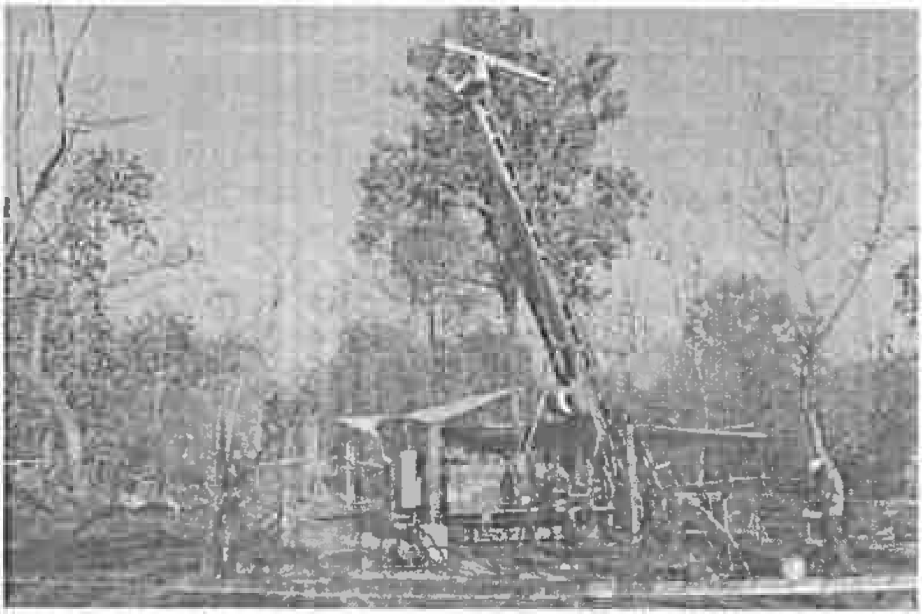

Figure 3 Drill rig doing HQ Delineation Drilling

3.3 BULK SAMPLING

Total 9 shallow trenches have been completed at B28, to determine sample grades, preliminary diamond size/frequency distributions (with re-crushing to -6 mm and a lower cut-off size of 0.85 mm), and a preliminary diamond price estimate. Each individual trench/pit was of 40m² surface area (20m long×2m wide×5m deep trenches), as specified in Forestry and Government approval.

In total 9 shallow trenches were tested for mini bulk samples. A total of 36000.85 tons of kimberlite was collected during 2006 and 2011 programme. A total 29 samples have been tested from 9trenches at B28, Details of shallow pits are given in (Fig-4)

These samples were processed at the sample processing plant near the project area. The results of this processing assists in further evaluating the value and grade of the Bunder deposit. This is critical to the development of a world-class diamond mine.

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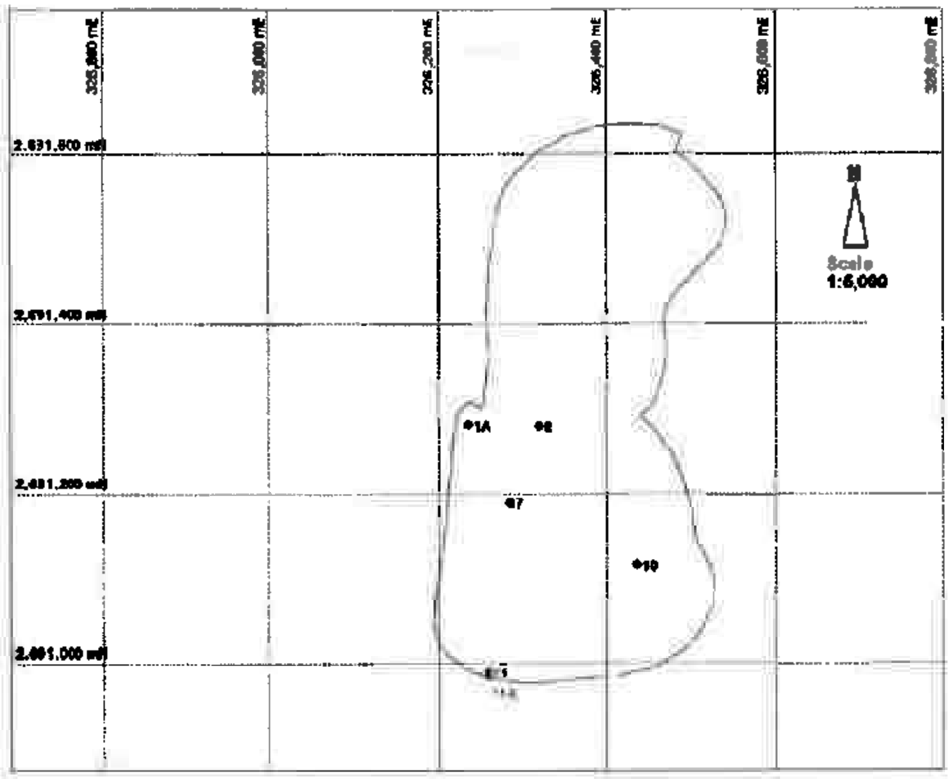

Figure 4 Locations of Atri Prospecting trenches

A total of 36000.85 tonnes of kimberlite sampled from these trenches , yielded 1876.43 carats of diamonds. The results of samples Processed in DMS Plant at Bunder are given as table4.

3.4 PROJECT BLOCK MODEL / RESOURCE MODEL

The quantities of resource / reserves and overburden / waste to be removed, is calculated through a computer programme which utilizes modified slice plan method. The area between two consecutive slices is divided into a blocks with dimensions of 50 m × 50m. The height of the blocks is 10 m, the interval between two consecutive slices. The height of the blocks has been chosen to match bench height. The blocks are further subdivided into sizes of 12.5 m × 12.5 m × 10.0 m height, at the edge of the resource or slice or at boundaries of faults and at boundaries between different geological domains. The blocks are assigned density and quality by geostatistical method through a computer programme.

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To explain, slice plans at two consecutive levels of South Atri namely 360 m and 350 m are attached at **Figure 7 D/1 & 7 D/2** respectively. The areas of kimberlite of South domain shown in the figures are 72775 sq. m. and 73394 sq. m. The volume and tonnage of kimberlite is calculated as under:

Volume= ½ (Area of slice at 360 m + Area of slice at 350_m) × 10
= ½ (72775 + 73394) × 10 = 730845
Tonnage = 730845 × 2.6 = 1900197

As against thus, the tonnage calculated by block method through computer modeling is 1892161.

The slice wise reserves calculated along with waste to be excavated are given in fig and table below.

The geological, engineering, and metallurgical rock characteristics were integrated into project block models to reflect 'ore type' and country rock models, constructed by the project geology team.

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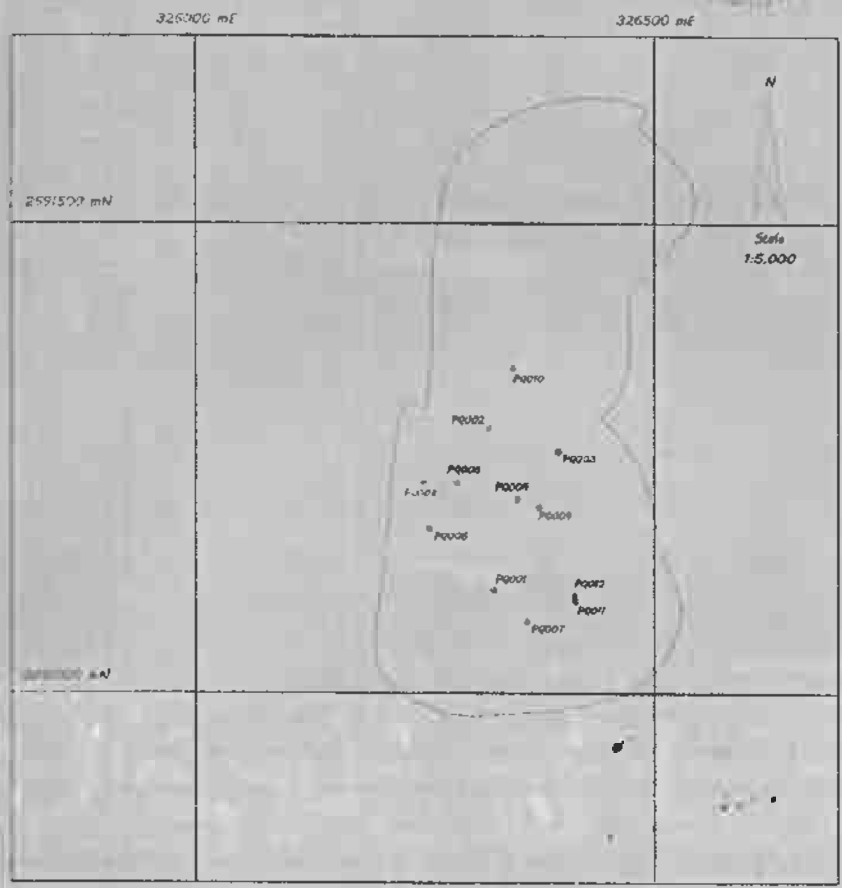

Fig 6B. Location of Atri PQ Drill Holes (Additional)

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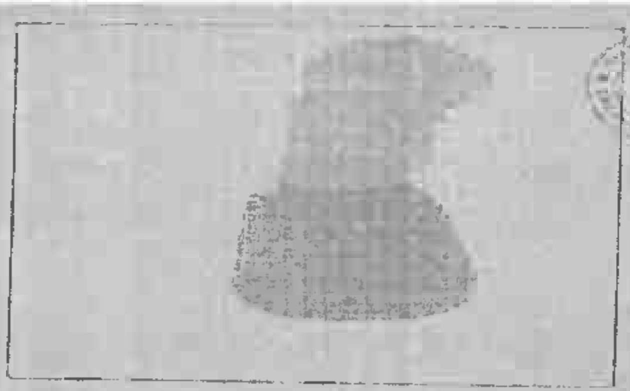

Figure 7 D/1. - Slice Plan of Atri Kimberlite at 360 mRL.

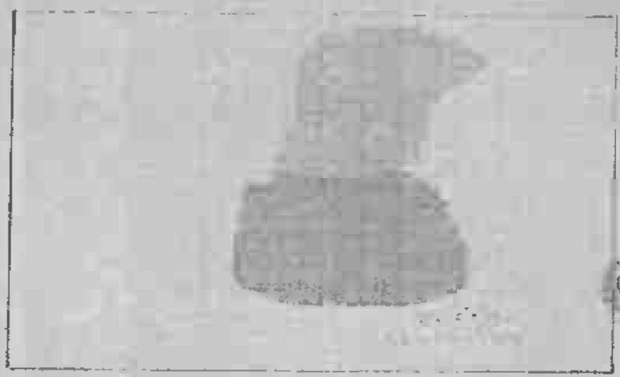

Figure 7 D/2 - Slice Plan of Atri Kimberlite at 350 mRL.

The country rock model groups the host rocks into nine rock 'packages' on the basis of their perceived geotechnical and environmental geochemistry parameters. These units have been incorporated into the block model, and influence pit wall angles in the prefeasibility mine design, and the design and sequencing of the waste rock stockpile. The model also captures major structural discontinuities at the project. These rocks type are summarized in table below.

Lithology	Unit name	Description	Density	Thickness Range in (m)
Upper Kaimur Conglo / SST	UpKaiCS	Polymict sandy conglomerate on hard & friable sandstones, shale partings	2.60	0.4 to 60
Lower Kaimur SST / Conglo	UpKaiSC	Bedded sandstone, green siltstone partings, on graded polymict conglomerate Carbonate matrix.	2.67	1 to 57
Semri SST / Conglo	SemSC	Sandstone with shale parting on quartzite. Competent	2.67	5 to 8
[illegible]ack	S[illegible]BS03	Gray / green-black chloritic shale, siltstone	2.65	3 to 12

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Shale 3		partings. Locally friable,		
Semri Dolomite / SST 2	SemDstS02	Mixed conglomerate, shale-parted sandstone, discontinuous hard limestone.	2.67	2 to 16
Semri Black Shale 2	SemBS02	Bedded, moderately fractured shale, Cream siltstone parting. Locally friable	2.52	8 to 56
Semri Dolomite / SST - 1	SemDstS01	Varied sandy limestone, hard bedded sandstone, minor grey and black shale partings – competent	2.67	0.2 to 14
Semri Black Shale 1	SemBS01	Pyritic grey – black laminated / bedded shale	2.67	1 to 50
Bijawar Purple and Gray shale	BijP & G S	Bedded purple pyritic shale overlying grey laminated & highly pyritic shale	2.78	>100

A resource estimate has been derived from the Density and Incidence of diamonds Block Models constructed by Rio Tinto for the Southern and Northern Atri Resource, for a block model that is well suited to a 10 m bench height. The incidence of diamonds and density models are well populated by exploration data (including geophysical). Subsequently, all the open pit mineable resources were classified as per UNFC.

The designed block model could fully accommodate any modifications to future pit designs. It was determined that a range of +/- 750 m in the east-west direction and +/- 1000 m in the South North direction would be adequate for both the Atri South and North part of Atri. The maximum elevation was taken from the base of the modeled pipe to the highest topography within the selected area. The following tables detail the models limits and parent block size.

	Minimum (m)	Maximum (m)	Range (m)	Parent block size (m)	Number of parent blocks
Easting	325600	327100	1500	50	30
Northing	2690300	2692300	2000	50	40
Elevation	-200	500	700	10	70

3.5 BLOCK MODEL

3.5.1 Considering the pipe size and the sampling / drilling density covering the pipes, a parent block size of 50 m (East-West) by 50 m (North-South) by 10 m (height) was selected. The resultant number of parent blocks in each direction is shown in the table above.

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Twenty-two discreet rock types and / or lithological units have been modeled as a wire frame surface or solid, as listed in the following table :

S. N.	Domain	Unit / Lithology	Model fields			
			Domain code	Geol code	Numeric Geol code	Density
1	Country Rocks	Upper Kaimur CONG/SST	0	UKAICS	31	2.60
2	Country Rocks	Lower Kaimur CONG/SST	0	LKAICS	32	2.67
3	Country Rocks	Semri SST/CONG	0	SEMSC	33	2.67
4	Country Rocks	Semri BLACK SHALE 3	0	SEMBS3	34	2.65
5	Country Rocks	Semri DOL/SST 2	0	SEMDS2	35	2.67
6	Country Rocks	Semri BLACK SHALE 2	0	SEMBS2	36	2.52
7	Country Rocks	Semri DOL/SST 1	0	SEMDS1	37	2.67
8	Country Rocks	Semri BLACK SHALE 1	0	SEMBS1	38	2.67
9	Country Rocks	Bijawar PURPLE & GREY SHALE	0	BIJ	39	2.78
10	Country Rocks	Country Rocks undifferentiated	0	CRx	1	2.67*
11	Country Rocks	Internal waste within pipe	0	XENO	3	2.67
12	Atri South Pipe	South pipe-pyroclastic Kimberlite 1	1	SP1	14	Kriged
13	Atri South Pipe	South pipe-high mag pyroclastic Kimberlite 2	1	SP2MAG	15	Kriged
14	Atri South Pipe	South pipe-pyroclastic Kimberlite 3	1	SP3	16	Kriged
15	Atri South Pipe	South pipe-pyroclastic Kimberlite 4	1	SP4	17	Kriged
16	Atri South Pipe	South pipe-19roclastic Kimberlite 5	1	SP5	18	Kriged
17	Atri South Pipe	South pipe-pyroclastic Kimberlite 6	1	SP6	19	Kriged
18	Atri North Pipe	North pipe-pyroclastic Kimberlite 1	2	NP1	10	Kriged
19	Atri North Pipe	North pipe-pyroclastic Kimberlite 2	2	NP2	11	Kriged
20	Atri North Pipe	North pipe-volcaniclastic Kimberlite 1	2	NV1	13	Kriged
21	Atri North Pipe	North pipe-pyroclastic Kimberlite 3	2	NP3	12	Kriged
22	Colluvium	Colluvium	3	COLV	2	1.90

* Below the Bijawar unit, undifferentiated waste was assigned the density 2.78

3.5.2 The country rock stratigraphical units (Numeric' Code 31 to 39 m in the table above) were each modeled as solids, in three separate regions (North, Southwest and Southeast). The Atri pipe complex was modeled as two intersecting solids and the internal pipe geology and the base of the colluviums were modeled as surfaces. Each of these wire frame models was exported from MICROMINE and imported into DATAMINE via DXF format.

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3.5.3 The wire frames were coded and inspected in the datamine visualize to ensure the integrity of the shapes and confirm that they had been correctly imported.

3.5.4 A datamine script was written to fill each wire frame with blocks and sub blocks and to apply the relevant geological coding to each block. the atri pipe shapes were filled and confined, with north pipe having precedence over south in the overlying region. the internal pipe geology surfaces were filled and added to the pipe block model to code the latter with internal pipe geology (numeric codes 10-19). the blocks lying above the colluviums surface were coded separately (code 2), all blocks above the topographic surface were removed.

3.5.5 Two sections of the model that remain uncoded were located below the bijawar (i.e. mainly below – 150m elevation) and a mall wedge to the far south of the model. neither of these regions is likely to lie within any pit design and therefore, these blocks were assigned to undifferentiated country rock (numeric code1).

3.5.6. Density within Atri pipe

a) The datamine software package trifil was used to select all density measurements from the dataset that lay within the volume of the pipe shapes. this gave a sub set of 2648 readings, with a mean density of 2.60. summary statistics for density data from within pipe wire frames is shown in the following table.

Density Figures in t/m³

	No. of records	Minimum	Maximum	Mean	Standard deviation
Atri North	875	1.38	3.65	2.58	0.12
Atri South	1773	1.81	3.66	2.60	0.08

b) Density of the country rock (side burden)

916 density records lie outside Atri pipe wire frame solid and were therefore, furnished with measurement of the country rock density. The mean value of these was 2.67 which was used as a default density within the waste rock unit, with the following exceotions:

i) Density of Colluvium:

Only 16 density reading with a main value of 2.55, were available from colluviums samples which is considered to high. A value of 1 9 was therefore assigned to this unit in the model.

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ii) **Upper Conglomerate /sandstone (Upper Kaimur)**
For the upper Kaimur unit a value of 2.6 was assigned.

iii) **Semri Block Shale three and two**
These are considered to be less dense than the surrounding units, and were therefore assigned density of 2.65 and 2.52 respectively.

iv) **Bijawar Purple and Gray shale**
These are thought to be denser than the overlying rocks and we have therefore assigned a density of 2.78 in the model. Any undifferentiated rocks below this were also assigned this density value.

3.6 INCIDENCE OF DIAMONDS ESTIMATION

A total of 257 samples weighing 187.18 tonnes have been processed from large diameter (8") Core for incidebce for diamonds estimation. These samples yielded 88.976 carats of diamonds. Each sample was 10m in length (Probable Bench height) with a mean sample weight of 0.725 tonnes. Sample incidence of diamonds was calculated as "Stones Per Tonne" (SPT). The SPT was multiplied by the "Mean Stone Size" (MSS) for the domain to convert the SPT incidence of diamond to "Carats Per Tonne" (Ct/T).

For the purpose of incidence of diamonds estimation 27 samples, were coded either as "colluvium" and / or "waste" and have not been utilized. The remaining samples (230 No.) are treated as two separate domains. The samples from South domain have a mean incidence of diamonds of 0.78 Ct/T, those from the North domain have a mean incidence of diamonds of 0.13 Ct/T.

The summary stations of incidence of diamonds estimate are shown in the following table.

Domain	No. of samples	Mean samples WT / T	Mean grade (Ct/T)
Waste	21	0.646	0.01
South pipe	159	0.747	0.78
North pipe	71	0.701	0.13
Colluvium	6	0.850	0.25
Total	**257**	**(Avg) 0.728**	**(Avg)**

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3.7 GEOTECHNICAL ASSESSMENT STUDY

a desktop study for providing an indicative geotechnical assessment was also conducted in the earlier part of the PL tenure focusing on the Geotechnical parameters for mining particularly focusing on the pit wall slope and waste dump design. The pit wall slope study was based on the Geotechnical data collected during that stage on the drill core of both the kimberlite and the host rocks, which includes the parameters like distribution of the joints sets, bedding plans etc. and the rock mass characterization. As can be seen from the table below, by verifying the slope angle according to the rock type the stability of the pit slope can be addressed effectively.

Rock Type	**Batter Angle**		**Overall Slope Angle**
	Pre Split	**Not Pre Split**	
Sandstone	80°	70°	80°
Shale	70°	60°	40°
Kimberlite	80°	70°	50°

Table 2 Possible preliminary pit slope design angles

To conduct a geotechnical assessment of the pit wall slope stability a Geotechnical drilling program was initiated. Eleven such geotechnical holes were completed within PL period.

4. RESULTS AND RECOMMENDATIONS

The grade drilling work completed so far, the samples collected from the grade drill holes for grade and the bulk samples processing completed for the price estimation provide an improved confidence in arriving at the decision to move the project forward. In addition to this, slim line holes drilled for delineating the margins of the deposit near the surface has aided in improving the confidence about the volume of the ore deposit. The analysis of the geotechnical properties of the rocks in the holes drilled near the ore body and within the proposed mining pit limits provides a better understanding pit slope stability. The holes drilled on the are proposed for the mine infrastructure has helped in sterilization of the area. The analysis of the above mentioned parameters enables development of an effective mine layout.

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5. RESERVES

The southern and northern domains of the Atri deposit have been considered roe resource estimation . the reserve estimation as based on the highly sophisticated "Block Model" of the project developed on the basis of extensive data (geophysical, bulk sampling, drill core etc.) by Rio Tinto.
Confidence in tonnage estimates is a function of the drilling density upon which the volume model is based and the reliability of the bulk density estimate of the kimberlite material.

The density of drilling (LDC, PQ/ HQ/ NQ) in Southern Atri supports a high level of confidence in tonnage and grade estimates for this part of the Resource. The confidence in tonnage and grade estimates in northern Arti is lower because of the reduced sample density.

The density estimate in the southern part of Atri is considered to be adequate for entire depth investigated due to large data set and the QA/QC protocols employed during data collection. Therefore the modeled tonnage from surface to '359'm can be categorized as 1 for geological axis up to a depth of 250 and 2 beyond this depth. Atri North is populated by a significantly lower number of drill holes which leads to lower confidence in density estimates in this part of the ore body.

An open pit mine with a projected diameter of 920m and a depth of 345 / 350m, with overall slope angles of 38° - 40° would contain 41.56 million tonne of ore in the south and 12.14 million tonnes in the north. The average grade of the ore will be 0.78 carats of diamond per tonne of ore reserves in the south and 0.13 in the north. The domain wise and level wise ore reserves estimated are given in Annexure 7.

The confidence levels in the tonnage and grade estimations are sufficient to classify the resource as economically viable under the UNFC classification system.

The southern and northern domains of the Atri deposit have been considered for reserves estimation. The reserve estimation was based on a highly sophisticated "Block model" of the project developed on the basis of extensive data (geophysical, bulk sampling, drill core etc.) by Rio Tinto. ~~The Block model was explained in para 3.6~~

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Confidence in tonnage estimates is a function of the drilling density upon which the volume model is based and the reliability of the bulk density estimate of the Kimberlite material.

The density of drilling (PQ, LDC, HQ) in Southern Atri and Northern Atri is as under:

Domain	PQ	LDC	HQ
Southern Atri	36	21	11
Northern Atri	13	02	-

This supports a high level of confidence in tonnage and incidence of diamonds estimates for Southern Atri part of the Resources. The confidence in tonnage and incidence of diamonds estimates in Northern Atri is lower because of the reduced sample / borehole density.

The density estimate in Atri is considered to be adequate for entire depth investigated due to large data set and the QA/QC protocols employed during data collection. Therefore the modeled tonnage from surface to 210 mRL can be categorized as 1 for geological axis up to a depth at 235 m due to higher density of boreholes upto 210 mRL. Below 210 mRL, the density of borehole is lesser. Hence, the reserves of Atri South below 210 mRL upto 100 mRL are categorized as 2 for geological axis. In case of North domain, the reserves upyo 420 mRL are categorized as 1 for geological axis due to sufficient borehole data available. Below that level, the reserves are categorized as 2 for geological axis. The benchwise / slicewise reserves of North & South domain, with average grade along with waste to be handled from 440 mRL to 100 mRL is given at the table below:

Ore, Reserves & Grade							
Between Slice mRL	South domain			North domain			Waste (Tonnes)
	Tonnes	Grade Ct/t	UNFC Code	(Tonnes)	Grade Ct/t	UNFC Code	
Above - 440	-	-		-	-	-	4816
430 – 440	-	-	-	269357	0.13	121	11395
420 - 430	561215	0.837	111	747694	0.13	121	11927
410 – 420	2108176	0.729	121	1,134931	0.13	122	9236
400 – 410	2078502	0.723	121	1,150648	0.13	122	8597
390 – 400	2041710	0.704	121	1,142080	0.13	122	7954
380 – 390	1997789	0.688	121	1,121097	0.13	122	7354
370 – 380	1953639	0.678	121	1,035508	0.13	122	6810
360 – 370	1908253	0.677	121	934669	0.13	122	6271
350 – 360	1892161	0.679	121	818770	0.13	122	5626
340 – 350	1848974	0.702	121	719496	0.13	122	5065
330 – 340	1781789	0.719	121	647213	0.13	122	4589
320 – 330	1736576	0.736	121	580795	0.13	122	4138

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310 – 320	1701762	0.744	121	463098	0.13	122	3741
300 – 310	1650933	0.743	121	379000	0.13	122	3355
290 – 300	1596146	0.751	121	318026	0.13	122	2991
280 – 290	1535923	0.741	121	250287	0.13	122	2639
270 – 280	1448249	0.777	121	180114	0.13	122	2371
260 – 270	1413667	0.76	121	122391	0.13	122	2078
250 – 260	1355448	0.778	121	64653	0.13	122	1813
240 – 250	1303005	0.784	121	38890	0.13	122	1520
230 – 240	1227659	0.814	121	15037	0.13	122	1281
220 -230	1166269	0.817	121	3782	0.13	122	1023
210 -220	1096215	0.804	121	-	-	-	810
200 – 210	1052728	0.818	122	-	-	-	589
190 – 200	997969	0.834	122	-	-	-	389
180 – 190	937181	0.879	122	-	-	-	227
170 – 180	865332	0.885	122	-	-	-	93
160 – 170	727412	0.854	122	-	-	-	35
150 – 160	572212	0.847	122	-	-	-	10
140 – 150	417229	0.855	122	-	-	-	-
130 – 140	285160	0.812	122	-	-	-	-
120 – 130	186655	0.813	122	-	-	-	-
110 – 120	98976	0.842	122	-	-	-	-
100 – 110	16861	0.842	122	-	-	-	-
Total Tonnage	**41561775**			**12137536**			**118756.179**

An open pit mine with a projected diameter of 920 m and a depth of 345 m, with overall slope angles of 38° - 40° would contain 41.56 million tonne of ore in the south domain and 12.14 million tonnes in the north domain. The average incidence of diamonds of the ore will be 0.78 carat of diamond per tonne of ore reserves in the south and 0.13 carat/t in the north. The estimated recovered Diamond from 53.70 million tonne ore material will be approximately 34.20 million carats.

The confidence levels in the tonnage and incidence of diamonds estimations are sufficient to classify the Resources as economically mineable reserves under the UNFC classification system.

5.1 United Nations Framework Classification (UNFC)

5.1.1 Overview

The UNFC is a universally applicable scheme for classifying / evaluating mineral reserves/resources . The classification consists of three dimensional axial systems which include geological assessment, feasibility assessment and economic viability, expressed as a three digit code based system. The economic viability of project presents the first digit, the feasibility axis the second digit and the geology axis the third digit. Three main category are used to describe the economic viability, three to describe feasibility and four to describe the level of geological knowledge.

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The status of Bunder Diamond project may be assessed as follows:

5.1.2 Economic Axis

The Atri Resource is considered to be economic (E1) under current competitive market conditions, satisfying the UNFC classification for this axis in the following areas:

5.1.2.1 General and Detailed Exploration.

General and detailed exploration has been conducted for the Atri Resource. Geological studies have sought to assemble the relevant ore body knowledge for Atri. Evaluation campaigns have been targeted at establishing tonnage and grade supplemented by data collection relevant to metallurgy, geotechnical engineering and mine environment issues. These geological investigations include extensive mapping, detailed geochemical and geophysical surveys, close space drilling and trenching. The details of these investigations are provided in the summary of the Geological Axis in section 5.1.4.

Price has been estimated from diamonds recovered from LDC and trench samples processed at the Bulk Sample Processing Plant. The recovered Diamonds are sorted into size, colour and quality categories that have an associated price based on accurately recorded market values.

5.1.2.2 Specific end-use grades (above economic cut-off grade)

Sensitivity analyses has been undertaken to test economic viability against key input variables of price, grade, operating cost and pit slopes. The worst anticipated combination of these inputs has still delivered a viable project, also demonstrated in the difference between the calculated marginal cut-off grade and the average grade of the resource.

The marginal economic cut off grade calculated for the Atri Resource is 0.1 carats per tonne (Cts/T) which is well below the average grade of the resource. The cut off grade is based on operating cost estimates around a highly mechanized technically advanced Rio Tinto Diamond operation in India. The average grade of southern Atri from which the majority of ore will be mined (41.56 Million Tonnes) is 0.78 Cts/T the average grade for the North Arti from which 12.14 Million Tonnes will be mined is 0.13 Cts/T.

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5.1.2.3 Land use Data

The area is fully situated in a protected forest area, the cost of purchasing compensatory land of the same size as the mining lease has been considered during the evaluation of the economic viability of the project.

5.1.3 Feasibility Axis

A detailed prefeasibility study has been completed for the project. Geological , engineering, environmental, legal and economic information has been evaluated during the course of the study. The resource has been categorized at F1 upto 200m RL & 100m RL on the Feasibility axis of the UNFC classification. A summary of the work completed against the requirements for the classification is provided below:

5.1.3.1 Geology

General and detailed exploration has been conducted for the Atri Resources. The ore body limits and surrounding host rocks are well defined on the basis of extensive drilling. The Geotechnical properties of surrounding host rocks have been assessed and numerically modeled to determine the optimal slopes angles for the proposed open pit in the different litho logical units.

5.1.3.2 Mining

The scale of the operation and economic viability has been confirmed over a wide range of anticipated costs, diamond price, pit slopes, recoveries and process throughput rates using pit optimization software and detailed Mining Planning.

An open pit containing 54.04 Mt of ore, measuring 920m in diameter and 345m in depth from the floor of first bench has been designed. The open pit will be developed in phases to optimize cash flow by deferring waste movement within permissible safety limits.

The current operating life of the Atri open pit is anticipated to be 11 years life, however additional mineral resources have been identified at depth beneath Southern Atri and in the Angiras ore body would add an additional 13 years of mining, extending the overall mine life to 24 years potential for additional resources with the mining lease also exist from Geophysical exploration targets not yet fully explored. A detailed exploration programme has been developed to further evaluate resources and exploration targets with the Mining lease during first two years of start of mining operation.

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A mine fleet comprised of 100t capacity trucks and $18m^2$ face shovels has been specified as optimum for the material movements required. Ancillary equipments to support mine production has also been defined. A detailed breakdown of Capital and Operating cost estimates relating to mining have been developed based on the company's experience of similar operations in Australia, Africa and Canada.

5.1.3.3 Environmental Aspects:

Baseline environment data has been collected in 2008-2009 and again in 2010-2011. No potential environmental constraints to the project have been identified.

5.1.3.4 Processing

A production process plant has been designed on the bases of information gathered from the processing of large diameter drill core and bulk samples excavated from trenching at the bulk Sample Processing Plant located at the project site. The information obtains indicates that the ore is amenable to processing using traditional process plant designs used in other diamond operations by the Company. Additional metallurgical studies based on spatially representative slim hole drill core has also provided information to support large scale Production Process Plant design. A detailed breakdown of Capital and Operating cost has been evaluated during the course of the design.

5.1.3.5 Infrastructure:

Infrastructure requirements supporting the mine's operations have been considered for the project and are detailed as follows. The process plant, maintenance workshop and administrative building are proposed to be located within the mining lease area. Access road, to and from the mine operation; have been selected to minimize the impact on local communities. Power demand requirements for the operations are understood, sufficient power supply for the operation is available from the utility grid. An application has been made to the Madhya Pradesh State electricity Board to supply the required electrical power to the project.

5.1.3.6 Costing:

A detailed breakdown of capital, Operating and Working Capital costs relating to infrastructure development, mining, processing, closure and support services has been considered for the operation.

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5.1.3.7 Marketing:

Three studies assessing diamond quality and marketability of the diamonds recovered from exploration samples have been completed by experienced diamond experts from the parent company's sale and marketing teams in 2007, 2010 and 2011. The reports indicated that the size, shape, clarity and colour distribution of the diamond recovered from the samples pose no marketability risks in the current market.

5.1.3.8 Economic Viability:

Cash flow studies for the project have considered the impacts of key economic variables such as inflations currency fluctuations, taxes and royalties. Sensitivity analysis indicates that the project is viable or over a wide range of diamond prices, capital and operating costs.

5.1.4 Geological Axis

The geological understanding of the Arti orebody is considered to be reasonably assured based on the exploration work completed. An accurate three dimensional model of the orebody and surrounding host rocks has been developed from extensive surface mapping, geophysical survey, drill hole and trenching information. The resources has been categorized at G1 upto 200m RL and G2 from 200m RL upto 100m RL on the geological axis of the classification system. A summary of the work completed against the requirements for the classification is provided below.

5.1.4.1 Geological Survey:

Detailed surface structural and geological mapping has been undertaken, maps include surface geological features, the locations of the trenches and the collar coordinates of boreholes drilled.

5.1.4.2 Geochemical Survey:

A comprehensive regional stream sediment sampling programme to identify indicator minerals commenced in 2002, 530 samples were taken over the Domah west Reconnaissance Permit area covering 2450 km². the results of the programme subsequently prompted a localized soil geochemical sampling programme over the Atri area in 2003/04.

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5.1.4.3 Geophysical survey:

Ground geophysical surveys and downhole geophysical surveys have been conducted over the Bunder mine area. A total of 1095 line km of ground magnetic surveys, 7.2 line km of orientation Neno TEM surveys were completed on 8 grids within the kimberlite anomalous catchments, which identified a number of magnetic anomalies in the project area which include the Arti orebody. Down hole Gamma, resistivity, seismic and acoustic televiewer surveys were subsequently conducted on selected drill holes over the Atri Resources.

5.2 Reserves Summary

Total reserves up to depth of 345 / 350 m (100 m RL) is 53.70 Mt as under:

South Atri 41.56 Mt @ 0.78 ct / t

North Atri 12.14 Mt @ 0.13 ct / t

These are classified as under:

Proved – upto 200 mRL – 36.46 Mt UNFC Classification 111

Probable from 200 mRL to 100 mRL –17.24 Mt. UNFC Classification 122

*UNFC Classification of estimated reserves is given in ~~Annexure 8.~~

6. CONCLUSIONS AND RECOMMENDATIONS

RTEI has explored its Bunder PL area with maximum speed, safety and efficiency in a technical competent manner. As a result of these diligent efforts it has been able to delineate a definitive area that is prospective for economically minable diamondiferous kimberlites.

The Bunder kimberlite are being evaluated for their diamond potential based on their results from the samples processed in the Bunder DMC Plant.

Additional work is required to obtain more confidence in the reserves below 200 mRL and to increase the reserve.

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7.0 BULK SAMPLES PROCESSING REPORT

7.1 Introduction

Rio Tinto Exploration India Private Ltd. is engaged in drilling a grid of large diameter core holes (8' diameter) on the Bunder Atri lamproite, with the objective of determining global grade for the resource within the confidence limits required by the Prefeasibility Study. Diamonds recovered from the core sample will contribute towards estimation of the diamond size-value distribution for the resource. The results of the sample treatment will also provide valuable information to enable the ore at depth to be characterized for future mining and plant treatment design purposes.

Core was logged on location, sampled for density determination, and manually broken to a maximum size of 80mm. the material was aggregated into 10m intervals and transferred into 1m3 bulk bags. Aluminum tags inscribed with the sample number were placed inside each bag, and the sample number written on the sides of the bag. Sample bags were sealed on top with numbered security sealed and were then transported to Sample processing plant (SPP) at Bunder by road.

Samples from LD holes are transported to the processing plant. The samples were accompanied by Log-sheets detailing sample numbers, hole description, depth and seal details. A chain of custody sheet also accompanied the consignment, and was verified and signed off as the samples were unloaded.

Unusually the first samples from all the holes it are logged as black silty soil and colluviums with sandy silty soil and big boulders of sand stone. There is a zone of extremely weathered lampoite to depth of upto 8-10m. This is followed by more fresh lamproit.

7.2. Plant Description and Flowsheet

The mineral processing facility at Bunder is equipped with a DMS plant with 10tph capacity, based on proprietary Rio Tinto design specifications and supplied by ADP. The planned was commissioned in Jan 2010 and has been in use for processing of bulk samples and LDCs since then. The plant flowsheet described below was used for the processing of 8-inch Large Diameter Core samples. A diagrammatic flowsheet of Sample Processing Plant (SPP) is shown in (Figure 1). Note that all screen sizes represent square aperture sizes.

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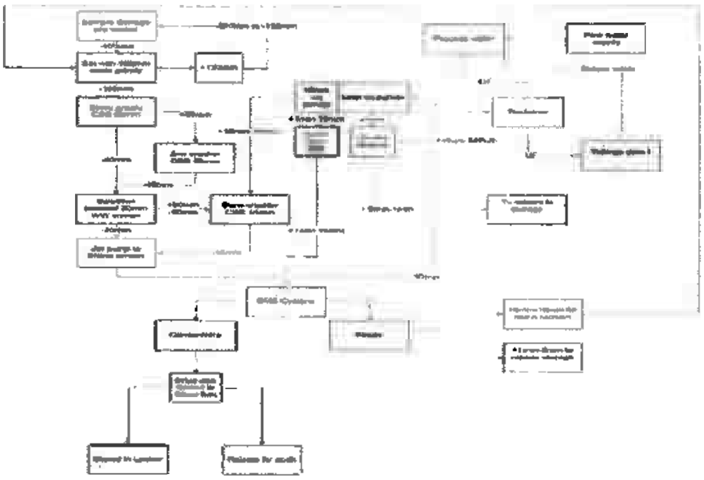

Figure 1 Diagrammatic flowsheet of Sample Processing Plant

7.3. Security

In terms of the standard of the standard hierarchy of security controls, physical separation of personnel from product provides the greatest level of protection for employees as well as product. This is achieved at all stages following the preparation of a concentrated DMS through use of caging or dock-lock containers, and final diamond recovery in locked glove boxes. A second level of protection is provided through direct surveillance by independent security personnel and camera surveillance.

Security guards were stationed within the processing area of at all times of oversee the exchange and sealing of concentrate containers and collecting of samples for data capture work. In addition to that all critical containers like the concentrate sizing screen, dewatering, X-ray Glove box containers remain locked at all times and would opened for the work only on request to the security control room in the presence of security guards. Fixed and PTZ cameras are fitted in the DMS plant area to monitor activities, with particular focus on the DMS sink screen, concentrate locking area and X-ray rejects paddock.

- The concentrate drying area, including the infra-red drier is fitted with multiple fixed cameras. Cameras are also installed within the recovery

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glove boxes. All equipment used for processing of concentrate is caged off to prevent access to product.

- Cameras are also provided in the cleaning and valuation containers and a security guard is stationed at all times during the cleaning process.
- All camera feeds are routed to a surveillance room with restricted access. Data is stored for 30 days.

7.4. Plant decontamination

Prior to commencing sample treatment, the plant was fully decontaminated. This process involves wash-down of all conveyors and chutes, scrubbing and spray-down of all screens with high-pressure water. On completion of each 10m interval sample, the plant was flushes with water and all conveyors and screen washed down with high pressure water hoses. The wash down of the feed preparation section commenced as soon sa the sample treatment was completed, ensuring that all spillage or material held up in the feed bin, scrubbed and primary crusher was flushed through to the DMS. Any material recovered during full decontamination was added to the concentrate from the final recrush interval.

7.5. DMS Calibration

The Bunder facility operates a 10tph DMS plant built by ADP according to proprietary specifications. Prior to initiating sample processing, a full Tromp curve determination was completed using 4mm Partition Enterprises tracer over the SG range of 2.50 to 3.53. this determination was repeated at the start of every week or after a break in processing.

Daily quality control procedures conducted on the mini-DMS include the following:

1. Daily tracer tests are performed using 3.4 and 3.53 SG tracers. Full tracer recovery is required prior to initiating sample processing.
2. The Degrit cyclone underflow is monitored for +1mm material to identify wear or damage to the 1mm screen panel on the prep screen and

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3. Regular measurement of cyclone differentials and underflow densities to ensure the cut points remains below 3.1RD.

7.6. Feed Preparation

Bulk bags were weighed, hoisted over the plant feed-bin, and slit to discharge into the feed hoper. A grizzly (120mm) with a tipping ramp is fixed over the feed bin, to ensure that only <120mm material goes into the bin. +120mm material falling over the grizzly is contained in the over size material area and is crushed by a 400m BHP Bazer make crusher.

A sample of approximately 2kg was collected off the primary conveyor for each bulk bag for determination of the moisture content of the feed, and the dry headfeed weight was calculated. (the dried moisture sample was returned to the primary conveyor for processing with the parent sample). Material was fed from the feed hoper onto the primary conveyor via variable speed belt feeder. The discharge from the primary conveyor goes onto the primary jaw crusher (Osborne Telesmith SA 128, 305×203mm crusher, CSS`40mm) followed by a scrubber &trammel (@30mm), with the +30mm material from the scrubber going to the cone crusher (Osborne 24S Gyrasphere crusher) Water was added into the scrubber, in the approximate ratio of 1:1 sample: water. The scrubber/trammel arrangement is tyre-mounted, with the scrubber measuring 2.60m in length and 1.35m in diameter, followed by a 1.0m long trammel with a 30mm opening. The scrubber is fitted with lifters for proper scrubbing of material. Residence time in the scrubber varied from sample to sample depending on the plant feed rate. The over-size from the trammel passes on to the cone crusher chute, discharge of which is controlled with a knife value. The undersize passes on to a jet pump, and get pumped to the DMS feed preparation screen. The feed preparation screen has panels with two different size openings, 1mm followed by 16mm. on the feed preparation screen, the <1mm material gets screened and passes onto the degrit module and +1mm material gets screened on to the 16mm panel, where the <16+1mm material getspasses on to the DMS module. The oversize from the feed preparation screen falls onto the crusher chute, from where it gets to cone crusher for further crushing. The CSS setting of the cone crusher was set to approximately

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14mm. at the end of processing the scrubber was reversed to ensure complete discharge of material to the cone crushed feed chute.

7.7 DMS Concentration

Feed to the DMS plant was pumped via the jet pump at the cone crusher discharge onto the feed preparation screen, fitted with 1mm square aperture Multotes (giving an effective cut size of 0.85mm).under from the feed preparation screen was pumped to a Degrit cyclone, with the overflow to draining to thickener feed tank. The under size discharge over the @0.5mm where the +0.5mm is discharges onto the course rejects paddock and then <0.5mm to the thickener feed tank below it from where it gets pumped to the thickner. The discharge from the degrit cyclone is measured to ensure that the > 1mm percentage in this fraction doesn't exceed more than 5% of the total underflow. This is then to ensure that the prep screen panels are intact and have no damage.

The thickener is dosed with an appropriate amount of flocculent to ensure proper setting of fines in the water for getting the water back for process. The thickener under flow pump is operated based on the quality of process water, the thickener pump is operated to dump the slimes to the dam, when the process water turns murky.

The <16mm material from the feed preparation screen is pumped to a 250 mm Multotec Cast Iron cyclone. The cyclone sink product (concentrate) discharge onto the sinks screen fitted with 1mm square mesh. Water sprays are used to wash medium off the concentrate prior to discharge into 20 liter plastic drums [with perforated bases (0.85) to allow drainage]. The concentrate discharge area is covered by a surveillance camera and also a security guard is physically present to restrict access. The plastic concentrated drums were weighed, labeled, and sealed when full, or on completion of a sample. The cyclone floats product discharged onto a double deck screen with 6mm and 1mm square mesh vibrating screen fitted with water spray to wash medium off the ore. The +6mm material gets discharge into the course floats paddock and <6+1mm floats onto the fine floats paddock. Samples are collected from both the fractions to determine the moisture content and for sizing. The course floats

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were taken off from the paddock and stored in a bay for processing after recrushing it to <6mm. the fine floats are stored in bulky bags for audit purpose.

7.8. Recrush Circuit

The +6mm-16mm DMS floats from primary processing of each sample were treated as a separate sample in order to determine the degree of Diamond liberation through secondary crushing and scrubbing of the ore. Cone crusher is reset with the CSS set to 5mm and the 16mm panel from the feed prep screen is replaced by a 6mm panel for the recrush operation. For optimal performance, the cone crusher is required to be run under choke-fed conditions. When the headfeed rate was insufficient for chocked operation, a knife-valve on the feed-chute to the cone crusher was closed to allow built-up of material. Sizing of the -6+1mm fraction of the double deck screen was performed daily to monitor crusher performance. In addition to this the moisture of the feed and presence of +1mm material in the degrit cyclone underflow are also monitored to ensure that the plant is operating at optimum condition.

7.9. Recording of Processing Data

All monitoring and processing data were recorded on daily log-sheets signed-off by the shift supervisors. Processing data were transferred to an Excel workbook, with independent checking for transcription errors performed. On completion of processing all samples from a drill hole the final data for entry into database.

7.10. DMS Concentrate Processing

The DMS concentrate is weighed and dried into an infra-red drier for drying. The concentrate is then sized into- 4+2mm and -2+1mm fractions. The -4+2mm fractions are observed in sealed glovebox by trained sorters.

7.11. Diamond Recovery: +2mm Concentrate Hand-Sort

The recovered diamonds are stored in an on-site diamond safe, which always remains sealed by Directorate of Mining and Geology (DMG) officials. These

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seals are opened only on request and record of material taken out by us is made and signed-off by a DMG official and a RT representative.

7.12 Diamond Recovery: -2mm Concentrate Fusion and Hand-Sort

The -2mm concentrate is subjected to concentrate fusion and then the residue is then picked again, by the same trained sorters.

7.13. Sample Results Summary

All of 349 samples totaling 262.66 tonnes from LDC holes and 29 samples totaling 36000.85 tonnes were collected from pits (details of these samples are provided in the table below) were chosen for processing. There was no blending involved with the samples as these were collected for the grade and price assessment. A total of 22115 commercial sized[2] stones weighing a total of 2020.40 carats were recovered.

The inferences drawn from the entire study are that the grade varies to a significant amount between the samples from LDC holes with a maximum of 3.56 cts/tonne and minimum is 0.01 cts/tonne, with an average sample grade of 0.55 cts/tonne. This is a different for bulk samples where the maximum is 1.99 cts/tonne and the minimum of 0.03 cts/tonne, with an average sample grade of 0.95 cts/tonne.

The major stages of processing are : *Primary Circuit, Recrush Circuit*, and -2mm concentrate fusion *(-2mm CF)*

The table 1 & 2 below summarize the details of the diamond recoveries at these stages of processing of each sample processed are given below:

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Annexure-1 Drill Hole Lithology

HoleID	From	To	Code	Lithology
B28-001	0	4.5	COLV	Colluvium
B28-001	4.5	11.2	SPRK	Saprock
B28-001	11.2	13.5	SPRK	Saprock
B28-001	13.5	26.35	SPL	Southern Pyroclastic Lamproite
B28-001	26.35	37.4	SPL	Southern Pyroclastic Lamproite
B28-001	37.4	59.5	SPL	Southern Pyroclastic Lamproite
B28-001	59.8	64.1	SPL	Southern Pyroclastic Lamproite
B28-001	64.10	73.00	SPL	Southern Pyroclastic Lamproite
B28-001	73.00	86.20	SPL	Southern Pyroclastic Lamproite
B28-001	86.20	110.50	SPL	Southern Pyroclastic Lamproite
B28-001	110.50	147.90	SPL	Southern Pyroclastic Lamproite
B28-001	147.90	149.65	MgL	Magmatic Lamproite
B28-001	149.65	191.00	SPL	Southern Pyroclastic Lamproite
B28-001	191.00	210.00	SPL	Southern Pyroclastic Lamproite
B28-001	201.00	229.00	SPL	Southern Pyroclastic Lamproite
B28-001	229.00	248.90	SPL	Southern Pyroclastic Lamproite
B28-001	248.90	260.22	SPL	Southern Pyroclastic Lamproite
B28-002	0.00	6.20	COLV	Colluvium
B28-002	6.20	14.50	SPLT	Saprolite
B28-002	14.50	15.70	SPRK	Saprock
B28-002	15.70	21.70	SPL	Southern Pyroclastic Lamproite
B28-002	21.70	29.00	SPL	Southern Pyroclastic Lamproite
B28-002	29.00	35.40	SPL	Southern Pyroclastic Lamproite
B28-002	35.40	42.45	SPL	Southern Pyroclastic Lamproite
B28-002	42.45	59.60	SPL	Southern Pyroclastic Lamproite
B28-002	59.60	94.30	SPL	Southern Pyroclastic Lamproite
B28-002	94.3	98.7	SPL	Southern Pyroclastic Lamproitr
B28-002	98.7	100.8	SPL	Southern Pyroclastic Lamproitr
B28-002	100.8	130.6	SPL	Southern Pyroclastic Lamproitr
B28-002	130.6	149.4	SPL	Southern Pyroclastic Lamproitr
B28-002	149.4	149.85	SPL	Southern Pyroclastic Lamproitr
B28-002	149.85	150.68	SHLE	Shale
B28-002	150.68	151.48	SDST	Sandstone
B28-002	151.48	161	SHLE	Shale
B28-002	161	163.28	SDST	Sandstone
B28-002	163.28	171.5	SHLE	Shale
B28-002	171.5	177.5	SHLE	Shale
B28-002	177.5	178.34	SDST	Sandstone
B28-003	0	9.5	COLY	Colluvium
B28-003	9.5	52.7	PL	Pyroclastic Lamproite

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B28-003	52.7	66.1	PL	Pyroclastic Lamproite
B28-003	66.1	67.7	PL	Pyroclastic Lamproite
B28-003	67.7	79.95	PL	Pyroclastic Lamproite
B28-003	79.95	81.9	PL	Pyroclastic Lamproite
B28-003	81.9	90.2	PL	Pyroclastic Lamproite
B28-003	90.2	94.55	PL	Pyroclastic Lamproite
B28-003	94.55	99.95	PL	Pyroclastic Lamproite
B28-003	99.95	108.4	PL	Pyroclastic Lamproite
B28-003	108.4	111.5	PL	Pyroclastic Lamproite
B28-003	111.5	117.6	PL	Pyroclastic Lamproite
B28-003	117.6	120.3	PL	Pyroclastic Lamproite
B28-003	120.3	144.55	SHLE	Shale
B28-003	144.55	149.9	SDST	Sandstone
B28-003	149.9	151.75	SHLE	Shale
B28-004	0	23.5	COLV	Colluvium
B28-004	23.5	64.3	MgL	Magmatic Lamproite
B28-004	64.3	82.3	MgL	Magmatic Lamproite
B28-004	82.3	111.5	PL	Pyroclastic Lamproite
B28-004	111.5	164	PL	Pyroclastic Lamproite
B28-004	164	192	PL	Pyroclastic Lamproite
B28-004	192	204	PL	Pyroclastic Lamproite
B28-004	204	216.16	TL	Transitional Textured Lamproite
B28-005	0.00	4.50	COLV	Colluvium
B28-005	4.5	11.2	SPLT	Saprolite
B28-005	11.2	13.5	SPRK	Saprock
B28-005	13.5	19.2	SPL	Southern Pyroclastic Lamproite
B28-005	19.2	28.15	SPL	Southern Pyroclastic Lamproite
B28-005	28.15	36.3	SPL	Southern Pyroclastic Lamproite
B28-005	36.3	52.95	SPL	Southern Pyroclastic Lamproite
B28-005	52.95	70.4	SPL	Southern Pyroclastic Lamproite
B28-005	70.4	75.6	SPL	Southern Pyroclastic Lamproite
B28-005	75.6	84.1	SPL	Southern Pyroclastic Lamproite
B28-005	84.1	91.3	SPL	Southern Pyroclastic Lamproite
B28-005	91.3	103.65	SPL	Southern Pyroclastic Lamproite
B28-005	103.65	121.2	SPL	Southern Pyroclastic Lamproite
B28-005	121.2	127.6	SPL	Southern Pyroclastic Lamproite
B28-005	127.6	164.4	SPL	Southern Pyroclastic Lamproite
B28-005	164.4	171.3	SPL	Southern Pyroclastic Lamproite
B28-005	171.3	184.9	SPL	Southern Pyroclastic Lamproite
B28-005	184.9	193	SPL	Southern Pyroclastic Lamproite
B28-005	193	194	SPL	Southern Pyroclastic Lamproite
B28-005	194	206.7	SPL	Southern Pyroclastic Lamproite
B28-005	206.7	211	McL	Magmaclastic Lamproite

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B28-005	211	214.5	DLST	Dolostone
B28-005	214.5	219.7	DLST	Dolostone
B28-005	219.7	240.3	CB	Contact Breccia
B28-005	240.3	144.75	DLST	Dolostone
B28-005	244.75	250.7	SDBX	Sedimentary Breccia
B28-005	250.7	268.73	DLST	Dolostone
B28-006	0	2.3	COLV	Colluvium
B28-006	2.3	20.7	COLV	Colluvium
B28-006	20.7	21.7	SPRK	Saprock
B28-006	21.7	22.7	McL	Magmaclastic Lamproite
B28-006	22.7	45.1	McL	Magmaclastic Lamproite
B28-006	45.1	49.05	PL	Pyroclastic Lamproite
B28-006	49.05	49.25	SDST	Sandstone
B28-006	49.25	53	McL	Magmaclastic Lamproite
B28-006	53	54.85	McL	Magmaclastic Lamproite
B28-006	54.85	58.3	PL	Pyroclastic Lamproite
B28-006	58.3	64.6	PL	Pyroclastic Lamproite
B28-006	64.6	107.98	McL	Magmaclastic Lamproite
B28-006	107.98	108.45	McL	Magmaclastic Lamproite
B28-006	108.45	110.45	MgL	Magmatic Lamproite
B28-006	110.45	110.9	MgL	Magmatic Lamproite
B28-006	110.9	122	PL	Pyroclastic Lamproite
B28-006	122	123.2	PL	Pyroclastic Lamproite
B28-006	123.2	158.9	PL	Pyroclastic Lamproite
B28-006	158.9	166.15	QTZIT	Quartzite
B28-006	166.15	168.8	SDST	Sandstone
B28-006	168.8	189.6	TL	Transitional Textured Lamproite
B28-006	189.6	200.4	SDST	Sandstone
B28-006	200.4	201	MgL	Magmatic Lamproite
B28-006	201	221.8	SDST	Sandstone
B28-006	221.8	237	SDST	Sandstone
B28-006	237	255.6	SDST	Sandstone
B28-006	255.6	272.9	SHLE	Shale
B28-007	0	15	COLV	Colluvium
B28-007	15	60.01	SDST	Sandstone
B28-007	60.01	69.6	SHLE	Shale
B28-007	69.6	72.1	CNGL	Conglomerate
B28-007	72.1	72.6	CB	Contact Breccia
B28-007	72.6	82	PL	Pyroclastic Lamproite
B28-007	82	88.5	SDST	Sandstone
B28-007	88.5	101.85	PL	Pyroclastic Lamproite
B28-007	101.85	103.1	PL	Pyroclastic Lamproite
B28-007	103.1	111	PL	Pyroclastic Lamproite

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B28-007	111	121	PL	Pyroclastic Lamproite
B28-007	121	122.8	PL	Pyroclastic Lamproite
B28-007	122.8	129.6	PL	Pyroclastic Lamproite
B28-007	129.6	130	SDST	Sandstone
B28-007	130	135.9	TL	Transitional Textured Lamproite
B28-007	135.9	143.5	QTZIT	Quartzite
B28-007	143.5	146.95	SDST	Sandstone
B28-007	146.95	170.5	SHLE	Shale
B28-008	0	20.15	COLV	Colluvium
B28-008	20.15	21.4	MgL	Magmatic Lamproite
B28-008	21.4	29.2	PL	Pyroclastic Lamproite
B28-008	29.2	54	PL	Pyroclastic Lamproite
B28-008	54	59.15	PL	Pyroclastic Lamproite
B28-008	59.15	66.2	PL	Pyroclastic Lamproite
B28-008	66.2	71.4	PL	Pyroclastic Lamproite
B28-008	71.4	77.05	PL	Pyroclastic Lamproite
B28-008	77.05	80.04	QTZIT	Quartzite
B28-008	80.04	89.4	CNGL	Conglomerate
B28-008	89.4	93.8	QTZIT	Quartzite
B28-008	93.8	101.4	QTZIT	Quartzite
B28-008	101.4	130	SHLE	Shale
B28-009	0	4.6	COLV	Colluvium
B28-009	4.6	7.15	PL	Pyroclastic Lamproite
B28-009	7.15	33.15	PL	Pyroclastic Lamproite
B28-009	33.15	69.3	PL	Pyroclastic Lamproite
B28-009	69.3	84.3	PL	Pyroclastic Lamproite
B28-009	84.3	119.3	PL	Pyroclastic Lamproite
B28-009	119.3	146.7	PL	Pyroclastic Lamproite
B28-009	146.7	167.5	PL	Pyroclastic Lamproite
B28-009	167.5	195.7	SDST	Sandstone
B28-009	195.7	212.45	SDST	Sandstone
B28-009	212.45	221.5	SHLE	Shale
B28-009	221.5	224.2	MgL	Magmatic Lamproite
B28-009	224.2	243.5	SHLE	Shale
B28-010	0	2.7	COLV	Colluvium
B28-010	2.7	11.7	SPRK	Sparock
B28-010	11.7	14.7	SPL	Southern Pyroclastic Lamproite
B28-010	14.7	95	SPL	Southern Pyroclastic Lamproite
B28-010	95	127	SPL	Southern Pyroclastic Lamproite
B28-010	127	152	SPL	Southern Pyroclastic Lamproite
B28-010	152	173.2	SPL	Southern Pyroclastic Lamproite
B28-010	173.2	178.95	SPL	Southern Pyroclastic Lamproite
B28-010	178.95	180.25	SPL	Southern Pyroclastic Lamproite

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B28-010	181.9	219.6	SDST	Sandstone
B28-010	219.6	230.7	SHLE	Shale
B28-011	0	7	COLV	Colluvium
B28-011	7	16.6	CNGL	Conglomerate
B28-011	16.6	18.2	SDST	Sandstone
B28-011	18.2	22.3	SDST	Sandstone
B28-011	22.3	29.64	SDST	Sandstone
B28-011	29.64	31.8	SDST	Sandstone
B28-011	31.8	67.8	SDST	Sandstone
B28-011	67.8	79	CNGL	Conglomerate
B28-011	79	84.2	DLST	Dolostone
B28-011	84.2	152	SHLE	shale
B28-011	152	169.85	SHLE	shale
B28-011	169.85	175.4	DLST	Dolostone
B28-011	175.4	181.3	SHLE	shale
B28-011	181.3	187.8	QTZIT	Quartzite
B28-012	0	19.1	COLV	Colluvium
B28-012	19.1	21.9	SPRK	Saprock
B28-012	21.9	53.2	PL	Pyroclastic Lamproite
B28-012	53.2	76.95	PL	Pyroclastic Lamproite
B28-012	76.95	87.4	PL	Pyroclastic Lamproite
B28-012	87.4	93.73	DLST	Dolostone
B28-012	93.73	116	DLST	Dolostone
B28-012	116	140.8	SHLE	shale
B28-013	0	16.4	COLV	Colluvium
B28-013	16.4	31.95	SDST	Sandstone
B28-013	31.95	47.2	SDST	Sandstone
B28-013	47.2	54	SDST	Sandstone
B28-013	54	55.5	SDST	Sandstone
B28-013	55.5	60.9	SDBX	Sedimentry Breccia
B28-013	60.9	61.3	SDST	Sandstone
B28-013	61.3	102.15	VL	Volcaniclastic Lamproite
B28-013	102.15	156.3	VL	Volcaniclastic Lamproite
B28-013	156.3	157.8	VL	Volcaniclastic Lamproite
B28-013	157.8	204.5	VLB	Volcaniclastic Lamproite Breccia
B28-013	204.5	242.3	MgLB	Magmatic Lamproite Breccia
B28-013	242.3	259.78	CB	Contact Breccia
B28-013	259.78	300.3	SHLE	Shale
B28-014	0	16.62	COLV	Colluvium
B28-014	16.62	19.85	SPRK	Saprock
B28-014	19.85	35.1	PL	Pyroclastic Lamproite
B28-014	35.1	57.3	PL	Pyroclastic Lamproite
B28-014	57.3	134	PL	Pyroclastic Lamproite

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B28-014	134	187	PL	Pyroclastic Lamproite
B28-014	187	212.6	SHLE	shale
B28-014	212.6	230	SHLE	shale
B28-015	0	12.8	COLV	Colluvium
B28-015	12.8	25.84	SDST	Sandstone
B28-015	25.84	56.26	SDST	Sandstone
B28-015	56.26	61.8	PL	Pyroclastic Lamproite
B28-015	61.8	83.75	PL	Pyroclastic Lamproite
B28-015	83.75	107.4	PL	Pyroclastic Lamproite
B28-015A	0	12.8	COLV	Colluvium
B28-015A	12.8	25.8	SDST	Sandstone
B28-015A	25.8	39.2	SDST	Sandstone
B28-015A	39.2	46.9	SDST	Sandstone
B28-015A	46.9	50.9	CNGL	Conglomerate
B28-015A	50.9	55.7	SHLE	Shale
B28-015A	55.7	58.37	PL	Pyroclastic Lamroite
B28-015A	58.37	101.77	PL	Pyroclastic Lamroite
B28-015A	101.77	110	PL	Pyroclastic Lamroite
B28-015A	110	113	SHLE	Shale
B28-015A	113	174.7	CB	Contact Breccia
B28-015A	174.7	190.4	SHLE	Shale
B28-015A	190.4	248.4	SHLE	Shale
B28-015A	248.4	270.43	COLV	Colluvium
B28-015A	270.43	309.9	SDST	Sandstone
B28-016	0	1.8	SDST	Sandstone
B28-016	1.8	4.9	SDST	Sandstone
B28-016	4.9	7.8	SDST	Sandstone
B28-016	7.8	17.6	SDST	Sandstone
B28-016	17.6	24.7	SDST	Sandstone
B28-016	24.7	30	SDST	Sandstone
B28-016	30	61.5	SDST	Sandstone
B28-016	61.5	84	CNGL	Conglomerate
B28-016	84	89.4	DLST	Dolostone
B28-016	89.4	112.44	SHLE	Shale
B28-016	112.44	119.1	McL	Magmaclastic Lamproite
B28-016	119.1	131.6	PL	Pyroclastic Lamroite
B28-016	131.6	184.93	PL	Pyroclastic Lamroite
B28-016	184.93	199	MgL	Magmatic Lamproite
B28-016	199	356	PL	Pyroclastic Lamroite
B28-016	356	377.5	PL	Pyroclastic Lamroite
B28-016	377.5	407.35	PL	Pyroclastic Lamroite
B28-016	407.35	524.7	PL	Pyroclastic Lamroite
B28-016	524.7	528.4	CB	Contact Breccia

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B28-016	528.4	570.2	SHLE	Shale
B28-017	0	5.3	COLV	Colluvium
B28-017	5.3	94.65	PL	Pyroclastic Lamroite
B28-017	94.65	111.9	PL	Pyroclastic Lamroite
B28-017	111.9	149.4	PL	Pyroclastic Lamroite
B28-017	149.4	242.6	PL	Pyroclastic Lamroite
B28-017	242.6	301.2	PL	Pyroclastic Lamroite
B28-017	301.2	306.2	PL	Pyroclastic Lamroite
B28-017	306.2	317.46	PL	Pyroclastic Lamroite
B28-017	317.46	330.3	CB	Contact Breccia
B28-017	330.3	343.25	SHLE	Shale
B28-017	343.25	433.4	SHLE	Shale
B28-017	433.4	437.6	DLRT	Dolerite
B28-018	0	5.4	COLV	Colluvium
B28-018	5.4	20.78	CNGL	Conglomerate
B28-018	20.78	32.57	SDST	Sandstone
B28-018	32.57	35.4	SDST	Sandstone
B28-018	35.4	48.75	SDST	Sandstone
B28-018	48.75	71.3	SDST	Sandstone
B28-018	71.3	83.4	SDST	Sandstone
B28-018	83.4	91.95	CNGL	Conglomerate
B28-018	91.95	93.5	MgL	Magmatic Lamproite
B28-018	93.5	101.2	CNGL	Conglomerate
B28-018	101.2	105.9	QTZIT	Quartzite
B28-018	105.9	109.16	CNGL	Conglomerate
B28-018	109.16	120.26	SHLE	Shale
B28-018	120.26	121.6	CNGL	Conglomerate
B28-018	121.6	126.23	SLST	Siltstone
B28-018	126.23	127.5	SHLE	Shale
B28-018	127.5	147.19	CNGL	Conglomerate
B28-018	147.19	151.78	SHLE	Shale
B28-018	151.78	206.89	SHLE	Shale
B28-018	206.89	211.8	SDST	Sandstone
B28-018	211.8	212.24	SHLE	Shale
B28-018	212.24	213.9	SDST	Sandstone
B28-018	213.9	214.05	SPL	Southern Pyroclastic Lamproite
B28-018	214.05	219.18	SHLE	Shale
B28-018	219.18	257.06	SPL	Southern Pyroclastic Lamproite
B28-018	257.06	263	SHLE	Shale
B28-018	263	266.4	CB	Contact Breccia
B28-018	266.4	271.67	SHLE	Shale
B28-018	271.67	282.45	SPL	Southern Pyroclastic Lamproite
B28-018	282.45	284.56	SHLE	Shale

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B28-018	284.56	288.55	CB	Contact Breccia
B28-018	288.55	290.13	SPL	Southern Pyroclastic Lamproite
B28-018	290.13	291	SDST	Sandstone
B28-018	291	315.95	SHLE	Shale
B28-018	315.95	366.27	SHLE	Shale
B28-018	366.27	374.54	SPL	Southern Pyroclastic Lamproite
B28-018	374.54	382.8	SPL	Southern Pyroclastic Lamproite
B28-018	382.8	387.6	SPL	Southern Pyroclastic Lamproite
B28-018	387.6	417	SPL	Southern Pyroclastic Lamproite
B28-018	417	436.7	SPL	Southern Pyroclastic Lamproite
B28-018	436.7	464.4	SPL	Southern Pyroclastic Lamproite
B28-018	464.4	483.84	SPL	Southern Pyroclastic Lamproite
B28-018	483.84	494.4	SPL	Southern Pyroclastic Lamproite
B28-018	494.4	517.5	SPL	Southern Pyroclastic Lamproite
B28-018	517.5	540.45	SPL	Southern Pyroclastic Lamproite
B28-018	540.45	550	SPL	Southern Pyroclastic Lamproite
B28-018	550	578.9	SPL	Southern Pyroclastic Lamproite
B28-018	578.9	581.4	SHLE	Shale
B28-018	581.4	589.95	SPL	Southern Pyroclastic Lamproite
B28-018	589.95	631.42	SPL	Southern Pyroclastic Lamproite
B28-018	631.42	635.4	SPL	Southern Pyroclastic Lamproite
B28-018	635.4	635.8	SHLE	Shale
B28-019	0	21.6	COLV	Colluvium
B28-019	21.6	29.1	SDST	Sandstone
B28-019	29.1	43.55	SDST	Sandstone
B28-019	43.55	62.8	SDST	Sandstone
B28-019	62.8	64.37	SDST	Sandstone
B28-019	64.37	70.2	CNGL	Conglomerate
B28-019	70.2	72.8	SDST	Sandstone
B28-019	72.8	74.7	PL	Pyroclastic Lamproite
B28-019	74.7	83.5	PL	Pyroclastic Lamproite
B28-019	83.5	93.18	PL	Pyroclastic Lamproite
B28-019	93.18	95.15	PL	Pyroclastic Lamproite
B28-019	95.15	123.5	MgL	Magmatic Lamproite
B28-019	123.5	131.48	PL	Pyroclastic Lamproite
B28-019	131.48	143.85	PL	Pyroclastic Lamproite
B28-019	143.85	146.65	PL	Pyroclastic Lamproite
B28-019	146.65	167.4	MgL	Magmatic Lamproite
B28-019	167.4	174.6	PL	Pyroclastic Lamproite
B28-019	174.6	187.01	PL	Pyroclastic Lamproite
B28-019	187.01	190.8	PL	Pyroclastic Lamproite
B28-019	190.8	194.5	QTZIT	Quartizite
B28-019	194.5	196.13	PL	Pyroclastic Lamproite

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B28-019	196.13	201	PL	Pyroclastic Lamproite
B28-019	201	204.4	PL	Pyroclastic Lamproite
B28-019	204.4	227.8	QTZIT	Quartizite
B28-019	227.8	231.2	SHLE	Shale
B28-019	231.2	237.5	QTZIT	Quartizite
B28-019	237.5	246.13	SHLE	Shale
B28-019	246.13	248.32	MgL	Magmatic Lamproite
B28-019	248.32	251.4	PL	Pyroclastic Lamproite
B28-019	251.4	271.8	PL	Pyroclastic Lamproite
B28-019	271.8	279.7	PL	Pyroclastic Lamproite
B28-019	279.7	299.84	PL	Pyroclastic Lamproite
B28-019	299.84	302.2	PL	Pyroclastic Lamproite
B28-019	302.2	322.5	SHLE	Shale
B28-019	322.5	347.4	SHLE	Shale
B28-019	347.4	473.4	SHLE	Shale
B28-020	0	15	COLV	Colluvium
B28-020	15	48.5	SDST	Sandstone
B28-020	48.5	71.3	CNGL	Conglomerate
B28-020	71.3	245	PL	Pyroclastic Lamproite
B28-020	245	306	PL	Pyroclastic Lamproite
B28-020	306	308	MgL	Magmatic Lamproite
B28-020	308	315.8	CB	Contact Breccia
B28-020	315.8	322.8	SHLE	Shale
B28-020	322.8	330.4	SHLE	Shale
B28-020	330.4	335.3	SHLE	Shale
B28-020	335.3	356.4	SHLE	Shale
B28-021	0	15.3	COLV	Colluvium
B28-021	15.3	30.6	SDST	Sandstone
B28-021	30.6	40.35	SDST	Sandstone
B28-021	40.35	57	CNGL	Conglomerate
B28-021	57	62.5	SHLE	Shale
B28-021	62.5	74.8	SHLE	Shale
B28-021	74.8	85.73	SDST	Sandstone
B28-021	85.73	98.87	CNGL	Conglomerate
B28-021	98.87	106.8	QTZIT	Quartizite
B28-021	106.8	115.82	CNGL	Conglomerate
B28-021	115.82	147.4	DLST	Dolostone
B28-021	147.4	173.4	SHLE	Shale
B28-021	173.4	178.5	SPL	Southern Pyroclastic Lamproite
B28-021	178.5	180.9	MgL	Magmatic Lamproite
B28-021	180.9	186.4	CB	Contact Breccia
B28-021	186.4	219.8	SPL	Southern Pyroclastic Lamproite
B28-021	219.8	224	SPL	Southern Pyroclastic Lamproite

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B28-021	224	238.76	SPL	Sourthern Pyroclastic Lamproite
B28-021	238.76	243.74	SPL	Sourthern Pyroclastic Lamproite
B28-021	243.74	256.07	SPL	Sourthern Pyroclastic Lamproite
B28-021	256.07	261.56	SPL	Sourthern Pyroclastic Lamproite
B28-021	261.56	271.53	SPL	Sourthern Pyroclastic Lamproite
B28-021	271.53	276.02	SPL	Sourthern Pyroclastic Lamproite
B28-021	276.02	288.49	SPL	Sourthern Pyroclastic Lamproite
B28-021	288.49	308.6	SPL	Sourthern Pyroclastic Lamproite
B28-021	308.6	317.6	SPL	Southern Pyrolastic Lamproite
B28-021	317.6	325	SPL	Southern Pyrolastic Lamproite
B28-021	325	340.37	SPL	Southern Pyrolastic Lamproite
B28-021	340.37	352.35	SPL	Southern Pyrolastic Lamproite
B28-021	352.35	402.9	SPL	Southern Pyrolastic Lamproite
B28-021	402.9	411.4	SPL	Southern Pyrolastic Lamproite
B28-021	411.4	457.46	PL	Pyroclastic Lamproite
B28-021	457.46	512.6	SHLE	Shale
B28LD001	0	4.1	COLV	Colluvium
B28LD001	4.1	7.4	SPLT	Saprolite
B28LD001	7.4	10.88	SPL	Southern Pyrolastic Lamproite
B28LD001	10.88	15	SPL	Southern Pyrolastic Lamproite
B28LD001	15	19.11	SPL	Southern Pyrolastic Lamproite
B28LD001	19.11	36.73	SPL	Southern Pyrolastic Lamproite
B28LD001	36.73	56.03	SPL	Southern Pyrolastic Lamproite
B28LD001	56.03	131	SPL	Southern Pyrolastic Lamproite
B28LD001	131	182.5	SPL	Magmatic Lamporite
B28LD001	182.5	200	CB	Contact Breccia
B28LD001	200	219	SDLT	Sandstone
B28LD001	219	227.43	SHLE	Shale
B28LD002	0	4	COLV	Colluvium
B28LD002	4	12.3	SPLT	Saprolite
B28LD002	12.3	21.1	SPL	Southern Pyrolastic Lamproite
B28LD002	21.1	32	SPL	Southern Pyrolastic Lamproite
B28LD002	32	45.1	SPL	Southern Pyrolastic Lamproite
B28LD002	45.1	141	SPL	Southern Pyrolastic Lamproite
B28LD002	141	155.3	SPL	Southern Pyrolastic Lamproite
B28LD002	155.3	204.24	SPL	Southern Pyrolastic Lamproite
B28LD002	204.24	205.75	CB	Contact Breccia
B28LD002	205.75	209.15	SHLE	Shale
B28LD002	209.15	-999	SHLE	Shale
B28LD002	213	236	SDBX	Sedimentary Breccia
B28LD002	236	243	SHLE	Shale
B28LD002	243	245	SPL	Southern Pyrolastic Lamproite
B28LD002	245	250.5	SHLE	Shale

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B28LD003	0	3.4	COLV	Colluvium
B28LD003	3.4	15.5	SPRK	Saprock
B28LD003	15.5	16.5	SPRK	Saprock
B28LD003	16.5	33	SPL	Southern Pyrolastic Lamproite
B28LD003	33	86	SPL	Southern Pyrolastic Lamproite
B28LD003	86	164	SPL	Southern Pyrolastic Lamproite
B28LD003	164	188	SPL	Southern Pyrolastic Lamproite
B28LD003	188	202	SPL	Southern Pyrolastic Lamproite
B28LD003	202	219	SPL	Southern Pyrolastic Lamproite
B28LD003	218	239	SPL	Pyroclastic Lamproite
B28LD003	219	221	MgL	Magmatic Lamporite
B28LD003	239	255	SPL	Pyroclastic Lamproite
B28LD004	0	5.9	COLV	Colluvium
B28LD004	5.9	140.2	PL	Pyroclastic Lamproite
B28LD004	140.2	144	CB	Contact Breccia
B28LD004	144	147.4	SHLE	Shale
B28LD004	147.4	174.5	CB	Contact Breccia
B28LD004	174.5	185.4	MgL	Magmatic Lamporite
B28LD004	185.4	191.6	CB	Contact Breccia
B28LD004	191.6	201.5	SHLE	Shale
B28LD005	0	6	COLV	Colluvium
B28LD005	6	22.95	SPL	Sourthern Pyroclastic
B28LD005	22.95	39.44	SPL	Sourthern Pyroclastic
B28LD005	39.44	42.5	SPL	Sourthern Pyroclastic
B28LD005	42.5	47.1	SPL	Sourthern Pyroclastic
B28LD005	47.1	49.7	SPL	Sourthern Pyroclastic
B28LD005	49.7	59	SPL	Sourthern Pyroclastic
B28LD005	59	116	SPL	Sourthern Pyroclastic
B28LD005	116	121.74	SPL	Sourthern Pyroclastic
B28LD005	121.74	125.73	SPL	Sourthern Pyroclastic
B28LD005	125.73	131.18	MgL	Magmatic Lamproite
B28LD005	131.18	159.7	SPL	Pyroclastic Lamproite
B28LD005	157.7	169.09	SHLE	Shale
B28LD005	169.09	173.65	QTZIT	Quartzite
B28LD005	173.65	173.8	SHLE	Shale
B28LD006	0	10.35	COLV	Colluvium
B28LD006	10.35	16.8	CNGL	Conglomerate
B28LD006	16.8	18.2	PL	Pyroclastic Lamproite
B28LD006	18.2	70.53	PL	Pyroclastic Lamproite
B28LD006	70.53	71.33	MgL	Magmatic Lamproite
B28LD006	71.33	92	PL	Pyroclastic Lamproite
B28LD006	92	95.03	MgL	Magmatic Lamproite
B28LD006	95.03	248.6	PL	Pyroclastic Lamproite

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Annexure-2

Details Of slim drill holes

Sr No	-1	-2	-3	-4	-5	-6	-7	8	9	10
	HOLE ID	Co-Ordinate	Co-Ordinate	Reduced Level m	DEPTH m	Inclimation In degree	Thickness Colluvium m	Direction from North (Degrees)	Top Intersection Of Lamproite m	Bottom Intersection Of Lamproite m
		East-West	North-South							
NORTH ATRI										
1	B28-004	320322.1	261492	449.909	216.16	55	23.5	86	23.5	216.16
2	B28-006	326359.2	2691496.7	450.015	272.9	60	20.7	0	20.7	201
3	B28- 007	326459.3	2691527.8	449.143	170.5	60	15	90	72.6	135.9
4	B28-008	326315.3	2691390.7	449.716	130	60	20.15	270	20.15	77.05
5	B28-012	326324	2691522.8	449.761	140.8	60	19.1	300	19.1	87.4
6	B28-013	326529.8	2691605.9	449.251	300.3	55	16.4	204	61.3	242.3
7	B28-014	326376.9	2691460.7	449.706	230	80	16.62	148	16.62	187
8	B28-015	326501.9	2691381.1	449.423	107.4	54	12.8	270	56.26	107.4
9	B28-015A	326501.9	2691381.1	449.423	309.9	54	12.8	270	55.7	110
10	B28-019	326474.8	2691670.1	448.833	473.4	45	21.6	200	72.8	302.2
11	B28-020	326505.5	2691378.3	449.511	356.4	45	15	310	71.3	308
12	B28D3GT10	326573	2691237	452	300	50	6	360		
13	B28FGT11	326167	2691517	440	300	50	16.6	140	196.5	250.6
SOUTH ATRI										
1	B28-001	326349.6	2691096.8	428.787	260.22	90	4.5	0	4.5	260.22
2	B28-002	326350.6	2691097.1	428.801	178.34	58	6.2	190	6.2	149.85
3	B28-003	326337.2	2691297.1	425.105	151.75	60	9.5	270	9.5	120.3
4	B28-005	326349.2	2691099.9	428.936	268.73	65	4.5	272	4.5	211
5	B28-009	326323.5	2691299.7	425.105	243.5	60	4.6	90	4.6	167.5
6	B28-010	326400.3	2691152.3	427.979	230.7	60	2.7	90	2.7	180.25
7	B28-011	326099.1	2691148.7	449.776	187.8	60	7	90	0	0

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8	B28-016	326548.1	2691000.2	436.531	570.2	58	1.8	300	112.44	524.7
9	B28-017	326329.1	2691286.3	425.173	437.6	45	5.3	10	5.3	317.46
10	B28-018	326102.3	2691303.3	449.095	635.8	45	5.4	120	366.27	635.4
11	B28-021	326506.8	2691374.8	449.594	512.6	45	15.3	209	173.4	457.46
12	B28-022	326352.7	2690949.6	431.398	659.3	55	0	5	96.41	628.3
13	B28-023	326285	2691224	425	392.5	48	4.83	120	6.5	377.45
14	B28-024	326405	2691115	433	410.4	60	2.8	326.5	2.8	273.74
15	B28-025	326337	2691297	425	375.3	65	4	200	4.5	158.85
16	B28-026	326478	2691114	435	114	65	5.3	55	5.3	39
17	B28-027	326390	2691176	443	250	55	2	345	2	-
18	B28-028	326395	2691032	426	95.9	65	4.8	145	4.8	59.5
19	B28-029	326244	2691111	426	147	75	4.8	260	4.8	127.78
20	B28-030	326223	2691217	420	300	65	5.5	115	5.5	-
21	B28-031	326467	2691100	423	100	70	8.1	80	8.1	29.8
22	B28-032	326402	2691182	443	312	70	2.5	65	2.5	235.65
23	B28-033	326259	2691015	426	300.3	75	2.03	45	2.03	174.6
24	B28-034	326393	2691263	431	284.8	65	4.9	100	4.9	231.23
25	B28-035	326417	2691251	426	130	65	4.6	105	4.6	111.9
26	B28-036	326477	2691100	434	57.6	50	7.2	125	7.2	19.4
27	B28-037	326255	2691022	426	90	80	0.8	85	0.8	33.5
28	B28-038	326423	2691247	434	80.7	50	5.3	90	5.3	49.9
29	B28-039	326508	2691065	439	254.4	90	1.1	0	44.25	221.4
30	B28-040	326267	2691210	437	110.2	70	5	265	5	100.19
31	B28-041	326260	2691019	427	55.8	60	1	180	1	30.5
32	B28-042	326248	2691153	432	72	60	5.5	275	5.5	63.36
33	B28-043	326258	2691023	427	196	60	1.5	315	1.5	184.4
34	B28-044	326259	2691225	427	116	60	3.5	348.5	3.5	111
35	B28-045	326416	2691104	438	189	0	2.5	88.5	2.5	134.5
36	B28-046	326396	2691038	443	120	75	3	170	3	78.5
37	B28-047	326506	2691064	436	61.2	60	0.5	285	49.07	-
38	B28-048	326477	2691040	439	89.5	85	0.5	255	34.9	-
39	B28A2GT02	326334	2690936	426	215.7	60	1.1	145	-	-

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40	B28C1GT03	326099	2691304	444	171.1	50	17.54	239	-	-
41	B28B2GT04	326100	2690999	448	145.05	50	21.17	280.5	-	-
42	B28A1GT05	326334	2690936	423	230.27	66	53.9	1	-	-
43	B28D1GT06	326557	2691238	449	288.3	50	4.97	132	-	-
44	B28E1GT07	326550	2690999	430	317.6	70	1	322	194.8	317.6
45	B28B1GT12	326100	2690999	448	302	55	21.35	88	230.4	239
46	B28D2GT08	326557	2691237	450	300	59	6.3	227	176.3	300
47	B28E2GT09	326553	2691002	430	255	50	6	69	-	-

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Annexure-3

Details Of Large Dia (203mm) Drilled Holes

Sr. No.	-1	-2	-3	-4	-5	-6	-7	-8	-9
	HOLE ID	Co-Ordinate	Co-Ordinate	Reduced Level m	DEPTH m	Inclimation In degree	Thickness Colluvium m	Top Intersection Of Lamproite m	Bottom Intersection Of Lamproite m
		East-West	North-South						
					NORTH ATRI				
1	B28LD004	326332	2691293.1	425.105	201.5	90	5.9	5.9	104.2
2	B28LD006	326357.8	2691496.5	450.044	249.34	90	10.35	16.8	249.34
3	B28LD007	326402	2691314.9	425.565	143.8	90	2.5	2.5	111.7
4	B28LD009	326371.6	2691460.4	449.741	228.54	90	12	19.4	215
					SOUTH ATRI				
1	B28LD001	326261.3	2691073	423.669	227.43	90	4.1	4.1	182.5
2	B28LD002	326296.7	2691157	425.205	250.5	90	4	4	204.24
3	B28LD003	326413	2691097.8	430.477	255.6	90	3.4	3.4	255.6
4	B28LD005	326265.1	2691209.5	425.356	173.8	90	6	6	159.7
5	B28LD008	326353.1	2691099.7	429.081	350	90	2.6	2.6	259.5
6	B28LD010	326382.6	2691066.2	430.07	260.2	90	2.7	2.7	260.2
7	B28LD012	326369	2691188.6	426.746	251.6	90	4.5	4.5	251.6
8	B28LD015	326333	2691101	429	350	90	-	0	350
9	B28LD016	326368	2691268	424	196.2	90	-	0	196.2
10	B28LD017	326240	2691151	424	196.44	90	-	0	196.44
11	B28LD018	326340	2691177	427	349.95	90	-	0	349.95
12	B28LD019	326411	2691115	430.477	352.6	90	-	0	352.6
13	B28LD020	326239	2691068	431	135.3	90	4.5	4.5	-
14	B28LD021	326416	2691237	432	211.8	90	1.85	1.85	197
15	B28LD022	326237	2691113	430	53.3	90	4.8	4.8	-

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16	B28LD023	326467	2691100	435	213.9	90	6	6	
17	B28LD024	326400	2691204	425	156.1	90	3	3	
18	B28LD027	326404	2691033	434	246.1	90	4.5	4.5	
19	B28LD028	236335	2691038	424	150.8	90	3.1	3.1	131.5

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Annexure-4

Details of PQ &GT (small dia) Borlholes

Sr. No.	-1 HOLE ID	-2 Co-Ordinate East-West	-3 Co-Ordinate North-South	-4 Reduced Level m	-5 DEPTH m	-6 Inclimation In degree	-7 Thickness Colluvium m	-8 Top Intersection Of Lamproite m	-9 Bottom Intersection Of Lamproite m
				NORTH ATRI					
1	B28PQ001	326324	2691109	429	334.9	90	4.17	4.17	-
				SOUTH ATRI					
1	B28PQ002	326319	2691280	425	165.5	90	2.5	2.5	133
2	B28PQ003	326394	2691257	425	249.3	90	2.8	2.8	8
3	B28PQ004	326350	2691206	426.7	350.1	90	4.54	4.54	350.1
4	B28PQ005	326285	2691224	425.3	206.4	90	4.9	4.9	206.4
5	B28PQ006	326255	2691174	424	206.1	90	5.9	5.9	164.2
6	B28PQ007	326360	2691076	430	359.7	90	5.7	5.7	359.7
7	B28PQ008	326249	2691224	425.356	185	90	6	6	143.6
8	B28PQ009	326373	2691197	426.75	338.9	67			-
9	B28PQ010	326345	2691213	430.5	374.6	60			
10	B28PQ011	326413	2691097	430.7	426	75		-	
11	B28PQ012	326412	2691103	430	414	70	1.9	1.9	262.85

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Annexure-5

Details of Shallow Pits for Bulk Sampling

Sr. No.	Pit No.	Easting	Northing	RL	Maximum Depth of Trench (m)	Length (m)	Excava -tion Width (m)	Depth From (m	Depth to (m)	Interval (m)	Rock type	Vol. as per the pit (m^3) dimension	Vol. mentioned (m^3) (per bucket calculation)	Weight (Kg)
1.	Pit 1A	326235	2691281	421	6.0	10.0	3.8	1.2	6.0	4.8	Lampoite	182.40	203.00	406000
2.	Pit	326	2691191	425	5.7	7.0	2.0	3.0	4.4	1.4	Overburden	19.60		20060
3.	Pit	326	2691191	425	5.7	7.0	2.0	4.4	5.7	1.3	Weathered Lampoite	18.20	-	24000
4.	Pit	326	2692485	421	5.7	7.6	3.3	0	5.7	5.7	Lampoite	142.96	196.50	393000
5.	Pit	326	2691279	421	7.3	9.0	4.4	1.9	7.3	5.4	Lampoite	213.84	301.00	602000
6.	Pit	326	2691280	421	6.75	8.0	4.99	1.2	6.75	5.55	Lampoite	221.56	208.00	416000
7.	Pit	326	2691279	421	6.6	7.0	5.6	1.1	6.6	5.5	Lampoite	215.60	194.00	388000
8.	Pit	326	2691117	431	5.9	14.9	2.3	0.3	1.97	1.67	Overburden	57.23		96629
9.	Pit	326	2691117	431	5.9	14.9	2.3	1.97	5.12	3.15	Weathered Lampoite	107.95		162636
10.	Pit	326	2690990	424	5.0	17.3	2.1	0.3	0.6	0.3	Overburden	10.90		27752
11.	Pit	326	2690990	424	5.0	17.3	2.1	0.6	2.51	1.91	Weathered Lampoite	69.39		79074
12.	Pit	326	2690990	424	5.0	17.3	2.1	2.51	4.94	2.43	Lampoite	88.28		269699
13.	Pit	326	2691023	424	6.0	8.5	4.0	0.3	1.4	1.1	Overburden	37.40	385	114000
14.	Pit	326	2691023	424	6.0	8.5	4.0	1.4	1.7	0.3	Weathered Lampoite	10.20	385	164000
15.	Pit	326	2691023	424	6.0	8.5	4.0	1.7	6.0	4.3	Lampoite	146.20	385	438000

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Annexure-6 (Table 1: Bulk sample Recoveries)

	Percentage Recovery (counts)			Percentage Recovery (carats)		
Sample No.	Primary	Recrush	-2mm_CF	Primary	Recrush	2mm_CF
6641942	90%	10%	0%	92%	8%	0%
6641931	83%	17%	0%	93%	7%	0%
6641932	91%	9%	0%	98%	200%	0%
6641946	90%	10%	0%	94%	6%	0%
6641943	91%	9%	0%	94%	6%	0%
6641944	73%	28%	0%	78%	22%	0%
6641945	96%	4%	0%	97%	3%	0%
6641925	94%	6%	0%	92%	8%	0%
6641927	58%	42%	0%	84%	16%	0%
6641929	93%	7%	0%	96%	4%	0%
6672009	97%	3%	0%	96%	4%	0%
6672005	100%	0%	0%	100%	0%	0%
6641910	100%	0%	0%	100%	0%	0%
6672006	100%	0%	0%	100%	0%	0%
6641911	87%	13%	0%	98%	2%	0%
6672007	100%	0%	0%	100%	0%	0%
6641912	35%	7%	57%	75%	6%	19%
6641947	99%	1%	0%	100%	0%	0%
6641984	88%	12%	0%	93%	7%	0%
6641949	100%	0%	0%	100%	0%	0%
6641959	97%	3%	0%	99%	1%	0%
6641956	98%	2%	0%	100%	0%	0%
6641950	80%	20%	0%	87%	13%	0%
6641953	98%	2%	0%	100%	0%	0%
6672008	87%	13%	0%	89%	11%	0%
6641961	69%	31%	0%	76%	24%	0%
6641958	74%	26%	0%	83%	17%	0%
6641952	76%	24%	0%	81%	19%	0%
6641955	65%	35%	0%	76%	24%	0%

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Table2: LDC Sample Recoveries

		Percentage Recovery (counts)			Percentage Recovery (counts)		
Hole No	**Sample ID**	Primary	Recrush	-2mm_CF	Primary	Recrush	-2mm_CF
B28LD001	6666302	75%	0%	25%	95%	0%	5%
B28LD001	6666303	3%	9%	88%	39%	46%	15%
B28LD001	6666304	13%	0%	88%	19%	0%	81%
B28LD001	6666305	0%	38%	63%	0%	54%	46%
B28LD001	6666306	8%	15%	77%	62%	12%	26%
B28LD001	6666307	25%	75%	0%	85%	15%	0%
B28LD001	6666308	13%	50%	38%	13%	70%	18%
B28LD001	6666309	10%	30%	60%	11%	53%	36%
B28LD001	6666310	0%	60%	40%	0%	72%	28%
B28LD001	6666311	43%	57%	0%	67%	33%	0%
B28LD001	6666312	20%	60%	20%	14%	86%	0%
B28LD001	6666313	0%	0%	100%	0%	0%	100%
B28LD001	6666314	4%	2%	93%	59%	32%	9%
B28LD001	6666315	33%	33%	33%	39%	55%	6%
B28LD001	6666316	67%	33%	0%	33%	67%	0%
B28LD001	6666317	0%	0%	100%	0%	0%	100%
B28LD001	6666318	11%	11%	78%	90%	4%	6%
B28LD001	6666319	67%	0%	33%	87%	0%	13%
B28LD002	6666320	50%	0%	50%	82%	0%	18%
B28LD002	6666321	20%	40%	40%	53%	43%	4%
B28LD002	6666322	100%	0%	0%	100%	0%	0%
B28LD002	6666323	0%	86%	14%	0%	94%	6%
B28LD002	6666324	25%	75%	0%	18%	82%	0%
B28LD002	6666325	67%	33%	0%	70%	30%	0%
B28LD002	6666326	22%	78%	0%	31%	69%	0%
B28LD002	6666327	60%	20%	20%	91%	6%	3%
B28LD002	6666328	0%	100%	0%	0%	100%	0%
B28LD002	6666329	23%	46%	31%	37%	60%	3%
B28LD002	6666330	38%	38%	25%	52%	39%	9%
B28LD002	6666331	43%	29%	29%	63%	32%	5%
B28LD002	6666332	31%	46%	23%	40%	60%	0%
B28LD002	6666333	35%	30%	35%	82%	16%	2%
B28LD002	6666334	0%	20%	80%	0%	26%	74%
B28LD002	6666335	22%	44%	33%	41%	38%	21%
B28LD002	6666336	14%	43%	43%	20%	76%	4%
B28LD002	6666337	67%	22%	11%	94%	2%	4%
B28LD002	6666338	20%	20%	60%	84%	5%	11%
B28LD002	6666339	50%	50%	0%	91%	9%	0%
B28LD003	6666340	0%	0%	100%	0%	0%	100%

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B28LD003	6666341	13%	13%	75%	36%	18%	46%
B28LD003	6666342	29%	0%	71%	51%	0%	49%
B28LD003	6666354	0%	38%	63%	0%	66%	34%
B28LD003	6666355	0%	11%	89%	0%	32%	68%
B28LD003	6666356	0%	0%	100%	0%	0%	100%
B28LD003	6666357	33%	0%	67%	94%	0%	6%
B28LD003	6666358	17%	0%	83%	84%	0%	16%
B28LD003	6666359	0%	0%	100%	0%	0%	100%
B28LD003	6666360	20%	0%	80%	67%	0%	33%
B28LD003	6666361	9%	0%	91%	39%	0%	61%
B28LD003	6666362	18%	0%	82%	59%	0%	41%
B28LD003	6666363	0%	10%	90%	0%	68%	32%
B28LD003	6666364	0%	11%	89%	0%	54%	46%
B28LD003	6666365	10%	10%	80%	26%	52%	22%
B28LD003	6666366	10%	20%	70%	22%	56%	22%
B28LD003	6666367	0%	0%	100%	0%	0%	100%
B28LD003	6666368	27%	0%	73%	71%	0%	29%
B28LD003	6666369	33%	11%	56%	73%	16%	11%
B28LD003	6666370	17%	8%	75%	76%	9%	15%
B28LD003	6666371	10%	0%	90%	22%	0%	74%
B28LD003	6666372	0%	0%	100%	0%	0%	100%
B28LD003	6666373	0%	20%	80%	0%	64%	36%
B28LD003	6666374	13%	6%	81%	65%	13%	23%
B28LD003	6666375	0%	6%	94%	0%	35%	65%
B28LD003	6666376	10%	0%	90%	36%	0%	64%
B28LD004	6671602	-	-	-	-	-	-
B28LD004	6671603	0%	0%	100%	0%	0%	100%
B28LD004	6671604	0%	0%	100%	0%	0%	100%
B28LD004	6671605	0%	0%	100%	0%	0%	100%
B28LD004	6671606	0%	0%	100%	0%	0%	100%
B28LD004	6671607	0%	0%	100%	0%	0%	100%
B28LD004	6671608	0%	0%	100%	0%	0%	100%
B28LD004	6671609	0%	0%	100%	0%	0%	100%
B28LD004	6671610	100%	0%	0%	100%	0%	0%
B28LD004	6671611	0%	0%	100%	0%	0%	100%
B28LD004	6671612	17%	33%	50%	56%	33%	12%
B28LD004	6671613	0%	0%	100%	0%	0%	100%
B28LD004	6671614	0%	0%	100%	0%	0%	100%
B28LD004	6671615	33%	0%	67%	74%	0%	26%
B28LD005	6666378	8%	23%	69%	11%	62%	27%
B28LD005	6666379	5%	0%	95%	68%	0%	32%
B28LD005	6666380	0%	0%	100%	0%	0%	100%

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B28LD005	6666381	8%	8%	85%	11%	72%	16%
B28LD005	6666382	0%	0%	100%	0%	0%	100%
B28LD005	6666383	0%	2%	98%	0%	27%	73%
B28LD005	6666384	0%	0%	100%	0%	0%	100%
B28LD005	6666385	8%	8%	83%	28%	25%	46%
B28LD005	6666386	17%	0%	83%	50%	0%	50%
B28LD005	6666387	6%	3%	91%	31%	2%	67%
B28LD005	6666388	4%	2%	94%	22%	12%	66%
B28LD005	6666389	0%	8%	92%	0%	27%	73%
B28LD005	6666390	8%	17%	75%	27%	48%	24%
B28LD005	6666391	17%	17%	67%	64%	25%	11%
B28LD005	6666392	14%	0%	86%	52%	0%	48%
B28LD005	6666393	0%	13%	88%	0%	30%	70%
B28LD006	6666397	0%	0%	100%	0%	0%	100%
B28LD006	6666398	-				-	
B28LD006	6666399	0%	0%	100%	0%	0%	100%
B28LD006	6666400	33%	33%	33%	60%	40%	0%
B28LD006	6671801	67%	0%	33%	97%	0%	3%
B28LD006	6671802				-		-
B28LD006	6671803	0%	20%	80%	0%	74%	26%
B28LD006	6671804	0%	0%	100%	0%	0%	100%
B28LD006	6671805	20%	0%	80%	63%	0%	37%
B28LD006	6671806	0%	0%	100%	0%	0%	100%
B28LD006	6672807	0%	0%	100%	0%	0%	100%
B28LD006	6672808	-		-	-	-	
B28LD006	6672809						
B28LD006	6672810	0%	0%	100%	0%	0%	100%
B28LD006	6672811	0%	0%	100%	0%	0%	100%
B28LD006	6672812	0%	0%	100%	0%	0%	100%
B28LD006	6672813	0%	0%	100%	0%	0%	100%
B28LD006	6672814	0%	0%	100%	0%	0%	100%
B28LD006	6672815	0%	0%	100%	0%	0%	100%
B28LD006	6672816						
B28LD006	6672817	0%	0%	100%	0%	0%	100%
B28LD006	6672818	0%	0%	100%	0%	0%	100%
B28LD006	6671819	50%	0%	50%	55%	0%	45%
B28LD007	6671622	10%	20%	70%	28%	30%	42%
B28LD007	6671623						
B28LD007	6671624	0%	100%	0%	0%	100%	0%
B28LD007	6671625	0%	0%	100%	0%	0%	100%
B28LD007	6671626	0%	0%	100%	0%	0%	100%
B28LD007	6671627	0%	0%	100%	0%	0%	100%
B28LD007	6671628	0%	0%	100%	0%	0%	100%

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B28LD007	6671629	0%	0%	100%	0%	0%	100%
B28LD007	6671630	0%	0%	100%	0%	0%	100%
B28LD007	6671631	0%	0%	100%	0%	0%	100%
B28LD007	6671632	0%	0%	100%	0%	0%	100%
B28LD007	6671633	0%	0%	100%	0%	0%	100%
B28LD008	6671638	20%	0%	80%	65%	0%	35%
B28LD008	6671639	18%	9%	73%	82%	9%	9%
B28LD008	6671640	0%	0%	100%	0%	0%	100%
B28LD008	6671641	0%	0%	100%	0%	0%	100%
B28LD008	6671642	8%	0%	92%	32%	0%	68%
B28LD008	6671643	0%	18%	82%	0%	85%	15%
B28LD008	6671644	0%	8%	92%	0%	36%	64%
B28LD008	6671645	0%	0%	100%	0%	0%	100%
B28LD008	6671646	50%	0%	50%	78%	0%	22%
B28LD008	6671647	29%	0%	71%	75%	0%	25%
B28LD008	6671648	0%	0%	100%	0%	0%	100%
B28LD008	6671649	6%	18%	76%	15%	52%	33%
B28LD008	6671650	2%	2%	97%	15%	23%	62%
B28LD008	6671651	20%	10%	70%	49%	15%	37%
B28LD008	6671652	12%	6%	82%	24%	59%	16%
B28LD008	6671653	23%	0%	77%	68%	0%	32%
B28LD008	6671654	14%	0%	86%	44%	0%	56%
B28LD008	6671655	14%	0%	86%	71%	0%	29%
B28LD008	6671656	0%	23%	77%	0%	72%	28%
B28LD008	6671657	0%	0%	100%	0%	0%	100%
B28LD008	6671658	5%	5%	89%	26%	34%	40%
B28LD008	6671659	20%	0%	80%	92%	0%	8%
B28LD008	6671660	0%	0%	100%	0%	0%	100%
B28LD008	6671661	11%	8%	81%	42%	30%	28%
B28LD008	6671662	20%	0%	80%	77%	0%	23%
B28LD009	6671823	0%	0%	100%	0%	0%	100%
B28LD009	6671824	0%	50%	50%	0%	88%	12%
B28LD009	6671825	0%	0%	100%	-	-	-
B28LD009	6671826	-	-	-	-	-	-
B28LD009	6671827	0%	0%	100%	0%	0%	100%
B28LD009	6671828	0%	0%	100%	0%	0%	100%
B28LD009	6671829	50%	0%	50%	88%	0%	12%
B28LD009	6671830	0%	0%	100%	0%	0%	100%
B28LD009	6671831	0%	0%	100%	-	-	-
B28LD009	6671832	0%	0%	100%	0%	0%	100%
B28LD009	6671833	0%	0%	100%	0%	0%	100%
B28LD009	6671834	0%	0%	100%	0%	0%	100%
B28LD009	6671835	0%	0%	100%	0%	0%	100%

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B28LD009	6671836	0%	0%	100%	0%	0%	100%
B28LD009	6671837	0%	0%	100%	0%	0%	100%
B28LD009	6671838	-	-	-	-	-	-
B28LD009	6671839	-	-	-	-	-	-
B28LD009	6671840	-	-	-	-	-	-
B28LD009	6671841	0%	0%	100%	0%	0%	100%
B28LD009	6671842	0%	0%	100%	0%	0%	100%
B28LD010	6671664	50%	0%	50%	95%	0%	5%
B28LD010	6671665	0%	7%	93%	0%	69%	31%
B28LD010	6671666	29%	0%	71%	48%	0%	52%
B28LD010	6671667	10%	10%	80%	18%	56%	26%
B28LD010	6671668	0%	4%	96%	0%	50%	50%
B28LD010	6671669	3%	0%	97%	96%	0%	4%
B28LD010	6671670	11%	0%	89%	83%	0%	17%
B28LD010	6671671	10%	15%	75%	63%	21%	17%
B28LD010	6671672	0%	15%	85%	0%	87%	13%
B28LD010	6671673	9%	0%	91%	48%	0%	52%
B28LD010	6671674	0%	20%	80%	0%	60%	40%
B28LD010	6671675	0%	0%	100%	0%	0%	100%
B28LD010	6671676	2%	2%	95%	31%	18%	51%
B28LD010	6671677	25%	0%	75%	62%	0%	38%
B28LD010	6671678	0%	0%	100%	0%	0%	100%
B28LD010	6671679	0%	0%	100%	0%	0%	100%
B28LD010	6671680	0%	0%	100%	0%	0%	100%
B28LD010	6671681	27%	0%	73%	71%	0%	29%
B28LD010	6671682	0%	0%	100%	0%	0%	100%
B28LD010	6671683	14%	0%	86%	66%	0%	34%
B28LD010	6671684	22%	0%	78%	81%	0%	19%
B28LD010	6671685	2%	0%	98%	75%	0%	25%
B28LD010	6671686	20%	0%	80%	71%	0%	29%
B28LD010	6671687	3%	0%	97%	38%	0%	62%
B28LD010	6671688	0%	0%	100%	0%	0%	100%
B28LD010	6671689	40%	0%	60%	93%	0%	7%

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		%age Recovery (counts)			%age Recovery (Carats)		
Hole No	Sample ID	Primary	Recrush	-2mm_CF	Primary	Recrush	-2mm_CF
B28LD012	6671844	0%	0%	100%	0%	0%	100%
B28LD012	6671845	0%	14%	86%	0%	63%	37%
B28LD012	6671846	0%	0%	100%	0%	0%	100%
B28LD012	6671847	10%	0%	90%	43%	0%	57%
B28LD012	6671848	0%	0%	100%	0%	0%	100%
B28LD012	6671849	10%	10%	80%	78%	17%	5%
B28LD012	6671851	0%	0%	100%	0%	0%	100%
B28LD012	6671852	0%	0%	100%	0%	0%	100%
B28LD012	6671853	0%	13%	88%	0%	62%	38%
B28LD012	6671854	0%	0%	100%	0%	0%	100%
B28LD012	6671855	0%	6%	94%	0%	36%	54%
B28LD012	6671856	22%	11%	67%	50%	44%	6%
B28LD012	6671857	20%	20%	60%	48%	37%	15%
B28LD012	6671858	0%	0%	100%	0%	0%	100%
B28LD012	6671859	6%	6%	88%	20%	45%	34%
B28LD012	6671860	0%	20%	80%	0%	50%	50%
B28LD012	6671861	17%	4%	79%	60%	18%	22%
B28LD012	6671862	16%	6%	77%	60%	26%	13%
B28LD012	6671863	11%	5%	84%	63%	21%	17%
B28LD012	6671864	14%	0%	86%	47%	0%	53%
B28LD012	6671865	0%	15%	85%	0%	63%	37%
B28LD012	6671866	3%	9%	88%	21%	52%	27%
B28LD012	6671867	0%	4%	96%	0%	48%	52%
B28LD012	6671868	13%	0%	88%	80%	0%	20%
B28LD012	6671869	0%	0%	100%	0%	0%	100%
B28LD015	6672701	59%	6%	35%	76%	3%	21%
B28LD015	6672702	29%	14%	57%	30%	35%	35%
B28LD015	6672703	0%	0%	100%	0%	0%	100%
B28LD015	6672704	18%	27%	55%	26%	41%	33%
B28LD015	6672705	33%	0%	67%	74%	0%	26%
B28LD015	6672706	0%	50%	50%	0%	84%	16%
B28LD015	6672707	17%	33%	50%	35%	25%	42%
B28LD015	6672708	14%	14%	71%	27%	20%	53%
B28LD015	6672709	50%	25%	25%	67%	30%	3%
B28LD015	6672710	18%	45%	36%	46%	48%	5%
B28LD015	6672711	20%	60%	20%	31%	61%	8%
B28LD015	6672712	75%	25%	0%	95%	5%	0%
B28LD015	6672713	33%	35%	35%	23%	57%	20%

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B28LD015	6672714	29%	0%	71%	91%	0%	9%
B28LD015	6672715	40%	40%	20%	58%	34%	9%
B28LD015	6672716	67%	17%	17%	55%	10%	5%
B28LD015	6672717	45%	27%	27%	56%	11%	3%
B28LD015	6672718	27%	36%	36%	91%	6%	4%
B28LD015	6672719	11%	44%	44%	1%	93%	5%
B28LD015	6672720	12%	35%	53%	39%	36%	25%
B28LD015	6672721	11%	44%	44%	6%	80%	14%
B28LD015	6672722	33%	0%	67%	42%	0%	58%
B28LD015	6672723	20%	80%	0%	10%	90%	0%
B28LD015	6672724	40%	0%	60%	70%	0%	30%
B28LD015	6672725	29%	14%	57%	89%	6%	6%
B28LD015	6672726	0%	0%	100%	0%	0%	100%
B28LD016	6672727	-	-	-	-	-	-
B28LD016	6672728	50%	0%	50%	42%	0%	58%
B28LD016	6672729	0%	0%	100%	0%	0%	100%
B28LD016	6672730	100%	0%	0%	100%	0%	0%
B28LD016	6672731	0%	33%	67%	0%	32%	68%
B28LD016	6672732	0%	100%	0%	0%	100%	0%
B28LD016	6672733	0%	0%	100%	0%	0%	100%
B28LD016	6672734	0%	0%	100%	0%	0%	100%
B28LD016	6672735	0%	100%	0%	0%	100%	0%
B28LD016	6672736	0%	67%	33%	0%	84%	16%
B28LD016	6672737	0%	33%	67%	0%	57%	43%
B28LD016	6672738	0%	33%	67%	0%	52%	48%
B28LD016	6672739	0%	0%	100%	0%	0%	100%
B28LD016	6672740	50%	0%	50%	98%	0%	2%
B28LD016	6672741	0%	0%	100%	0%	0%	100%
B28LD016	6672742	0%	0%	100%	0%	0%	100%
B28LD016	6672743	50%	0%	50%	73%	0%	27%
B28LD016	6672744	0%	0%	100%	0%	0%	100%
B28LD016	6672745	100%	0%	0%	100%	0%	0%
B28LD017	6672747	25%	50%	25%	17%	70%	13%
B28LD017	6672748	30%	0%	70%	61%	0%	39%
B28LD017	6672749	17%	0%	83%	75%	0%	25%
B28LD017	6672750	25%	50%	25%	26%	53%	21%
B28LD017	6672751	17%	17%	67%	9%	18%	73%
B28LD017	6672752	33%	33%	33%	51%	13%	36%
B28LD017	6672753	0%	40%	60%	0%	55%	45%
B28LD017	6672754	75%	0%	25%	97%	0%	13%
B28LD017	6672755	13%	50%	38%	26%	66%	8%
B28LD017	6672756	80%	0%	20%	97%	0%	3%
B28LD017	6672757	33%	11%	56%	34%	12%	54%

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B28LD017	6672758	36%	0%	64%	40%	0%	60%
B28LD017	6672759	0%	40%	60%	0%	68%	32%
B28LD017	6672760	50%	25%	25%	38%	59%	3%
B28LD017	6672761	0%	0%	100%	0%	0%	100%
B28LD017	6672762	0%	0%	100%	0%	0%	100%
B28LD017	6672763	100%	0%	0%	100%	0%	0%
B28LD017	6672764	25%	0%	75%	69%	0%	31%
B28LD018	6672766	-	-	-	-	-	-
B28LD018	6672767	36%	0%	64%	62%	0%	38%
B28LD018	6672768	0%	0%	100%	0%	0%	100%
B28LD018	6672769	-	-	-	-	-	-
B28LD018	6672770	100%	0%	0%	100%	0%	0%
B28LD018	6672771	25%	0%	75%	84%	0%	16%
B28LD018	6672772	13%	38%	50%	28%	47%	26%
B28LD018	6672773	6%	13%	81%	6%	44%	49%
B28LD018	6672774	33%	0%	67%	33%	0%	57%
B28LD018	6672775	33%	0%	67%	56%	0%	44%
B28LD018	6672776	0%	0%	100%	0%	0%	100%
B28LD018	6672777	20%	20%	60%	38%	19%	43%
B28LD018	6672778	25%	25%	50%	30%	56%	14%
B28LD018	6672779	0%	0%	100%	0%	0%	100%
B28LD018	6672780	0%	20%	80%	0%	49%	51%
B28LD018	6672781	33%	0%	67%	85%	0%	15%
B28LD018	6672782	50%	17%	33%	42%	50%	9%
B28LD018	6672783	50%	17%	33%	73%	17%	9%
B28LD018	6672784	40%	0%	60%	95%	0%	5%
B28LD018	6672785	0%	67%	33%	0%	94%	6%
B28LD018	6672786	18%	12%	71%	27%	46%	27%
B28LD018	6672787	14%	29%	57%	40%	34%	26%
B28LD018	6672788	64%	0%	36%	93%	0%	7%
B28LD018	6672789	11%	22%	67%	18%	46%	36%
B28LD018	6672790	22%	11%	67%	72%	16%	12%
B28LD019	10112402	60%	20%	20%	92%	6%	2%
B28LD019	10112403	0%	43%	57%	0%	57%	43%
B28LD019	10112404	33%	33%	33%	89%	5%	6%
B28LD019	10112405	17%	25%	58%	37%	43%	21%
B28LD019	10112406	25%	50%	25%	43%	47%	10%
B28LD019	10112407	25%	0%	75%	96%	0%	4%
B28LD019	10112408	0%	20%	60%	44%	25%	31%
B28LD019	10112409	33%	33%	33%	57%	24%	19%
B28LD019	10112410	10%	10%	80%	59%	8%	33%
B28LD019	10112411	25%	0%	75%	26%	0%	74%
B28LD019	10112412	57%	0%	43%	94%	0%	6%

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B28LD019	10112413	14%	14%	71%	49%	39%	12%
B28LD019	10112414	20%	20%	60%	28%	29%	43%
B28LD019	10112415	17%	17%	67%	52%	15%	33%
B28LD019	10112416	33%	33%	33%	35%	57%	8%
B28LD019	10112417	0%	44%	56%	0%	36%	64%
B28LD019	10112418	33%	33%	33%	79%	14%	7%
B28LD019	10112419	20%	0%	80%	67%	0%	33%
B28LD019	10112420	0%	10%	90%	0%	53%	47%
B28LD019	10112421	0%	0%	100%	0%	0%	100%
B28LD019	10112422	31%	19%	50%	62%	19%	19%
B28LD019	10112423	17%	25%	58%	18%	43%	39%
B28LD019	10112424	14%	43%	43%	13%	84%	3%
B28LD019	10112425	0%	47%	53%	0%	86%	14%
B28LD019	10112426	43%	14%	43%	69%	16%	15%
B28LD019	10112427	33%	0%	67%	72%	0%	28%
B28LD019	10112428	0%	57%	43%	0%	77%	23%
B28LD019	10112429	29%	29%	43%	94%	3%	3%
B28LD019	10112430	13%	13%	75%	66%	2%	32%
B28LD019	10112431	0%	0%	100%	0%	0%	100%
B28LD019	10112432	22%	35%	44%	31%	23%	46%
B28LD019	10112433	6%	11%	83%	8%	14%	78%
B28LD019	10112434	50%	50%	0%	62%	38%	0%
B28LD019	10112435	9%	9%	82%	18%	13%	69%
B28LD019	10112436	0%	20%	80%	0%	36%	64%

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Summary Results of the samples

Table 3 Sample results from LDC

Hole No	sample ID	sample from	sample to	sample weight (tonnes)	carats
B28LD001	6666302	5	15	0.72	0.806
B28LD001	6666303	15	25	0.75	0.575
B28LD001	6666304	25	35	0.73	0.045
B28LD001	6666305	35	45	0.73	0.515
B28LD001	6666306	45	55	0.71	0.48
B28LD001	6666307	55	65	0.71	0.35
B28LD001	6666308	65	75	0.67	0.239
B28LD001	6666309	75	85	0.83	0.456
B28LD001	6666310	85	95	0.74	0.104
B28LD001	6666311	95	105	0.73	0.658
B28LD001	6666312	105	115	0.78	0.127
B28LD001	6666313	115	125	0.67	0.142
B28LD001	6666314	125	135	0.76	0.833
B28LD001	6666315	135	145	0.78	0.35
B28LD001	6666316	145	155	0.79	0.172
B28LD001	6666317	155	165	0.82	0.017
B28LD001	6666318	165	175	0.82	0.371
B28LD001	6666319	175	185	0.78	0.117
B28LD002	6666326	6	16	0.52	0.213
B28LD002	6666327	16	26	0.7	0.415
B28LD002	6666328	26	36	0.7	0.471
B28LD002	6666329	36	46	0.79	0.456
B28LD002	6666330	46	56	0.74	0.128
B28LD002	6666331	56	66	0.71	1.393
B28LD002	6666332	66	76	0.76	0.376
B28LD002	6666333	76	86	0.78	0.184
B28LD002	6666334	86	96	0.76	1.014
B28LD002	6666335	96	106	0.78	1.063
B28LD002	6666336	106	116	0.76	0.124
B28LD002	6666337	116	126	0.81	1.053
B28LD002	6666338	126	136	0.72	1.196
B28LD002	6666339	136	146	0.76	1.598
B28LD002	6666340	146	156	0.72	0.075
B28LD002	6666341	156	166	0.77	0.738
B28LD002	6666342	166	176	0.75	0.09

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B28LD002	6666343	176	186	0.77	1.497
B28LD002	6666344	186	196	0.73	0.237
B28LD002	6666345	196	206	0.73	0.707
B28LD003	6666351	0	10	0.5	0.031
B28LD003	6666352	10	20	0.61	0.329
B28LD003	6666353	20	30	0.81	0.372
B28LD003	6666354	30	40	0.68	0.357
B28LD003	6666355	40	50	0.71	0.217
B28LD003	6666356	50	60	0.73	0.156
B28LD003	6666357	60	70	0.47	1.482
B28LD003	6666358	70	80	0.69	0.714
B28LD003	6666359	80	90	0.74	0.064
B28LD003	6666360	90	100	0.72	0.28
B28LD003	6666361	100	110	0.75	0.24
B28LD003	6666362	110	120	0.76	0.412
B28LD003	6666363	120	130	0.75	0.414
B28LD003	6666364	130	140	0.81	0.657
B28LD003	6666365	140	150	0.79	0.629
B28LD003	6666366	150	160	0.8	0.667
B28LD003	6666367	160	170	0.78	0.095
B28LD003	6666368	170	180	0.78	0.357
B28LD003	6666369	180	190	0.78	0.871
B28LD003	6666370	190	200	0.78	1.147
B28LD003	6666371	200	210	0.78	0.277
B28LD003	6666372	210	220	0.78	0.294
B28LD003	6666373	220	230	0.79	0.147
B28LD003	6666374	230	240	0.8	0.938
B28LD003	6666375	240	250	0.77	0.514
B28LD003	6666376	250	255.6	0.47	0.526
B28LD004	6671602	6	16	0.7	0
B28LD004	6671603	16	26	0.74	0.03
B28LD004	6671604	26	36	0.67	0.026
B28LD004	6671605	36	46	0.7	0.052
B28LD004	6671606	46	56	0.77	0.077
B28LD004	6671607	56	66	0.68	0.066
B28LD004	6671608	66	76	0.68	0.05
B28LD004	6671609	76	86	0.7	0.024
B28LD004	6671610	86	96	0.73	0.155
B28LD004	6671611	96	106	0.71	0.044
B28LD004	6671612	106	116	0.59	0.582

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B28LD004	6671613	116	126	0.67	0.072
B28LD004	6671614	126	136	0.46	0.039
B28LD004	6671615	136	146	0.72	0.201
B28LD005	6666378	6	16	0.66	0.96
B28LD005	6666379	16	26	0.78	0.372
B28LD005	6666380	26	36	0.69	0.054
B28LD005	6666381	36	46	0.78	1.863
B28LD005	6666382	46	56	0.72	0.089
B28LD005	6666383	56	66	0.77	0.591
B28LD005	6666384	66	76	0.76	0.123
B28LD005	6666385	76	86	0.73	0.26
B28LD005	6666386	86	96	0.76	0.284
B28LD005	6666387	96	106	0.76	0.755
B28LD005	6666388	106	116	0.77	0.813
B28LD005	6666389	116	126	0.77	0.193
B28LD005	6666390	126	136	0.78	0.474
B28LD005	6666391	136	146	0.77	0.683
B28LD 005	6666392	146	156	0.78	0.345
B28LD 005	6666393	156	166	0.73	0.134
B28LD 006	6666397	20	30	0.74	0
B28LD 006	6666398	30	40	0.75	0
B28LD 006	6666399	40	50	0.74	0.132
B28LD 006	6666400	50	60	0.74	0.198
B28LD 006	6666401	60	70	0.51	0.85
B28LD 006	6666402	70	80	0.74	0
B28LD 006	6666403	80	90	0.77	0.113
B28LD 006	6666404	90	100	0.76	0.226
B28LD 006	6666405	100	110	0.71	0.243
B28LD 006	6666406	110	120	0.68	0.013
B28LD 006	6666407	120	130	0.7	0.01
B28LD 006	6666408	130	140	0.66	0
B28LD 006	6666409	140	150	0.69	0
B28LD 006	6666410	150	160	0.55	0.018
B28LD 006	6666411	160	170	0.42	0.082
B28LD 006	6666412	170	180	0.61	0.029
B28LD 006	6666413	180	190	0.65	0.011
B28LD 006	6666414	190	200	0.65	0.021
B28LD 006	6666415	200	210	0.76	0.079
B28LD 006	6666416	210	220	0.74	0
B28LD 006	6666417	220	230	0.71	0

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B28LD 006	6666418	230	240	0.76	0.05
B28LD 006	6666419	240	249.34	0.73	0.121
B28LD 007	6671622	0	7	0.41	0.493
B28LD 007	6671623	7	17	0.7	0
B28LD 007	6671624	17	27	0.64	0.1
B28LD 007	6671625	27	37	0.7	0.01
B28LD 007	6671626	37	47	0.64	0.075
B28LD 007	6671627	47	57	0.68	0.087
B28LD 007	6671628	57	67	0.7	0.02
B28LD 007	6671629	67	77	0.64	0.018
B28LD 007	6671630	77	87	0.61	0.03
B28LD 007	6671631	87	97	0.34	0.072
B28LD 007	6671632	97	107	0.5	0.021
B28LD 007	6671633	107	117	0.59	0.047
B28LD 008	6671638	10	20	0.6	0.58
B28LD 008	6671639	20	30	0.72	1.286
B28LD 008	6671640	30	40	0.72	0.137
B28LD 008	6671641	40	50	0.78	0.156
B28LD 008	6671642	50	60	0.7	0.35
B28LD 008	6671643	60	70	0.74	0.915
B28LD 008	6671644	70	80	0.76	0.291
B28LD008	6671645	80	90	0.77	0.216
B28LD008	6671646	90	100	0.79	0.347
B28LD008	6671647	100	110	0.75	0.374
B28LD008	6671648	110	120	0.77	0.324
B28LD008	6671649	120	130	0.76	0.845
B28LD008	6671650	130	140	0.81	0.514
B28LD008	6671651	140	150	0.8	0.568
B28LD008	6671652	150	160	0.76	1.553
B28LD008	6671653	160	170	0.8	0.624
B28LD008	6671654	170	180	0.75	0.225
B28LD008	6671655	180	190	0.77	0.793
B28LD008	6671656	190	200	0.79	0.935
B28LD008	6671657	200	210	0.73	0.408
B28LD008	6671658	210	220	0.76	0.324
B28LD008	6671659	220	230	0.79	1.128
B28LD008	6671660	230	240	0.83	0.124
B28LD008	6671661	240	250	0.76	1.616
B28LD008	6671662	250	259.5	0.75	0.323
B28LD009	6671823	20	30	0.71	0.013

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B28LD009	6671824	30	40	0.78	0.085
B28LD009	6671825	40	50	0.76	0
B28LD009	6671826	50	60	0.71	0
B28LD009	6671827	60	70	0.73	0.03
B28LD009	6671828	70	80	0.73	0.007
B28LD009	6671829	80	90	0.67	0.073
B28LD009	6671830	90	100	0.76	0.032
B28LD009	6671831	100	110	0.73	0
B28LD009	6671832	110	120	0.78	0.034
B28LD009	6671833	120	130	0.77	0.041
B28LD009	6671834	130	140	0.76	0
B28LD009	6671835	140	150	0.77	0.032
B28LD009	6671836	150	160	0.76	0.01
B28LD009	6671837	160	170	0.78	0.086
B28LD009	6671838	170	180	0.77	0
B28LD009	6671839	180	190	0.76	0
B28LD009	6671840	190	200	0.73	0
B28LD009	6671841	200	210	0.79	0.014
B28LD009	6671842	210	220	0.77	0.017
B28LD010	6671664	2	12	0.5	0.931
B28LD010	6671665	12	22	0.76	0.498
B28LD010	6671666	22	32	0.75	0.385
B28LD010	6671667	32	42	0.78	0.287
B28LD010	6671668	42	52	0.81	0.386
B28LD010	6671669	52	62	0.79	1.422
B28LD010	6671670	62	72	0.82	1.255
B28LD010	6671671	72	82	0.76	1.695
B28LD010	6671672	82	92	0.79	1.46
B28LD010	6671673	92	102	0.83	0.362
B28LD010	6671674	102	112	0.76	0.127
B28LD010	6671675	112	122	0.8	0.125
B28LD010	6671676	122	132	0.78	0.509
B28LD010	6671677	132	142	0.8	0.378
B28LD010	6671678	142	152	0.75	0.07
B28LD010	6671679	152	162	0.79	0.121
B28LD010	6671680	162	172	0.78	0.222
B28LD010	6671681	172	182	0.8	0.721
B28LD010	6671682	182	192	0.81	0.389
B28LD010	6671683	192	202	0.77	0.581
B28LD010	6671684	202	212	0.8	1

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B28LD010	6671685	212	222	0.79	0.47
B28LD010	6671686	222	232	0.79	0.119
B28LD010	6671687	232	242	0.8	0.285
B28LD010	6671688	242	252	0.82	0.302
B28LD010	6671689	252	260.2	0.62	0.86
B28LD012	6671844	0	10	0.84	0.065
B28LD012	6671845	10	20	0.85	0.155
B28LD012	6671846	20	30	0.77	0.069
B28LD012	6671847	30	40	0.76	0.21
B28LD012	6671848	40	50	0.78	0.043
B28LD012	6671849	50	60	0.76	1.922
B28LD012	6671850	60	70	0.78	0.255
B28LD012	6671851	70	80	0.78	0.073
B28LD012	6671852	80	90	0.77	0.113
B28LD012	6671853	90	100	0.81	0.701
B28LD012	6671854	100	110	0.72	0.137
B28LD012	6671855	110	120	0.79	0.33
B28LD012	6671856	120	130	0.77	1.045
B28LD012	6671857	130	140	0.78	0.384
B28LD012	6671858	140	150	0.77	0.092
B28LD012	6671859	150	160	0.76	0.538
B28LD012	6671860	160	170	0.77	0.395
B28LD012	6671861	170	180	0.78	1.301
B28LD012	6671862	180	190	0.81	2.521
B28LD012	6671863	190	200	0.77	0.987
B28LD012	6671864	200	210	0.79	0.142
B28LD012	6671865	210	220	0.81	0.703
B28LD012	6671866	220	230	0.81	0.879
B28LD012	6671867	230	240	0.82	0.267
B28LD012	6671868	240	250	0.82	1.232
B28LD012	6671869	250	251.6	0.12	0.014
B28LD015	6672701	1	11	0.91	0.663
B28LD015	6672702	11	21	1.04	0.207
B28LD015	6672703	21	31	0.8	0.157
B28LD015	6672704	31	41	0.86	0.351
B28LD015	6672705	41	51	0.81	0.161
B28LD015	6672706	51	61	0.8	0.186
B28LD015	6672707	61	71	0.85	0.176
B28LD015	6672708	71	81	0.82	0.147
B28LD015	6672709	81	91	0.89	0.495

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B28LD015	6672710	91	101	0.86	1.862
B28LD015	6672711	101	111	0.86	0.775
B28LD015	6672712	111	121	0.85	0.43
B28LD015	6672713	121	131	0.82	0.305
B28LD015	6672714	131	141	0.86	1.572
B28LD015	6672715	141	151	0.87	0.363
B28LD015	6672716	151	161	0.85	1.466
B28LD015	6672717	161	171	0.85	1.321
B28LD015	6672718	171	181	0.86	1.893
B28LD015	6672719	181	191	0.88	0.869
B28LD015	6672720	191	201	0.86	0.85
B28LD015	6672721	201	211	0.82	0.489
B28LD015	6672722	211	221	0.82	0.071
B28LD015	6672723	221	231	0.82	0.353
B28LD015	6672724	231	241	0.85	0.24
B28LD015	6672725	241	250.1	0.73	1.346
B28LD016	6672726	0	7	0.41	0.015
B28LD016	6672727	7	17	0.79	0
B28LD016	6672728	17	27	0.79	0.168
B28LD016	6672729	27	37	0.81	0.018
B28LD016	6672730	37	47	0.78	0.032
B28LD016	6672731	47	57	0.77	0.075
B28LD016	6672732	57	67	0.81	0.06
B28LD016	6672733	67	77	0.82	0.011
B28LD016	6672734	77	87	0.8	0.097
B28LD016	6672735	87	97	0.85	0.024
B28LD016	6672736	97	107	0.83	0.106
B28LD016	6672737	107	117	0.82	0.174
B28LD016	6672738	117	127	0.82	0.073
B28LD016	6672739	127	137	0.82	0.041
B28LD016	6672740	137	147	0.82	0.359
B28LD016	6672741	147	157	0.84	0.006
B28LD016	6672742	157	167	0.89	0.011
B28LD016	6672743	167	177	0.87	0.064
B28LD016	6672744	177	187	0.81	0.056
B28LD016	6672745	187	188.8	0.22	0.274
B28LD017	6672747	7	17	0.82	0.412
B28LD017	6672748	17	27	0.79	0.614
B28LD017	6672749	27	37	0.78	0.446
B28LD017	6672750	37	47	0.79	0.182

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B28LD017	6672751	47	57	0.8	0.202
B28LD017	6672752	57	67	0.78	0.266
B28LD017	6672753	67	77	0.82	0.569
B28LD017	6672754	77	87	0.74	0.563
B28LD017	6672755	87	97	0.86	0.483
B28LD017	6672756	97	107	0.8	0.441
B28LD017	6672757	107	117	0.83	0.263
B28LD017	6672758	117	127	0.78	0.379
B28LD017	6672759	127	137	0.77	0.255
B28LD017	6672760	137	147	0.85	1.65
B28LD017	6672761	147	157	0.87	0.083
B28LD017	6672762	157	167	0.84	0.068
B28LD017	6672763	167	177	0.82	0.071
B28LD017	6672764	177	181	0.43	0.165
B28LD018	6672766	0	9	0.48	0
B28LD018	6672767	9	19	0.74	0.715
B28LD018	6672768	19	29	0.8	0.073
B28LD018	6672769	29	39	0.78	0
B28LD018	6672770	39	49	0.77	0.07
B28LD018	6672771	49	59	0.78	0.422
B28LD018	6672772	59	69	0.76	0.352
B28LD018	6672773	69	79	0.78	0.824
B28LD018	6672774	79	89	0.78	0.227
B28LD018	6672775	89	99	0.8	0.324
B28LD018	6672776	99	109	0.76	0.077
B28LD018	6672777	109	119	0.8	0.12
B28LD018	6672778	119	129	0.77	0.271
B28LD018	6672779	129	139	0.79	0.07
B28LD018	6672780	139	149	0.71	0.202
B28LD018	6672781	149	159	0.78	0.467
B28LD018	6672782	159	169	0.78	0.407
B28LD018	6672783	169	179	0.8	0.313
B28LD018	6672784	179	189	0.81	1.564
B28LD018	6672785	189	199	0.8	0.441
B28LD018	6672786	199	209	0.76	0.817
B28LD018	6672787	209	219	0.82	0.277
B28LD018	6672788	219	229	0.78	0.661
B28LD018	6672789	229	239	0.79	0.285
B28LD018	6672790	239	249	0.84	0.906
B28LD019	10112402	2.5	12.5	0.48	0.444

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B28LD019	10112403	12.5	22.5	0.79	0.445
B28LD019	10112404	22.5	32.5	0.75	0.449
B28LD019	10112405	32.5	42.5	0.77	0.936
B28LD019	10112406	42.5	52.5	0.78	0.204
B28LD019	10112407	52.5	62.5	0.76	0.855
B28LD019	10112408	62.5	72.5	0.77	0.209
B28LD019	10112409	72.5	82.5	0.75	0.11
B28LD019	10112410	82.5	92.5	0.78	0.344
B28LD019	10112411	92.5	102.5	0.78	0.317
B28LD019	10112412	102.5	112.5	0.65	2.325
B28LD019	10112413	112.5	122.5	0.77	0.657
B28LD019	10112414	122.5	132.5	0.79	0.083
B28LD019	10112415	132.5	142.5	0.8	0.165
B28LD019	10112416	142.5	152.5	0.78	0.298
B28LD019	10112417	152.5	162.5	0.83	0.222
B28LD019	10112418	162.5	172.5	0.81	0.662
B28LD019	10112419	172.5	182.5	0.74	0.189
B28LD019	10112420	182.5	192.5	0.81	0.35
B28LD019	10112421	192.5	202.5	0.87	0.06
B28LD019	10112422	202.5	212.5	0.78	1.064
B28LD019	10112423	212.5	222.5	0.82	0.359
B28LD019	10112424	222.5	232.5	0.82	1.645
B28LD019	10112425	232.5	242.5	0.8	1.55
B28LD019	10112426	242.5	252.5	0.79	0.232
B28LD019	10112427	252.5	262.5	0.8	0.337
B28LD019	10112428	262.5	272.5	0.86	0.368
B28LD019	10112429	272.5	282.5	0.78	2.069
B28LD019	10112430	282.5	292.5	0.8	0.84
B28LD019	10112431	292.5	302.5	0.8	0.148
B28LD019	10112432	302.5	312.5	0.8	0.317
B28LD019	10112433	312.5	322.5	0.8	1.066
B28LD019	10112434	322.5	332.5	0.8	0.123
B28LD019	10112435	332.5	342.5	0.79	0.22
B28LD019	10112436	342.5	352.5	0.82	0.142

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Table 4 Sample results from Bulk Samples

Sample No	Pit	Geology	Carats	Weight(t)
6641942	Pit1A	Weathered Lamproite	96.13	406
6641931	Pit7	Colluvium	0.59	20.06
6641932	Pit7	Weathered Lamproite	5.17	24
6641946	Pit7A	Colluvium+Lamproite	42.47	393
6641943	Pit8A	Weathered Lamproite	79.19	602
6641944	Pit8B	Weathered Lamproite	21.142	416
6641945	Pit8C	Weathered Lamproite	78.18	388
6641925	Pit10	Colluvium	6.68	26.74
6641927	Pit10	Colluvium	1.8	34.47
6641929	Pit10	Colluvium	5.7	35.42
6672009	Pit10	Weathered Lamproite	116.53	162.64
6672005	Pit11	Colluvium	24.22	22.29
6641910	Pit11	Colluvium	4.82	5.46
6672006	Pit11	Weathered Lamproite	77.57	73.21
6641911	Pit11	Weathered Lamproite	8.4	5.86
6672007	Pit11	Sightly Weathered Lamproite	207.49	231.22
6641912	Pit11	Sightly Weathered Lamproite	43.45	38.48
6641947	Pit11A	Colluvium	18.6	54.48
6641948	Pit11A	Weathered Lamproite	68.87	45.66
6641949	Pit11A	Sightly Weathered Lamproite	375.56	316.32
6641959	Pit11A	Colluvium	7.07	14.41
6641956	Pit11A	Colluvium	9.88	9.95
6641950	Pit11A	Colluvium	10.741	11.23
6641953	Pit11A	Colluvium	8.802	23.93
6672008	Pit11A	Weathered Lamproite	362.64	118.34
6641961	Pit11A	Sightly Weathered Lamproite	29.79	19.43
6641958	Pit11A	Sightly Weathered Lamproite	76.03	49.81
6641952	Pit11A	Sightly Weathered Lamproite	16.84	17.57
6641955	Pit11A	Sightly Weathered Lamproite	72.07	34.86

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Annexure-7

Domainwise and levelwise estimated ore Reserves

Figures of tonnage in "000 t

Bench			Ore			Average grade
mRL	UNFC	South	Grade	UNFC	North	
	Code	Domain		Code	Domain	Grade
440	111			122		0.13
430	111			122	269.357	0.13
420	111	561.215	0.837	122	747.694	0.13
410	111	2108.176	0.729	122	1,134.931	0.13
400	111	2078.502	0.723	122	1,150.648	0.13
390	111	2041.71	0.704	122	1,142.080	0.13
380	111	1997.789	0.688	122	1,121.097	0.13
370	111	1953.639	0.678	122	1,035.508	0.13
360	111	1908.253	0.677	122	934.669	0.13
350	111	1892.161	0.679	122	818.770	0.13
340	111	1848.974	0.702	122	719.496	0.13
330	111	1781.789	0.719	122	647.312	0.13
320	111	1736.576	0.736	122	580.795	0.13
310	111	1701.762	0.744	122	463.098	0.13
300	111	1650.933	0.743	122	379.000	0.13
290	111	1596.146	0.751	122	318.026	0.13
280	111	1535.923	0.741	122	250.287	0.13
270	111	1448.249	0.777	122	180.114	0.13
260	111	1413.667	0.76	122	122.391	0.13
250	111	1355.448	0.778	122	64.653	0.13
240	111	1303.005	0.784	122	38.890	0.13
230	111	1227.659	0.814	122	15.037	0.13
220	111	1166.269	0.817	122	3.782	0.13
210	111	1096.215	0.804			
200	111	1052.728	0.818	-	-	-
190	122	997.969	0.834			
180	122	937.181	0.879			-
170	122	865.332	0.885			
160	122	727.412	0.854			-
150	122	572.212	0.847	-		
140	122	417.229	0.855	-		
130	122	285.16	0.812			
120	122	186.655	0.813			
110	122	98.976	0.842			
100	122	16.861	0.842			
Total Tonnage		41561.775			12137.536	

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Annexure-8

UNFC Classification of Reserves and Resources Estimation

	Classification	Code	Quantity (Mill. Tonne)	Grade Ct/t
	For Potential 954 ha. Area in Atri south & Atri North Deposit			
	Total Mineral Resources		53.70	0.78
	Mineral Reserves			
	a. Proved Mineral Reserves (Atri South)	111	36.46	0.78
	b. Probable Mineral Reserves	122	5.10	0.78
	(i) Atri South	122	12.14	0.13
	(ii) Atri North			
	Remaining Resources		Not assessed	Not assessed
	a. Feasibility Mineral Resources	*Nil*		
	b. Pre-feasibility Mineral Resources (Angiras Deposit)	*333*		
	c. Measured Mineral Resources	*Nil*		
	d. Indicated Mineral Resources	*Nil*		
	e. Inferred Mineral Resources	*Nil*		
	f. Reconnaissance Mineral Resources.	*Nil*		
		Nil		

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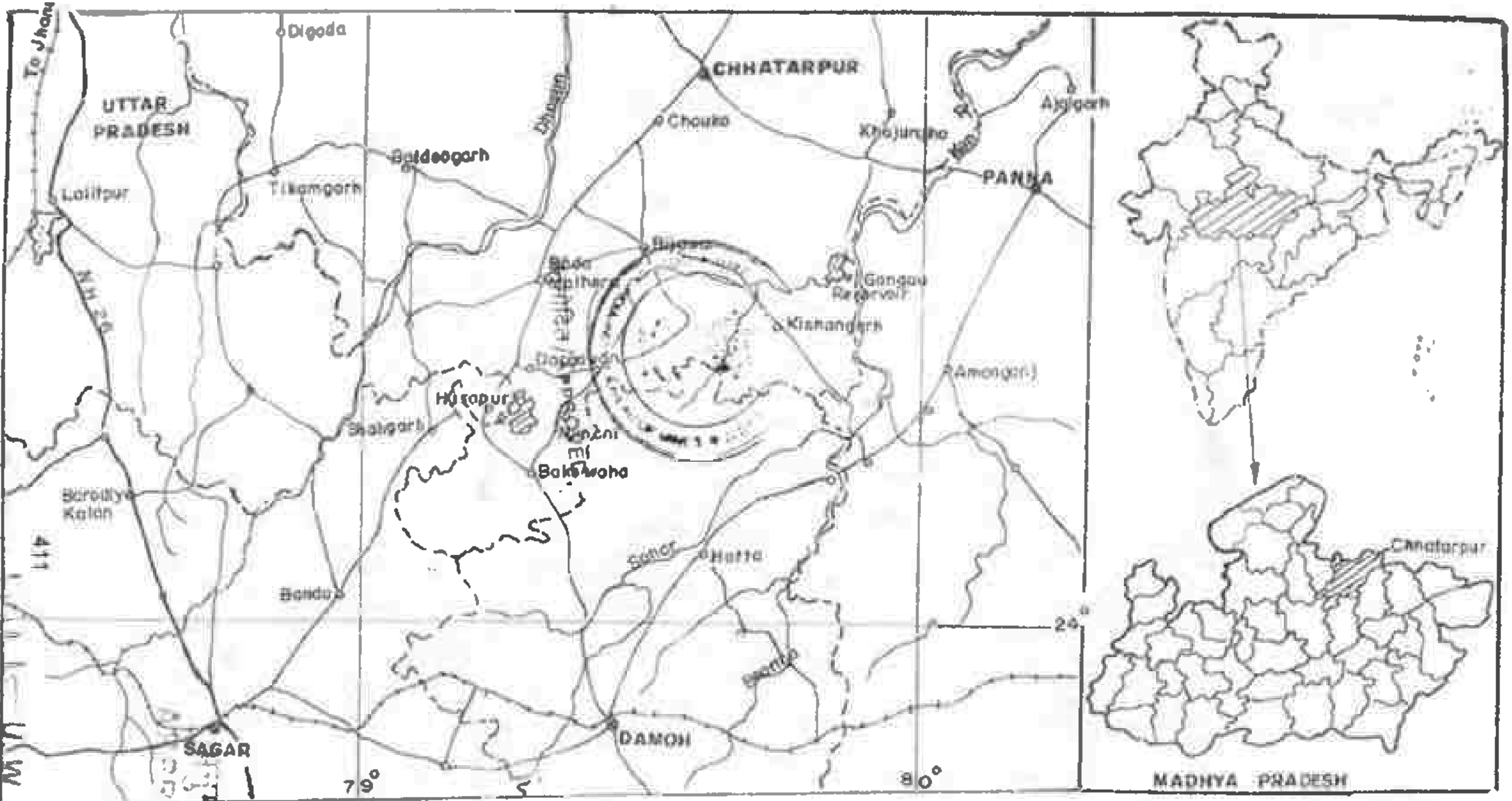

Block
State Boundary
District Boundary
Road
River
Railway

District Headquarter ● DAMOH

Other Village ○ Hatta

Fig 1
Location Map

411

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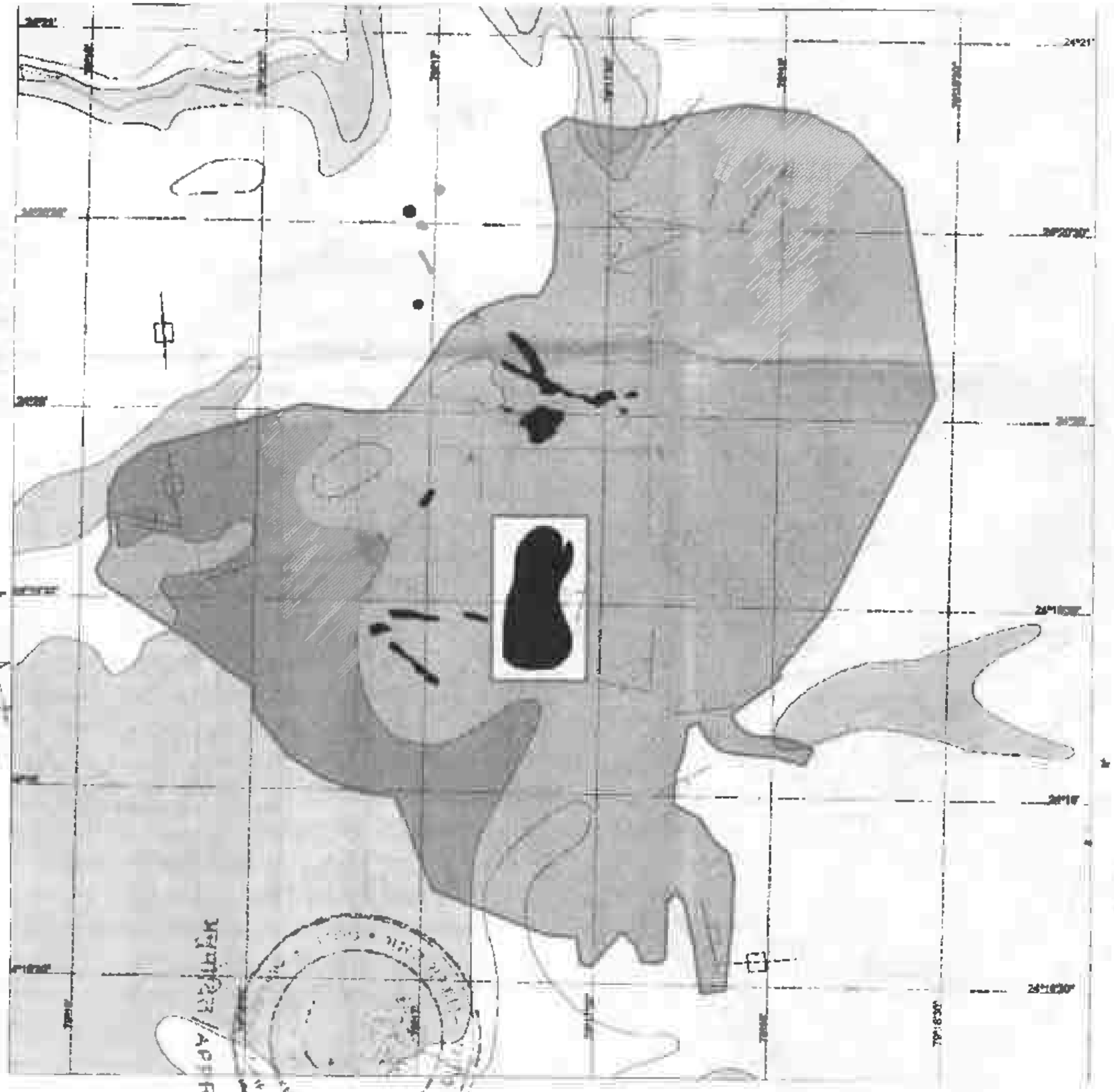

917 ha Bunder Mining Lease Application

Lamproite traces

Drainage

Mapping Geology

Deccan Trap Basalt

N

Kilometres

Scale: 1:15,000

for Rio Tinto Exploration India Limited

Director

Plan 3

RIO TINTO EXPLORATION INDIA LIMITED

BUNDER DIAMONDS

Local Geology Plan over 917ha ML Application

MADHYA PRADESH, INDIA

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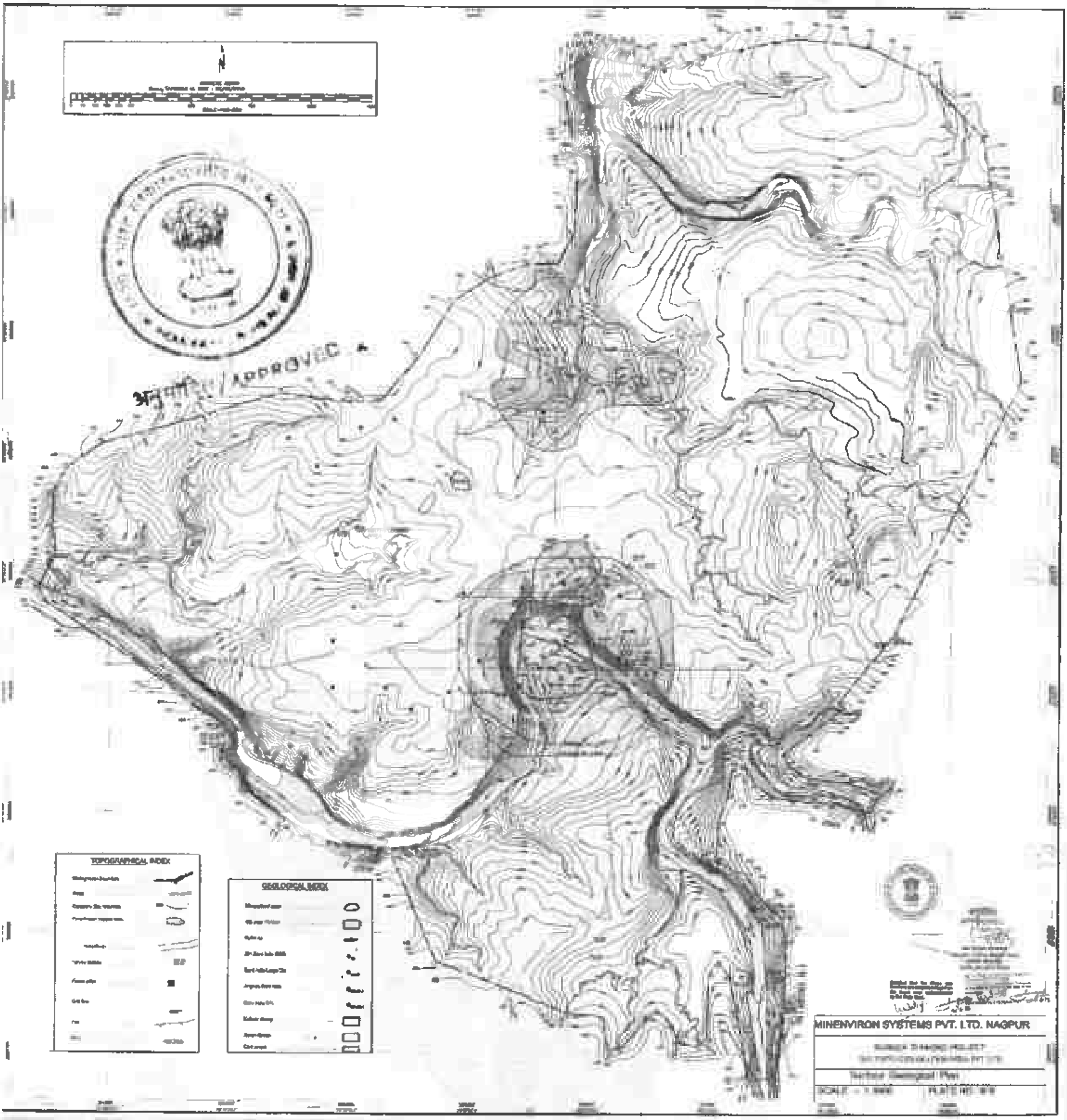

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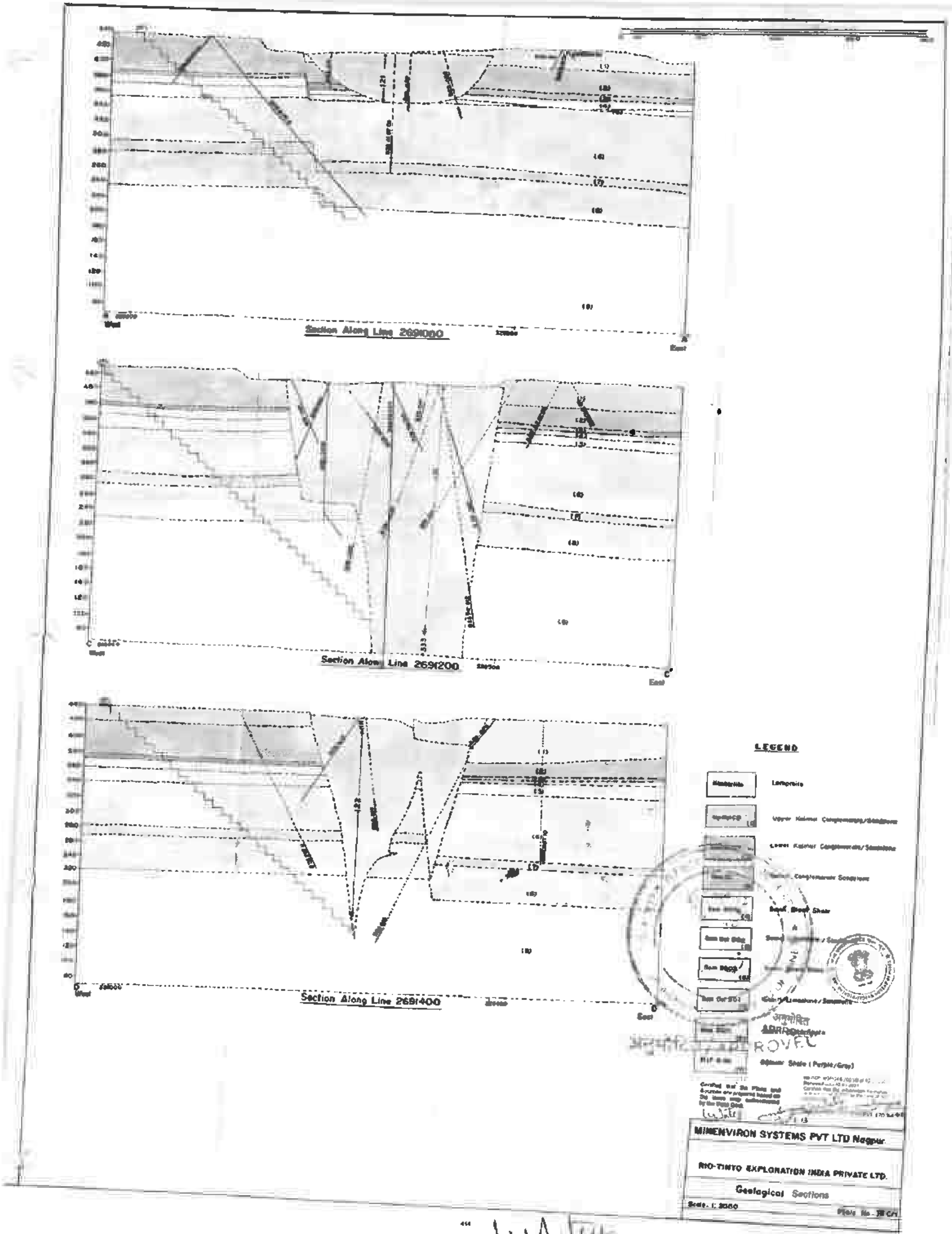
QUALIFIED PERSON



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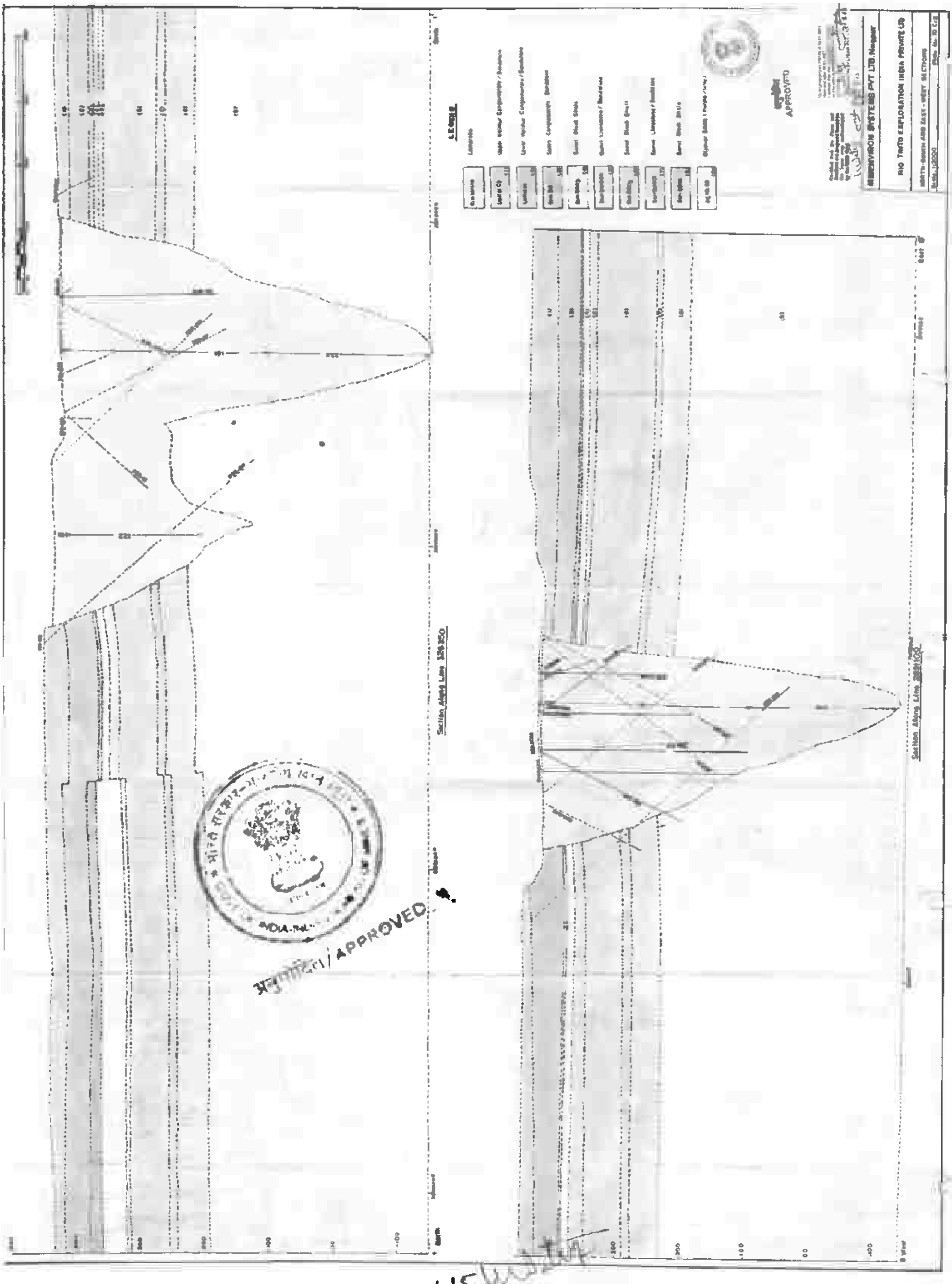
QUALIFIED PERSON



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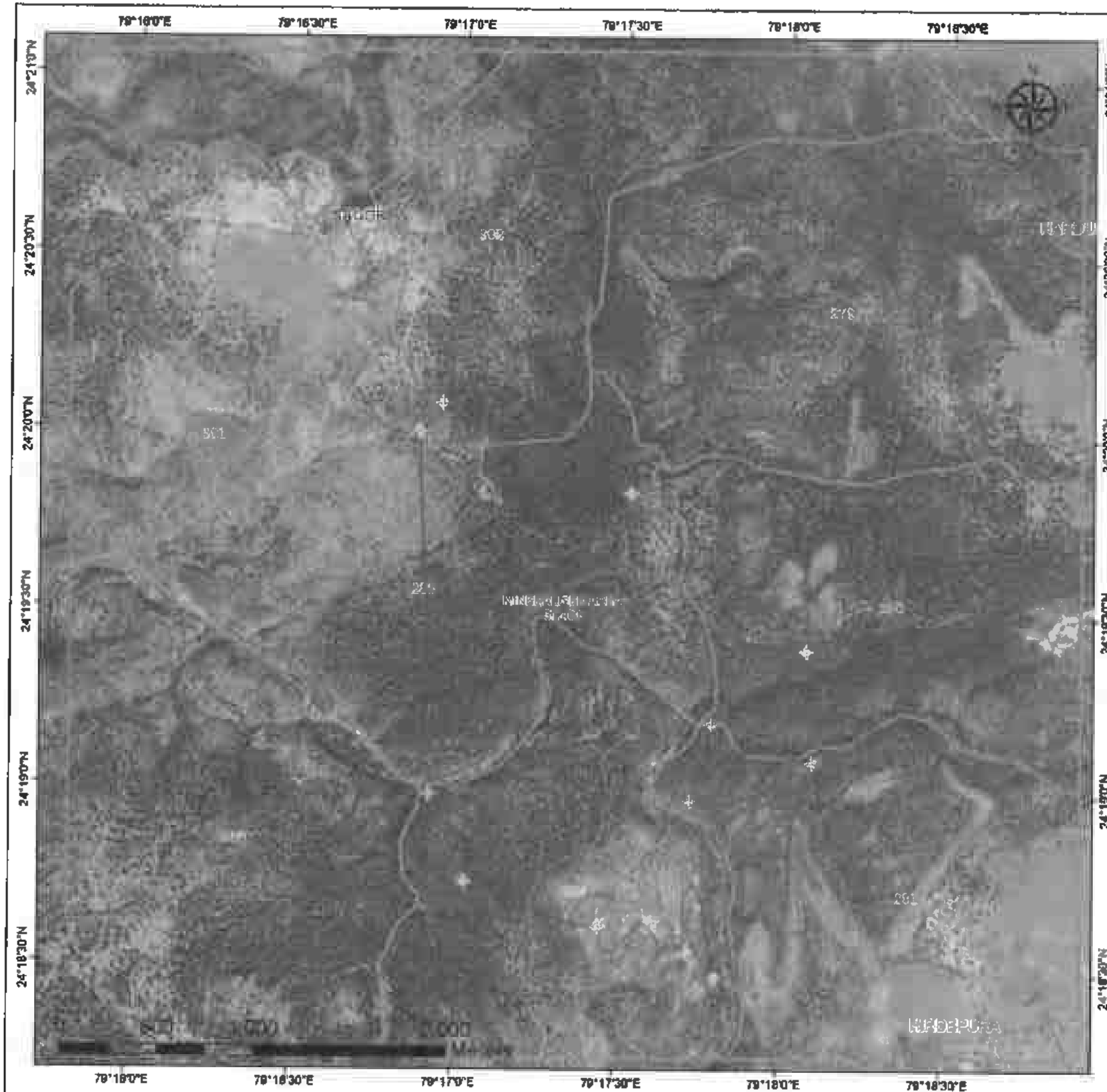
U. W. DATEY
QUALIFIED PERSON



FOREST COMPARTMENT WISE GEOLOGICAL MAP OF ATRI BLOCK OF BUNDER PROJECT, TEHSIL BUXWAHA DISTRICT CHHATARPUR (M.P.)

ATRI BLOCK (364.135 HECTARE)

S.NO.	COMPARTMENT NUMBER	TOTAL AREA OF COMPARTMENT IN HECTARE	[illegible]	[illegible]	[illegible]
1	[illegible]	381.810	[illegible]	[illegible]	VEERAMPURA
2	281	525.290	[illegible]	[illegible]	KASERA
3	284	455.270	140.846	[illegible]	VEERAMPURA
4	286	344.240	140.483	BIROTA	VEERAMPURA
5	[illegible]	463.170	5.230	DAMBOHA	DAMBOHA
Mineralised Area (17.40...)					
6	[illegible]	455.270	9.460	[illegible]	VEERAMPURA
[illegible]	286	344.240	27.437	BIROTA	VEERAMPURA

SNO	LATITUDE	LONGITUDE
1	24° 18' 24.108" N	79° 18' 0.343" E
2	24° 18' 59.186" N	79° 17' 31.558" E
3	24° 20' 4.881" N	79° 16' 56.810" E
4	24° 20' 8.329" N	79° 16' 52.529" E
5	24° 18' 59.151" N	79° 16' 56.233" E
6	24° 18' 44.380" N	79° 17' 2.081" E
7	24° 18' 37.215" N	79° 17' 36.693" E
8	24° 18' 28.784" N	79° 17' 40.892" E
9	24° 18' 56.735" N	79° 17' 43.367" E
10	24° 18' 11.882" N	79° 17' 47.136" E

Legend

- FOREST COMPARTMENTS
- PROPOSED BLOCK
- BOUNDARY PILLAR
- MINERALISED AREA

416

U. W. DATEY
QUALIFIED PERSON

[MAP SIZE - A2]

ANNEXURE III

III /A	Certificate of Registration of M/s EMIL
III /B	Pan card of Company
III /C	List Board of Directors
III /D	Board Resolution for Authorised Signatory
III /E	Identity card of Authorised Signatory
III /F	List of Mining lease held by EMIL

अनुमोदित/APPROVED

Co. No. 21-18728

Annexure III / A

नाम में तब्दीली के परिणामस्वरूप निगमन के लिये नया प्रमाण-पत्र

FRESH CERTIFICATE OF INCORPORATION CONSEQUENT ON CHANGE OF NAME

कम्पनियों के रजिस्ट्रार के कार्यालय में ... ...

[कम्पनी अधिनियम, 1956 (1956 का 1) के अधीन]

In the Office of the Registrar of Companies... ... ...

[Under the Companies Act, 1956 (1 of 1956)]

... ... के विषय में।

IN THE MATTER OF* S. LAL & CO. LTD. ... ...

मैं एतद्द्वारा प्रमाणित करता हूं कि ... ... परिसीमित जिसका निगमन मूलतः 19 ... ... के ... ... दिन इस † ... ... अधिनियम के अधीन और ... ... परिसीमित नाम द्वारा किया गया था कम्पनी अधिनियम 1956 की धारा 21/22 (1) (क)/22(1) (ख) के निबन्धनों के अनुसार आवश्यक संकल्प पारित कर चुकी है और इसकी बाबत केन्द्रीय सरकार की लिखित अनुमति कम्पनी कार्य विभाग द्वारा प्रदान कर दी गई है।

I hereby certify that S. LAL & Co... Limited, which was originally incorporated on 1st day of April ...1950 ... . under the† Companies Act, 1913 and under the name S. LAL & CO. ...Private Limited having duly passed the necessary resolution in terms of section 21/22(1)(a)/22(1)(b) of Companies Act, 1956 on 31.8.90, and the approval of the Central Government signified in writing having been accorded thereto in the Department of Company Affairs.

क्षेत्रीय निदेशक के तारीख ... ...19... ... ... के पत्र सं० ... ... द्वारा प्राप्त हो जाने पर उक्त कम्पनी का नाम इस दिन ... ... परिसीमित में तब्दील कर दिया गया है और यह प्रमाण-पत्र उक्त अधिनियम की धारा 23 (1) के अनुसरण में जारी किया जाता है।

~~Regional Director~~ R.O.C. ... ...letter No. NER/CN/18728/78 dated 22-10- ... ...1990 the name of the said company is this day changed to Essel Mining & Industries Limited Limited and this certificate is issued pursuant to section 23(1) of the said Act.

मेरे हस्ताक्षर से यह तारीख ... ... को दिया गया।

Given under my hand at Calcutta ... ... this day of 23rd October ...1990 ...

(One thousand nine hundred ninety ... ...).

REGISTRAR OF COMPANIES * WEST BENGAL *

Marwaha

कम्पनियों का रजिस्ट्रार

Addl Registrar of Companies, W.B.

---

*यहां पर कम्पनी का वह नाम लिखिए जो कि तब्दीली से पूर्व था।

*Here give the name of the Company as existing prior to the change.

†यहां पर अधिनियम (अधिनियमों) का नाम लिखिए जिनके अधीन कम्पनी का मूलतः रजिस्ट्रीकरण और निगमन किया गया था।

†Here give the name of the Act(s) under which the Company was originally registered and incorporated.

जे० एस० सी०-7

J. S. C.-7

For Essel Mining & Industries Ltd.

Atul Lakhotia

Atul Lakhotia

Company Secretary

अनुमोदित / APPROVED

UWDatey

4

U. W. DATEY

QUALIFIED PERSON

Annexure III /B

स्थाई लेखा संख्या /PERMANENT ACCOUNT NUMBER

AAACE6607L

नाम /NAME

ESSEL MINING & INDUSTRIES LTD

निगमन/बनने की तिथि /DATE OF INCORPORATION/FORMATION

01-04-1950

आयकर आयुक्त, प.बं.-XI

COMMISSIONER OF INCOME-TAX, W.B. - XI

इस कार्ड के खो / मिल जाने पर कृपया जारी करने
वाले प्राधिकारी को सूचित / वापस कर दें
संयुक्त आयकर आयुक्त(पद्धति एवं तकनीकी),
पी-7,
चौरंगी स्क्वायर,
कलकत्ता - 700 069.

In case this card is lost/found,kindly inform/return to
the issuing authority :
Joint Commissioner of Income-tax(Systems & Technical),
P-7,
Chowringhee Square,

अनुमोदित/APPROVED

UWDatey

U. W. DATEY
QUALIFIED PERSON

ADITYA BIRLA

EMIL

Annexure : III/c

List of Directors of Essel Mining & Industries Limited

Sl . No	Name of the Directors	DIN	Address
1.	Mr. Tuhin Kumar Mukherjee Managing Director	01163569	Flat No. 3305,Imperial Tower North, B. B. Nakashe Marg, Tardeo, Mumbai – 400 034
2.	Mr. Ashwin Pannalal Kothari Independent Director	00033730	Gold Cornet, Flat No. 4, 1st Floor, 11, Nowrojee Gamadia Road, Mumbai – 400 026
3.	Mr. Sunil Kumar Daga Independent Director	00441579	Rajanigandha 25, Ballygungu Park, Flat No. 14W Kolkata – 700 019
4.	Mr. Manish Kumar Newar Non- Independent Director	00469539	23, Pankaj Mallick Sarani, Kolkata – 700 019
5.	Mr. Nagendra Chandra Shah Independent Director	00442180	1, Burdwan Road, Alipore, Kolkata - 700 027
6.	Mr. Giriraj Maheswari Independent Director	00796252	8th Floor, Flat A, 89, Dr. Meghnad Saha Sarani, Kolkata-700 029
7.	Ms Kalpana Vasantrai Unadkat Independent Director	02490816	B- 3702, Lodha Bellissimo, N.M. Joshi Marg Appollo Mills Compound, Mahalaxmi, Mumbai – 400 011

For Essel Mining & industries Limited

Atul Lakhotia

Atul Lakhotia
Company Secretary

ESSEL MINING & INDUSTRIES LTD. INDUSTRY HOUSE 10 CAMAC STREET KOLKATA-17

Dated: 13th August, 2020

अनुमोदित/APPROVED

Udatey

U. W. DATEY
QUALIFIED PERSON

419

अनुमोदित/APPROVED

Annexure III /D

ADITYA BIRLA

EMIL

CERTIFIED TRUE COPY OF THE BOARD RESOLUTION PASSED IN THE MEETING OF BOARD OF DIRECTORS HELD ON 21st JANUARY, 2011 AT ADITYA BIRLA CENTRE, S.K. AHIRE MARG, WORLI, MUMBAI – 400 030

"**RESOLVED THAT** pursuant to the various Acts/ Rules/ Guidelines / Circulars and any other regulatory requirement, as may be applicable from time to time, Mr. Ashwin Kumar Kothari, Director, be and is hereby nominated as Owner & Occupier of the Company's Mines and Premises at Keonjhar and Sundergarh, in the State of Odisha and at all other locations where the Mines / Premises of the Company would be located in future, unless otherwise approved by the Board, from time to time."

For **Essel Mining & Industries Limited**

Atul Lakhotia

Atul Lakhotia
Company Secretary
F- 8416

ESSEL MINING & INDUSTRIES LTD.

18th August, 2020

अनुमोदित / APPROVED

Essel Mining & Industries Limited
Regd. Office: Industry House, 18th Floor, 10, Camac Street, Kolkata 700 017, India
CIN: U51109WB1950PLC018728 | T: +91 33 4455 5500 | F: +91 33 4455 5537
E: emil.registered@adityabirla.com | W: www.esselmining.com

Annexure III/E

भारत सरकार
Government of India

आधार

भारतीय विशिष्ट ओळख प्राधिकरण
Unique Identification Authority of India

नोंदणी क्रमांक / Enrollment No 0000/00607/38971

To
अश्विन कुमार कोठारी
Ashwin Kumar Kothari
C/O FLAT NO 5103 51ST FLOOR,
THE IMPERIAL SOUTH TOWER
B B NAKASHE ROAD,
TARDEO, VTC: Mumbai,
PO: Tulsiwadi, District: Mumbai City
State: Maharashtra, PIN Code: 400034,
Mobile: 9820011303

12/04/2012

Ref: 1770 / 20W / 186471 / 186478 / P

SB061115951FH

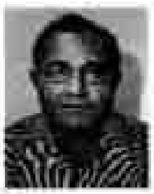
आपला आधार क्रमांक / Your Aadhaar No. :

7149 0399 8683

माझे आधार, माझी ओळख

[redacted]

आधार



अश्विन कुमार कोठारी
Ashwin Kumar Kothari
जन्म तारीख / DOB 14/09/1942
पुरुष / Male

7149 0399 8683

12/04/2012

माझे आधार, माझी ओळख

अनुमोदित/APPROVED

This Identity Proof is towards Submission of Mine Plan of Essel mining & Industries Ltd at IBM, Jabalpur. Should not be used without prior Consent.

423

ADITYA BIRLA

EMIL

Annexure III / F

List of Mining Lease

Essel Mining & Industries Limited holds the following mineral concessions in the State of Odisha:

(Registration Number allotted by I.B.M - IBM/1289/2011)

Name of Mine and mineral	Address	Area in Ha	Lessee Code	Mine Code
Name: Koira Iron Mine Mineral: Iron Ore	Village: Koira, Kadodiha, Nuagaon & Harishchandrapur Taluk: Koira, District: Sundergarh State: Odisha	90.143	093013009804	30ORI13010

Place: Mumbai

Date: 18th August 2020

Name: Ashwin Kumar Kothari

Nominated Owner

Bunder Diamond Project

Essel Mining & Industries Limited.

ANNEXURE IV

IV/1 Details of Qualified Person : Education and Experience (Shri. U.W. Datey)

IV/2 Details of Assistant to Qualified Person : Education and Experience (Shri Parag Khujnare)

अनुमोदित / APPROVED

Annexure IV /A

Details of Qualified Person : Education and Experience

Shri. U.W. Datey graduated from Indian School of Mines, Dhanbad in 1960. After completing Post Graduate, Practical Training, Shri Datey was awarded Assam Oil Scholarship for Post Graduate Research in the United Kingdom. Shir Datey completed M.Sc. degree through research, from University of Birmingham. After completing his M.Sc. degree, Shri Datey took one year practical training in Underground Mechanized Coal Mines of National Coal Board UK.

On return from abroad, Shri Datey got his First Class Certificate for Coal Mining in the year 1965. On return Shri Datey joined Central Mining Research Institute (Now United Mining and Fuel Research Institute) as Scientist.

In 1970, Shri Datey joined as Asst. Manager at Bastacolla Colliery and after Nationalization in 1973 joined Bharat Cooking Coal Ltd. (BCCL). Shri Datey continued in BCCL till 1984.

In 1984 Shri Datey joined Karnataka Explosive Ltd. as General Manager (Technical and Marketing). After working in another explosive company, Shri Datey quit and come to Nagpur to join (Late) Prof. G.S. Marwaha, Retd. Director of Indian School of Mines, to start a consultancy organization M/s. Minenviron Systems Pvt. Ltd.

The company mainly prepared Mining Plan documents as required for grant of Mining Lease and later Environment Management Plans for Metalliferrous and Coal Mines. After death of Prof. Marwaha in the year 2000, Shri Datey continued the consultancy.

During the over 20 years, Shri Datey prepared and got approval for **Fifty One (51)** Mining Plans documents which included Mechanized Opencast Mines, Underground Coal and Metalliferrous mines. Shri Datey was associated with approval of 41 EIA/EMP reports for most of the above mines.

Shri Datey retired from consultancy. The last Mining Plan document, which was approved from Regional office of IBM, Jabalpur was for Bunder Diamond Mine of Rio-Tinto Exploration India Pvt. Ltd.

U.W.Datey

APPROVED

UWDatey

U. W. DATEY
QUALIFIED PERSON

Government of India

INDIAN SCHOOL OF MINES AND APPLIED GEOLOGY

DHANBAD

Whereas Sri Ulhas Wasudeo Datey has completed an approved course of study and practical training in Mining Engineering at the Indian School of Mines and Applied Geology and has passed the prescribed examinations in the year 1960 the Governing Council has awarded to him this

DIPLOMA

in the First Class thereby constituting him an ASSOCIATE OF THE INDIAN SCHOOL OF MINES AND APPLIED GEOLOGY

Chairman of the Governing Council

Director

Dated the 24th September 1960

अनुमोदित APPROVED

THE UNIVERSITY OF BIRMINGHAM

It is hereby certified that

Ulhas Wasudeo Datey

was admitted to the degree of

Master of Science

(Mining)

of this University at a Congregation held in the University on the thirteenth day of July one thousand nine hundred and sixty-three.

Robert Aitken

Vice-Chancellor and Principal

Registrar of the University

U. W. DATEY

QUALIFIED PERSON

Department of Mines
Register No. of Certificate } 1050

MINES ACT, 1952.

MANAGER'S FIRST CLASS CERTIFICATE OF COMPETENCY
TO MANAGE A COAL MINE.

Ulhas Wasudeo Datey

of Yeotmal, Maharashtra

born on 21st Mar. 1939, son of Wasudeo Dattatraya Datey

having given satisfactory evidence of his age, medical fitness, good character, education and experience, and having passed the examination held on 17th, 18th & 19th Dec. 61, is hereby granted a FIRST CLASS CERTIFICATE OF COMPETENCY to manage a coal mine.

MEMBERS OF THE BOARD OF MINING EXAMINATIONS.

Signed and sealed
27th March 1962

अनुमोदित/APPROVED

A. V. Brahme, B.Sc., ...

Dated 9th February, 73.

My dear Ulhas,

I am sorry that due to the confusion of the take over we were not able to give you the proper send off that you richly deserve. This is just to convey to you my appreciation of the excellent work you put in during your stay at Dagtecolla. The outstanding success of solid blasting in Zero Seam is entirely due to your intelligent and untiring efforts. I shall always welcome any opportunity that may arise in the future, to work with you. I am sure you have a bright future ahead of you.

With best wishes and kind regards,

Yours sincerely,

(A. V. Brahme).

Sri U.W. Datey,
Senior Mining Engineer,
Bharat Coking Coal Ltd.,
Dhursidih Office.

U. W. DATEY
QUALIFIED PERSON

Bharat Coking Coal Ltd.

(A Subsidiary of Coal India Ltd.)
Bhagwdih Buildings, Jharia, Dhanbad
Telephones : 60946, 61340, 61140, 61280, 61380
Gram : COKINGCOL Telex: 029-335

D(T)/P- 71 / 19/.   January 3, 1978.

Shri U. W. Datey,
Superintendent,
Technical Directorate,
Bhagwidih Building.

Dear Sir,

During the period from 20.4.1977 to 10.11.1977 there was labour strike followed by 'go-slow' at I.E.L's Explosives Factory, Gomia. As the supply from I.E.L. was badly interrupted, there was an acute shortage of explosives for production in our mines.

I am pleased to record my appreciation of excellent services rendered by you in procuring and rationally distributing explosives in our mines during this period, which ultimately gave the benefit of better output than what would have been otherwise achieved.

Yours faithfully,

(C.B. Jha)
Director (Tech. & Prodn.)

Registered Office—Jharia, Dhanbad

अनुमोदित / APPROVED

Bharat Coking Coal Ltd.

(A Subsidiary of Coal India Ltd.)
Bhagwdih Buildings, Jharia, Dhanbad
Telephones : 60946, 61340, 61140, 61280, 61380
Gram : KOKINGCOL Telex: 029-335

DO no.TCYD/PD/143/176
February 17, 1978.

My dear Datey,

What looked on 27th December evening an impossible task was achieved on 19th January when the first horizon was cleared of water, and finally the second horizon was cleared of water on 8-2-78. When we look back the magnitude of work done, involving laying of six miles pipe lines, installation of 23 pumps, installation of transformers, laying of cables, switch gears, and the massive support work in clearing the faces, such work can be termed excellent. The other day, Mr. Siderowitch, comparing similar operations in four or five cases, where extensive inundation of mine had taken place indicated that in no case water could be cleared in less than six months' time. On all counts, the work has been of extremely high order. While appreciating the work so done by a large number of our employees, who worked with dedicated missionary zeal to fulfil the task, the task was headed by the supervisors, engineers and Managers.

Your assistance in designing, preparation of control charts, keeping them updated and keeping all concerned fed with the information was very commendable. It was through depiction of the graphs and charts that all could get a clear picture of what was happening during the first three weeks when dewatering operations alone were going on. Your part in the recovery operations has been commendable indeed.

Yours sincerely,

(K.N. Sharma)

Shri U.W. Datey
Superintendent
Bhagwidih Building

Registered Office—Jharia, Dhanbad

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U. W. DATEY
QUALIFIED PERSON

Annexure IV / B

VISVESVARAYA NATIONAL INSTITUTE OF TECHNOLOGY

(DEEMED UNIVERSITY)

NAGPUR (INDIA)

upon recommendation of the Senate hereby confers the degree of

Bachelor of Engineering in Mining Engineering

on

Parag Shyamrao Khujnare

who has completed the course of studies in

May 2004

and passed the prescribed Examinations in

First Division

Given this day, 14th August 2004, under the seal of the Institute.

विश्वेश्वरय्या राष्ट्रीय प्रौद्योगिकी संस्थान

(अभिमत विद्यापीठ)

नागपूर (भारत)

पराग श्यामराव खुजनारे

को एतद्द्वारा

खनन अभियांत्रिकी में अभियांत्रिकी स्नातक

की उपाधि प्रदान करता है।

अभिषद की अनुशंसा पर संस्थान की मुद्रांकित यह उपाधि,

विनियमों मे विहित पाठयक्रमों को

मई 2004 में प्रथम श्रेणी में

पूर्ण करने पर आज दी गई है ।

अनुमोदित / APPROVED

CHAIRMAN, SENATE
अध्यक्ष अभिषद

CHAIRMAN, BOARD OF GOVERNORS
अध्यक्ष, शासी मंडल

U. W. DATEY
QUALIFIED PERSON

Admission No. 612898

Serial No. BA 0049

भारतीय खनि विद्यापीठ विश्वविद्यालय

का कार्यकारी बोर्ड
शैक्षणिक परिषद् की अनुशंसा पर एतद् द्वारा
पराग श्यामराव खुजनारे
को
पर्यावरण विज्ञान एवं अभियांत्रिकी में
मास्टर ऑफ टेक्नोलॉजी
की उपाधि
प्रथम श्रेणी में

तत् सम्बन्धित समस्त प्रतिष्ठा, विशेषाधिकारों एवं दायित्वों से युक्त भारतीय गणराज्य के अन्तर्गत धनबाद में इस विश्वविद्यालय की मुद्रांकित उपाधि दिनांक 27 जुलाई 2006 को प्रदान करता है।

The Executive Board
of The

Indian School of Mines University

Upon the Recommendation of the Academic Council hereby Confers on
Parag Shyamrao Khujnare
The Degree of
Master of Technology
in
Environmental Science and Engineering
in
First Class

With all the Honours Privileges and Obligations thereunto pertaining
Given on the 27 July 2006 *under the seal of the University at Dhanbad in the Republic of India.*

कुलसचिव	निदेशक एवं अध्यक्ष, शैक्षणिक परिषद्	अध्यक्ष, कार्यकारी बोर्ड
Registrar	Director & Chairman, Academic Council	Chairman, Executive Board

U. W. DATEY
QUALIFIED PERSON

NATIONAL ACCREDITATION BOARD FOR EDUCATION & TRAINING

QUALITY COUNCIL OF INDIA

QCI Office, 7th Floor, ITPI Building, Ring Road, I.P. Estate, New Delhi

Scheme for Accreditation of EIA Consultant Organizations

Minutes of 11th Accreditation Committee Meeting for Re-Accreditation held on

Jan. 31, 2014

Present

1. Prof. C. K. Varshney - Member
2. Prof. A. K. Maitra - Member
3. Dr. A. N. Jha - Member
4. Sh. K. P. Nyati - Member

Leave of absence was granted to Dr. Prodipto Ghosh, Dr. B. Sengupta and Sh. Chandra Bhushan. Prof. Varshney chaired the meeting.

NABET Secretariat was represented by:

Mr. A. K. Ghose – Principal Advisor, Dr. Hari Prakash – Joint Director and Mr. Abhay Sharma – Accreditation Officer

The following were discussed/ decided:

1. The minutes of 10th RA AC meeting dated Jan. 17, 2014 were considered and approved.

2. **Cases covering clarifications**

   i. ABC Techno Labs Pvt. Ltd., Chennai
   ii. Anacon Labs, Nagpur
   iii. Bhagavathi Ana Labs, Hyderabad
   iv. ERM India Pvt. Ltd., Chennai

2.1 ABC Techno Labs Pvt. Ltd., Chennai

The case of ABC Techno Labs, Chennai was discussed earlier in RA AC meeting dated Dec. 18, 2013. The case was put on hold pending further details with respect to four candidates (Sh. R. K. Jayseelan, Dr. Sukumaran, Dr. S. D. Badrinath and Sh. Vivek Mariappan) on work

/APPROVED

U. W. DATEY
QUALIFIED PERSON

to be initiated by the ACO may be submitted within 3 months from the date of intimation by NABET.

The provisional accreditation of the organisation is renewed for sectors as mentioned in table 2.2.1 above subject to inducting FAE/s in the following area at the earliest but not later than three months from the date of communication by NABET.

1. For RH, Vibration and SC* - In-house/empanelled expert
   *under clarifications

Final Accreditation will be subject to the fulfilment of the above requirements.

The results on various aspects of assessment may be communicated to the ACO

2.3 Bhagavathi Ana Labs, Hyderabad (BAL)

Clarifications were sought for specific experience of five candidates vide RA AC meeting dated Jan. 10, 2014. Response received and considered.

a. ECs proposed during RA were assessed and the results are given below

Sl	Name	Sectors			Cat	Remarks
		Applied	Recommended	Approved		
In- house						
1	Ch. T. Srinivas	16	-	-	-	Further details sought on assessment
2	Parag Khujnare	1	Yes	Yes	B	
		7	Yes	Yes	B	
3	Balachander Padmanabham	33	Yes	No	-	Resigned. Clarifications sought on specific experience of Sh. Padmanbham not submitted by BAL
		34	Yes	No	-	
		39	Yes	No	-	

b. FAEs proposed during RA were assessed and results are given below

Sl	Name	Functional Areas			Cat	Remarks
		Applied	Recommended	Approved		
In- house						
1	Ch. T. Srinivas Rao	SHW	-	-	-	Further details sought on assessment
2	Murali Shivram	GEO	Yes	No	-	Resigned. Clarifications sought on specific experience of Sh. Shivram not submitted by BAL
3	M Raju	AP	Yes	Yes	B	-

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NATIONAL ACCREDITATION BOARD FOR EDUCATION & TRAINING

QUALITY COUNCIL OF INDIA

QCI Office, 6th Floor, ITPI Building, Ring Road, I.P. Estate, New Delhi

Scheme for Accreditation of EIA Consultant Organizations

Minutes of Accreditation Committee Meeting for Re-Accreditation held on

Oct 15, 2014

Present

1. Sh. N.S. Tiwana - Chairman
2. Prof. A. K. Maitra - Member
3. Dr. A. N. Jha - Member

Leave of absence was granted to Shri Paritosh C. Tyagi, Sh. R. K. Bansal, Prof. J. K. Garg, Sh. Bharat Bhushan and Dr. Asha Rajvanshi

NABET Secretariat was represented by:

Ms. Preeti Pawaria- Accreditation Officer, Ms. Meenakshi Arora– E.O.T and Ms. Runma Bordoloi – E.O.T

The following were discussed/ decided:

1. The minutes of 28th RA AC meeting dated Oct. 10, 2014 were considered and approved.

2. **Cases covering clarification**

2.1 Ecomen Laboratories Pvt. Ltd., Lucknow

Closure action taken by ACO on NCs/ Obs. raised after SA were noted.

Results of the Re-accreditation (RA) assessment are given below:

The ACO has obtained more than 60 % overall marks and therefore qualifies for Cat. A.

2.1.1 Scope of Accreditation

Sl. No.	Sector No. as NABET Scheme	Name of Sector	Cat.
1	1	Mining	A
2	4	Thermal Power Plants	B
3	6	Coal washeries	A
4	7	Mineral beneficiation	A
5	9	Cement plants	B

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Sl	Name	Functional Areas (FAs)			Cat.	Remarks
		Applied	Recommended	Approved		
Empanelled						
1	Rajagopal Krishnan	RH	Yes	Yes	A	

Note: Details of the assessment shall be communicated to ACO by NABET

3.2 Anacon Laboratories Pvt Ltd, Nagpur

Additional candidates proposed to cover approved sectors and balance functional areas AP, SHW, AQ & Noise vide RA AC MoM dated Jan 31, 2014 were assessed. Decision of AC is given below

3.2.1 EIA Coordinators (EC)

Sl	Name	Sectors			Cat.	Remarks
		Applied	Recommended	Approved		
In- house						
1	Parag Shyamrao Khujnare	1	Yes	Yes	A	None
		7	Yes	Yes	A	None

3.2.2 Functional Area Expert (FAE)

Sl	Name	Functional Areas (FAs)			Cat.	Remarks
		Applied	Recommended	Approved		
In- house						
1	Parag Shyamrao Khujnare	NV*	Yes*	Yes	B*	*Only for sectors 1 and 7.
		SHW*	Yes*	Yes*	B*	ISW only for sectors 1 and 7.

Note: Details of the assessment shall be communicated to ACO by NABET

3.3 Ghosh Bose & Associates Pvt. Ltd, Kolkata

Candidate proposed to cover balance functional area SC was not recommended. Details of the assessment shall be communicated to ACO by NABET.

3.4 Cholamandalam MS Risk Services, Chennai

Following candidate was proposed to cover balance functional areas HG and Geo vide RAAC MoM dated March 28, 2014.

3.4.1 Functional Area Expert (FAE)

Sl	Name	Functional Areas (FAs)			Cat.	Remarks
		Applied	Recommended	Approved		
In-house						
1	Mallikaarjun Rao Behra	Geo	Yes	Yes	A	None
		HG	Yes	Yes	A	

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min mec
CONSULTANCY PVT. LTD.
A-121, Paryavaran Complex
IGNOU Road, New Delhi - 110 030
Ph. 29534777, 29532236, 29535891
Fax: 91-11-29532568; web site: www.minmec.co.in
email: min_mec@vsnl.com; minmec@bol.net.in
An ISO 9001 : 2000 approved company

09.05.2008

TO WHOM IT MAY CONCERN

It is to certify that Mr. Parag Khujnare S/o Mr Shyamrao Khujnare has worked in our organization as Mining cum Environmental Engineer from 6th November 2006 to 9th May 2008. He is hard working and sincere.

We wish him success in life.

Usha Sharma
Director

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Ref: BALPL/HR/ENV/2014-2015 **Date: 31.05.2014**

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr. Parag Khujnare** worked with our organization from 19/05/2008 to 31/05/2014. He is relieved from his duties and responsibilities of General Manager - Environment on 31/05/2014. During his tenure, his services were found to be satisfactory.

For Bhagavathi Ana Labs Pvt Ltd.

Authorised Signatory

Haribabu Bhagavathi-Chief Executive Officer

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Bhagavathi Ana Labs Pvt. Ltd.
7-2-C14, Industrial Estate
Sanathnagar

Tel. : +91 40 27634891, 27610663, 23811535
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Goa (Lab) Tel.: +91 832 2315706
Hyderabad (Main Off) Tel.: +91 40 23356908
Hyderabad (Lab 1) Tel.: +91 40 23810504

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ANNEXURE V

DGPS Survey Report

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संचालनालय
भौमिकी तथा खनिकर्म, मध्यप्रदेश
29 ए, खनिज भवन, अरेरा हिल्स, भोपाल
फोन एवं फैक्स - 0755-25517965
e-mail: dirgeomn@mp.nic.in

क्रमांक 676 भौ./न.क्र.21 /2020 भोपाल, दिनांक 17/1/2020.

प्रति,

Essel Mining & Industries Ltd.
Aditya Birla Center 'A' Wing 1st Floor, S.K.Ahire,
Worli, Mumbai-400030.

विषय :- बंदर डायमण्ड ब्लॉक के डी.जी.पी.एस. सर्वे के सत्यापित जानकारी प्रदाय करने के संबंध में।

संदर्भ :- आपका पत्र क्रमांक EMIL/BUNDER/1/2020 Date 03-01-2020.

उपरोक्त विषयांतर्गत संदर्भित पत्र के माध्यम से बंदर डायमण्ड ब्लाक तहसील बकसवाह जिला छतरपुर के डी.जी.पी.एस. सर्वे की सत्यापित (हार्ड/साफ्ट कापी) प्रति प्रदाय करने हेतु लेख किया गया है। तदनुसार सत्यापित जानकारी संलग्न कर आवश्यक कार्यवाही हेतु प्रेषित है।

संलग्नः- डी.जी.पी.एस. सर्वे (हार्ड/साफ्ट कापी)

संचालक

पृ.क्रमांक भौ./न.क्र. /2020 भोपाल, दिनांक

प्रतिलिपि :-

प्रमुख सचिव, खनिज साधन विभाग, म.प्र. शासन, मंत्रालय वल्लभ भवन, भोपाल की ओर सूचनार्थ प्रेषित।

संचालक

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DIRECTOR
Geology & Mining
Madhya Pradesh

MINERAL RESOURCES DEPARTMENT, GOVT. OF MADHYA PRADESH, BHOPAL, GOVT. OF INDIA

DIRECTORATE OF GEOLOGY & MINING MADHYA PRADESH, BHOPAL

PROJECT SUBMISSION REPORT

DGPS & ETS SURVEY REPORT AND GEO-REFERNCING DETAILS OF BUXWAHA MINE BLOCK

(MADHYA PRADESH)

REF: 14238/IT/S.N./2017
DATED: BHOPAL 06 TH July'17

SUBMITTED TO:
DIRECTORATE OF GEOLOGY & MINES, M.P., BHOPAL

SUBMITTED BY:
RAMTECH

RAMTECH SOFTWARE SOLUTIONS PRIVATE LIMITED
A6, SECTOR 67, NOIDA – 201309
GAUTAM BUDDHA NAGAR, UTTAR PRADESH

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Table of Contents

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I. Introduction

Mineral resources play a very important role in the industrial development of the State. In terms of mineral availability Madhya Pradesh is the fourth mineral prosperous state of the Nation. According to the development needs the demand of minerals increases together with industrial development. Continuous work is being done by Mineral resources Department through conservation, exploration and continuous monitoring on exploitation of minerals under the Rules valid by the Law. Exploitation of some minerals is also being carried out by Madhya Pradesh Mining Corporation, which is constituted under the Mineral Resources Department. The tasks being operated by the Department are increasing the State fiscal revenue continuously and paths are also being paved for discovery of new mineral deposits. Up to the year 2015 - 16, The Mineral revenue of Rs. 3610.46 Crore has been collected in the State Fund.

Under the mining administration, the control on mineral exploitation according to the rules, disposal of new application and the regulation of approved mineral relaxations in the State are done by the staff posted in various offices of the Department.

To more strengthen the mining administration, 'Khanij Bhawan' is being constructed at district level in the Department. In 27 districts, District offices are being operated after the completion of construction work of Khanij Bhawan so far. In 18 districts the construction work is in progress. In 2 districts (Hoshangabad and Guna) would be constructed jointly with new Collector offices. And in remaining 3 districts process of Land selection for building construction is in progress.

In the terms of mineral prosperity the State is one of the 8 mineral affluent states of the nation. Currently 20 kinds of minerals are being produced in the State. Along with having monopoly in diamond

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production in the Country, the State has also got first position in Manganese, Pyrophyllite and Copper ore production. In addition the State possesses the second position in production of Diaspore, Rock - Phosphate, Shale and Fire Clay and Third position in the production of Limestone and Ochre. The State has fourth position in Coal production in National scenario.

As per Mineral (Auction) Rules, 2015/ IBM Circular no. 2/2010 and Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules-2016] MRD, Govt. of M P has decided to facilitate the work of erection of boundary pillars, DGPS survey with Total Station survey of Lease Areas in the state of Madhya Pradesh to comply with the guidelines. Currently, total area of Mining Leases in Madhya Pradesh is estimated to be 102476.343 hectares, spread across 1158 locations and total area of Prospecting License-cum-Mining Lease is estimated to be 88569.322 hectares, spread across 345 locations.

RAMTeCh Software Solutions Pvt. Ltd. is a leading consultant in India and empanelled with MP IT as an expert agency specialized for survey works. MAP IT entrusted the work of DGPS Survey & Preparation of Geo-Referenced ML/PL maps etc. to RAMTeCh Software Solutions Pvt. Ltd. for the various mining blocks in the State of Madhya Pradesh vide LOI No. 14238/IT/S.N./2017 Bhopal Dated 06/07/2017.

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II. About Site

Chhatarpur state was founded by Kunwar Sone Shah Ponwar or Parmar who seized the jagir in 1785, taking the advantage of the young age of his master Hira Singh. The state was divided into four tahsils viz, Chhatarpur, Rajnagar, Lauri and Deora. The southwestern part of the Panna state, now included in the district formed part of the then Buxwaha tahsil. One of the mining blocks is the Baxwaha Mining Block. This is a Diamond mine.

The Buxwaha Mining block is bounded as under;

On East	-	By Village Harduwa
On West	-	By Village Kasera
On North	-	By Village Sagouriya
On South	-	By Village Hirdepur

Coordinate of Centre of Mine Block:
Latitude: 24°19'13.84"N and Longitude: 79°17'24.29"E

Elevations:
Lowest : 412 mtr
Highest: 446 mtr

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Approach to Site:
The Buxwaha Block can be approached by a village road from village Hirdepur,tahsil Buxwaha and Nagar Panchayat in Chhatarpur District form south direction of the mine block. The village Hirdepur approx. 4.2 Kms.The Tahsil Buxwaha is about approx 10 Kms of the mine block.

The nearest railway station to the mine block is Saugor about about 81.5 Kms and airport is at Naya Khedi which is approx. 299 Kms from the mine block. The Buxwaha mining block is under the jurisdiction of MO Chhatarpur and State Mining Department, Govt. of Madhya Pradesh.

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III. Site Key Map

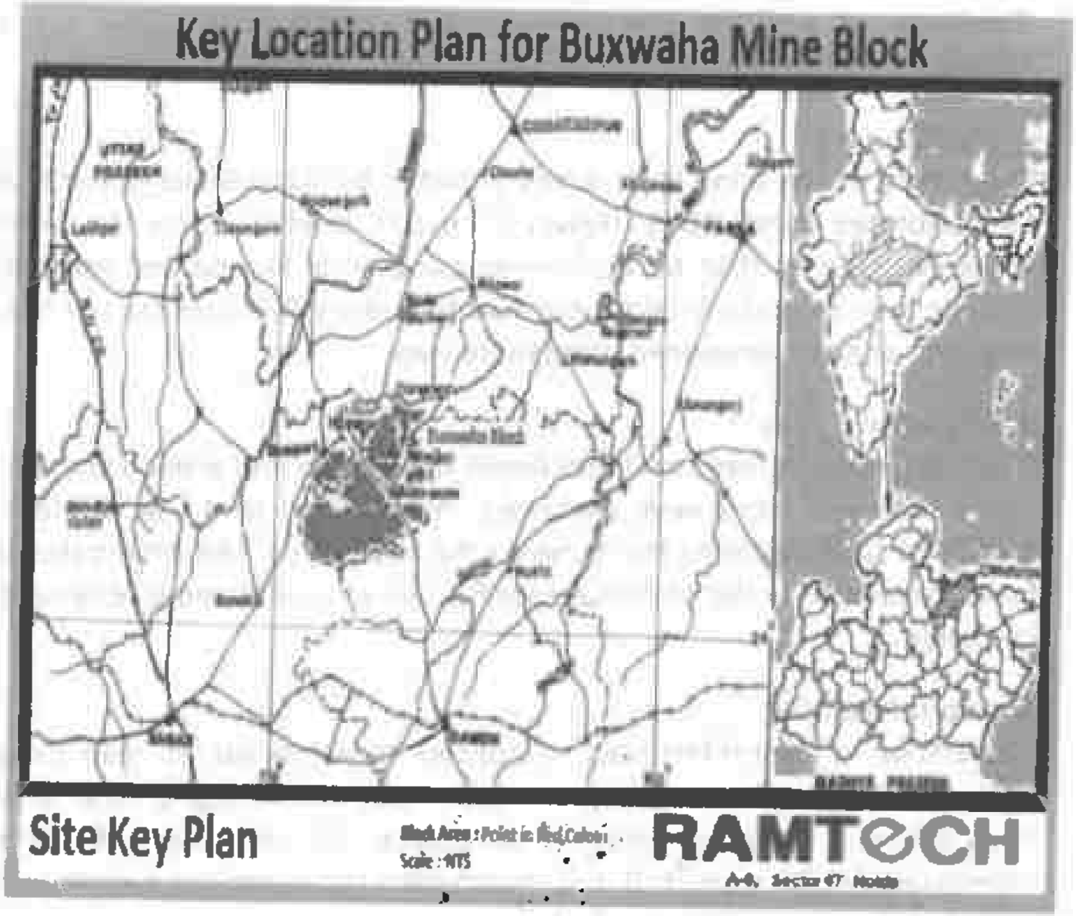

Fig 1: Key Map

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IV. Scope of Work As per RFP

The Scope of work for the Surveying and Associated Activities are as follows.

i. DGPS Survey

The survey of the mine lease areas provided by State Government shall be performed using DGPS. However, in GPS shadow areas like forest areas etc., survey shall be performed using Total Station and the data shall be duly geo-referenced using dual frequency DGPS receiver. A base map thus shall be developed using these data.

ii. Cadastral survey

Collecting revenue/cadastral and forest maps of in and around the area to be surveyed, along with ownership records and land use details of areas and superimposing the same on the base maps. The details should be as mentioned in the technical specification or as directed by Engineer-in-Charge.

iii. Geo-referencing

Preparation of geo-referenced vectorised cadastral ML/PL map using necessary digitization, amalgamation of maps, mosaicing, ground level point referring etc. all complete in all respects. On integration, the Geo-Referenced ML/PL map shall duly match with geo-referenced vectorised cadastral map.

iv. Boundary Pillar

Survey of all the lease boundary pillar locations using DGPS at all the corner points and intermediate points (if required) and fixing of temporary Marking pillars marked with paint, all along the boundary at required intervals.

v. Collection of Document

Collecting of all the documents within State Forest Departments premises including Gazette Notifications and forest block records and superimposing the information of FMBs, maps, village cadastral records etc. on the geo-referenced vectorised cadastral ML/PL map.

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vi. Image

Georeferenced vectorised ML/PL maps shall then be superimposed on latest open source high resolution satellite data (cloud free) covering ML/PL area plus an area coming within the ML/PL area boundary and beyond the ML/PL boundary line.

vii. Dileverable

Hard copies of final geo-referenced vectorised ML/PL maps (with all superimposition) shall be submitted. The soft copy submission should be in the standard format and digitized maps should be in shape file, which can be imported in any GIS data base. Cadastral survey report giving plot-wise ownership details and also derived land use details.

viii. Jurisdiction of Mining Area

scope of work for submission of Geo-referenced cadastral ML/PL map under the survey of proposed mine area(s) shortlisted for the purpose of auction work is based on the Ministry of Mines, IBM Circular No.2/2010 under reference No. 14238/IT/S.N./2017 Bhopal Date 06-07-2017 and Jurisdiction area is Ministry of Mines Bhopal.

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V. Instrument and Software used !

A. Hardware

Sr. No	Name of Instrument	Make /Model	Accuracy	Numbers
1	DGPS (Dual Frequency)	FOIF - Base/Rove (A20)	3mm ± 0.5	1
2	DGPS (Dual Frequency)	Lieca – GS14	3mm ± 0.5	4
3	E. Total Station	OTS 682 FOIF	1-5 Sec	1

Table: List of Hardware

B. Software

Sr. No	Software	Make/ Model	Version
1	Auto Cad	Autodesk	2017
2	Ms Office	Microsoft Corp.	2010
3	ARC GIS	ESRI	10.2
4	Leica Geosystems	Leica Geo Office	8.4

Table: List of software

C. Team Deployed

S.N.	Name of Employee	Employee Designation
1	Pawan Veer	Project Manager
2	Ashok Malik	Asst. Project Manager
3	Deepak Kumar	Surveyor
4	Santosh Kumar	Surveyor
5	Roshan Kumar	Surveyor

Table: Least of Team Deployed

D. SOI Toposheets Used

S.N.	SOI Toposheet No.	Scale
1	54-P7	1:50000

Table: List of SOI Toposheet

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E. Satellite Imagery Used

S.N.	Satellite Imagery Details	Date
1	open source high resolution satellite (google Earth)	2007

Table: List of Satellite imagery

VI. Reference Inputs – SOI Toposheet

The mine boundary is covered in SOI Topo sheet No. 54P-7. As per the survey inputs mineralize area 16.6235 Ha. and Non mineralize area 347.512Ha. Therefore total area to be surveyed is 364.135 Ha. for Buxwaha Mine Block.

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VII. Methodology

I. At the beginning of the work, State Geology and mining department officials supplied the Planning map of the mine block by marking the mine boundary on Forest Maps.

II. Physical Block identification is done by the joint team on Forest blocks map to take four coordinates of extreme sides of block considering a buffer of 500 mtrs with the help of DGPS.

III. Required Ground Control Points are taken to geo-reference and rectify the Open source high resolution (Cloud free) satellite image. Scan copy of available Block boundary map superimposed on Forest blocks map is also geo-referenced on the satellite imagery and mosaicing is done.

IV. Topographic survey is conducted to mark all the existing ground features using Electronic Total Station to pick up the ground levels.

V. As per the instructions, a team equipped with Dual Frequency DGPS and Electronic Total Station is deployed at the site to demarcate mining lease boundary on the basis of final plan lease map prepared.

VI. The coordinates of all the boundary pillars are recorded using DGPS instrument and the boundary pillars marking with paint will be fixed on their respective locations.

VII. A base map is prepared using the collected data.

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VIII. Observations

i. There are two sub blocks (mineralized areas) in this mining block and they are numbered as A& B respectively.

ii. Total Lease area from DGPS/ ETS survey is as under;

Mineralized Area of Buxwha

Mineralised Area Details					
S.No.	Compartment Number	Total Area of Compartment in Hectare	Area Applied For in Hectare	Forest Beat	Working Circle
1	284	455.27	6.0537	Jara	Veerampur
2	285	349.24	10.5698	Hinota	Veerampur
Total Mineralised Area			16.6235		

Table: Mineralized Area of Buxwha Mine Block

The non mineralized areas adjacent to the mining blocks.

Non Mineralised Area Details					
S.No.	Compartment Number	Total Area of Compartment in Hectare	Area Applied For in Hectare	Forest Beat	Working Circle
1	280	381.81	28.108	Veerampur	Veerampur
2	281	525.29	12.839	Veerampur	Kasera
3	284	455.27	143.456	Jara	Veerampur
4	285	349.24	157.870	Hinota	Veerampur
5	302	463.17	5.238	Dardonia	Dardonia
Total Non Mineralised Area			347.512		

Table: Non Mineralized Area of Buxwha Mine Block

Total Surveyed Area (Mineralized +Non-Mineralized) = 364.135Ha

Site verification is conducted by the concerned Forest Range Officer (Veerampura working circle) in presence of the Mining officer of District Chhatarpur, Madhya Pradesh. The representative of RAMTeCH Software Solutions Pvt. Ltd. shown the site and pegs fixed on the boundary of mine pillar location and the concerned Officials.

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Report is supported by Annexure, Drawings and Maps for better understanding which is annexed with this report. The details are as under;

Sr. No.	Drawing Title	Drawing No	Scale
1	Location Map	RAMTECH/BUXWAHA/LM1	NTS
2	Forest and Mining Lease Map	RAMTECH/BUXWAHA/FML1	1:15000
3	Geo referenced Forest and Mining Lease Map	RAMTECH/BUXWAHA/GFML1	1:15000
4	DGPS Survey Lease Boundary	RAMTECH/BUXWAHA /LB1	1:15000
5	Surface Topographical Plan	RAMTECH/BUXWAHA /STP1	1:15000

Table: List of Drawing and Map

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IX. Results and Conclusion

This survey will work as the base line data in future to have a solution to the administrator, surveyors and most importantly to the lessee during any boundary discrepancies. This will lead to a proper mine plan preparation as each and every point within the lease are referenced. Further this gives the advantage of linking any other geo-referenced information related to mining activity to design individual mineral information system as well as a single database system for the mining belt. The mine plans can also be attached to this information system. This type of database will help to assess and monitor the mining area in terms of revenue, environment and development.

X. Acknowledgement

We sincerely express our gratitude towards all the officials of Mining Department of Madhya Pradesh especially Shri. Vineet Austin-DGM, Shri. N.K.Hans – Sr. Geologist, Shri. Dinesh Verma –Sr. Geologist, Shri Divesh Markam – District Mining Officer Chhatarpur as well as all the concerned officials of State Mining Department, Forest Department and State Govt. etc. who have supported us in successful completion of this work.

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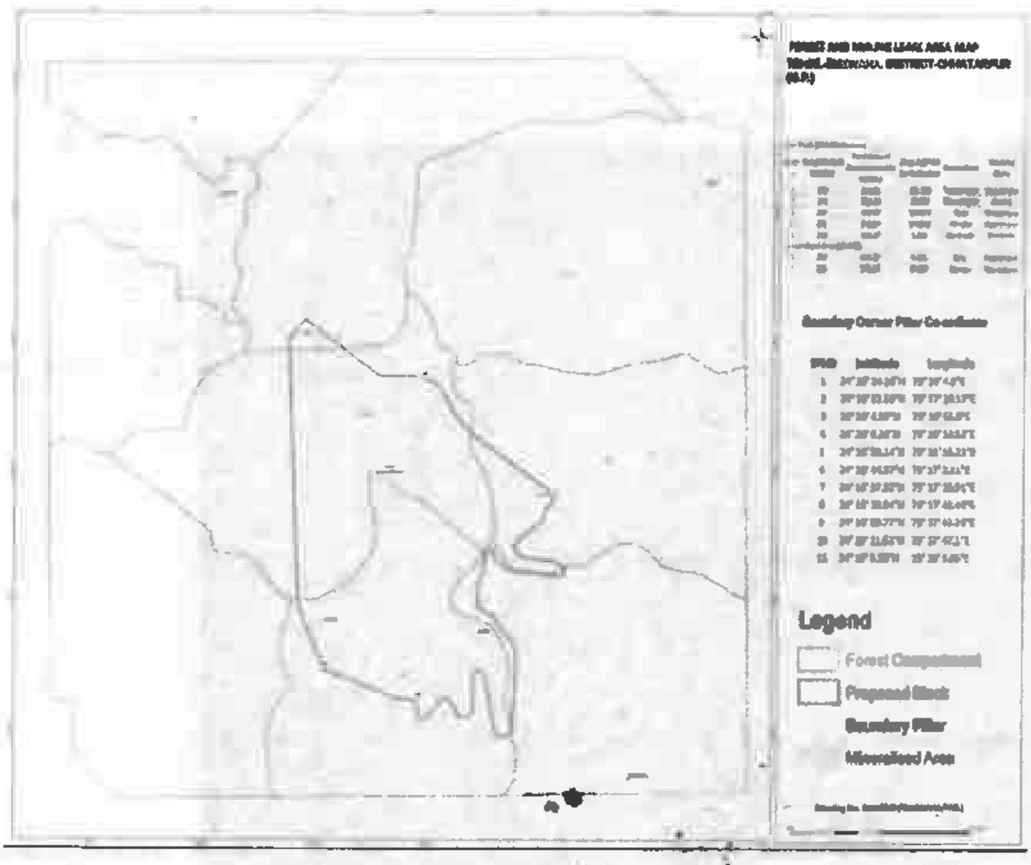
XI. Annexure-A Forest and Mining Lease Map

Annexure-A

FOREST AND MINING LEASE MAP OF BUXWAHA BLOCK



Director
Geology & Mining
Madhya Pradesh

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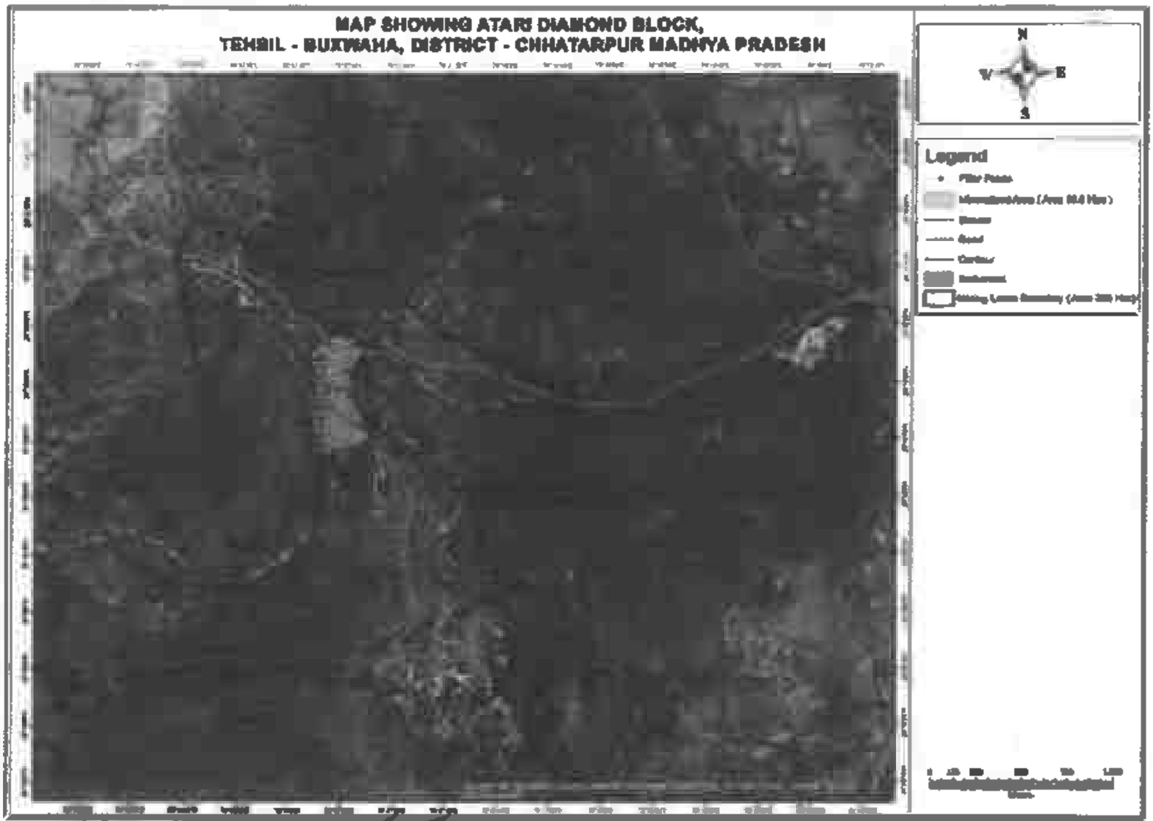
XII. ANNEXURE-B Geo referenced Forest and Mining Lease Map

Annexure-B

GEOREFRENCED FOREST AND MINING LEASE MAP OF BUXWAHA BLOCK



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Geology & Mining
Madhya Pradesh

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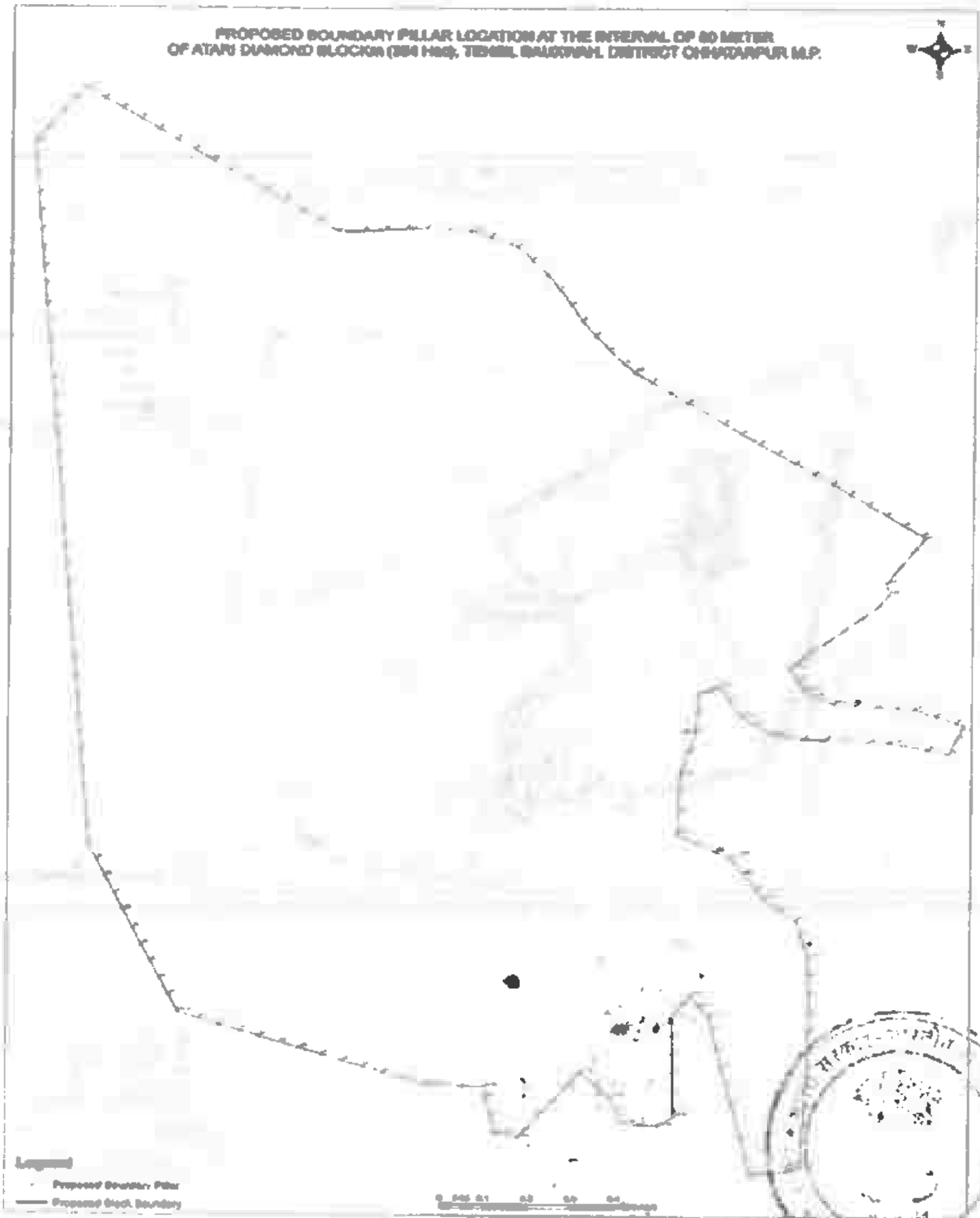
XIII. ANNEXURE-C Pillar Location Map

Annexure-C

DGPS SURVEY OF PROPOSED BOUNDARY PILLAR LOCATION AT THE INTERVAL OF 50 METER



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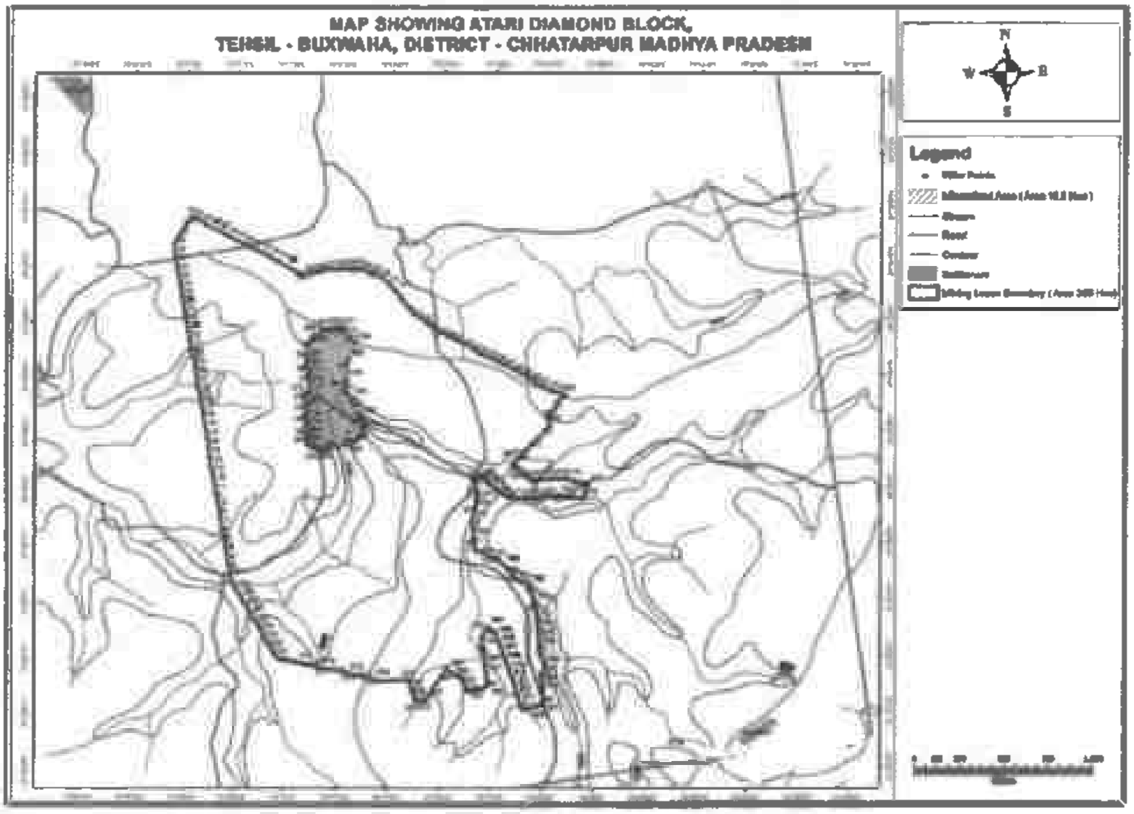
XIV. ANNEXURE-D Surface Topological Plan of Mining Area



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Madhya Pradesh

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XV. ANNEXURE-E DGPS Co-Ordinates Details

Annexure-E

List of DGPS Co-Ordinates of Mines Lease Boundary Pillars

Sr. No.	BP No.	Geographic (WGS 84)			
		Latitude (DM)	Longitude (DM)	Latitude (DMS)	Longitude (DMS)
1	1	24.316879	79.281987	24°19'1"	79°16'55"
2	2	24.317329	79.281968	24°19'2"	79°16'55"
3	3	24.317779	79.28195	24°19'4"	79°16'55"
4	4	24.31823	79.281932	24°19'6"	79°16'55"
5	5	24.31868	79.281913	24°19'7"	79°16'55"
6	6	24.31913	79.281895	24°19'9"	79°16'55"
7	7	24.31958	79.281875	24°19'10"	79°16'55"
8	8	24.32003	79.281855	24°19'12"	79°16'55"
9	9	24.320481	79.281834	24°19'14"	79°16'55"
10	10	24.320931	79.281814	24°19'15"	79°16'55"
11	11	24.321381	79.281792	24°19'17"	79°16'54"
12	12	24.321831	79.281771	24°19'19"	79°16'54"
13	13	24.322281	79.281749	24°19'20"	79°16'54"
14	14	24.322731	79.281729	24°19'22"	79°16'54"
15	15	24.323181	79.281711	24°19'23"	79°16'54"
16	16	24.323632	79.281693	24°19'25"	79°16'54"
17	17	24.324082	79.281674	24°19'27"	79°16'54"
18	18	24.324532	79.281654	24°19'28"	79°16'54"
19	19	24.324982	79.281634	24°19'30"	79°16'54"
20	20	24.325432	79.281614	24°19'32"	79°16'54"
21	21	24.325883	79.281594	24°19'33"	79°16'54"
22	22	24.326333	79.281573	24°19'35"	79°16'54"
23	23	24.326783	79.281552	24°19'36"	79°16'54"
24	24	24.327233	79.281531	24°19'38"	79°16'54"
25	25	24.327683	79.281509	24°19'40"	79°16'53"
26	26	24.328133	79.281487	24°19'41"	79°16'53"
27	27	24.328583	79.281466	24°19'43"	79°16'53"
28	28	24.329033	79.281445	24°19'45"	79°16'53"
29	29	24.329484	79.281426	24°19'46"	79°16'53"
30	30	24.329934	79.281408	24°19'48"	79°16'53"
31	31	24.330384	79.281389	24°19'49"	79°16'53"
32	32	24.330834	79.28137	24°19'51"	79°16'53"
33	33	24.331284	79.281351	24°19'53"	79°16'53"
34	34	24.331735	79.281331	24°19'54"	79°16'53"
35	35	24.332185	79.281312	24°19'56"	79°16'53"
36	36	24.332635	79.281291	24°19'57"	79°16'53"
37	37	24.333085	79.281271	24°19'59"	79°16'53"
38	38	24.316429	79.282005	24°18'59"	79°16'55"
39	39	24.333405	79.281256	24°20'0"	79°16'53"

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Director
Geology & Mining
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U. W. DATEY
QUALIFIED PERSON

Sr. No.	BP No.	Geographic (WGS 84)			
		Latitude (DM)	Longitude (DM)	Latitude (DMS)	Longitude (DMS)
40	40	24.333753	79.28157	24°20'2"	79°16'54"
41	41	24.3341	79.281883	24°20'3"	79°16'55"
42	42	24.334447	79.282197	24°20'4"	79°16'56"
43	43	24.334719	79.282445	24°20'5"	79°16'57"
44	44	24.33446	79.282846	24°20'4"	79°16'58"
45	45	24.3342	79.283248	24°20'3"	79°16'60"
46	46	24.33394	79.28365	24°20'2"	79°17'1"
47	47	24.33368	79.284052	24°20'1"	79°17'3"
48	48	24.33342	79.284453	24°20'0"	79°17'4"
49	49	24.333161	79.284855	24°19'59"	79°17'5"
50	50	24.332901	79.285257	24°19'58"	79°17'7"
51	51	24.332641	79.285659	24°19'58"	79°17'8"
52	52	24.332381	79.28606	24°19'57"	79°17'10"
53	53	24.332122	79.286462	24°19'56"	79°17'11"
54	54	24.331862	79.286864	24°19'55"	79°17'13"
55	55	24.331602	79.287266	24°19'54"	79°17'14"
56	56	24.331342	79.287667	24°19'53"	79°17'16"
57	57	24.331066	79.288095	24°19'52"	79°17'17"
58	58	24.331083	79.288068	24°19'52"	79°17'17"
59	59	24.331078	79.288587	24°19'52"	79°17'19"
60	60	24.331091	79.289078	24°19'52"	79°17'21"
61	61	24.331104	79.28957	24°19'52"	79°17'22"
62	62	24.331117	79.290061	24°19'52"	79°17'24"
63	63	24.331074	79.29055	24°19'52"	79°17'26"
64	64	24.331007	79.291036	24°19'52"	79°17'28"
65	65	24.330856	79.291496	24°19'51"	79°17'29"
66	66	24.330676	79.291947	24°19'50"	79°17'31"
67	67	24.330616	79.292097	24°19'50"	79°17'32"
68	68	24.330281	79.292425	24°19'49"	79°17'33"
69	69	24.329949	79.29275	24°19'48"	79°17'34"
70	70	24.329565	79.293017	24°19'46"	79°17'35"
71	71	24.329181	79.293275	24°19'45"	79°17'36"
72	72	24.328791	79.29352	24°19'44"	79°17'37"
73	73	24.328426	79.293807	24°19'42"	79°17'38"
74	74	24.328076	79.294116	24°19'41"	79°17'39"
75	75	24.327737	79.294441	24°19'40"	79°17'40"
76	76	24.327531	79.294655	24°19'39"	79°17'41"
77	77	24.327273	79.295058	24°19'38"	79°17'42"
78	78	24.327018	79.295464	24°19'37"	79°17'44"
79	79	24.326764	79.29587	24°19'36"	79°17'45"
80	80	24.326505	79.296272	24°19'35"	79°17'47"
81	81	24.326246	79.296674	24°19'34"	79°17'48"
82	82	24.325986	79.297076	24°19'34"	79°17'49"
83	83	24.32573	79.297481	24°19'33"	79°17'51"

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Sr. No.	BP No.	Geographic (WGS 84)			
		Latitude (DM)	Longitude (DM)	Latitude (DMS)	Longitude (DMS)
84	84	24.325475	79.297886	24°19'32"	79°17'52"
85	85	24.325219	79.298291	24°19'31"	79°17'54"
86	86	24.324964	79.298696	24°19'30"	79°17'55"
87	87	24.324708	79.2991	24°19'29"	79°17'57"
88	88	24.324452	79.299505	24°19'28"	79°17'58"
89	89	24.324195	79.299909	24°19'27"	79°17'60"
90	90	24.323938	79.300313	24°19'26"	79°18'1"
91	91	24.323681	79.300717	24°19'25"	79°18'3"
92	92	24.323425	79.301121	24°19'24"	79°18'4"
93	93	24.323377	79.301195	24°19'24"	79°18'4"
94	94	24.323023	79.300891	24°19'23"	79°18'3"
95	95	24.322669	79.300587	24°19'22"	79°18'2"
96	96	24.322489	79.300433	24°19'21"	79°18'2"
97	97	24.322298	79.300268	24°19'20"	79°18'1"
98	98	24.322032	79.300314	24°19'19"	79°18'1"
99	99	24.321686	79.3	24°19'18"	79°17'60"
100	100	24.321416	79.299607	24°19'17"	79°17'59"
101	101	24.321145	79.299214	24°19'16"	79°17'57"
102	102	24.320872	79.298823	24°19'15"	79°17'56"
103	103	24.320599	79.298432	24°19'14"	79°17'54"
104	104	24.320472	79.298254	24°19'14"	79°17'54"
105	105	24.320305	79.298019	24°19'13"	79°17'53"
106	106	24.320005	79.29819	24°19'12"	79°17'53"
107	107	24.319759	79.298332	24°19'11"	79°17'54"
108	108	24.319598	79.298636	24°19'11"	79°17'55"
109	109	24.319419	79.298972	24°19'10"	79°17'56"
110	110	24.319373	79.299462	24°19'10"	79°17'58"
111	111	24.319327	79.299951	24°19'10"	79°17'60"
112	112	24.31928	79.30044	24°19'9"	79°18'2"
113	113	24.319241	79.300841	24°19'9"	79°18'3"
114	114	24.319071	79.301296	24°19'9"	79°18'5"
115	115	24.318901	79.301751	24°19'8"	79°18'6"
116	116	24.318834	79.301932	24°19'8"	79°18'7"
117	117	24.318506	79.301756	24°19'7"	79°18'6"
118	118	24.318164	79.301573	24°19'5"	79°18'[illegible]
119	119	24.33099	79.291159	24°19'52"	79°17'28"
120	120	24.318267	79.301095	24°19'6"	79°18'4"
121	121	24.31837	79.300616	24°19'6"	79°18'2"
122	122	24.31849	79.299738	24°19'7"	79°17'59"
123	123	24.318527	79.299248	24°19'7"	79°17'57"
124	124	24.318559	79.298758	24°19'7"	79°17'[illegible]
125	125	24.318593	79.298268	24°19'7"	79°17'54"
126	126	24.318671	79.297784	24°19'7"	79°17'52"
127	127	24.318958	79.297206	24°19'8"	79°17'50"

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Sr. No.	BP No.	Geographic (WGS 84)			
		Latitude (DM)	Longitude (DM)	Latitude (DMS)	Longitude (DMS)
128	128	24.319551	79.296637	24°19'10"	79°17'48"
129	129	24.318453	79.300228	24°19'6"	79°18'1"
130	130	24.318699	79.297609	24°19'7"	79°17'51"
131	131	24.319163	79.296887	24°19'9"	79°17'49"
132	132	24.319896	79.296416	24°19'12"	79°17'47"
133	133	24.319811	79.296181	24°19'11"	79°17'46"
134	134	24.319723	79.295937	24°19'11"	79°17'45"
135	135	24.319275	79.29589	24°19'9"	79°17'45"
136	136	24.318827	79.295835	24°19'8"	79°17'45"
137	137	24.318771	79.295827	24°19'8"	79°17'45"
138	138	24.318345	79.295666	24°19'6"	79°17'44"
139	139	24.31792	79.295504	24°19'5"	79°17'44"
140	140	24.317773	79.295454	24°19'4"	79°17'44"
141	141	24.317323	79.295425	24°19'2"	79°17'44"
142	142	24.316873	79.295398	24°19'1"	79°17'43"
143	143	24.316423	79.295365	24°18'59"	79°17'43"
144	144	24.316326	79.295358	24°18'59"	79°17'43"
145	145	24.316108	79.295788	24°18'58"	79°17'45"
146	146	24.315891	79.296219	24°18'57"	79°17'46"
147	147	24.315708	79.296579	24°18'57"	79°17'48"
148	148	24.315333	79.296851	24°18'55"	79°17'49"
149	149	24.314958	79.297123	24°18'54"	79°17'50"
150	150	24.314737	[illegible]	24°18'53"	79°17'50"
151	151	[illegible]	[illegible]	24°18'52"	79°17'52"
152	152	24.314191	[illegible]	24°18'51"	79°17'53"
153	153	24.313567	[illegible]	24°18'49"	79°17'53"
154	154	24.313866	[illegible]	24°18'50"	79°17'53"
155	155	[illegible]	[illegible]	24°18'48"	79°17'54"
156	156	24.312838	79.298248	24°18'46"	79°17'54"
157	157	24.312388	79.298245	24°18'45"	79°17'54"
158	158	24.311937	79.298237	24°18'43"	79°17'54"
159	159	24.311488	79.298212	24°18'41"	79°17'54"
160	160	24.311038	79.298187	24°18'40"	79°17'53"
161	161	24.310588	79.298156	24°18'38"	79°17'53"
162	162	24.310139	79.298114	24°18'37"	79°17'53"
163	163	24.30969	79.298072	24°18'35"	79°17'53"
164	164	24.309241	79.298028	24°18'33"	79°17'53"
165	165	24.308793	79.297984	24°18'32"	79°17'53"
166	166	24.308345	79.297929	24°18'30"	79°17'53"
167	167	24.308197	79.29791	24°18'30"	79°17'52"
168	168	24.308148	79.297616	24°18'29"	79°17'51"
169	169	24.308088	79.297161	24°18'29"	79°17'50"
170	170	24.308039	79.296792	24°18'29"	79°17'48"
171	171	24.30848	79.296696	24°18'31"	79°17'48"

Director
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Sr. No.	BP No.	Geographic (WGS 84)			
		Latitude (DM)	Longitude (DM)	Latitude (DMS)	Longitude (DMS)
172	172	24.308923	79.296602	24°18'32"	79°17'48"
173	173	24.309365	79.296509	24°18'34"	79°17'47"
174	174	24.309807	79.296416	24°18'35"	79°17'47"
175	175	24.310249	79.296317	24°18'37"	79°17'47"
176	176	24.31069	79.296218	24°18'38"	79°17'46"
177	177	24.311132	79.29612	24°18'40"	79°17'46"
178	178	24.311574	79.296028	24°18'42"	79°17'46"
179	179	24.311909	79.295959	24°18'43"	79°17'45"
180	180	24.312147	79.295763	24°18'44"	79°17'45"
181	181	24.312429	79.295531	24°18'45"	79°17'44"
182	182	24.312198	79.295342	24°18'44"	79°17'43"
183	183	24.311929	79.29512	24°18'43"	79°17'42"
184	184	24.311478	79.295113	24°18'41"	79°17'42"
185	185	24.311028	79.295106	24°18'40"	79°17'42"
186	186	24.310577	79.2951	24°18'38"	79°17'42"
187	187	24.310127	79.295094	24°18'36"	79°17'42"
188	188	24.309676	79.295088	24°18'35"	79°17'42"
189	189	24.30955	79.295086	24°18'34"	79°17'42"
190	190	24.309335	79.294728	24°18'34"	79°17'41"
191	191	24.309365	79.294316	24°18'34"	79°17'40"
192	192	24.309394	79.293906	24°18'34"	79°17'38"
193	193	24.309718	79.293782	24°18'35"	79°17'38"
194	194	24.310049	79.293655	24°18'36"	79°17'37"
195	195	24.310349	79.293316	24°18'37"	79°17'36"
196	196	24.310644	79.292984	24°18'38"	79°17'35"
197	197	24.310306	79.292659	24°18'37"	79°17'34"
198	198	24.309968	79.292334	24°18'36"	79°17'32"
199	199	24.30963	79.292008	24°18'35"	79°17'31"
200	200	24.309292	79.291684	24°18'33"	79°17'30"
201	201	24.309146	79.291544	24°18'33"	79°17'30"
202	202	24.309186	79.291288	24°18'33"	79°17'29"
203	203	24.309225	79.291035	24°18'33"	79°17'28"
204	204	24.309668	79.290947	24°18'35"	79°17'27"
205	205	24.310112	79.290858	24°18'36"	79°17'27"
206	206	24.310366	79.290808	24°18'37"	79°17'27"
207	207	24.310399	79.290317	24°18'37"	79°17'25"
208	208	24.310432	79.289827	24°18'38"	79°17'23"
209	209	24.310458	79.289456	24°18'38"	79°17'22"
210	210	24.310613	79.288995	24°18'38"	79°17'20"
211	211	24.310768	79.288533	24°18'39"	79°17'19"
212	212	24.310923	79.288071	24°18'39"	79°17'17"
213	213	24.311078	79.28761	24°18'40"	79°17'15"
214	214	24.311234	79.287149	24°18'40"	79°17'14"
215	215	24.311392	79.286688	24°18'41"	79°17'12"

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216	216	24.311549	79.286227	24°18'42"	79°17'10"
217	217	24.311707	79.285767	24°18'42"	79°17'9"
218	218	24.311864	79.285306	24°18'43"	79°17'7"
219	219	24.312019	79.284845	24°18'43"	79°17'5"
220	220	24.312172	79.284382	24°18'44"	79°17'4"
221	221	24.312324	79.28392	24°18'44"	79°17'2"
222	222	24.312737	79.283724	24°18'46"	79°17'1"
223	223	24.31315	79.283527	24°18'47"	79°17'1"
224	224	24.313563	79.28333	24°18'49"	79°16'60"
225	225	24.313976	79.283134	24°18'50"	79°16'59"
226	226	24.314392	79.282944	24°18'52"	79°16'59"
227	227	24.314807	79.282754	24°18'53"	79°16'58"
228	228	24.315223	79.282564	24°18'55"	79°16'57"
229	229	24.315638	79.282374	24°18'56"	79°16'57"
230	230	24.316053	79.282181	24°18'58"	79°16'56"
231	231	24.328122	79.289895	24°19'41"	79°17'24"
232	232	24.32794	79.289814	24°19'41"	79°17'23"
233	233	24.327642	79.290177	24°19'40"	79°17'25"
234	234	24.327307	79.290441	24°19'38"	79°17'26"
235	235	24.326[illegible]8	79.290[illegible]54	24°19'37"	79°17'25"
236	236	24.32[illegible]53	79.2899[illegible]7	24°19'36"	79°17'24"
237	237	24.32[illegible]96	79.2897[illegible]5	24°19'35"	79°17'23"
238	238	24.325[illegible]54	79.2897[illegible]	24°19'33"	79°17'23"
239	239	24.3255[illegible]	79.288[illegible]	24°19'32"	79°17'23"
240	240	24.32532	79.2[illegible]	24°19'31"	79°17'23"
241	241	24.325091	79.2[illegible]9464	24°19'30"	79°17'22"
242	242	24.324931	79.289655	24°19'30"	79°17'23"
243	243	24.324662	79.289841	24°19'29"	79°17'23"
244	244	24.324351	79.289985	24°19'28"	79°17'24"
245	245	24.323922	79.290085	24°19'26"	79°17'24"
246	246	24.323642	79.290188	24°19'25"	79°17'25"
247	247	24.323519	79.290265	24°19'25"	79°17'25"
248	248	24.323402	79.290314	24°19'24"	79°17'25"
249	249	24.3233	79.29033	24°19'24"	79°17'25"
250	250	24.323119	79.290312	24°19'23"	79°17'25"
251	251	24.32295	79.290254	24°19'23"	79°17'25"
252	252	24.322734	79.290129	24°19'22"	79°17'24"
253	253	24.32257	79.289931	24°19'21"	79°17'24"
254	254	24.322472	79.289699	24°19'21"	79°17'23"
255	255	24.322417	79.289585	24°19'21"	79°17'23"
256	256	24.322334	79.289202	24°19'20"	79°17'21"
257	257	24.322282	79.288782	24°19'20"	79°17'20"
258	258	24.322257	79.288183	24°19'20"	79°17'17"
259	259	24.322252	79.287967	24°19'20"	79°17'17"

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260	260	24.322258	79.287807	24°19'20"	79°17'16"
261	261	24.322302	79.287607	24°19'20"	79°17'15"
262	262	24.322344	79.2875	24°19'20"	79°17'15"
263	263	24.322434	79.287364	24°19'21"	79°17'15"
264	264	24.322581	79.287159	24°19'21"	79°17'14"
265	265	24.322692	79.287098	24°19'22"	79°17'14"
266	266	24.32283	79.287061	24°19'22"	79°17'13"
267	267	24.322978	79.287054	24°19'23"	79°17'13"
268	268	24.323212	79.287077	24°19'24"	79°17'13"
269	269	24.323581	79.287129	24°19'25"	79°17'14"
270	270	24.323991	79.287188	24°19'26"	79°17'14"
271	271	24.324146	79.287205	24°19'27"	79°17'14"
272	272	24.324456	79.287222	24°19'28"	79°17'14"
273	273	24.32469	79.28725	24°19'29"	79°17'14"
274	274	24.324972	79.287262	24°19'30"	79°17'14"
275	275	24.325222	79.287373	24°19'31"	79°17'15"
276	276	24.325195	79.28752	24°19'31"	79°17'15"
277	277	24.32521	79.287572	24°19'31"	79°17'15"
278	278	24.325542	79.287618	24°19'32"	79°17'15"
279	279	24.325842	79.287647	24°19'33"	79°17'16"
280	280	24.326056	79.287628	24°19'34"	79°17'15"
281	281	24.32652	79.287617	24°19'35"	79°17'15"
282	282	24.326764	79.287629	24°19'36"	79°17'15"
283	283	24.327008	79.287683	24°19'37"	79°17'16"
284	284	24.327453	79.287781	24°19'39"	79°17'16"
285	285	24.327655	79.287893	24°19'40"	79°17'16"
286	286	24.327791	79.288043	24°19'40"	79°17'17"
287	287	24.327897	79.288166	24°19'40"	79°17'17"
288	288	24.327985	79.288327	24°19'41"	79°17'18"
289	289	24.328118	79.28869	24°19'41"	79°17'19"
290	290	24.328178	79.288877	24°19'41"	79°17'20"
291	291	24.328209	79.289116	24°19'42"	79°17'21"
292	292	24.328204	79.289502	24°19'42"	79°17'22"
293	293	24.328191	79.289659	24°19'41"	79°17'23"

Director
Geology & Mining
Madhya Pradesh

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XVI. ANNEXURE-F DGPS Processing Summary !

Annexure-F

Processing Summary of Buxwaha Ground Control Points by Leica Geo-systems

Page 1 of 3

when it has to be right Leica Geosystems

Processing Summary
Buxwaha09082017 (2)

Project information

Project name:	Buxwaha09082017 (2)
Date created:	08/22/2017 20:06:25
Time zone:	5h 30'
Coordinate system name:	WGS 1984
Application software:	LEICA Geo Office 8.4
Start date and time:	08/09/2017 12:20:52
End date and time:	08/09/2017 17:39:52
Manually occupied points:	11
Processing kernel:	PSI-Pro 4.0
Processed:	08/22/2017 10:01:21

Processing Parameters

Parameters	Selected
Cut-off angle:	15°
Ephemeris type:	Broadcast
Solution type:	Automatic
GNSS type:	Automatic
Frequency:	Automatic
Fix ambiguities up to:	80 km
Min. duration for float solution (static):	5' 00"
Sampling rate:	Use all
Tropospheric model:	Computed
Ionospheric model:	Computed
Use stochastic modelling:	Yes
Min. distance:	8 km
Ionospheric activity:	Automatic

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Baseline Overview

6465080913550801 - 6456080908211144	Reference: 6465080913550801	Rover: 6456080908211144
Coordinates:		
Latitude:	24° 18' 52.09777" N	24° 19' 24.28242" N
Longitude:	79° 19' 17.64321" E	79° 18' 04.72962" E
Ellip. Hgt:	427.8706 m	399.6687 m
Solution type:	Phase: all fix	
GNSS type:	GPS / GLONASS	
Frequency:	L1 and L2	
Ambiguity:	Yes	

6465080913550801 - 6456080906581816	Reference: 6465080913550801	Rover: 6456080906581816
Coordinates:		
Latitude:	24° 18' 52.09777" N	24° 19' 24.54740" N

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Longitude:	79° 19' 17.54321" E	79° 18' 04.07285" E
Ellip. Hgt:	427.8706 m	400.1933 m
Solution type:	Float	
GNSS type:	GPS / GLONASS	
Frequency:	L1 and L2	
Ambiguity:	No	
6465080913550801 - 6456080909264231	**Reference: 6465080913550801**	**Rover: 6456080909264231**
Coordinates:		
Latitude:	24° 18' 52.09777" N	24° 19' 25.25578" N
Longitude:	79° 19' 17.54321" E	79° 18' 02.40623" E
Ellip. Hgt:	427.8706 m	400.8960 m
Solution type:	Phase: all fix	
GNSS type:	GPS / GLONASS	
Frequency:	L1 and L2	
Ambiguity:	Yes	
6465080913550801 - 6456080909555517	**Reference: 6465080913550801**	**Rover: 6456080909555517**
Coordinates:		
Latitude:	24° 18' 52.09777" N	24° 19' 26.09029" N
Longitude:	79° 19' 17.54321" E	79° 18' 01.06853" E
Ellip. Hgt:	427.8706 m	401.2998 m
Solution type:	Phase: all fix	
GNSS type:	GPS / GLONASS	
Frequency:	L1 and L2	
Ambiguity:	Yes	
6465080913550801 - 6456080910311842	**Reference: 6465080913550801**	**Rover: 6456080910311842**
Coordinates:		
Latitude:	24° 18' 52.09777" N	24° 19' 27.04926" N
Longitude:	79° 19' 17.54321" E	79° 17' 59.63683" E
Ellip. Hgt:	427.8706 m	401.5914 m
Solution type:	Phase: all fix	
GNSS type:	GPS / GLONASS	
Frequency:	L1 and L2	
Ambiguity:	Yes	
6465080913550801 - 6456080910560911	**Reference: 6465080913550801**	**Rover: 6456080910560911**
Coordinates:		
Latitude:	24° 18' 52.09777" N	24° 19' 28.05696" N
Longitude:	79° 19' 17.54321" E	79° 17' 58.35998" E
Ellip. Hgt:	427.8706 m	400.0716 m
Solution type:	Phase: all fix	
GNSS type:	GPS / GLONASS	
Frequency:	L1 and L2	
Ambiguity:	Yes	
6465080913550801 - 6456080911260236	**Reference: 6465080913550801**	**Rover: 6456080911260236**
Coordinates:		
Latitude:	24° 18' 52.09777" N	24° 19' 29.01982" N

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Longitude:	79° 19' 17.54321" E	79° 17' 56.91449" E
Ellip. Hgt:	427.8706 m	398.8493 m

Solution type:	Phase: all fix
GNSS type:	GPS / GLONASS
Frequency:	L1 and L2
Ambiguity:	Yes

6465080913550801 - 6456080911533512	**Reference: 6465080913550801**	**Rover: 6456080911533512**
Coordinates:		
Latitude:	24° 18' 52.09777" N	24° 19' 30.07907" N
Longitude:	79° 19' 17.54321" E	79° 17' 55.33176" E
Ellip. Hgt:	427.8706 m	397.8053 m

Solution type:	Phase: all fix
GNSS type:	GPS / GLONASS
Frequency:	L1 and L2
Ambiguity:	Yes

6465080913550801 - 6456080912161457	**Reference: 6465080913550801**	**Rover: 6456080912161457**
Coordinates:		
Latitude:	24° 18' 52.09777" N	24° 19' 31.06224" N
Longitude:	79° 19' 17.54321" E	79° 17' 53.86547" E
Ellip. Hgt:	427.8706 m	397.0063 m

Solution type:	Phase: all fix
GNSS type:	GPS / GLONASS
Frequency:	L1 and L2
Ambiguity:	Yes

6465080913550801 - 6456080912441239	**Reference: 6465080913550801**	**Rover: 6456080912441239**
Coordinates:		
Latitude:	24° 18' 52.09777" N	24° 19' 31.77971" N
Longitude:	79° 19' 17.54321" E	79° 17' 52.34421" E
Ellip. Hgt:	427.8706 m	396.7841 m

Solution type:	Phase: all fix
GNSS type:	GPS / GLONASS
Frequency:	L1 and L2
Ambiguity:	Yes

6465080913550801 - 6456080913096983	**Reference: 6465080913550801**	**Rover: 6456080913096983**
Coordinates:		
Latitude:	24° 18' 52.09777" N	24° 19' 32.84408" N
Longitude:	79° 19' 17.54321" E	79° 17' 50.90467" E
Ellip. Hgt:	427.8706 m	395.9557 m

Solution type:	Phase: all fix
GNSS type:	GPS / GLONASS
Frequency:	L1 and L2
Ambiguity:	Yes

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XVII. ANNEXURE-G OPUS SOLUTION REPORT

NGS OPUS Solution Report

8/1/2017 Welcome to Rediffmail: Inbox

rediffmail Mailbox of pratapians

Subject: OPUS solution : 64562250.17o OP1502809883602

From: opus <opus@ngs.noaa.gov> on Tue, 15 Aug 2017 20:42:27

To: pratapians@rediffmail.com

```
FILE: 64562250.17o OP1502809883602

                NGS OPUS SOLUTION REPORT
                ========================

All computed coordinate accuracies are listed as peak-to-peak values.
For additional information: https://www.ngs.noaa.gov/OPUS/about.jsp#accuracy

  USER: pratapians@rediffmail.com             DATE: August 15, 2017
RINEX FILE: 6456225e.17o                      TIME: 15:12:03 UTC

 SOFTWARE: page5 1603.24 master93.pl 160321     START: 2017/08/13 04:58:00
EPHEMERIS: igr19620.eph [rapid]                  STOP: 2017/08/13 13:14:00
 NAV FILE: brdc2250.17n                     OBS USED: 17587 / 17867  : 98%
 ANT NAME: LEIGS14      NONE               # FIXED AMB:  49 /  61  : 80%
ARP HEIGHT: 1.2300                       OVERALL RMS: 0.013(m)

REF FRAME: IGS08 (EPOCH:2017.6146)

     X:   1077708.742(m)   0.016(m)
     Y:   5715363.691(m)   0.072(m)
     Z:   2610236.016(m)   0.011(m)

   LAT:   24 18 52.02167       0.040(m)
 E LON:   79 19 17.55192       0.004(m)
 W LON:  280 40 42.44808       0.004(m)
EL HGT:          427.523(m)   0.063(m)

             UTM COORDINATES
              UTM (Zone 44)
Northing (Y) [meters]     2690088.670
Easting (X)  [meters]      329653.420
Convergence  [degrees]    -0.60126227
Point Scale                0.99996828
Combined Factor            0.99989111

              BASE STATIONS USED
PID     DESIGNATION                 LATITUDE   LONGITUDE DISTANCE(m)
   PBRI                                         1964061.4
   IISC                                         1261621.9
   POL2                                         2072091.4

This position and the above vector components were computed without any
knowledge by the National Geodetic Survey regarding the equipment or
field operating procedures used.
```

https://mail.rediff.com/ajaxprism/readmail?printable=1&block_images=1&file_name=1502809947.S3474.21687.H.Tra9wdXMAT1BVUyBdr2x1dGlvb...

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XII. GCP PHOTOGRAPHS

GCP No. 001

GCP No. 039

GCP No. 043

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GCP No. 058

GCP No. 094

GCP No. 098

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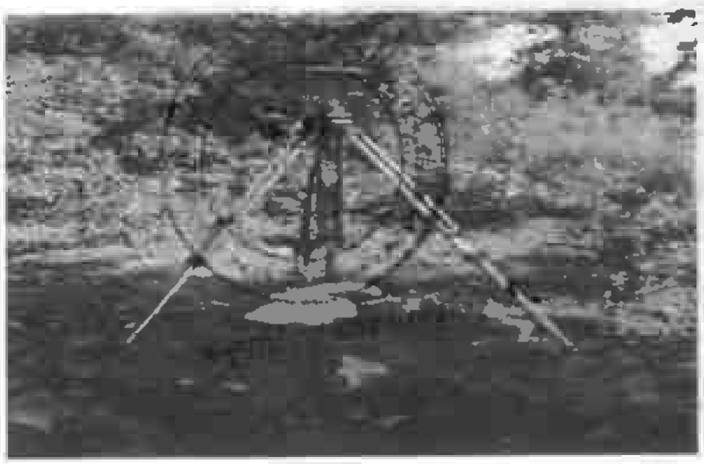
GCP No. 132

GCP No. 134

GCP No. 144



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GCP No. 167

GCP No. 170

GCP No. 181

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GCP No. 189

GCP No. 192

GCP No. 196

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GCP No. 201

GCP No. 203

GCP No. 206

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---End of Report---

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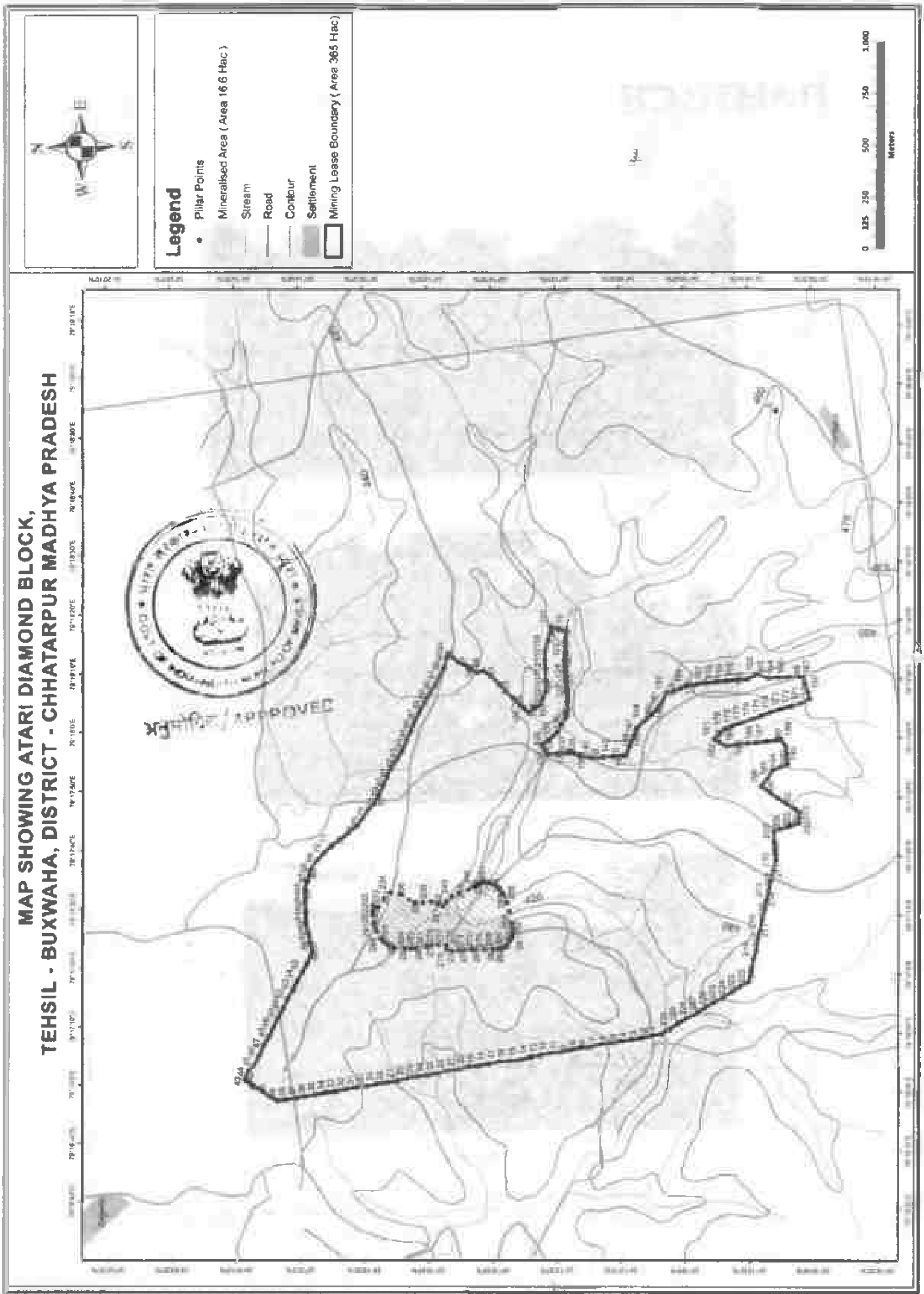

472 [signature]

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ANNEXURE VI

VI /A	Details of Slim drill holes
VI /B	Details of PQ and GT small diameter holes
VI /C	Lithologs of boreholes
VI /D	Details of LDC holes
VI /E	Details of the shallow pits
VI /F	Details of Bulk Sampling Recoveries
VI /G	Sample results from LDC
VI /H	First five Years quantity
VI / I	Feasibility report
VI /J	Request submitted to DGM for rectification of co-ordinates

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Annexure VI / A

Details of Slim Drill Holes

Sr. No.	HOLE ID	Co-Ordinate East-West	Co-Ordinate North- South	Reduced Level m	DEPTH m	Inclination In degree	Thickness Colluvium m	Direction from North (Degrees)	Top Intersection of Lamproite m	Bottom Intersection of Lamproite m
	1	2	3	4	5	6	7	8	9	10
					NORTH ATRI					
1	B28-004	320322.1	261492	449.909	216.16	55	23.5	86	23.5	216.16
2	B28-006	326359.2	2691496.7	450.015	272.9	60	20.7	0	20.7	201
3	B28- 007	326459.3	2691527.8	449.143	170.5	60	15	90	72.6	135.9
4	B28-008	326315.3	2691390.7	449.716	130	60	20.15	270	20.15	77.05
5	B28-012	326324	2691522.8	449.761	140.8	60	19.1	300	19.1	87.4
6	B28-013	326529.8	2691605.9	449.251	300.3	55	16.4	204	61.3	242.3
7	B28-014	326376.9	2691460.7	449.706	230	80	16.62	148	16.62	187
8	B28-015	326501.9	2691381.1	449.423	107.4	54	12.8	270	56.26	107.4
9	B28-015A	326501.9	2691381.1	449.423	309.9	54	12.8	270	55.7	110
10	B28-019	326474.8	2691670.1	448.833	473.4	45	21.6	200	72.8	302.2
11	B28-020	326505.5	2691378.3	449.511	356.4	45	15	310	71.3	308
12	B28D3GT10	326573	2691237	452	300	50	6	360	-	
13	B28FGT11	326167	2691517	440	300	50	16.6	140	196.5	250.6
					SOUTH ATRI					
1	B28-001	326349.6	2691096.8	428.787	260.22	90	4.5	0	4.5	260.22
2	B28-002	326350.6	2691097.1	428.801	178.34	58	6.2	190	6.2	149.85
3	B28-003	326337.2	2691297.1	425.105	151.75	60	9.5	270	9.5	120.3
4	B28-005	326349.2	2691099.9	428.936	268.73	65	4.5	272	4.5	211

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Sr. No.	HOLE ID	Co-Ordinate East-West	Co-Ordinate North- South	Reduced Level m	DEPTH m	Inclination In degree	Thickness Colluvium m	Direction from North (Degrees)	Top Intersection of Lamproite m	Bottom Intersection of Lamproite m
		2	3	4	5	6	7	8	9	10
5	B28-009	326323.5	2691299.7	425.105	243.5	60	4.6	90	4.6	167.5
6	B28-010	326400.3	2691152.3	427.979	230.7	60	2.7	90	2.7	180.25
7	B28-011	326099.1	2691148.7	449.776	187.8	60	7	90	0	0
8	B28-016	326548.1	2691000.2	436.531	570.2	58	1.8	300	112.44	524.7
9	B28-017	326329.1	2691286.3	425.173	437.6	45	5.3	10	5.3	317.46
10	B28-018	326102.3	2691303.3	449.095	635.8	45	5.4	120	366.27	635.4
11	B28-021	326506.8	2691374.8	449.594	512.6	45	15.3	209	173.4	457.46
12	B28-022	326352.7	2690949.6	431.398	659.3	55	0	5	96.41	628.3
13	B28-023	326285	2691224	425	392.5	48	4.83	120	6.5	377.45
14	B28-024	326405	2691115	433	410.4	60	2.8	326.5	2.8	273.74
15	B28-025	326337	2691297	425	375.3	65	4	200	4.5	158.85
16	B28-026	326478	2691114	435	114	65	5.3	55	5.3	39
17	B28-027	326390	2691176	443	250	55	2	345	2	-
18	B28-028	326395	2691032	426	95.9	65	4.8	145	4.8	59.5
19	B28-029	326244	2691111	426	147	75	4.8	260	4.8	127.78
20	B28-030	326223	2691217	420	300	65	5.5	115	5.5	-
21	B28-031	326467	2691100	423	100	70	8.1	80	8.1	29.8
22	B28-032	326402	2691182	443	312	70	2.5	65	2.5	235.65
23	B28-033	326259	2691015	426	300.3	75	2.03	45	2.03	174.6
24	B28-034	326393	2691263	431	284.8	65	4.9	100	4.9	231.23
25	B28-035	326417	2691251	426	130	65	4.6	105	4.6	111.9
26	B28-036	326477	2691100	434	57.6	50	7.2	125	7.2	19.4
27	B28-037	326255	2691022	426	90	80	0.8	85	0.8	33.5

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Sr. No.	HOLE ID	Co-Ordinate East-West	Co-Ordinate North- South	Reduced Level m	DEPTH m	Inclination In degree	Thickness Colluvium m	Direction from North (Degrees)	Top Intersection of Lamproite m	Bottom Intersection of Lamproite m
	1	2	3	4	5	6	7	8	9	10
28	B28-038	326423	2691247	434	80.7	50	5.3	90	5.3	49.9
29	B28-039	326508	2691065	439	254.4	90	1.1	0	44.25	221.4
30	B28-040	326267	2691210	437	110.2	70	5	265	5	100.19
31	B28-041	326260	2691019	427	55.8	60	1	180	1	30.5
32	B28-042	326248	2691153	432	72	60	5.5	275	5.5	63.36
33	B28-043	326258	2691023	427	196	60	1.5	315	1.5	184.4
34	B28-044	326259	2691225	427	116	60	3.5	348.5	3.5	111
35	B28-045	326416	2691104	438	189	0	2.5	88.5	2.5	134.5
36	B28-046	326396	2691038	443	120	75	3	170	3	78.5
37	B28-047	326506	2691064	436	61.2	60	0.5	285	49.07	-
38	B28-048	326477	2691040	439	89.5	85	0.5	255	34.9	-
39	B28A2GT02	326334	2690936	426	215.7	60	1.1	145	-	-
40	B28C1GT03	326099	2691304	444	171.1	50	17.54	239	-	-
41	B28B2GT04	326100	2690999	448	145.05	50	21.17	280.5	-	-
42	B28A1GT05	326334	2690936	423	230.27	66	53.9	1	-	-
43	B28D1GT06	326557	2691238	449	288.3	50	4.97	132	-	-
44	B28E1GT07	326550	2690999	430	317.6	70	1	322	194.8	317.6
45	B28B1GT12	326100	2690999	448	302	55	21.35	88	230.4	239
46	B28D2GT08	326557	2691237	450	300	59	6.3	227	176.3	300
47	B28E2GT09	326553	2691002	430	255	50	6	69	-	-

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Annexure VI / B

Details of PQ &GT (Small Dia.) Boreholes

Sr. No.	HOLE ID	Co-Ordinate East-West	Co-Ordinate North-South	Reduced Level m	DEPTH m	Inclination In degree	Thickness Colluvium m	Top Intersection Of Lamproite m	Bottom Intersection of Lamproite m
	1	2	3	4	5	6	7	8	9
					NORTH ATRI				
1	B28PQ001	326324	2691109	429	334.9	90	4.17	4.17	-
					SOUTH ATRI				
1	B28PQ002	326319	2691280	425	165.5	90	2.5	2.5	133
2	B28PQ003	326394	2691257	425	249.3	90	2.8	2.8	8
3	B28PQ004	326350	2691206	426.7	350.1	90	4.54	4.54	350.1
4	B28PQ005	326285	2691224	425.3	206.4	90	4.9	4.9	206.4
5	B28PQ006	326255	2691174	424	206.1	90	5.9	5.9	164.2
6	B28PQ007	326360	2691076	430	359.7	90	5.7	5.7	359.7
7	B28PQ008	326249	2691224	425.356	185	90	6	6	143.6
8	B28PQ009	326373	2691197	426.75	338.9	67	-	-	-
9	B28PQ010	326345	2691213	430.5	374.6	60	-	-	-
10	B28PQ011	326413	2691097	430.7	426	75	-	-	-
11	B28PQ012	326412	2691103	430	414	70	1.9	1.9	262.85

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Annexure VI / C

Lithologs of Boreholes

Bore Hole No : B28-001		
Co-ordinate (Easting)	**Co-Ordinate (Northing)**	**Reduced Level (Meters)**
326349.6	**2691096.8**	**428.787**
Total Depth Meters	**Inclination** in Degree	**Direction from North (Azimuth)**
260.22	**90**	**0**

Hole Id	From	To	**Code**	**Lithology**
HoleID	From	To	Code	Lithology
B28-001	0	4.5	COLV	Colluvium
B28-001	4.5	11.2	SPRK	Saprolite
B28-001	11.2	13.5	SPRK	Saprock
B28-001	13.5	26.35	SPL	Southern Pyroclastic Lamproite
B28-001	26.35	37.4	SPL	Southern Pyroclastic Lamproite
B28-001	37.4	59.5	SPL	Southern Pyroclastic Lamproite
B28-001	59.8	64.1	SPL	Southern Pyroclastic Lamproite
B28-001	64.1	73	SPL	Southern Pyroclastic Lamproite
B28-001	73	86.2	SPL	Southern Pyroclastic Lamproite
B28-001	86.2	110.5	SPL	Southern Pyroclastic Lamproite
B28-001	110.5	147.9	SPL	Southern Pyroclastic Lamproite
B28-001	147.9	149.65	MgL	Magmatic Lamproite
B28-001	149.65	191	SPL	Southern Pyroclastic Lamproite
B28-001	191	210	SPL	Southern Pyroclastic Lamproite
B28-001	201	229	SPL	Southern Pyroclastic Lamproite
B28-001	229	248.9	SPL	Southern Pyroclastic Lamproite
B28-001	248.9	260.22	SPL	Southern Pyroclastic Lamproite

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Bore Hole No B28-002		
Co-ordinate (Easting)	Co-Ordinate (Northing)	Reduced Level (M)
326350.6	2691097.1	428.801
Total Depth Meters	Inclination in Degree	Direction from North (Azimuth)
178.34	58	190

Hole Id	From	To	Code	Lithology
B28-002	0	6.2	COLV	Colluvium
B28-002	6.2	14.5	SPLT	Saprolite
B28-002	14.5	15.7	SPRK	Saprock
B28-002	15.7	21.7	SPL	Southern Pyroclastic Lamproite
B28-002	21.7	29	SPL	Southern Pyroclastic Lamproite
B28-002	29	35.4	SPL	Southern Pyroclastic Lamproite
B28-002	35.4	42.45	SPL	Southern Pyroclastic Lamproite
B28-002	42.45	59.6	SPL	Southern Pyroclastic Lamproite
B28-002	59.6	94.3	SPL	Southern Pyroclastic Lamproite
B28-002	94.3	98.7	SPL	Southern Pyroclastic Lamproitr
B28-002	98.7	100.8	SPL	Southern Pyroclastic Lamproitr
B28-002	100.8	130.6	SPL	Southern Pyroclastic Lamproitr
B28-002	130.6	149.4	SPL	Southern Pyroclastic Lamproitr
B28-002	149.4	149.85	SPL	Southern Pyroclastic Lamproitr
B28-002	149.85	150.68	SHLE	Shale
B28-002	150.68	151.48	SDST	Sandstone
B28-002	151.48	161	SHLE	Shale
B28-002	161	163.28	SDST	Sandstone
B28-002	163.28	171.5	SHLE	Shale
B28-002	171.5	177.5	SHLE	Shale
B28-002	177.5	178.34	SDST	Sandstone

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Bore Hole No B28-003		
Co-ordinate (Easting)	Co-Ordinate (Northing)	Reduced Level (M)
326337.2	2691297.1	425.105
Total Depth Meters	**Inclination in Degree**	Direction from North (Azimuth)
151.75	**60**	270

Hole Id	From	To	Code	Lithology
B28-003	0	9.5	COLY	Colluvium
B28-003	9.5	52.7	PL	Pyroclastic Lamproite
B28-003	52.7	66.1	PL	Pyroclastic Lamproite
B28-003	66.1	67.7	PL	Pyroclastic Lamproite
B28-003	67.7	79.95	PL	Pyroclastic Lamproite
B28-003	79.95	81.9	PL	Pyroclastic Lamproite
B28-003	81.9	90.2	PL	Pyroclastic Lamproite
B28-003	90.2	94.55	PL	Pyroclastic Lamproite
B28-003	94.55	99.95	PL	Pyroclastic Lamproite
B28-003	99.95	108.4	PL	Pyroclastic Lamproite
B28-003	108.4	111.5	PL	Pyroclastic Lamproite
B28-003	111.5	117.6	PL	Pyroclastic Lamproite
B28-003	117.6	120.3	PL	Pyroclastic Lamproite
B28-003	120.3	144.55	SHLE	Shale
B28-003	144.55	149.9	SDST	Sandstone
B28-003	149.9	151.75	SHLE	Shale

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Bore Hole No B28-004				
	Co-ordinate (Easting)	Co-Ordinate (Northing)	Reduced Level (M)	
	320322.1	261492	449.909	
	Total Depth Meters	Inclination In Degree	Direction from North (Azimuth)	
	216.16	55	86	
Hole Id	From	To	Code	Lithology
B28-004	0	23.5	COLV	Colluvium
B28-004	23.5	64.3	MgL	Magmatic Lamproite
B28-004	64.3	82.3	MgL	Magmatic Lamproite
B28-004	82.3	111.5	PL	Pyroclastic Lamproite
B28-004	111.5	164	PL	Pyroclastic Lamproite
B28-004	164	192	PL	Pyroclastic Lamproite
B28-004	192	204	PL	Pyroclastic Lamproite
B28-004	204	216.16	TL	Transitional Textured Lamproite

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Bore Hole No. B28-005				
	Co-ordinate (Easting)	Co-Ordinate (Northing)	Reduced Level (M)	
	326349.2	2691099.9	428.936	
	Total Depth Meters	Inclination in Degree	Direction from North (Azimuth)	
	268.73	65	272	

Hole Id	From	To	Code	Lithology
B28-005	0	4.5	COLV	Colluvium
B28-005	4.5	11.2	SPLT	Saprolite
B28-005	11.2	13.5	SPRK	Saprock
B28-005	13.5	19.2	SPL	Southern Pyroclastic Lamproite
B28-005	19.2	28.15	SPL	Southern Pyroclastic Lamproite
B28-005	28.15	36.3	SPL	Southern Pyroclastic Lamproite
B28-005	36.3	52.95	SPL	Southern Pyroclastic Lamproite
B28-005	52.95	70.4	SPL	Southern Pyroclastic Lamproite
B28-005	70.4	75.6	SPL	Southern Pyroclastic Lamproite
B28-005	75.6	84.1	SPL	Southern Pyroclastic Lamproite
B28-005	84.1	91.3	SPL	Southern Pyroclastic Lamproite
B28-005	91.3	103.65	SPL	Southern Pyroclastic Lamproite
B28-005	103.65	121.2	SPL	Southern Pyroclastic Lamproite
B28-005	121.2	127.6	SPL	Southern Pyroclastic Lamproite
B28-005	127.6	164.4	SPL	Southern Pyroclastic Lamproite
B28-005	164.4	171.3	SPL	Southern Pyroclastic Lamproite
B28-005	171.3	184.9	SPL	Southern Pyroclastic Lamproite
B28-005	184.9	193	SPL	Southern Pyroclastic Lamproite
B28-005	193	194	SPL	Southern Pyroclastic Lamproite
B28-005	194	206.7	SPL	Southern Pyroclastic Lamproite
B28-005	206.7	211	McL	Magmaclastic Lamproite
B28-005	211	214.5	DLST	Dolostone
B28-005	214.5	219.7	DLST	Dolostone
B28-005	219.7	240.3	CB	Contact Breccia
B28-005	240.3	144.75	DLST	Dolostone
B28-005	244.75	250.7	SDBX	Sedimentary Breccia
B28-005	250.7	268.73	DLST	Dolostone

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Bore Hole No. : B28-006				
	Co-ordinate (Easting)	Co-Ordinate (Northing)	Reduced Level (M)	
	326359.2	2691496.7	450.015	
	Total Depth Meters	Inclination in Degree	Direction from North (Azimuth)	
	272.9	60	0	

Hole Id	From	To	Code	Lithology
B28-006	0	2.3	COLV	Colluvium
B28-006	2.3	20.7	COLV	Colluvium
B28-006	20.7	21.7	SPRK	Saprock
B28-006	21.7	22.7	McL	Magmaclastic Lamproite
B28-006	22.7	45.1	McL	Magmaclastic Lamproite
B28-006	45.1	49.05	PL	Pyroclastic Lamproite
B28-006	49.05	49.25	SDST	Sandstone
B28-006	49.25	53	McL	Magmaclastic Lamproite
B28-006	53	54.85	McL	Magmaclastic Lamproite
B28-006	54.85	58.3	PL	Pyroclastic Lamproite
B28-006	58.3	64.6	PL	Pyroclastic Lamproite
B28-006	64.6	107.98	McL	Magmaclastic Lamproite
B28-006	107.98	108.45	McL	Magmaclastic Lamproite
B28-006	108.45	110.45	MgL	Magmatic Lamproite
B28-006	110.45	110.9	MgL	Magmatic Lamproite
B28-006	110.9	122	PL	Pyroclastic Lamproite
B28-006	122	123.2	PL	Pyroclastic Lamproite
B28-006	123.2	158.9	PL	Pyroclastic Lamproite
B28-006	158.9	166.15	QTZIT	Quartzite
B28-006	166.15	168.8	SDST	Sandstone
B28-006	168.8	189.6	TL	Transitional Textured Lamproite
B28-006	189.6	200.4	SDST	Sandstone
B28-006	200.4	201	MgL	Magmatic Lamproite
B28-006	201	221.8	SDST	Sandstone
B28-006	221.8	237	SDST	Sandstone
B28-006	237	255.6	SDST	Sandstone
B28-006	255.6	272.9	SHLE	Shale

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Bore Hole No B28-007		
Co-ordinate (Easting)	Co-Ordinate (Northing)	Reduced Level (M)
326459.3	2691527.8	449.143
Total Depth Meters	Inclination in Degree	Direction from North (Azimuth)
170.5	60	90

Hole Id	From	To	Code	Lithology
B28-007	0	15	COLV	Colluvium
B28-007	15	60.01	SDST	Sandstone
B28-007	60.01	69.6	SHLE	Shale
B28-007	69.6	72.1	CNGL	Conglomerate
B28-007	72.1	72.6	CB	Contact Breccia
B28-007	72.6	82	PL	Pyroclastic Lamproite
B28-007	82	88.5	SDST	Sandstone
B28-007	88.5	101.85	PL	Pyroclastic Lamproite
B28-007	101.85	103.1	PL	Pyroclastic Lamproite
B28-007	103.1	111	PL	Pyroclastic Lamproite
B28-007	111	121	PL	Pyroclastic Lamproite
B28-007	121	122.8	PL	Pyroclastic Lamproite
B28-007	122.8	129.6	PL	Pyroclastic Lamproite
B28-007	129.6	130	SDST	Sandstone
B28-007	130	135.9	TL	Transitional Textured Lamproite
B28-007	135.9	143.5	QTZIT	Quartzite
B28-007	143.5	146.95	SDST	Sandstone
B28-007	146.95	170.5	SHLE	Shale

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Bore Hole No B28-008		
Co-ordinate (Easting)	**Co-Ordinate (Northing)**	**Reduced Level (M)**
326315.3	**2691390.7**	**449.716**
Total Depth Meters	**Inclination in Degree**	**Direction from North (Azimuth)**
130	**60**	**270**

Hole Id	From	To	Code	Lithology
B28-008	0	20.15	COLV	Colluvium
B28-008	20.15	21.4	MgL	Magmatic Lamproite
B28-008	21.4	29.2	PL	Pyroclastic Lamproite
B28-008	29.2	54	PL	Pyroclastic Lamproite
B28-008	54	59.15	PL	Pyroclastic Lamproite
B28-008	59.15	66.2	PL	Pyroclastic Lamproite
B28-008	66.2	71.4	PL	Pyroclastic Lamproite
B28-008	71.4	77.05	PL	Pyroclastic Lamproite
B28-008	77.05	80.04	QTZIT	Quartzite
B28-008	80.04	89.4	CNGL	Conglomerate
B28-008	89.4	93.8	QTZIT	Quartzite
B28-008	93.8	101.4	QTZIT	Quartzite
B28-008	101.4	130	SHLE	Shale
B28-009	146.7	167.5	PL	Pyroclastic Lamproite
B28-009	167.5	195.7	SDST	Sandstone
B28-009	195.7	212.45	SDST	Sandstone
B28-009	212.45	221.5	SHLE	Shale
B28-009	221.5	224.2	MgL	-Magmatic Lamproite
B28-009	224.2	243.5	SHLE	Shale

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Bore Hole No B28-009					
	Co-ordinate (Easting)	**Co-Ordinate (Northing)**	**Reduced Level (M)**	
	326323.5	**2691299.7**	**425.105**	
	Total Depth Meters	**Inclination In Degree**	**Direction from North (Azimuth)**	
	243.5	**60**	**90**	

Hole Id	From	To	Code	Lithology
B28-009	0	4.6	COLV	Colluvium
B28-009	4.6	7.15	PL	Pyroclastic Lamproite
B28-009	7.15	33.15	PL	Pyroclastic Lamproite
B28-009	33.15	69.3	PL	Pyroclastic Lamproite
B28-009	69.3	84.3	PL	Pyroclastic Lamproite
B28-009	84.3	119.3	PL	Pyroclastic Lamproite
B28-009	119.3	146.7	PL	Pyroclastic Lamproite

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Bore Hole No B28-010				
	Co-ordinate (Easting)	Co-Ordinate (Northing)	Reduced Level (M)	
	326400.3	2691152.3	427.979	
	Total Depth Meters	Inclination in Degree	Direction from North (Azimuth)	
	230.7	60	90	

Hole Id	From	To	Code	Lithology
B28-010	0	2.7	COLV	Colluvium
B28-010	2.7	11.7	SPRK	Sparock
B28-010	11.7	14.7	SPL	Southern Pyroclastic Lamproite
B28-010	14.7	95	SPL	Southern Pyroclastic Lamproite
B28-010	95	127	SPL	Southern Pyroclastic Lamproite
B28-010	127	152	SPL	Southern Pyroclastic Lamproite
B28-010	152	173.2	SPL	Southern Pyroclastic Lamproite
B28-010	173.2	178.95	SPL	Southern Pyroclastic Lamproite
B28-010	178.95	180.25	SPL	Southern Pyroclastic Lamproite
B28-010	181.9	219.6	SDST	Sandstone
B28-010	219.6	230.7	SHLE	Shale

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Bore Hole No B28-011					
	Co-ordinate (Easting)	Co-Ordinate (Northing)	Reduced Level (M)	
	326099.1	2691148.7	449.776	
	Total Depth Meters	Inclination in Degree	Direction from North (Azimuth)	
	187.8	60	90	

Hole Id	From	To	Code	Lithology
B28-011	0	7	COLV	Colluvium
B28-011	7	16.6	CNGL	Conglomerate
B28-011	16.6	18.2	SDST	Sandstone
B28-011	18.2	22.3	SDST	Sandstone
B28-011	22.3	29.64	SDST	Sandstone
B28-011	29.64	31.8	SDST	Sandstone
B28-011	31.8	67.8	SDST	Sandstone
B28-011	67.8	79	CNGL	Conglomerate
B28-011	79	84.2	DLST	Dolostone
B28-011	84.2	152	SHLE	shale
B28-011	152	169.85	SHLE	shale
B28-011	169.85	175.4	DLST	Dolostone
B28-011	175.4	181.3	SHLE	shale
B28-011	181.3	187.8	QTZIT	Quartzite

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Bore Hole No B28-012		
Co-ordinate (Easting)	Co-Ordinate (Northing)	Reduced Level (M)
326324	2691522.8	449.761
Total Depth Meters	Inclination in Degree	Direction from North (Azimuth)
140.8	60	300

Hole Id	From	To	Code	Lithology
B28-012	0	19.1	COLV	Colluvium
B28-012	19.1	21.9	SPRK	Saprock
B28-012	21.9	53.2	PL	Pyroclastic Lamproite
B28-012	53.2	76.95	PL	Pyroclastic Lamproite
B28-012	76.95	87.4	PL	Pyroclastic Lamproite
B28-012	87.4	93.73	DLST	Dolostone
B28-012	93.73	116	DLST	Dolostone
B28-012	116	140.8	SHLE	shale

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Bore Hole No B28-013		
Co-ordinate (Easting)	Co-Ordinate (Northing)	Reduced Level (M)
326529.8	2691605.9	449.251
Total Depth Meters	Inclination in Degree	Direction from North (Azimuth)
300.3	55	204

Hole Id	From	To	Code	Lithology
B28-013	0	16.4	COLV	Colluvium
B28-013	16.4	31.95	SDST	Sandstone
B28-013	31.95	47.2	SDST	Sandstone
B28-013	47.2	54	SDST	Sandstone
B28-013	54	55.5	SDST	Sandstone
B28-013	55.5	60.9	SDBX	Sedimentry Breccia
B28-013	60.9	61.3	SDST	Sandstone
B28-013	61.3	102.15	VL	Volcaniclastic Lamproite
B28-013	102.15	156.3	VL	Volcaniclastic Lamproite
B28-013	156.3	157.8	VL	Volcaniclastic Lamproite
B28-013	157.8	204.5	VLB	Volcaniclastic Lamproite Breccia
B28-013	204.5	242.3	MgLB	Magmatic Lamproite Breccia
B28-013	242.3	259.78	CB	Contact Breccia
B28-013	259.78	300.3	SHLE	Shale

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Bore Hole No B28-014		
Co-ordinate (Easting)	Co-Ordinate (Northing)	**Reduced Level (M)**
326376.9	2691460.7	**449.706**
Total Depth Meters	**Inclination in Degree**	**Direction from North (Azimuth)**
230	**80**	**148**

Hole Id	From	To	Code	Lithology
B28-014	0	16.62	COLV	Colluvium
B28-014	16.62	19.85	SPRK	Saprock
B28-014	19.85	35.1	PL	Pyroclastic Lamproite
B28-014	35.1	57.3	PL	Pyroclastic Lamproite
B28-014	57.3	134	PL	Pyroclastic Lamproite
B28-014	134	187	PL	Pyroclastic Lamproite
B28-014	187	212.6	SHLE	shale
B28-014	212.6	230	SHLE	shale

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Bore Hole No B28-015				
	Co-ordinate (Easting)	Co-Ordinate (Northing)	**Reduced Level (M)**	
	326501.9	2691381.1	**449.423**	
	Total Depth Meters	Inclination in Degree	Direction from North (Azimuth)	
	107.4	54	**270**	

Hole Id	From	To	Code	Lithology
B28-015	0	12.8	COLV	Colluvium
B28-015	12.8	25.84	SDST	Sandstone
B28-015	25.84	56.26	SDST	Sandstone
B28-015	56.26	61.8	PL	Pyroclastic Lamproite
B28-015	61.8	83.75	PL	Pyroclastic Lamproite
B28-015	83.75	107.4	PL	Pyroclastic Lamproite

Bore Hole No B28-015A				
	Co-ordinate (Easting)	Co-Ordinate **(Northing)**	**Reduced Level (M)**	
	326501.9	**2691381.1**	449.423	
	Total Depth Meters	Inclination in Degree	Direction from North (Azimuth)	
	309.9	54	270	

Hole Id	From	To	Code	Lithology
B28-015A	0	12.8	COLV	Colluvium
B28-015A	12.8	25.8	SDST	Sandstone
B28-015A	25.8	39.2	SDST	Sandstone
B28-015A	39.2	46.9	SDST	Sandstone
B28-015A	46.9	50.9	CNGL	Conglomerate
B28-015A	50.9	55.7	SHLE	Shale
B28-015A	55.7	58.37	PL	Pyroclastic Lamroite
B28-015A	58.37	101.77	PL	Pyroclastic Lamroite
B28-015A	101.77	110	PL	Pyroclastic Lamroite
B28-015A	110	113	SHLE	Shale
B28-015A	113	174.7	CB	Contact Breccia
B28-015A	174.7	190.4	SHLE	Shale
B28-015A	190.4	248.4	SHLE	Shale
B28-015A	248.4	270.43	COLV	Colluvium
B28-015A	270.43	309.9	SDST	Sandstone

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Bore Hole No B28-016			
	Co-ordinate (Easting)	Co-Ordinate (Northing)	Reduced Level (M)
	326548.1	2691000.2	436.531
	Total Depth Meters	Inclination in Degree	Direction from North (Azimuth)
	570.2	58	300

Hole Id	From	To	Code	Lithology
B28-016	0	1.8	SDST	Sandstone
B28-016	1.8	4.9	SDST	Sandstone
B28-016	4.9	7.8	SDST	Sandstone
B28-016	7.8	17.6	SDST	Sandstone
B28-016	17.6	24.7	SDST	Sandstone
B28-016	24.7	30	SDST	Sandstone
B28-016	30	61.5	SDST	Sandstone
B28-016	61.5	84	CNGL	Conglomerate
B28-016	84	89.4	DLST	Dolostone
B28-016	89.4	112.44	SHLE	Shale
B28-016	112.44	119.1	McL	Magmaclastic Lamproite
B28-016	119.1	131.6	PL	Pyroclastic Lamroite
B28-016	131.6	184.93	PL	Pyroclastic Lamroite
B28-016	184.93	199	MgL	Magmatic Lamproite
B28-016	199	356	PL	Pyroclastic Lamroite
B28-016	356	377.5	PL	Pyroclastic Lamroite
B28-016	377.5	407.35	PL	Pyroclastic Lamroite
B28-016	407.35	524.7	PL	Pyroclastic Lamroite
B28-016	524.7	528.4	CB	Contact Breccia
B28-016	528.4	570.2	SHLE	Shale

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Bore Hole No B28-017		
Co-ordinate (Easting)	**Co-Ordinate (Northing)**	**Reduced Level (M)**
326329.1	**2691286.3**	**425.173**
Total Depth Meters	**Inclination in Degree**	**Direction from North (Azimuth)**
437.6	**45**	**10**

Hole Id	From	To	Code	Lithology
B28-017	0	5.3	COLV	Colluvium
B28-017	5.3	94.65	PL	Pyroclastic Lamroite
B28-017	94.65	111.9	PL	Pyroclastic Lamroite
B28-017	111.9	149.4	PL	Pyroclastic Lamroite
B28-017	149.4	242.6	PL	Pyroclastic Lamroite
B28-017	242.6	301.2	PL	Pyroclastic Lamroite
B28-017	301.2	306.2	PL	Pyroclastic Lamroite
B28-017	306.2	317.46	PL	Pyroclastic Lamroite
B28-017	317.46	330.3	CB	Contact Breccia
B28-017	330.3	343.25	SHLE	Shale
B28-017	343.25	433.4	SHLE	Shale
B28-017	433.4	437.6	DLRT	Dolerite

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Bore Hole No B28-018				
	Co-ordinate (Easting)	Co-Ordinate (Northing)	Reduced Level (M)	
	326102.3	2691303.3	449.095	
	Total Depth Meters	Inclination in Degree	Direction from North (Azimuth)	

Hole Id	From	To	Code	Lithology
B28-018	0	5.4	COLV	Colluvium
B28-018	5.4	20.78	CNGL	Conglomerate
B28-018	20.78	32.57	SDST	Sandstone
B28-018	32.57	35.4	SDST	Sandstone
B28-018	35.4	48.75	SDST	Sandstone
B28-018	48.75	71.3	SDST	Sandstone
B28-018	71.3	83.4	SDST	Sandstone
B28-018	83.4	91.95	CNGL	Conglomerate
B28-018	91.95	93.5	MgL	Magmatic Lamproite
B28-018	93.5	101.2	CNGL	Conglomerate
B28-018	101.2	105.9	QTZIT	Quartzite
B28-018	105.9	109.16	CNGL	Conglomerate
B28-018	109.16	120.26	SHLE	Shale
B28-018	120.26	121.6	CNGL	Conglomerate
B28-018	121.6	126.23	SLST	Siltstone
B28-018	126.23	127.5	SHLE	Shale
B28-018	127.5	147.19	CNGL	Conglomerate
B28-018	147.19	151.78	SHLE	Shale
B28-018	151.78	206.89	SHLE	Shale
B28-018	206.89	211.8	SDST	Sandstone
B28-018	211.8	212.24	SHLE	Shale
B28-018	212.24	213.9	SDST	Sandstone
B28-018	213.9	214.05	SPL	Southern Pyroclastic Lamproite
B28-018	214.05	219.18	SHLE	Shale
B28-018	219.18	257.06	SPL	Southern Pyroclastic Lamproite
B28-018	[illegible]	263	SHLE	Shale
B28-018	263	266.4	CB	Contact Breccia
B28-018	266.4	271.67	SHLE	Shale
B28-018	271.67	282.45	SPL	Southern Pyroclastic Lamproite
B28-018	282.45	284.56	SHLE	Shale
B28-018	284.56	288.55	CB	Contact Breccia
Hole Id	From	To	Code	Lithology
B28-018	288.55	290.13	SPL	Southern Pyroclastic Lamproite
B28-018	290.13	291	SDST	Sandstone
B28-018	291	315.95	SHLE	Shale

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B28-018	315.95	366.27	SHLE	Shale
B28-018	366.27	374.54	SPL	Southern Pyroclastic Lamproite
B28-018	374.54	382.8	SPL	Southern Pyroclastic Lamproite
B28-018	382.8	387.6	SPL	Southern Pyroclastic Lamproite
B28-018	387.6	417	SPL	Southern Pyroclastic Lamproite
B28-018	417	436.7	SPL	Southern Pyroclastic Lamproite
B28-018	436.7	464.4	SPL	Southern Pyroclastic Lamproite
B28-018	464.4	483.84	SPL	Southern Pyroclastic Lamproite
B28-018	483.84	494.4	SPL	Southern Pyroclastic Lamproite
B28-018	494.4	517.5	SPL	Southern Pyroclastic Lamproite
B28-018	517.5	540.45	SPL	Southern Pyroclastic Lamproite
B28-018	540.45	550	SPL	Southern Pyroclastic Lamproite
B28-018	550	578.9	SPL	Southern Pyroclastic Lamproite
B28-018	578.9	581.4	SHLE	Shale
B28-018	581.4	589.95	SPL	Southern Pyroclastic Lamproite
B28-018	589.95	631.42	SPL	Southern Pyroclastic Lamproite
B28-018	631.42	635.4	SPL	Southern Pyroclastic Lamproite
B28-018	635.4	635.8	SHLE	Shale

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Bore Hole No B28-019		
Co-ordinate (Easting)	**Co-Ordinate (Northing)**	**Reduced Level (M)**
326474.8	2691670.1	448.833
Total Depth Meters	**Inclination in Degree**	**Direction from North (Azimuth)**
473.4	45	200

Hole Id	From	To	Code	Lithology
B28-019	0	21.6	COLV	Colluvium
B28-019	21.6	29.1	SDST	Sandstone
B28-019	29.1	43.55	SDST	Sandstone
B28-019	43.55	62.8	SDST	Sandstone
B28-019	62.8	64.37	SDST	Sandstone
B28-019	64.37	70.2	CNGL	Conglomerate
B28-019	70.2	72.8	SDST	Sandstone
B28-019	72.8	74.7	PL	Pyroclastic Lamproite
B28-019	74.7	83.5	PL	Pyroclastic Lamproite
B28-019	83.5	93.18	PL	Pyroclastic Lamproite
B28-019	93.18	95.15	PL	Pyroclastic Lamproite
B28-019	95.15	123.5	MgL	Magmatic Lamproite
B28-019	123.5	131.48	PL	Pyroclastic Lamproite
B28-019	131.48	143.85	PL	Pyroclastic Lamproite
B28-019	143.85	146.65	PL	Pyroclastic Lamproite
B28-019	146.65	167.4	MgL	Magmatic Lamproite
B28-019	167.4	174.6	PL	Pyroclastic Lamproite
B28-019	174.6	187.01	PL	Pyroclastic Lamproite
B28-019	187.01	190.8	PL	Pyroclastic Lamproite
B28-019	190.8	194.5	QTZIT	Quartizite
B28-019	194.5	196.13	PL	Pyroclastic Lamproite
B28-019	196.13	201	PL	Pyroclastic Lamproite
B28-019	201	204.4	PL	Pyroclastic Lamproite
B28-019	204.4	227.8	QTZIT	Quartizite
B28-019	227.8	231.2	SHLE	Shale
B28-019	231.2	237.5	QTZIT	Quartizite
B28-019	237.5	246.13	SHLE	Shale
B28-019	246.13	248.32	MgL	Magmatic Lamproite
B28-019	248.32	251.4	PL	Pyroclastic Lamproite
B28-019	251.4	271.8	PL	Pyroclastic Lamproite
B28-019	271.8	279.7	PL	Pyroclastic Lamproite
B28-019	279.7	299.84	PL	Pyroclastic Lamproite
B28-019	299.84	302.2	PL	Pyroclastic Lamproite
B28-019	302.2	322.5	SHLE	Shale
B28-019	322.5	347.4	SHLE	Shale
B28-019	347.4	473.4	SHLE	Shale

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Bore Hole No B28-020			
	Co-ordinate (Easting)	Co-Ordinate (Northing)	**Reduced Level (M)**
	326505.5	2691378.3	**449.511**
	Total Depth Meters	**Inclination in Degree**	**Direction from North (Azimuth)**
	356.4	**45**	**310**

Hole Id	From	To	Code	Lithology
B28-020	0	15	COLV	Colluvium
B28-020	15	48.5	SDST	Sandstone
B28-020	48.5	71.3	CNGL	Conglomerate
B28-020	71.3	245	PL	Pyroclastic Lamproite
B28-020	245	306	PL	Pyroclastic Lamproite
B28-020	306	308	MgL	Magmatic Lamproite
B28-020	308	315.8	CB	Contact Breccia
B28-020	315.8	322.8	SHLE	Shale
B28-020	322.8	330.4	SHLE	Shale
B28-020	330.4	335.3	SHLE	Shale
B28-020	335.3	356.4	SHLE	Shale

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Bore Hole No B28-021				
	Co-ordinate (Easting)	**Co-Ordinate (Northing)**	Reduced Level (M)	
	326506.8	**2691374.8**	449.594	
	Total Depth Meters	**Inclination in Degree**	Direction from North (Azimuth)	
	512.6	**45**	209	

Hole Id	From	To	Code	Lithology
B28-021	0	15.3	COLV	Colluvium
B28-021	15.3	30.6	SDST	Sandstone
B28-021	30.6	40.35	SDST	Sandstone
B28-021	40.35	57	CNGL	Conglomerate
B28-021	57	62.5	SHLE	Shale
B28-021	62.5	74.8	SHLE	Shale
B28-021	74.8	85.73	SDST	Sandstone
B28-021	85.73	98.87	CNGL	Conglomerate
B28-021	98.87	106.8	QTZIT	Quartizite
B28-021	106.8	115.82	CNGL	Conglomerate
B28-021	115.82	147.4	DLST	Dolostone
B28-021	147.4	173.4	SHLE	Shale
B28-021	173.4	178.5	SPL	Southern Pyroclastic Lamproite
B28-021	178.5	180.9	MgL	Magmatic Lamproite
B28-021	180.9	186.4	CB	Contact Breccia
B28-021	186.4	219.8	SPL	Southern Pyroclastic Lamproite
B28-021	219.8	224	SPL	Southern Pyroclastic Lamproite
B28-021	[illegible]	238.76	SPL	Southern Pyroclastic Lamproite
B28-021	238.76	243.74	SPL	Southern Pyroclastic Lamproite
B28-021	248.74	256.07	SPL	Southern Pyroclastic Lamproite
B28-021	256.07	261.56	SPL	Southern Pyroclastic Lamproite
B28-021	261.56	271.53	SPL	Southern Pyroclastic Lamproite
B28-021	271.53	276.02	SPL	Southern Pyroclastic Lamproite
B28-021	276.02	288.49	SPL	Southern Pyroclastic Lamproite
B28-021	288.49	308.6	SPL	Southern Pyroclastic Lamproite
Hole Id	**From**	**To**	**Code**	**Lithology**
B28-021	308.6	317.6	SPL	Southern Pyrolastic Lamproite
B28-021	317.6	325	SPL	Southern Pyrolastic Lamproite
B28-021	325	340.37	SPL	Southern Pyrolastic Lamproite
B28-021	340.37	352.35	SPL	Southern Pyrolastic Lamproite
B28-021	352.35	402.9	SPL	Southern Pyrolastic Lamproite
B28-021	402.9	411.4	SPL	Southern Pyrolastic Lamproite
B28-021	411.4	457.46	PL	Pyroclastic Lamproite
B28-021	457.46	512.6	SHLE	Shale

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Annexure VI / D

Sr. No.	HOLE ID	Co-Ordinate East-West	Co-Ordinate North-South	Reduced Level m	DEPTH m	Inclination In degree	Thickness Colluvium m	Top Intersection of Lamproite m	Bottom Intersection of Lamproite m
	1	2	3	4	5	6	7	8	9
					NORTH ATRI				
1	B28LD004	326332	2691293.1	425.105	201.5	90	5.9	5.9	104.2
2	B28LD006	326357.8	2691496.5	450.044	249.34	90	10.35	16.8	249.34
3	B28LD007	326402	2691314.9	425.565	143.8	90	2.5	2.5	111.7
4	B28LD009	326371.6	2691460.4	449.741	228.54	90	12	19.4	215
					SOUTH ATRI				
1	B28LD001	326261.3	2691073	423.669	227.43	90	4.1	4.1	182.5
2	B28LD002	326296.7	2691157	425.205	250.5	90	4	4	204.24
3	B28LD003	326413	2691097.8	430.477	255.6	90	3.4	3.4	255.6
4	B28LD005	326265.1	2691209.5	425.356	173.8	90	6	6	159.7
5	B28LD008	326353.1	2691099.7	429.081	350	90	2.6	2.6	259.5
6	B28LD010	326382.6	2691066.2	430.07	260.2	90	2.7	2.7	260.2
7	B28LD012	326369	2691188.6	426.746	251.6	90	4.5	4.5	251.6
8	B28LD015	326333	2691101	429	350	90	-	0	350
9	B28LD016	326368	2691268	424	196.2	90	-	0	196.2
10	B28LD017	326240	2691151	424	196.44	90	-	0	196.44
11	B28LD018	326340	2691177	427	349.95	90		0	349.95
12	B28LD019	326411	2691115	430.477	352.6	90	-	0	352.6
13	B28LD020	326239	2691068	431	135.3	90	4.5	4.5	
14	B28LD021	326416	2691237	432	211.8	90	1.85	1.85	197
15	B28LD022	326237	2691113	430	53.3	90	4.8	4.8	
16	B28LD023	326467	2691100	435	213.9	90	6	6	
17	B28LD024	326400	2691204	425	156.1	90	3	3	-
18	B28LD027	326404	2691033	434	246.1	90	4.5	4.5	
19	B28LD028	236335	2691038	424	150.8	90	3.1	3.1	131.5

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Annexure VI / E

Details of Shallow Pits for Bulk Sampling

Sr. No.	Pit No.	Easting	Northing	RL (m)	Maximum Depth of Trench (m)	Length (m)	Excavation Width (m)	Depth From (m)	Depth to (m)	Rock type
1	Pit 1A	326235	2691281	421	6.0	10.0	3.8	1.2	6.0	Lamproite
2	Pit 7	326284	2691191	425	5.7	7.0	2.0	3.0	5.7	Lampoite
3	Pit 7A	326284	2692485	421	5.7	7.6	3.3	0	5.7	Lamproite
4	Pit 8A	326310	2691279	421	7.3	9.0	4.4	1.9	7.3	Lamproite
5	Pit 8B	326319	2691280	421	6.75	8.0	4.99	1.2	6.75	Lamproite
6	Pit 8C	326328	2691279	421	6.6	7.0	5.6	1.1	6.6	Lamproite
7	Pit 10	326436	2691117	431	5.9	14.9	2.3	0.3	5.12	Lamproite
8	Pit 11	326258	2690990	424	5.0	17.3	2.1	0.3	4.94	Lamproite
9	Pit 11A	326258	2691023	424	6.0	8.5	4.0	0.3	6.0	Lamproite

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Annexure VI / F

Bulk sample Recoveries

	Percentage Recovery (counts)			Percentage Recovery (carats)		
Sample No.	Primary	Recrush	-2mm_CF	Primary	Recrush	2mm_CF
6641942	90%	10%	0%	92%	8%	0%
6641931	83%	17%	0%	93%	7%	0%
6641932	91%	9%	0%	98%	200%	0%
6641946	90%	10%	0%	94%	6%	0%
6641943	91%	9%	0%	94%	6%	0%
6641944	73%	28%	0%	78%	22%	0%
6641945	96%	4%	0%	97%	3%	0%
6641925	94%	6%	0%	92%	8%	0%
6641927	58%	42%	0%	84%	16%	0%
6641929	93%	7%	0%	96%	4%	0%
6672009	97%	3%	0%	96%	4%	0%
6672005	100%	0%	0%	100%	0%	0%
6641910	100%	0%	0%	100%	0%	0%
6672006	100%	0%	0%	100%	0%	0%
6641911	87%	13%	0%	98%	2%	0%
6672007	100%	0%	0%	100%	0%	0%
6641912	35%	7%	57%	75%	6%	19%
6641947	99%	1%	0%	100%	0%	0%
6641984	88%	12%	0%	93%	7%	0%
6641949	100%	0%	0%	100%	0%	0%
6641959	97%	3%	0%	99%	1%	0%
6641956	98%	2%	0%	100%	0%	0%
6641950	80%	20%	0%	87%	13%	0%
6641953	98%	2%	0%	100%	0%	0%
6672008	87%	13%	0%	89%	11%	0%
6641961	69%	31%	0%	76%	24%	0%
6641958	74%	26%	0%	83%	17%	0%
6641952	76%	24%	0%	81%	19%	0%
6641955	65%	35%	0%	76%	24%	0%

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Annexure VI / G

Sample Results from LDC -Summary Results of the Samples

Hole No	Sample ID	Sample from	Sample to	Sample Weight (Tonnes)	Carats
B28LD001	6666302	5	15	0.72	0.806
B28LD001	6666303	15	25	0.75	0.575
B28LD001	6666304	25	35	0.73	0.045
B28LD001	6666305	35	45	0.73	0.515
B28LD001	6666306	45	55	0.71	0.48
B28LD001	6666307	55	65	0.71	0.35
B28LD001	6666308	65	75	0.67	0.239
B28LD001	6666309	75	85	0.83	0.456
B28LD001	6666310	85	95	0.74	0.104
B28LD001	6666311	95	105	0.73	0.658
B28LD001	6666312	105	115	0.78	0.127
B28LD001	6666313	115	125	0.67	0.142
B28LD001	6666314	125	135	0.76	0.833
B28LD001	6666315	135	145	0.78	0.35
B28LD001	6666316	145	155	0.79	0.172
B28LD001	6666317	155	165	0.82	0.017
B28LD001	6666318	165	175	0.82	0.371
B28LD001	6666319	175	185	0.78	0.117
B28LD002	6666326	6	16	0.52	0.213
B28LD002	6666327	16	26	0.7	0.415
B28LD002	6666328	26	36	0.7	0.471
B28LD002	6666329	36	46	0.79	0.456
B28LD002	6666330	46	56	0.74	0.128
B28LD002	6666331	56	66	0.71	1.393
B28LD002	6666332	66	76	0.76	0.376
B28LD002	6666333	76	86	0.78	0.184
B28LD002	6666334	86	96	0.76	1.014
B28LD002	6666335	96	106	0.78	1.063
B28LD002	6666336	106	116	0.76	0.124
B28LD002	6666337	116	126	0.81	1.053
B28LD002	6666338	126	136	0.72	1.196
B28LD002	6666339	136	146	0.76	1.598
B28LD002	6666340	146	156	0.72	0.075
B28LD002	6666341	156	166	0.77	0.738
B28LD002	6666342	166	176	0.75	0.09

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Hole No	Sample ID	Sample from	Sample to	Sample Weight (Tonnes)	Carats
B28LD002	6666343	176	186	0.77	1.497
B28LD002	6666344	186	196	0.73	0.237
B28LD002	6666345	196	206	0.73	0.707
B28LD003	6666351	0	10	0.5	0.031
B28LD003	6666352	10	20	0.61	0.329
B28LD003	6666353	20	30	0.81	0.372
B28LD003	6666354	30	40	0.68	0.357
B28LD003	6666355	40	50	0.71	0.217
B28LD003	6666356	50	60	0.73	0.156
B28LD003	6666357	60	70	0.47	1.482
B28LD003	6666358	70	80	0.69	0.714
B28LD003	6666359	80	90	0.74	0.064
B28LD003	6666360	90	100	0.72	0.28
B28LD003	6666361	100	110	0.75	0.24
B28LD003	6666362	110	120	0.76	0.412
B28LD003	6666363	120	130	0.75	0.414
B28LD003	6666364	130	140	0.81	0.657
B28LD003	6666365	140	150	0.79	0.629
B28LD003	6666366	150	160	0.8	0.667
B28LD003	6666367	160	170	0.78	0.095
B28LD003	6666368	170	180	0.78	0.357
B28LD003	6666369	180	190	0.78	0.871
B28LD003	6666370	190	200	0.78	1.147
B28LD003	6666371	200	210	0.78	0.277
B28LD003	6666372	210	220	0.78	0.294
B28LD003	6666373	220	230	0.79	0.147
B28LD003	6666374	230	240	0.8	0.938
B28LD003	6666375	240	250	0.77	0.514
B28LD003	6666376	250	255.6	0.47	0.526
B28LD004	6671602	6	16	0.7	0
B28LD004	6671603	16	26	0.74	0.03
B28LD004	6671604	26	36	0.67	0.026
B28LD004	6671605	36	46	0.7	0.052
B28LD004	6671606	46	56	0.77	0.077
B28LD004	6671607	56	66	0.68	0.066
B28LD004	6671608	66	76	0.68	0.05
B28LD004	6671609	76	86	0.7	0.024
B28LD004	6671610	86	96	0.73	0.155

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Hole No	Sample ID	Sample from	Sample to	Sample Weight (Tonnes)	Carats
B28LD004	6671611	96	106	0.71	0.044
B28LD004	6671612	106	116	0.59	0.582
B28LD004	6671613	116	126	0.67	0.072
B28LD004	6671614	126	136	0.46	0.039
B28LD004	6671615	136	146	0.72	0.201
B28LD005	6666378	6	16	0.66	0.96
B28LD005	6666379	16	26	0.78	0.372
B28LD005	6666380	26	36	0.69	0.054
B28LD005	6666381	36	46	0.78	1.863
B28LD005	6666382	46	56	0.72	0.089
B28LD005	6666383	56	66	0.77	0.591
B28LD005	6666384	66	76	0.76	0.123
B28LD005	6666385	76	86	0.73	0.26
B28LD005	6666386	86	96	0.76	0.284
B28LD005	6666387	96	106	0.76	0.755
B28LD005	6666388	106	116	0.77	0.813
B28LD005	6666389	116	126	0.77	0.193
B28LD005	6666390	126	136	0.78	0.474
B28LD005	6666391	136	146	0.77	0.683
B28LD 005	6666392	146	156	0.78	0.345
B28LD 005	6666393	156	166	0.73	0.134
B28LD 006	6666397	20	30	0.74	0
B28LD 006	6666398	30	40	0.75	0
B28LD 006	6666399	40	50	0.74	0.132
B28LD 006	6666400	50	60	0.74	0.198
B28LD 006	6666401	60	70	0.51	0.85
B28LD 006	6666402	70	80	0.74	0
B28LD 006	6666403	80	90	0.77	0.113
B28LD 006	6666404	90	100	0.76	0.226
B28LD 006	6666405	100	110	0.71	0.243
B28LD 006	6666406	110	120	0.68	0.013
B28LD 006	6666407	120	130	0.7	0.01
B28LD 006	6666408	130	140	0.66	0
B28LD 006	6666409	140	150	0.69	0
B28LD 006	6666410	150	160	0.55	0.018
B28LD 006	6666411	160	170	0.42	0.082
B28LD 006	6666412	170	180	0.61	0.029
B28LD 006	6666413	180	190	0.65	0.011

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Hole No	Sample ID	Sample from	Sample to	Sample Weight (Tonnes)	Carats
B28LD 006	6666414	190	200	0.65	0.021
B28LD 006	6666415	200	210	0.76	0.079
B28LD 006	6666416	210	220	0.74	0
B28LD 006	6666417	220	230	0.71	0
B28LD 006	6666418	230	240	0.76	0.05
B28LD 006	6666419	240	249.34	0.73	0.121
B28LD 007	6671622	0	7	0.41	0.493
B28LD 007	6671623	7	17	0.7	0
B28LD 007	6671624	17	27	0.64	0.1
B28LD 007	6671625	27	37	0.7	0.01
B28LD 007	6671626	37	47	0.64	0.075
B28LD 007	6671627	47	57	0.68	0.087
B28LD 007	6671628	57	67	0.7	0.02
B28LD 007	6671629	67	77	0.64	0.018
B28LD 007	6671630	77	87	0.61	0.03
B28LD 007	6671631	87	97	0.34	0.072
B28LD 007	6671632	97	107	0.5	0.021
B28LD 007	6671633	107	117	0.59	0.047
B28LD 008	6671638	10	20	0.6	0.58
B28LD 008	6671639	20	30	0.72	1.286
B28LD 008	6671640	30	40	0.72	0.137
B28LD 008	6671641	40	50	0.78	0.156
B28LD 008	6671642	50	60	0.7	0.35
B28LD 008	6671643	60	70	0.74	0.915
B28LD 008	6671644	70	80	0.76	0.291
B28LD008	6671645	80	90	0.77	0.216
B28LD008	6671646	90	100	0.79	0.347
B28LD008	6671647	100	110	0.75	0.374
B28LD008	6671648	110	120	0.77	0.324
B28LD008	6671649	120	130	0.76	0.845
B28LD008	6671650	130	140	0.81	0.514
B28LD008	6671651	140	150	0.8	0.568
B28LD008	6671652	150	160	0.76	1.553
B28LD008	6671653	160	170	0.8	0.624
B28LD008	6671654	170	180	0.75	0.225
B28LD008	6671655	180	190	0.77	0.793
B28LD008	6671656	190	200	0.79	0.935
B28LD008	6671657	200	210	0.73	0.408

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Hole No	Sample ID	Sample from	Sample to	Sample Weight (Tonnes)	Carats
B28LD008	6671658	210	220	0.76	0.324
B28LD008	6671659	220	230	0.79	1.128
B28LD008	6671660	230	240	0.83	0.124
B28LD008	6671661	240	250	0.76	1.616
B28LD008	6671662	250	259.5	0.75	0.323
B28LD009	6671823	20	30	0.71	0.013
B28LD009	6671824	30	40	0.78	0.085
B28LD009	6671825	40	50	0.76	0
B28LD009	6671826	50	60	0.71	0
B28LD009	6671827	60	70	0.73	0.03
B28LD009	6671828	70	80	0.73	0.007
B28LD009	6671829	80	90	0.67	0.073
B28LD009	6671830	90	100	0.76	0.032
B28LD009	6671831	100	110	0.73	0
B28LD009	6671832	110	120	0.78	0.034
B28LD009	6671833	120	130	0.77	0.041
B28LD009	6671834	130	140	0.76	0
B28LD009	6671835	140	150	0.77	0.032
B28LD009	6671836	150	160	0.76	0.01
B28LD009	6671837	160	170	0.78	0.086
B28LD009	6671838	170	180	0.77	0
B28LD009	6671839	180	190	0.76	0
B28LD009	6671840	190	200	0.73	0
B28LD009	6671841	200	210	0.79	0.014
B28LD009	6671842	210	220	0.77	0.017
B28LD010	6671664	2	12	0.5	0.931
B28LD010	6671665	12	22	0.76	0.498
B28LD010	6671666	22	32	0.75	0.385
B28LD010	6671667	32	42	0.78	0.287
B28LD010	6671668	42	52	0.81	0.386
B28LD010	6671669	52	62	0.79	1.422
B28LD010	6671670	62	72	0.82	1.255
B28LD010	6671671	72	82	0.76	1.695
B28LD010	6671672	82	92	0.79	1.46
B28LD010	6671673	92	102	0.83	0.362
B28LD010	6671674	102	112	0.76	0.127
B28LD010	6671675	112	122	0.8	0.125
B28LD010	6671676	122	132	0.78	0.509

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Hole No	Sample ID	Sample from	Sample to	Sample Weight (Tonnes)	Carats
B28LD010	6671677	132	142	0.8	0.378
B28LD010	6671678	142	152	0.75	0.07
B28LD010	6671679	152	162	0.79	0.121
B28LD010	6671680	162	172	0.78	0.222
B28LD010	6671681	172	182	0.8	0.721
B28LD010	6671682	182	192	0.81	0.389
B28LD010	6671683	192	202	0.77	0.581
B28LD010	6671684	202	212	0.8	1
B28LD010	6671685	212	222	0.79	0.47
B28LD010	6671686	222	232	0.79	0.119
B28LD010	6671687	232	242	0.8	0.285
B28LD010	6671688	242	252	0.82	0.302
B28LD010	6671689	252	260.2	0.62	0.86
B28LD012	6671844	0	10	0.84	0.065
B28LD012	6671845	10	20	0.85	0.155
B28LD012	6671846	20	30	0.77	0.069
B28LD012	6671847	30	40	0.76	0.21
B28LD012	6671848	40	50	0.78	0.043
B28LD012	6671849	50	60	0.76	1.922
B28LD012	6671850	60	70	0.78	0.255
B28LD012	6671851	70	80	0.78	0.073
B28LD012	6671852	80	90	0.77	0.113
B28LD012	6671853	90	100	0.81	0.701
B28LD012	6671854	100	110	0.72	0.137
B28LD012	6671855	110	120	0.79	0.33
B28LD012	6671856	120	130	0.77	1.045
B28LD012	6671857	130	140	0.78	0.384
B28LD012	6671858	140	150	0.77	0.092
B28LD012	6671859	150	160	0.76	0.538
B28LD012	6671860	160	170	0.77	0.395
B28LD012	6671861	170	180	0.78	1.301
B28LD012	6671862	180	190	0.81	2.521
B28LD012	6671863	190	200	0.77	0.987
B28LD012	6671864	200	210	0.79	0.142
B28LD012	6671865	210	220	0.81	0.703
B28LD012	6671866	220	230	0.81	0.879
B28LD012	6671867	230	240	0.82	0.267
B28LD012	6671868	240	250	0.82	1.232

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Hole No	Sample ID	Sample from	Sample to	Sample Weight (Tonnes)	Carats
B28LD012	6671869	250	251.6	0.12	0.014
B28LD015	6672701	1	11	0.91	0.663
B28LD015	6672702	11	21	1.04	0.207
B28LD015	6672703	21	31	0.8	0.157
B28LD015	6672704	31	41	0.86	0.351
B28LD015	6672705	41	51	0.81	0.161
B28LD015	6672706	51	61	0.8	0.186
B28LD015	6672707	61	71	0.85	0.176
B28LD015	6672708	71	81	0.82	0.147
B28LD015	6672709	81	91	0.89	0.495
B28LD015	6672710	91	101	0.86	1.862
B28LD015	6672711	101	111	0.86	0.775
B28LD015	6672712	111	121	0.85	0.43
B28LD015	6672713	121	131	0.82	0.305
B28LD015	6672714	131	141	0.86	1.572
B28LD015	6672715	141	151	0.87	0.363
B28LD015	6672716	151	161	0.85	1.466
B28LD015	6672717	161	171	0.85	1.321
B28LD015	6672718	171	181	0.86	1.893
B28LD015	6672719	181	191	0.88	0.869
B28LD015	6672720	191	201	0.86	0.85
B28LD015	6672721	201	211	0.82	0.489
B28LD015	6672722	211	221	0.82	0.071
B28LD015	6672723	221	231	0.82	0.353
B28LD015	6672724	231	241	0.85	0.24
B28LD015	6672725	241	250.1	0.73	1.346
B28LD016	6672726	0	7	0.41	0.015
B28LD016	6672727	7	17	0.79	0
B28LD016	6672728	17	27	0.79	0.168
B28LD016	6672729	27	37	0.81	0.018
B28LD016	6672730	37	47	0.78	0.032
B28LD016	6672731	47	57	0.77	0.075
B28LD016	6672732	57	67	0.81	0.06
B28LD016	6672733	67	77	0.82	0.011
B28LD016	6672734	77	87	0.8	0.097
B28LD016	6672735	87	97	0.85	0.024
B28LD016	6672736	97	107	0.83	0.106
B28LD016	6672737	107	117	0.82	0.174

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Hole No	Sample ID	Sample from	Sample to	Sample Weight (Tonnes)	Carats
B28LD016	6672738	117	127	0.82	0.073
B28LD016	6672739	127	137	0.82	0.041
B28LD016	6672740	137	147	0.82	0.359
B28LD016	6672741	147	157	0.84	0.006
B28LD016	6672742	157	167	0.89	0.011
B28LD016	6672743	167	177	0.87	0.064
B28LD016	6672744	177	187	0.81	0.056
B28LD016	6672745	187	188.8	0.22	0.274
B28LD017	6672747	7	17	0.82	0.412
B28LD017	6672748	17	27	0.79	0.614
B28LD017	6672749	27	37	0.78	0.446
B28LD017	6672750	37	47	0.79	0.182
B28LD017	6672751	47	57	0.8	0.202
B28LD017	6672752	57	67	0.78	0.266
B28LD017	6672753	67	77	0.82	0.569
B28LD017	6672754	77	87	0.74	0.563
B28LD017	6672755	87	97	0.86	0.483
B28LD017	6672756	97	107	0.8	0.441
B28LD017	6672757	107	117	0.83	0.263
B28LD017	6672758	117	127	0.78	0.379
B28LD017	6672759	127	137	0.77	0.255
B28LD017	6672760	137	147	0.85	1.65
B28LD017	6672761	147	157	0.87	0.083
B28LD017	6672762	157	167	0.84	0.068
B28LD017	6672763	167	177	0.82	0.071
B28LD017	6672764	177	181	0.43	0.165
B28LD018	6672766	0	9	0.48	0
B28LD018	6672767	9	19	0.74	0.715
B28LD018	6672768	19	29	0.8	0.073
B28LD018	6672769	29	39	0.78	0
B28LD018	6672770	39	49	0.77	0.07
B28LD018	6672771	49	59	0.78	0.422
B28LD018	6672772	59	69	0.76	0.352
B28LD018	6672773	69	79	0.78	0.824
B28LD018	6672774	79	89	0.78	0.227
B28LD018	6672775	89	99	0.8	0.324
B28LD018	6672776	99	109	0.76	0.077
B28LD018	6672777	109	119	0.8	0.12

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Hole No	Sample ID	Sample from	Sample to	Sample Weight (Tonnes)	Carats
B28LD018	6672778	119	129	0.77	0.271
B28LD018	6672779	129	139	0.79	0.07
B28LD018	6672780	139	149	0.71	0.202
B28LD018	6672781	149	159	0.78	0.467
B28LD018	6672782	159	169	0.78	0.407
B28LD018	6672783	169	179	0.8	0.313
B28LD018	6672784	179	189	0.81	1.564
B28LD018	6672785	189	199	0.8	0.441
B28LD018	6672786	199	209	0.76	0.817
B28LD018	6672787	209	219	0.82	0.277
B28LD018	6672788	219	229	0.78	0.661
B28LD018	6672789	229	239	0.79	0.285
B28LD018	6672790	239	249	0.84	0.906
B28LD019	10112402	2.5	12.5	0.48	0.444
B28LD019	10112403	12.5	22.5	0.79	0.445
B28LD019	10112404	22.5	32.5	0.75	0.449
B28LD019	10112405	32.5	42.5	0.77	0.936
B28LD019	10112406	42.5	52.5	0.78	0.204
B28LD019	10112407	52.5	62.5	0.76	0.855
B28LD019	10112408	62.5	72.5	0.77	0.209
B28LD019	10112409	72.5	82.5	0.75	0.11
B28LD019	10112410	82.5	92.5	0.78	0.344
B28LD019	10112411	92.5	102.5	0.78	0.317
B28LD019	10112412	102.5	112.5	0.65	2.325
B28LD019	10112413	112.5	122.5	0.77	0.657
B28LD019	10112414	122.5	132.5	0.79	0.083
B28LD019	10112415	132.5	142.5	0.8	0.165
B28LD019	10112416	142.5	152.5	0.78	0.298
B28LD019	10112417	152.5	162.5	0.83	0.222
B28LD019	10112418	162.5	172.5	0.81	0.662
B28LD019	10112419	172.5	182.5	0.74	0.189
B28LD019	10112420	182.5	192.5	0.81	0.35
B28LD019	10112421	192.5	202.5	0.87	0.06
B28LD019	10112422	202.5	212.5	0.78	1.064
B28LD019	10112423	212.5	222.5	0.82	0.359
B28LD019	10112424	222.5	232.5	0.82	1.645

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Hole No	Sample ID	Sample from	Sample to	Sample Weight (Tonnes)	Carats
B28LD019	10112425	232.5	242.5	0.8	1.55
B28LD019	10112426	242.5	252.5	0.79	0.232
B28LD019	10112427	252.5	262.5	0.8	0.337
B28LD019	10112428	262.5	272.5	0.86	0.368
B28LD019	10112429	272.5	282.5	0.78	2.069
B28LD019	10112430	282.5	292.5	0.8	0.84
B28LD019	10112431	292.5	302.5	0.8	0.148
B28LD019	10112432	302.5	312.5	0.8	0.317
B28LD019	10112433	312.5	322.5	0.8	1.066
B28LD019	10112434	322.5	332.5	0.8	0.123
B28LD019	10112435	332.5	342.5	0.79	0.22
B28LD019	10112436	342.5	352.5	0.82	0.142

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Annexure VI / H

Proposed Production Programme for first five years

Year	Pit No. (s)	Colluvium (soil/ subsoil), Tonne	Side burden, Tonne	ROM Ore, Tonne	Saleable Ore*, Tonne	Saleable Raw diamonds, Mil. Carats	Sub Grade Ore, Tonne	Mineral Rejects (Tailings), Tonne	Ore to Overburden ratio (Tonne / Tonne)
First	Bulk Sampling Pits in Southern Atri	36,528	0	150,150	0.019	0.095	0	150,150	1: 0.24
Second	Bulk Sampling Pits in Northern Atri	81,083	0	210,024	0.027	0.133	0	210,024	1: 0.39
Third	1	589,570	452,400	400,125	0.051	0.253	0	400,125	1: 2.60
Fourth	1	1,069,605	4,992,910	2,015,115	0.255	1.276	0	2,015,115	1: 3.01
Fifth	1	327,750	8,034,260	2,909,675	0.368	1.842	0	2,909,675	1: 2.87
Total		**2,104,536**	**13,479,570**	**5,685,089**	**0.720**	**3.599**	**0**	**5,685,089**	**1: 2.74**

* Saleable ore is Raw Diamond. (Considering Overall average grade of ore as 0.63 Carat/tonne, only about 0.720 tonne raw diamonds will be recovered during the mining plan period.). Thus, almost entire ROM will be returned as Mineral rejects after processing.

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Annexure VI / I

FEASIBILITY REPORT

Of

BUNDER DIAMOND BLOCK

Village Sagoria, Tehsil Buxwaha,
District Chhatarpur (MP)

ADITYA BIRLA

EMIL

ESSEL MINING & INDUSTRIES LIMITED

Aditya Birla Centre, 1st Floor, A Wing
S. K. Ahire Marg, Mumbai-400030,
Maharashtra

June 2020

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1. BACKGROUND

Directorate of Geology and Mines (DGM), Government of Madhya Pradesh (GoMP) in accordance to Mines and Minerals (Development and Regulation) Act, 1957 as amended in 2015 and the Mineral (Auction) Rules 2015, notified Bunder Diamond block located in Chhatarpur district of Madhya Pradesh for grant of mining lease over 364 Ha of block area through the process of e auction.

Bunder Diamond block is discovered by M/s Rio Tinto Exploration India Private Limited (RTEIPL) during year 2002 & 2004 as a part of its regional exploration program in the Reconnaissance Permit (RP) granted over an area of 9621 Km^2 area in Bundelkhand region of Madhya Pradesh. Basis of results of RP and prospecting conducted over the area, Bunder diamond block identified as potential diamond prospect and RTEIPL applied for Mining License over 954 Ha area of Bunder Diamond block. Mining plan was also submitted over an area of 954 Ha of Bunder and was approved by Indian Bureau of Mines (IBM) during 2013.

Later RTEIPL decided not to proceed with Bunder Project and in 2016 handed over all the assets and data of Bunder diamond project to the State Government (GoMP).

M/s Essel Mining & Industries Limited (EMIL) in line with its business strategy and portfolio restructuring participated in the auction process notified by the GoMP during July 2019 for grant of mining lease over 364 Ha of Bunder Diamond Block. Subsequently, EMIL declared as Preferred Bidder by the GoMP under Rule 9(4)(b)(iii) of the Mineral Auction Rules 2015 vide letter no. 20495/Auction 3/Geology/F No. 3/2019-20 dated 11 December 2019.

Government of Madhya Pradesh (GoMP) under Rule 10(2) of the Mineral Auction Rules 2015 issued Letter of Intent (LOI) (No. F-2-26/2019/12/1 dated 19.12.2019) for grant of mining lease for a period of 50 years over 364 Ha area of Bunder Diamond Block upon EMIL made payment of First Installment of the Upfront Payment of INR 27, 52, 48,440 (Twenty Seven Crores, Fifty-two lakh, forty-eight thousand and four hundred forty Rupees) on 13th December 2019 to the Government of Madhya Pradesh.

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2. ABOUT ESSEL MINING & INDUSTRIES LIMITED

Essel Mining & Industries Limited (EMIL) is a group company of Aditya Birla Group (ABG), a US$ 48.3 billion conglomerate having presence across 34 countries and in the League of Fortune 500 companies. EMIL, the mining arm of the Aditya Birla Group, has long presence in country's mining sector since 1950. EMIL is having business interests in Iron Ore (mining, beneficiation and palletization), Coal Mining Services (mine developer cum operator), Noble Ferro-alloys, and in Renewable Energy (wind & solar) sector. EMIL has operations in eight states namely Odisha, Jharkhand, Chhattisgarh, Gujrat, Madhya Pradesh, Telangana, Rajasthan and Maharashtra.

EMIL was founded back in 1950 by starting its first iron ore mining operations in Barbil region of Odisha. EMIL gradually kept expanding and achieved its highest operating capacity of ~19.78 MTPA during FY 20. However due to expiry of 2 of its 3 iron ore mining leases the current operational capacity of EMIL stands at 6 MTPA.

EMIL is the largest mine-developer-cum-operator (MDO) in the private sector in India. EMIL currently operates two coal projects of Coal India Limited — Bhubaneswari Coal Mine & Rajmahal Coal Mine, through its subsidiaries Bhubaneswari Coal Mining Limited (BCML) in Odisha & Rajmahal Coal Mining Limited (RCML) in Jharkhand states respectively. EMIL is further developing Madanpur South Coal Project in Chhattisgarh. EMIL current MDO capacity is 50.4 MTPA accounting for around 7% of Coal India Limited's annual production. The total combined capacity considering the 3 coal MDO projects stands at 94.35 Million M3/annum of excavation with combined capacity of 50.4 MTPA of coal.

EMIL also produces high quality noble ferro alloys from its division located at Vapi, Gujarat. The division manufactures superior quality noble ferro alloys which accounts for over 34% of the market share in India. The main products of the division are Ferro-Molybdenum, Ferro-Vanadium and Ferro–Titanium and other products are Ferro Alloy Powders and un–fused Vanadium Pentoxide (V2O5).

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EMIL also possess about 155 MW of Renewable Energy Portfolio with 75 MW of wind power capacity in the Dhule district of Maharashtra and 80 MW of solar power in the states of Telangana, Rajasthan and Gujarat. The renewable energy division of EMIL represents an important initiative to be an environment friendly and responsible corporate citizen promoting sustainable development and help reducing carbon footprint.

EMIL have acquired Pro Minerals Private Limited (PMPL) through the Corporate Insolvency Resolution Process in the month of March 2019. The project consists of 1 MTPA Iron ore Beneficiation Plant built using technology from Allmineral GmbH, Germany and 1 MTPA iron ore palletization plant based on Circular Palletization Technology (CPT) provided by Primetals GmbH, Austria (Joint venture between Siemens and Mitsubishi). The project was cold commissioned during 2015 and will be hot commissioned in next few months the project is further slated to be expanded to the capacity of 4 MTPA.

EMIL in process of developing mining and processing facilities for Kimberlite Ore (Diamond bearing ore) from Bunder Diamond Block spreading over an area of 364 Ha. The Kimberlite (also known as Lamproite) ore mining is proposed at peak rated capacity of 5.00 Million Tonnes Per Annum (MTPA) with Kimberlite Ore processing plant capacity of 5.0 MTPA. EMIL is presently progressing with obtaining various statutory approvals required for the project.

EMIL shall sign the Mine Development and Production Agreement (MDPA) with the Government of Madhya Pradesh upon obtaining all consents, approvals, permits, No Objections, and the like as may be required under applicable laws before commencement of Mining Operations.

Subsequent to signing of MDPA, EMIL shall make the payment of the third installment being the eighty percent of the upfront value and thereafter Government of Madhya Pradesh shall grant the said Mining Lease.

The present document is prepared based on the technical documents / information along with the recast geological report on Bunder Diamond Block as shared by the Directorate of Geology and Mines Government of Madhya Pradesh as part of Auction process.

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3. PROJECT DETAILS

Bunder Diamond Block (Project) is a Greenfield Project explored by the Global Mining Giant Rio Tinto with estimated reserves of 53.70 Mt of Kimberlite/Lamporite containing ~ 34 Million Carats of rough Diamonds at an average grade of 0.63 Carat/tonne of Kimberlite Ore within Mining Lease area of 364 Ha.

The project is located in Sagoria Village, Buxwaha Tehsil, Chhatarpur District in Madhya Pradesh. The area forms part of Survey of India Topo sheet No. 54 P/7 covering Latitude 24°18'29.00" N to 24°20'04.99" N and Longitude 79°16'53.00"E to 79°18'07.00" E and is located within the Buxwaha Protected Forest of Chhatarpur Forest Division.. Figure 3.1 Shows the Location of Project Area.

Figure 3.1 : LOCATION MAP

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The boundary of the area encompassing Bunder diamond block has been DGPS surveyed by the GoMP and the boundary is marked on the ground. The lease area on toposheet is shown in Figure 3.2 and apex point wise coordinates of entire lease area are tabulated below:

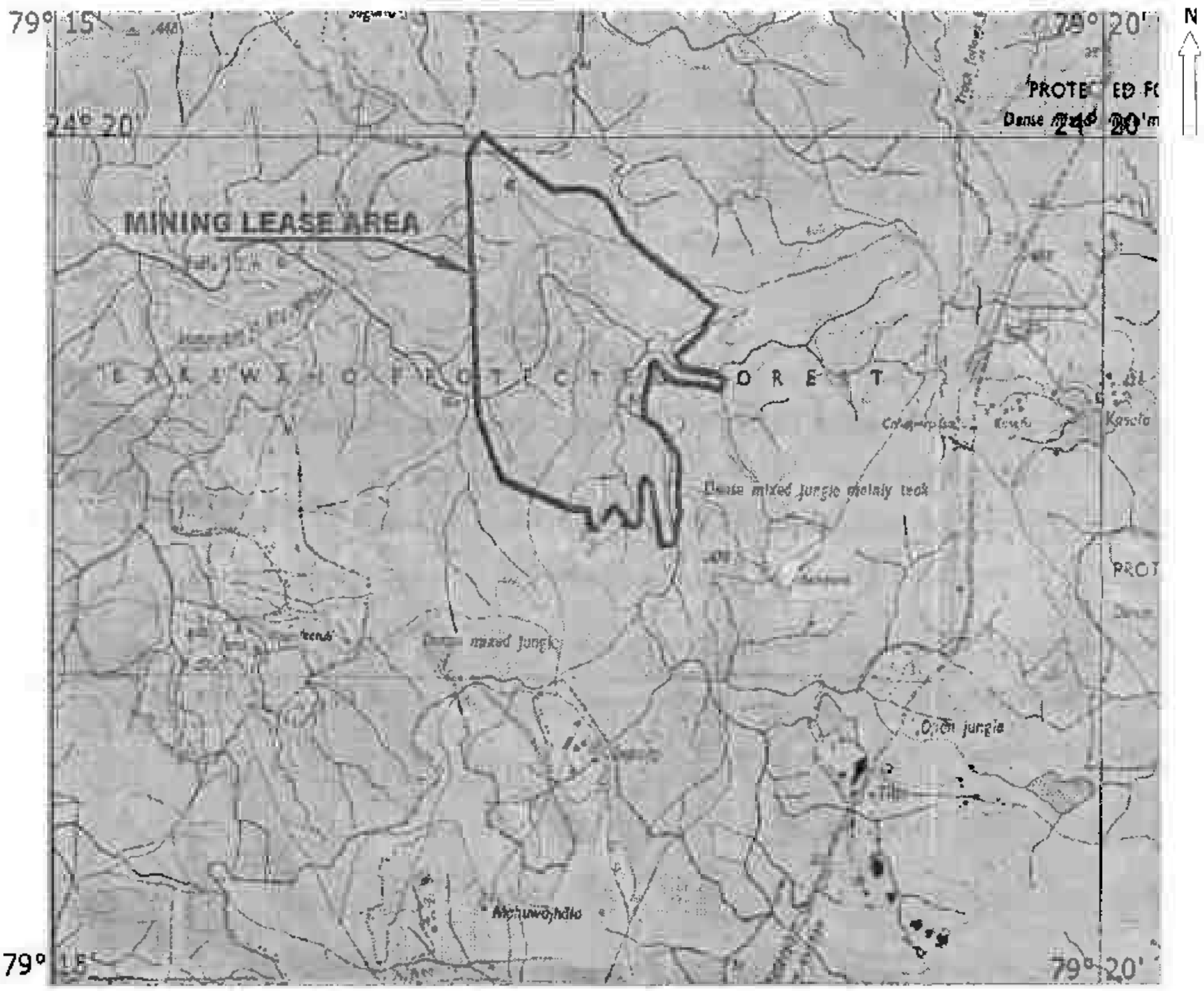

Figure 3.2 : Location of Lease area on Toposheet

The Bunder Diamond project site is located about 10 km north of Buxwaha town and is about 80 kms from Chhatarpur which is the district headquarter. The state capital Bhopal which is also the nearest International Airport is about 260 Kms from the project site with approx. driving time of about 6 hours. NMDC's existing diamond mine is about 175 Kms from the project site.

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The area exhibits rolling topography comprising of hills, valleys and scarps/ridges. The massive laminated sandstone belonging to Kaimur forms the prominent ridges and scarp. The maximum and minimum elevation within the lease area is around 462 500 m area and 350 414 m above mean sea level (MSL) respectively. The mean elevation of the area is 400 m above sea level.

Regionally area falls under Dhasan River Basin and exhibits dendritic drainage pattern and is drained by several ephemeral gulley & streams. Kandahar is a major seasonal stream that flows from south east part of the block and exits in the west and crosses over the ore body. The most of the water courses flow in northerly and north westerly direction.

The area comes under Deccan Peninsula Biographic Region of India. Entire block area is a part of Buxwaha Protected Forest of Buxwaha subdivision of Chhatarpur Forest Division of Madhya Pradesh. Vegetation of the area is mix of saja, bija, lendia, haldu, dhawra, tendu, achar, tinsa, etc. The lower canopy includes amla, achar, khair, etc. Important climbers are bhurbhusi, doob and marvel, among others.

The climate of the area is hot in summer and cold in winter. The maximum temperature reaches up to 460 C and minimum drops as low as 10 C. The average rainfall of the area is around [illegible] mm.

4. GEOLOGY OF THE AREA

Regional Geology

Regionally, Bunder Diamond Prospects are isolated occurrences in the Bundelkhand Plateau, an area known for its various mineral occurrences and mines. The Geology of the region surrounding the project area comprises lithologies of the Bundelkhand craton and overlying Proterozoic sedimentary basins.

Local Geology

Geologically the Bunder Diamond Block forms the part of Vindhyan sedimentary basin. The Vindhyan group of rocks occurring in the area belongs to Kaimur group, Semri group and Bijawar group. The sandstone on top vary in thickness from 80m to

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170 m which are underlain by shales varying up to 150m thick. The Kimberlites pipes occurs as intrusive, in near horizontal stratified sediments consisting of sandstones, shales, conglomerates, dolomites and quartzite (Kaimur; Semri and Bijawar Group). Kimberlite body (Atri Pipe) is generally covered with variable thickness of soil / colluvium.

The structural geology of the area indicates that joints sets are sub vertical and horizontal in both intrusive kimberlite and surrounding sedimentary formations. Geology of Bunder Diamond Block is depicted in Figure 4.1.

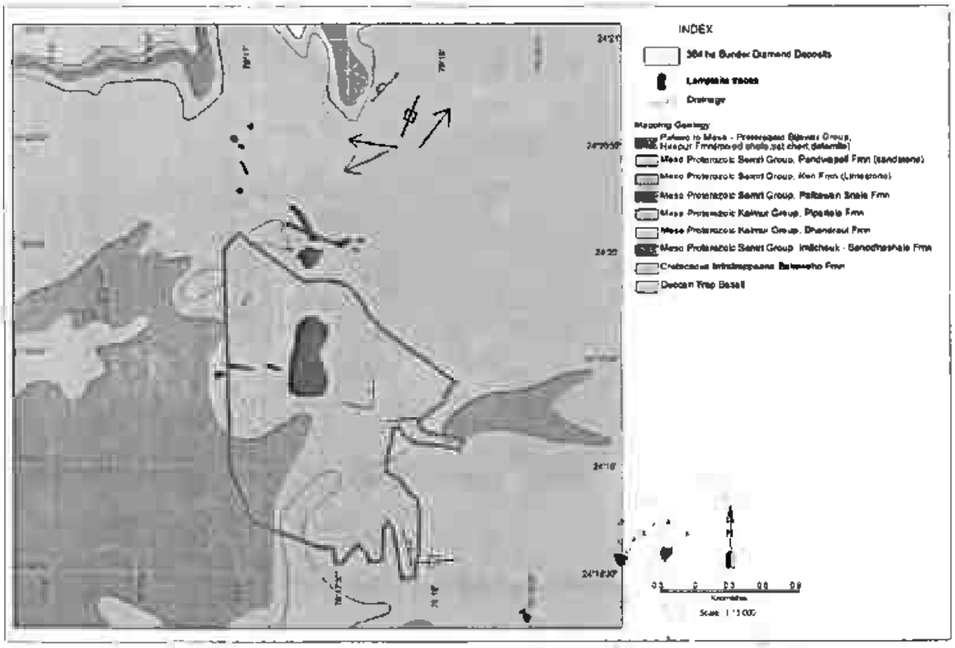

Figure 4.1 : Geology of Bunder Diamond Block

Mineralization and Kimberlite Ore (Atri Pipe)

Vindhyan sediments particularly sandstone and shale and limestone of kaimur's host the kimberlite rock which is diamond bearing rock and is known to be the key bed horizon in the prospect area. Kimberlite occurs as intrusive usually in inverted cone shape form and is hosted by Kaimur group of formations.

Of the cluster of seven kimberlite pipes identified in prospect area, Bunder Diamond Block contains Atri Pipe. Pipe is generally covered with variable thickness of colluvium, comprised of admixture of sands, cobbles and boulders.

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The geology of the country rocks and Kimberlite pipe have been defined through various exploration techniques including, Geophysical surveys (Ground magnetic, Ground Electro-magnetic surveys), surface mapping and drill core analysis. Orebody modelling was carried out, primarily on geophysical and drilling data. Basis the exploration conducted over and interpretation drawn Atri Pipe can be divided in to two domains namely North Atri and South Atri. There is no geographical or geological boundary separating North Atri area with South Atri area and thus both areas are integral part of Atri Pipe. Figure 4.2 illustrates the sub surface layout of North Atri and South Atri Kimberlite Pipe.

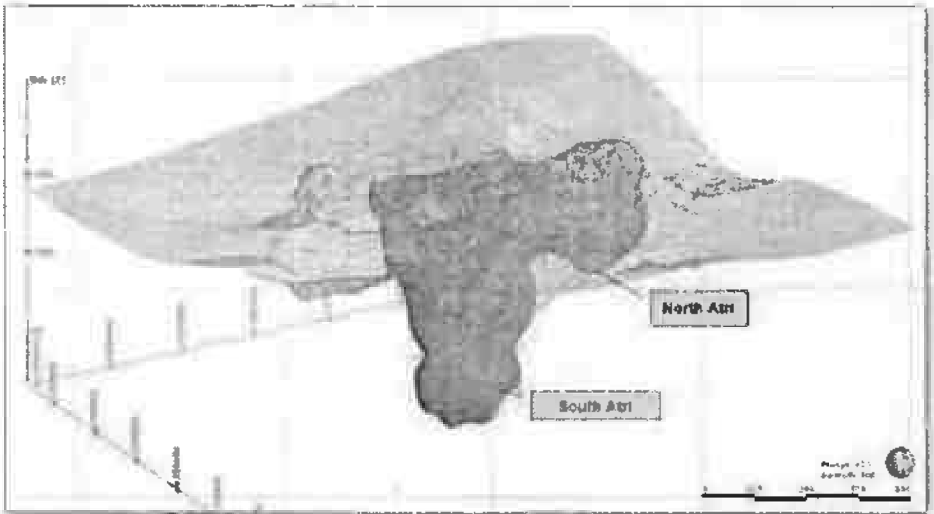

Figure 4.2 : Sub surface layout of North Atri and South Atri Kimberlite Pipe.

Exploration Details

Rio Tinto Exploration India Private Limited (RTEIPL) the erstwhile prospecting lease holder of Bunder Diamond Prospects, carried out detailed prospecting and exploration of this area between 2006 and 2011. Directorate of Geology and Mining (DGM), GoMP compiled the reports submitted by RTEIPL for its prospecting works over Atri Pipe conducted during the 2006 to 2011 and shared the recast geological report titled "**Geological Report on Exploration of Diamonds Bunder Project Area at village Sagoria, District Chhatarpur, for and area 364 Ha**".

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Details of exploration conducted in Bunder Diamond Block summarized in this section are based on the information and data provided by the DGM, GoMP and as available in recast geological report. The work conducted by erstwhile prospecting leaseholder include mainly:

- Topographical Surveying
- Surface Geological Mapping
- Geophysical and Geochemical Surveys
- Drilling, Core Logging and Sampling and
- Pitting and / Trenching (Bulk Sampling)

Details of quantum of work done by RTEIPL in Bunder Diamond Block is presented in Table 4.1

Table 4.1: Summary of Quantum of Work Done in Bunder Diamond Block

Activities	Details
Period of Exploration	2006 – 2011
Depth of Exploration	up to 350 m from surface
Surveying	
Surface Contouring	3.64 Km^2
Boreholes / Trenches / Pits Coordinates, RL	104 (95 Bhs; 9 trenches)
Mapping and Logging	
Geological Mapping	3.64 Km^2
Core Logging	24708 m
Geophysical Surveys	
Magnetic	1095 Line Km
Neo TEM	7.2 Line km (8 grids)
Geochemical Surveys	
Geochemical Sampling (Within 25Km^2 Prospect Area)	530 samples
Drilling	

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Activities	Details
Delineation Drilling (NQ/HQ)	60 Boreholes (14574m)
Grade/Quality Drilling (8" LDC)	23 Boreholes (5205m)
PQ Core Drilling	12 Boreholes (4929m)
Total Core Drilling	**95 Boreholes (24708m)**
Pitting / Trenching	
Surface Pitting/trenching	09 Nos
Sampling	
LDC Sampling	349 Nos.(208t Kimberlite)
Bulk Sampling	29 Nos. 36,000 tons (Kimberlite)
Other Studies	
Geo Technical Studies	
Ground sterilization	

Sequence of Exploration: Major exploration activities are summarized as under:

Geological Mapping

- Detailed surface structural and geological mapping has been undertaken over the block area

Geophysical Survey

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- Ground and downhole geophysical surveys had been conducted over block area.
- 1095 Line km ground magnetic survey and 7.2 line km of orientation Nano TEM on 8 grids completed.
- Down hole gamma, resistivity, seismic and acoustic tele viewer surveys conducted on selected bore holes over Atri Pipe.

Geochemical Survey

- A comprehensive regional stream sediment sampling program conducted during 2002

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- About 530 samples covering 25 Km2 of area were collected to identify indicator minerals
- Results of geochemical surveys prompted localized soil geochemical sampling program over Atri Pipe
- GR provided by the GoMP mentions about the quantum of geochemical sampling conducted. Details of samples and anomaly maps are not provided in the geological report.

Drilling

- The drilling was conducted for the following purposes, undertaking the grade, volume delineation of the ore body, Geotechnical studies, testing of kimberlite targets and sterilization of the infrastructure within the PL area. Objective of campaign is to decipher shape, volume, grade and persistency of the ore body
- Total 95 boreholes involving 24708 m completed.
- Core drilling of sizes NQ, HQ, PQ completed along with large diameter (8" LDC) holes

Slim Hole Drilling (HQ/NQ)

- Slim holes drilled for delineating the margins of the deposit near the surface has aided in improving the confidence about the volume of the ore deposit
- 60 NQ/HQ holes involving 14576 m drilling completed for ore body delineation.

PQ Core Drilling

- Objective of PQ size drilling was to determine grade of kimberlite and to delineate the boundary of ore body and
- Drilling was also conducted to support estimation of incidence of diamonds from the recovery of micro diamonds
- A total of 12 drill holes totaling 4929 meters were completed
- Figure 1.6 shows the locations of PQ holes drilled in Bunder Diamond Block.

Large Diameter Core (LDC, 8" Core Drilling)

- Objective of LDC drilling was to estimate grade, size/frequency distribution
- 23 holes involving meterage of 5205m completed
- A total of 349 samples weighting 208 tons were collected and processed

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Trenching and / Pitting

- 9 trenches at six locations (size 20m X 2m) pits/trenches up to depth of 5m excavated.
- 29 Bulk sample of 36,000 tons of kimberlite extracted
- Sample processed at processing plant earlier in Bangalore and later at RTEIPL's project site (near Buxwaha)
- Processing of kimberlite yielded 1876.341 carats of diamonds

Bulk Sampling and Analysis

- Objective was to establish metallurgical parameters to support designing of full scale process plant
- Bulk samples excavated from trenches and samples from LDC holes were processed at RTEIPL's process plant near Buxwaha
- More than 36,000 tons of kimberlite sample collected from LDC and trenching processed to recover ~2000 carats of rough diamonds
- To determine diamond incidence in ore several kimberlite samples were composited for processing and separation of diamonds.
- A total of 349 samples weighting 208 tons generated from LDC holes were collected and processed
- A total of 22115 commercial sized[2] stones weighing a total of 2020.40 carats were recovered.

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5. RESOURCE AND RESERVE ESTIMATES

United Nations Framework Classification (UNFC)

The UNFC is a universally applicable scheme for classifying / evaluating mineral reserves/resources. The classification consists of three dimensional axial system which includes:

- Economic Axis: Involves Economic Assessment
- Feasibility Axis: Involves Feasibility Assessment
- Geological Axis: Involves Geological Assessment

Findings of all three axis / assessments are expressed as a three digit code based system as described below:

- Economic viability of project presents the first digit,
- Feasibility axis the second digit and
- Geology axis the third digit.

Assessment of resources of Bunder Diamond Block as per UNFC classification has initially done by RTEIPL based on exploration conducted. EMIL validated the data and technical reports provided by the Government of Madhya Pradesh. Price estimates of diamonds notified by Indian Bureau of Mines as mentioned in tender document has been considered.

The status of Bunder Diamond Block may be assessed as follows:

Economic Axis

The Bunder Diamond Resources are considered to be economic (E1) under current competitive market conditions, satisfying the UNFC classification for this axis in the following areas:

- **General and Detailed Exploration**

General and detailed exploration has been conducted for Bunder Diamond Block. Geological studies has been conducted to assemble the relevant ore body knowledge for Atri Pipe. Evaluation campaigns have been targeted at establishing tonnages and grades supplemented by data collection relevant to metallurgy, geotechnical engineering and mine environment issues. These geological investigations include extensive mapping, detailed geochemical and geophysical surveys, closed space drilling and pitting/trenching.

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- **Price Estimate**

Price estimates for diamond recovered during exploration from Bunder area has been considered as indicated by the Indian Bureau of Mines and shared by the Government of Madhya Pradesh. The price estimated varies between Rs. 6227 to Rs. 7613 per Carat, and is subject to changes as per market conditions. The diamond recovered from the area during exploration were inspected and studied during auction process and an associated price based on prevailing market values was assigned.

- **Mining Plan**

The Mine has been planned for peak rated capacity of 5.0 MTPA. The Life of the Mine Plan (LOM) was developed matching mining fleet to mine production requirements including the waste rock handling. The fixed and variable cost estimates for operations were developed based on first principle theory i.e. working deeper and deeper to reach at optimal cost based out of our mining experience and referring to database of other diamond mining operations.

- **Specific end-use grades**

Sensitivity analyses undertaken on various modifying factors namely price, incidence of diamonds, capital cost and operating costs to test economic viability.

The project remains economically viable even if these parameters are changed independently at ±20%.

The project yield maximum Project IRR of 19% at peak rated capacity of 5.0 MTPA. The variation in IRR hover between13% to 23% in case the above parameters are changed independently.

The average incidence of diamonds per tonne of kimberlite of southern Atri from which the majority of ore will be mined (41.56 Million Tonne) is 0.78 carat/tonne the average grade for the North Arti from which 12.14 Million Tonne will be mined is 0.13 carat/tonne. The weighted average grade of the deposit is 0.63 Carat/tonne. The size of operation and the incidence rate make the project attractive and viable proposal even after winning the project at final price offer of 30.05%.

- **Land use Data**

The entire 364 Ha area of Bunder Diamond Block falls under protected forest. Cost involved for obtaining forest diversion approval has been considered during the evaluation of the economic viability. The Project being in forest land will require to incur the cost for purchase of equal area of non-forest land for Compensatory

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Afforestation (CA). EMIL has submitted application to the district authorities for reservation of CA Land for the project. Collector Chhatrpur has initiated the process and assured to hand over the land to forest department once the Stage-I forest clearance to the project is granted. EMIL has also considered the land cost towards CA land while evaluation the feasibility.

- **Socio Economic Condition**

  Since no private land there will be no displacement of people. As the area is under developed with no industrial activities in the near vicinity, the project will significantly contribute to the socio-economic development of the area by improving infrastructure, communication, education, health and providing employment opportunities.

Feasibility Axis

Based on reports and data provided with respect to the project by the State Government it is understood that detailed prefeasibility study had been completed for the project by RTEIPL. During the course of study geological, engineering, environmental, legal and economic information had been evaluated.

- **Mining**

The scale of the operation and economic viability has been examined considering various modifying factors and mine planning undertaken. An open pit containing 53.70 Million Tonne of ore, measuring 920m in length, 854 m width and 350 m in depth from the floor of first bench has been designed. The open pit will be developed in phases to optimize cash flow by deferring waste movement within permissible safety limits.

The current operating life of the deposit is anticipated to be 15 years. A detailed exploration program has been developed and provided in previous sections.

The mine has been designed for peak rated capacity of 5.0 MTPA, a level at which optimum project IRR (Internal Rate of Return) will be achieved. A mine fleet comprised of 100t capacity dumpers, 6 m^3 Backhoe & 10m^3 face shovels has been specified as optimum for the material movements required. Ancillary equipment's to support mine production has also been defined.

A detailed breakdown of Capital and Operating cost estimates relating to mining have been developed based on the company's experience from its own operations. The capital expenditure of Rs 2520 Crores is envisaged which includes Rs 320 Crores of pre-operative expenses, and about Rs 2200 Crores for Processing Plant, Mining Equipment, related infrastructure and contingent expenses.

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The life of mine operating cost are estimated at Rs 390 per tonne of ore mined and processing cost of Rs 508 per tonne of ore processed.

- **Environmental Aspects**

Bunder diamond project is falls under protected forest and thus needs forest clearance under Forest Conservation Act 1980 for diversion of forest land. EMIL has applied for the same and the proposal is presently under process at Divisional Forest Office Chhatapur (MP). There is seasonal nalla crossing from east to west over the ore body and this need to be diverted during the course of mining. Necessary actions to get the approval for diversion of nalla has been initiated with the concerned authorities and EMIL sees no threat in obtaining the approval for nalla diversion. In addition EMIL also need to obtain approval from CGWA and state WRD for extracting ground water (as mining will be carried out below ground water table) and for utilizing surface water to meet its water requirements. The process in this regard has already initiated. Although EMIL foresee no potential environmental constraints to the project however till approval for usage of surface water, extraction of ground water and diversion of nalla are obtained the resources are evaluated as F2.

Processing

Studies conducted by RTEIPL on bulk sample and core samples indicates that the ore from Bunder Diamond Block is amenable to processing using process plant designs used in other diamond operations.

- **Infrastructure**

Infrastructure requirements supporting the mine's operations have been considered for the project. The process plant, maintenance workshop and administrative building are proposed to be located within the mining lease area. Dedicated access road, to and from the mine operation; have been selected to minimize the impact on local communities. Power demand requirements for the operations are understood, sufficient power supply for the operation is available from the utility grid. An application will be made to the Madhya Pradesh State electricity Board to supply the required electrical power to the project.

- **Costing**

A detailed breakdown of capital, Operating and Working Capital costs relating to infrastructure development, mining, processing, mine closure and support services has been considered for the operation.

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- **Marketing**

Quality and marketability of the diamonds recovered from exploration samples have been assessed by experienced diamond experts. The reports indicated that the size, shape, clarity and color distribution of the diamond recovered from the samples pose no marketability risks in the current market.

The long-term outlook for the diamond market remains positive despite short-term challenges. Demand for mined rough diamonds is expected to recover, either staying flat or growing up to 3% annually through 2030.

The supply of natural diamonds will decline substantially starting in 2021, with an annual decrease of 8% compared with 2020 projections. The supply contraction at Argyle, Australia and Diavik and Ekati in Canada will provide an opportunity for Bunder Diamond Mine and its rough diamonds will be readily acceptable in the market.

- **Economic Viability**

Cash flow studies for the project have considered the impacts of key economic variables such as inflations currency fluctuations, taxes and royalties. Sensitivity analysis indicates that the project is viable over a wide range of diamond prices, capital and operating costs.

Geological Axis

The geological understanding of the Arti orebody is considered to be reasonably assured based on the exploration work completed by erstwhile prospecting lease holder. An accurate three dimensional model of the orebody and surrounding host rocks has been developed from extensive surface mapping, geophysical survey, drill hole and trenching information. Activities undertaken over the area during prospecting and exploration period are listed below.

- Geological Survey
- Geochemical Survey
- Geophysical survey
- Trenching / Pitting
- Drilling
- Borehole Deviation Surveys
- Beneficiation Tests
- Petrographic Studies

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Resources and Reserves Estimations

Resources for Bunder Diamond Block are estimated for both North Atri and South Atri domain. Resource estimation primarily done by RTEIPL based on the exploration conducted over the area by developing "Block Model". EMIL based on the data and reports provided by the Government reassessed and validated the resource estimates done by RTEIPL. EMIL believe no fatal flaw in assumptions, procedures considered by RTEIPL to generate Block Model and to estimate level wise grades and tonnages of the Atri Pipe of Bunder Diamond Block.

Resource estimation is based on Block Model developed on the basis of extensive data set (surface geological, geophysical, drill core data, bulk sample data etc.). In the following sections major assumptions considered for modeling and resource estimation described in detail.

- Borehole Data
- Borehole Density
- Density of ore and country rock
- Estimation of diamond incidence (Ore Grade)
- Block Model
- Resource Estimation

Borehole data

Data generated from 60 HQ boreholes (63mm diameter) drilled in and immediate vicinity of Atri pipe are considered for geo modeling. Of these 47 holes (11266m) were drilled over South Atri while balance 13 holes (3308m) were drilled over North Atri.

These boreholes formed the basis to develop understanding of ore body and its geological, structural and metallurgical characteristics. Eleven boreholes (out of 47) were drilled in waste rock adjacent to ore body to develop understanding of geotechnical properties of the rocks.

To investigate ore body limits and support diamond incidence estimation from recovery of micro diamonds set of 12 vertical PQ (84mm Diameter) inclined holes totaling 4929m drilling drilled over South Atri domain.

Total 23 LDC (203.2mm diameter) vertical holes were drilled at Atri including 19 holes (4382m) in South Atri and 4 holes 9823m) in North Atri. Core samples were collected for diamond analysis, density and moisture measurements. Samples of LDC cores were collected at 10m interval matching the anticipated bench height of proposed mine.

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Borehole Density

Borehole density i.e. number of holes drilled per unit area is important parameter in geo modeling and gives confidence in tonnage estimates. As mentioned Atri pipe is divided in to two domains namely, North Atri and South Atri and for both domains resources are estimated.

South Atri domain supports high level of confidence in tonnages and diamond incidences on account of higher sample/borehole density in domain as against the same in Atri North where sample and borehole density of reduced.

Domain wise density of drilling (HQ, HQ, and LDC) in South Atri and North Atri is as tabled below

Table 5.1: Drilling (HQ, HQ, and LDC) in South Atri and North Atri

Domain (Area)	Drilling Density (HQ, HQ, and LDC) in South Atri and North Atri Domain			
	PQ	LDC	HQ	Density (holes/Ha)
Southern Atri (7.6 Ha)	36	21	11	8.9
Northern Atri (9.0 Ha)	13	02	--	0.6

The density estimate in Atri South is considered to be adequate due to large data set and the QA/QC protocols employed during data collection for entire depth of the deposit investigated.

Density of ore and country rock

Density measurements for various rock types from the data sets that lay within the volume of pipe shapes are done by using soft wares. This gave a subset of 2648 readings for both domains of Atri Pipe with a mean density of 2.60. **Table 5.2** summarizes the statistics for density data for ore body. **Table 5.3** mentions density of various rock formations of the area.

Table 5.2: Statistics for density data (Ore Body)

Domain	No. of records	Minimum	maximum	Mean	Standard Deviation
North Atri	875	1.38	3.65	2.58	0.12
South Atri	1773	1.81	3.66	2.60	0.08

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Table 5.3 Density of various rock formations of the area

Rock Type	Density assigned
Side burden	2.60
Colluvium	1.90
Upper Conglomerates	2.60
Semri Black Shale(Three)	2.65
Semri Black Shale (Two)	2.52
Bijawar Shale	2.78

Estimation of diamond incidence (Ore Grade)

Samples generated from large diameter core (LDC) were processed for estimation of diamond incidence. Total 257 samples weighing 187.18 tons have been processed yielding 88.976 carats of rough diamonds. Sample incidence of diamonds was calculated as stones per ton (SPT). SPT then multiplied by the Mean Stone Size (MSS) for the domain to convert the SPT incidence of diamonds to Carat per Ton (CPT). Out of total samples 27 samples represented waste and colluvium while balance 230 Nos represented as two separate domains. **Table 5.4** summarizes the incidence of diamonds estimated for various domains in the block.

Table 5.4: Incidence of Diamonds Estimated for Various Domains

Domain	No. of Samples	Mean Sample Weight (tons)	Mean Grade (Carat per ton (CPT)
South Atri	159	0.747	0.78
North Atri	71	0.701	0.13
Colluvium	6	0.850	0.25
Waste	21	0.646	0.01

Resource Estimation of Bunder diamond block

Based on exploration work and studies conducted over Atri pipe of Bunder Diamond Block the resources estimated are of the order of G – 2 category as per Minerals (Evidence of Mineral Contents) Rules, 2015. Basis considered for estimation of resources are listed as under:

- Resources for Bunder Diamond Block are estimated for North Atri as well South Atri domain up to depth of 350m from the surface (100mRL).
- Marginal cut-off incidence of diamond considered is 0.1 carat per ton of ore (kimberlite).

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Table 5.6 summarizes the resources estimated over Bunder Diamond Block.

Table 5.6 Resources Estimated over Bunder Diamond Block

Resources up to 100 mRL (Million Tons)			
Domain	**Level of Exploration**	**Resources** (Million Tonne)	**Grade (carat/t)**
G-1 – Detailed Exploration	South Atri	36.46	0.78
G-2 – General Exploration	South Atri	5.10	0.78
	North Atri	12.14	0.13
	Atri (Total)	**53.70**	**0.63**

Reserve Estimation

The assumptions for deriving reserves for Atri Pipe for Bunder Diamond Block:

- Both domains of Atri pipe (North and South) are considered for reserves estimation
- Reserves estimated are contained in an open pit mine over an area of 62.64 Ha with overall slope angle of 38° to 40° up to depth of 350 m.
- It is proposed to develop Benches of 10 m height and 40 m width initially, which will be subsequently trimmed to 10 m width as working progresses to deeper levels.

Table 5.7 summarizes reserves estimated over North and South domains of Atri pipe in Bunder Diamond Block.

Table5.7 Reserves Estimated in Bunder Diamond Block.

Reserves of Bunder Diamond Block		
Category	**Reserves**	**UNFC Classification**
Proved (up to 200 mRL)	36.46	121
Probable (200mRL to 100 mRL)	17.24	122
Atri (Total)	**53.70**	

Slice wise; Domain wise and grade wise reserves of Atri North & Atri South domains along with UNFC Code are tabulated in **Table 5.8**

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Table 5.8: Slice wise; Domain wise and grade wise reserves of Atri North & Atri South

Slicewise; Gradewise UNFC Reserves (tons) fro Atri Pipe (North and South						
Slice (mRL)	South domain			North domain		
	Tonnes	GradeCt/t	UNFC Code	Tonnes	GradeCt/t	UNFC Code
Above - 440	-	-	-	-	-	-
430 – 440	-	-	-	269357	0.13	121
420 - 430	561215	0.837	111	747694	0.13	121
410 – 420	2108176	0.729	121	11,34,931	0.13	122
400 – 410	2078502	0.723	121	11,50,648	0.13	122
390 – 400	2041710	0.704	121	11,42,080	0.13	122
380 – 390	1997789	0.688	121	11,21,097	0.13	122
370 – 380	1953639	0.678	121	10,35,508	0.13	122
360 – 370	1908253	0.677	121	934669	0.13	122
350 – 360	1892161	0.679	121	818770	0.13	122
340 – 350	1848974	0.702	121	719496	0.13	122
330 – 340	1781789	0.719	121	647213	0.13	122
320 – 330	1736576	0.736	121	580795	0.13	122
310 – 320	1701762	0.744	121	463098	0.13	122
300 – 310	1650933	0.743	121	379000	0.13	122
290 – 300	1596146	0.751	121	318026	0.13	122
280 – 290	1535923	0.741	121	250287	0.13	122
270 – 280	1448249	0.777	121	180114	0.13	122
260 – 270	1413667	0.76	121	122391	0.13	122
250 – 260	1355448	0.778	121	64653	0.13	122
240 – 250	1303005	0.784	121	38890	0.13	122
230 – 240	1227659	0.814	121	15037	0.13	122
220 -230	1166269	0.817	121	3782	0.13	122
210 -220	1096215	0.804	121	-	-	-
200 – 210	1052728	0.818	122	-	-	-
190 – 200	997969	0.834	122	-	-	-
180 – 190	937181	0.879	122	-	-	-
170 – 180	865332	0.885	122	-	-	-
160 – 170	727412	0.854	122	-	-	-
150 – 160	572212	0.847	122	-	-	-
140 – 150	417229	0.855	122	-	-	-
130 – 140	285160	0.812	122	-	-	-
120 – 130	186655	0.813	122	-	-	-
110 – 120	98976	0.842	122	-	-	-
100 – 110	16861	0.842	122	-	-	-
Total	**41561775**	**0.78**		**12137536**	**0.13**	

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6. MINING METHOD AND PRODUCTION SCHEDULE

The Bunder Diamond Block is proposed to be developed for production of Kimberlite ore for recovery of rough Diamonds, the recovered rough Diamonds will be auctioned as per the conditions stated in the Letter of Intent granted.

The mining operations will be conventional cyclic operations namely soil removal soil, drilling and blasting of ore and waste, its excavation and transport to designated locations within mining lease. The ore shall be processed in the process plant proposed within lease area for recovery of rough Diamonds.

It is proposed to undertake mining by adopting mechanized opencast method deploying drilling, blasting and shovel dumper combination up to a depth of 350 meters from the surface.

It is proposed to be developed at the peak rated capacity of 5.0 MTPA Kimberlite ore to produce around 3.2 Million Carat Rough Diamonds annually at the average grade/incidence of 0.63 carat/tonne of Kimberlite mined. The targeted peak rated capacity for mining 5.0 MTPA will be achieved during 7th year of the mine operations.

The mineable reserves are estimated to be 53.7 Million Tonne. After producing 5.68 Million Tonne Kimberlite ore during the first five years, the remaining 48.02 Million Tonne of reserves will be worked for an over additional ten years period. Thus, based on the present reserve estimates, operating life of the Bunder Diamond mine is anticipated to be 15 years. The Development and production program for life of the mine is given in Table below:

Year wise ROM production is illustrated below in Table 6.1:

Table 6.1 Year wise ROM Production

Year	ROM, Million Tonne	Colluvium, Million Tonne	Side burden, Million Tonne	Stripping ratio (Tonne / Tonne)
1	0.15	0.034	0.00	1: 0.23
2	0.21	0.083	0.00	1: 0.39
3	0.40	0.590	0.45	1: 2.60

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Year	ROM, Million Tonne	Colluvium, Million Tonne	Side burden, Million Tonne	Stripping ratio (Tonne / Tonne)
4	2.02	1.070	4.99	1: 3.01
5	2.91	0.328	8.03	1: 2.87
6	4.50	1.420	12.08	1: 3.00
7	5.00	0.502	14.50	1: 3.00
8	5.00	0	15.00	1: 3.00
9	5.00	0	15.00	1: 3.00
10	5.00	0	15.00	1: 3.00
11	5.00	0	12.00	1: 2.40
12	5.00	0	10.00	1: 2.00
13	5.00	0	8.00	1: 1.60
14	5.00	0	3.71	1: 0.74
15	3.51	0	0.00	1: 0.00
Total	**53.70**	**4.026**	**118.768**	**1: 2.29**

As part of pre-production development work during first two / three years of operation following activities are proposed,

- Undertaking confirmatory exploration in South part of Kimberlite Zone (South Atri). It is necessary in order to validate the exploration dataset of Rio Tinto India Exploration Private Limited.
- Undertake detailed exploration in North part of Kimberlite Zone (North Atri).
- Excavations to collect Kimberlite samples from proposed pits and trenches at various places over the Kimberlite pipe of 16.6 Ha.
- The Kimberlite production proposed from pits and trenches excavated during Year 1 & Year 2 are 150,150 Tonnes and 210,025 Tonnes respectively.
- Samples generated during Year 1 & 2 is proposed to be processed in the bulk sample processing plant for recovery of Diamonds.
- The bulk sample processing during Year 1 & 2 shall help in establishing diamond incidence and size distribution of Diamonds for the Bunder Diamond Block. Typically minimum sample size of 20,000 carat to 40,000 carat is required to for establishing diamond incidence, size distribution and quality vis-a-vis the global benchmarks to establish Project feasibility.

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Mine operations beyond mining plan period

- Mining of the Kimberlite deposit will be further extended upto 100 mRL.
- Development of Atri Pit will be continued on the similar lines after five years by forming benches both in overburden / side burden and in kimberlite, keeping bench height of 10m. However, width of the working bench will be kept 40.0m. The proposed ultimate pit will have maximum length of 920m, width of 854 m and 350 m depth with overall slope of 45°. The 20m wide dumper road will be extended upto 240 mRL it will be on 1 in 16 gradients and 15 m wide dumper road from 240 mRL to pit bottom upto 100 mRL will be extended. The gradient of this road will be 1 in 16 upto 100 mRL.
- The remaining 105.28 Million Tonne side burden estimated to be mined from this pit after five years and will be transported by the dumpers to designated the overburden/waste dumps for dumping. It is proposed to construct this dump in maximum six terraces after initial leveling upto 450 mRL and height of each terrace will be 10 m. Besides Coarse Processed Kimberlite (CPK) & Fine Processed Kimberlite (FPK), which are rejects from the processing plant, will also be separately stacked on the designated Ttailing dump located in north western part of the lease area.
- The total Ore extracted is 53.7 Million Tonne. The quantity has been calculated by block method explained Geology Chapter. All the calculations were carried out by Computer Programme. This quantity of solid Coarse Processed Kimberlite (CPK) & Fine Processed Kimberlite (FPK) from processing plant will be accommodated in a dump covering an area of 66.34 ha in north western part of the lease area.
- The total waste/ OB extracted is will be 118.76 Million Tonne. The quantity has been calculated by block method as explained in Geology chapter. All the calculations were carried out by Computer Programme. Entire side burden will be accommodated in one dump covering an area of 138.31 ha in Southern and eastern part of the lease area.

Land use pattern during mining plan period and conceptual period is illustrated in table 6.3.

Table 6.3 Land use pattern during mining plan period and conceptual period

Sr. No.	Type of land use	Area in Ha.	
		At the end of 5 years	At the end of life of mine
i)	Mined Out Area	39.25	62.64
ii)	Side Burden and Waste Dump	65.15	138.31

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Sr. No.	Type of land use	Area in Ha.	
		At the end of 5 years	At the end of life of mine
iii)	Ore Stock Pile	3.00	3.00
iv)	Soil Dump	6.22	0.00
v)	Processing Plant & Crushing Plant	10.00	10.00
vi)	Tailing Dump	28.26	66.34
vii)	Water Reservoir & Dams	49.56	49.56
viii)	Infrastructure	10.00	10.00
ix)	Nala/stream Diversion*	0.00	0.00
x)	7.5m wide safety zone along lease boundary	8.04	8.04
xi)	Mine roads, Retention walls & Drains	11.15	11.15
xii)	Magazine Area	1.54	1.54
xiii)	Green Belts#	0.00	0.00
xiv)	Parking Area	2.72	2.72
xv)	Intermediate Areas.	0.70	0.70
xvi)	Undisturbed Area	128.41	0.00
Total		**364.00**	**364.00**

7. MINERAL PROCESSING

The capacity of the processing plant will be 5 MTPA Run of Mine (RoM) ore. Following are the steps involved in the processing of ore:

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- Primary Crushing:

ROM is delivered by trucks at the static grizzly (1000mm square opening) on top of the tipping bin. The bin is equipped with a level transmitter which controls signal lights. Light signals inform dumper operator if the ROM load can be discharged. Oversized lumps are broken on top of the grizzly by rock breaker. The apron feeder discharges directly into the primary crusher selected to be a mineral Sizer (MMD 850) due to the brittle and low abrasive nature of the Bunder Kimberlite.

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- Secondary Crushing & Dry Screening:

The purpose of the secondary crushing and dry screening installation is to reduce material to less than 50mm size and thus ensure the downstream High Pressure Roll Crusher (HPRC) feed top size is not exceeded. A single central longitudinal slot below the stockpile feeds a stockpile reclaim conveyor which directly feeds the secondary crusher. The secondary crusher selected is a mineral sizer.

Product from the sizer is transferred via the secondary crusher product conveyor to the primary (dry) screen. This screen returns +50mm oversize material to the secondary crusher via conveyor. The screen undersize is transferred onto a long stockpile feed conveyor which transfers nominally 100% passing 50mm crushed ore to a luffing conveyor. From the stockpile 50mm crushed ore transferred to the tertiary crushing area HPRC feed bin via conveyor. There are no washing sprays on the primary sizing screen, in accordance with the current understanding of the nature of the Bunder ore, and thus the whole primary and secondary crushing circuit operates dry.

- Tertiary Crushing:

The High Pressure Rolls Crusher (HPRC) liberates locked diamonds whilst simultaneously performing a large size reduction on the accompanying material. The -50mm size fraction from the secondary crushing/ screening section is transferred to the HPRC feed bin via the HPRC feed conveyor.

The recrush material returned to the HPRC feed bin on the HPRC feed conveyor is the +25mm material in the HPRC product after wet screening and the +6mm "coarse floats" from the two DMS modules. The HPRC unit selected is with roll dimensions 1.85m diameter by 1.5m wide, and is powered by two 1400kW variable speed motors. The roll surfaces are lined with tungsten carbide studs in a pattern which promotes the formation of an autogenous layer of ore on the rolls. This layer protects the roll surfaces from wear, and thus reduces the maintenance downtime significantly compared to earlier, smooth or profiled roll surfaces.

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- Wet Screening & De-gritting:

HPRC product is transferred on the scrubber feed conveyor to the wet screening area. Space provision for the addition of a future scrubber has however been made. A horizontal, single deck screen produces a +25mm oversize material, which is returned to the HPRC feed bin via the scrubber screen 0/S conveyor. The scrubber discharge screen undersize is split in two, and feeds the two degrit screens. Oversize from the degritting screens, in the size range -25+1mm discharges onto the DMS feed conveyor. Undersize from the degritting screen, -1mm, flows into the degrit screen sump, from where it is pumped by the degrit screen underflow pumps to the desand cyclones

- Dense Media Separation Plant, X-Ray Sorting and recovery of Diamonds:

Dense Media Separation (DMS) feed conveyor transports the -25+1mm material into the DMS feed bin using a shuttle conveyor to distribute material into the two pockets of the DMS feed bin. Clam shell gates are provided to control discharge of material from the bin on the two DMS module feeders. These then feed the two DMS module feed conveyors, which feed the two DMS modules of 300tph nominal capacity each.

Each primary DMS module comprises 6 x 420mm diameter cyclones treating the entire feed material. The DMS modules will be sourced as "vendor items". ADP DMS modules have been

The purpose of the recovery plant is to concentrate the DMS sink fractions to either caustic / acid grade or to a grade suitable for hand sorting

- Tailings:

The quantity of diamond removed per tonne of kimberlite is less than 0.2 gm/t of ore. Thus after processing ore, there will not be any significant weight loss due to removal of diamonds. Thus whole quantity of ore processed, minus losses in process will form rejects. The process loss will be about 1%.

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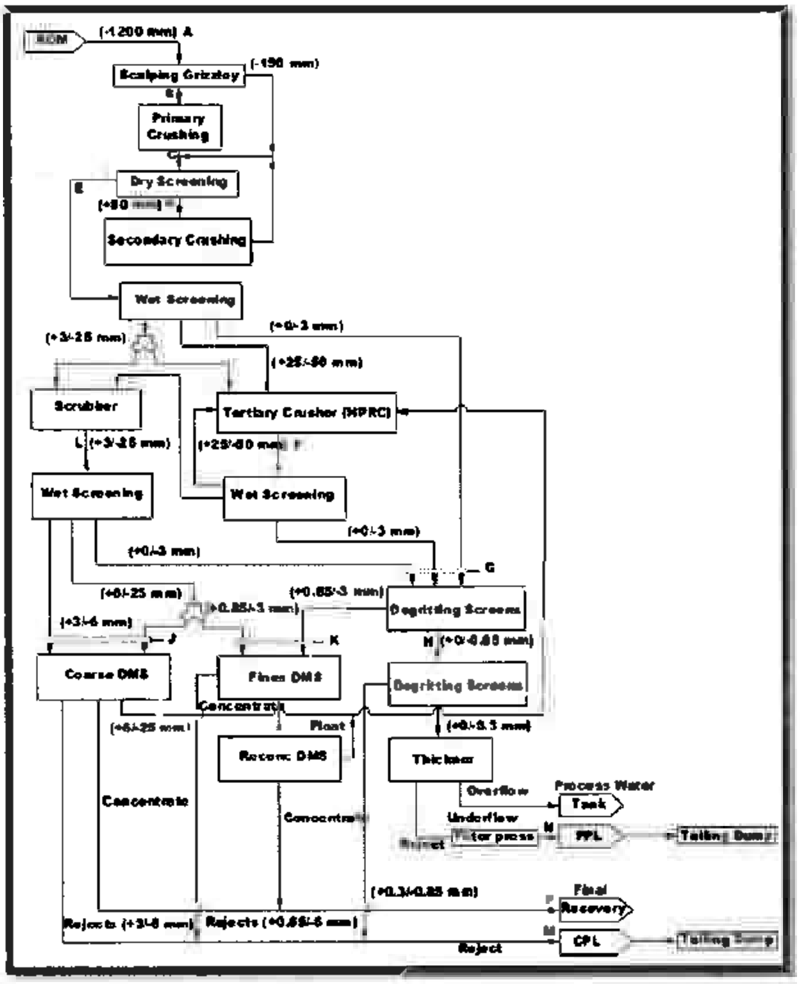
The process flowsheet depicting the Kimberlite Ore Processing has been explained in the picture chart below.



Tailing Disposal

Entire quantity fed to the processing plant needs to be dumped into the tailing pond except the recovered diamonds over life of mine. The tailing will be fed to the filtration unit to reduce the tailing moisture to about 14 – 15% to form filter cake. The filter cake will be transported by conveyor to the dump area and dumping will be done by loaders and truck. The land requirement for tailing disposal will be around 62.34 Ha and the height of dump will be 60 meters in 2 lifts of 30 meters each.

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8. INFRASTRUCTURE

The project will have following proposed infrastructure within and around the mine lease area:

Mine Office:

The Mine office building will be constructed within mining lease area at surface near the mine pit to house the offices of the mine manager and other unit heads

Workshop:

A workshop, adequately equipped with facilities to enable repairs and maintenance of heavy earth moving machinery such as high capacity hydraulic shovels, matching capacity dumpers, large diameter blast hole drills etc., are proposed. In the workshop, ancillary facilities such as electrical welding, gas welding, tube vulcaniser, tyre changers, tyre inflating equipment, lubricating pumps, battery charging units etc. will also be provided for day to day maintenance.

Statutory Buildings & Facilities:

All the required statutory facilities such as vocational training centre, canteen, rest shelters, first aid room, ambulances, crèche, etc have been provided for.

Other Admin Infrastructure includes Stores, Helipad, canteen, rest rooms etc.

Approach Road of 12 Km is required for accessing the Mine block through Gadhoi Village. Additional land of 11.59 Ha within Forest area will be required for the purpose. EMIL in its forest clearance application have included 11.59 ha land for diversion.

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Nala diversion:

Diversion of nala within lease to outside of the block boundary is being proposed. (Total diversion length of 1600 meters) Additional forest land required for the same is 6.64 Ha and EMIL have applied for forest clearance of the said land.

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Power:

A Power Substation is proposed within lease area and power tapping from 132 KV line from Buxwaha/Sagar/Damoh will be done. Option studies for power tapping and route is proposed. The total power requirement for the project is around 22 - 25 MW.

Water:

Construction of water storage dam with reservoir capacity of 17.45 MCuM at the southern part of lease area is being planned to fulfill the daily water requirement of ~16,000 CuM/day. Land requirement for water storage dam is ~50 Ha. and the same is within the Lease area.

9. ECONOMIC EVALUATION

- Cash flow studies flow studies for the project have considered the impacts of key economic variables such as inflation, currency inflation, taxes, royalties etc. Sensitivity analysis indicates that the project is viable over a wide range of diamond prices, capital and operating costs and incidence of diamond per tonne of ore mined.
- The project yields attractive internal rate of return of about 19% at peak rated capacity of 5 mtpa as planned and is economically viable at such production level. The variation in IRR hovers between 13% to 23% even the parameters like price, incidence rate, capex and opex are changed independently by ±20%
- The capital cost of the project is envisaged at Rs 2520 Crores, the LOM operating cost for mining and processing will be about Rs 898 per tonne. The operating cost is much lower than the projected realized price of diamond, making project attractive and economically viable.
- The size of operation and the incidence rate make the project attractive and feasible even after winning the project at final price offer of 30.05% in competitive bidding process.
- Quality and marketability of the diamonds recovered from exploration samples have been assessed by experienced diamond experts. The size, shape, clarity and color distribution of the diamond recovered from the samples pose no marketability risks in the current market.

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- The long-term outlook for the diamond market remains positive despite short-term challenges. Demand for mined rough diamonds is expected to recover, either staying flat or growing up to 3% annually through 2030.
- The supply of natural diamonds will decline substantially starting in 2021, with an annual decrease of 8% compared with 2020 projections. The supply contraction at Argyle, Australia and Diavik and Ekati in Canada will provide an opportunity for Bunder Diamond Mine and its rough diamonds will be readily acceptable in the market.
- The financial analysis carried out and described above indicated that the mine is economically viable under foreseeable operating scenario.

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Annexure VI /J

EMIL/HO/BUNDER/2020/49

14th August 2020

The Director
Geology and Mines
Government of Madhya Pradesh
Bhopal (MP)

Subject: **Correction in DGPS coordinates of boundary pillars BP 119 of Bunder Diamond Block**

Reference: Letter No. MP/Chhatarpur/Diamond/MPLN/G-05/2020-21 dated 12/08/2020 received from Indian Bureau of Mines (IBM), Jabalpur (MP)

Dear Sir,

We are pleased to appraise you that Essel Mining & Industries Limited (EMIL) on 20 July 2020 submitted draft mining plan for Bunder Diamond block to the Office of Regional Controller of Mines, IBM Jabalpur (MP). Subsequent to this, IBM officials along with the officials from district administration and team of EMIL representatives, conducted site inspection of Bunder Diamond Block on 31st July 2020. Basis the review of mining plan and site inspection IBM has circulated its observations/comments vide above referred letter. Copy of the same is annexed for your kind perusal and reference.

We further request you to take a note of the comment mentioned at Sl. No. 22 regarding the coordinates of boundary pillar no. 119 of Bunder diamond block. Vide observation made by IBM the boundary pillar BP 119 considering the DGPS coordinates as mentioned in certified DGPS report (shared with us) falls at different place from the location marked on the plan. We request your good office to kindly verify the anomaly pertaining to the observations enabling us to address the matter raised by IBM.

A prompt action in this regard is appreciable.

For Essel Mining & Industries Limited

Authorized Signatory

Enclosures: As above

Copy to:
Regional Controller of Mines, Indian Bureau of Mines, Jabalpur

Essel Mining & Industries Ltd.
Aditya Birla Center, 'A' Wing, 1st Floor, S.K.Ahire Marg, Worli, Mumbai 400030, India.
T: +9122 6652 5000/2499 5000|F:+9122 5562 5831/2499 5831|E: emil.corporate@adityabirla.com
W: www.adityabirla.com/www.esselmining.com
Registered Office: Industry House, 18th floor, 10, Camac Street, Kolkata 700017, India.
Corporate ID No.: U51109WB1950PLC018728

14/08/2020

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ANNEXURE VII

VII /A	Villagewise landuse in the buffer zone
VII /B1	Surface water quality analysis results
VII /B2	Ground waters Quality Analysis results

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Annexure VII / A

VILLAGEWISE LANDUSE PATTERN IN THE STUDY AREA - 2011 CENSUS

(Area in Ha)

Sr. No.	Name of Village	Total Area	Forest Area	Irrigated Area	Un-Irrigated Area	Culturable Waste	Area Not Available for Cultivation
1	Majhora	771.0	585.0	0.0	126.0	57.0	3.0
2	Dardoniya	1353.0	619.0	0.0	65.0	116.0	553.0
3	Jagara	945.0	398.0	0.0	235.0	96.0	216.0
4	Nimani	928.0	295.0	4.0	157.0	285.0	187.0
5	Padarsila	1399.0	1170.0	0.0	4.0	183.0	42.0
6	Goranand	1147.0	990.0	0.0	37.0	107.0	13.0
7	Dugasara	1099.0	611.0	0.0	51.0	363.0	74.0
8	Surajpura Khurd	409.0	115.0	0.0	8.0	260.0	26.0
9	Sagouriya	2214.0	1515.0	16.0	84.0	536.0	63.0
10	Hinota	692.0	273.0	10.0	35.0	128.0	246.0
11	Kasera	1566.0	545.0	2.0	138.0	805.0	76.0
12	Harduwa	523.0	220.0	0.0	35.0	261.0	7.0
13	Hirdepur	673.0	326.0	0.0	70.0	264.0	13.0
14	Jara	1358.0	582.0	3.0	59.0	653.0	61.0
15	Tilai	236.0	89.0	10.0	82.0	51.0	4.0
16	Sahpura	640.0	202.0	10.0	65.0	145.0	218.0
17	Teiyamar	758.0	36.0	16.0	360.0	336.0	10.0
18	Maddewara	1386.0	98.0	249.0	215.0	774.0	50.0
19	Kero	855.0	711.0	0.0	24.0	105.0	15.0
20	Gadhoi	951.0	587.0	119.0	102.0	117.0	26.0
21	Bhadator	233.0	58.0	50.0	53.0	65.0	7.0
22	Luharpura	572.0	329.0	15.0	43.0	151.0	34.0
23	Sanauda	616.0	113.0	20.0	170.0	287.0	26.0
24	Gewlai	326.0	43.0	115.0	9.0	130.0	29.0
25	Dangrai	341.0	163.0	20.0	40.0	110.0	8.0
26	Mandpur	448.0	38.0	15.0	133.0	249.0	13.0
27	Sunwaha	1861.0	394.0	68.0	1065.0	220.0	114.0
28	Alampur Tangia	424.0	111.0	8.0	87.0	133.0	85.0
29	Mangarai	566.0	105.0	8.0	313.0	103.0	37.0
30	Pondi	279.0	5.0	17.0	231.0	18.0	8.0
31	Jaitupura	259.0	0.0	10.0	201.0	29.0	19.0
32	Bagaroha	288.0	0.0	4.0	193.0	86.0	5.0

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Sr. No.	Name of Village	Total Area	Forest Area	Irrigated Area	Un-Irrigated Area	Culturable Waste	Area Not Available for Cultivation
33	Jamun Jhiri	435.0	101.0	2.0	276.0	49.0	7.0
34	Sunahara	288.0	0.0	48.0	203.0	30.0	7.0
35	Padariya	411.0	20.0	19.0	186.0	177.0	9.0
36	Machhandari	295.0	0.0	26.0	233.0	31.0	5.0
37	Birampura	499.0	34.0	18.0	350.0	82.0	15.0
38	Bhujpura	276.0	0.0	11.0	190.0	67.0	8.0
39	Kusmad	611.0	2.0	19.0	254.0	201.0	135.0
40	Chachaisemra	945.0	57.0	4.0	307.0	348.0	229.0
41	Majhguwan Ser	461.0	28.0	7.0	136.0	230.0	60.0
42	Bhurkhera	469.0	124.0	0.0	18.0	325.0	2.0
43	Kudanjani	1328.0	405.0	0.0	201.0	695.0	27.0
44	Khejara	833.0	475.0	0.0	83.0	267.0	8.0
45	Gadhi Semara	351.0	8.0	5.0	275.0	49.0	14.0
46	Jujharpura	437.0	31.0	8.0	288.0	98.0	12.0
47	Kerwara	510.0	106.0	8.0	144.0	193.0	59.0
48	Salaiya	341.0	74.0	4.0	134.0	109.0	20.0
49	Kuhl	294.0	0.0	8.0	129.0	152.0	5.0
50	Kishunpura	535.0	52.0	9.0	135.0	222.0	117.0
51	Darguwa	1751.0	110.0	157.0	419.0	397.0	668.0
52	Hatna	129.0	0.0	35.0	68.0	20.0	6.0
53	Mudar	1518.0	73.0	30.0	162.0	314.0	939.0
54	Kuwapalo	463.0	0.0	6.0	90.0	62.0	305.0
55	Palda	864.0	336.0	9.0	2.0	55.0	462.0
56	Banpura	57.0	0.0	30.0	1.0	5.0	21.0
57	Basantpura	283.0	24.0	40.0	49.0	62.0	108.0
58	Siddhai	94.0	0.0	80.0	6.0	3.0	5.0
59	Hirapur	122.0	0.0	5.0	101.0	10.0	6.0
60	Tigoda	2295.0	520.0	259.0	354.0	518.0	644.0
61	Chouki	37.0	0.0	11.0	2.0	21.0	3.0
62	Khairwara	213.0	155.0	20.0	8.0	2.0	28.0
	Total	43[illegible]51.0	14061.0	1667.0	9294.0	12017.0	6222.0

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Annexure VII / I

Surface Water Quality Status of the Study Area

Sr. No.	Parameters	Units	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	As Per IS 10500 of 2012	
										Acceptable	Permissible
Physical Parameters											
1	Ambient Temperature	0C	29.5	29.5	28	30.5	30.1	30	27	-	-
2	Colour	Hazen	CL	CL	Faint yellow	Faint yellow	CL	CL	CL	5	25
3	Odour	-	UO	UO	UO	UO	UO	UO	UO	UO	UO
4	Taste	-	AG	AG	AG	AG	AG	AG	AG	AG	AG
5	Turbidity	NTU	< 5	< 5	< 5	< 5	< 5	< 5	< 5	5	10
6	pH at 25 0C	-	8.00	7.80	7.50	7.20	7.10	8.10	7.80	6.5 – 8.5	NR
Inorganic Parameters		-									
7	Electrical Conductivity	µS/cm	514	519	541	158	435	392	489	-	-
8	Total Solids	mg/l	318	373	389	121	293	245	303	-	-
9	Total Dissolved Solids	mg/l	308	363	379	111	283	235	293	500	2000
10	Total Suspended Solids	mg/l	< 5	< 5	< 5	< 5	< 5	< 5	< 5	-	-
11	Total Alkalinity as CaCO3	mg/l	222	174	178	70	178	188	204	200	600
12	Total Hardness as CaCO3	mg/l	172	188	184	60	148	136	136	300	600
13	Calcium Hardness as CaCO3	mg/l	80	100	88	44	72	64	56	-	-
14	Calcium as Ca++	mg/l	32	40	35.2	17.6	28.8	25.6	22.4	75	200
15	Magnesium as Mg++	mg/l	22.1	21.1	23	3.8	18.2	17.3	19.2	30	100
16	Sodium as Na	mg/l	43	41	59	15	39	34	51	-	-
17	Potassium as K	mg/l	19	11	13	4	14	12	21	-	-
18	Chlorides as Cl	mg/l	21.8	17.9	19.9	4	17.9	15.9	27.8	250	1000
19	Sulphates as SO4	mg/l	34.8	108.8	112.8	21.6	45.6	12	24	200	400
20	Nitrates as NO3	mg/l	BDL	1.3	1.9	BDL	BDL	BDL	BDL	45	NR

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Sr. No.	Parameters	Units	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	As Per IS 10500 of 2012	
										Acceptable	Permissible
21	Fluoride as F	mg/l	0.5	0.4	0.6	0.5	0.5	0.6	0.4	1	1.5
22	Dissolved Oxygen	mg/l	6.4	6.8	6.2	6.6	6.5	5.6	5.8	-	-
Pollutants											
23	Amonical Nitrogen as NH3-N	mg/l	0.3	BDL	0.4	0.6	0.7	0.3	0.2	-	-
24	Nitrite Nitrogen as NO2-N	mg/l	NA	NA	NA	NA	NA	NA	NA	-	-
25	H2S	mg/l	NA	NA	NA	NA	NA	NA	NA	-	-
26	Total Phosphate as PO4-P	mg/l	1	1.1	1	1	1.1	0.9	1.2	-	-
27	Cyanide as CN	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.05	NR
28	Phenolic Compounds	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.001	0.002
29	Total Oil & Grease	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.01	0.03
30	B O D 3 days at 27 °C	mg/l	3.0	3.0	5.0	6.0	9.0	3.0	2.0	-	-
31	C O D	mg/l	8.0	4.0	15.0	19.0	26.0	8.0	8.0	-	-
32	Pesticides	mg/l	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	0.001
33	Poly Nuclear Hydrocarbon	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	-
Trace Metals											
34	Aluminum as Al	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.03	0.2
35	Arsenic as As	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.01	NR
36	Boron as B	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1	5
37	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.01	NR
38	Chromium as Cr	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.05	NR
39	Copper as Cu	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.05	1.5
40	Iron as Fe	mg/l	0.2	0.1	BDL	BDL	BDL	0.1	0.2	0.3	1
41	Lead as Pb	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.05	NR
42	Manganese as Mn	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.1	0.3
43	Mercury as Hg	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.001	NR

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Sr. No.	Parameters	Units	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	As Per IS 10500 of 2012	
										Acceptable	Permissible
44	Selenium as Se	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.01	NR
45	Zinc as Zn	mg/l	0.05	BDL	BDL	0.04	0.05	BDL	0.1	5	15
46	Nickel as Ni	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02	NR
Microbiology											
47	Coliform	MPN/100	>1100	460	460	240	1100	>1100	>1100	-	-

Note:- **BDL is Below Detectable Limit ; Minimum Detectable Limit For parameters tested are as Under**
(NO2-0.1,PO4-0.05,Oil & Grease-5,BOD-1,COD-5,Al-0.02,AS-0.02,B-0.01,Cd-0.01,Cr+6-0.05,Cu-0.03,Fe-0.05,Pb-0.05, Mn-0.02,Hg-0.001,Zn-0.01, Se =0.005)
(Unit mg/l) NTU - nephalometery turbitity unit;; NR - no relaxation;
MPN - Most Probable Number UO - unobjectionable: AG - agreeable; NA- not applicable

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Annexure VII / B2

Ground Water Quality Results

Sr. No.	Parameters	Units	GW-1	GW-2	GW-3	GW-4	GW-5	As Per IS 10500 of 2012	
								Acceptable	Permissible
Physical Parameters									
1	Ambient Temperature	0C	27.6	26.1	26.3	26	26.5	-	-
2	Colour	Hazen	CL	CL	CL	CL	CL	5	25
3	Odour		UO	UO	UO	UO	UO	UO	UO
4	Taste		AG	AG	AG	AG	AG	AG	AG
5	Turbidity	NTU	< 5	< 5	< 5	< 5	< 5	5	10
6	pH at 25 0C		7.5	7.4	7.3	7.5	7.6	6.5 – 8.5	NR
Inorganic Parameters								-	-
7	Electrical Conductivity	µS/cm	1181	1530	1434	877	592		
8	Total Solids	mg/l	896	852	1086	668	424		
9	Total Dissolved Solids	mg/l	886	842	1076	658	514	500	2000
10	Total Suspended Solids	mg/l	< 5	< 5	< 5	< 5	< 5		-
11	Total Alkalinity as CaCO3	mg/l	364	256	328	262	316	200	600
12	Total Hardness as CaCO3	mg/l	500	616	628	256	224	300	600
13	Calcium Hardness as CaCO3	mg/l	332	384	576	124	132		
14	Calcium as Ca++	mg/l	132.	153.	230.	49.6	52.8	75	200
15	Magnesium as Mg++	mg/l	40.3	55.7	12.5	31.7	22.1	30	100
16	Sodium as Na	mg/l	77	30	67	87	56	-	-
17	Potassium as K	mg/l	46	18	56	64	22		
18	Chlorides as Cl	mg/l	6	13.9	13.9	17.9	7.9	250	1000
19	Sulphates as SO4	mg/l	312.4	408.8	474.4	245.6	41.6	200	400
20	Nitrates as NO3	mg/l	3.6	4.3	4.7	BDL	3.6	45	NR
21	Fluoride as F	mg/l	0.6	0.4	0.7	0.6	0.5	1	1.5

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Sr. No.	Parameters	Units	GW-1	GW-2	GW-3	GW-4	GW-5	As Per IS 10500 of 2012	
								Acceptable	Permissible
Pollutants									
22	Amonical Nitrogen as NH3-N	mg/l	0.5	BDL	0.4	BDL	BDL	-	-
23	Nitrite Nitrogen as NO2-N	mg/l	BDL	BDL	BDL	BDL	BDL	-	-
24	H2S	mg/l	BDL	BDL	BDL	BDL	BDL	-	-
25	Total Phosphate as PO4-P	mg/l	0.6	0.7	0.7	0.8	0.8	-	-
26	Cyanide as CN	mg/l	BDL	BDL	BDL	BDL	BDL	0.05	NR
27	Phenolic Compounds	mg/l	BDL	BDL	BDL	BDL	BDL	0.001	0.002
28	Total Oil & Grease	mg/l	BDL	BDL	BDL	BDL	BDL	0.01	0.03
29	Pesticides	mg/l	Abse	Abse	Abse	Abse	Abse	Absent	0.001
30	Poly Nuclear Hydrocarbon (PAH)	mg/l	BDL	BDL	BDL	BDL	BDL	-	-
Trace Metals									
31	Aluminium as Al	mg/l	BDL	BDL	BDL	BDL	BDL	0.03	0.2
32	Arsenic as As	mg/l	BDL	BDL	BDL	BDL	BDL	0.01	NR
33	Boron as B	mg/l	BDL	BDL	BDL	BDL	BDL	1	5
34	Cadmium as Cd	mg/l	BDL	BDL	BDL	BDL	BDL	0.01	NR
35	Chromium as Cr6+	mg/l	BDL	BDL	BDL	BDL	BDL	0.05	NR
36	Copper as Cu	mg/l	BDL	BDL	BDL	BDL	BDL	0.05	1.5
37	Iron as Fe	mg/l	BDL	BDL	BDL	BDL	0.2	0.3	1
38	Lead as Pb	mg/l	BDL	BDL	BDL	BDL	BDL	0.05	NR
39	Manganese as Mn	mg/l	BDL	BDL	BDL	BDL	BDL	0.1	0.3
40	Mercury as Hg	mg/l	BDL	BDL	BDL	BDL	BDL	0.001	NR
41	Selenium as Se	mg/l	BDL	BDL	BDL	BDL	BDL	0.01	NR
42	Zinc as Zn	mg/l	BDL	0.05	0.04	BDL	BDL	5	15
43	Nickel as Ni	mg/l	BDL	BDL	BDL	BDL	BDL	0.02	NR
Microbiology									
44	Coliform	MPN/100 ml	<3	<3	<3	<3	<3	-	-

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ANNEXURE VIII /A1 to VIII /A12

Ambient Air Quality Monitoring Results

Annexure VIII / A1

AMBIENT AIR QUALITY DATA

Baseline data was collected during study period of Summer Season 2015
(during March 2015, April 2015, and May 2015).

A1- Center of the small lease area

Week	Date	PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NOx µg/m³
W1	02.03.2015	34.2	1.5	6.1	6.9
	05.03.2015	38.7	1.7	6.5	6.2
W2	09.03.2015	39.9	1.3	4.9	5.6
	12.03.2015	46.8	1.1	5.6	6.2
W3	16.03.2015	48.6	1.2	6.0	7.1
	19.03.2015	39.6	1.4	6.8	7.0
W4	23.03.2015	44.5	1.6	7.1	6.8
	26.03.2015	38.8	1.9	5.1	5.5
W5	30.03.2015	36.6	2.0	5.1	6.2
	02.04.2015	32.9	1.7	5.8	6.7
W6	06.04.2015	38.2	1.2	5.6	6.1
	09.04.2015	43.6	1.8	6.3	7.0
W7	13.04.2015	48.9	2.3	6.8	6.9
	16.04.2015	49.1	2.1	6.5	7.3
W8	20.04.2015	45.6	1.5	5.5	6.2
	23.04.2015	36.8	1.3	5.7	5.8
W9	27.04.2015	31.4	1.9	6.4	5.1
	30.04.2015	32.8	2.1	6.9	6.2
W10	04.05.2015	39.4	1.8	6.7	6.8
	07.05.2015	41.6	2.3	7.1	7.3
W11	11.05.2015	33.8	1.2	6.2	7.0
	14.05.2015	38.2	1.7	6.7	6.3
W12	18.05.2015	42.6	2.1	6.3	6.8
	21.05.2015	37.4	1.8	6.9	6.0
W13	25.05.2015	33.4	1.4	6.7	7.2
	28.05.2015	38.2	1.7	7.0	6.7
Minimum		**31.4**	**1.1**	**5.1**	**5.1**
Maximum		**49.1**	**2.3**	**7.1**	**7.3**
Average		**39.7**	**1.7**	**6.3**	**6.5**
95 percentile		**48.8**	**2.3**	**7.1**	**7.3**
98 percentile		**49.0**	**2.3**	**7.1**	**7.3**

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Annexure VIII A/2

A2- Northern side of the lease area

Week	Date	PM $_{10}$ µg/m^3	PM $_{2.5}$ µg/m^3	SO_2 µg/m^3	NOx µg/m^3
W1	02.03.2015	36.4	1.7	5.6	6.7
	05.03.2015	41.2	2.3	6.2	7.1
W2	09.03.2015	31.0	2.0	5.8	6.2
	12.03.2015	33.6	1.8	5.4	6.8
W3	16.03.2015	38.6	1.3	6.1	6.3
	19.03.2015	46.6	1.3	6.3	6.0
W4	23.03.2015	30.8	1.6	5.8	5.9
	26.03.2015	41.5	1.2	6.1	5.4
W5	30.03.2015	42.8	2.1	5.9	6.3
	02.04.2015	49.6	2.7	6.3	6.9
W6	06.04.2015	53.3	3.2	5.8	6.2
	09.04.2015	57.8	2.1	5.6	6.9
W7	13.04.2015	46.5	1.6	6.8	6.7
	16.04.2015	49.1	1.9	6.3	7.3
W8	20.04.2015	30.9	2.0	5.2	7.1
	23.04.2015	35.8	2.2	6.5	6.2
W9	27.04.2015	50.2	2.3	6.8	5.8
	30.04.2015	41.8	1.8	7.1	6.4
W10	04.05.2015	46.4	1.6	6.3	6.2
	07.05.2015	42.8	1.9	6.7	6.8
W11	11.05.2015	38.4	1.3	5.9	6.2
	14.05.2015	45.6	1.7	6.3	7.0
W12	18.05.2015	36.4	1.5	6.0	6.6
	21.05.2015	39.2	1.8	6.2	7.1
W13	25.05.2015	43.6	2.1	6.7	6.3
	28.05.2015	34.8	1.4	6.2	6.8
Minimum		**30.8**	**1.2**	**5.2**	**5.4**
Maximum		**57.8**	**3.2**	**7.1**	**7.3**
Average		**41.7**	**1.9**	**6.2**	**6.5**
95 percentile		**52.5**	**2.6**	**6.8**	**7.1**
98 percentile		**55.6**	**3.0**	**7.0**	**7.2**

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Annexure VIII A/3

A3- Village Toura

Week	Date	PM $_{10}$ µg/m^3	PM $_{2.5}$ µg/m^3	SO_2 µg/m^3	NOx µg/m^3
W1	02.03.2015 05.03.2015	33.4 29.8	1.8 1.3	5.7 6.2	7.0 6.4
W2	09.03.2015 12.03.2015	26.5 21.8	2.6 3.1	5.3 6.4	6.3 7.2
W3	16.03.2015 19.03.2015	30.8 35.8	1.1 1.4	5.1 6.2	7.1 5.9
W4	23.03.2015 26.03.2015	24.8 19.6	1.8 2.0	5.2 5.0	7.1 6.9
W5	30.03.2015 02.04.2015	26.3 29.4	1.8 2.7	6.1 6.6	6.2 6.8
W6	06.04.2015 09.04.2015	28.8 26.5	2.1 1.8	5.5 5.8	6.3 6.8
W7	13.04.2015 16.04.2015	19.8 27.5	1.6 2.3	5.9 6.1	6.1 5.9
W8	20.04.2015 23.04.2015	34.1 37.6	1.8 1.7	6.5 5.9	5.6 5.4
W9	27.04.2015 30.04.2015	36.2 39.4	1.8 2.1	5.6 5.2	6.7 7.3
W10	04.05.2015 07.05.2015	32.8 35.7	1.6 1.9	5.8 6.2	6.4 6.9
W11	11.05.2015 14.05.2015	28.5 21.9	1.2 1.5	6.7 5.8	6.2 7.0
W12	18.05.2015 21.05.2015	31.4 34.6	1.3 1.7	5.2 5.6	6.8 7.0
W13	25.05.2015 28.05.2015	29.8 35.2	1.5 1.8	5.7 6.3	6.2 6.9
Minimum		**19.6**	**1.1**	**5.0**	**5.4**
Maximum		**39.4**	**3.1**	**6.7**	**7.3**
Average		**29.9**	**1.8**	**5.8**	**6.6**
95 percentile		**37.3**	**2.7**	**6.6**	**7.2**
98 percentile		**38.5**	**2.9**	**6.7**	**7.3**

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Annexure VIII A/4

A4- Village Dordonia

Week	Date	PM $_{10}$ $\mu g/m^3$	PM $_{2.5}$ $\mu g/m^3$	SO_2 $\mu g/m^3$	NOx $\mu g/m^3$
W1	02.03.2015	41.2	2.1	5.3	6.3
	05.03.2015	38.6	1.8	5.9	5.8
W2	09.03.2015	36.3	1.3	6.3	5.7
	12.03.2015	28.6	1.6	5.2	6.8
W3	16.03.2015	48.9	2.3	6.2	6.9
	19.03.2015	39.8	1.6	6.8	7.0
W4	23.03.2015	47.6	2.8	5.8	6.3
	26.03.2015	39.9	1.3	5.9	6.8
W5	30.03.2015	48.4	1.9	5.9	6.1
	02.04.2015	45.3	1.6	6.4	7.2
W6	06.04.2015	27.2	1.1	5.3	5.9
	09.04.2015	28.6	1.7	5.0	5.6
W7	13.04.2015	25.6	2.1	5.8	6.9
	16.04.2015	38.9	1.8	6.3	6.8
W8	20.04.2015	45.6	1.6	6.8	7.0
	23.04.2015	43.2	1.4	5.3	6.2
W9	27.04.2015	39.9	1.2	6.3	6.3
	30.04.2015	41.4	1.9	6.6	6.8
W10	04.05.2015	47.2	1.6	5.8	6.1
	07.05.2015	33.8	2.1	6.7	6.9
W11	11.05.2015	41.5	2.3	6.2	5.9
	14.05.2015	38.6	1.8	6.9	6.7
W12	18.05.2015	29.4	1.4	5.6	6.2
	21.05.2015	34.5	1.7	6.3	6.4
W13	25.05.2015	37.6	1.7	5.4	6.9
	28.05.2015	33.8	2.0	6.1	6.3
Minimum		**25.6**	1.1	**5.0**	**5.6**
Maximum		**48.9**	2.8	**6.9**	7.2
Average		38.5	**1.8**	**6.0**	**6.5**
95 percentile		**48.2**	**2.3**	**6.8**	**7.0**
98 percentile		48.7	2.6	**6.9**	7.1

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Annexure VIII A/5

A5- Village Nimani

Week	Date	PM 10 µg/m³	PM 2.5 µg/m³	SO_2 µg/m³	NOx µg/m³
W1	03.03.2015 06.03.2015	41.6 47.4	1.8 2.1	6.7 6.2	7.2 6.9
W2	10.03.2015 13.03.2015	55.3 58.6	1.2 2.0	5.9 5.4	6.3 5.9
W3	17.03.2015 20.03.2015	43.8 59.6	1.8 1.3	5.6 6.8	6.0 7.0
W4	24.03.2015 27.03.2015	57.8 58.6	3.6 208	6.6 7.0	6.3 7.5
W5	31.03.2015 03.04.2015	45.3 46.8	3.2 208	5.4 5.7	6.8 6.6
W6	07.04.2015 10.04.2015	36.8 42.4	1.3 2.1	5.5 6.4	6.8 63
W7	14.04.2015 17.04.2015	58.5 55.3	1.7 2.0	6.1 6.6	5.9 6.8
W8	21.04.2015 24.04.2015	43.9 46.8	1.6 1.9	6.4 5.8	7.1 6.3
W9	28.04.2015 01.05.2015	49.2 53.4	2.8 2.0	5.3 5.9	6.2 6.7
W10	05.05.2015 08.05.2015	42.6 39.4	1.7 2.3	6.2 5.4	7.0 6.3
W11	12.05.2015 15.05.2015	47.3 39.8	2.0 1.7	6.5 6.0	6.9 7.2
W12	19.05.2015 22.05.2015	44.6 51.2	1.8 2.7	5.6 6.3	7.0 6.8
W13	26.05.2015 29.05.2015	43.2 47.6	1.6 2.1	6.7 6.3	6.6 7.2
Minimum		**36.8**	**1.2**	**5.3**	**5.9**
Maximum		**59.6**	**3.6**	**7.0**	**7.5**
Average		**48.3**	**2.1**	**6.1**	**6.7**
95 percentile		**58.6**	**3.1**	**6.8**	**7.2**
98 percentile		**59.1**	**3.4**	**6.9**	**7.4**

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Annexure VIII A/6

A6- Village Kasera

Week	Date	PM $_{10}$ µg/m^3	PM $_{2.5}$ µg/m^3	SO_2 µg/m^3	NOx µg/m^3
W1	03.03.2015	48.6	2.1	6.8	6.1
	06.03.2015	52.2	2.7	7.3	6.9
W2	10.03.2015	58.4	1.8	7.7	6.8
	13.03.2015	43.5	2.1	6.8	5.9
W3	17.03.2015	48.5	2.5	5.3	6.0
	20.03.2015	60.6	3.1	8.1	7.3
W4	24.03.2015	63.6	1.8	6.5	7.8
	27.03.2015	51.6	1.6	7.0	7.2
W5	31.03.2015	48.9	1.9	5.9	6.9
	03.04.2015	41.6	1.6	5.7	6.0
W6	07.04.2015	41.3	1.3	5.8	5.9
	10.04.2015	49.8	1.8	5.3	6.0
W7	14.04.2015	52.4	1.6	6.7	6.5
	17.04.2015	64.8	3.1	6.8	6.9
W8	21.04.2015	56.5	2.4	5.9	6.7
	24.04.2015	48.9	2.6	6.2	7.2
W9	28.04.2015	47.6	1.8	7.3	71
	01.05.2015	43.2	2.1	6.9	5.9
W10	05.05.2015	48.2	2.3	5.8	6.4
	08.05.2015	51.4	2.7	6.3	7.0
W11	12.05.2015	54.6	2.4	7.2	6.8
	15.05.2015	41.8	1.6	7.0	7.2
W12	19.05.2015	47.4	1.8	6.4	6.8
	22.05.2015	56.2	2.8	6.9	7.1
W13	26.05.2015	43.2	1.4	6.2	7.0
	29.05.2015	47.6	1.8	6.6	6.4
Minimum		41.3	**1.3**	5.3	**5.9**
Maximum		64.8	**3.1**	8.1	7.8
Average		50.5	**2.1**	6.6	**6.7**
95 percentile		62.9	**3.0**	7.6	**7.3**
98 percentile		64.2	3.1	7.9	**7.6**

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Annexure VIII A/7

A7- Village Padariya

Week	Date	PM 10 µg/m³	PM 2.5 µg/m³	SO_2 µg/m³	NOx µg/m³
W1	03.03.2015 06.03.2015	32.4 39.6	1.5 2.1	5.7 5.2	6.8 6.3
W2	10.03.2015 13.03.2015	46.8 41.9	1.7 1.3	5.3 5.6	6.1 6.6
W3	17.03.2015 20.03.2015	48.3 39.6	1.8 2.3	6.6 5.9	7.0 6.8
W4	24.03.2015 27.03.2015	29.3 28.6	0.9 1.5	6.5 7.0	7.1 7.2
W5	31.03.2015 03.04.2015	37.4 46.8	1.6 2.8	5.3 5.8	6.4 6.6
W6	07.04.2015 10.04.2015	35.5 29.8	1.8 1.3	5.8 6.8	6.3 6.1
W7	14.04.2015 17.04.2015	36.6 48.6	1.9 2.7	6.6 5.3	5.6 6.2
W8	21.04.2015 24.04.2015	51.3 41.8	3.2 1.8	5.9 6.3	6.9 7.3
W9	28.04.2015 01.05.2015	38.7 32.4	1.6 2.1	6.2 5.7	6.9 5.8
W10	05.05.2015 08.05.2015	39.6 42.4	1.2 1.8	6.7 5.2	6.3 7.1
W11	12.05.2015 15.05.2015	38.2 43.5	1.6 2.1	6.2 5.9	6.7 6.3
W12	19.05.2015 22.05.2015	33.8 39.2	1.2 1.7	5.6 6.2	6.9 6.3
W13	26.05.2015 29.05.2015	42.4 47.6	1.6 2.0	6.7 6.3	7.1 6.5
Minimum		**28.6**	**1.2**	**5.2**	**5.6**
Maximum		**51.3**	**3.2**	**7.0**	**7.3**
Average		**39.7**	**1.9**	**6.0**	**6.6**
95 percentile		**48.5**	**2.8**	**6.8**	**7.2**
98 percentile		**50.0**	**3.0**	**6.9**	**7.3**

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Annexure VIII A/8

A8- Village Baksawaha

Week	Date	PM 10 µg/m^3	PM 2.5 µg/m^3	SO_2 µg/m^3	NOx µg/m^3
W1	03.03.2015	43.4	1.6	7.2	6.3
	06.03.2015	48.2	2.0	6.7	6.8
W2	10.03.2015	53.2	1.3	5.9	6.6
	13.03.2015	47.8	1.9	6.7	7.0
W3	17.03.2015	64.8	2.4	5.5	8.0
	20.03.2015	55.6	1.2	5.3	6.3
W4	24.03.2015	39.5	1.0	6.8	7.1
	27.03.2015	48.3	1.6	5.5	6.6
W5	31.03.2015	59.5	2.1	5.8	5.9
	03.04.2015	54.6	1.9	6.1	6.3
W6	07.04.2015	41.3	1.3	5.9	6.9
	10.04.2015	45.1	2.8	7.3	8.0
W7	14.04.2015	46.8	2.0	7.8	7.6
	17.04.2015	56.1	1.9	7.0	6.5
W8	21.04.2015	58.6	2.7	6.3	6.3
	24.04.2015	63.2	2.3	5.8	7.1
W9	28.04.2015	55.1	1.0	6.6	6.8
	01.05.2015	45.5	2.8	6.1	5.6
W10	05.05.2015	42.8	1.7	7.2	7.5
	08.05.2015	55.4	2.3	6.8	7.1
W11	12.05.2015	50.6	2.1	6.0	6.7
	15.05.2015	41.2	1.4	6.3	6.2
W12	19.05.2015	46.4	1.8	5.5	7.0
	22.05.2015	53.2	2.4	6.7	6.3
W13	26.05.2015	44.2	1.6	6.3	6.6
	29.05.2015	38.9	1.2	5.8	7.0
Minimum		**38.9**	**1.0**	**5.3**	**5.6**
Maximum		**64.8**	**2.8**	**8.5**	**8.0**
Average		**50.0**	**1.9**	**6.5**	**6.8**
95 percentile		**62.3**	**2.8**	**7.7**	**7.9**
98 percentile		**64.1**	**2.8**	**8.2**	**8.0**

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Annexure VIII A/9

A9- Village Gevlari

Week	Date	PM 10 µg/m³	PM 2.5 µg/m³	SO_2 µg/m³	NOx µg/m³
W1	04.03.2015	42.4	1.6	5.8	6.7
	07.03.2015	51.9	2.3	6.1	7.3
W2	11.03.2015	57.6	1.0	6.3	6.0
	14.03.2015	48.3	1.8	5.4	6.3
W3	18.03.2015	63.6	1.1	6.8	7.1
	21.03.2015	53.5	1.8	8.0	6.8
W4	25.03.2015	70.6	2.1	7.9	8.1
	28.03.2015	59.8	1.2	6.6	7.6
W5	01.04.2015	68.6	1.9	7.3	7.5
	04.04.2015	66.3	1.6	7.1	7.7
W6	08.04.2015	56.2	2.0	6.6	6.7
	11.04.2015	65.0	2.8	5.9	6.5
W7	15.04.2015	58.9	2.7	6.3	6.9
	18.04.2015	62.4	3.3	6.8	6.8
W8	22.04.2015	55.6	2.6	5.8	7.3
	25.04.2015	48.3	1.9	6.6	7.7
W9	29.04.2015	58.9	2.3	7.9	8.1
	02.05.2015	65.3	2.7	7.2	7.6
W10	06.05.2015	48.6	1.8	6.9	7.2
	09.05.2015	53.4	2.1	6.3	7.7
W11	13.05.2015	62.2	2.7	5.9	6.7
	16.05.2015	55.7	2.1	6.4	7.5
W12	20.05.2015	43.4	1.8	6.0	7.1
	23.05.2015	48.2	2.2	7.2	6.6
W13	27.05.2015	57.4	2.4	6.3	7.2
	30.05.2015	49.6	1.8	6.6	6.9
Minimum		**42.4**	**1.0**	**5.4**	**6.0**
Maximum		**70.6**	**3.3**	**8.0**	**8.1**
Average		**56.6**	**2.1**	**6.6**	**7.1**
95 percentile		**68.0**	**2.8**	**7.9**	**8.0**
98 percentile		**69.6**	**3.1**	**8.0**	**8.1**

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Annexure VIII A/10

A10- Villag Taporlya

Week	Date	PM 10 µg/m³	PM 2.5 µg/m³	SO_2 µg/m³	NOx µg/m³
W1	04.03.2015	34.8	1.3	6.3	7.1
	07.03.2015	41.2	1.7	6.7	7.5
W2	11.03.2015	31.6	1.1	5.6	6.3
	14.03.2015	36.8	1.6	7.8	8.1
W3	18.03.2015	45.2	1.3	6.6	7.3
	21.03.2015	46.6	1.9	7.3	6.8
W4	25.03.2015	44.3	1.6	5.2	7.1
	28.03.2015	54.1	2.0	6.8	7.0
W5	01.04.2015	37.6	1.1	5.9	6.6
	04.04.2015	42.6	1.4	6.7	7.5
W6	08.04.2015	45.3	1.9	5.6	6.9
	11.04.2015	39.7	1.6	5.9	6.3
W7	15.04.2015	38.2	1.2	5.4	7.1
	18.04.2015	31.6	1.7	6.3	7.6
W8	22.04.2015	48.4	2.8	6.8	5.9
	25.04.2015	51.8	3.1	5.8	6.8
W9	29.04.2015	39.7	1.8	5.7	6.2
	02.05.2015	41.6	1.6	6.2	6.3
W10	06.05.2015	33.4	1.4	6.4	7.2
	09.05.2015	37.8	1.2	5.9	6.8
W11	13.05.2015	43.5	1.7	6.1	7.3
	16.05.2015	38.2	1.3	6.4	6.2
W12	20.05.2015	36.5	1.4	6.0	6.9
	23.05.2015	42.4	1.7	5.8	7.0
W13	27.05.2015	38.2	1.4	5.3	6.2
	30.05.2015	43.6	2.0	5.8	6.9
Minimum		**31.6**	**1.1**	**5.2**	**5.9**
Maximum		**54.1**	**3.1**	**7.8**	**8.1**
Average		**41.0**	**1.6**	**6.2**	**6.9**
95 percentile		**51.0**	**2.6**	**7.2**	**7.6**
98 percentile		**53.0**	**3.0**	**7.6**	**7.9**

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Annexure VIII A/11

A11- Village Sagoria

Week	Date	PM 10 µg/m³	PM 2.5 µg/m³	SO_2 µg/m³	NOx µg/m³
W1	04.03.2015 07.03.2015	37.6 41.3	4.6 2.0	6.1 6.7	6.5 6.9
W2	11.03.2015 14.03.2015	32.5 29.6	2.1 1.1	6.3 5.8	6.3 5.8
W3	18.03.2015 21.03.2015	42.5 45.8	1.6 1.5	5.9 7.6	5.9 7.6
W4	25.03.2015 28.03.2015	37.6 38.9	1.8 1.0	7.1 5.4	7.1 5.4
W5	01.04.2015 04.04.2015	44.8 37.6	2.8 2.6	6.0 6.7	6.3 7.2
W6	08.04.2015 11.04.2015	43.3 35.8	1.6 1.2	5.3 5.8	5.7 6.2
W7	15.04.2015 18.04.2015	48.6 50.0	1.3 2.8	5.7 6.6	5.9 6.3
W8	22.04.2015 25.04.2015	45.9 32.3	1.6 1.3	6.5 5.8	6.8 6.6
W9	29.04.2015 02.05.2015	37.8 39.9	2.0 1.7	5.9 6.8	6.0 5.9
W10	06.05.2015 09.05.2015	43.1 49.6	1.4 1.7	6.2 5.3	6.8 7.2
W11	13.05.2015 16.05.2015	33.7 37.2	1.3 1.2	5.9 6.3	6.8 6.1
W12	20.05.2015 23.05.2015	43.4 48.5	1.6 2.1	6.2 6.8	6.6 7.0
W13	27.05.2015 30.05.2015	38.2 31.4	1.4 1.2	5.8 6.3	6.2 6.8
Minimum		**29.6**	**1.0**	**5.3**	**5.4**
Maximum		**50.0**	**2.8**	**7.6**	**7.6**
Average		**40.3**	**1.7**	**6.2**	**6.4**
95 percentile		**49.4**	**2.8**	**7.0**	**7.2**
98 percentile		**49.8**	**2.8**	**7.4**	**7.4**

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Annexure VIII A/12

A12- Village Hirapur

Week	Date	PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NOx µg/m³
W1	04.03.2015	48.2	1.6	5.8	6.6
	07.03.2015	52.4	2.3	6.1	7.0
W2	11.03.2015	43.6	1.8	6.9	7.3
	14.03.2015	58.9	2.0	5.8	6.8
W3	18.03.2015	63.6	1.9	5.3	6.5
	21.03.2015	59.8	1.2	7.0	7.9
W4	25.03.2015	48.3	1.0	6.8	7.1
	28.03.2015	45.6	1.3	5.8	6.6
W5	01.04.2015	51.8	2.1	6.3	7.6
	04.04.2015	53.9	2.0	6.9	6.8
W6	08.04.2015	43.4	1.5	5.6	6.2
	11.04.2015	56.2	1.0	5.8	6.7
W7	15.04.2015	51.6	1.9	6.6	7.1
	18.04.2015	57.4	2.3	6.9	6.3
W8	22.04.2015	48.6	1.6	5.9	6.9
	25.04.2015	43.4	1.8	5.8	6.4
W9	29.04.2015	50.6	3.1	6.3	5.9
	02.05.2015	58.2	2.1	6.1	7.0
W10	06.05.2015	44.4	1.8	5.9	6.2
	09.05.2015	51.3	2.4	6.7	6.9
W11	13.05.2015	42.6	1.7	6.2	7.0
	16.05.2015	44.8	2.1	5.3	6.2
W12	20.05.2015	47.2	2.0	5.8	6.6
	23.05.2015	55.8	3.1	6.2	6.9
W13	27.05.2015	51.4	2.5	6.7	6.2
	30.05.2015	42.8	1.9	6.9	6.8
Minimum		**42.6**	**1.0**	**5.3**	**5.9**
Maximum		**63.6**	**3.1**	**7.0**	**7.9**
Average		**50.6**	**1.9**	**6.2**	**6.8**
95 percentile		**59.6**	**3.0**	**6.9**	**7.5**
98 percentile		**61.7**	**3.1**	**7.0**	**7.8**

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ANNEXURE IX

IX /A1 List of flora

IX /A2 List of Fauna

Annexure IX / A1

Bunder Diamond Block
List of Flora Species in Core & Buffer Zone area

Trees

S. No.	Botanical Name	Local Name	Family
1.	Acacia catechu	Khair	Mimosaceae
2.	Acacia leucoploea	Reunjha	Mimosaceae
3.	Acacia nilotica	Babool	Mimosaceae
4.	Adina cordifolia	Haldu	Rubiaceae
5.	Aegle marmelos	Bel	Rutaceae
6.	Ailanthus excels	Maharukh	Simarobiaceae
7.	Albizia lebbeck	Kala siris	Mimosaceae
8.	Albizia odoratissima	Chichwa	Mimosaceae
9.	Annona squamosa	Sitaphal	Annonaceae
10.	Anogeissus pendula	Kardhai	Combretaceae
11.	Anogeissus latifolia	Dhaora	Combretaceae
12.	Azadirachta indica	Neem	Meliaceae
13.	Bauhinia malabarica	Amta, Amti	Caesalpiniaceae
14.	Bauhinia racemosa	Asta	Caesalpiniaceae
15.	Bauhinia variegata	Kachnar	Caesalpiniaceae
16.	Bombax ceiba	Semal	Bambacaceae
17.	Boswellia serrata	Salai	Burseraceae
18.	Bridelia retusa	Kasai	Euphobiceae
19.	Butea monosperma	Palas, Cheola	Fabaceae
20.	Casearia tomentosa	Chilla	Samydaceae
21.	Cassai fistula	Amaltas	Caesalpiniaceae
22.	Catunaregam uliginosa	Kala Phetra	Rubiaceae
23.	Catunaregam spinosa	Mainphal	Rubiaceae
24.	Chloroxylon swietenia	Bhirra	Meliaceae
25.	Cochlospermum religiosum	Galgal, Gongal	Cochlospermaceae
26.	Cordia myxa	Lasora	Boraginaceae
27.	Dalbergia latifolia	shisham	Fabaceae
28.	Dalbergia paniculata	Dhobin, Phansi	Fabaceae
29.	Dalbergia sissoo	Sissoo	Fabaceae
30.	Diospyros melanoxylon	Tendu	Ebenaceae
31	Ehretia laevis	Datrangi	Ehretiaceae
32.	Elaeodendron glaucum	Jamrashi	Cekastraceae
33.	Emblica officinalis	Aonla	Euphorbiaceae
34.	Feronia limonia	Kainth, Kawit	Rutaceae
35.	Ficus benghalensis	Bar, Bargad	Moraceae
36.	Ficus recemosa	Umar, Gular	Moraceae
37.	Ficus infectoria	Pakar	Moraceae
38.	Ficus religiosa	Pipal	Moraceae
39.	Flacourtia ramontchii	Kakai	Flacourtiaceae
40.	Gardenia gummifera	Dikamali	Rubiaceae

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S. No.	Botanical Name	Local Name	Family
41.	Garuga pinnata	Kekad	Burseraceae
42.	Gmelina arborea	Siwan, Khamer	Verbenaceae
43.	Grewia tiliaefolia	Dhaman	Tiliaceae
44.	Hymenodictyon excelsum	Bhonrsal	Rubiaceae
45.	Kydia calycina	Baranga	Malvaceae
46.	Lagerstroemia parviflora	Lendia, Seja	Lythraceae
47.	Lannea coromandelica	Moyen, Gunja	Anacardiaceae
48.	Madhuca indica	Mahua	Sapotaceae
49.	Mangifera indica	Aam	Anacarsiaceae
50.	Miliusa tomentosa	Kari	Anonaceae
51	Mitragyna parvifolia	Kaim, Kalam, Mundi	Rubiaceae
52.	Sapindus laurifolium	Ritha	Sapindaceae
53.	Schleichera oleosa	usum	Sapindaceae
54.	Schrebera swietenioides	okha	Oleaceae
55.	Soymida febrifuga	ohan	Oleaceae
56.	Sterculia urens	ullu	Sterculiaceae
57.	Syzgium cumini	amun	Myrtaceae
58.	Tectona grandis	agon, Teak	Verbenaceae
59.	Terminalia arjuna	rjun, Kahua	Combretaceae
60.	Terminalia bellirica	ahera	Combretaceae
61.	Terminalia chebula	arra	Combretaceae
62.	Terminalia tomentosa	Saj, Saja	Combretaceae
63.	Wrightia tinctoria	udhi, Kalidudhi	Apocynaceae
64.	Ziziphus mauritiana	Ber	Rhamnaceae
Shrubs and herbs			
1	Achyranthes aspera	hirchira	Amaranthaceae
2	Adhatoda vasica	dusa	Acanthaceae
3.	Alanguim salvifolium	Akol	Alangiaceae
4.	Asparagus racemosus	irbodh	Liliaceae
5	Barleria cristata	Karanta	Acanthaceae
6.	Calatropis procera	Oak	Asclepiasaceae
7.	Carissa spinarum	Karonda	Aponcyanaceae
8.	Cassia tora	Charota	Caesalpiniaceae
9.	Chlorophytum tuberosum	Safed musli	Liliaceae
10.	Clerodendrum viscosum	Barangi	Verbenanceae
11.	Colebrookia oppositifolia	Bhandar	Lamiaceae
12.	Curculigo orchioides	Kali musli	Amaryllidaceae
13.	Desmodium pulchellum	Chipti	Fabaceae
14.	Embelia robusta	Baibirang	Myrsinaceae
15.	Eugenia heyneana	Kath Jamun	Myrtaceae
16.	Euphonia lucida	Thaur	Euphorbiaceae
17.	Gardenia lucida	Dikamali	Rubiaceae
18.	Grewia hirsuta	Gangerwa, Gursakri	Tiliaceae

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S. No.	Botanical Name	Local Name	Family
19.	Gymnosporia Montana	Baikal	Celestraceae
20.	Helecteres isora	Marorphal	Sterculiaceae
21.	Holorrhena antidysentirica	Dudhi, Indrajav	Aponcynaceae
22.	Indigofera carnea	Neel	Fabaceae
23.	Ipomaea carnea	Beshram	Convolvulaceae
24.	Jatropha curcas	Ratanjot	Euphorbiaceae
25.	Lantana camara	Raimuniya, Lantana	Verbenaceae
26.	Nyctanthes arbortristis	Harsingar, Siharu	Verbenaceae
27.	Phonix sylvestris	chhind	Arecaceae
28.	Pogostemon plectranthoides	Bantulsi	Lamiaceae
29.	Solanum nigrum	Jangli bhata	Solanaceae
30.	Xanthium strumarium	Gorkhu	Asteraceae
31.	Ziziphus nummularia	Jharberi	Rhamnaceae
32.	Balanites aegyptica	Khajur	Zygophyllaceae
33.	Phylanthus amarus	Bhui neem	Euphorbiaceae
34.	Scoparia dulce	Hazardana	Scrophulariaceae
	Grasses & Bamboos (Poaceae):		
1.	Dicanthium annulatum	Kail	
2.	Andropogon caricosus	Mothi marvel	
3.	Heteropogon contrtus	Kusal, Sukal, Lampa	
4.	Themeda quadrivalvis	Gunner	
5.	Apluda varia	Phuli	
6.	Apluda mutica	Kunda-phuli	
7.	Thysanolaena maxima	Phool bahari	
8.	Cynodon dactylon	Doob	
9.	Dandrocalamus strictus	Bans	
10.	Desmostachya bipinnata	Kush	
11.	Eragrostis tenella	Bhurburi	
12.	Eulaliopsis binata	Sabai, Bhabhar	
13.	Iseilema laxum	Mushan	
14.	Saccharum spomtaneum	Kans	
15.	Sorghum halepense	Berru	
	Climbers and creepers		
1.	Abrus precatorius	Ghumchi	Fabaceae
2.	Acacia caesia	Chilati, Gutar	Mimosaceae
3.	Acacia pinnata	Raóna, Chotichilati	Mimosaceae
4.	Asparagus racemosus	Shataori	Liliaceae
5.	Bauhinia vahlii	Mahul	Caesalpiniaceae
6.	Butea superba	Palasbel	Fabaceae
7.	Celestrus peniculata	Malkangni	Celastreceae
8.	Cryptolepis buchanani	Nagbel	Asclepiadeceae
9.	Disscorea hispida	Biachandi	Dioscoreaceae

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S. No.	Botanical Name	Local Name	Family
10.	Gymnema sylvestre	Phulcat	Rhamnaceae
11.	Ichnocarpus frutescens	Dhimarbel	Apocynaceae
12.	Marsdenia tenacissdima	Dudhibel	scelepiadaceae
13.	Mucuna pruriens	Kewanch	Fabaceae
14.	Smilax marcrophylla	Ramdaton	Liliaceae
15.	Tinospora cordifolia	Dudhbel	Menispermaceae
16.	Vallaris heynei	Keoti	Apocynaceae
17.	Ventilago Calyculata	Pararbel	Rhmnaceae
18.	Ziziphus oenoplia	Makor	Rhamnaceae

Epiphyte
1. Vanda tasellata

Parasite
1. Dendrophthoe falcate
2. Cuscuta reflexa
3. Cussuta chinensis

Ferns:
1. Cheilanthus farinose
2. Adiantum lunulatum
3. Marselia minuta

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Medicinal plants

1.	Abrus precatorius	Ghumchi
2.	Achyranthes aspera	Chirchira
3.	Adhatoda vasica	Adusa
4.	Aegle marmelos	Bel
5.	Asparagus racemosus	Shantaori
6.	Azadirachta indica	Neem
7.	Barleria cristata	Karanta
8.	Butea monosperma	Palas, Cheola
9.	Calatropis procera	Oak
10.	Casearia tomentosa	Chilla
11.	Cassia fistula	Amaltas
12.	Celestrus peniculata	Malkangni
13.	Chlorophytum tuberosum	Safed musli
14.	Cholospermum religiosum	Galgal, Gongal, Gabdu
15.	Curculigo orchioides	Kali musli
16.	Dioscorea hispida	Dang Kanda
17.	Discorea hispida	Biachandi
18.	Diplocyclos palmate	Sheolingi
19.	Elephantopus scaber	Hiran Khuri

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S. No.	Botanical Name	Local Name	Family
20.	Embelia robusta	Baibirang	
21.	Emblica offcianalis	Aonla	
22.	Evolvulus alsinoides	Sankhpushpi	
23.	Gardenia lucida	Dikamali	
24.	Grewia hirsute	GAngerwa, Gursakri	
25.	Gymnema sylvestre	Phulcat	
26.	Gymnosporia Montana	Baikal	
27.	Helecteres isora	Marorphal	
28.	Hemidesmus indicus	Anantmool	
29.	Holorrhena antidysentirica	Dudhi, Indrajav	
30.	Jatropha curcas	Ratanjot	
31.	Mucuna pruriens	Kewanch	
32.	Phylanthus amarus	Bhui neem	
33.	Scoparia dulce	Hazardana	
34.	Smilax marcrophylla	Ramdaton	
35.	Soymida febrifuga	Rohan	
36.	Sphaeranthus indica	Gokhuru	
37.	Spilanthus calva	Jangali akarkara	
38.	Sterculia urens	Kullu	
39.	Syzigium cumini	Jamun	
40.	Tephrosia purpurea	Sarphunka	
41.	Terminalia arjuna	Arjun, Kahua	
42.	Terminalia bellirica	Bahera	
43.	Terminalia chebula	Harra	
44.	Tinospora cordifolia	Dudhbel	
45.	Wrightia tinctoria	Dudhi, Kalidudhi	
Hydrophytes			
1.	Caesulia axillaries		
2.	Canscora decurrens		
3.	Cyperus articulates		
4.	Cyperus iria		
5.	Cyperus tegetum		
6.	Ammania baccifera		
7.	Eragrostiella nordoides		
8.	Eragrostis stenophylla		
9.	Eriocaulon quiquangulare		
10.	Gnaphalium indicum		
11.	Hydrilla verticillata		
12.	Limnophila chinensis		
13.	Panicum humile		
14.	Perscaria (Polygonum) barbata		
15.	Potamogeton javanicus		
16.	Rotala indica		
17.	Vallisneria spiralis		
18.	Vernonia anagallis		

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Annexure IX / A2

Bunder Diamond Block
List of Fauna in Core & Buffer Zone area

Mammals of the core Zone:

Sr. No.	Common Name	Zoological Name	Schedule Wildlife (Protection) Act, 1972
1	Axix axis	Cheetal	III
2.	Cervus unicolor	Sambar	III
3.	Sus scrofa	Wild pig	III
4.	Semnopithecus entellus	Common langur	II
5.	Macaca mulatta	Rhesus monkey	II
6.	Hystrix indica	Procupine	IV
7.	Lepus nigricollis	Indian hare	IV
8.	Herpestes edwardsii	Common mongoose	IV
9.	Canis aureus	Jakal	II
10.	Bos indicus, Bubalus sp. & Goat	Domestic cattle	
11.	Funambulus pennant	Gilahari	IV

Birds of the Core Zone

S. No	Common Name	Scientific Name
1.	Alexandrine Parakeet	Psittacula eupatria
2.	Ashy Crowned Sparrow Lark	Eremopterix grisea
3.	Ashy Prinia	Prinia socialis
4.	Asian pied Starling	Sturnus Contra
5.	Barn Swallow	Hirundo rustica
6.	Bay-Backed Shrike	Lanius vittatus
7.	Black Drongo	Dicrurus macrocercus
8.	Black Kite	Milvus migrans
9.	Balck Redstart	Phoenicurus ochruros
10.	Black-Rumped Flameback	Dinopium benghalense
11.	Black-Shouldered Kite	Milvus migrans
12.	Brahminy Starling	Sturnus pagodarum
13.	Brown Headed Barbet	Megalaima Zeylanica
14.	Brown Rock-Chat	Cercomela fusca
15.	Brown-Caped Pigmy Woodpecker	Dendrocopos nanus
16.	Cattle Egret	Bubulcus ibis
17.	Chestnut-Shouldered Petronia	Petronia xanthocollis
18.	Common Babbler	Turdoides caudatus
19.	Common Greenshank	Tringa nebularia
20.	Common Hoopoe	Upupa epops
21.	Common Iora	Aegithina tiphia
22.	Common Kingfisher	Alcedo atthis

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S. No	Common Name	Scientific Name
23.	Common myna	Acridotheres tristis
24.	Common Stonechat	Saxicola torquata
25.	Common Tailorbird	Orthotomus sutorius
26.	Common Woodshrike	Tephrodornis pondicerianus
27.	Coppersmith Barbet	Megalaima haemacephala
28.	Creasted Bunting	Melophus lathami
29.	Crested Serpent Eagle	Spilornis cheela
30.	Crested Treeswift	Hemiprocne coronate
31.	Egyptian Vulture	Neophron pernopterus
32.	Eurasian Collard Dove	Streptopelia decaocto
33.	Great Tit	Parus major
34.	Greater Coucal	Centropus sinensis
35.	Green Bee-Eater	Merops orientalis
36.	Green Sandpiper	Tringa ochropus
37.	Grey Breasted Prinia	Prinia hodgsonii
38.	Grey Francolin	Francolinus pondicerianus
39.	Grey Wagtail	Motacilla cinerea
40.	House Crow	Corvus splendes
41.	Houses Sparrow	Passer domesticus
42.	Hume's Warbler	Phylloscopus humei
43.	Indian Nightjar	Caprimulgus asiaticus
44.	Indian Peafowl	Pavo cristatus (Schedule I)
45.	Indian Pond Heron	Ardeola grayii
46.	Indian Robin	Saxicoloides fulicata
47.	Indian Roller	Coracias benghalensis
48.	Indian Silverbill	Lonchura malabarica
49.	Jungle Babbler	Turtoides striatus
50.	Large-Billed Crow	Corvus macrorhynchos
51.	Large Cuckooshrike	Corocina macei
52.	Large Grey Babbler	Turdoides malcolmi
53.	Laughing Dove	Streptopelia senegalensis
54.	Little Grebe	Tachybaptus ruficollis
55.	Little Cormorant	Phalacrocorax niger
56.	Little Egret	Egretta garzetta
57.	Little Ringed Plover	Charadrius dubius
58.	Little Stint	Calidris minuta
59.	Long-Billed Vulture	Gyps indicus
60.	Long-Tailed Shrike	Lanius schach
61.	Olive-Backed Pipit	Anthus hodgsoni
62.	Oriental Skylark	Alauda gulgula
63.	Oriental Magpie Robin	Copsychus saularis
64.	Oriental White-Eye	Zosterops Palpebrosus
65.	Paddyfield Pipit	Anthus refulus
66.	Pied Kingfisher	Ceryle rudis

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S. No	Common Name	Scientific Name
67.	Plain Prinia	Prinia inomata
68.	Plum-Headed Parakeet	Psittacula cyanocephala
69.	Purple Sunbird	Nectarinia asiatica
70.	Red Avadavat	Amandava amandava
71.	Red Collard Dove	Streptopelia tranquebarica
72.	Red-Throated Flycatcher	Ficedula parva
73.	Red-Vented Bulbul	Pycnonotus cafer
74.	Red-Wattled Lapwing	Vanellus indicus
75.	Red-Headed Vulture	Sarcogyps calvus
76.	Rock Bush Quail	Perdicula argoondah
77.	Rock Pigeon	Columba livia
78.	Rose-Rigned Parakeet	Psittacula krameri
79.	Rufous- Tailed Lark	Ammomanes phoenicurus
80.	Rufous Treepie	Dendrocitta vagabunda
81.	Savanna Nightjar	Caprimulgus punctulata
82.	Scaly-Breasted Munia	Lonchura punctulata
83.	Shikra	Accipiter badius
84.	Small Minivet	Pericrocotus cinnamomeus
85.	Spotted Dove	Streptopelie chinesis
86.	Spotted Owlet	Athene brama
87.	Stroke-billed Kingfisher	Halcyon capensis
88.	Tawny Belied Babbler	Dumetia hyperythra
89.	Thick-Billed Flower Pecker	Dicaeum agile
90.	Tickell's Blue Flycatcher	Cyornis tickelliae
91.	Tawny Pipit	Anthus campastris
92.	Tree Pipit	Anthus trivialis
93.	White-Bellied Drongo	Dicrurus caerulescens
94.	White-Breasted Waterhen	Amaurornis phoenicurus
95.	White-Browed Fantail	Rhipidura aureola
96.	White-Browed Wagtail	Motacilla maderaspatensis
97.	White- Bellied Minivet	Pericrocotus erythoropygius
98.	White-Breasted/Throated Kingfisher	Halcyon pileata
99.	White-Eyed Buzzard	Butastur teesa
100.	White-Rumped Shama	Copsychus malabaricus
101.	White Wagtail	Motacilla alba
102.	Wire-Tailed Swallow	Hirundo Smithii
103.	Wood Sandpiper	Tringa glareola
104.	Wooly-Necked Stork	Ciconia episcopus
105.	Yellow-Eyed Babble	Chrysomma sinense
106.	Yellow – Footed Green Pigeon	Treron phoenicoptera
107.	Yellwo –Wattled Lapwing	Vanellus malarbaricus

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Rephibia :

1.	Dhaman/Indian Rat snake	Ptyas mucosus	II	II
2.	Dhondwal/Water sanke	Enthydris enhydris	IV	
3.	Nag/Cobra	Naja naja	II	II
4.	Common Krait	Bungarus caeruleus	IV	
5.	Banded Krait	Bungarus fasciatus	IV	
6.	Russel viper	Vipera ruselli	II	II
7.	Sita Ki Lath	Amphiesma stolata	-	-

Amphibia:

SN	Species	SN	Species
1	Bufo bufo	8	Haplobatrachus tigerinus
2	Bufo melanostictus	9	Hyla arborea
3	Euphlyctis cyanophlyctis	10	Indirana leithii
4	Euphlyctis hexadactylus	11	Limnonectus limnocharis
5	Fejervarya limnocharis	12	Microhyla ornate
6	Fejervarya syhadrensis	13	Ramanella Montana
7	Haplobatrachus cressus		

Fishes

SN	Species	SN	Species
1	Anabas testudineus	20	Mystus singhala
2	Bagarius bagarius	21	Nandus nandus
3	Barilus bola	22	Nemachilus botia
4	Chaguius chaguina	23	Notopterus chetala
5	Chanda nama	24	Notopterus notopterus
6	Chanda ranga	25	Ompok bimaculatus
7	Channa gachua	26	Oreochromus mossambica
8	Channa marulius	27	Osphronemus goramy
9	Channa punctatus	28	Puntius chola
10	Channa striatus	29	Puntius chrysopterus
11	Chela atpar	30	Puntius conchonius
12	Chela laubuca	31	Puntius flamentosus
13	Clarius batrachus	32	Puntius sarana
14	Colisa fasiatus	33	Puntius sophora
15	Heteropneustus fossilis	34	Puntius ticto
16	Lepidocephalichthys guntea	35	Rasbora daniconius
17	Mastacembelus armatus	36	Rita pevimentata
18	Mystus aor	37	Wallago attu
19	Mystus bleekerii	38	Xenentodon cancila

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Spiders and insects

1.	Hunting spider		Pisarua mirabills
2.	House spider		Tegenaria domestica
3	Hair Dragonfly		Brachytron pretense
4.	Emperor Dragonfly		Anax imperator
5.	Grasshoppers		
	(i)	Common Green	Tettigonia viridissima
	(ii)	Rice grasshopper	Hieroglyphus Banian
	(iii)	Common painted Grasshopper	Pecilocerus pictus
6.	Paddy Jassids		Nephotettix apicalis
7.	Skeletonizers		Hyblea purea mechaerales
8.	Defoliators		Hepalia mauritia
9.	Swarming caterpillar		Spodoptera mauritia
10.	Aphids		Rhopalosiphum maidis
11.	Scolopender		Scolopendra morsitans
12.	Praying mantid		Sphoromantis lineola
13.	Common stick insect		Carausius morosus
14.	Cockroach		Blatta orientalis
15.	American cockroach		Periplanata Americana
16.	Firefly		Aracnocampa sp.
17.	Ant lion		Myrmeleo sp.

Butterfly

More than 20 species of butterfly have been recorded from the applied mining lease area. Thierteen of them have been identified clearly as given below:

SN	Species	SN	Species
1	Acraea violae	8.	Hypolimnos misippus
2.	Eurema andersoni	9.	Junonia lemonias
3.	Eurema brigitta	10.	Junonia orithiya
4.	Eurema laeta	11.	Nepatis hylas
5.	Euthalia nais	12.	Phalanta phalantha
6.	Gandeca harina	13.	Tanaecia lepidea
7.	Hypolimnas bolina		

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ANNEXURE X

Detailed Meteorological Data

Annexure X

METEOROLOGICAL DATA : DAMOH (NEAREST IMD STATION)

Average Temperature and Humidity

Month	Temperature 0C		Humidity%	
	Highest	Lowest	Highest	Lowest
January	30.5	4.0	67.0	10.9
February	33.4	7.2	60.0	12.3
March	38.1	11.9	48.0	13.6
April	43.1	17.1	37.0	15.4
May	45.9	22.0	38.0	19.6
June	44.1	22.7	55.0	24.7
July	37.4	22.3	79.0	29.0
August	34.4	21.7	84.0	29.4
September	34.8	20.2	81.0	27.8
October	35.8	14.0	65.0	21.1
November	33.9	9.3	60.0	14.7
December	29.4	5.9	65.0	11.0

Month wise average Rainfall & number of rainy days

Month	Average Rainfall (mm)	No. of Rainy days
January	11.6	1.1
February	17.8	1.6
March	8.4	0.8
April	3.7	0.4
May	8.6	0.7
June	119.4	6.2
July	305.4	12.8
August	435.1	15.7
September	181.4	8.1
October	32.7	1.8
November	13.8	0.8
December	7.7	0.7
Total	**1145.6**	**50.6**

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ANNEXURE XI

XI /A1 Demographic data for 62 buffer zone villages

XI /A2 Village wise occupation pattern data

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Annexure XI / A1

VILLAGEWISE DEMOGRAPHIC DATA WITHIN STUDY AREA - 2011 CENSUS

Sr. No.	Village Code	Village Name	Tahsil	No of HHs	Population			SC		ST		Literates	
					TOTAL	M	F	M	F	M	F	M	F
Rural Area													
1	435	Majhora	Buxwaha	193	720	391	329	55	53	58	58	194	123
2	436	Dardoniya	Buxwaha	25	90	51	39	0	0	0	0	21	11
3	437	Jagara	Buxwaha	82	380	211	169	0	0	83	69	123	71
4	438	Nimani	Buxwaha	180	874	462	412	52	55	207	197	224	139
5	520	Padarsila	Buxwaha	8	36	18	18	0	0	18	18	2	3
6	439	Padariya	Buxwaha	142	655	359	296	98	70	92	78	203	143
7	440	Goranand	Buxwaha	25	158	80	78	0	0	80	77	21	26
8	441	Dugasara	Buxwaha	14	92	53	39	0	0	53	39	24	12
9	444	Sagouriya	Buxwaha	41	187	103	84	25	18	33	25	65	39
10	445	Hinota	Buxwaha	53	207	126	81	0	0	0	0	77	39
11	446	Kasera	Buxwaha	57	294	154	140	2	1	20	25	97	56
12	447	Harduwa	Buxwaha	18	118	54	64	0	0	54	64	14	19
13	448	Hirdepur	Buxwaha	31	166	92	74	0	0	92	74	24	12
14	449	Jara	Buxwaha	72	274	151	123	0	0	87	77	71	38
15	450	Tilai	Buxwaha	78	369	190	179	92	80	10	13	89	65
16	451	Sahpura	Buxwaha	88	355	190	165	0	0	91	78	94	54
17	452	Teiyamar	Buxwaha	186	661	368	293	90	80	0	0	244	121
18	454	Maddewara	Buxwaha	791	3686	1919	1767	545	526	267	246	1207	810
19	455	Kero	Buxwaha	5	22	14	8	0	0	0	0	10	4
20	456	Gadhoi	Buxwaha	242	1171	627	544	59	51	261	237	310	176
21	457	Bhadator	Buxwaha	138	587	304	283	2	4	30	37	191	109

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Sr. No.	Village Code	Village Name	Tahsil	No of HHs	Population			SC		ST		Literates	
					TOTAL	M	F	M	F	M	F	M	F
22	458	Luharpura	Buxwaha	34	148	83	65	0	0	0	0	38	11
23	459	Sanauda	Buxwaha	133	521	297	224	19	13	6	4	133	58
24	460	Gewrai	Buxwaha	92	388	203	185	181	169	0	0	122	85
25	461	Damrai	Buxwaha	62	230	124	106	0	0	0	0	65	45
26	464	Mandpur	Buxwaha	33	136	75	61	0	0	0	0	49	31
27	466	Sujwaha	Buxwaha	1010	3864	2032	1832	384	348	91	94	1262	830
28	471	Alampur Tangia	Buxwaha	31	116	56	60	0	0	12	18	35	21
29	512	Mangarai	Buxwaha	117	545	290	255	0	0	57	60	196	107
30	513	Pondi	Buxwaha	162	852	454	398	66	52	8	16	252	159
31	514	Jaitupura	Buxwaha	198	844	487	357	96	75	0	0	353	197
32	515	Bagaroha	Buxwaha	69	308	171	137	35	22	7	3	91	53
33	516	Jamun Jhiri	Buxwaha	71	307	169	138	70	53	3	3	112	56
34	518	Sunahara	Buxwaha	249	1036	543	493	110	94	0	0	318	213
35	521	Machhandar	Buxwaha	212	908	499	409	295	243	0	0	266	149
36	522	Birampura	Buxwaha	135	749	368	381	8	4	118	136	230	121
37	523	Bhujpura	Buxwaha	111	446	244	202	34	30	0	0	138	67
38	524	Kusmad	Buxwaha	187	755	374	381	55	45	2	2	223	163
39	525	Chachaisem	Buxwaha	243	1055	571	484	71	70	47	39	352	216
40	526	Majhguwan Ser	Buxwaha	74	311	159	152	32	19	73	86	81	62
41	527	Bhurkhera	Buxwaha	16	92	57	35	0	0	55	35	5	3
42	528	Kudanjani	Buxwaha	97	520	270	250	0	0	89	93	82	56
43	530	Khejara	Buxwaha	36	198	107	91	4	3	68	49	21	12
44	531	Gadhi Semara	Buxwaha	257	1136	617	519	64	53	37	36	352	171

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Sr. No.	Village Code	Village Name	Tahsil	No of HHs	Population			SC		ST		Literates	
					TOTAL	M	F	M	F	M	F	M	F
45	532	Jujharpura	Buxwaha	263	925	482	443	131	129	21	15	332	159
46	533	Kerwara	Buxwaha	222	926	492	434	88	72	65	61	332	204
47	534	Salaiya	Buxwaha	94	421	229	192	0	0	122	106	153	108
48	537	Kuhi	Buxwaha	149	579	326	253	39	29	0	0	173	104
49	544	Darguwa	Buxwaha	563	2837	1520	1317	446	357	104	94	869	528
50	545	Hatna	Buxwaha	121	612	331	281	75	63	4	2	178	98
51	546	Mudar	Buxwaha	143	720	379	341	65	46	155	150	168	110
52	547	Kuwapalo	Buxwaha	89	393	233	160	26	18	1	0	149	69
53	539	Kishunpura	Buxwaha	252	1001	525	476	90	83	0	0	291	198
54	548	Palda	Buxwaha	20	76	48	28	0	0	0	0	30	14
55	552	Banpura	Buxwaha	26	129	66	63	0	0	0	0	46	20
56	553	Basantpura	Buxwaha	38	169	98	71	0	0	46	34	46	20
57	554	Siddhai	Buxwaha	111	431	226	205	0	1	178	152	115	75
58	443	Surajpura Kh	Buxwaha	3	17	11	6	0	0	0	0	6	3
59	363	Hirapur	Shahgarh	906	4627	2471	2156	488	435	631	540	1611	1104
60	364	Tigoda	Shahgarh	948	4562	2480	2082	394	323	234	230	1417	885
61	365	Chouki	Shahgarh	14	82	50	32	0	0	0	0	20	9
62	437	Khairwaha	Shahgarh	78	360	186	174	1	0	182	169	98	63
		Total		**10168**	**45434**	**24320**	**21114**	**4387**	**3787**	**3952**	**3639**	**14115**	**8727**
	Urban Area												
1		Buxwaha NP)	03550	2032	10216	5387	4829	1171	1067	135	95	3946	2924

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Annexure XI / A2

VILLAGEWISE DEMOGRAPHIC DATA WITHIN STUDY AREA - 2011 CENSUS

S. No.	Village Code	Village Name	Tahsil	NO OF	Population			SC		ST		Literates	
				HHs	Total	M	F	M	F	M	F	M	F
Rural Area													
1	435	Majhora	Buxwaha	193	720	391	329	55	53	58	58	194	123
2	436	Dardoniya	Buxwaha	25	90	51	39	0	0	0	0	21	11
3	437	Jagara	Buxwaha	82	380	211	169	0	0	83	69	123	71
4	438	Nimani	Buxwaha	180	874	462	412	52	55	207	197	224	139
5	520	Padarsila	Buxwaha	8	36	18	18	0	0	18	18	2	3
6	439	Padariya	Buxwaha	142	655	359	296	98	70	92	78	203	143
7	440	Goranand	Buxwaha	25	158	80	78	0	0	80	77	21	26
8	441	Dugasara	Buxwaha	14	92	53	39	0	0	53	39	24	12
9	444	Sagouriya	Buxwaha	41	187	103	84	25	18	33	25	65	39
10	445	Hinota	Buxwaha	53	207	126	81	0	0	0	0	77	39
11	446	Kasera	Buxwaha	57	294	154	140	2	1	20	25	97	56
12	447	Harduwa	Buxwaha	18	118	54	64	0	0	54	64	14	19
13	448	Hirdepur	Buxwaha	31	166	92	74	0	0	92	74	24	12
14	449	Jara	Buxwaha	72	274	151	123	0	0	87	77	71	38
15	450	Tilai	Buxwaha	78	369	190	179	92	80	10	13	89	65
16	451	Sahpura	Buxwaha	88	355	190	165	0	0	91	78	94	54
17	452	Teiyamar	Buxwaha	186	661	368	293	90	80	0	0	244	121
18	454	Maddewara	Buxwaha	791	3686	1919	1767	545	526	267	246	1207	810
19	455	Kero	Buxwaha	5	22	14	8	0	0	0	0	10	4
20	456	Gadhoi	Buxwaha	242	1171	627	544	59	51	261	237	310	176

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S. No.	Village Code	Village Name	Tahsil	NO OF HHs	Population Total	Population M	Population F	SC M	SC F	ST M	ST F	Literates M	Literates F
21	457	Bhadator	Buxwaha	138	587	304	283	2	4	30	37	191	109
22	458	Luharpura	Buxwaha	34	148	83	65	0	0	0	0	38	11
23	459	Sanauda	Buxwaha	133	521	297	224	19	13	6	4	133	58
24	460	Gewlai	Buxwaha	92	388	203	185	181	169	0	0	122	85
25	461	Dangrai	Buxwaha	52	230	124	106	0	0	0	0	65	45
26	464	Mandpur	Buxwaha	33	136	75	61	0	0	0	0	49	31
27	466	Sunwaha	Buxwaha	1040	3864	2032	1832	384	348	91	94	1262	830
28	471	Alampur Tangia	Buxwaha	[illegible]	116	56	60	0	0	12	18	35	21
29	512	Mangarai	Buxwaha	[illegible]	545	290	255	0	0	57	60	196	107
30	513	Pondi	Buxwaha	167	852	454	398	66	52	8	16	252	159
31	514	Jaitupura	Buxwaha	198	844	487	357	96	75	0	0	353	197
32	515	Bagaroha	Buxwaha	69	308	171	137	35	22	7	3	91	53
33	516	Jamun Jhiri	Buxwaha	71	307	169	138	70	53	3	3	112	56
34	518	Sunahara	Buxwaha	249	1036	543	493	110	94	0	0	318	213
35	521	Machhandari	Buxwaha	212	908	499	409	295	243	0	0	266	149
36	522	Birampura	Buxwaha	135	749	368	381	8	4	118	136	230	121
37	523	Bhujpura	Buxwaha	111	446	244	202	34	30	0	0	138	67
38	524	Kusmad	Buxwaha	187	755	374	381	55	45	2	2	223	163
39	525	Chachaisemra	Buxwaha	243	1055	571	484	71	70	47	39	352	216
40	526	Majhguwan Ser	Buxwaha	74	311	159	152	32	19	73	86	81	62
41	527	Bhurkhera	Buxwaha	16	92	57	35	0	0	55	35	5	3
42	528	Kudanjani	Buxwaha	97	520	270	250	0	0	89	93	82	56
43	530	Khejara	Buxwaha	36	198	107	91	4	3	68	49	21	12

U. W. DATEY
QUALIFIED PERSON

S. No.	Village Code	Village Name	Tahsil	NO OF	Population			SC		ST		Literates	
				HHs	Total	M	F	M	F	M	F	M	F
44	531	Gadhi Semara	Buxwaha	257	1136	617	519	64	53	37	36	352	171
45	532	Jujharpura	Buxwaha	263	925	482	443	131	129	21	15	332	159
46	533	Kerwara	Buxwaha	222	926	492	434	88	72	65	61	332	204
47	534	Salaiya	Buxwaha	94	421	229	192	0	0	122	106	153	108
48	537	Kuhi	Buxwaha	149	579	326	253	39	29	0	0	173	104
49	544	Darguwa	Buxwaha	563	2837	1520	1317	446	357	104	94	869	528
50	545	Hatna	Buxwaha	121	612	331	281	75	63	4	2	178	98
51	546	Mudar	Buxwaha	143	720	379	341	65	46	155	150	168	110
52	547	Kuwapalo	Buxwaha	89	393	233	160	26	18	1	0	149	69
53	539	Kishunpura	Buxwaha	252	1001	525	476	90	83	0	0	291	198
54	548	Palda	Buxwaha	20	76	48	28	0	0	0	0	30	14
55	552	Banpura	Buxwaha	26	129	66	63	0	0	0	0	46	20
56	553	Basantpura	Buxwaha	38	169	98	71	0	0	46	34	46	20
57	554	Siddhai	Buxwaha	111	431	226	205	0	1	178	152	115	75
58	443	Surajpura	Buxwaha	3	17	11	6	0	0	0	0	6	3
59	363	Hirapur	Shahgarh	906	4627	2471	2156	488	435	631	540	1611	1104
60	364	Tigoda	Shahgarh	948	4562	2480	2082	394	323	234	230	1417	885
61	365	Chouki	Shahgarh	14	82	50	32	0	0	0	0	20	9
62	437	Khairwaha	Shahgarh	78	360	186	174	1	0	182	169	98	63
		Total		**10168**	**45434**	**24320**	**21114**	**4387**	**3787**	**3952**	**3639**	**14115**	**8727**
	Urban Area												
1		Buxwaha (NP)	03550	2032	10216	5387	4829	1171	1067	135	95	3946	2924

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QUALIFIED PERSON

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ANNEXURE XII

Government order for joint possession of core

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Annexure XII

मध्यप्रदेश शासन
खनिज साधन विभाग
मंत्रालय, भोपाल

:: <u>आदेश</u> ::

भोपाल, दिनांक 09\01\20

क्रमांक 129 /2981/2018/12-1 दिनांक 10.12.19 को सम्पन्न नीलामी में एसेल माईनिंग एंड इंडस्ट्री लिमिटेड द्वारा जिला-छतरपुर तहसील-बक्सवाहा के ग्राम-सगोरिया स्थित बंदर हीरा खदान को अधिकतम बोली पर प्राप्त किया है, जिसके लिए राज्य शासन द्वारा दिनांक 19.12.19 को आशय-पत्र जारी किया गया है ।

2- एसेल माईनिंग एंड इंडस्ट्री लिमिटेड को शासन की चल एवं अचल सम्पत्तियों सहित 10 हेक्टेयर भूमि भाड़ा नियंत्रण अधिकारी, जिला छतरपुर द्वारा निर्धारित मासिक किराये पर हस्तांतरित करने का प्रशासकीय निर्णय लिया गया है । म.प्र.राज्य खनिज निगम को उपरोक्तानुसार निर्धारित किराया प्राप्त करने हेतु अधिकृत किया जाता है । किरायेदार एसेल माईनिंग एंड इंडस्ट्री लिमिटेड को निम्नलिखित शर्तों का पालन करना होगा :-

(1) उपरोक्त परिसर का अग्रिम आधिपत्य प्राप्त करने के पूर्व रू0 5.00 करोड़ की सुरक्षा निधि सावधि जमा के रूप में म.प्र.राज्य खनिज निगम के पक्ष में प्रस्तुत करना होगी ।

(2) अग्रिम आधिपत्य प्राप्त करने के 15 दिवस के भीतर कम्पनी को भाड़ा नियंत्रण अधिकारी, छतरपुर को किराया निर्धारण हेतु आवेदन पत्र प्रस्तुत करना होगा ।

(3) अग्रिम आधिपत्य में प्राप्त की जाने वाली समस्त चल एवं अचल सम्पत्तियों का क्षेत्रीय प्रमुख, संचालनालय भौमिकी एवं खनिकर्म, जबलपुर तथा कलेक्टर, छतरपुर द्वारा नामांकित अधिकारियों के साथ एसेल माईनिंग एंड इंडस्ट्री लिमिटेड द्वारा अधिकृत अधिकारियों के संयुक्त दल से सूचीकरण कराकर कलेक्टर/भाड़ा नियंत्रण अधिकारी को एक माह में सौंपना होगा ।

(4) वर्तमान में उपलब्ध कोर का स्वामित्व राज्य शासन का रहेगा, जिसे आवश्यकतानुसार क्षेत्रीय प्रमुख, जबलपुर द्वारा हीरा अधिकारी, पन्ना की तकनीकी अनुशंसा सहित एसेल माईनिंग एंड इंडस्ट्री लिमिटेड को उपलब्ध कराया जाएगा । इस कोर को परिसर में ही डबल लॉक की अभिरक्षा में रखा जाएगा, जिसकी सुरक्षा का दायित्व एसेल माईनिंग एंड इंडस्ट्री लिमिटेड का होगा । ताले की एक

अनुमोदित / APPROVED

U. W. DATEY
QUALIFIED PERSON

चाबी क्षेत्रीय प्रमुख, जबलपुर के पास एवं दूसरी चाबी एसेल माईनिंग एंड इंडस्ट्री लिमिटेड द्वारा नामांकित अधिकारी के पास रहेगी ।

(5) उपरोक्त आधिपत्य सहित किराये का निर्धारण एसेल माईनिंग एंड इंडस्ट्री लिमिटेड की लीज अवधि पूर्ण होने तक अथवा कम्पनी द्वारा पट्टेदार का कार्य करने तक, जो भी पहले हो; की अवधि तक रहेगा ।

3— यह आदेश तत्काल प्रभावशील होगा ।

म.प्र.के राज्यपाल के नाम से तथा
आदेशानुसार,
09/01/20
(प्रकाश चन्द्र)
अवर सचिव
मध्यप्रदेश शासन
खनिज साधन विभाग

पृ. क्र0 130 /2981/2018/12 APPROVED अनुमोदित भोपाल, दिनांक 09/01/20
प्रतिलिपि :—

(1) विशेष सहायक, माननीय मंत्रीजी, खनिज साधन विभाग,
(2) स्टाफ ऑफीसर, प्रमुख सचिव, म.प्र.शासन, खनिज साधन विभाग, मंत्रालय, भोपाल
(3) निज सहायक, सचिव, म.प्र.शासन, खनिज साधन विभाग, मंत्रालय, भोपाल
(4) आयुक्त, सागर संभाग, सागर,
(5) कार्यपालक संचालक, म.प्र.राज्य खनिज निगम, भोपाल,
(6) कलेक्टर, जिला छतरपुर/पन्ना,
(7) संचालक, भौमिकी तथा खनिकर्म, मध्यप्रदेश भोपाल,
(8) क्षेत्रीय प्रमुख, संचालनालय भौमिकी तथा खनिकर्म, जबलपुर,
(9) श्री राकेश पालीवाल, अध्यक्ष (संसाधन ग्रुप), एसेल माईनिंग एंड इंडस्ट्री लिमिटेड, आदित्य बिरला सेंटर,, "बी" विंग, चतुर्थ तल, वरली, मुम्बई (महाराष्ट्र)
(10) खनि अधिकारी, कार्यालय कलेक्टर (खनिज शाखा), जिला छतरपुर,

की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु अग्रेषित ।

(11) गार्ड फाईल ।

09/01/20
अवर सचिव
मध्यप्रदेश शासन
खनिज साधन विभाग

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U. W. DATEY
QUALIFIED PERSON
09/11/2020

ANNEXURE XIII

Report of joint verification of core by DGM and EMIL

Annexure XIII   दिनांक 09.02.2020

पंचनामा

म. प्र. शासन, खनिज साधन विभाग भोपाल के आदेश क्र. एफ 130/2018/12-1 भोपाल, दिनांक 09.1.2020 एवं संचा. भौमिकी तथा खनिकर्म, म.प्र. भोपाल के पत्र क्र. 1377-80/डी.जी.एम./भौमि/2020 भोपाल दिनांक 31.01.2020 के परिपालन में दिनांक 08.2.2020 से 09.02.2020 तक जिला छतरपुर में स्थित बंदर डायमण्ड ब्लाक की चल एवं अचल संपत्ति के अंतर्गत ग्राम एवं तह. बक्सवाह में स्थापित कार्यालय एवं आवासीय परिसर के ब्लाक A/6 एवं A/2 के विभिन्न कमरों में सुरक्षित रखे गए कोर बाक्स, कार्यालयीन सामग्री एवं भौमिकीय उपकरण रखा जाना पाया गया। -

उक्त आदेश के पालन में दिनांक 08-से 09 फर. 2020 तक क्षेत्रीय प्रमुख, क्षेत्रीय कार्यालय जबलपुर एवं अधिकारीगण, कलेक्टर (खनिज शाखा) जिला छतरपुर से श्री राघव खटीक (खनि. निरी.) मेसर्स एस्सेल माइनिंग एंड इंडस्ट्री लिमि. मुंबई की ओर से श्री अभय वाजपे (GM exploration), श्री कृष्णकांत सिन्हा भू-वैज्ञानिक एवं श्री राहुल वानी mining engineer की उपस्थिति में बंदर डायमण्ड प्रोजेक्ट में पूर्वेक्षण कार्य के दौरान प्राप्त कोर (अलग-अलग डायमीटर) जो कि बक्सवाह में स्थापित कार्यालय एवं आवासीय परिसर के ब्लाक A/6 एवं A/2 के विभिन्न कमरों में (A-6 के कमरा क्र. 01 से 16 तक एवं A2 के कमरा क्र. 1, 2, 3, 5, 6, एवं 7) कोर बाक्स, कार्यालयीन सामग्री एवं भौमिकी उपकरण रखा जाना पाया गया है।

उपरोक्त कमरों में रखे हुए कोर बाक्स एवं सामग्री का पुनः भौतिक सत्यापन एवं वीडियोग्राफी की गई।

Rahul Wani
DGM. EMIL

GM (Geology)
ESSEL Mining

D.I.G.M., R.O. Jbp
9/2/20

Raghav
9.2.2020
Mining Chhatarpur

Abhay Wajpe
GM. Expl.
EMIL
9/2/2020

(EMIL)
9/2/2020

क्षेत्रीय प्रमुख
संयुक्त संचालक भौमिकी तथा खनिकर्म, म.प्र.
क्षेत्रीय कार्यालय, जबलपुर

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साथ ही Sample Processing Plant परिसर के शेड में मेसर्स रियो टिन्टो द्वारा 15 पैलेट बाक्स के माध्यम से कोर सेम्पल को विश्लेषण हेतु आस्ट्रेलिया एवं कनाडा भेजे जाने पश्चात एवं पुनः वापस Sample Processing प्लांट में रखा जाना पाया गया जिसमें से मौके पर 14 पैलेट बाक्स बंद एवं 01 पैलेट बाक्स खुला पाया गया है। उनका भी भौतिक सत्यापन संयुक्त रूप से किया गया जिसमें 08 पैलेट बाक्स में LDC Core (chip Samples) के रूप में पाए गए तथ शेष 07 पैलेट में xxxxx नग कोर बाक्स में हाफ कट कोर पाए गए जिन्हें A/2 ब्लाक के कमरा क्र. 12 में 196 नग कोर बाक्स एवं इसी ब्लाक A/2 के बरामदे में 08 नग पैलेट बाक्स (LDC Core chip Samples) व्यवस्थित रखा गया है। - दर्शायी गई समस्त सामग्रियों का भौतिक सत्यापन रियो टिन्टो द्वारा प्रदाय रिकार्ड/ दस्तावेज अनुसार पृथक से सूची सत्यापन उपरांत संलग्न) | शासन निर्देशानुसार A/6 एवं A/2 के समस्त कोर बाक्स के कमरों को सीलबन्द किया गया तथा दोनों ब्लाक के चेनल गेट डबल लॉक कर सीलबन्द किया गया एवं 01 चाबी (A6/A2 ब्लाक के चेनल गेट/सुरक्षा द्वार) M/s एस्सेल माइनिंग एंड इंडस्ट्री लिमिटेड के श्री अभय वाजपे (GM) एवं उसी की एक चाबी क्षेत्रीय प्रमुख क्षेत्रीय कार्यालय जबलपुर को प्रदाय की गई।

9/2/2020
क्षेत्रीय प्रमुख
संचालनालय भौमिकी तथा खनिकर्म, म.प्र
क्षेत्रीय कार्यालय, जबलपुर

Rahul Bidwani
DGM - EMIL

(K.K. Sahu)
GM CG
9/2/2020

DD, DGM
Abhay Wajpe
GM Expl
EMIL
9/2/2020

Raghav
9.2.2020
Ag-III mining

(EMIL)
9/2/2020

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कोर बॉक्स, कार्यालयीन सामग्री एवं भौमिकीय उपकरण की भौतिक सत्यापन सूची

1.BlockNo.A/6RoomNo.1

Block	Room No.	Floor	HoleNo.	From	To	No.	Depth	Depth
A6	Room 1	Ground	B28PQ001	1	189	189	0	334.9
A6	Room 1	Ground	B28PQ002	1	91	91	0	165.5
A6	Room 1	Ground	B28PQ004	54	160	107	94.64	283.8

2. BlockNo.A/6RoomNo.2

Block	Room No.	Floor	HoleNo.	From	To	No.	Depth	Depth
A6	Room 2	Ground	B28PQ004	1	53	53	0	94.64
A6	Room 2	Ground	B28PQ003	1	137	137	0	249.3
A6	Room 2	Ground	B28PQ005	1	117	117	0	206.4
A6	Room 2	Ground	B28PQ006	1	112	112	0	206.1

3.BlockNo.A/6RoomNo.3

Block	Room No.	Floor	HoleNo.	From	To	No.	Depth	Depth
A6	Room 3	Ground	B28PQ004	161	199	39	283.8	350.1
A6	Room 3	Ground	B28PQ007	1	211	211	0	359.7
A6	Room 3	Ground	B28PQ008	1	107	107	0	185
A6	Room 3	Ground	B28PQ009	1	52	52	0	92.88

4.BlockNo.A/6RoomNo.4

Block	Room No.	Floor	HoleNo.	From	To	No.	Depth	Depth
A6	Room 4	Ground	B28PQ009	53	192	140	92.88	338.9
A6	Room 4	Ground	B28PQ010	1	213	213	0	374.6
A6	Room 4	Ground	B28PQ011	174	238	65	312	426

Rahul Bhukar DGM-ENJ.L (Rahul Naw)

K.K.Sinha GM (Geology & Records) 09/2/2020

Abhay Wajpe GM Expl EMIL

(एस. के. पटले) 5/2/2020

Raghav 9.2.2020 (Fy-III Mining Chhakurpur)

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5.BlockNo.A/6RoomNo.5

Block	Room No.	Floor	HoleNo.	From	To	No.	Depth	Depth
A6	Room 5	Ground	B28PQ011	1	173	173	0	312
A6	Room 5	Ground	B28PQ012	1	233	233	0	417

6.BlockNo.A/6RoomNo.6

Block	Room No.	Floor	HoleNo.	From	To	No.	Depth	Depth
A6	Room 6	Ground	B28HQ023	1	107	107	0	392.5
A6	Room 6	Ground	B28HQ024	1	108	108	0	392
A6	Room 6	Ground	B28HQ025	1	104	104	0	375.3
A6	Room 6	Ground	B28HQ026	1	32	32	0	114
A6	Room 6	Ground	B28HQ027	52	68	17	189.7	250

7.BlockNo.A/6RoomNo.7

Block	Room No.	Floor	HoleNo.	From	To	No.	Depth	Depth
A6	Room 7	Ground	B28HQ027	[illegible]	51	51	0	189.7
A6	Room 7	Ground	B28HQ028	1	24	24	0	95.4
A6	Room 7	Ground	B28HQ029	1	39	39	0	147
A6	Room 7	Ground	B28HQ030	1	80	80	0	300
A6	Room 7	Ground	B28HQ031	1	26	26	0	100
A6	Room 7	Ground	B28HQ032	1	84	84	0	312
A6	Room 7	Ground	B28HQ033	49	82	34	175.33	300.3

8.BlockNo.A/6RoomNo.8

Block	Room No.	Floor	HoleNo.	From	To	No.	Depth	Depth
A6	Room 8	Ground	B28HQ033	1	48	48	0	175.33
A6	Room 8	Ground	B28HQ034	1	77	77	0	284.8
A6	Room 8	Ground	B28HQ035	1	34	34	0	130
A6	Room 8	Ground	B28HQ036	1	15	15	0	57
A6	Room 8	Ground	B28HQ037	1	23	23	0	90
A6	Room 8	Ground	B28HQ038	1	21	21	0	80.7
A6	Room 8	Ground	B28HQ039	1	69	69	0	254.4
A6	Room 8	Ground	B28HQ040	1	29	29	0	110
A6	Room 8	Ground	B28HQ041	1	15	15	0	55.8
A6	Room 8	Ground	B28HQ042	1	19	19	0	71.5

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9.BlockNo.A/6RoomNo.9

Block	Room No.	Floor	HoleNo.	From	To	No.	Depth	Depth
A6	Room 9	First	B28HQ043	1	53	53	0	195.4
A6	Room 9	First	B28HQ044	1	29	29	0	115
A6	Room 9	First	B28HQ045	1	52	52	0	188.5
A6	Room 9	First	B28HQ046	1	31	31	0	120
A6	Room 9	First	B28HQ047	1	15	15	0	61.2
A6	Room 9	First	B28HQ048	1	24	24	0	89.5
A6	Room 9	First	B28HQ001	56	73	18	199.04	260.22
A6	Room 9	First	B28HQ002	1	47	47	0	178.3
A6	Room 9	First	B28HQ003	1	39	39	0	151.75

10.BlockNo.A/6RoomNo.10

Block	Room No.	Floor	HoleNo.	From	To	No.	Depth	Depth
A6	Room 10	First	B28HQ001	1	55	55	0	199.04
A6	Room 10	First	B28HQ004	1	54	54	0	216.16
A6	Room 10	First	B28HQ005	1	75	75	0	268.73
A6	Room 10	First	B28HQ006	1	60	60	0	272.9
A6	Room 10	First	B28HQ007	1	38	38	0	170.5
A6	Room 10	First	B28HQ008	1	26	26	0	130
A6	Room 10	First	B28HQ009	1	50	50	0	243.5
A6	Room 10	First	B28HQ010	1	47	47	0	230.7
A6	Room 10	First	B28HQ011	35	51	17	129.1	187.8

11.BlockNo.A/6RoomNo.11

Block	Room No.	Floor	HoleNo.	From	To	No.	Depth	Depth
A6	Room 11	First	B28HQ011	1	34	34	0	129.1
A6	Room 11	First	B28HQ012	1	36	36	0	140.8
A6	Room 11	First	B28HQ013	1	68	68	0	300.3
A6	Room 11	First	B28HQ014	1	61	61	0	230
A6	Room 11	First	B28HQ015A	1	73	73	0	309.9
A6	Room 11	First	B28HQ015	1	28	28	0	109.1
A6	Room 11	First	B28HQ016	68	147	80	241.78	570.2

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12.BlockNo.A/6RoomNo.12

Block	Room No.	Floor	HoleNo.	From	To	No.	Depth	Depth
A6	Room 12	First	B28HQ016	1	67	67	0	241.78
A6	Room 12	First	B28HQ017	1	116	116	0	437.6
A6	Room 12	First	B28HQ018	1	180	180	0	635.8

13.BlockNo.A/6RoomNo.13

Block	Room No.	Floor	HoleNo.	From	To	No.	Depth	Depth
A6	Room 13	First	B8-48-001	1	44	44	0	200.7
A6	Room 13	First	B8-48-002	1	40	40	0	180
A6	Room 13	First	B8-48-003	1	32	32	0	149.2
A6	Room 13	First	B8-48-004	1	42	42	0	152.3
A6	Room 13	First	B8-48-005	1	77	77	0	272.5
A6	Room 13	First	B28HQ019	15	133	119	56.4	473.4

14.BlockNo.A/6RoomNo.14

Block	Room No.	Floor	HoleNo.	From	To	No.	Depth	Depth
A6	Room 14	First	B28HQ019	1	14	14	0	56.4
A6	Room 14	First	B28HQ020	1	98	98	0	356.4
A6	Room 14	First	B28HQ021	1	144	144	0	512.6
A6	Room 14	First	B28HQ022	61	180	120	219.27	659.3

15.BlockNo.A/6RoomNo.15

Block	Room No.	Floor	HoleNo.	From	To	No.	Depth	Depth
A6	Room 15	First	B28HQ022	[illegible]	60	60	0	219.27
A6	Room 15	First	B41-002	1	9	9	0	41.08
A6	Room 15	First	B8-001	1	56	56	0	220.72
A6	Room 15	First	B10-001	1	53	53	0	242.5
A6	Room 15	First	BPL10-001	1	95	95	0	341.4
A6	Room 15	First	BPL6-001	1	107	107	0	386.3

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16.BlockNo.A/6RoomNo.16

Block	Room No.	Floor	HoleNo.	From	To	No.	Depth	Depth
A6	Room 16	First	BPL8-001	1	87	87	0	311.2
A6	Room 16	First	BPL30-001	1	20	20	0	75
A6	Room 16	First	BPL4-001	1	16	16	0	60
A6	Room 16	First	B41-001	1	31	31	0	140.8
A6	Room 16	First	B155-001	1	56	56	0	200.5
A6	Room 16	First	B155-002	1	84	84	0	305.5
A6	Room 16	First	B68-001	1	60	60	0	218.6
A6	Room 16	First	BSH001	1	13	13	0	49.1

17.BlockNo-A/2:RoomNo-01

S.No	Items	Quantity	BlockNo	Room No
1	Official Records	-----	A/2	1
2	StoreMaterial	-----	A/2	1
3	CoreTexture Boards	5Nos.	A/2	1
4	GammaRaySpectrometers	4No.	A/2	1
5	LDCExhibitSample	1No.	A/2	1
6	PQExhibit Sample	1No.	A/2	1
7	DemolitionHammer	1No.	A/2	1
8	Magnetic SusceptibilityMeter	1No.	A/2	1
9	WirelineWinch&Cable	1No.	A/2	1
10	Core Box Lifter(Scissor Lift)	1No.	A/2	1
11	Stereoscopic Microscope	2No.	A/2	1

18. BlockNo.A/2RoomNo.2

Block No.	RoomNo.	Floor	HoleNo.	From BoxNo.	To BoxNo.	No. ofBoxes	Depth From(inm)	Depth To (in m)
A2	Room 2	Ground	B28FGT11	36	86	51	129.72	300
A2	Room 2	Ground	B28GT001	1	51	51	0	184.7
A2	Room 2	Ground	B28A2GT02	1	59	59	0	215.7
A2	Room 2	Ground	B28C1GT03	1	48	48	0	171.1
A2	Room 2	Ground	B28B2GT04	1	40	40	0	145.05
A2	Room 2	Ground	B28A1GT05	1	64	64	0	230.27
A2	Room 2	Ground	B28D1GT06	1	64	64	0	226.27

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09-02-2020

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GM Expl
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19. BlockNo.A/2RoomNo.3

Block	RoomNo.	Floor	HoleNo.	From	To	No.	Depth	
A2	Room 3	Ground	B28D1GT06	65	82	18	226.27	288.3
A2	Room 3	Ground	B28E1GT07	1	89	89	0	317.4
A2	Room 3	Ground	B28D2GT08	1	84	84	0	300
A2	Room 3	Ground	RepSample	-	-	-	133Samples	
A2	Room 3	Ground	B28-24	1	17	17	AbandonedHolecore boxes	
A2	Room 3	Ground	RepSampleB	-	-	-	12	RepresentativeSamples
A2	Room 3	Ground	Grab Sample	-	-	-	43	Grab Samples
A2	Room 3	Ground	B28LD010	-	-	-	1	RepresentativeSamples
A2	Room 3	Ground	B28LD012	-	-	-	1	RepresentativeSamples
A2	Room 3	Ground	B28LD005	-	-	-	1	RepresentativeSamples
A2	Room 3	Ground	B28LD004	-	-	-	1	RepresentativeSamples
A2	Room 3	Ground	B28LD003	-	-	-	1	RepresentativeSamples
A2	Room 3	Ground	B28LD006	-	-	-	1	RepresentativeSamples
A2	Room 3	Ground	B28LD007	-	-	-	1	RepresentativeSamples
A2	Room 3	Ground	B28LD009	-	-	-	1	RepresentativeSamples
A2	Room 3	Ground	B28LD002	-	-	-	1	RepresentativeSamples
A2	Room 3	Ground	Survey Sample	[illegible]	[illegible]	-	10	Survey Samples

20. BlockNo.A/2RoomNo.5

Block	RoomNo.	Floor	HoleNo.	From	To	No.	Depth	
A2	Room 5	Ground	BSH023	[illegible]	[illegible]	19	0	75
A2	Room 5	Ground	BSH024	1	20	20	0	75
A2	Room 5	Ground	BSH025	1	13	13	0	50
A2	Room 5	Ground	BSH026	1	14	14	0	50.35
A2	Room 5	Ground	BSH027	1	6	6	0	23.2
A2	Room 5	Ground	B28E2GT09	1	74	74	0	255
A2	Room 5	Ground	B28D3GT10	1	86	86	0	300
A2	Room 5	Ground	B28A1GT12	1	85	85	0	302.25
A2	Room 5	Ground	B28FGT11	1	35	35	0	129.72

Mahipal Singh EPOSE 9/2/2020

K K Singh
CM (Gt & Reserves)
Essel Min & Inds Ltd
09-02-2020

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(एस. के. पाठक) 9/2/2020

Raghav 9.2.2020

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21.BlockNo.A/2RoomNo.6

Block	RoomNo.	Floor	HoleNo.	From	To	No.	Depth	
A2	Room 6	Ground	BSH02	1	13	13	0	50
A2	Room 6	Ground	BSH03	1	14	14	0	50
A2	Room 6	Ground	BSH04	1	14	14	0	50
A2	Room 6	Ground	BSH05	1	13	13	0	50
A2	Room 6	Ground	BSH06	1	12	12	0	50
A2	Room 6	Ground	BSH07	1	14	14	0	50
A2	Room 6	Ground	BSH08	1	12	12	0	50
A2	Room 6	Ground	BSH09	1	13	13	0	50
A2	Room 6	Ground	BSH010	1	13	13	0	50
A2	Room 6	Ground	BSH011	1	13	13	0	50
A2	Room 6	Ground	BSH012	1	14	14	0	50
A2	Room 6	Ground	BSH013	1	11	11	0	50
A2	Room 6	Ground	BSH014	1	14	14	0	50
A2	Room 6	Ground	BSH015	1	13	13	0	50
A2	Room 6	Ground	BSH016	1	20	20	0	75
A2	Room 6	Ground	BSH017	1	12	12	0	48.2
A2	Room 6	Ground	BSH018	1	19	19	0	75
A2	Room 6	Ground	BSH019	1	18	18	0	75
A2	Room 6	Ground	BSH020	1	19	19	0	75
A2	Room 6	Ground	BSH021	1	19	19	0	75.1
A2	Room 6	Ground	BSH022	1	19	19	0	75

22. BlockNo.A/2RoomNo.7

BlockNo.	RoomN	Floor	HoleNo.		
A2	Room	Ground	B28LD008	1	RepresentativeSamples
A2	Room	Ground	B28LD001	1	RepresentativeSamples
A2	Room	Ground	LDMicro Sample	89	RepresentativeSamples

23.BlockA/2 Hall:

The followingItemsarestoredintheHallinBlockA/2	
LDCDrillBits	30
LDCDrillCollar/Adaptor	1
PQDrillBits	4
Total DrillBits	34

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GM (Geol. & Explo.)
09-02-2020

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9/2/2020

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24. Block A/2 Room No. 12 And Hall:

Sample Processing Plant परिसर के शेड में मेसर्स रियो टिन्टो द्वारा 15 पैलेट बॉक्स के माध्यम से कोर सेम्पल को विश्लेषण हेतु ऑस्ट्रेलिया एवं कनाडा भेजे जाने पश्चात एवं पुन: वापस Sample Processing प्लांट में रखा जाना पाया गया जिसमें से मौके पर 14 पैलेट बॉक्स बंद एवं 01 पैलेट बॉक्स खुला पाया गया है । इस प्रकार **कुल** 15 पैलेट बॉक्स में से कुल 07 पैलेट बॉक्स में रखे कोर बाक्स 196 नग कोर बाक्स (हाफ कट) व्यवस्थित कर **Room No. 12** में 196 नग कोर बाक्स (हाफ कट) एवं इसी ब्लाक के बरामदें मे शेष 8 नग पेलेट बाक्स (एलडीसी) कोर चिप सेम्पल्स को रखा गया है ।

अत: उपरोक्तानुसार दर्शायी गयी समस्त सामाग्रियों का भौतिक सत्यापन किया गया जो मेसर्स रियो टिन्टो द्वारा दर्शाये रिकार्ड/ दस्तावेज अनुसार सही पाया गया है साथ ही ब्लॉक क्रमांक ए/6 एवं ब्लॉक क्रमांक ए/2 के समस्त कोर बॉक्स कमरों एवं मुख्य चेनल गेट को सीलबंद किया गया।

Rahul Wani
Mahipal Singh
EMIL
9/2/2020

K.K. Seth
GM (G & Reserves)
9.02.2020

Abhay Rungta
GM EYM
EMIL

9/2/2020
(एस. के. पटले)
क्षेत्रीय प्रमुख

Raghav
9.2.2020
AG mining Chhatarpur

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ANNEXURE XIV

Core Photographs & Site Photographs

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Annexure XIV

SITE PHOTOGRAPHS & CORE PHOTOGRAPHS

Photographs of Mine Site

North Western Part of the block

Western side of Kasera – Sagoria Road

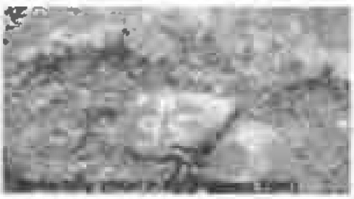
North Eastern Part of the Block

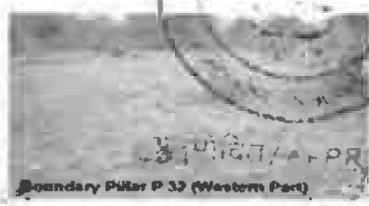
Entry from on Eastern Part

Central Part of the Block

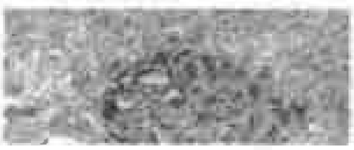
Diamond Block

Boundary Demarcation





Boundary Pillar P 32 (Western Part)



APPROVED

U. W. DATEY
QUALIFIED PERSON

Dedicated Road

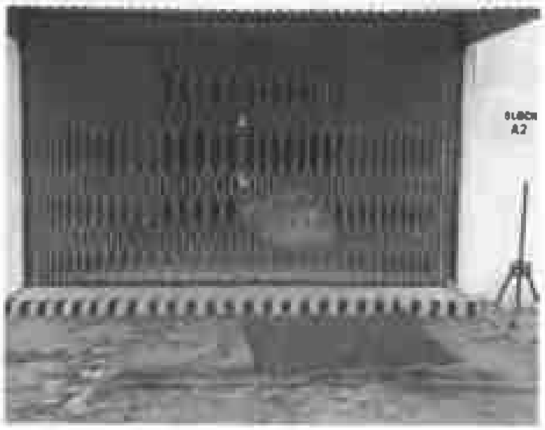
Dedicated Approach Road to the Area (Via Gadhoi Village)

Project Infrastructure

अनुमोदित / APP

U. W. DATEY
QUALIFIED PERSON

CORE BOX STORAGE



UDatey
अनुमोदित/APPROVED
U. W. DATEY
QUALIFIED PERSON

REPRESENTATIVE CORE PHOTOGRAPHS OF ATRI ORE DEPOSIT – BUNDER DIAMOND BLOCK

Hole- PQ-001

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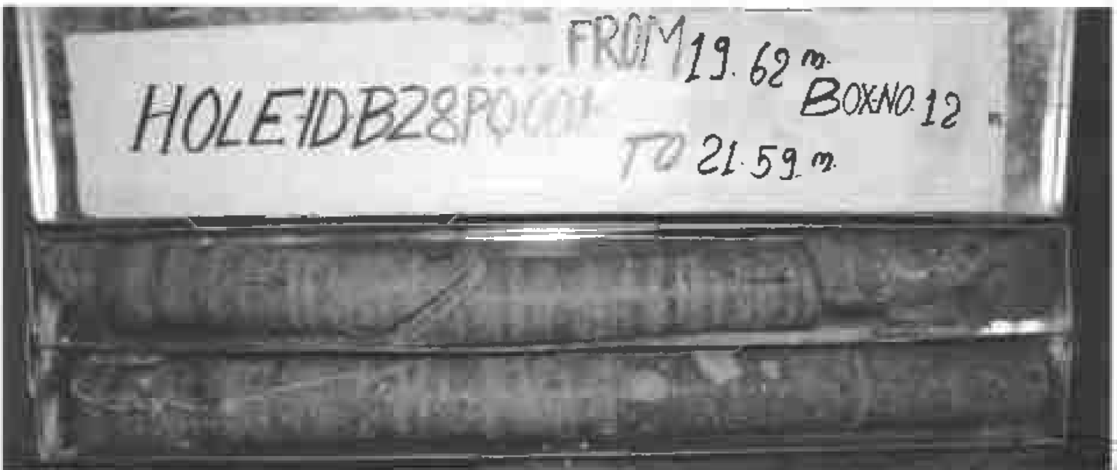
U. W. DATEY
QUALIFIED PERSON



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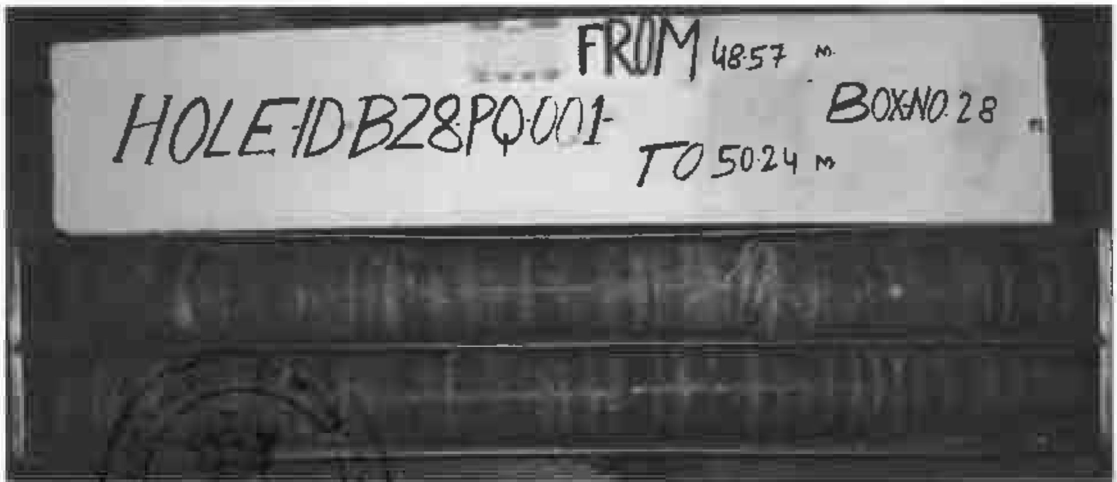

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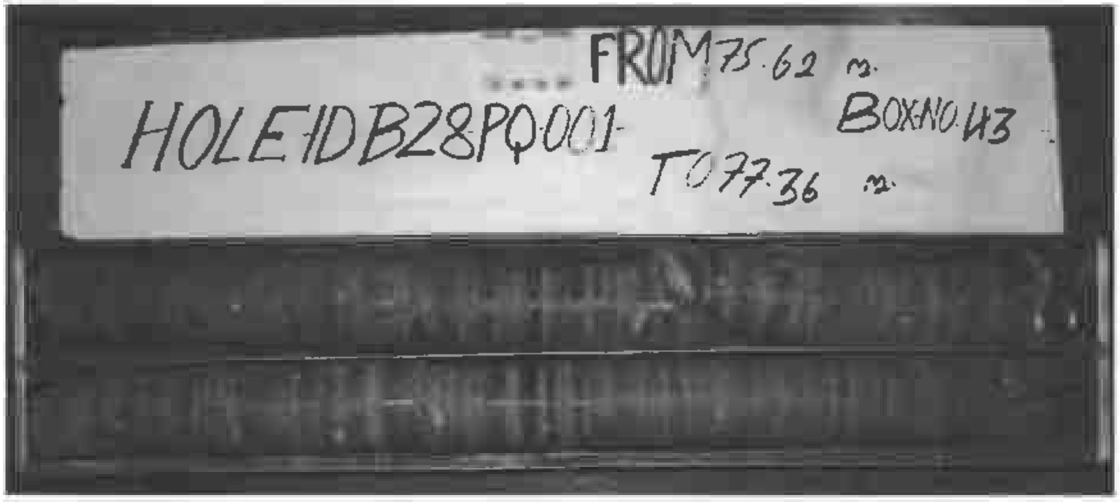

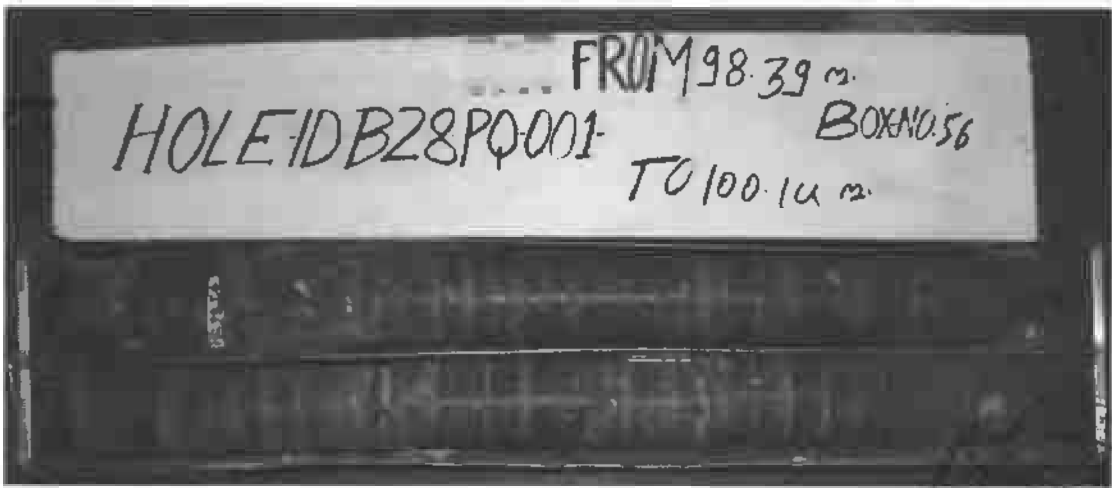

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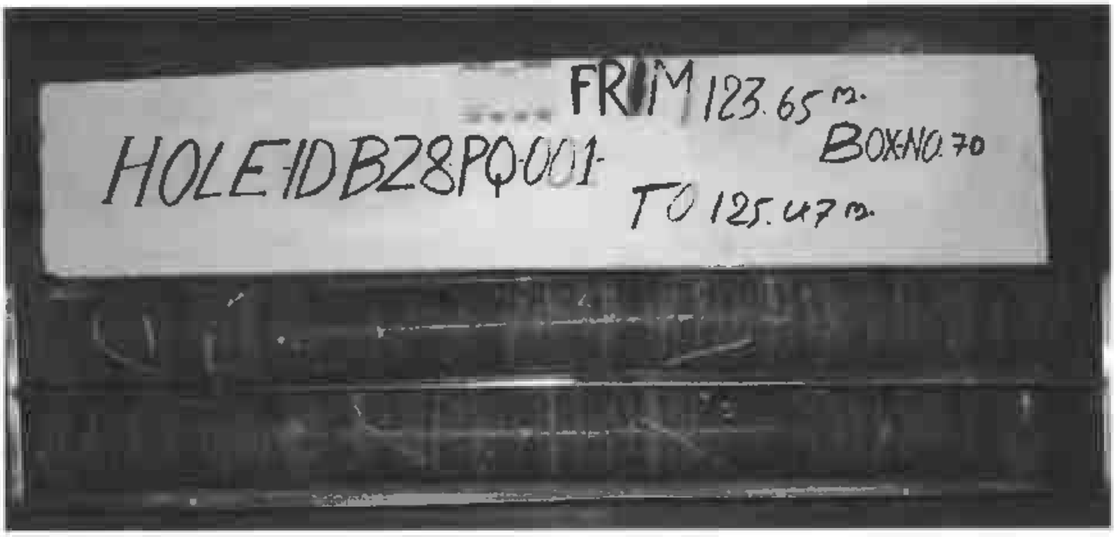
QUALIFIED PERSON
अनुमोदित / APPROVED



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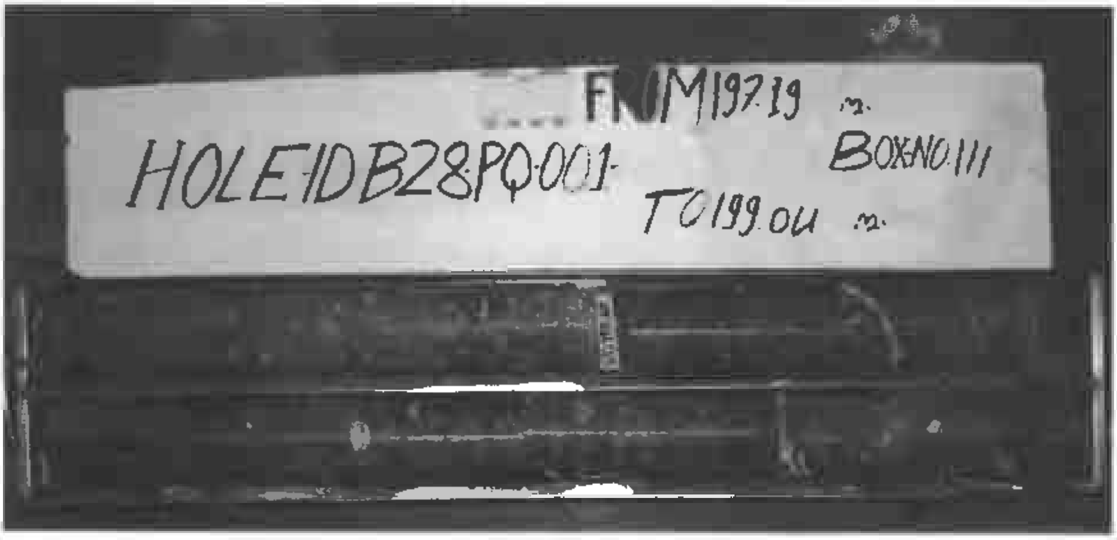

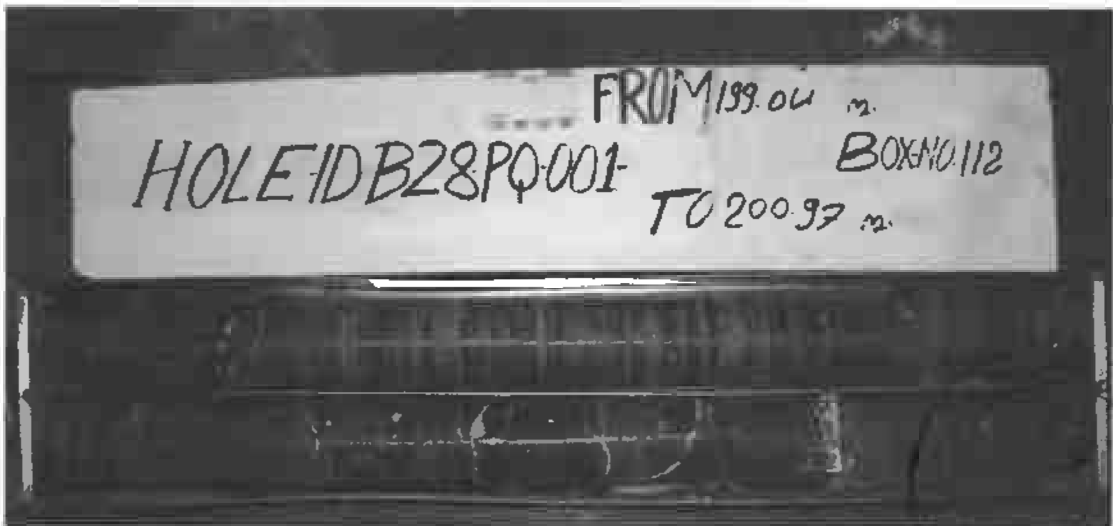

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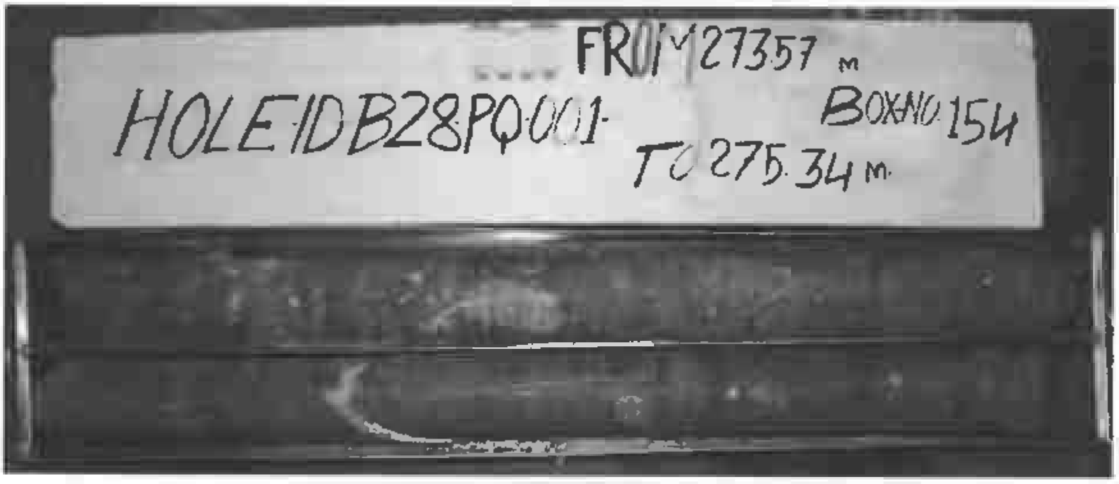

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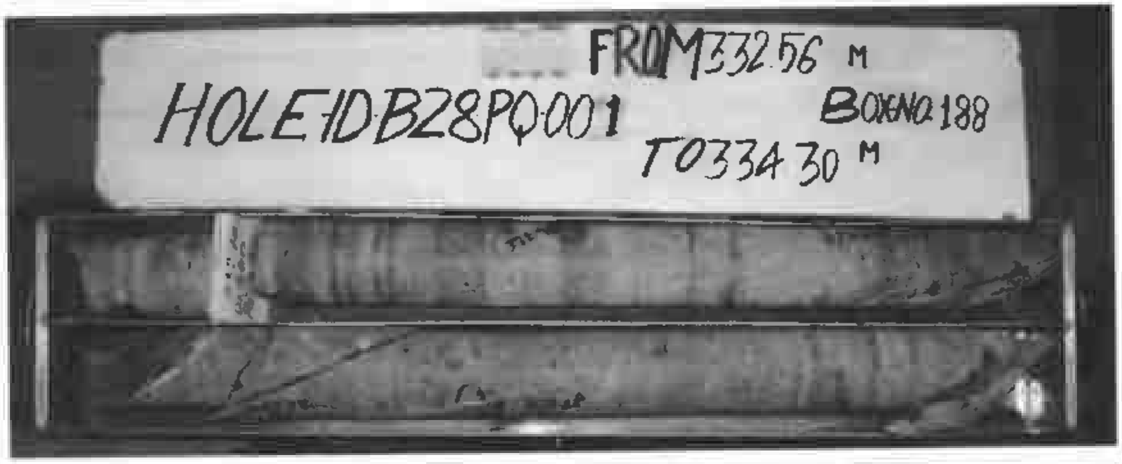
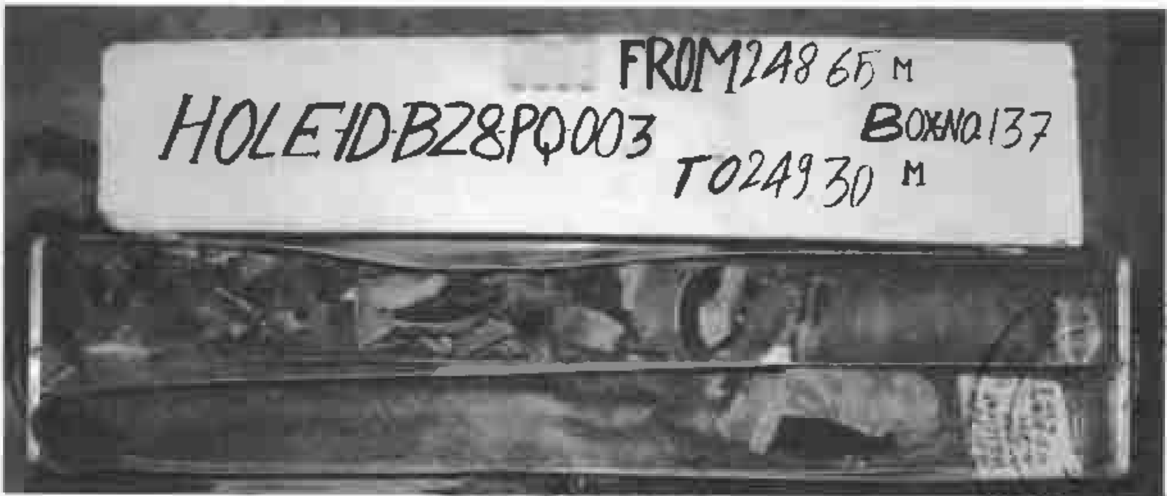


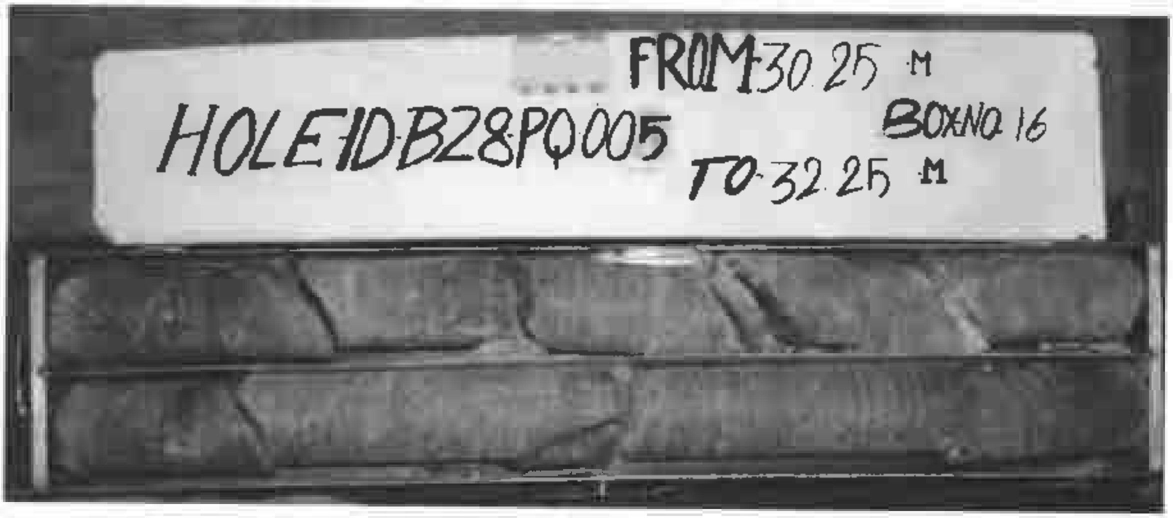
U. W. DATEY
QUALIFIED PERSON

Hole BP28PQ-003



अनुमोदित/APPROVED
U. W. DATEY
QUALIFIED PERSON

Hole BP28PQ-005



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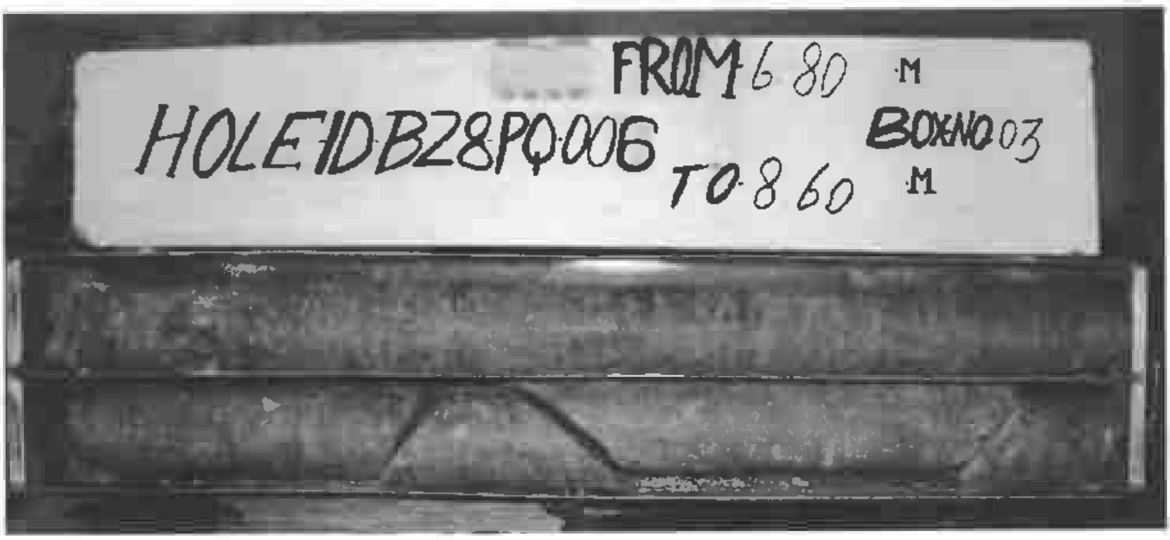

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अनुमोदित / APPROVED
U. W. DATEY
QUALIFIED PERSON

Hole BP2BSH005

अनुमोदित / APPROVED

U. W. DATEY
QUALIFIED PERSON

DIAMONDS

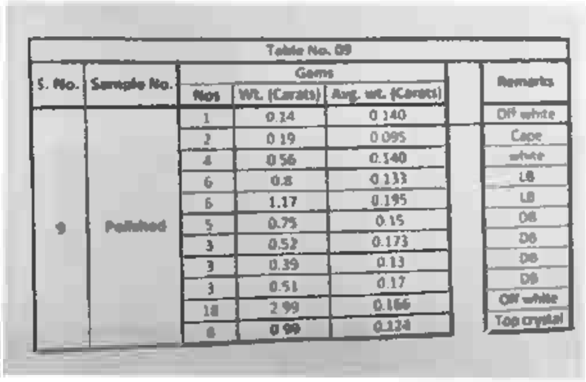
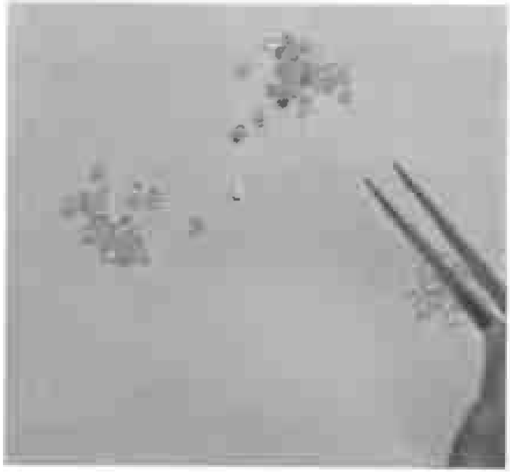
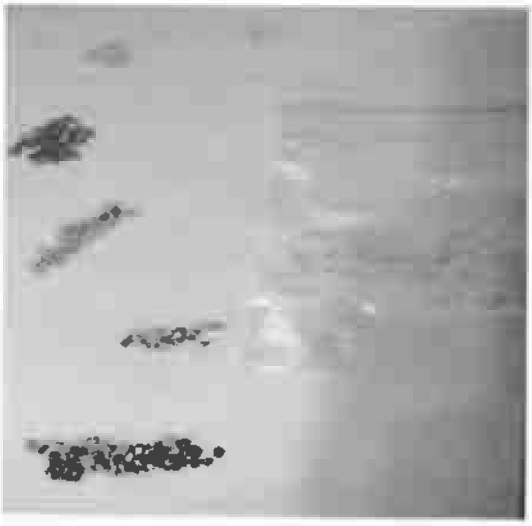


Table No. 09

S. No.	Sample No.	Gems				Remarks
		Nos	Wt. (Carats)	Avg. wt. (Carats)		
9	Polished	1	0.14	0.140		Off white
		2	0.19	0.095		Cape
		4	0.56	0.140		white
		6	0.8	0.133		LB
		6	1.17	0.195		LB
		5	0.75	0.15		DB
		3	0.52	0.173		DB
		3	0.39	0.13		DB
		3	0.51	0.17		DB
		18	2.99	0.166		Off white
		8	0.99	0.124		Top crystal





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Site Inspection

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QUALIFIED PERSON

ANNEXURE XV

Letter from RCOM, IBM for permission to submit
Plates in 1 : 4000 Scale

अनुमोदित/APPROV

Annexure XV

E-mail-Speed Post

भारत सरकार
खान मन्त्रालय
भारतीय खान ब्यूरो
क्षेत्रीय खान नियंत्रक का कार्यालय

o —716/5/C/2017 Vol-II Jabalpur 20/08/2020

o,

Shri Rakesh Paliwal
President Resource Group
Bunder Diamond Project
M/s Essel Mining & Industries ltd.
Aditya Birla Center
A Wind,Ist Floor, S.K. Ahire Marg,Worli
Mumbai-400 030

ub: Permission for preparation of Plans and Sections on a scale other than prescribed scale ınder Rule 31(1)(d)(iii) of Mineral Conservation and Development Rules 2017 in respect of Bunder Diamond Block over an area of 364Ha ha located in villages Sagoria in Buxwaha Tehsil, District-Chhatarpur, State Madhya Pradesh in favour of M/s Essel Mining & Industries ltd.reg.

Sir,

This has reference of your letter number with reference to your letter No.EMIL/HO/Bunder/2020/45 03/08/2020 on the aforesaid subject. In the said letter, it is stated that, the mining lease in respect of Bunder Diamond Block (Area364 ha) located in villages Sagoria over an area 364 ha. In Buxwaha Tehsil, District-Chhatarpur, State Madhya Pradesh is large over an extent of maximum length of 2972m and width 2034m. If the plans and sections are prepared on a prescribed scale of 1:2000 as per the statutes, the maximum length and width of the area within the drawing frame will be 2.50m(L)x1.75m(W) each which will become difficult to handle. Further, due to restriction in paper size and the computerized plot on this size are not available the printout on the prescribed scale will become difficult.

In this context, you have requested for preparation of Surface Plan, Surface Geological Plan, Production and Development Plans and Sections, Conceptual Plan and Sections, Reclamation Plan and Financial Area Assurance Plan on the Scale of 1:4000 other than the scale as prescribed under rule 31(1)(d)(iii) of Mineral Conservation and Development Rules 2017.If the plans are prepared with the scale of 1:4000, the said plans and sections may have as overall dimension of 1.25mx0.9m printable on single sheet which is reasonably handy and economical and all the geological and mining features as required can be shown in the plan and sections without compromising the clarity of the features.

In view of the above observation, your request for preparation of Surface Plan, Surface Geological Plan, Production and Development Plans and Sections, Conceptual Plan and Sections ,Reclamation Plan and Financial Area Assurance Plan on the scale of 1:4000 other than the scale prescribed under Rule 31(1)(d)(iii) of Mineral Conservation and Development Rules 2017 in respect of Bunder Diamond Deposit over an area of 364 ha located in villages Sagoriya Diamond Deposit over an area 364 ha. in Buxwaha Tehsil, District-Chhtarpur, State Madhya Pradesh has been duly considered and in exercise of the power vested on me under rule 61 of Mineral Conservation and Development Rules 2017 vide Gazette Notification GT-43010/CGBM/2014 dated 11th May 2017, the permission is hereby granted to prepare these plans on a scale of 1:4000 as requested.

अनुमोदित/APPROVED

The permission to prepared and maintain the Surface Plan, Surface Geological Plan ,Production and Development Plans and Sections ,Reclamation Plan and Financial Area Assurance Plan on the Scale of 1:4000 is hereby granted subject to the condition that in case of preparation of mining plans for the said lease area, mining block be demarcated clearly on the surface and geological plans for the said lease area, mining block be demarcated clearly on the Surface and Geological Plan showing the area proposed for excavation for next five years. The year wise Development Plan(Pit position at the end of every year for five years proposal plan period) within the mining block boundary should be drawn on a scale of 1:2000.The section prepared and other plans should be in the natural scale as prescribed in the rule and all the plans and sections should be laid down on suitable grid for easy reference.

भवदीय,

(रजनीश पुरोहित)
क्षेत्रीय खान नियंत्रक
भारतीय खान ब्यूरो,

Copy for kind information to:

1) Chief Controller of Mines, Indian Bureau of Mines, Nagpur
2) Controller of Mines (CZ), Indian Bureau of Mines, Nagpur
3) RCOM(TC), IBM, Nagpur

(रजनीश पुरोहित)
क्षेत्रीय खान नियंत्रक
भारतीय खान ब्यूरो,

अनुमोदित / APPROVED