सत्यमेव जयते

राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण, झारखण्ड

State Level Environment Impact Assessment Authority, Jharkhand

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पत्रांकः– 06 दिनांकः– 02.04.2023

प्रेषकः

सदस्य सचिव,
राज्य स्तरीय पर्यावरण समाघात निर्धारण
प्राधिकरण (SEIAA), झारखण्ड।

सेवा में,

उपायुक्त,
जिला : गोड्डा।

विषय : गोड्डा जिला का बालू खनिज से संबंधित DSR के अनुमोदन के संबंध में।

प्रसंग : आपका कार्यालय का पत्रांक–358/एम0, दि0–13.03.2023।

महाशय,

उपर्युक्त विषयक आपके कार्यालय के प्रासंगिक पत्र दिनांक 13.03.2023 द्वारा गोड्डा जिला का बालू खनिज से संबंधित DSR की एक प्रति अनुमोदन हेतु दिनांक 18.03.2023 को SEIAA कार्यालय में समर्पित किया गया।

तद्अनुसार SEAC, झारखण्ड की 102वीं बैठक दिनांक 21.03.2023 से दिनांक 25.03.2023 में Sri Meghlal Tuddu, DMO, Godda and Sri Niral Dhan, Assistant Director, Geology, Dumka की उपस्थिति में M/s Sathi Planners Pvt. Ltd. consultant द्वारा दिनांक 21.03.2023 में SEAC के समक्ष Presentation दिया गया, जिसमें DSR के Salient Features निम्नवत् बताये गये :–

1. The final DSR submitted is duly signed by all members of the Sub Divisional Committee and the Consultant. All the pages of the DSR are signed by the authorized officer of the Sub Divisional Committee.
2. The final DSR consists of the complete potential area and is demarcated as Potential Resource Area (PRA) / Sand Leases / Ghats as per Enforcement and Monitoring Guidelines for Sand Mining (EMGSM), 2020.
3. The replenishment study of pre & post monsoon period is included in final DSR.
4. The final DSR has been placed in the public domain for 01 (One) month from the 20.11.2022. As per the Sub Divisional Committee no comments / observations were obtained.
5. Demand and supply of the river bed material has been provided. The future demand for next 05 years is included in the final DSR.
6. The PRA / Sand Leases / Ghats have not been proposed on the confluence / meanders / concavities /active channels of the river.

7. Khata & Khasra numbers of the lease area certified by the concerned Circle Officer (CO) are incorporated in the final DSR.
8. The distance of PRA / Sand Leases / Ghats from the Forest / Wildlife Protected area / Birds Sanctuary/ Wildlife Sanctuary / National Park / Eco Sensitive Zone has been verified and certified by the concerned DFOs of the respective Territorial and Wildlife division.
9. A report detailing the presence of aquatic animal in the river in proximity of the proposed PRA / Sand Leases / Ghats is included in the final DSR.
10. The proposed PRA / Sand Leases / Ghats meet the siting criteria of State Pollution Control Board / SEIAA.
11. High resolution color satellite images of the proposed potential sand mining areas are included in final DSR.
12. Bulk density and specific gravity of sand sample data has been provided by NABL accredited laboratory.
13. Cluster and contiguous cluster formation as per EMGSM guidelines. 2020 has been included in the Annexures.
14. Mining is restricted to 3/4th of the river width and 60% of the mineable reserve.
15. Transportation routes for movement of sand are provided in the final DSR.
16. All the annexures as per EMGSM guidelines, 2020 are included in the final DSR.
17. An undertaking with reference to Point no. 9.3 of the EMGSM guidelines, 2020 regarding monitoring of mining near inter-district or inter-state boundary has been provided.
18. The representative of the Sub Divisional Committee along with the Consultants have affirmed that all the guidelines of EMGSM guidelines, 2020 / Hon'ble Apex Court in Civil Appeal no. 3661-3662/2020, Pawan Kumar vs State of Bihar & ors, Hon'ble NGT in O.A. no. 54/2022/EZ, Bhumi Adhigrahan Visthapan Avam Punarvas Kisan Samiti vs State of Jharkhand & ors have been followed in preparation of the final DSR.

SEAC द्वारा उपरोक्त तथ्यों के आलोक में सर्वसम्मति से आपके द्वारा समर्पित DSR को अनुमोदन हेतु SEIAA को अपनी अनुशंसा भेजी गयी।

SEAC की DSR Godda को अनुमोदन हेतु भेजी गयी अनुशंसा के आलोक में SEIAA, झारखण्ड की 103वी बैठक दिनांक 01.04.2023 एवं दिनांक 02.04.2023 में विचार किया गया।

विचारोपरांत SEAC द्वारा की गयी अनुशंसा के आलोक में SEIAA द्वारा सर्वसम्मति से गोड्डा जिला का बालू खनिज से संबंधित DSR का अनुमोदन किया गया।

गोड्डा जिला का बालू खनिज से संबंधित अनुमोदित DSR की एक मूल प्रति अत्र–सह–संलग्न कर आपको अग्रेतर कार्रवाई हेतु भेजी जा रही है।

अनु० यथोक्त।

विश्वासभाजन,

02/04/2023

सदस्य सचिव,
राज्य स्तरीय पर्यावरण समाघात निर्धारण
प्राधिकरण (SEIAA), झारखण्ड।

DISTRICT SURVEY REPORT

FOR

SAND MINING OR RIVER-BED MINING

IN

GODDA DISTRICT OF JHARKHAND

As per Notification No. - S.O. - 3611 (E), 25th July 2018 of Ministry of Environment Forest & Climate Change, Government of India, New Delhi
& Enforcement & Monitoring Guidelines for Sand Mining, 2020 by MoEF & CC

State Level Environment Impact Assessment Authority
Approved
Jharkhand, Ranchi

Prepared by:

Sathi Planners Private Limited

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4	GO_Z5_CHI_3	3.52	A4
5	GO_Z5_CHI_4	3.03	A5
6	GO_Z5_CHI_14	3.98	A6
7	GO_Z5_CHI_15	1.82	A7
8	GO_Z9_KAJ_5	2.71	A8
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5	GO_Z9_KAJ_5	2.71	B5
6	GO_Z10_KAJ_6	1.82	B6
7	GO_Z12_SAK_7	5.51	B7
8	GO_Z13_SAK_8	2.59	B8
9	GO_Z14_RIB_9	11.29	B9
10	GO_Z15_CHI_10	2.39	B10
11	GO_Z16_CHI_11	2.10	B11
12	GO_Z17_CHI_12	3.55	B12
13	GO_Z18_CHI_13	1.06	B13
14	GO_Z5_CHI_14	3.98	B14

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12	GO_Z17_CHI_12	3.55	C12
13	GO_Z18_CHI_13	1.06	C13
14	GO_Z5_CHI_14	3.98	C14
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6	GO_Z5_CHI_14	3.98	D6
7	GO_Z5_CHI_15	1.82	D7
8	GO_Z9_KAJ_5	2.71	D8
9	GO_Z10_KAJ_6	1.82	D9
10	GO_Z12_SAK_7	5.51	D10
11	GO_Z13_SAK_8	2.59	D11
12	GO_Z14_RIB_9	11.29	D12
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Godda.

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CERTIFICATE

The District Survey Report (DSR) for Sand Mining or River-bed Mining in Godda District of Jharkhand State has been prepared by Sathi Planners Private Limited, a QCI (NABET) accredited consultancy firm (Certificate No.: NABET/EIA/2225/RA0264).

District Survey Report Sand Mining or River-bed Mining in Godda District is prepared under;

✓ Sustainable Sand Mining Management Guidelines, 2016

✓ Sand Mining Policy of Government of Jharkhand, 2017

✓ MoEF & CC, GoI Notification No. - S.O. 3611 (E) dated 25/07/2018

✓ Enforcement and Monitoring Guidelines for Sand Mining, 2020

✓ Jharkhand Minor Mineral Concession Rule, 2021

The information mentioned in the District Survey Report for Sand Mining or River-bed Mining in Godda District of Jharkhand State are correct to the best of our knowledge.

Authorized Signatory

M/s Sathi Planners Pvt. Ltd.

State Level Environment Impact Assessment Authority
Approved
Jharkhand, Ranchi

District Mining Officer,
Godda.

Recommended by Sub-Divisional Committee and Deputy Commissioner, Godda

Assistant Director, Geology
Dumka

District Mining Officer
Godda

Executive Engineer, Irrigation
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Regional Officer, SPCB
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State Level Environment Impact Assessment Authority * Jharkhand, Ranchi * Approved

SEIAA, Ranchi

02/04/2023
Member
State Level Environment Impact Assessment Authority, Jharkhand

02/04/2023
Member Secretary
State Level Environment Impact Assessment Authority
Jharkhand

Chairman
State Level Environment Impact Assessment Authority, Jharkhand

District Mining Officer,
Godda.

1. PREFACE

MoEF & CC has published Notification No. - 3611 (E), dated 25th July, 2018 regarding inclusion of the "Minerals Other than Sand" and format for preparation of the District Survey Report (DSR) for Sand mining or River-bed mining has been specified. Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) January 2020, issued by Ministry of Environment, Forest and Climate Change is prepared in consideration of various orders/directions issued by Hon'ble NGT in matters pertaining to illegal sand mining and based on the reports submitted by expert committees and investigation teams. This DSR has been prepared in conformity with the Enforcement and Monitoring Guidelines for Sand Mining, 2020 and other Sand mining guidelines published by MoEF & CC time to time as well as the requirement specified in Jharkhand State Sand Mining Policy 2017.

The purpose of DSR is to identify the mineral potential areas where mining can be allowed; and also to distinguish areas where mining will not be allowed due to proximity to infrastructural structures and installations, areas of erosion. The DSR would also help to estimate the annual rate of replenishment wherever applicable.

The district of Godda was created on 17th May, 1983 out of old Santhal Pargana district which was upgraded to the level of division. Present Santhal Pargana division comprises 5 districts, viz., Godda, Dumka, Deoghar, Sahebganj and Pakur. Godda(M), the only one town of the district, is the headquarters of Godda district and Godda subdivision. The history of Godda district is inseparable from the history of parent district of Santhal Pargana. Santhal Pargana was created as a separate district in the year 1855 by transferring out portions of Bhagalpur and Birbhum districts. The entire area comprising present divisions of Santhal Pargana, Hazaribag, Munger and Bhagalpur was termed as Jungleterry (Jungle Terai) by the English on assumption of Diwani in 1765.

Godda district is one of the twenty four districts of Jharkhand State in eastern India with it's district headquarter at Godda. It lies in the north-eastern part of the State. The geographical area that now comprises Godda district, used to be part of the erstwhile Santhal Pargana district. The district lies between 25°13'38.47"N, 87°23'55.62"E to 24°30'4.34"N, 87°23'39.21"E (North–South), 25° 0'49.81"N, 87° 8'53.15"E to 24°47'58.32"N, 87°30'30.73"E (West–East)

Godda district is sharing border with Banka district of Bihar to the West, Bhagalpur district to the North, Dumka district to the South, Sahibganj and Pakur district to the East. The district lies in Survey of India Toposheets Nos. - 72O/4, 8, 12, 72P/1, 2, 5, 6. The area of the district is 2110 km², with a population of around 1,313,551 (population density 580/Km²). Tribals like Santhals, Paharias and Lohras make a sizeable chunk of the population of the district. Being tribal dominated its culture and creed is unique. This district is covered with mountains, rivers and forests. Its natural phenomena are fascinating and rare.

The principal rivers of the district are Kajhia, Harna, Sunder, Sapin, Kao, Chir and Geura. The general trend of the drainage is from SE-NW. The structural features particularly the foliation and joints exert profound impact upon the drainage and control the drainage pattern of the district. Sand mining is mainly practiced in Godda, Mahagama and Basantarai, Pathargama, Poriyahat blocks of Godda district. Rivers in which sand mining takes place in Godda district are - Bansloi, Burigeria, Chir, Kajhia, Sundargaria rivers. The general trend of the drainage is from SE-NW. The structural features particularly the foliation and joints exert profound impact upon the drainage and control the drainage pattern of the district.

During 1980's after the successful exploration by GSI and CMPDI the district is well known for its coal mining. The entire scenario changed after coal was first discovered in abundance under the Rajmahal Hills by a team of the Geological Survey of India. Central Mine Planning and Design Institute Ltd. conducted a detailed survey of the area. The Rajmahal Opencast Coal mine project

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was conceived in early 1980s, initially to supply coal to Farakka Super Thermal Power Project of NTPC, with an initial annual capacity of 5 million tonne. For expansion of this coal mine project to 10.5 million tonne per annum, an agreement was signed between Coal India Limited and Canadian Commercial Corporation in January 1989 where MET-CHEM Canada Inc. was designated as the Canadian Executing Agency for implementing the project. The Project was completed in July 1994 and is being run by Eastern Coalfileds Limited personnel. Sand mining is mainly practiced in Godda, Mahagama and Basantarai blocks of Godda district.

The occurrence of riverbed sand and gravel in the district has been established by Department of Mines and Geology, Government of Jharkhand and others in previous instances. It requires further systematic and scientific approach to quantify the resource along with their grade assessment. Sand mining is mainly practiced in Gerua Nadi, Chir Nadi, Kajhia nadi, Sakri Nadi & Ribani nadi of Godda district. This report also recommends to undertake detail exploration program to assess the mineral occurrences in the major rivers of the district and should have a proper development and production plan for the specified minerals.

Compliance of Enforcement & Monitoring Guidelines for Sand Mining (MoEF&CC), January 2020:

Clause No.	Particulars	Status
a	District Survey Report for sand mining shall be prepared before the auction/e-auction/grant of the mining lease/Letter of Intent (LoI) by Mining department or department dealing the mining activity in respective states.	Noted.
b	In order to make the inventory of River-Bed Material, a detailed survey of the district needs to be carried out, to identify the source of River Bed Material and alternative source of Sand (M-Sand). The source will include rivers, de-siltation of reservoir/dams, Patta lands/Khatedari Land, M-sand etc.	Complied with and explained in Maps.
c	District Survey Report is to be prepared in such a way that it not only identifies the mineral-bearing area but also define the mining and no mining zones considering various environmental and social factors.	Complied while making the ghats.
d	Identification of the source of Sand & M-Sand. The sources may be from Rivers, Lakes, Ponds, Dams, De-silting locations, Patta land/Khatedari lands. The details in case of Rivers such as [name, length of river, type (Perennial or Non-Perennial), Villages, Tehsil, District], in case of Lakes, Ponds, Dams, De-silting locations [Name, owned/maintained by (State Govt./PSU), area, Villages, Tehsil, District] in case of Patta land/Khatedari lands [Owner Name, Sy No., Area, Agricultural/Non-Agricultural, Villages, Tehsil, District], in case of M-Sand Plant [Owner Name, Sy No., Area, Quantity/Annum, Villages, Tehsil, District] needs to be recorded .	No M-Sand source are available in the district. All the required details of rivers are mentioned in desired format in Chapter 12.

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e	Defining the sources of Sand/M-Sand in the district is the next step for identification of the potential area of deposition/aggradation wherein mining lease could be granted. Detailed survey needs to be carried out for quantification of minerals. The purpose of mining in the river bed is for channelization of rivers so as to avoid the possibility of flooding and to maintain the flow of the rivers. For this, the entire river stretch needs to be surveyed and original ground level (OGL) to be recorded and area of aggradation/deposition needs to be ascertained by comparing the level difference between the outside riverbed OGL and water level. Once the area of aggradation/deposition are identified, then the quantity of River-bed material available needs to be calculated. The next step is channelization of the river bed and for this central ¾th part of the river, width needs to be identified on a map. Out of the ¾th part area, where there is a deposition/aggradation of the material needs to be identified. The remaining ¼th area needs to be kept as no mining zone for the protection of banks. The specific gravity of the material also needs to be ascertained by analyzing the sample from a NABL accredited lab. Thus, the quantity of material available in metric ton needs to be calculated for mining and no mining zone.	Detailed Survey for capturing OGL has been done using UAV/DGPS. Area of deposition has been identified accordingly. All Sand ghats boundaries has been fixed after leaving the 1/4th of the River width for bank's safety. Tonnage factor of sand has been calculated by analyzing sand samples from NABL accredited laboratory.
f	The permanent boundary pillars need to be erected after identification of an area of aggradation and deposition outside the bank of the river at a safe location for future surveying. The distance between boundary pillars on each side of the bank shall not be more than 100 meters.	Boundary pillars will be fixed while fixation of the mining lease boundary subsequent to district level verification.
g	Identifying the mining and no mining zone shall follow with defining the area of sensitivity by ascertaining the distance of the mining area from the protected area, forest, bridges, important structures, habitation etc. and based on the sensitivity the area needs to be defined in sensitive and non-sensitive area.	No mining zone has been identified by measuring distance from bridges and permanent structures. Also, NOC from the concerned DFO & CO has been obtained for the potential area as per statutory norms. Enclosed in Page No. - 100-118.
h	Demand and supply of the River-bed material through market survey needs to be carried out. In addition to this future demand for the next 5 years also needs to be considered.	Complied
i	It is suggested that as far as possible the sensitive areas should be avoided for mining, unless local safety	Agreed.

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	condition arises. Such deviation shall be temporary & shall not be a permanent feature.	
j	The final area selected for the mining should be then divided into mining lease as per the requirement of State Government. It is suggested the mining lease area should be so selected as to cover the entire deposition area. Dividing a large area of deposition/aggradation into smaller mining leases should be avoided as it leads to loss of mineral and indirectly promote illegal mining.	Entire deposit area has been marked on map as Zones instead of small parts. Sand ghat has been so prepared after leaving statutory distance & covering the entire deposit area within zone.
k	Cluster situation shall be examined. A cluster is formed when one mining lease of homogenous mineral is within 500 meters of the other mining lease. In order to reduce the cluster formation mining lease size should be defined in such a way that distance between any two clusters preferably should not be less than 2.5 Km. Mining lease should be defined in such a way that the total area of the mining leases in a cluster should not be more than 10 Ha.	Since, the sand deposit area has been divided into zones, formation of contiguous cluster has been reduced. Zone boundaries are fixed in such a way that it discontinues wherever there is bridge or no sand deposition or confluence. Also, individual sand ghat area has been kept as large as possible in order to reduce the formation of cluster through artificial break of large area.
l	The number of a contiguous cluster needs to be ascertained. Contiguous cluster is formed when one cluster is at a distance of 2.5 Km from the other cluster.	Due to formation of Sand deposit zone, contiguous cluster formation has been reduced as much as possible.
m	The mining outside the riverbed on Patta land/Khatedari land be granted when there is possibility of replenishment of material. In case, there is no replenishment then mining lease shall only be granted when there is no riverbed mining possibility within 5 KM of the Patta land/Khatedari land. For government projects, mining could be allowed on Patta land/Khatedari land but the mining should only be done by the Government agency and material should not be used for sale in the open market. Cluster situation as mentioned in para k above is also applicable for the mining in Patta land/Khatedari land.	Sand deposit area has been identified within River-bed only with proof of replenishment. No Patta/Khatedari land has been proposed for mining.

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n	The State Government should define the transportation route from the mining lease considering the maximum production from the mines as at this stage the size of mining leases, their location, the quantity of mineral that can be mined safely etc. is available with the State Government. It is suggested that the transportation route should be selected in such a way that the movement of trucks/tippers/tractors from the villages having habitation should be avoided. The transportation route so selected should be verified by the State Government for its carrying capacity.	Transportation route map has been prepared for each sand ghat considering these factors and duly approved by competent authority. Attached as Map No. – D1 to D16.
o	Potential site for mining having its impact on the forest, protected area, habitation, bridges etc., shall be avoided. For this, a sub-divisional committee may be formed which after the site visit shall decide its suitability for mining.	Sub-Divisional Committee has been visited tha Sand ghats and recommended the same. (Photographs enclosed)
p	Public consultation - The Comments of the various stakeholders may be sought on the list of mining lease to be auctioned. The State Government shall give an advertisement in the local and national newspaper for seeking comments of the general public on the list of mining lease included in the DSR. The DSR should be placed in the public domain for at least one month from the date of publication of the advertisement for obtaining comments of the general public. The comments so received shall be placed before the sub-divisional committee for active consideration. The final list of sand mining areas [leases to be granted on riverbed & Patta land/Khatedari land, de-siltation location (ponds/lakes/dams), M-Sand Plants (alternate source of sand)] after the public hearing needs to be defined in the final DSR.	The DSR has been kept in public domain for one month after publication of advertisement in local newspapers.
q	The LoI should not be granted for mining area falling on both river-bed and outside river-bed. Therefore, in the same lease, both types of area should not be included.	Shall be considered while issuing the LoI.

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2. INTRODUCTION

The District Survey Report of Godda District has been prepared as per the guidelines of Ministry of Environment, Forest & Climate Change (MoEF & CC), Government of India vide Notification S.O. 1533(E) dated 14th September 2006 and subsequent MoEF & CC Notification Enforcement and Monitoring Guidelines for Sand Mining, 2020. This report shall guide systematic and scientific utilization of natural resources, so that present and future generation may be benefitted at large. Further, MoEF & CC published a Notification S.O. 3611(E), dated 25th July 2018 and recommended the format for District Survey Report of Sand mining or River-bed mining.

The main objective of DSR is Identification of areas of aggradations or deposition where mining can be allowed; and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and calculation of annual rate of replenishment and allowing time for replenishment after mining in that area. The DSR would also help to calculate the annual rate of replenishment wherever applicable and allow time for replenishment.

The objectives of the District Survey Report are as following:

1. Identification and Quantification of Mineral Resource and its optimal utilization.
2. To regulate the Sand & Gravel Mining in the Country, identification of site specificend-use consumers and reduction in demand & supply gaps.
3. Use of information technology (IT) & latest scientific method of mining for surveillance of the Sand mining at each step.
4. District Survey report shall enable Environmental Clearance for cluster of Sand & Gravel Mining. It shall assist concern Department during post Environmental Clearance Monitoring.
5. To control the instance of illegal mining.
6. To control the flood in the area.
7. To maintain the livelihood of aquatic habitat.
8. To protect the incursion of ground water in the area. Limiting extraction of material in floodplains to an elevation above the water table generally disturbs more surface area than allowing extraction of material below the water table.
9. To keep accumulated data records viz. details of Mineral Resource, potential area, lease, approved mining plan, co-ordinates of a district at one place.
10. To maintain the records of revenue generation.
11. In-stream extraction of gravel from below the water level of a stream generally causes more changes to the natural hydrologic processes than limiting extraction to a reference point above the water level.
12. In-stream extraction of gravel below the deepest part of the channel generally causes more changes to the natural hydrologic processes than limiting extraction to a reference point above the thalweg.
13. Excavating sand and gravel from a small straight channel with a narrow floodplain generally will have a greater impact on the natural hydrologic processes than excavations on a braided channel with a wide floodplain.
14. Extracting sand and gravel from a large river or stream will generally create less impact than extracting the same amount of material from a smaller river or stream.
15. A concise guideline can be framed considering the point discussed in the DSR for sand and or minor mineral mining in the district.

The District Survey report (DSR) is comprised of primary data collected on ground as well as remote sensing data published and endorsed by various departments and websites about geology of the area, mineral resources, climate, topography, land form, forest, rivers, soil, agriculture, road, transportation, irrigation etc. Data on lease and mining activities in the district, revenue etc. are collected and collated from concern District Mining Office.

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2.1 Statutory Framework:

The below table has mentioned the requirement of District survey report and its year wise modification;

Table 2.1: Requirement of District Survey Report & its year wise modification

Year	Particulars
1994	The Ministry of Environment, Forest & Climate Change (MoEF&CC) published Environmental Impact Assessment Notification 1994 which is only applicable for the Major Minerals more than 5 Ha.
2006	In order to cover the minor minerals also into the preview of EIA, the MoEF&CC issued EIA Notification S.O. - 1533 (E), dated 14th September 2006, made mandatory to obtain environmental clearance for both Major & Minor Mineralmore than 5 Ha.
2012	Further, Hon'ble Supreme Court wide order dated the 27th February, 2012 in I.A. No.12- 13 of 2011 in Special Leave Petition (C) No.19628-19629 of 2009, in the matter of Deepak Kumar etc. Vs. State of Haryana and Others etc., ordered that"leases of minor minerals including their renewal for an area of less than five hectares be granted by the States/Union Territories only after getting environmental clearance from MoEF"; and Hon'ble National Green Tribunal, order dated 13thJanuary, 2015 in the matter regarding sand mining has directed for making a policy on environmental clearance for mining leases in cluster for minor Minerals.
2018	MoEF&CC published a notification S.O. 3611(E) Dated 25th July, 2018 and recommended the format for District Survey Report. The notification stated about the objective of DSR, i.e. "Identification of areas of aggradations or deposition where mining can be allowed; and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and calculation of annual rate of replenishment and allowing time for replenishment after mining in that area".
2020	Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) 2020 has been published with modifying Sustainable Sand Mining Guidelines, 2016 by MoEF&CC for effective enforcement of regulatory provisions and their monitoring. The EMGSM 2020 directed the states to carry out river audits, put detailed survey reports of all mining areas online and in the public domain, conduct replenishment studies of river beds, constantly monitor mining with drones, aerial surveys, ground surveys and set up dedicated task forces at district levels. The guidelines also push for online sales and purchase of sand and other riverbed materials to make the process transparent. They propose night surveillance of mining activity through night-vision drones.

➢ **Sustainable Sand Mining Management Guidelines 2016/Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) 2020 (By MoEF & CC)**

The main objective of the guideline is to ensure sustainable sand mining and environment friendly management practices in order to restore and maintain the ecology of river and other sand sources.

a) Parts of the river reach that experience deposition or aggradations shall be identified first. The Lease holder/Environmental Clearance holder may be allowed to extract the sand and gravel deposit in these locations to manage aggradations problem.

b) The distance between sites for sand and gravel mining shall depend on the replenishment rate of the river. Sediment rating curve for the potential sites shall be developed and checked against the extracted volumes of sand and gravel.

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c) Sand and gravel may be extracted across the entire active channel during the dry season.
d) Abandoned stream channels on terrace and inactive flood plains be preferred rather than active channels and their deltas and flood plains. Stream should not be diverted to form inactive channel.
e) Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.
f) Sand and gravel shall not be allowed to be extracted where erosion may occur, such as at the concave bank.
g) Segments of braided river system should be used preferably falling within the lateral migration area of the river regime that enhances the feasibility of sediment replenishment.
h) Sand and gravel shall not be extracted up to a distance of 1 kilometre (1 km) from major bridges and highways on both sides, or five times (5x) of the span (x) of a bridge/public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side.
i) The sediment sampling should include the bed material and bed material load before, during and after the extraction period. Develop a sediment rating curve at the upstream end of the potential reach using the surveyed cross-section. Using the historical or gauged flow rating curve, determine the suitable period of high flow that can replenish the extracted volume. Calculate the extraction volume based on the sediment rating curve and high flow period after determining the allowable mining depth.
j) Sand and gravel could be extracted from the downstream of the sand bar at river bends. Retaining the upstream one to two-thirds of the bar and riparian vegetation is accepted as a method to promote channel stability.
k) The flood discharge capacity of the river could be maintained in areas where there is a significant flood hazard to existing structures or infrastructure. Sand and gravel mining may be allowed to maintain the natural flow capacity based on surveyed cross-section history. Alternatively, off-channel or floodplain extraction is recommended to allow rivers to replenish the quantity taken out during mining.
l) The Piedmont Zone (Bhabhar area) particularly in the Himalayan foothills, where riverbed material is mined, this sandy-gravelly track constitutes excellent conduits and holds the greater potential for groundwater recharge. Mining in such areas should be preferred in locations selected away from the channel bank stretches.
m)Mining depth should be restricted to 3 meters and distance from the bank should be ¼th or river width and should not be less than 7.5 meters.
n) The borrow area should preferably be located on the riverside of the proposed embankment because they get silted in the course of time. For low embankment, less than 6m in height, borrow area should not be selected within 25 m from the toe/heel of the embankment. In the case of the higher embankment, the distance should not be less than 50m. In order to obviate the development of flow parallels to the embankment, crossbars of width eight times the depth of borrow pits spaced 50 to 60-meter center-to-center should be left in the borrow pits.
o) Demarcation of mining area with pillars and geo-referencing should be done prior to the start of mining.
p) A buffer distance/un-mined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed/prescribed by the regulatory authority shall be maintained.
q) A buffer distance/unmined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed/prescribed by the regulatory authority shall be maintained.
r) River bed sand mining shall be restricted within the central 3/4th width of the river/rivulet or 7.5 meters (inward) from river banks but up to 10% of the width of the river, as the case may be and decided by regulatory authority while granting environmental clearance in consultation with irrigation department. Regulating authority while regulating the zone of river bed mining shall

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ensure that the objective to minimize the effects of riverbank erosion and consequential channel migration are achieved to the extent possible. In general, the area for removal of minerals shall not exceed 60% of the mine lease area, and any deviation or relaxation in this regard shall be adequately supported by the scientific report.

s) Mining Plan for the mining leases(non-government) on agricultural fields/Patta land shall only be approved if there is a possibility of replenishment of the mineral or when there is no riverbed mining possibility within 5 KM of the Patta land/Khatedari land. For government projects mining could be allowed on Patta land/Khatedari land but the mining should only be done by the Government agency and material should not be used for sale in the open market.

The mineral reserve for river bed area is calculated on the basis of maximum depth of 3 meters and margins, width and other dimensions as mentioned in para(s) above. The area multiplied by depth gives the volume and volume multiplied with bulk density gives the quantity in Metric Ton. In case of river bed, mineable material per hectare area available for actual mining shall not exceed the maximum quantity of 60,000 MT per annum.

➢ The Ministry of Environment Forest & Climate Change formulated the Sustainable Sand Management Guidelines 2016 which focuses on the management of sand mining in the country. But in the recent past, it has been observed that apart from management and systematic mining practices there is an urgent need to have a guideline for effective enforcement of regulatory provision and their monitoring. Section 23 C of MMDR 1957 empowered the State Government to make rules for preventing illegal mining, transportation and storage of minerals. But in the recent past, it has been observed that there was large number of illegal mining cases in the Country and in some cases, many of the officers lost their lives while executing their duties for curbing illegal mining incidence. The illegal and uncontrolled illegal mining leads to loss of revenue to the State and degradation of the environment.

2.2 Methodology of DSR Preparation:

The data related to district profile, geology, mineralization, mining activity are sketchy and disjointed. There are multiple data sources, which are in the public domain, as well as in government website. To prepare District Survey Report, need to collate all the available databases on these in this regard. A comprehensive and a meaningful interpretable database created, which would be necessary to demonstrate the district overview. Workflow for the DSR job is as follows.

Data source Identification: District Survey Report has been prepared based on the Primary data base and secondary data base collated from different sources. This is very critical to identify authentic data sources before collating the data set. The secondary data sources which are used in DSR are mostly Government published data based or the published report in reputed journal. District profile has been prepared based on the District Census 2011. Potential mineral resources have been described based on GSI or any other Govt. agencies work done. Mining lease details and the revenue generated from Minor minerals has been prepared based on available data from District Mining Office of the district. Satellite image has been used for map preparation related to physiography and land utilization pattern of the district.

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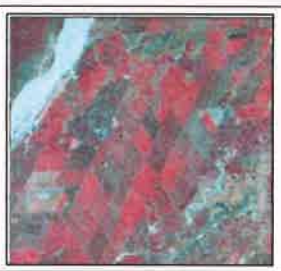
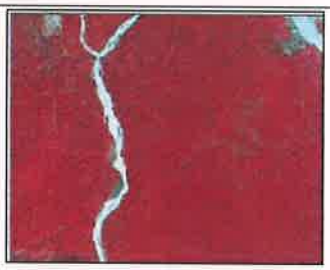
Data Analysis and Map Preparation: Dataset which are captured during the report preparation, are gone through detail analysis work. District Survey Report involves the analytical implication of captured dataset to prepare relevant maps. Methodology adopted for preparation of relevant maps is explained below.

Land Use and Land Cover Map: Land Use and Land Cover classification is a complex process and requires consideration of many factors. The major steps of image classification may include determination of a suitable classification system via Visual Image Interpretation, selection of training samples, Satellite image (FCC-False Colour Composition) pre-processing, selection of suitable classification approaches, post-classification processing, and accuracy assessment.

Here LISS-III satellite imagery has been taken for Supervised Classification as supervised classification can be much more accurate than unsupervised classification, but depends heavily on the training sites, the skill of the individual processing the image, and the spectral distinctness of the classes in broader scale.
According to the Visual Image Interpretation (Tone, Texture, Colour etc.) training set of the pixel has been taken.

Table 2.2: Pictorial Descriptions of Physiographic classification

	
Agricultural Land - Based on their Geometrical shape, Red and Pink colour tone, Agricultural Land has been identified.	**Vegetation Covered Area** - Based on their continuous Red colour tone, Vegetation Covered Area has been identified.
Agricultural Fallow Land - Based on their Geometrical shape, Light and dark Cyan with light Pink colour tone, Agricultural Land has been identified.	**Bad Land Topography**- Light Yellowish mixed with Cyan colour has been identified as Bad Land Topography.

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	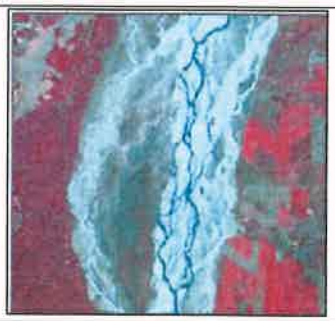
Settlement – Area with Cyan Colour including geometrical shape has been recognised as Settlement Area.	**Water Bodies** – Dark Blue colour has been classified as Water Bodies.

Geomorphological Map:

The major steps of preparing Geomorphological Map is identifying features like – Alluvial Fan, Alluvial Plain, Hilly Region etc. from Satellite Imagery (FCC-False Colour Composition) via Visual Image Interpretation and then digitization has been taken into the consideration to prepare map including all the Geomorphological features according to their location.

Physiographical Map:

The major step of preparing Physiographical Map is generating contour at a specific interval to show the elevation of the area using Cartosat DEM.

Block Map:

- Raw Data collected from **National Informatics Centre (NIC Website)** during March 2022 and October 2022.
- Data has been geo-referenced using GIS software.
- Digitization of Block boundary, District Boundary, State Boundary, International Boundary, and District Headquarter, sub–district Headquarter, Places, Road, Railway, River, Nala etc.
- Road name, River name, Railway name has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Transportation Map:

- Raw Data collected from **National Informatics Centre (NIC Website)** during March 2022 and October 2022.
- Data has been geo-referenced using GIS software.
- Digitization of Block boundary, District Boundary, State Boundary, International Boundary, and District Headquarter, sub–district Headquarter, Places, Road, Railway, River, Nala etc.
- Road name, River name, Railway name has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Drainage Map:

- Raw Data collected from **National Informatics Centre (NIC Website)** during March 2022 and October 2022.
- Data has been geo-referenced using GIS software.
- Digitization of Block boundary, District Boundary, State Boundary, International Boundary, and District Headquarter, sub–district Headquarter, Places, Road, Railway, River, Nala etc.

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- Road name, River name, Railway name has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Earthquake Map:

- Raw data collected from **Ministry of Earth Science.**
- Data has been geo-referenced using GIS software.
- Digitization of Earthquake zone and superimposed it over Block Boundary.
- Zone name has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Soil Map:

- Raw data collected from **National bureau of Soil Survey and Land Use Planning.**
- Data has been geo-referenced using GIS software.
- Digitization of Soil classification zone and superimposed it over District Boundary.
- Soil classification has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Wildlife Sanctuary and National Park Location Map:

- Raw data collected from **ENVIS Centre on Wildlife & Protected Areas.**
- Data has been geo-referenced using GIS software.
- Digitization of Wildlife Sanctuary & National park and superimposed it over Block Boundary.
- Wildlife Sanctuary & National park name has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Primary Data Collection: Although, field data collection is an integral part of DSR prepration but due to monsoon season no field visit has been carried out. This report has been preparaed with the holistic approach and data provided by District Mining Office, Godda. The field data collection has been carried out in post-monsoon season and a DSR with all updated data has been prepared.

Replenishment study: One of the principal causes of environmental impacts from in-stream mining is the removal of more sediment than the system can replenish. It is therefore need of replenishment study for river bed sand in order to nullify the adverse impacts arising due to excessing sand extraction. The annual rate of replenishment carried out on every river of the district to have proper assessment of the sand reserve for mining purposes.

Four times Physical survey is to be carried out by DGPS/Total Station to define the topography, contours and offsets of the riverbed. The surveys should clearly depict the important attributes of the stretch of the river and its nearby important civil and other feature of importance. This information will provide the eligible spatial area for mining. However, this DSR has been prepared on a very short period of time, mostly using secondary data. Primary data to be taken into use in subsequent phases.

Report Preparation: District Survey Report has been prepared to fulfill the purpose of identification of mining area of Major and Minor mineral and their impact on environment. Report provides details of the mineral potential zones. Assessing mining prospect with respect to minor minerals. Replenishment study details includes in the report. Report also provides the socio-environmental study for emphasizing Minor minerals mining in the district.

Demand and Utilization of Sand

Sand is a multi-purpose construction material. It is known as one of the three fundamental ingredients in concrete. The composition of sand is diverse. Mostly sand is made of silica which is

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a common element. It can also come from another source of minerals like quartz, limestone, or gypsum.

From beds to flood plains to coastlines, we can find sand at almost everywhere. The robustness of sand has played a significant role in everyday life. We use sand practically every other day.

Sand extraction from river-beds and brick earth mining for making raw bricks are the main mining activities in the district. With a spurt in construction of real estate sectors and various Govt. sponsored projects, the demand for both sand and bricks has increased manifold.

The extraction of sand is carried out either manually or through semi-mechanized system. The depth of mining for both river-bed sand and brick earth is restricted due to statutory provision in the regulations pertaining to conservation and development of Minor minerals.

River sand mining is a common practice as habitation concentrates along the rivers and the mining locations are preferred near the markets or along the transportation route, for reducing the transportation cost. In the real world, there are a lot of situations where we can find uses of sand. Followings are the common sand uses.

1. While bunging metal, we can mix sand with clay binder for frameworks used in the foundries.
2. Sand can be used for cleaning up oil leak or any spill by dredging sand on that spill. The material will form clumps by soaking up, and we can quickly clean the mess.
3. Sand can be used as a road base which is a protective layer underneath all roads.
4. Industrial sand is used to make glass, as foundry sand and as abrasive sand.
5. One creative usage of sand is serving as a candle holder. We can try putting some sand before pouring tea light or any candle in a glass. It holds the candle still and refrain the candle from rolling by giving it an excellent decoration.
6. Adds texture and aesthetic appeal to space.
7. Sand is mostly pure to handle, promptly available and economically wise.
8. We use sand in aquariums, fabricating artificial fringing reefs, and in human-made beaches.
9. Sandy soils are ideal for growing crops, fruits and vegetables like watermelon, peaches, peanuts.
10. Sand can light a path by filling mason jars with sand and tea light which is another in expensive way to make a walkway glow.
11. Sand helps to improve resistance (and thus traffic safety) in icy or snowy conditions.
12. We need sand in the beaches where tides, storms or any form of preconceived changes to the shoreline crumble the first sand.
13. Sand containing silica is used for making glass in the automobile and food industry - even household products for the kitchen.
14. Sand is a strong strand which is used for plaster, mortar, concrete, and asphalt.
15. The usual bricks formulated of clay only is way weaker and lesser in weight than blocks made of clay mixed with sand.

- **Chronology:**

Sl. No.	Time Period	Activity
1	January 2022	Pre Monsoon study of Sand deposit has been carried out by the District Mining Office
2	October 2022	Work for Preparation of DSR has been allotted to the concerned NABET accredited consultants.
3	October 2022	Post-Monsoon survey as well as study of satellite imageries has been conducted.
4	November 2022	Softcopy of Draft DSR has been uploaded to the NIC portal for review.

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5	Januar 2022	Incorporating all the suggestions received and field verification by the Sub-Divisional Committee, DSR has been finalized.
6	February 2022	DSR has been placed in front of the Hon'ble SEAC Jharkhand for approval.

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3. GENERAL PROFILE OF THE DISTRICT

3.1 General Information:

Godda district is one of the twenty-four districts of Jharkhand State in eastern India. It lies in the north-eastern part of the State. The geographical area that now comprises Godda district used to be part of the erstwhile Santhal Pargana district. Godda town is the headquarters of Godda district. The area of the district is 2110 km², with a population of around 1313551. The Godda district is connected with rail link. The nearest railway station is Godda. The main economic activity of the people is agriculture and major crops are paddy, wheat and maize. Godda is the land of a tribe called Santhals. Godda is not only a land of tribes, the local inhabitants also include the non-tribal and urban people. Godda is a Silk City with a municipal Council in the Godda subdivision & Mahagama Subdivision the Godda district in the Indian State of Jharkhand. Godda was a part of undivided Santhal Pargana district until 1981 census. Later the old Godda sub-division of Santhal Pargana was separated and formed as a new district. As a consequence of the Santhal rebellion of 1845-55 the district of Santhal Paragna was created from portions of Bhagalpur and Birbhum. Godda district at present comprises nine Blocks. Godda is the only town in the district. There are 2311 villages in the district.

(Source – godda.nic.in)

The principal rivers of the district are Kajhia, Harna, Sunder, Sapin, Kao, Chir and Geura. The general trend of the drainage is from SE-NW. The structural features particularly the foliation and joints exert profound impact upon the drainage and control the drainage pattern of the district. Sand mining is mainly practiced in Godda, Mahagama and Basantarai, Pathargama, Poriyahat blocks of Godda district. Rivers in which sand mining takes place in Godda district are - Bansloi, Burigeria, Chir, Kajhia, Sundargaria rivers.

The district lies in Survey of India toposheets nos. 72O/4, 8, 12, 72P/1, 2, 5, 6.

EAST	Sahebganj District
WEST	Banka District
NORTH	Bhagalpur District
SOUTH	Dumka District

Administrative Set up of the Godda District

Godda town is the District headquarter of Godda itself. For administrative purpose the district has been divided into 2 sub-divisions – Godda & Mahagama and 9 nos. of Blocks/Tehsils as follows: -

Blocks

- Godda Sadar
- Poreyahat
- Sunderpahari
- Pathragama
- Basantrai
- Mahagama
- Meharma
- Boarijor
- Thakurgangti

(Source – godda.nic.in)

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Villages & Panchayats

There are 201 panchayats and 1634 villages in the district: Table 3.1: -

Blocks	No. of Panchayats	No. of Villages
Basantrai	14	82
Boarijor	22	296
Godda	34	196
Mahagama	29	140
Meherma	23	136
Pathargama	19	141
Poreyahat	31	194
Sundarpahari	13	208
Thakurgangti	16	141
Total	**201**	**1634**

(Soucre – Census 2011)

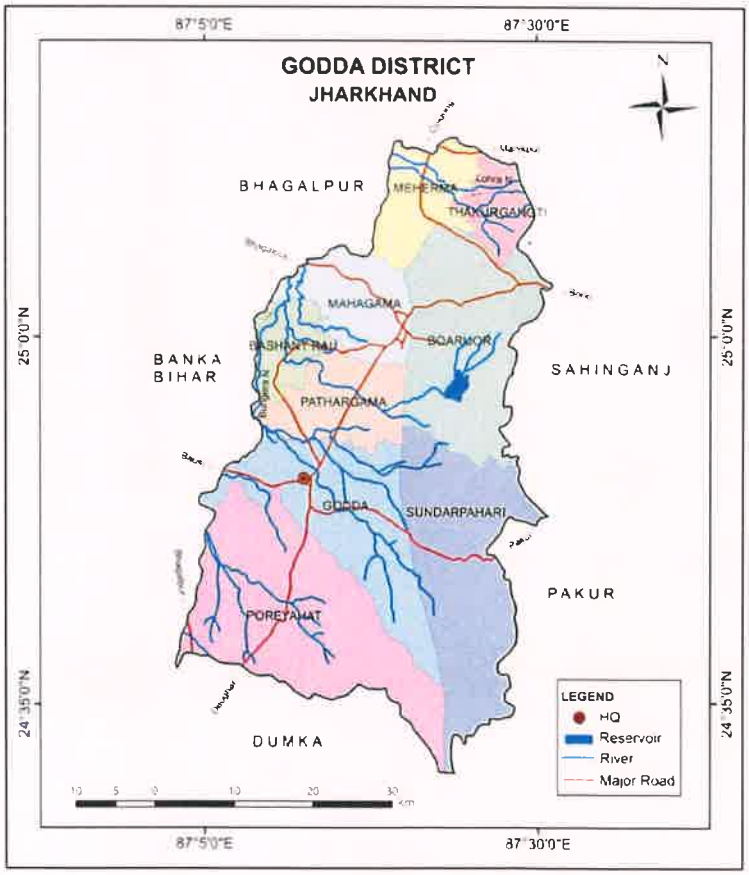

Figure 3.1: Block Map of Godda District

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3.2 Climatic Condition:

Located at an elevation of None meters (0 feet) above sea level, Godda has a Humid subtropical, dry winter climate (Classification: Cwa). The district's yearly temperature is 29.22°C (84.6°F) and it is 3.25% higher than India's averages. Godda typically receives about 32.67 millimeters (1.29 inches) of precipitation and has 34.36 rainy days (9.41% of the time) annually.

Table 3.2: Monthly Average Temperature of Godda District

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Nov	Oct	Dec	Year
Record high °C (°F)	29.0 (84.2)	34.0 (93.2)	40.0 (104.0)	44.0 (111.2)	44.0 (111.2)	46.0 (114.8)	40.0 (104.0)	39.0 (102.2)	37.0 (98.6)	35.0 (95.0)	32.0 (89.6)	28.0 (82.4)	46.0 (114.8)
Average high °C (°F)	23.54 (74.37)	27.31 (81.16)	33.85 (92.93)	37.61 (99.7)	39.0 (102.2)	37.91 (100.24)	34.16 (93.49)	34.28 (93.7)	33.04 (91.47)	31.24 (88.23)	29.41 (84.94)	24.88 (76.78)	32.19 (89.94)
Daily mean °C (°F)	19.68 (67.42)	23.38 (74.08)	30.15 (86.27)	34.36 (93.85)	35.66 (96.19)	35.51 (95.92)	32.18 (89.92)	32.24 (90.03)	30.97 (87.75)	28.68 (83.62)	26.32 (79.38)	21.46 (70.63)	29.22 (84.6)
Average low °C (°F)	14.0 (57.2)	16.71 (62.08)	22.25 (72.05)	26.48 (79.66)	28.22 (82.8)	29.86 (85.75)	28.1 (82.58)	27.88 (82.18)	26.81 (80.26)	23.75 (74.75)	20.69 (69.24)	15.91 (60.64)	23.39 (74.1)
Record low °C (°F)	10.0 (50.0)	10.0 (50.0)	14.0 (57.2)	23.0 (73.4)	21.0 (69.8)	23.0 (73.4)	24.0 (75.2)	22.0 (71.6)	18.0 (64.4)	18.0 (64.4)	16.0 (60.8)	9.0 (48.2)	9.0 (48.2)
Average precipitation mm (inches)	0.45 (0.02)	6.25 (0.25)	3.22 (0.13)	17.38 (0.68)	36.07 (1.42)	41.06 (1.62)	106.56 (4.2)	62.49 (2.46)	22.7 (0.89)	22.45 (0.88)	0.06 (0.0)	2.3 (0.09)	32.67 (1.29)
Average precipitation days (≥ 1.0 mm)	0.18	1.0	0.64	2.36	3.45	5.18	6.55	6.73	6.0	2.18	0.0	0.09	2.86
Average relative humidity (%)	53.91	49.4	31.33	38.18	47.85	54.37	70.18	70.87	73.53	64.92	48.92	44.96	54.03
Mean monthly sunshine hours	8.47	8.42	11.08	12.57	13.07	12.93	11.5	11.63	9.45	10.62	10.17	8.53	10.7

The chart below shows the mean monthly temperature and precipitation of Godda in recent years.

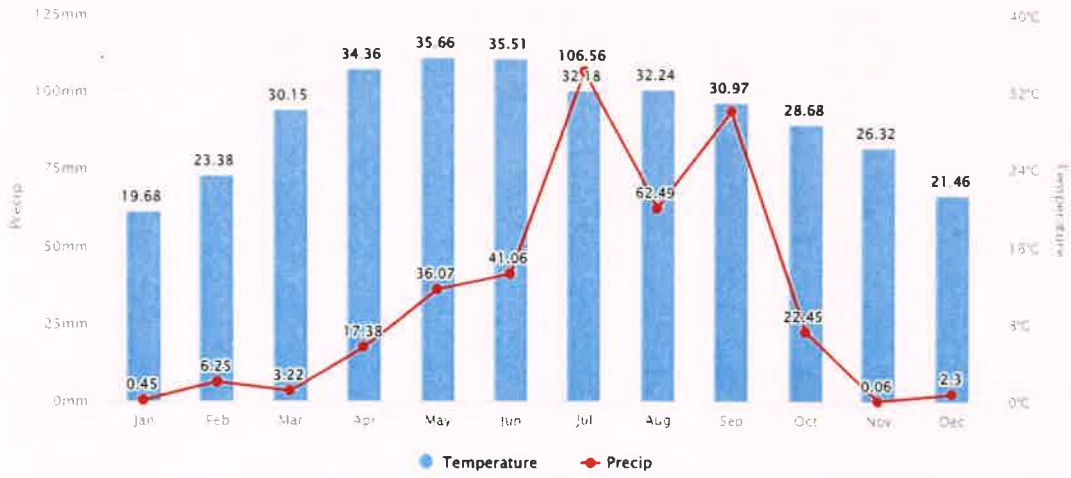

Figure 3.2: Graphical representation of monthly temperature and precipitation of Godda

(Source: Indian Meteorological Department)

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3.3 Rainfall & Humidity:

Godda typically receives about 32.67 millimeters (1.29 inches) of precipitation and has 34.36 rainy days (9.41% of the time) annually.

Table 3.3: Rainfall Data of Godda from 2017-2020

Year		2017	2018	2019	2020
Sl. No.	Month	Avg.	Avg.	Avg.	Avg.
1	Jan	11.50	13.00	17.80	12.10
2	Feb	9.20	32.00	8.30	6.40
3	Mar	5.40	4.70	8.60	7.30
4	Apr	4.80	15.00	84.00	22.30
5	May	90.60	80.30	30.30	60.80
6	Jun	195.90	200.00	272.70	120.90
7	Jul	148.30	305.30	370.90	290.50
8	Aug	387.10	255.40	260.70	180.10
9	Sep	252.10	263.80	180.50	250.50
10	Oct	75.60	39.40	30.70	35.20
11	Nov	0.00	0.00	0.00	0.00
12	Dec	0.00	0.00	0.00	0.00

In Godda, the climate is warm and temperate. The summers here have a good deal of rainfall, while the winters have very little. According to Köppen and Geiger, this climate is classified as Cwa. The average annual temperature in Godda is 25.5°C. In a year, the average rainfall is 1081 mm.

3.4 Topography & Terrain:

The predominant physical feature over major part of the district is the rolling topography dotted with isolated inselbergs except in the Borijore and Sundarpahari blocks. A substantial part of Borijore and Sundarpahari block is under forest cover. The altitude of the land surface increases from west to the east. The major hills are confined to the eastern part of the district comprising the Gandeshwari Pahar (238.41m) and Kesgari Pahar (268.29m) while in the western part of the district isolated hills are in the form of the inselbergs and other small hillocks.
The soil is mostly acidic, reddish yellow, light textured and highly permeable with poor water holding capacity.

3.5 Water Courses and Hydrogeology:

The southern part of the district is underlain by Granite-gneiss of Archaean age forming the basement. These occur as large batholiths and are intruded by basic rocks. In the central and northern part of the district the rocks of Barakar formation consisting of feldspathic sandstones, shales and coal seams overlying the metamorphics are exposed. In the western and northern part of the district alluvial cover of moderate thickness, caps the Archaean crystallines and the Gondwana sedimentaries.

The district is underlain by diverse geological formations with complex tectonic framework. The geological formations have been grouped under three main categories -

a) The gneissic complex in the southern and the central part.
b) The Rajmahal traps in the eastern and southeastern part.
c) Gondwanas overlain by thin mantle of alluvial cover in the northern and central part.

Ground water occurs mostly under phreatic condition in all the lithological units within the shallow aquifers and locally under semiconfined and confined condition in deeper aquifers.

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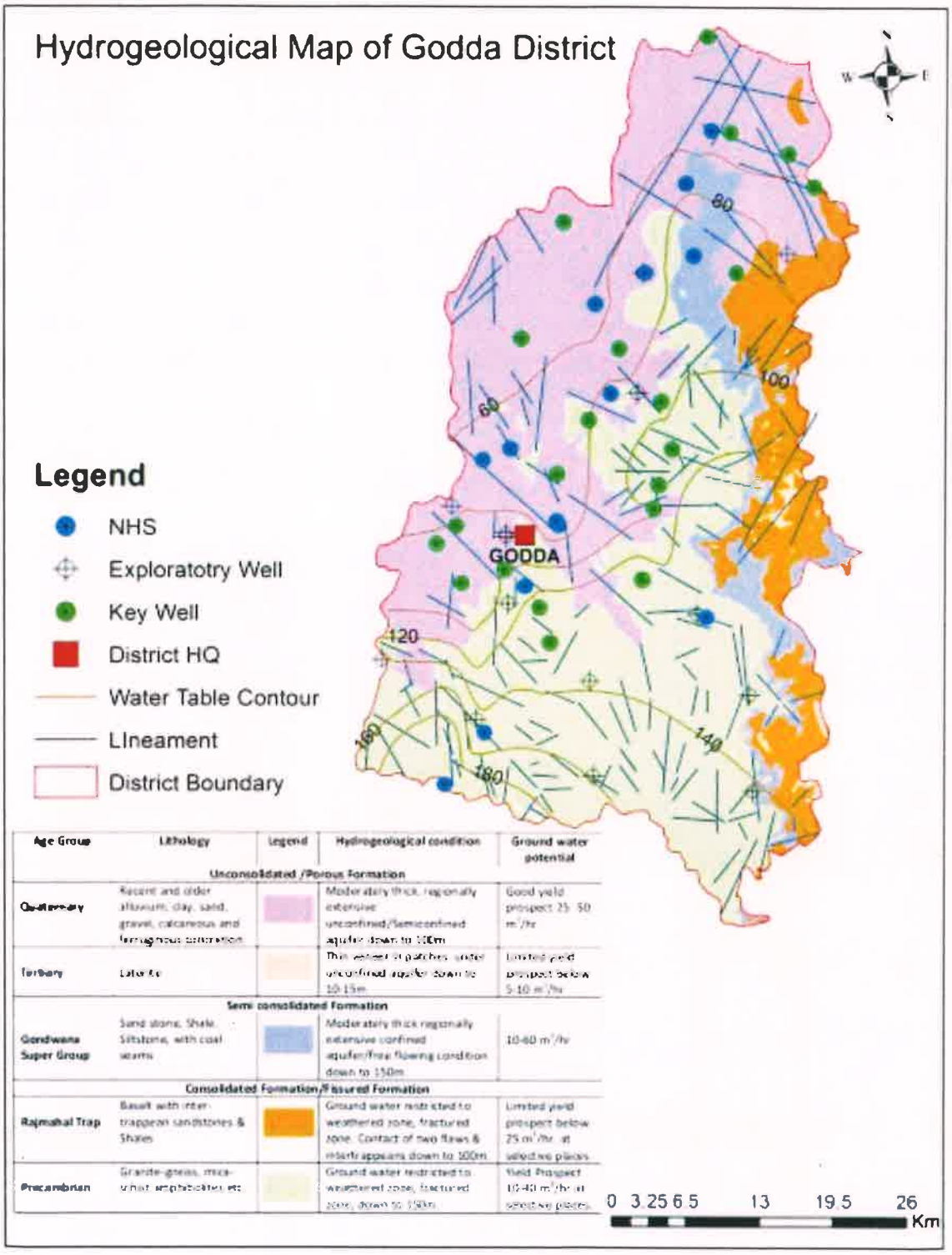

Figure 3.3: Hydrogeological Map of Godda District

(Source – CGWB Report)

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Depth to Water Level

During May 2012, the depth to water levels in HNS, wells tapping shallow aquifer ranged from 4.55 to 9.90 m bgl. Depth to ground water levels during the post monsoon period (November 2012) varied between 2.25 and 8.34 m bgl. Categorization of depth to water level of pre-monsoon period (May 2012) for HNS in Godda district is presented below in Table-3.4.

Table-3.4: Categorization of depth to water level of pre-monsoon period (May 2012)

No. of wells measured	Depth to water level (mbgl)		0-2 (m)		2-5 (m)		5-10 (m)		10-20(m)	
	Min.	Max.	No.	%	No.	%	No.	%	No.	%
8	4.55	9.90	0	0	2	20	8	80	0	0

Aquifer Parameters

A total of 13 exploratory wells and 12 observation wells have been drilled down to depth of 191 m in hard rock formation to decipher the potential fracture zones. The morphotectonic analysis of crystalline formation has revealed that rocks have been subjected to several stages of deformation leading to development of deep seated tensile and shear fracture. The most potential fracture zones trend along NNE-SSW, WNW-SSE and NW-SE direction. The exploratory data reveals presence of potential fractures between 17-163 m bgl. The deeper fractures are also found in few cases upto 140 m bgl. The depth of fracture at which maximum yield was obtained in bore well ranges from 75-135 m bgl. The thickness of the weathered zone varies from 9 to 26.5 m. The yield of the well is in the range of 0.25-49.2 m^3/hr.

Table-3.5 Summarized hydrogeological data of exploratory drilling

Rock Type	Depth range (m bgl)	No. of fractures tapped	Depth of Zone Range fracture	Water level (mbgl)	Yield (m^3/hr)	Draw down (m)	T (m^2/day)	S
Granite	81-191	1-5	17-163	2-8.63	0.25-49.2	7.04-	17.95-	$4.3^* 10^{-3}$ -
gneiss						22.11	177	$1.01^* 10^{-5}$

Ground Water Quality: -

Ground water in the phreatic aquifers in Godda district slightly alkaline in nature, which is also colourless, odourless. The specific electrical conductance of ground water in phreatic zone during May 2011 was in the range of 655-2408 µS/cm at 25°C. The suitability of ground water for drinking purpose has been evaluated on the basis of pH, Total hardness (T.H), Ca, Cl, F and NO3. The chemical concentration of these constituents, when compared with the drinking water specification recommended by IS:10500,1991 as presented below in table.

Table-3.6 Number of samples exceeding permissible limit in the district

Quality	IS:10500, 1991		No. of samples in the district exceeding permissible limit
	Desirable limit	Permissible limit	
pH	6.5-8.5	No relaxation	0
T.H	300	600	0
Ca	75	200	0
Cl	250	1000	0
F	1.0	1.5	0
NO3	45	100	0

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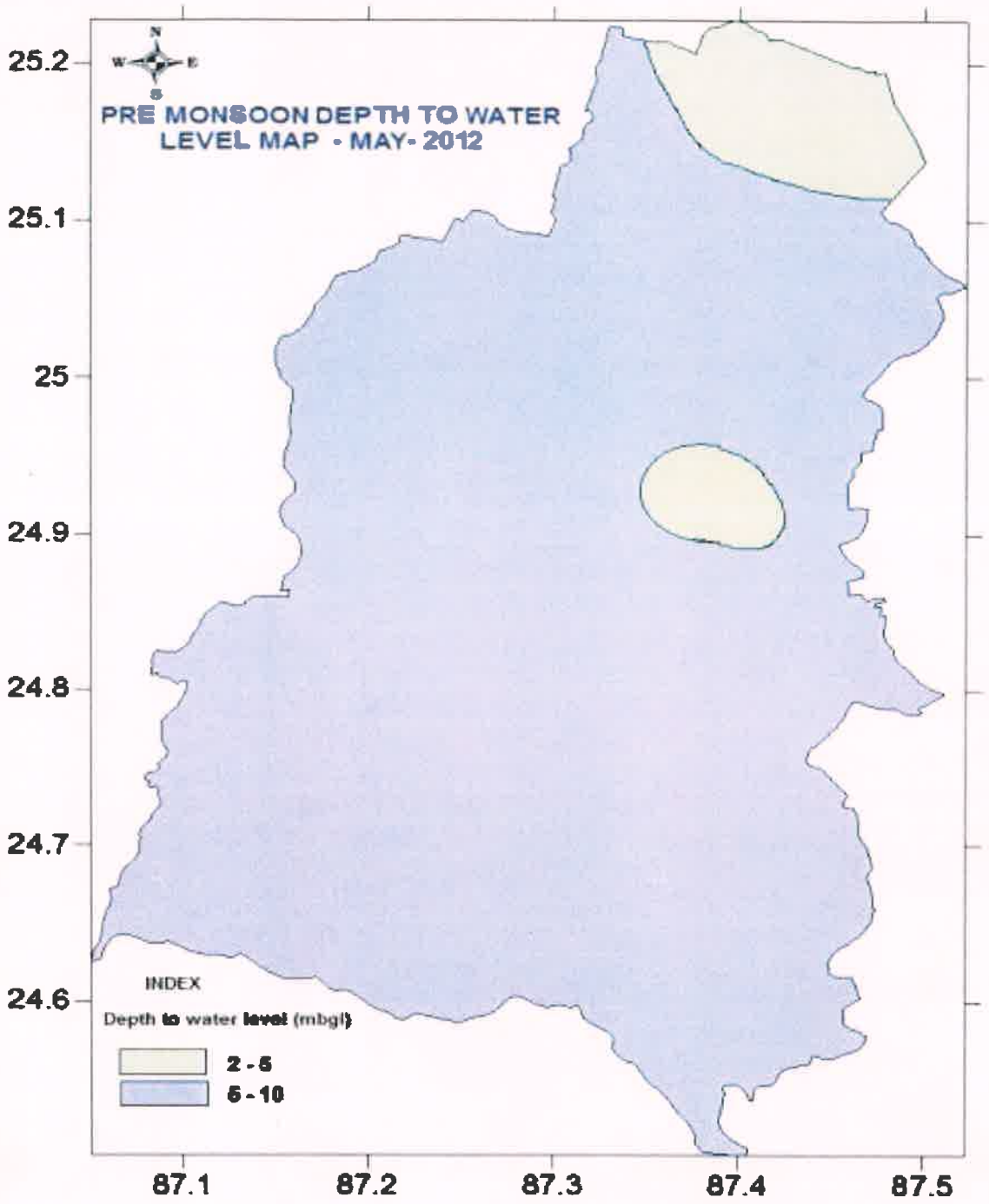

Fig. 3.4: Pre-monsoon Depth of Water Level Map

(Source: Central Ground Water Board)

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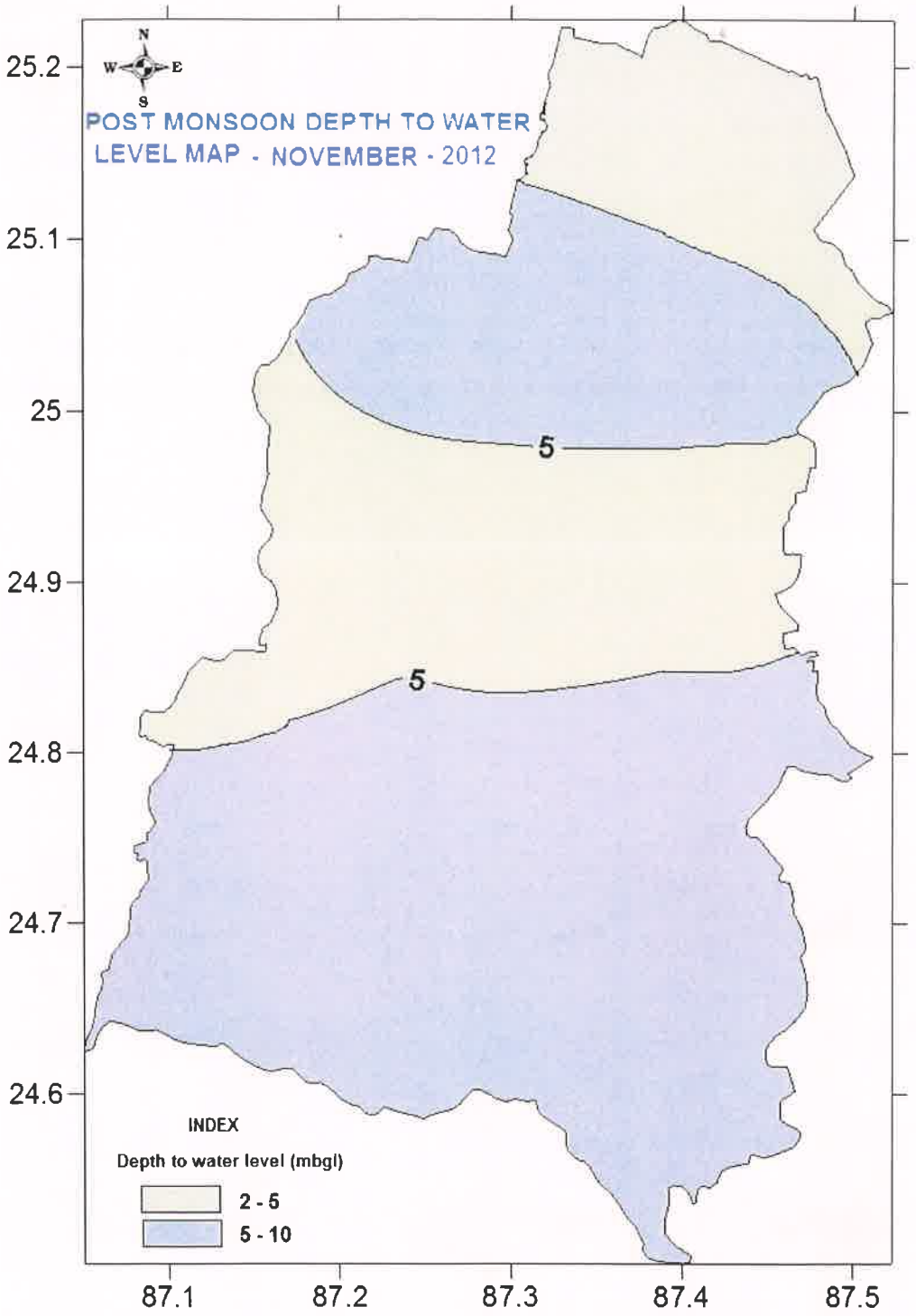

Fig. 3.5: Post-monsoon Depth of Water Level Map

(Source: Central Ground Water Board)

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3.6 Status of Ground Water Development: -

In the rural areas the entire water supply is dependent on ground water. Ground water development is mainly carried out in the district through dug wells and Hand pumps. In general, dug wells are of 2 m diameter and the depth ranges between 8 to 15 m depending on the thickness of the weathered zone, tapping the shallow aquifer in the weathered zone and uppermost slice of the basement. Large number of dug wells used for drinking water is under private ownership for which there is no reliable data. Over the years Mark II/Mark III hand pumps are being drilled in large numbers for ground water development. These hand pumps have the following two major advantages -

i) less susceptible to contamination from surface sources and
ii) tap fractures between 20-60m depth which have been found to be less affected by seasonal water level fluctuation and thus have lesser chances of failure even during extreme summer.

In rural areas of Godda district the number of hand pumps drilled by PHED is 12311 of which 9342 are under working condition. There are 574 dug wells constructed by government departments that are under regular use.

In the urban areas ground water plays a supplementary role in water supply, the major supply being made through dams, reservoirs or weirs across rivers or streams. No authentic data is available on the number of ground water structures catering the urban water supply.

As per the latest ground water resource estimation carried out adopting GEC 97 methodology, the overall stage of ground water development in Godda district has been found to be 38.68.

Ground Water Related Issue and Problems

Some of key ground water related issues are -
a) Locating suitable sites for bore wells.
b) Suitable design of dug wells and hand pumps.
c) Taking up artificial recharge projects to augment the resource availability in Godda district.
d) Optimal development of irrigation potential by developing ground water available for future uses.
e) Creating public awareness for conserving ground water through awareness camps, NGO's and mass media.

Awareness and Training Activity

The Mass Awareness Programme (MAP) By CGWB - Nil

Participation in Exhibition, Mela, Fair etc. - Nil

Area Notified by CGWB – None

Recommendation

As the district suffers from water scarcity, it is recommended to take artificial recharge at suitable locales. On the basis of the hydrogeological criteria such as post monsoon water level below 8 m bgl indicating availability of sufficient space in the unsaturated zone to retain additional water and availability of surplus surface runoff, 313 km² area in Godda district has been demarcated as suitable for artificial recharge. Through this 22.54 cm water can be recharged.

In the hard rock areas, pin pointing suitable sites for bore wells is always a challenge. Considering the anisotropy in distribution of fractures at deeper level, suitable sites may be selected using remote sensing techniques in association with geophysical and hydro-geological investigations. For deriving optimal benefit from aquifers in areas under fissured formation, the dug wells should be designed to penetrate the weathered zone as well as top part (1-2 m) of the underlying bed rock, so as to get the full benefit, from the total thickness of the shallow aquifer. For hand pumps and shallow tube wells the casing provided against the weathered zone should be slotted at the bottom

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so that the well can extract shallow ground water also. In urban areas use of shallow aquifers should be encouraged.

The surface run off in urban areas and its peripheral parts should be harnessed to augment the ground water resource through appropriate recharge techniques. For urban areas roof top rain water harvesting and artificial recharge is most suitable. Location and design of the structures should be guided by findings from hydrogeological and geophysical surveys. Sites for artificial recharge should be taken up at places where sufficient thickness of weathered zone as well as fracture/fracture zones are available. The depth of the recharge well should be governed by the depth of occurrence of the fractures.

3.7 Drainage System:

The principal rivers of the district are Kajhia, Harna, Sunder, Sapin, Kao, Chir and Geura. The general trend of the drainage is from SE-NW. The structural features particularly the foliation and joints exert profound impact upon the drainage and control the drainage pattern of the district. Sand mining is mainly practiced in Godda, Mahagama and Basantarai, Pathargama, Poriyahat blocks of Godda district. Rivers in which sand mining takes place in Godda district are - Bansloi, Burigeria, Chir, Kajhia, Sundargaria rivers.

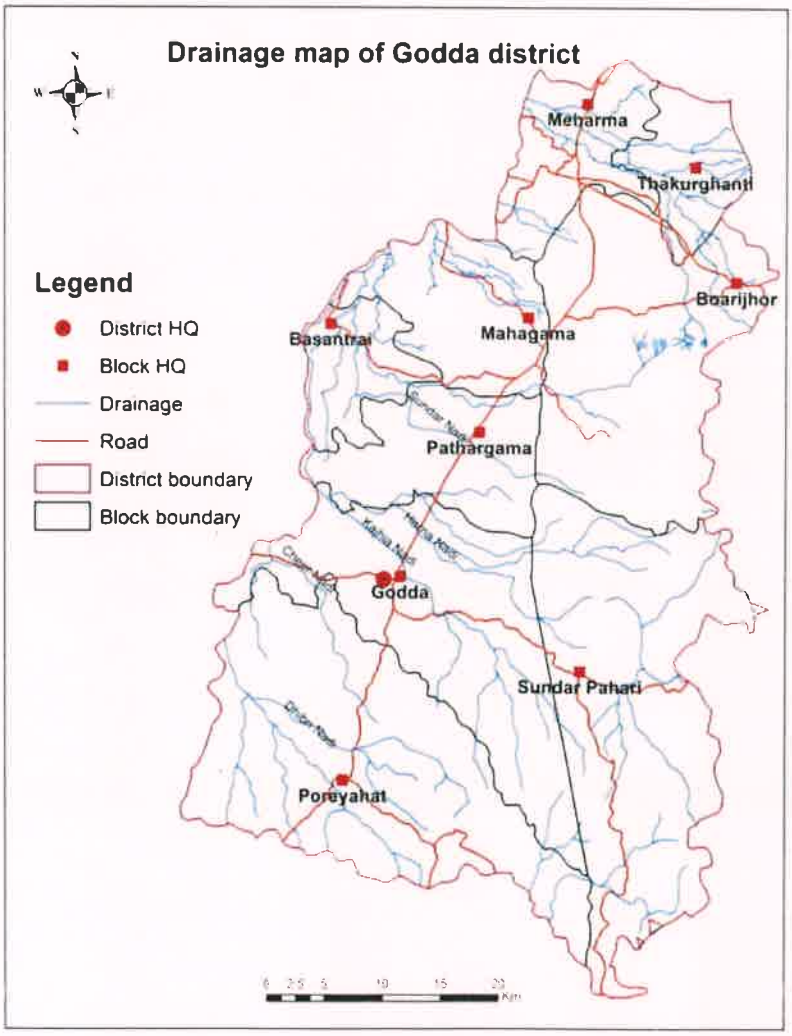

Fig. 3.6 – Drainage Map of Godda District
(Source: Final NAQUIM-Godda District, Jharkhand.pdf)

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3.8 Demography:

In 2011, Godda had population of 1,313,551 of which male and female were 677,927 and 635,624 respectively. In 2001 census, Godda had a population of 1,047,939 of which males were 544,043 and remaining 503,896 were females. Godda District population constituted 3.98 percent of total Maharashtra population. In 2001 census, this figure for Godda District was at 3.89 percent of Maharashtra population. There was change of 25.35 percent in the population compared to population as per 2001. In the previous census of India 2001, Godda District recorded increase of 21.68 percent to its population compared to 1991.

Table 3.7 – Demography details of Godda District

Description	2011	2001
Population	13.14 Lakhs	10.48 Lakhs
Actual Population	1,313,551	1,047,939
Male	677,927	544,043
Female	635,624	503,896
Population Growth	25.35%	21.68%
Area Km²	2,266	2,266
Density/km²	580	497
Proportion to Jharkhand Population	3.98%	3.89%
Sex Ratio (Per 1000)	938	926
Child Sex Ratio (0-6 Age)	960	978
Average Literacy	56.40	43.13
Male Literacy	67.84	57.52
Female Literacy	44.14	27.39
Total Child Population (0-6 Age)	241,784	204,371
Male Population (0-6 Age)	123,368	103,324
Female Population (0-6 Age)	118,416	101,047
Literates	604,519	363,825
Male Literates	376,212	253,504
Female Literates	228,307	110,321
Child Proportion (0-6 Age)	18.41%	19.50%

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Description	2011	2001
Boys Proportion (0-6 Age)	18.20%	18.99%
Girls Proportion (0-6 Age)	18.63%	20.05%

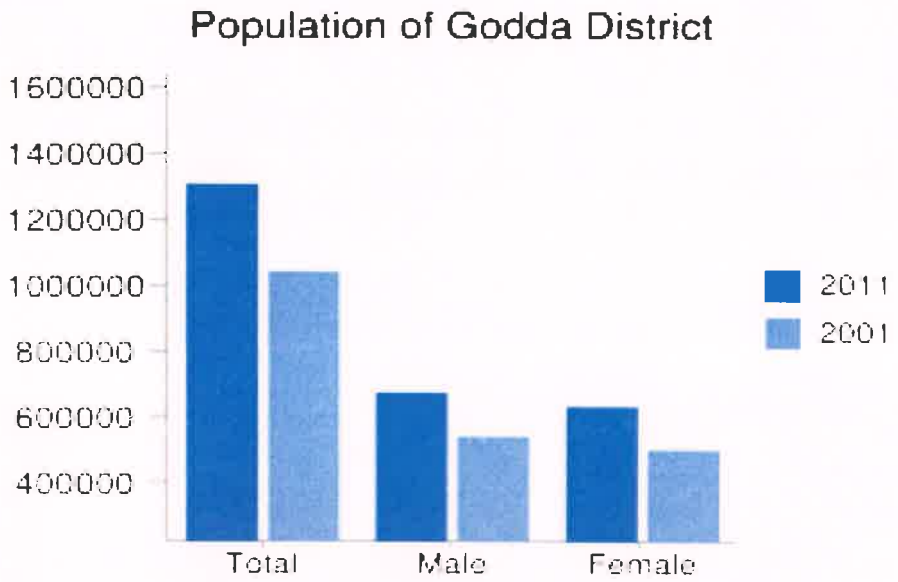

Fig. 3.7: Population Map

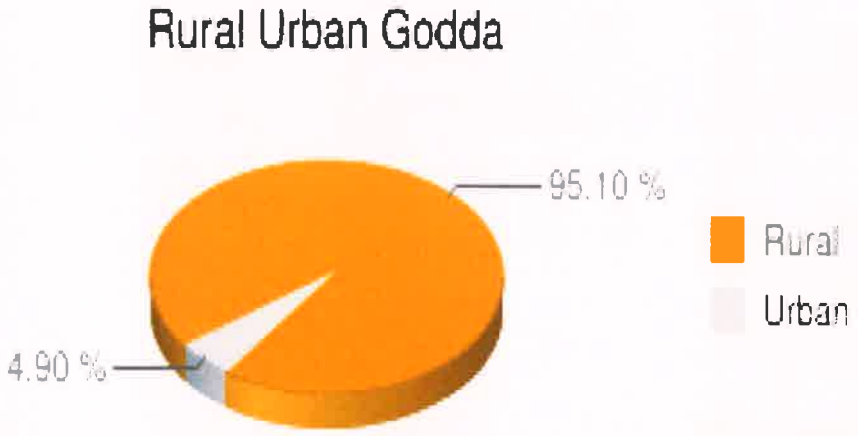

Fig. 3.8: Population Chart

Source - https://www.census2011.co.in/census/district

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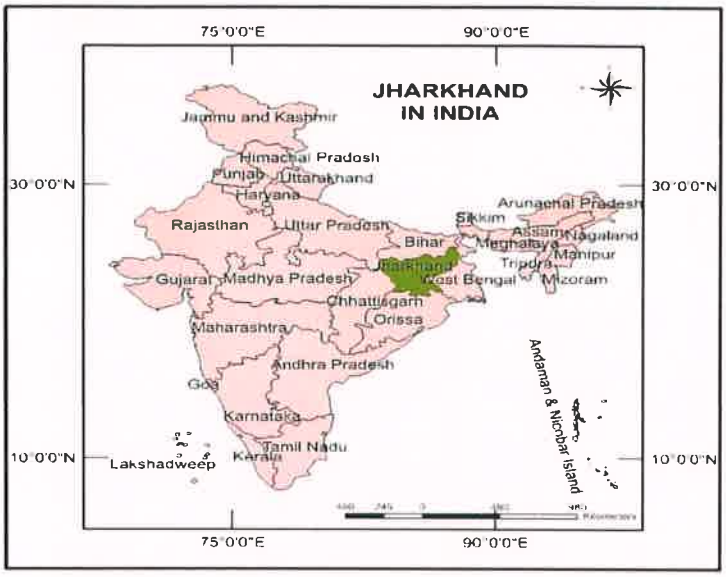
3.9 Connectivity in Godda District:

Godda is well connected with road and rail link. The Godda railway station is situated around 4 km from city center. Humsafar express was the first train depart from the Godda railway station on 8 April 2021. This weekly train will connect Godda to New Delhi via Bhagalpur and Gaya. The national highway NH-133 pass through Godda. Godda is about 297 km by road to Ranchi (Capital of Jharkhand). There is a net-work of good roads in the district. Both the subdivisional headquarters are connected with the district headquarters by black topped all weather roads. No important place in the district is unconnected by a good metalled road. There is road link with Calcutta through Jamtara. The Jamtara Dumka Sahibganj road provides a link with Assam after ferry across the Ganges and is quite busy.



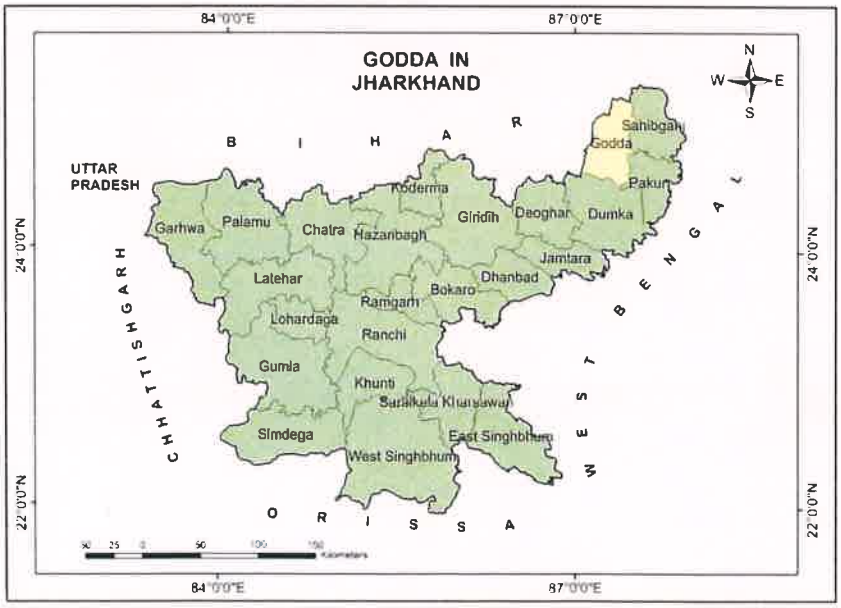


Fig. 3.9: Location Map of Godda District

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3.10 Flora & Fauna:

Flora

The district is abundantly covered with trees in rural as well as urban areas which play an important role in the economy of the district. Trees of the district exhibit a great variety including Mango, date-palm, plum, Jacktree, wood apple, custard apple, black plum, sheesham, sal, bamboo and many more. Besides this, a number of medicinal plants are also found in the district. Many of these medicinal plants have been identified to be useful in the medication of several incurable diseases. Most of the plants are found in the tribal areas of Godda district.

Fauna

A vast variety of fauna is also found in the district. Common fauna includes wild animals like monkey, pig, rabbit, jackal etc. A plethora of birds are also prevalent in the district. Apart from this peacock, leopard, bear are also found. Poisonous species like krait, cobra and scorpions are also common.

(Source - DSR – Stone - 2018)

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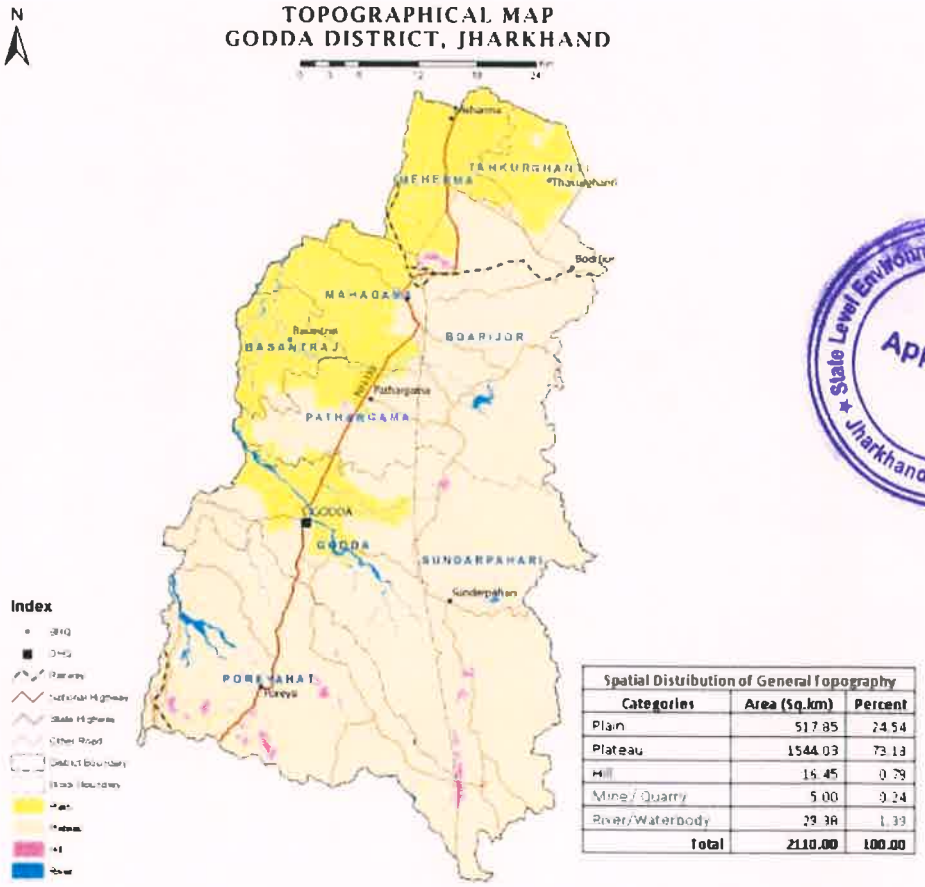
4. PHYSIOGRAPHY OF THE DISTRICT

4.1 General Landforms:

The predominant physical feature over major part of the district is the rolling topography dotted with isolated inselbergs except in the Borijore and Sundarpahari blocks. A substantial part of Borijore and Sundarpahari block is under forest cover. The altitude of the land surface increases from west to the east. The major hills are confined to the eastern part of the district comprising the Gandeshwari Pahar (238.41m) and Kesgari Pahar (268.29m) while in the western part of the district isolated hills are in the form of the inselbergs and other small hillocks. The district consists of the undulating uplands, long ridges and depressions. The isolated high hills like Masanjore are in the adjoining part of Dumka. The western portion of the Rajmahal hills passes through Godda. Geologically, the area has basaltic trap and sedimentary beds.

The principal rivers of the district are Kajhia, Harna, Sunder, Sapin, Kao, Chir and Geura. The general trend of the drainage is from SE-NW. The structural features particularly the foliation and joints exert profound impact upon the drainage and control the drainage pattern of the district. Sand mining is mainly practiced in Godda, Mahagama and Basantarai, Pathargama, Poriyahat blocks of Godda district. Rivers in which sand mining takes place in Godda district are - Bansloi, Burigeria, Chir, Kajhia, Sundargaria rivers.



Spatial Distribution of General Topography		
Categories	Area (Sq.km)	Percent
Plain	517.85	24.54
Plateau	1544.03	73.18
Hill	16.45	0.78
Mine / Quarry	5.00	0.24
River/Waterbody	28.38	1.35
Total	2110.00	100.00

Fig. 4.1: Topographical Map of Godda District

(Source: JSAC, Jharkhand)

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4.2 Soil:

The soil is mostly acidic, reddish yellow, light textured and highly permeable with poor water holding capacity. The soils occurring in different landforms have been characterised during soil resource mapping of the state on 1:250,000 scale (Haldar et al. 1996) and three soil orders namely Entisols, Inceptisols and Alfisols were observed in Godda district. Alfisols were the dominant soils covering 43.1 percent of TGA followed by Inceptisols (39.4 %) and Entisols (15.7 %).
The area is characterized by the following type of soil –
(i) Old Alluvium-Grey-Greyish-Yellow heavy textured cracking Soil.
(ii) Old Alluvium Reddish-Yellow-Yellow-Grey Catenary Soil.
(iii) Old Alluvium–Yellowish-Red-Yellow Soil of foot hill.
(iv) Hill & Forest Soil of steep slopes and highly desected region.
(v) Red-Yellow-light Grey Catenary Soil.
(vi) Yellow–Red, Yellow–Black soil Catenary Soil of Rajmahal.

• Old Alluvium-Grey-Greyish Yellow heavy textured Cracking Soil - These are greyish yellow to grey in colour, medium to heavy in texture, neutral to slightly alkaline in reactions, cracks in drying, very weakly developed profiles.

• Old Alluvium Reddish Yellow-Yellow-Grey Catenary Soil - The well drained soils are strongly to moderately acidic containing ferruginous concretations. The poorly drained low land soils area greish in colour, slightly acidic to slightl alkaline in reaction containing ferruginous concritions in most of the cases showing a tendency to crack during dry months.

• Old Alluvium Yellowish-Red-Yellow Soil of foot hill - These soils resemble the soils of old alluvium reddish yellow, yellow-grey catenary excepting frequent extensive saline and alkali patches. Carbonates are present throughout the soil. Clay minerals found in soil are hydrous mica, kaolinite, chlorites etc.

• Hill & Forest Soil of steep slopes and highly desected region - These are shallow to medium deep over rocks and regoliths, well drain to excessively well drained, very strongly to moderately acidic, light textured gravelly or stony covered with forest of various kind with few cultivated patches.

• Red-Yellow-light Grey Catenary Soil - Slopy and upland soils are well drained generally stongly to moderate acidic shallow to medium deep over rocks and morums. The low land valley soils are poorly drained, neutral to slightly alkaline, fairly deep and most fertile soils.

• Yellow–Red, Yellow–Blacksoil Catenary Soil of Rajmahal - Soils developed on granites are red or yellow coloured depending upon their topographical positions. Soils developed on trap rocks are grey, heavy textured, neutral to lightly alkaline in reaction, sandy loam to loam on top and heavier below, slightly to moderate acidic and medium fertiliyty. Soil map of Godda district is given figure below -

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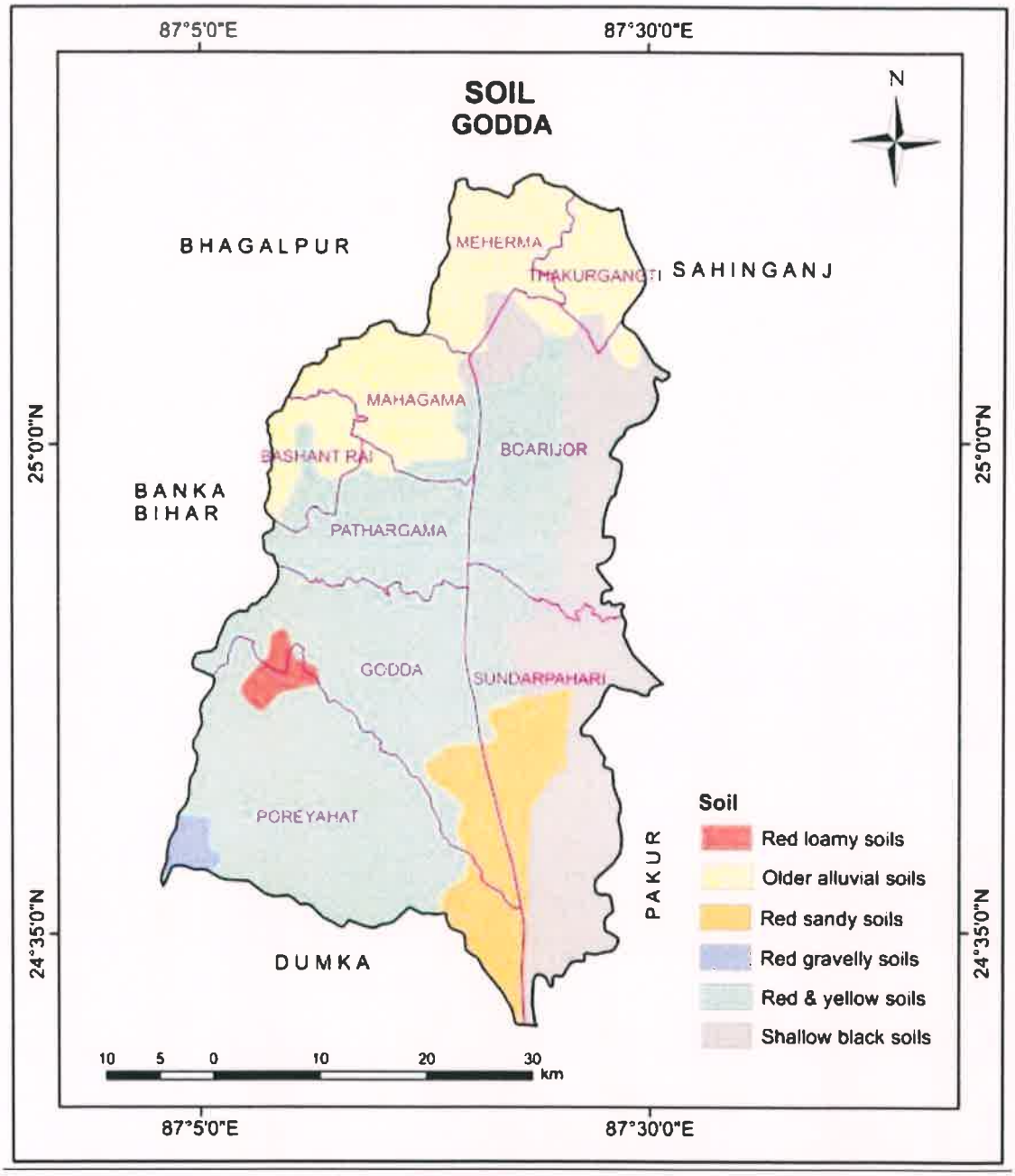

Fig. – 4.2: Soil Map of Godda District

(Source: Final NAQUIM-Godda District, Jharkhand.pdf)

4.3 Geomorphology:

Geomorphologically, (GSI, 2009) the southern part of the district represents the northern most extremities of Chhotanagpur plateau and comprises rolling plains woth isolated hills in the form of tors, inselburgs, small hillocks, ridges and mound. The central part of the area is covered by gently sloping undulatory hills. The northern part is represented by a more or less flat land with gently northerly slope. Brigeria river drains the area along the western margin of the district and is fed by the tributaries like Harna and other streams flowing westerly to north-westerly. Based

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on visual interpretation of Landsat imageries, the various hydrogeomorphic features in the district are: -

i) Alluvial plain: - These are loam to sandy loam deposited over gneissic surface. The streams in this area show structural control. The ground water potential is very good.
ii) Older alluvial plain: - These are characterized by sandy loam at the top with highly oxidized sandy and gravelly horizons at moderate depth.
iii) Burried pediment (Gneissic): - These are gently slopping broad surface of weathered gneiss overlain by alluvium and colluviums of medium texture. Many prominent lineaments are occurring in this area. The ground water condition is good to moderate.
iv) Burried pediment (Volcanic): - This surface is mainly pediment cut out Rajmahal trap rock concealed under a thick pile of alluvium gravelly weathered soil.
v) Pediment (Volcanic): - The underlying lithology is basaltic rocks with thin veneer of fine soil. These are highly fractured.
vi) Pediment (Sedimentary): - These consist of mainly sand stone and shale as underlying rocks. The stratas are gently dipping with local small scale faulting.
vii) Pediment (Gneissic): - Thes are highly fractured region with gneiss and schist as the underlying rocks.
viii) Denudational hills (Volcanic): - Rajmahal traps are the mail rock constituting these hills.
ix) Denudational hills (Gneissic): -These are low hill groups with high rugged topography with gneiss as underlying lithology.
x) Denudational hills (Sedimentary): - These are hills of moderate height made up of horizontal gently dipping sand stone and shales.
xi) Low dissected hills (Gneissic): - The hills of low height mainly composed of gneissic rocks.
xii) Low dissected hills (Sedimentary): - An elevated tract with sand stones and shales as dominant rock types.
xiii) Structural Ridge (Gneissic): - These are long narrow ridges of low height with gneiss as the dominant rock types.

The geomorphological map of Godda district have been presented in Fig. – 4.3

The predominant physical feature over major part of the district is the rolling topography dotted with isolated inselbergs except in the Borijore and Sundarpahari blocks. A substantial part of Borijore and Sundarpahari block is under forest cover. The altitude of the land surface increases from west to the east. The major hills are confined to the eastern part of the district comprising the Gandeshwari Pahar (238.41m) and Kesgari Pahar (268.29m) while in the western part of the district isolated hills are in the form of the inselbergs and other small hillocks. The district consists of the undulating uplands, long ridges and depressions. The isolated high hills like Masanjore are in the adjoining part of Dumka. The western portion of the Rajmahal hills passes through Godda. Geologically, the area has basaltic trap and sedimentary beds.

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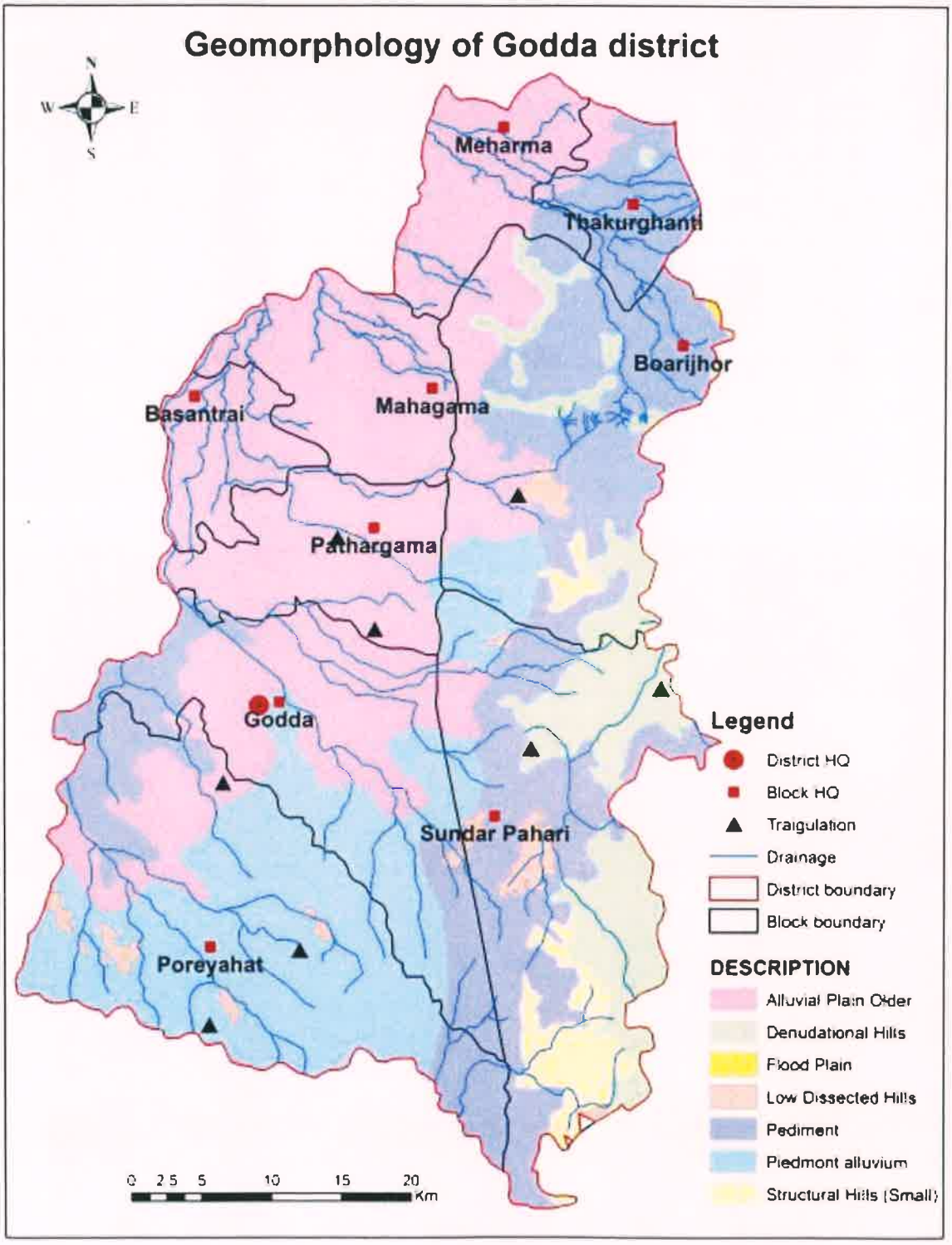

Fig. – 4.3: Geomorphology of Godda District

(Source: Final NAQUIM-Godda District, Jharkhand.pdf)

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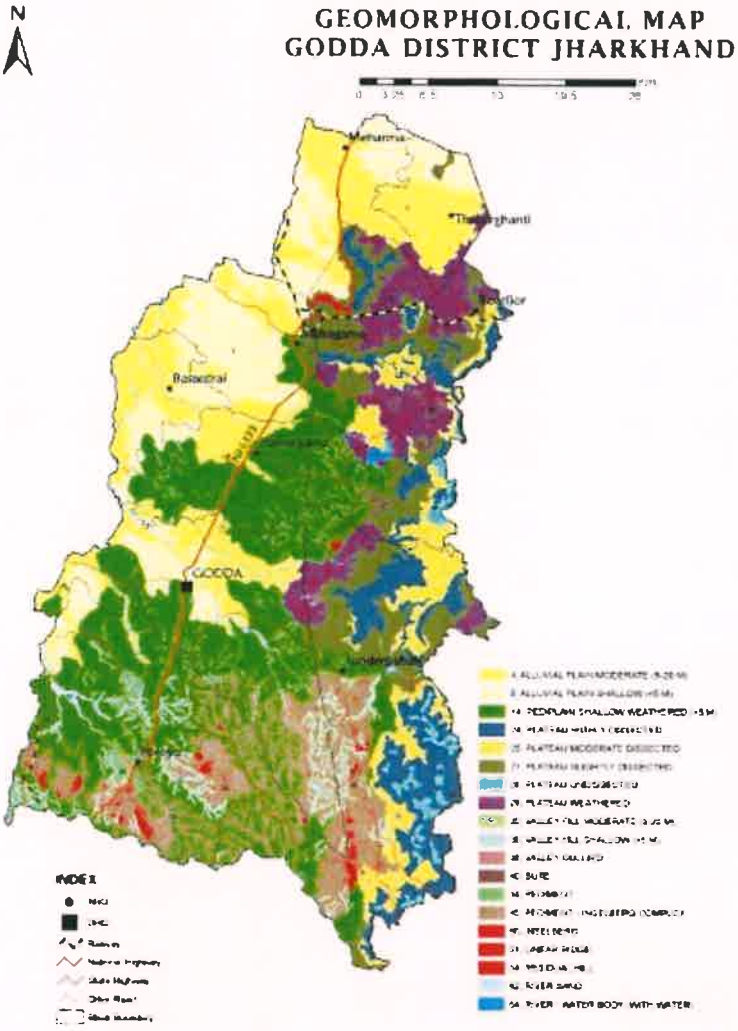

Spatial Distribution of Landforms		
Categories	Area (Sq km)	Percent
ALLUVIAL PLAIN MODERATE (5-20 M)	306.04	14.50
ALLUVIAL PLAIN SHALLOW (<5 M)	249.75	11.84
BUTE	9.58	0.45
INSELBERG	3.95	0.19
LINEAR RIDGE	2.58	0.12
PEDIMENT	19.41	0.92
PEDIMENT - INSELBERG COMPLEX	150.07	7.11
PEDIPLAIN SHALLOW WEATHERED (<5 M)	593.69	28.13
PLATEAU HIGHLY DISSECTED	159.20	7.54
PLATEAU MODERATE DISSECTED	117.48	5.56
PLATEAU SLIGHTLY DISSECTED	165.56	7.85
PLATEAU UNDISSECTED	19.80	0.94
PLATEAU WEATHERED	139.65	6.62
RESIDUAL HILL	18.67	0.88
RIVER / WATER BODY (WITH WATER)	31.58	1.50
RIVER SAND	19.44	0.92
VALLEY FILL MODERATE (5-20 M)	9.27	0.44
VALLEY FILL SHALLOW (<5 M)	61.11	2.90
VALLEY GULLIED	63.92	3.03
Total	2110.00	100.00

Fig. 4.4: Geomorphological Map of Godda District

(Source: JSAC, Jharkhand)

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5. LAND UTILIZATION PATTERN OF THE DISTRICT

Table 5.1: Land Use Pattern of Godda District (Figure in Hectare)

District	Godda
Total Area	211142
Forest Land	23671
Barren & Non-Agriculturable Land	38336
Cultivable Waste Land	9267
Permanent Pastures & other Grassing Land	6256
Land under Miscellaneous Trees	5893
Current Fallow	54644
Fallow Land other than Current Fallow	22201
Net Area Sown	69312

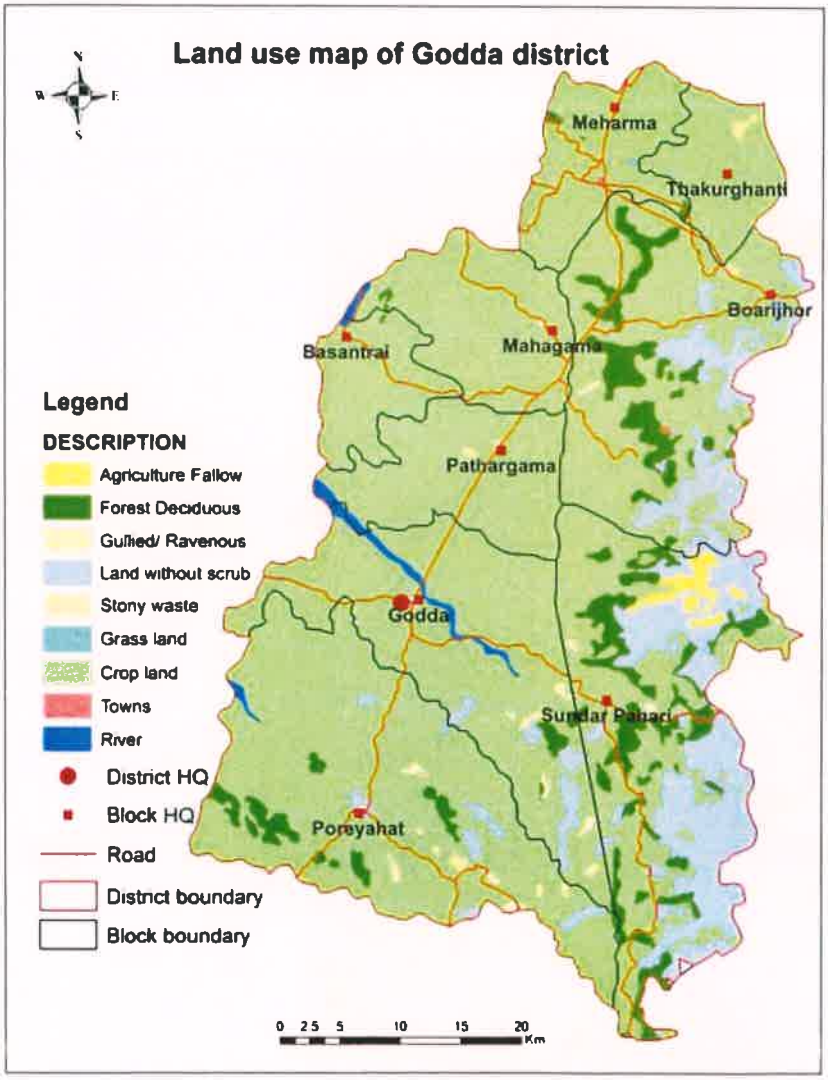

Fig. 5.1: Land Use map of Godda District

(Source: Final NAQUIM-Godda District, Jharkhand.pdf)

District Mining Officer,
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5.1 Forest:

Out of total geographical area of 3651.59 km², forest area covers nearly 2403.04 km². The tribal economy revolves around using forest products, by products and minor products. Kendu leaves, Bamboo and its manufactured products, Mahua, fruits, leaves lac etc. play a role in the economic activity of the people. People also hunt animals for food and 'Jani shikar' festival is related to this hunting habit.

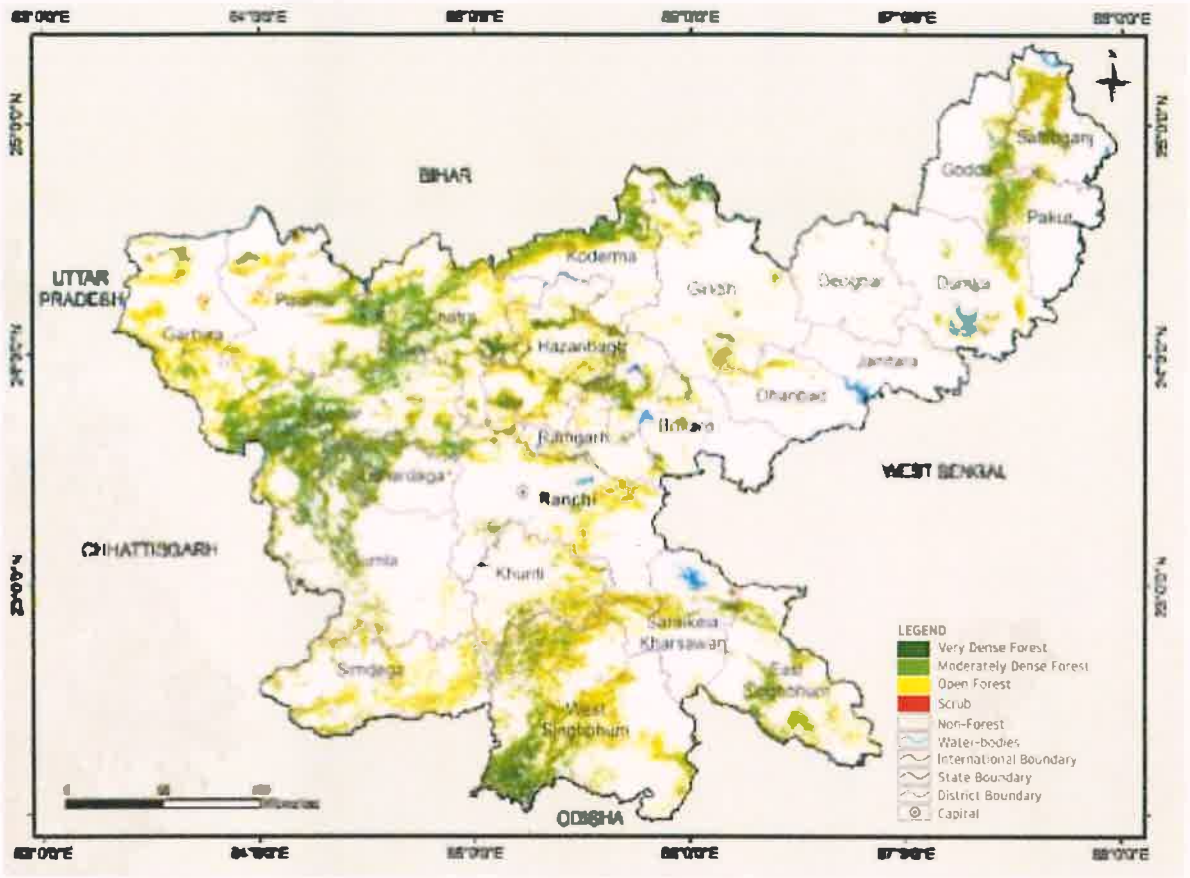

Fig. 5.2: Forest Cover Map of Jharkhand

(Source: India State of Forest Report, 2021)

District Mining Officer,
Godda.

Table 5.2: District wise Forest Cover Area in Jharkhand (Area in Km²)

District	Geo-graphical Area (GA)	2021 Assessment				%of GA	Change wrt 2019 assess-ment	Scrub
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total			
Bokaro	2,883	60.99	231.94	283.07	576.00	19.98	2.45	37.95
Chatra	3,718	244.28	871.73	666.08	1,782.09	47.93	4.74	23.57
Deoghar[T]	2,477	0.00	14.30	191.50	205.80	8.31	2.09	14.04
Dhanbad	2,040	0.00	44.00	174.18	218.18	10.70	4.67	16.05
Dumka[T]	3,761	0.00	259.40	318.23	577.63	15.36	0.32	44.55
East Singhbhum[T]	3,562	54.81	591.69	434.19	1,080.69	30.34	1.31	20.91
Garhwa[T]	4,093	125.14	415.60	890.98	1,431.72	34.98	40.13	44.32
Giridih	4,962	77.16	338.56	490.19	905.91	18.26	4.67	28.92
Godda[T]	2,266	12.81	271.88	138.66	423.35	18.68	0.00	14.27
Gumla[T]	5,360	304.69	585.81	552.65	1,443.15	26.92	0.89	8.25
Hazaribagh	3,555	230.11	348.54	784.54	1,363.19	38.35	10.42	15.99
Jamtara[T]	1,811	0.00	20.84	85.18	106.02	5.85	5.38	5.32
Khunti[T]	2,535	72.97	344.59	496.18	913.74	36.04	8.25	3.11
Koderma	2,540	80.80	494.43	447.82	1,023.05	40.28	-0.42	6.37
Latehar[T]	4,291	480.36	1,308.93	613.75	2,403.04	56.00	-3.30	9.30
Lohardaga[T]	1,502	174.03	218.40	111.99	504.42	33.58	-0.20	7.66
Pakur[T]	1,811	2.96	172.40	111.64	287.00	15.85	-0.13	20.06
Palamu[T]	4,393	62.82	512.73	640.18	1,215.73	27.67	14.95	84.23
Ramgarh	1,341	30.96	109.32	190.98	331.26	24.70	2.26	14.49
Ranchi[T]	5,097	62.89	363.91	741.98	1,168.78	22.93	4.29	27.98
Sahibganj[T]	2,063	17.74	258.73	297.48	573.95	27.82	1.60	47.53
Saraikela-Kharsawan[T]	2,657	22.03	213.84	338.73	574.60	21.63	0.56	21.87
Simdega[T]	3,774	21.97	343.54	877.89	1,243.40	32.95	2.48	20.28
West Singhbhum[T]	7,224	461.53	1,353.80	1,553.11	3,368.44	46.63	2.32	47.18
Grand Total	**79,716**	**2,601.05**	**9,688.91**	**11,431.18**	**23,721.14**	**29.76**	**109.73**	**584.20**

(Source: India State of Forest Report 2021 - Jharkhand)

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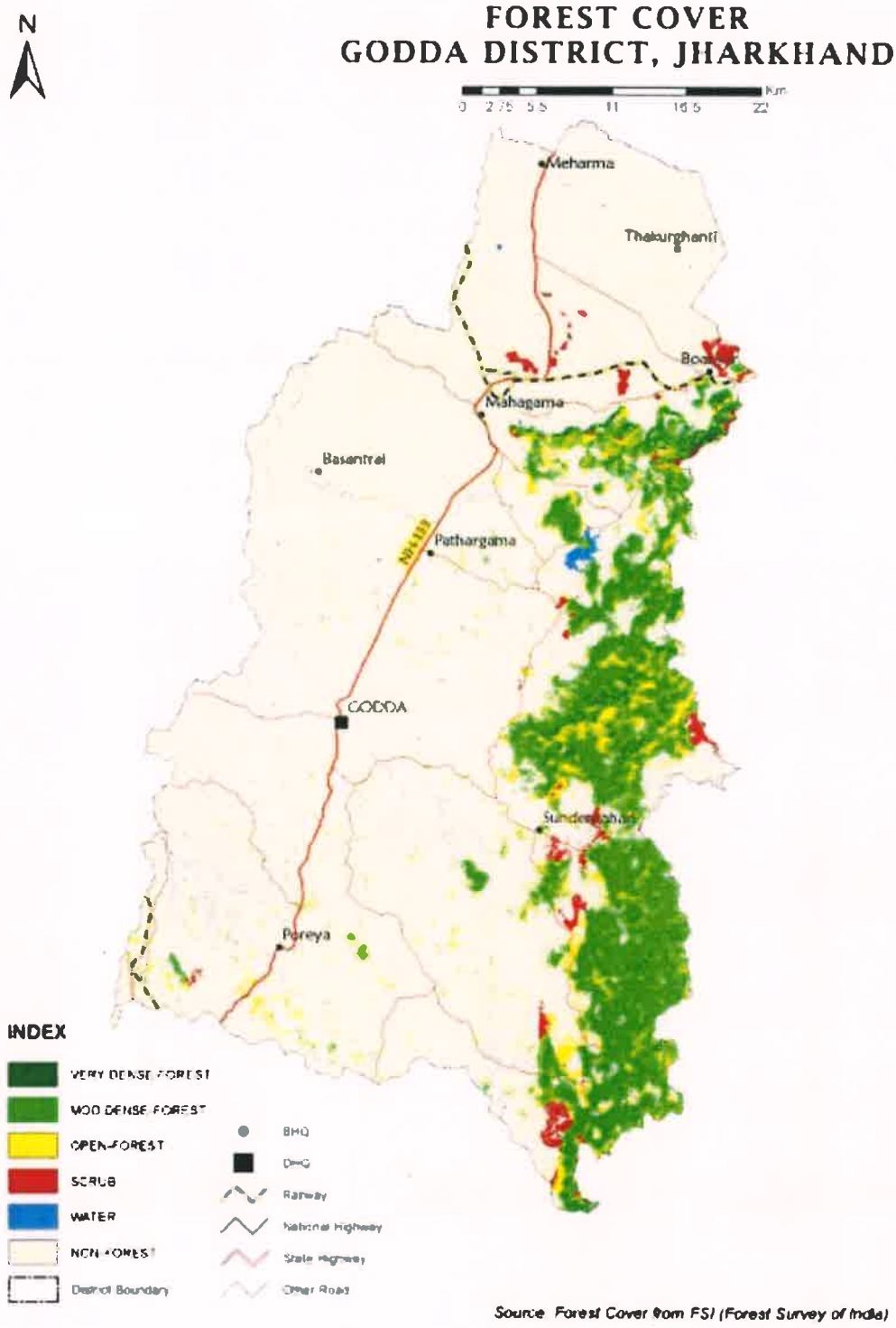

Fig. 5.3: Forest Cover Map of Godda District
(Source: JSAC, Jharkhand)

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Godda.

5.2 Agriculture & Irrigation:

The local population of the district mostly depends on agriculture and forestry for their sustenance. The agriculture activity of the area is solely dependent upon the monsoon rainfall. Paddy is the main crop of the district. Wheat, Maize, Gram, Mustard oil Potato are other crops grown widely in Godda and its adjoining areas. Irrigational facilities are not adequate in this district. The most common source is the dug well, but this is not a very dependable source of irrigation. The major part of the district being rocky in nature, it is difficult to dig wells. The undulating nature of land makes it possible to store rain water by bunding. Apart from being dependent upon rains, these are by no means adequate. The result is that failure of rains invariably involves failure of crops except in small pockets. Minor irrigation structures like surface water, tanks and ponds are the other source for irrigation. Available source wise irrigation for the 2012-13 is given in Table 5.3 -

Block	Surface water			Ground water			Other sources
	Canal	Tank	LI	DTW	STW	DW	
Basantrai	0	67	0	226	0	19	0
Boarijor	0	172	17	695	0	1	72
Godda	0	177	1	1201	0	0	20
Mahagama	0	80	20	411	0	0	19
Meherma	0	65	20	382	6	0	28
Pathargama	0	104	0	498	0	24	14
Poreyahat	0	234	0	1556	8	4	23
Sunderpahari	0	163	16	518	7	0	42
Thakurghanti	0	42	5	563	16	0	12
Total	**0**	**1104**	**79**	**6050**	**37**	**48**	**230**

Cropping Pattern

The major crops cultivated in the area are paddy, wheat, maize, gram, oil seeds, pulses and vegetable. But the land available for cultivation is very limited because of the hilly and rugged topography. Area under different crops for the year 2015–16 of the district is presented in Table 5.4 –

(Area in hectare)

Block	Major Crops					
	Paddy	Wheat	Gram	Maize	Mustard	Potato
Godda	30200	1992	1097	2540	1465	81
Pathergama		1926	1239	1621	1591	32
Mahagama		2946	1166	883	1493	12
Meherma		1593	872	596	1174	81
Thakurganti		1385	839	608	1113	101
Boarijore		569	680	1224	1206	4
Sunderpahari		156	522	1212	1032	18
Poraiyahat		956	769	2157	915	243
Total	**30200**	**13515**	**8281**	**13381**	**11454**	**572**

(Source: Final NAQUIM-Godda District, Jharkhand.pdf)

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Table 5.5: Irrigation details of Godda District

IRRIGATION BY DIFFERENT SOURCES	Number of Structures	Area (Ha.)
(Areas in Ha. and Number of Structures) (MIP Census-2000-2001)	Structures	
Dugwell	17015	9364
Tubewell/Borewell	184	537
Tank/ponds	100	587
Canals	2	2
Other sources	69.50	Bhaurna Bandh, Triveni Weir Scheme and Dania Weir Scheme

(Source – CGWB Report, Godda)

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6. GEOLOGY & MINERAL WEALTH

6.1 Geology:

The southern part of the district is underlain by Granite-gneiss of Archaean age forming the basement. These occur as large batholiths and are intruded by basic rocks. In the central and northern part of the district, the rocks of Barakar formation consisting of feldspathic sandstones, shales and coal seams overlying the metamorphics are exposed. In the western and northern part of the district alluvial cover of moderate thickness, caps the Archaean crystallines and the Gondwana sedimentaries.

The district is underlain by diverse geological formations with complex tectonic framework. The geological formations have been grouped under three main categories -

a) The gneissic complex in the southern and the central part.
b) The Rajmahal traps in the eastern and south eastern part.
c) Gondwanas overlain by thin mantle of alluvial cover in the northern and central part.

Gelogically, the study area represents highly deformed Archaean gneisses called Chhotanagpur granite gneissic complex, older meta-sedimentaries, pegmatites, metabasics etc. The pre-cambrian formations are uncomformably overlain by lower lower gondawanas comprising Talchirs & Barakar formation. Barakar sandstone and shale contains coal seams found in major coal belt of the area. The upper Gondwana are represented by Dubrajpur formation. Rajmahal traps and intertrappeans overlie the Dubrajpur formation and in places overstep onto Barakar formation and Precambrian basement. Tertiary Laterites occur as capping in some of the parts, while Quaternary sediments represented by Sautadih, Belhar and Diara formation consisting of older and newer alluvium are found in considerable part of the area.

Stratigraphic Succession:

The general Stratigraphic succession found in Godda district as per GSI, 2009 are as follows: -

Lithology	Formation		Age
Sand/Silt/Clay mixture	Diara Formation		Late Holocene to Present
	Belhar formation		Middle to Late Holocene
	Sautadih formation/Jamui Formation		Middle Pleistocene to early Holocene
----------EROSIONAL SURFACE----------			
Laterites and Lateritic Soil			Cainozoic
----------EROSIONAL SURFACE----------			
Dolerite			
Basalt with Intertrappeans	Rajmahal Trap		Jurrassic to Cretaceous
----------UNCONFORMITY----------			
Sandstone and Shale	Dubrajpur Formation	Gondwana Super Group	Triassic to Jurassic
Siltstone, Sandstone and Conglomerate with Coal seams	Barakar Formation		Permian
Shale, Sandstone and Conglomerate	Talchir Formation		Carboniferous to Permian

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----------UNCONFORMITY----------		
Intrusive Granite		Proterozoic
----------UNCONFORMITY----------		
Unclassified Metabasics and metasedimentaries	Metamorphics of Chhotanagpur mica belt	Lower to Middle Proterozoic
Unclassified Granite-Gneiss with enclaves of metamorphic, Augen Gneiss and Migmatites, Porphyritic Granite Gneiss, Granite-Biotite Gneiss	Chhotanagpur Gneissic Complex	Archaean to Proterozoic
Quartzite and Quartz Schist	Unclassified Metamorphics	Archaean to Proterozoic
Khondalite/Garnet/Sillimanite biotite garnet gneiss, Acid to Basic Granulite/Charnockite	Eastern Ghat Super Group	

Geological formation

The Lithological units identified can broadly be divided into: - Precambrian Formation, Gondwana super Group, Rajmahal traps and Quaternary Formations.

Precambrian Formation

The study area comprises of highly deformed and metamorphosed Precambrian terrain. This group consists of -

(a) Eastern Ghat Super Group & Chhotanagpur gneissic complex
(b) Intrusive granites
(c) Metabasics
(d) Pegmatites/Quartz vein

a) Eastern Ghat Super Group & Chhotanagpur gneissic complex

The Oldest rocks of the area are represented by Charnockites, Granite-gneiss, Khondalite, Quartzite, granites and migmatites belonging to Eastern Ghat Super Group and Chhotanagpur Gneissic Complex of Archaean age.

Chhotanagpur Granite-Gneiss represents the extensive plateau region to the south and central part of the study area. These rocks comprise broadly granite-gneiss, porphyritic gneiss, augen gneiss, charnokitic gneiss, migmatites etc. The varieties of one of the most important rock types granite gneisses include biotite granite gneiss, hornblende granite gneiss etc. These are generally medium to coarse grained with prominent gneissic banding and foliation. The presence of foliation in granite gneiss is due to presence flaky minerals like biotite and sillimanite. A considerable area has been occupied by porphyritic gneiss. It has been found in the form of augen gneiss in some of the area, where as in some parts its intrusive relationship with granite gneiss is observed.

b) Intrusive granites

The Precambrian rocks exhibit several phases of intrusive granites. The non-foliated, pink coloured coarse grained granites occur as Intrusives in all rock types except dolerites.

c) Metabasics

The metabasics include meta dolerite and metagabbro. The syntectonic basic rocks are represented by meta-dolerite and meta-gabbro shows mostly conformable relationship with the enclosing rocks.

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d) Pegmatites/Quartz vein

All the rocks types described above have been intruded by numerous veins of pegmatites of various dimensions with quartz vein and is found to occur through out the area. These are generally of crusted nature.

Gondwana Super Group

The Gondwana super group rocks are confined to the area occupied by the Rajmahal hills and its adjoining areas. Gravity study of Rajmahal hills show that Gondwana super group sediments were deposited over a rifted and highly faulted sheared margin (Choudhary 1975, Mukhopadhyay 1986). They unconformably overlie the Precambrian formations. In the study area, Gondwana super group rocks with ages ranging from Carboniferous to Triassic is represented by Talchir formation comprising Shale, Sandstone and Conglomerate; Barakar formation consisting of Siltstone, Sandstone and Conglomerate with number of coal seams and Dubrajpur formations containing Sandstone and Shale. Common plant fossils occurring in Barakar Shales include Gangamopteris Cyclopteris, Glossopteris indical and Vertebraria indica.

Rajmahal Traps

Tha Rajmahal hills extend with a north-south trend for more than 120 kms through the districts of Santhal Parganas (including Godda district) in Jharkhand and Birbhum in West Bengal (GSI, 1989). It consists of long flat topped hills attaining a maximum altitude of about 600 m. The basaltic lava flows of the Rajmahal Trap of middle Jurassic to lower cretaceous age occupy the major part of the district. The basaltic lava flows are associated with sedimentary intertrappeans beds. Amgdales of the flows are made up of calcite and chalcedony. The basaltic rocks are hard and fine to medium grained. It has been found that there are more than 8 nos. of basaltic flows area exposed (GSI, 1985) with individual thickness ranging from 10-80m.

Laterites

Laterites, occurring as capping on Rajmahal Trap, show well developed profile at many places which are represented by brown latosol, pisolitic laterite, bauxite, aluminous laterites, goethics and mottled lithonmergic clays.

Quarternary formations

The quaternary sediments identified in the study area have been classified (Sinha and Verma, GSI 1995 and GSI, 2009) into three distinct morphographic units Viz. Sautadin/Jamui formation, Belhar formation and Diara formation. Sautadih/Jamui Formation and Belhar Formation are represented by light grey to buff sticky silty Clay and is mainly composed of Silt, Clay and fine Sand characterized by occasional caliches and ferruginous concretions. The Diara formation is represented by fine Sand and Silt. A marked erosional unconformity lies between them. Its thickness increases from south to north. Major sediments have been derived from the Precambrian rocks as revealed by the composition of the quaternary formations. The maximum thickness of alluvium may be in the range of 80-90 m.

Structural Features

The studies show that the Precambrian rocks of the area have undergone several period of tectonic disturbances (Shekhar, 1999). The earlier phase appears to be folding and metamorphism on a regional scale. The high metamorphism resulted in the formation of Khondalites, Charnokites, Granulites and rocks of migmatites etc. In the study area, Gondwana beds usually rest on the Precambrian basement with a pronounced unconformity. Only certain segments, Gondwana formation are faulted against the metamorphics. Regionally contact with Precambrian basement is aligned in NNW-SSE direction. The north-south trending Rajmahal coal belt is characterized by a major fault. The faults are possibly of pre-Rajmahal in age as they do not effect the volcanics. The prominent igneous structure noted in Rajmahal volcanics are flow, volcanic cone, fissured vent, plug, dyke, primary lineament of vesicales. Mudcracks, solemarks etc. have also been

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encountered in the intertrappean mudstone, shale in some of the section of Rajmahal series.

6.2 Overview of Mineral Resources:

Minerals such as Sand, Stone, Coal etc. are found in the district. The deposition of Dolerite is mainly noticed in southern part of Poreyahat block. Some part of Poreyahat block, mostly in central region also has the deposition of Quartzite and Quartz schist. Pathargama, Godda and Poreyahat block is mostly covered with Laterite and Lateritic soil. Sand mining is mainly practiced in Godda, Mahagama and Basantarai, Pathargama, Poriyahat blocks of Godda district. Rivers in which sand mining takes place in Godda district are - Bansloi, Burigeria, Chir, Kajhia, Sundargaria rivers.

Fig. 6.1: Mineral Map of Godda District
(Source: JSAC, Deptt. of Mines & Geology, Govt. of Jharkhand)

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7. OVERVIEW OF MINING ACTIVITY IN THE DISTRICT

7.1 List of Mining Lease in the District with location, area and period of validity:

Table 7.1 - List of Sand Ghats in the Godda District: -

Sl. No.	River/Sand Ghat	Panchayat	Area (Hectare)	Mouza	Remarks
1	Nil	Nil	Nil	Nil	Nil

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8. DETAILS OF ROYALTY OR REVENUE RECEIVED IN LAST THREE YEARS

8.1 For Sand or Bajri:

Sl. No.	Financial Year	Royalty/Revenue Received (in Rupees)
1	2019-20	34500.22 Lakhs
2	2020-21	25285.37 Lakhs
3	2021-22	11096.09 Lakhs

जिला खनन कार्यालय, गोड्डा।

पत्रांक : 83 /एम0

पत्रांक :

जिला खनन पदाधिकारी
गोड्डा।

सेवा में,

सहायक निदेशक, भूतत्व
जिला भूतात्विक कार्यालय, दुमका।

गोड्डा, दिनांक : 29 अगस्त, 2022

विषय : श्रेणी- 2 बालूघाटों के संचालन के संबंध में।

महोदय,

उपर्युक्त विषयक आपके पत्रांक 150, दिनांक 05.08.2022 के साथ संलग्न प्रपत्रों के सूची में अंकित बिन्दुओं का निराकरण पूर्व में कर दिया गया है। वित्तीय वर्ष 2019-20 से 2021-22 में वहत एवं लघु खनिजों से प्राप्त राजस्व के साथ साथ उक्त अवधि में वालू एवं बजरी खनन के उत्पादन वर्षवार का आँकड़ा निम्न प्रकार है-

1. Details of Royalty or Revenue received in last three years

Sl. No	Financial Year	Royalty or Revenue Received
1	2019-20	₹ 34,500.22 Lakhs
2	2020-21	₹ 25,585.37 Lakhs
3	2021-22	₹ 11,096.09 Lakhs

2. Details of Production of Sand or Bajari or minor mineral in last three years

Sl. No	Financial Year	Production of Sand or Bajari
1	2019-20	Nil
2	2020-21	Nil
3	2021-22	Nil

धन्यवाद।

जिला खनन पदाधिकारी
गोड्डा

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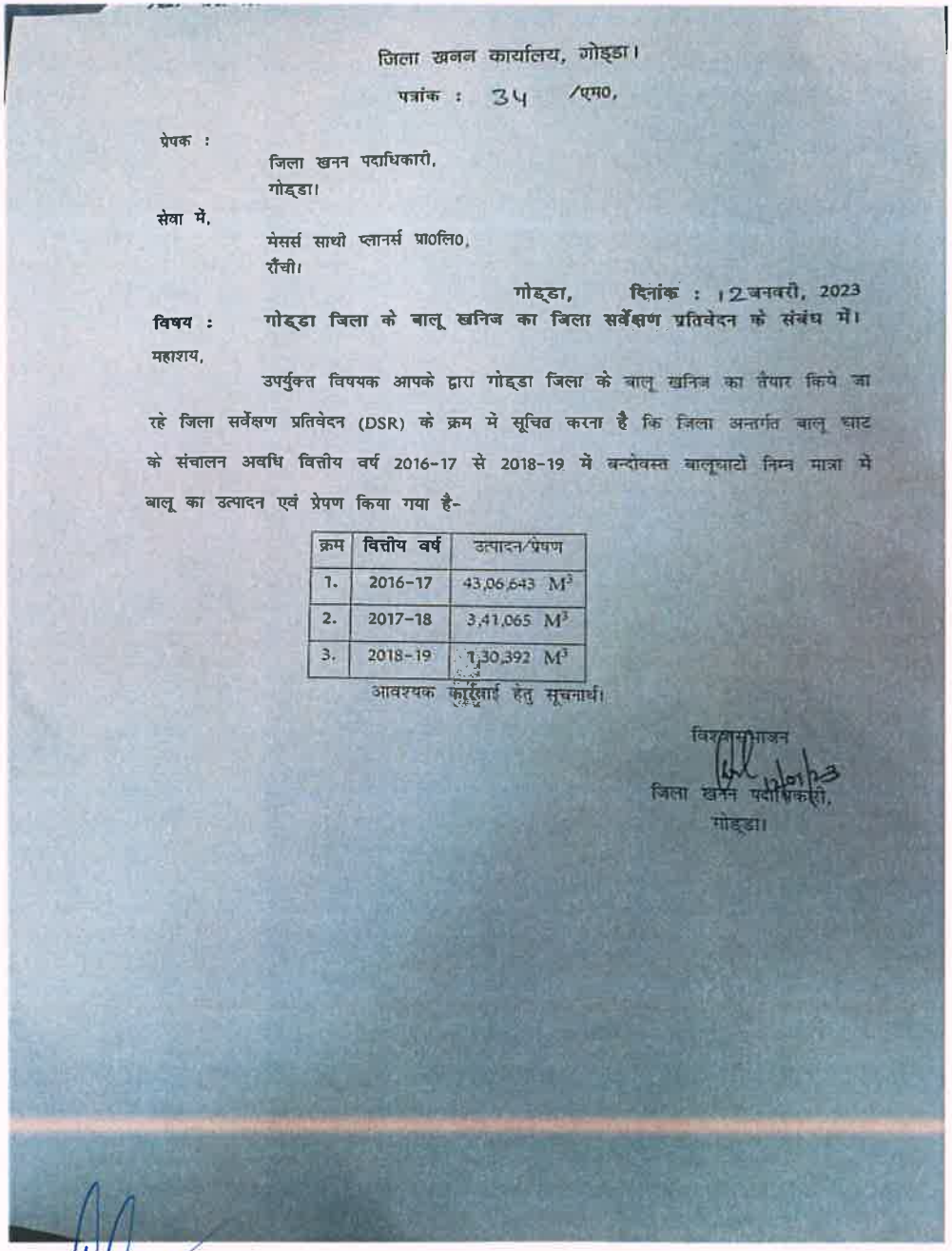
Godda

9. DETAILS OF PRODUCTION OF SAND OR BAJRI OR MINOR MINERAL IN LAST THREE YEARS

Sl. No.	Financial Year	Production (in m^3)
1	2016-17	4306643
2	2017-18	341065
3	2018-19	130392



जिला खनन कार्यालय, गोड्डा।

पत्रांक : 34 /एम0,

प्रेषक :

जिला खनन पदाधिकारी,
गोड्डा।

सेवा में,

मेसर्स साथी प्लानर्स प्राoलि0,
राँची।

गोड्डा, दिनांक : 12 जनवरी, 2023

विषय : गोड्डा जिला के बालू खनिज का जिला सर्वेक्षण प्रतिवेदन के संबंध में।

महाशय,

उपर्युक्त विषयक आपके द्वारा गोड्डा जिला के बालू खनिज का तैयार किये जा रहे जिला सर्वेक्षण प्रतिवेदन (DSR) के क्रम में सूचित करना है कि जिला अन्तर्गत बालू घाट के संचालन अवधि वित्तीय वर्ष 2016-17 से 2018-19 में बन्दोवस्त बालूघाटो निम्न मात्रा में बालू का उत्पादन एवं प्रेषण किया गया है-

क्रम	वित्तीय वर्ष	उत्पादन/प्रेषण
1.	2016-17	43,06,643 M^3
2.	2017-18	3,41,065 M^3
3.	2018-19	1,30,392 M^3

आवश्यक कार्रवाई हेतु सूचनार्थ।

विश्वासभाजन
जिला खनन पदाधिकारी,
गोड्डा।

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10. DEMAND & SUPPLY OF THE MINERAL IN THE DISTRICT

The demand for sand is ever growing with the growth of the infrastructure sector in our country. The mineral is used mainly in the construction activities like buildings, bridges etc. The requirement for the mineral is always high in the cities and towns. Therefore, there is always a good demand of the mineral in the domestic market.

A study by the Indian Institute of Technology-Bombay (IIT-B) has estimated that the annual demand for sand in urban India is 60 million metric tonnes. To put the amount in perspective, the national demand for sand stands at an average of 1kg per person per day in urban India, according to IIT-B.

From construction to cosmetics, society uses sand in unexpected ways, and quite literally, is built on it. India's sand demands pose a difficult market to target. The unbridled demand for sand leaves India devastated by extensive and unsustainable mining practices and promotes illegal operations in other districts and countries. Expected shortages of sand only spike the need for illegal mining activities. Although no official data shares the amount of sand mined illegally, the amount sufficiently thwarts state and district-level bodies attempts to reduce unlawful mining operations. Most countries, including India, regulate sand mining through environmental and national regulation, entrusting States to enforce laws and regulation. India is a union of States; there is a demarcation of power between Union and State legislatures. The Mines and Minerals Act 1957 and the Mines Act 1952 are the major national statutes steering India's mining sector. These acts provide power to State legislatures to frame legal outlines for the mining of Minor minerals like that of Sand.

(Source: https://www.hidustantimes.com)

Since, the production of sand achieved in last three financial years in Godda district is about 1600000 m^3. Although demand of sand becomes three times more with respect to supply within district. Therefore, 16 nos. of potential Sand Ghats have been identified and incorporated in this DSR which could meet the requirement and reduce the demand-supply gap of sand in future.

Considering the production of Sand in the year 2016 to 2019, average requirement is approximately 15,92,700 m^3 and since last five-year, production was zero. Thus, the district may compel high demand of Sand.

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11. PROCESS OF DEPOSITION OF SEDIMENTS IN THE RIVERS OF THE DISTRICT

11.1 Classifying Rivers - Three Stages of River Development:

These categories are: Youthful, Mature and Old age. A Rejuvenated River, one with a gradient that is raised by the earth's movement, can be an old age river that returns to a Youthful State, and which repeats the cycle of stages once again.

Characteristics found in the 3 Stages of River Development:

YOUTHFUL RIVER:

Perhaps the most dynamic of all rivers is a *Youthful River*. Characteristically youthful rivers are found at higher elevations, in mountainous areas, where the slope of the land is steeper. Water that flows over such a landscape will flow very fast. Youthful rivers can be a tributary of a larger and older river, hundreds of miles away and, in fact, they may be close to the headwaters (the beginning) of that larger river.

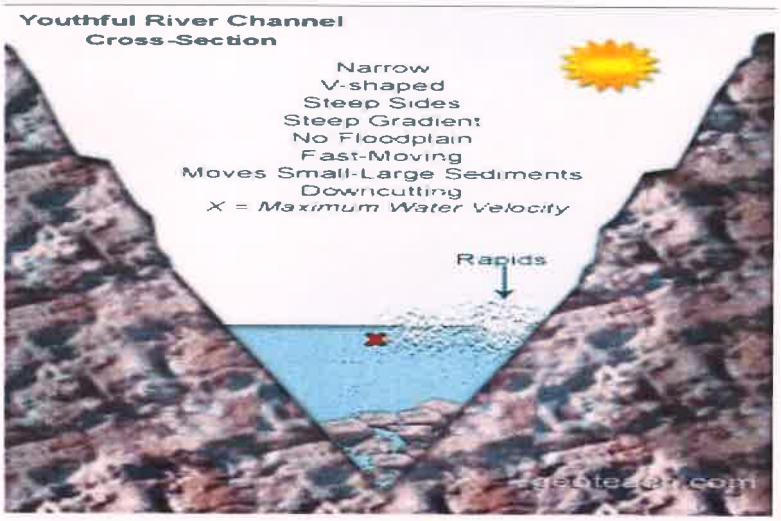

Fig. 11.1: Cross-section of Youthful River Channel

MATURE RIVER:

The Mature River is an in-between stage. The river still down cuts though to a much lesser degree than the Youthful River does but it also erodes laterally, though not as extensively, when compared to the Old Age River. The landscape over which it passes is steep enough that the river's slope enables a velocity capable of moving not only the finer sediments, but also the larger pebbles and cobbles by way of rolling, bouncing and saltation along the river bed. The area through which the river flows may be mountainous but they will not be as high as the Young River's locale. A "hilly" landscape would be a better description for the surrounding area. Rapids are absent and so is the V-shaped channel. The channel of a Mature River is U-shaped but deeper than and not as wide as the Old Age river's channel.

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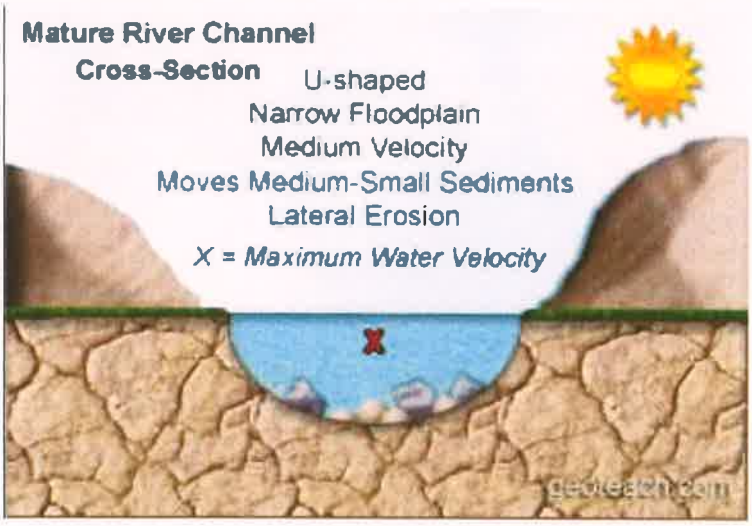

Fig. 11.2: Cross-section of Mature River Channel

OLD AGE RIVER:

Old rivers flow slowest and their rate of erosion is encounter acted by the degree of sediment they deposit. Their course is no longer straight and widened floodplains are a common characteristic. An old river rests in an almost flat valley as a result of the many years of erosion that have taken place.

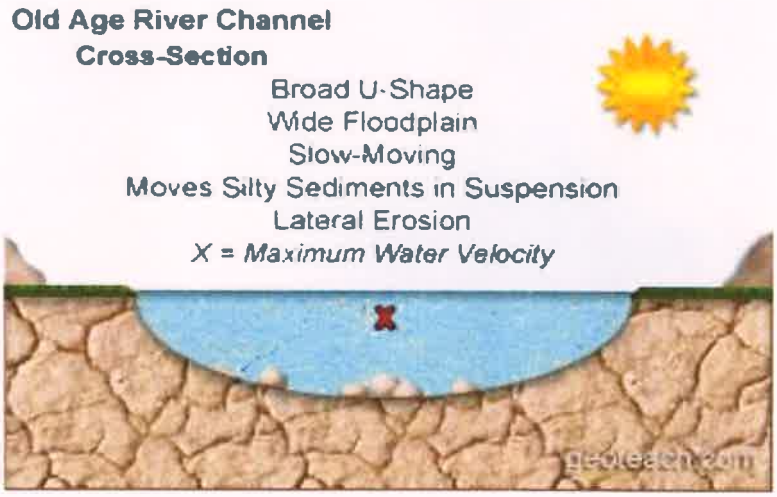

Fig. 11.3: Cross-section of Old Age River Channel

11.2 Stream Erosion and Deposition:

Flowing water is a very important mechanism for both erosion and deposition. Water flow in a stream is primarily related to the stream's gradient, but it is also controlled by the geometry of the stream channel. Water flow velocity is decreased by friction along the stream bed, so it is slowest at the bottom and edges and fastest near the surface and in the middle. In fact, the velocity just below the surface is typically a little higher than right at the surface because of friction between the water and the air. On a curved section of a stream, flow is fastest on the outside and slowest on the inside.

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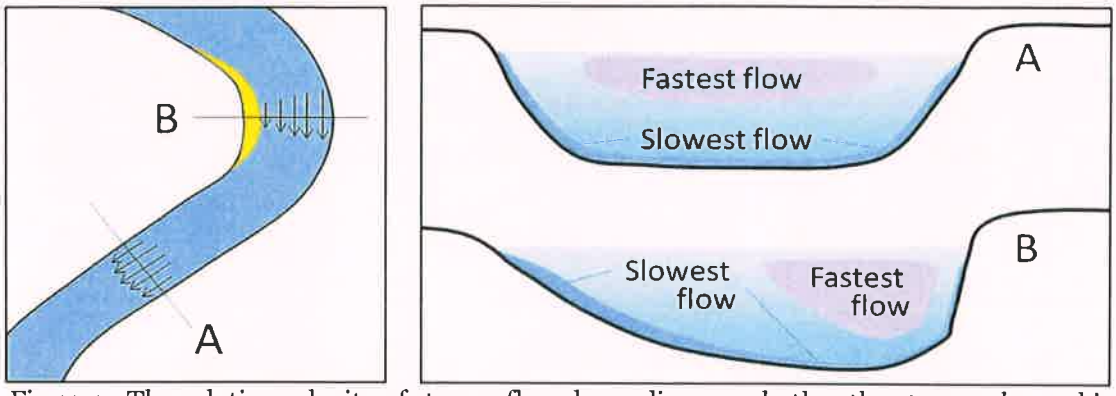

Fig 11.4 - The relative velocity of stream flow depending on whether the stream channel is straight or curved (left) and with respect to the water depth (right)

Other factors that affect stream-water velocity are the size of sediments on the stream bed — because large particles tend to slow the flow more than small ones and the discharge or volume of water passing a point in a unit of time (e.g., m^3/second). During a flood, the water level always rises, so there is more cross-sectional area for the water to flow in; however, as long as a river remains confined to its channel, the velocity of the water flow also increases.

Figure 10.5 shows the nature of sediment transportation in a stream. Large particles rest on the bottom. Bed-load may only be moved during rapid flows under flood conditions. They can be moved by saltation (bouncing) and by traction (being pushed along by the force of the flow).

Smaller particles may rest on the bottom some of the time, where they can be moved by saltation and traction, but they can also be held in suspension in the flowing water, especially at higher velocities. As you know from intuition and from experience, streams that flow fast tend to be turbulent (flow paths are chaotic and the water surface appears rough) and the water may be muddy, while those that flow more slowly tend to have laminar flow (straight-line flow and a smooth water surface) and clear water. Turbulent flow is more effective than laminar flow at keeping sediments in suspension.

Stream water also has a dissolved load, which represents (on average) about 15% of the mass of material transported, and includes ions such as calcium (Ca+2) and chloride (Cl-) in solution. The solubility of these ions is not affected by flow velocity.

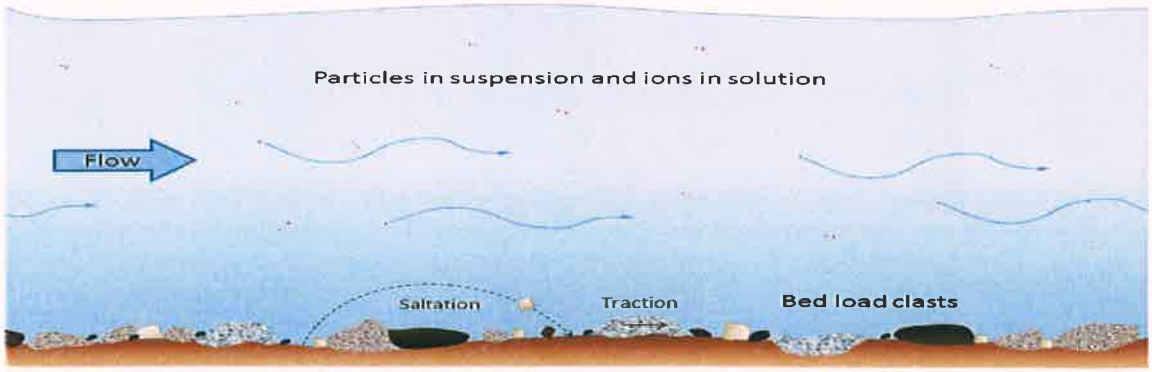

Figure 11.5: Modes of transportation of sediments and dissolved ions (represented by red dots with + and – signs) in a stream. [SE]

The faster the water is flowing, the larger the particles that can be kept in suspension and transported within the flowing water. However, as Swedish geographer Filip Hjulström discovered in the 1940s, the relationship between grain size and the likelihood of a grain being eroded, transported, or deposited is not as simple as one might imagine. Consider, for example, a 1 mm grain of sand. If it is resting on the bottom, it will remain there until the velocity is high enough to erode it, around 20 cm/s. But once it is in suspension, that same 1 mm particle will

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remain in suspension as long as the velocity doesn't drop below 10 cm/s. For a 10 mm gravel grain, the velocity is 105 cm/s to be eroded from the bed but only 80 cm/s to remain in suspension.

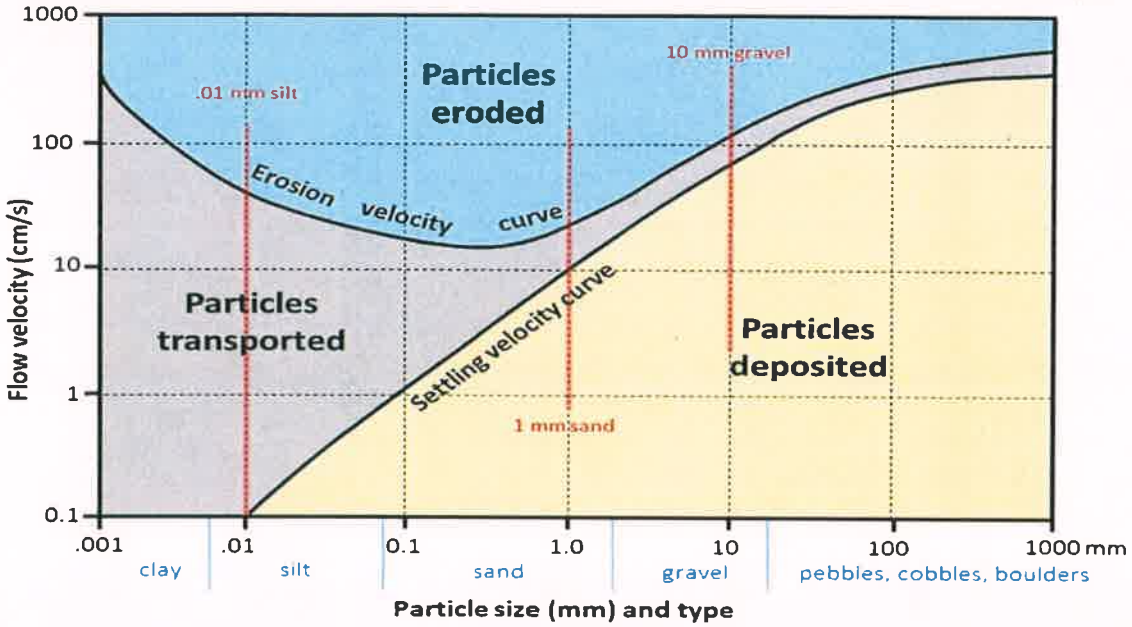

Figure 11.6: The Hjulström-Sundborg diagram showing the relationships between particle size and the tendency to be eroded, transported, or deposited at different current velocities

On the other hand, a 0.01 mm silt particle only needs a velocity of 0.1 cm/s to remain in suspension, but requires 60 cm/s to be eroded. In other words, a tiny silt grain requires a greater velocity to be eroded than a grain of sand that is 100 times larger! For clay-sized particles, the discrepancy is even greater. In a stream, the most easily eroded particles are small sand grains between 0.2 mm. and 0.5 mm. Anything smaller or larger requires a higher water velocity to be eroded and entrained in the flow. The main reason for this is that small particles, and especially the tiny grains of clay, have a strong tendency to stick together, and so are difficult to erode from the stream bed.

It is important to be aware that a stream can both erode and deposit sediments at the same time. At 100 cm/s, for example, silt, sand, and medium gravel will be eroded from the stream bed and transported in suspension, coarse gravel will be held in suspension, pebbles will be both transported and deposited, and cobbles and boulders will remain stationary on the stream bed.

A stream typically reaches its greatest velocity when it is close to flooding over its banks. This is known as the bank-full stage. As soon as the flooding stream overtops its banks and occupies the wide area of its flood plain, the water has a much larger area to flow through and the velocity drops significantly. At this point, sediment that was being carried by the high-velocity water is deposited near the edge of the channel, forming a natural bank or **levée.**

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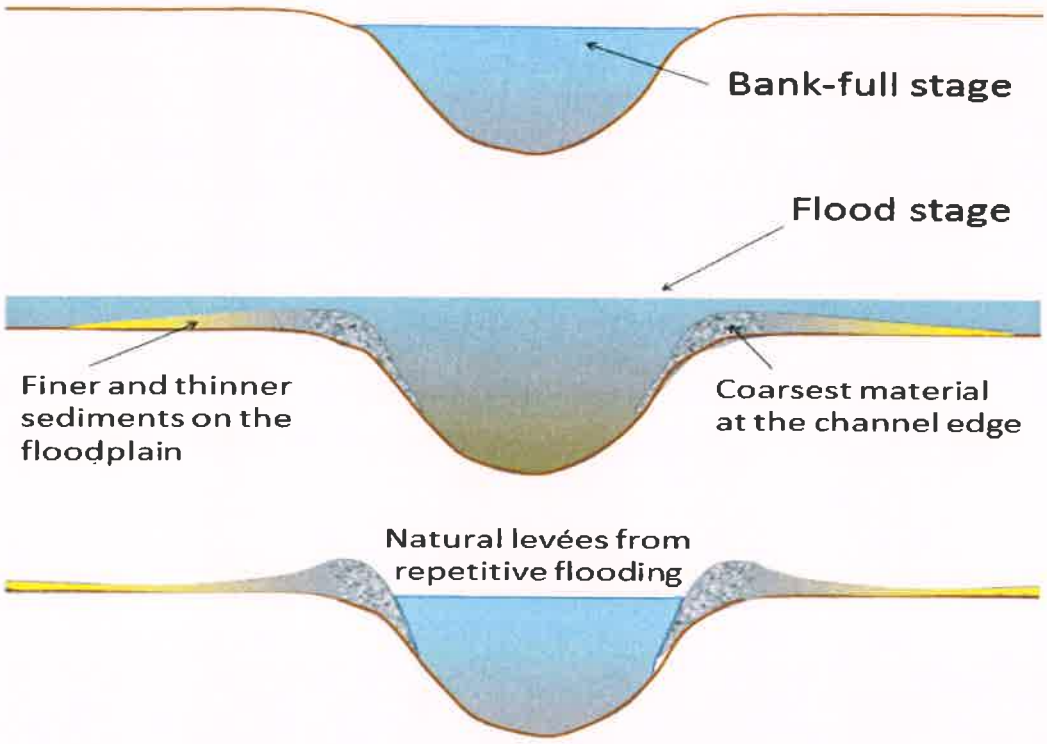

Figure 11.7: The development of natural levées during flooding of a stream. The sediments of the levée become increasingly fine away from the stream channel, and even finer sediments — clay, silt, and fine sand are deposited across most of the flood plain [SE].

11.3 Flood Plain:

Flood-plain is an area of land adjacent to a stream or river which stretches from the banks of its channel to the base of the enclosing valley walls, and which experiences flooding during periods of high discharge. The soils usually consist of clays, silts, and sands deposited during floods.

Flood plains are formed when a meander erodes sideways as it travels downstream. When a river breaks its banks, it leaves behind layers of alluvium (silt). These gradually build up to create the floor of the plain. Floodplains generally contain unconsolidated sediments, often extending below the bed of the stream. These are accumulations of sand, gravel, loam, silt, and/or clay, and are often important aquifers, the water drawn from them being pre-filtered compared to the water in the river.

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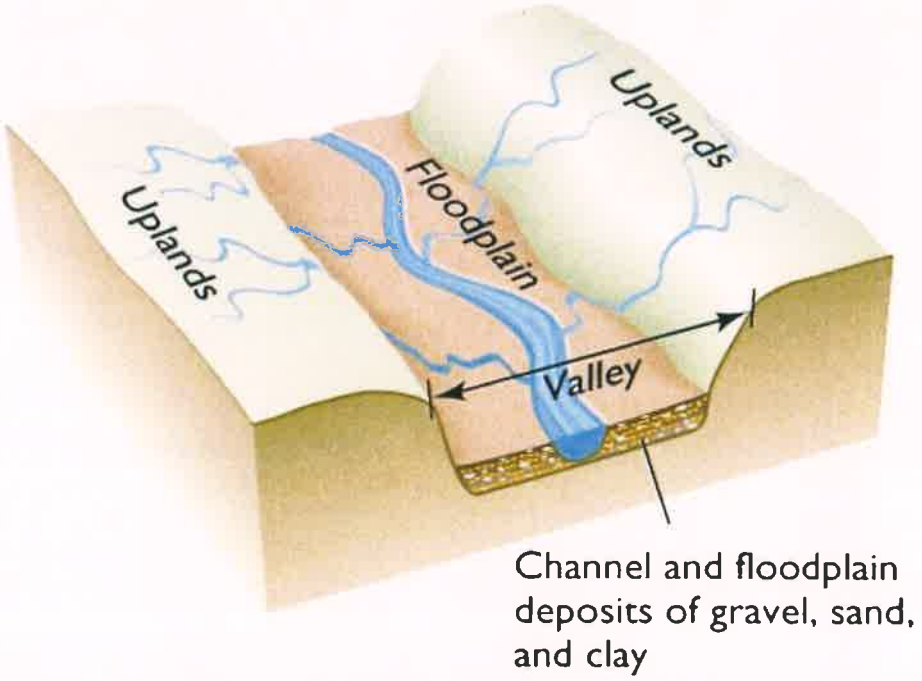

Figure 11.8: Flood Plain

11.4 Replenishment of Sand:

The deposition in a river bed is more pronounced during rainy season although the quantum of deposition varies from stream to stream depending upon numbers of factors such as catchment, lithology, discharge, river profile and geomorphology of the river course where annual deposition is one meters, but it is noticed that during flood season whole of the pit so excavated is completely filled up and as such the excavated area is replenished with new harvest of minerals.

In order to calculate the mineral deposits in the stream beds, the mineral constituents have been categorized as clay, silt, sand, bajri and boulder. However, during present calculation, the waste material i.e. silt which vary from 10 to 20% in different streams has also been included in the total production. Further the Survey of India Topo-Sheets are used as base map to know the extent of river course. The mineral reserves have been calculated only up to 1.00-meter depth although there are some portions in the river beds such as channel bars, point bars and central islands where the annual deposition is raising the level of river bed thus causing shifting of the rivers towards banks resulting in to cutting of banks and at such locations, removal of this material up to the bed level is essential to control the river flow in its central part to check the bank cutting. While calculating the mineral potentials, the mineral deposits lying in the sub- tributaries of that particular stream/river has not been taken into consideration. Since these mineral deposits are adding annually.

11.5 Surface Runoff:

Also known as overland flow is the flow that occurs when excess storm water, melt water, or other sources flows over the Earth's surface. This might occur because soil is saturated to full capacity, because rain arrives more quickly than soil can absorb it, or because impervious areas (roofs and pavement) send their runoff to surrounding soil that cannot absorb all of it. Surface runoff is a major component of the water cycle. It is the primary agent in soil erosion by water.

Runoff that occurs on the ground surface before reaching a channel is also called a nonpoint source. If a nonpoint source contains man-made contaminants, or natural forms of pollution (such as rotting leaves) the runoff is called nonpoint source pollution. A land area which produces

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runoff that drains to a common point is called a drainage basin. When runoff flows along the ground, it can pick up soil contaminants including petroleum, pesticides, or fertilizers that become discharge or nonpoint source pollution.

In addition to causing water erosion and pollution, surface runoff in urban areas is a primary cause of urban flooding which can result in property damage, damp and mold in basements, and street flooding.

- **Effects of Surface Runoff:**

Erosion and deposition

Surface runoff can cause erosion of the Earth's surface; eroded material may be deposited a considerable distance away.

There are four main types of soil erosion by water:

- Splash Erosion,
- Sheet Erosion,
- Rill Erosion,
- Gully Erosion.

Splash erosion is the result of mechanical collision of raindrops with the soil surface: soil particles which are dislodged by the impact then move with the surface runoff.

Sheet erosion is the overland transport of sediment by runoff without a well-defined channel.

Soil surface roughness causes may cause runoff to become concentrated into narrower flow paths: as these incise, the small but well-defined channels which are formed are known as **rills.** These channels can be as small as one-centimeter-wide or as large as several meters.

If runoff continue to incise and enlarge rills, they may eventually grow to become **gullies.**

Figure 10.9: Soil erosion by water on intensively-tilled farmland.

Gully erosion can transport large amounts of eroded material in a small time period. Reduced crop productivity usually results from erosion, and these effects are studied in the field of soil conservation. The soil particles carried in runoff vary in size from about .001 millimetre to 1.0 millimetre in diameter. Larger particles settle over short transport distances, whereas small particles can be carried over long distances suspended in the water column.

There are many sediment transport equations which are suitable for use in the prediction of the replenishment rate of rivers/ watershed. Some of the Famous sediment transport equations are:

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1. Dandy–Bolton Equation
2. Yang Equations
3. Engelund-Hansen Equation
4. Modified Universal Soil Loss Equation (MUSLE)

- **Dandy-Bolton Equation:**

Dandy-Bolton formula is often used to calculate the sedimentation yield. But use of these equations to predict sediment yield for a specific location would be unwise because of the wide variability caused by local factors not considered in the equations development. However, they may provide a quick, rough approximation of mean sediment yields on a regional basis for preliminary watershed planning. They include climate, drainage area, soils, geology, topography, vegetation and land use. Studies revealed that sediment yield per unit area generally decreases as drainage area increases. As drainage area increases, average land slopes usually decrease; and there is less probability of an intense rainstorm over the entire basin. Both phenomena tend to decrease sediment yield per unit area. In arid regions, sparse precipitation and low run-off are the limiting factors. As precipitation increases, density of vegetation also increases, resulting in less erosion. In areas with adequate and evenly distributed precipitation, vegetation thus becomes the limiting factor. The accuracy of the sedimentation surveys varied, ranging from reconnaissance type measurements of sediment deposits to detailed surveys consisting of closely spaced cross-sections or contours. Runoff data are translated to inches per year per unit area and sediment deposition data to tons per year per square mile of net drainage area. Net drainage area is defined as the sediment-contributing area and normally excluded areas above upstream reservoirs or other structures that were effective sediment traps. Actual sediment yields undoubtedly were slightly higher because most reservoirs do not trap inflowing sediment.

Sediment Yield vs. Drainage Area: - On the average, sediment yield is inversely proportional to the 0.16 power of drainage area between 1 and 30,000 miles^2.

Sediment Yield vs. Runoff: - Sediment yield increased sharply to about 1,860 tons per mile^2 per year as run-off increased from 0 to about 2 inches. As runoff increased from 2 to about 50 inches, sediment yield decreased exponentially. Because sediment yield must approach zero as runoff approaches zero, a curve through the plotted points must begin at the origin. The abrupt change in slope of a curve through the data points at Q equals 2 inches precluded the development of a continuous function that would adequately define this relationship. Thus, there are two equations derived for when Q was less than 2 inches and when Q was greater than 2 inches.

- **Combined Effect of Drainage area and Surface Run off on Sediment Yield**

Dandy-Bolton determined the combined influence of runoff and drainage area on sediment yield to compute the sediment yield. They developed two equations i.e. for run off less than 2 inch and for run off more than 2 inch, which are given below: -

Where: S = Sediment yield (tons/miles^2/yr.)
Q = Mean Annual runoff (inch)
A = Net drainage are in mile^2

For run off less than 2 inches.

(Q<2in) S=1289*(Q) 0.46*[1.43-0.26 Log (A)] F

For runoff more than 2 inches.

(Q>2in): S=1958*(e-0.055*Q) *[1.43-0.26Log (A)]

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- **Universal Soil Loss Equation:**

Sediment loss from water erosion
Modelling sediment loss

MUSLE is a modification of the Universal Soil Loss Equation (USLE). USLE is an estimate of sheet and rill soil movement down a uniform slope using rain- fall energy as the erosive force acting on the soil (Wischmeier and Smith 1978), Depending on soil characteristics (texture, structure, organic matter, and permeability), some soils erode easily while others are inherently more resistant to the erosive action of rain- fall.
MUSLE is similar to USLE except for the energy component. USLE depends strictly upon rainfall as the source of erosive energy. MUSLE uses storm-based runoff volumes and runoff peak flows to simulate erosion and sediment yield (Williams 1995). The use of runoff variables rather than rainfall erosivity as the driving force enables MUSLE to estimate sediment yields for individual storm events. The water erosion model uses an equation of the form:

$$Y = X \times EK \times CVF \times PE \times SL \times ROKF$$

where:

Y	=	sediment yield in tons per hectare
EK	=	soil erodibility factor
CVF	=	crop management factor that captures the relative effectiveness of soil and crop management systems in preventing soil loss
PE	=	erosion control practice factor (including management practices such as terraces, contour farming, and strip cropping)
SL	=	slope length and steepness factor
ROKF	=	coarse fragment factor

For estimating MUSLE, the energy factor, X, is represented by

$$X = 1.586 \times (Q \times q)^{0.56} \times WSA^{0.12}$$

where:

Q	=	runoff volume in millimeters
qp	=	peak runoff rate in millimeters per hour WSA = watershed area in hectares

Runoff volume is estimated using the SCS curve number method. Peak flow was estimated using a modification of the rational method which relates rainfall to peak flow on a proportional basis. The rational equation is:

$$Q = C \times i \times A$$

where:

q = peak flow rate
C = runoff coefficient representing watershed characteristics
i = rainfall intensity for the watershed's time of concentration
A = watershed area

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12. ADDITIONAL INFORMATION

12.1 Drainage system with description of main River:

Sl. No.	Name of the River	Area Drained (km²)	% Area Drained in the District
1	Gerua Nadi	4.9	0.23
2	Khanji Nadi	3.9	0.18
3	Chir Nadi	2.44	0.11
4	Bansloi	1.62	0.07

12.2 Salient features of Important Rivers and Streams:

Sl. No.	Name of the River Stream	Total Length in the District (in km)	Place of Origin	Altitude at Origin (in m)
1	Gerua Nadi	24.5	Tangajhar	64
2	Khanji Nadi	19.5	Banka Ghat	109
3	Chir Nadi	25.7	Mohani	110
4	Bansloi	20.3	Ambadiha	166

12.3 Replenishment Study of Sand Deposit Zones (Category 2):

REPLENISHMENT OF SAND ASSESSED BY "AFTER THE MONSOON" SURVEY (THIRD) CARRIED OUT DURING NOVEMBER 2022									
Pre-Monsoon (January to March 2022)				Post-Monsoon (October to December 2022)					
Sl. No.	Sand Bar Code	Surface RL	Surface Area	Surface RL	Thickness Replenished	Volume Replenished	Depth of Sand Deposit	Volume of Sand Deposit	Rate of Replenishment
		in m	in m²	in m	in m	in m³	in m	in m³	in %
1	GO_Z2_GE_1	-9.54	19700.04	-8.84	0.7	13790	1.0	19700	70.0
2	GO_Z3_GE_2	-2.19	9261.30	-1.39	0.8	7409	1.0	9261	80.0
3	GO_Z5_CHI_3	-0.32	35183.74	-0.12	0.2	7037	0.5	17592	40.0
4	GO_Z5_CHI_4	1.22	30340.51	2.32	1.1	33375	2.0	60681	55.0
5	GO_Z9_KAJ_5	25.96	27131.41	26.06	0.1	2713	0.5	13566	20.0
6	GO_Z10_KAJ_6	37.61	18239.67	37.91	0.3	5472	0.8	14592	37.5
7	GO_Z12_SAK_7	54.41	55115.09	54.71	0.3	16535	1.2	66138	25.0
8	GO_Z13_SAK_8	58.08	25921.45	58.58	1.2	31106	1.7	44066	70.6
9	GO_Z14_RIB_9	43.98	112943.26	44.28	0.3	33883	0.8	90355	37.5
10	GO_Z15_CHI_10	6.31	23932.43	6.71	0.4	9573	0.8	19146	50.0
11	GO_Z16_CHI_11	7.87	21040.74	8.37	0.5	10520	0.8	16833	62.5
12	GO_Z17_CHI_12	58.52	35461.76	59.62	1.1	39008	2.0	70924	55.0
13	GO_Z18_CHI_13	55.66	10617.42	55.86	0.2	2123	0.5	5309	40.0
14	GO_Z5_CHI_14	3.27	39841.29	3.67	0.4	15937	0.8	31873	50.0
15	GO_Z5_CHI_15	0.75	18180.09	1.05	0.3	5454	0.7	12726	42.9
16	GO_Z2_GE_16	-7.16	23652.03	-6.46	0.7	16556	1.0	23652	70.0
TOTAL						250490		516413	48.5

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Note:

To estimate the replenishment of sand, the pre-monsoon (First & Second Survey) data has been assessed through data provided by District Mining Office to establish the initial level of mining lease before the monsoon.

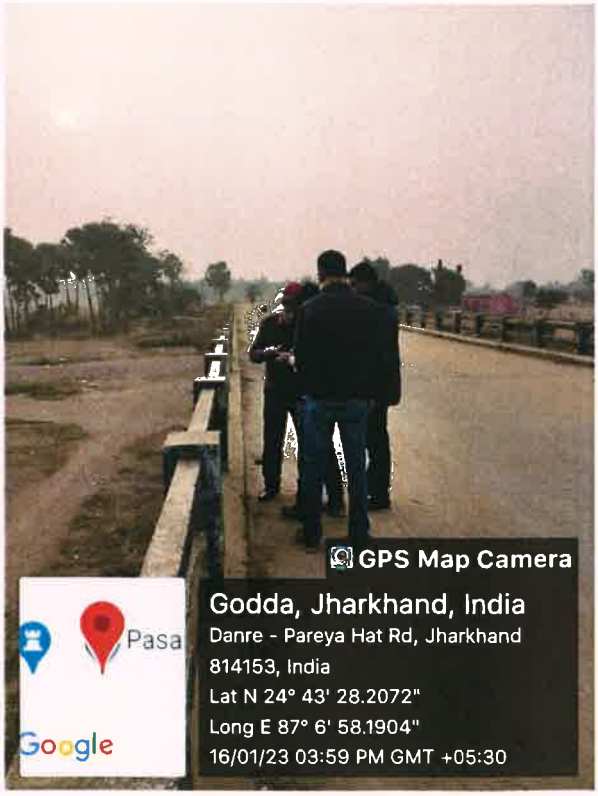
Keeping in view the 'Generic Structure of Replenishment Study' (as per EMGSM 2020); Third Survey after the monsoon has been carried out to estimate the quantum of material deposited/replenished in the mining lease.

The Fourth Survey shall be carry out at the end of March in coming year to know the quantity of material excavated during the financial year.

The results of year-wise surveys help the State Government to establish the replenishment rate of the river. Based on the replenishment rate future auction may be planned.

12.4 Photographs showing Sand Ghats Visit by Sub-Divisional Committee, Godda:

13 Sub-Divisional Officer, Godda
14 District Mining Officer, Godda
15 Assistant Director, Geology, Dumka
16 Executive Engineer, Irrigation, Godda
17 Representative of Sathi Planners Pvt. Ltd.



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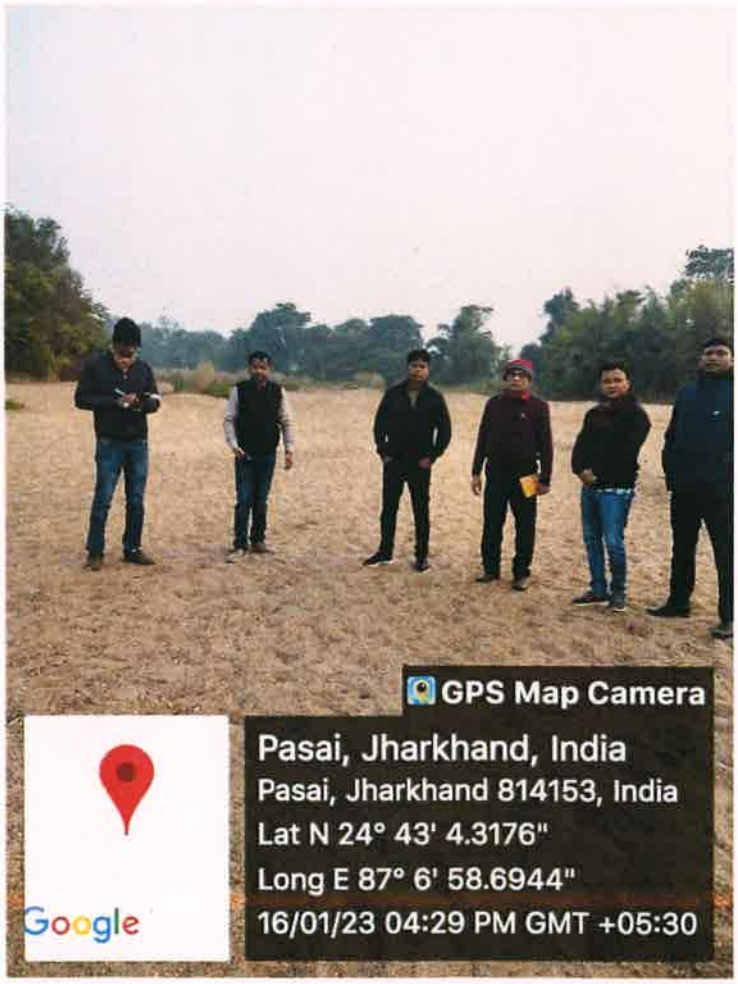

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- **Management of Sand Deposits of Category-2 Streams/Rivers: -**

a. The Sand deposits of Category-2 shall be managed by State Government through Jharkhand State Mineral Development Corporation Limited (JSMDC).
b. All the sand deposits in Category-2 shall be allocated to JSMDC for a minimum period of 5 years or more as decided by the Government.
c. Sand shall be sold by the JSMDC on commercial basis.
d. The sale price of sand shall be decided by JSMDC in consultation with the Government.
e. JSMDC shall obtain all clearances such as Environmental Clearance, Mining Plan or any other statutory requirements for sand mining, storage and sale.
f. JSMDC shall ensure compliance of all applicable rules, regulations, guidelines, directives of honourable courts etc.
g. JSMDC shall ensure that no Sand mining is carried out in any such zone or depth as prohibited under MoEF&CC Guidelines.
h. JSMDC shall adopt scientific and sustainable mining practices and shall ensure a transparent, fair and effective delivery system.
i. JSMDC shall adopt appropriate technology such as RFID/GPS tracking of vehicles, CCTV surveillance, central monitoring, cashless online sale etc. to prevent illegal mining and transportation of sand.
j. State shall reimburse the entire expenditure incurred by JSMDC for operation and maintenance of sand ghats and also pay suitable agency commission as fixed by the Government.
The Government may review the Sand Mining Policy in future as and when required and issue Guidelines or Amendments accordingly.

Sand deposit zones has been identified through field survey and study of satellite imageries over the entire stretch of the river within the district. After physical verification of those deposition zones, only sand potential areas are considered for Sand Ghats. After leaving safe distance from all physical structures, forest, habitation etc. as per statute, limiting coordinates of each Sand Ghat has been fixed.
In order to reduce the cluster formation, size of a Sand Ghat has been kept as large as possible, covering the entire sand bar inside single Sand Ghat after leaving statutory distances.
Apparently all the Sand Ghats which are located on 1st and 2nd order of stream, are considered as *Category-1* Sand Ghats. Apart from this, all such Sand Ghats, which don't comply with the statutory norms in terms of distance from habitation and forest to obtain Environment Clearance for commercial mining are also considered as *Category-1* Sand Ghats, which shall be consumed by local villagers for their domestic use. All other identified Sand Ghats are considered as *Category-2* Sand Ghats, proposed for commercial mining.

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Table No. - 12.4: Details of Sand Ghats - Category 1

Sl. No.	Sand Ghat Name	River	Area (in Ha.)	Block	Sub-Division	Mouza Name	Labels	Latitude	Longitude
1	Majhdiha Sand Ghat	Kajhia Nadi	2.80	Godda	Godda	Majhdiha	A	24° 46' 52.025" N	87° 17' 10.292" E
							B	24° 46' 53.433" N	87° 17' 12.743" E
							C	24° 46' 45.253" N	87° 17' 18.372" E
							D	24° 46' 43.179" N	87° 17' 15.393" E
2	Banka Sand Ghat	Kajhia Nadi	0.75			Ghat Banka	A	24° 46' 21.777" N	87° 18' 03.892" E
							B	24° 46' 25.122" N	87° 18' 00.978" E
							C	24° 46' 26.106" N	87° 18' 02.417" E
							D	24° 46' 23.029" N	87° 18' 05.726" E
3	Sarotiya Sand Ghat	Kajhia Nadi	1.33			Sarotiya	A	24° 49' 38.110" N	87° 14' 03.479" E
							B	24° 49' 34.541" N	87° 14' 10.570" E
							C	24° 49' 33.297" N	87° 14' 09.224" E
							D	24° 49' 36.348" N	87° 14' 02.013" E
4	Pindra Sand Ghat	Bansloi Nadi	0.23	Poreyahat		Pindra	A	24° 35' 01.583" N	87° 18' 59.312" E
							B	24° 35' 02.531" N	87° 18' 59.456" E
							C	24° 35' 01.479" N	87° 19' 02.459" E
							D	24° 35' 00.741" N	87° 19' 02.064" E
5	Durpat Sand Ghat	Chir Nadi	0.91			Durpat	A	24° 42' 15.073" N	87° 08' 05.367" E
							B	24° 42' 18.707" N	87° 08' 00.552" E
							C	24° 42' 19.996" N	87° 08' 02.017" E
							D	24° 42' 15.995" N	87° 08' 06.658" E
6	Sanuar Sand Ghat	Gerua Nadi	2.34	Basantrai		Sanuar	A	24° 58' 41.675" N	87° 08' 57.474" E
							B	24° 58' 49.060" N	87° 08' 58.676" E

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							C	24° 58' 48.362" N	87° 09' 00.380" E
							D	24° 58' 46.486" N	87° 09' 00.175" E
							E	24° 58' 43.914" N	87° 08' 59.472" E
							F	24° 58' 40.720" N	87° 08' 58.367" E
							G	24° 58' 37.241" N	87° 08' 56.474" E
							H	24° 58' 36.227" N	87° 08' 55.689" E
							I	24° 58' 35.249" N	87° 08' 55.154" E
							J	24° 58' 33.113" N	87° 08' 54.131" E
							K	24° 58' 30.665" N	87° 08' 52.819" E
							L	24° 58' 31.766" N	87° 08' 51.176" E
							M	24° 58' 34.036" N	87° 08' 52.961" E
							N	24° 58' 36.436" N	87° 08' 54.673" E
							O	24° 58' 38.882" N	87° 08' 56.259" E
7	Hilawe Sand Ghat	Gerua Nadi	2.32			Hilawe	A	24° 57' 01.019" N	87° 08' 43.750" E
							B	24° 57' 08.823" N	87° 08' 48.074" E
							C	24° 57' 07.574" N	87° 08' 51.181" E
							D	24° 57' 05.193" N	87° 08' 49.699" E
							E	24° 57' 03.025" N	87° 08' 48.009" E
							F	24° 56' 59.360" N	87° 08' 45.397" E
8	Bariyata Sand Ghat	Chir Nadi	0.99	Godda		Bariyata	A	24° 53' 32.519" N	87° 09' 54.874" E
							B	24° 53' 33.419" N	87° 09' 55.886" E
							C	24° 53' 29.201" N	87° 10' 03.041" E
							D	24° 53' 28.176" N	87° 10' 01.846" E
9	Teldiha Sand Ghat	Kajhia Nadi	1.32			Teldiha	A	24° 46' 02.420" N	87° 17' 45.241" E
							B	24° 46' 05.722" N	87° 17' 42.998" E
							C	24° 46' 06.447" N	87° 17' 44.236" E

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							D	24° 46' 04.257" N	87° 17' 46.257" E
							E	24° 46' 01.520" N	87° 17' 47.728" E
							F	24° 45' 58.436" N	87° 17' 47.603" E
							G	24° 45' 58.453" N	87° 17' 46.182" E
10	Sahikitta Sand Ghat	Gerua Nadi	0.69	Mahagama	Mahagama	Sahikitta			
							A	25° 04' 01.869" N	87° 11' 14.160" E
							B	25° 04' 02.786" N	87° 11' 13.546" E
							C	25° 04' 03.860" N	87° 11' 16.584" E
							D	25° 04' 04.513" N	87° 11' 20.027" E
							E	25° 04' 04.263" N	87° 11' 22.645" E
							F	25° 04' 03.449" N	87° 11' 22.439" E
							G	25° 04' 03.617" N	87° 11' 19.764" E
							H	25° 04' 03.165" N	87° 11' 17.261" E
11	Nonmati Sand Ghat	Kajhia Nadi	1.41	Godda	Godda	Nonmati			
							A	24° 48' 37.348" N	87° 14' 45.204" E
							B	24° 48' 36.501" N	87° 14' 45.611" E
							C	24° 48' 34.922" N	87° 14' 45.578" E
							D	24° 48' 33.511" N	87° 14' 45.314" E
							E	24° 48' 33.615" N	87° 14' 44.329" E
							F	24° 48' 36.026" N	87° 14' 44.619" E
							G	24° 48' 38.332" N	87° 14' 43.594" E
12	Darghatti Sand Ghat	Chir Nadi	1.44			Darghatti			
							A	24° 51' 24.289" N	87° 07' 32.430" E
							B	24° 51' 25.560" N	87° 07' 31.803" E
							C	24° 51' 26.615" N	87° 07' 33.316" E
							D	24° 51' 30.766" N	87° 07' 38.344" E
							E	24° 51' 29.673" N	87° 07' 39.655" E
							F	24° 51' 26.985" N	87° 07' 37.496" E

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13	Dadhachak Sand Ghat	Harna Nadi	0.10			Dadhachak	A	24° 51' 44.725" N	87° 14' 12.692" E
							B	24° 51' 45.053" N	87° 14' 12.392" E
							C	24° 51' 45.916" N	87° 14' 14.231" E
							D	24° 51' 45.269" N	87° 14' 14.557" E
14	Biswaskhani Sand Ghat	Gerua Nadi	0.51	Mahagama	Mahagama	Biswaskhani	A	25° 02' 23.259" N	87° 10' 02.907" E
							B	25° 02' 26.818" N	87° 10' 04.166" E
							C	25° 02' 25.627" N	87° 10' 05.901" E
							D	25° 02' 22.646" N	87° 10' 03.902" E
15	Narottampur Sand Ghat	Sundargaria Nadi	0.33			Narottampur	A	25° 02' 37.944" N	87° 11' 21.481" E
							B	25° 02' 40.663" N	87° 11' 23.454" E
							C	25° 02' 40.302" N	87° 11' 24.636" E
							D	25° 02' 37.469" N	87° 11' 22.437" E
16	Sangrampur Sand Ghat	Sundargaria Nadi	0.38			Sangrampur	A	25° 03' 25.974" N	87° 11' 29.391" E
							B	25° 03' 27.622" N	87° 11' 30.235" E
							C	25° 03' 27.819" N	87° 11' 32.609" E
							D	25° 03' 26.444" N	87° 11' 32.988" E
17	Lohathi Sand Ghat	Sundargaria Nadi	0.06			Lohathi	A	24° 58' 30.806" N	87° 20' 12.599" E
							B	24° 58' 31.789" N	87° 20' 11.893" E
							C	24° 58' 32.131" N	87° 20' 12.405" E
							D	24° 58' 30.990" N	87° 20' 13.128" E
Forest Land adjacent to Potential Sand Deposit. i.e. <250m									
18	Chhota Dhamni_1 Sand Ghat	Gumani	2.71	Sundarpahari	Godda	Chhota Dhamni	A	24° 47' 13.405" N	87° 28' 45.363" E
							B	24° 47' 13.932" N	87° 28' 41.445" E
							C	24° 47' 15.496" N	87° 28' 41.421" E

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							D	24° 47' 15.149" N	87° 28' 42.559" E
							E	24° 47' 14.815" N	87° 28' 43.973" E
							F	24° 47' 14.726" N	87° 28' 46.141" E
							G	24° 47' 14.792" N	87° 28' 47.547" E
							H	24° 47' 14.816" N	87° 28' 50.314" E
							I	24° 47' 15.311" N	87° 28' 51.652" E
							J	24° 47' 16.047" N	87° 28' 53.762" E
							K	24° 47' 16.960" N	87° 28' 56.025" E
							L	24° 47' 17.734" N	87° 28' 57.490" E
							M	24° 47' 18.175" N	87° 28' 58.548" E
							N	24° 47' 18.859" N	87° 28' 59.617" E
							O	24° 47' 17.931" N	87° 29' 00.039" E
							P	24° 47' 17.056" N	87° 28' 59.967" E
							Q	24° 47' 16.072" N	87° 28' 58.126" E
							R	24° 47' 15.205" N	87° 28' 56.770" E
							S	24° 47' 13.874" N	87° 28' 53.140" E
							T	24° 47' 13.127" N	87° 28' 50.163" E
19	Bada Dhamni Sand Ghat	Gumani	1.86			Bada Dhamni			
							A	24° 47' 26.547" N	87° 28' 13.466" E
							B	24° 47' 29.108" N	87° 28' 09.041" E
							C	24° 47' 31.680" N	87° 28' 05.772" E
							D	24° 47' 34.108" N	87° 28' 04.082" E
							E	24° 47' 35.305" N	87° 28' 04.545" E
							F	24° 47' 31.644" N	87° 28' 09.141" E
							G	24° 47' 28.272" N	87° 28' 13.532" E
20	Saurpachisa Sand Ghat	Guhaka	2.49			Saurpachisaa			
							A	87° 9' 22.292" E	24° 53' 14.251" N
							B	87° 9' 22.482" E	24° 53' 3.714" N
							C	87° 9' 20.858" E	24° 53' 3.749" N

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							D	87° 9' 20.702" E	24° 53' 14.288" N
							E	87° 9' 20.875" E	24° 53' 22.112" N
							F	87° 9' 22.350" E	24° 53' 22.076" N
21	Marchaitari Sand Ghat	Gumani	0.62			Marchaitari			
							A	24° 47' 10.411" N	87° 27' 25.566" E
							B	24° 47' 11.900" N	87° 27' 25.618" E
							C	24° 47' 11.471" N	87° 27' 28.522" E
							D	24° 47' 12.688" N	87° 27' 31.847" E
							E	24° 47' 11.336" N	87° 27' 32.570" E
22	Pokharia Sand Ghat	Gumani	0.85			Pokharia			
							A	24° 46' 54.158" N	87° 27' 20.524" E
							B	24° 47' 00.622" N	87° 27' 16.767" E
							C	24° 47' 01.185" N	87° 27' 18.041" E
							D	24° 46' 53.862" N	87° 27' 21.504" E
23	Kairasul Sand Ghat	Gumani	1.01			Kairasul			
							A	24° 46' 32.485" N	87° 26' 58.474" E
							B	24° 46' 28.849" N	87° 26' 57.610" E
							C	24° 46' 24.045" N	87° 26' 57.736" E
							D	24° 46' 23.963" N	87° 26' 57.133" E
							E	24° 46' 26.842" N	87° 26' 56.034" E
							F	24° 46' 29.600" N	87° 26' 56.187" E
							G	24° 46' 32.693" N	87° 26' 57.294" E
24	Chhota Dhamni 2 Sand Ghat	Gumani	5.09			Chhota Dhamni			
							A	24° 47' 18.585" N	87° 29' 02.220" E
							B	24° 47' 19.807" N	87° 29' 00.954" E
							C	24° 47' 20.497" N	87° 29' 02.442" E
							D	24° 47' 21.290" N	87° 29' 03.816" E
							E	24° 47' 22.438" N	87° 29' 05.109" E
							F	24° 47' 22.963" N	87° 29' 07.015" E

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G	24° 47' 22.724" N	87° 29' 08.882" E
H	24° 47' 22.351" N	87° 29' 10.367" E
I	24° 47' 22.121" N	87° 29' 12.113" E
J	24° 47' 21.003" N	87° 29' 13.672" E
K	24° 47' 19.822" N	87° 29' 14.449" E
L	24° 47' 18.293" N	87° 29' 14.600" E
M	24° 47' 16.265" N	87° 29' 14.352" E
N	24° 47' 14.585" N	87° 29' 14.065" E
O	24° 47' 13.617" N	87° 29' 14.037" E
P	24° 47' 12.112" N	87° 29' 13.800" E
Q	24° 47' 12.025" N	87° 29' 13.797" E
R	24° 47' 11.897" N	87° 29' 13.748" E
S	24° 47' 10.774" N	87° 29' 13.468" E
T	24° 47' 09.182" N	87° 29' 13.501" E
U	24° 47' 08.679" N	87° 29' 15.340" E
V	24° 47' 09.946" N	87° 29' 17.328" E
W	24° 47' 10.458" N	87° 29' 19.217" E
X	24° 47' 10.364" N	87° 29' 19.926" E
Y	24° 47' 09.512" N	87° 29' 21.681" E
Z	24° 47' 08.441" N	87° 29' 23.574" E
A1	24° 47' 07.611" N	87° 29' 25.135" E
B1	24° 47' 07.160" N	87° 29' 26.874" E
C1	24° 47' 06.847" N	87° 29' 28.874" E
D1	24° 47' 06.570" N	87° 29' 30.458" E
E1	24° 47' 06.383" N	87° 29' 32.303" E
F1	24° 47' 05.651" N	87° 29' 34.420" E
G1	24° 47' 05.050" N	87° 29' 35.963" E
H1	24° 47' 04.193" N	87° 29' 35.587" E
I1	24° 47' 05.067" N	87° 29' 32.737" E

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							J1	24° 47' 05.763" N	87° 29' 30.612" E
							K1	24° 47' 06.242" N	87° 29' 28.039" E
							L1	24° 47' 06.734" N	87° 29' 25.226" E
							M1	24° 47' 08.107" N	87° 29' 22.625" E
							N1	24° 47' 08.767" N	87° 29' 20.718" E
							O1	24° 47' 09.413" N	87° 29' 18.533" E
							P1	24° 47' 08.606" N	87° 29' 17.105" E
							Q1	24° 47' 07.903" N	87° 29' 15.854" E
							R1	24° 47' 07.919" N	87° 29' 14.100" E
							S1	24° 47' 08.638" N	87° 29' 12.719" E
							T1	24° 47' 09.736" N	87° 29' 12.312" E
							U1	24° 47' 12.561" N	87° 29' 12.561" E
							V1	24° 47' 15.299" N	87° 29' 13.085" E
							W1	24° 47' 18.036" N	87° 29' 12.725" E
							X1	24° 47' 20.828" N	87° 29' 11.971" E
							Y1	24° 47' 21.432" N	87° 29' 10.198" E
							Z1	24° 47' 20.819" N	87° 29' 07.324" E
							A2	24° 47' 19.774" N	87° 29' 04.346" E

Table No. - 12.5: Details of Sand Ghats - Category 2

Sl. No.	Code	Circle/Block	River	Mouza	Thana No.	Khata No.	Plot No.		Area	ID	Latitude	Longitude
							As per JSAC	As per Cadastral Sheet	(in Ha.)			
1	GO_Z2_GE_1	Basantrai	Gerua Nadi	Raha	4	129	79, 188	188	1.97	A	25° 01' 17.211" N	87° 08' 51.559" E
										B	25° 01' 23.482" N	87° 08' 56.527" E
										C	25° 01' 22.396" N	87° 08' 57.953" E
										D	25° 01' 18.798" N	87° 08' 54.511" E
										E	25° 01' 16.702" N	87° 08' 52.583" E

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										F	25° 01' 14.094" N	87° 08' 49.180" E
										G	25° 01' 12.710" N	87° 08' 48.116" E
										H	25° 01' 10.515" N	87° 08' 47.083" E
										I	25° 01' 07.347" N	87° 08' 46.618" E
										J	25° 01' 05.793" N	87° 08' 46.507" E
										K	25° 01' 05.969" N	87° 08' 45.451" E
										L	25° 01' 10.526" N	87° 08' 46.175" E
										M	25° 01' 14.561" N	87° 08' 48.441" E
2	GO_Z3_GE_2	Basantrai	Gerua Nadi	Deshbarag	74	46	160, 605	160, 22	0.93	A	24° 58' 06.847" N	87° 08' 57.164" E
										B	24° 58' 09.091" N	87° 08' 56.994" E
										C	24° 58' 11.143" N	87° 08' 55.830" E
										D	24° 58' 11.367" N	87° 08' 56.911" E
										E	24° 58' 09.459" N	87° 08' 57.876" E
										F	24° 58' 08.096" N	87° 08' 57.995" E
										E	24° 58' 05.339" N	87° 08' 57.378" E
										G	24° 58' 03.190" N	87° 08' 56.237" E
										H	24° 57' 59.720" N	87° 08' 54.265" E
										I	24° 58' 00.223" N	87° 08' 53.483" E
										J	24° 58' 03.807" N	87° 08' 55.632" E
										K	24° 58' 04.437" N	87° 08' 55.965" E
3	GO_Z5_CH1_3	Pathargama	Chir Nadi	Chakwa	262	26	4, 166		3.52	A	24° 55' 20.184" N	87° 08' 36.658" E
										B	24° 55' 29.236" N	87° 08' 51.763" E
										C	24° 55' 28.173" N	87° 08' 52.095" E
										D	24° 55' 25.080" N	87° 08' 47.034" E
										E	24° 55' 21.750" N	87° 08' 41.566" E
										F	24° 55' 18.255" N	87° 08' 38.093" E
										G	24° 55' 12.871" N	87° 08' 35.888" E
										H	24° 55' 13.494" N	87° 08' 33.315" E

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										I	24° 55' 16.235" N	87° 08' 34.026 ' E
4	GO_Z5_CHI_4	Pathargama	Chir Nadi	Jasmata	263	2	13	13	3.03	A	24° 54' 19.926" N	87° 08' 53.529" E
										B	24° 54' 19.927" N	87° 09' 01.582" E
										C	24° 54' 14.838" N	87° 09' 03.550 ' E
										D	24° 54' 16.323" N	87° 08' 56.796" E
										E	24° 54' 16.235" N	87° 08' 54.137" E
5	GO_Z9_KAJ_5	Godda	Kajhia Nadi						2.71	A	24° 49' 12.465" N	87° 14' 41.798' E
										B	24° 49' 16.627" N	87° 14' 37.490" E
										C	24° 49' 21.797" N	87° 14' 31.343' E
										D	24° 49' 23.151" N	87° 14' 32.038" E
										E	24° 49' 20.304" N	87° 14' 37.450" E
										F	24° 49' 18.080" N	87° 14' 39.709" E
				Haripur	489	109	408, 278	278		G	24° 49' 15.049" N	87° 14' 41.799' E
				Garbana	377	132	1, 1256			H	24° 49' 12.972" N	87° 14' 42.586" E
6	GO_Z10_KAJ_6	Godda	Kajhia Nadi	Ghat Jhilua	530	21	300, 27, 192, 3085		1.82	A	24° 47' 58.555" N	87° 15' 52.988" E
										B	24° 48' 05.485" N	87° 15' 49.074" E
										C	24° 48' 06.120" N	87° 15' 49.971' E
										D	24° 47' 53.048" N	87° 15' 56.582" E
										E	24° 47' 50.774" N	87° 15' 57.814" E
										F	24° 47' 50.145" N	87° 15' 56.777" E
										G	24° 47' 52.425" N	87° 15' 54.800" E
										H	24° 47' 54.128" N	87° 15' 53.891" E
7	GO_Z12_SAK_7	Poreyahat	Sakri Nadi						5.51	A	24° 43' 58.008" N	87° 06' 19.616' E
										B	24° 44' 02.237" N	87° 06' 16.831' E
										C	24° 44' 07.182" N	87° 06' 14.092" E
										D	24° 44' 07.955" N	87° 06' 15.763' E
										E	24° 44' 06.122" N	87° 06' 16.588" E
										F	24° 44' 04.138" N	87° 06' 17.293' E

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										G	24° 44' 01.729" N	87° 06' 18.440" E
										H	24° 43' 57.260" N	87° 06' 22.240" E
										I	24° 43' 56.332" N	87° 06' 24.097" E
										J	24° 43' 56.181" N	87° 06' 25.462" E
										K	24° 43' 55.977" N	87° 06' 26.918" E
										L	24° 43' 54.424" N	87° 06' 31.445" E
										M	24° 43' 52.832" N	87° 06' 35.750" E
										N	24° 43' 52.132" N	87° 06' 38.100" E
										O	24° 43' 51.506" N	87° 06' 39.714" E
										P	24° 43' 49.872" N	87° 06' 41.817" E
										Q	24° 43' 47.454" N	87° 06' 43.376" E
										R	24° 43' 43.180" N	87° 06' 44.471" E
										S	24° 43' 42.877" N	87° 06' 42.873" E
										T	24° 43' 45.963" N	87° 06' 42.010" E
										U	24° 43' 49.127" N	87° 06' 40.308" E
										V	24° 43' 51.115" N	87° 06' 36.896" E
										W	24° 43' 52.003" N	87° 06' 33.343" E
										X	24° 43' 52.800" N	87° 06' 30.534" E
				Lauamahua			389	389		Y	24° 43' 54.303" N	87° 06' 26.088" E
				Pasai	62	264	389	389		Z	24° 43' 55.171" N	87° 06' 22.794" E
8	GO_Z13_SAK_8	Poreyahat	Sakri Nadi						2.59	A	24° 43' 07.887" N	87° 06' 58.529" E
										B	24° 43' 12.912" N	87° 06' 58.521" E
										C	24° 43' 12.958" N	87° 07' 00.016" E
										D	24° 43' 10.096" N	87° 06' 59.673" E
										E	24° 43' 08.097" N	87° 06' 59.461" E
										F	24° 43' 05.602" N	87° 06' 59.303" E
										G	24° 43' 03.697" N	87° 06' 59.238" E
										H	24° 43' 01.029" N	87° 07' 01.080" E

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										I	24° 42' 59.462" N	87° 07' 04.653" E
										J	24° 42' 57.264" N	87° 07' 10.029" E
										K	24° 42' 55.578" N	87° 07' 18.825" E
										L	24° 42' 54.790" N	87° 07' 18.509" E
										M	24° 42' 55.734" N	87° 07' 13.857" E
										N	24° 42' 56.192" N	87° 07' 10.288" E
										O	24° 42' 57.888" N	87° 07' 05.605" E
										P	24° 42' 59.709" N	87° 07' 01.587" E
										Q	24° 43' 00.738" N	87° 07' 00.073" E
				Pasai	62	264	2866, 789	789		R	24° 43' 02.418" N	87° 06' 59.048" E
				Garhi	75	77	789			S	24° 43' 03.169" N	87° 06' 58.598" E
9	GO_Z14_RIB_9	Poreyahat	Ribani Nadi							A	24° 46' 07.506" N	87° 05' 03.738" E
										B	24° 46' 20.459" N	87° 05' 04.035" E
										C	24° 46' 21.298" N	87° 05' 07.537" E
										D	24° 46' 18.161" N	87° 05' 07.563" E
										E	24° 46' 13.797" N	87° 05' 06.472" E
										F	24° 46' 09.976" N	87° 05' 05.376" E
										G	24° 46' 03.915" N	87° 05' 05.502" E
										H	24° 45' 58.308" N	87° 05' 06.746" E
										I	24° 45' 51.434" N	87° 05' 09.514" E
										J	24° 45' 48.391" N	87° 05' 13.121" E
										K	24° 45' 43.787" N	87° 05' 16.843" E
										L	24° 45' 40.781" N	87° 05' 18.226" E
										M	24° 45' 39.300" N	87° 05' 13.713" E
										N	24° 45' 43.093" N	87° 05' 10.679" E
				Asarimadhuri	19	208	1082, 1587, 1131, 1116	1082, 1587	11.29	O	24° 45' 45.766" N	87° 05' 8.624" E
				Teliyatikar	36	59	34			P	24° 45' 55.061" N	87° 05' 5.387" E
10	GO_Z15_CHI_10	Godda		Dhodhari	276	54	77, 658	77	2.39	A	24° 52' 49.697" N	87° 09' 11.663" E

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			Chir Nadi							B	24° 52' 59.176" N	87° 09' 18.330" E
										C	24° 52' 57.556" N	87° 09' 20.982" E
										D	24° 52' 55.567" N	87° 09' 19.233" E
										E	24° 52' 51.249" N	87° 09' 15.325" E
										F	24° 52' 48.827" N	87° 09' 12.822" E
11	GO_Z16_CHI_11	Godda	Chir Nadi						2.10	A	24° 52' 08.761" N	87° 08' 44.424" E
										B	24° 52' 14.831" N	87° 08' 49.746" E
										C	24° 52' 19.657" N	87° 08' 53.903" E
										D	24° 52' 19.357" N	87° 08' 54.847" E
										E	24° 52' 15.900" N	87° 08' 51.818" E
										F	24° 52' 12.139" N	87° 08' 49.104" E
										G	24° 52' 08.886" N	87° 08' 47.229" E
										H	24° 52' 07.272" N	87° 08' 45.553" E
				Dalpatpur			77	16		I	24° 52' 05.954" N	87° 08' 42.690" E
				Sirsa	278	11	16, 1			J	24° 52' 07.251" N	87° 08' 41.800" E
12	GO_Z17_CHI_12	Poreyahat	Chir Nadi						3.55	A	24° 43' 33.825" N	87° 07' 56.980" E
										B	24° 43' 37.360" N	87° 07' 59.451" E
										C	24° 43' 36.614" N	87° 08' 00.280" E
										D	24° 43' 32.949" N	87° 07' 57.850" E
										E	24° 43' 29.622" N	87° 07' 53.782" E
										F	24° 43' 27.875" N	87° 07' 52.749" E
										G	24° 43' 26.278" N	87° 07' 53.129" E
										H	24° 43' 23.886" N	87° 07' 55.641" E
										I	24° 43' 22.701" N	87° 07' 58.578" E
										J	24° 43' 20.979" N	87° 08' 04.395" E
										K	24° 43' 19.797" N	87° 08' 05.997" E
										L	24° 43' 17.424" N	87° 08' 06.883" E
										M	24° 43' 17.184" N	87° 08' 06.327" E

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										N	24° 43' 19.852" N	87° 08' 04.441" E
										O	24° 43' 21.221" N	87° 08' 01.007" E
										P	24° 43' 21.975" N	87° 07' 58.088" E
										Q	24° 43' 23.197" N	87° 07' 54.962" E
										R	24° 43' 26.189" N	87° 07' 50.952" E
				Amjora	57	38	167, 200, 199, 198	167, 428		S	24° 43' 28.075" N	87° 07' 50.284" E
				Surapaparwa	55	43	735, 726			T	24° 43' 29.848" N	87° 07' 50.787" E
				Machkhara	64	80	428, 723			U	24° 43' 32.336" N	87° 07' 54.592" E
13	GO_Z18_CHI_13	Poreyahat	Chir Nadi						1.06	A	24° 43' 56.621" N	87° 07' 31.773" E
										B	24° 43' 57.206" N	87° 07' 26.244" E
										C	24° 43' 57.876" N	87° 07' 26.321" E
										D	24° 43' 57.660" N	87° 07' 28.931" E
										E	24° 43' 57.424" N	87° 07' 31.834" E
										F	24° 43' 56.548" N	87° 07' 35.200" E
										G	24° 43' 55.272" N	87° 07' 38.628" E
				Taratikar	61	63	1, 202, 45, 38			H	24° 43' 54.130" N	87° 07' 40.294" E
				Pakariya	59	58	45, 38	45		I	24° 43' 53.537" N	87° 07' 39.866" E
				Bargaon	60	43	45, 38			J	24° 43' 55.512" N	87° 07' 35.396" E
14	GO_Z5_CHI_14	Pathargama	Chir Nadi	Sanatan	265	75	184, 5	184	3.98	A	24° 54' 01.695" N	87° 09' 14.217" E
										B	24° 54' 03.008" N	87° 09' 17.513" E
										C	24° 53' 51.621" N	87° 09' 24.264" E
										D	24° 53' 50.239" N	87° 09' 21.080" E
15	GO_Z5_CHI_15	Pathargama	Chir Nadi	Jasmata	263	2	13	13	1.82	A	24° 54' 47.649" N	87° 08' 34.061" E
										B	24° 54' 48.365" N	87° 08' 36.323" E
										C	24° 54' 46.410" N	87° 08' 36.613" E
										D	24° 54' 40.739" N	87° 08' 41.742" E
										E	24° 54' 39.727" N	87° 08' 39.108" E
										F	24° 54' 43.128" N	87° 08' 36.509" E

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16	GO_Z2_GE_16	Basantrai	Gerua Nadi	Bade		20	1		2.37	A	25° 00' 42.368" N	87° 08' 47.390" E
										B	25° 00' 42.199" N	87° 08' 48.510" E
										C	25° 00' 38.703" N	87° 08' 47.606" E
										D	25° 00' 34.670" N	87° 08' 46.706" E
										E	25° 00' 30.972" N	87° 08' 48.743" E
										F	25° 00' 28.094" N	87° 08' 51.575" E
										G	25° 00' 26.774" N	87° 08' 52.816" E
										H	25° 00' 25.488" N	87° 08' 53.650" E
										I	25° 00' 24.255" N	87° 08' 54.569" E
										J	25° 00' 23.178" N	87° 08' 53.524" E
										K	25° 00' 27.947" N	87° 08' 49.730' E
										L	25° 00' 34.445" N	87° 08' 45.276" E

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12.7 Details of Sand Deposit Zones:

Table No. – 12.6: Details of Sand Deposit Zones in Godda District of Jharkhand State.

Sl. No.	Zone No.	Zone Boundary Coordinates	Reference Point Coordinates	No. of Sand Ghats Within Zone & Total Area
1	Zone-1	87°12'36.621"E, 25°05'1.890"N to 87°10'45.140"E, 25°03'56.080"N	No Sand Ghat identified due to very low Sand deposit.	
2	Zone-2	87°09'45.921"E, 25°02'06.462"N to 87°09'02.398"E, 24°59'31.020"N	87°11'21.633"E, 25°2'57.401"N	2 Nos., Total 4.33 Ha.
3	Zone-3	87°09'03.131"E, 24°59'02.919"N to 87°08'52.458"E, 24°56'15.970"N	87°08'54.764"E, 24°59'04.592"N	1 No., 0.92 Ha.
4	Zone-4	87°10'21.620"E, 24°52'55.950"N to 87°12'54.440"E, 24°50'54.050"N	No Sand Ghat identified due to very low sand deposit.	
5	Zone-5	87°09'05.473"E, 24°55'51.753"N to 87°09'36.452"E, 24°53'34.835"N	87°09'12.018"E, 24°56'02.044"N	4 Nos., Total 12.6 Ha.
6	Zone-6	87°10'29.580"E, 25°01'28.040"N to 87°10'14.680"E, 25°01'05.570"N	No Sand Ghat identified due to very low Sand deposit.	
7	Zone-7	87°11'23.750"E, 25°02'48.700"N to 87°10'20.070"E, 25°01'51.280"N		
8	Zone-8	87°13'15.500"E, 24°50'03.360"N to 87°13'33.170"E, 24°49'47.110"N		
9	Zone-9	87°14'02.521"E, 24°49'38.748"N to 87°14'50.094"E, 24°49'10.957"N	87°14'23.137"E, 24°49'27.614"N	1 No., 2.71 Ha.
10	Zone-10	87°15'37.541"E, 24°48'10.992"N to 87°17'32.872"E, 24°46'35.642"N	87°15'31.206"E, 24°48'17.503"N	1 No., 1.82 Ha.
11	Zone-11	87°18'44.740"E, 24°35'20.160"N to 87°19'33.910"E, 24°34'39.980"N	No Sand Ghat identified due to very low sand deposit.	
12	Zone-12	87°06'14.791"E, 24°44'08.364"N to 87°06'42.610"E, 24°43'42.513"N	87°06'01.922"E, 24°044'18.016"N	1 No., 5.51 Ha.
13	Zone-13	87°06'58.695"E, 24°43'13.971"N to 87°07'18.991"E, 24°42'53.057"N	87°07'03.652"E, 24°43'28.875"N	1 No., 2.59 Ha.
14	Zone-14	87°05'05.895"E, 24°46'25.500"N to 87°05'16.622"E, 24°45'37.014"N	87°05'20.731"E, 24°46'27.714"N	1 No., 11.29 Ha.
15	Zone-15	87°09'30.642"E, 24°53'12.412"N to 87°09'09.399"E, 24°52'47.042"N	87°09'18.942"E, 24°53'12.311"N	1 No., 2.39 Ha.
16	Zone-16	87°08'54.094"E, 24°52'20.851"N to 87°08'35.224"E, 24°52'7.210"N	87° 09'07.127"E, 24°52'32.458"N	1 No., 2.1 Ha.
17	Zone-17	87°08'00.261"E, 24°43'38.309"N to 87°08'06.346"E, 24°43'13.723"N	87° 07'58.026"E, 24°43'43.531"N	1 No., 3.54 Ha.
18	Zone-18	87°07'25.293"E, 24°43'57.890"N to 87°07'41.164"E, 24°43'53.856"N	87° 07'25.269"E, 24°44'01.423"N	1 No., 1.06 Ha.

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12.8 Distance from Bridges & NH/SH for each Sand Ghat:

Table No. – 12.7: Distance from Bridges & NH/SH for each Sand Ghat in Godda District of Jharkhand State.

Sl. No.	Sand Ghat Code	Aerial Distance from Nearest Bridge	Name of Bridge	Whether on NH or SH
1	GO_Z2_GE_1	> 1 km	Gerua River Bridge	No
2	GO_Z3_GE_2	> 1 km	Sanor Road Bridge	No
3	GO_Z5_CHI_3	> 1 km	Biraniya Bridge	No
4	GO_Z5_CHI_4	> 1 km	Biraniya Bridge	No
5	GO_Z9_KAJ_5	> 500 m	Nimotari Bridge	No
6	GO_Z10_KAJ_6	> 500 m	Singhwahini Bridge	No
7	GO_Z12_SAK_7	> 500 m	Triwahini Bridge	No
8	GO_Z13_SAK_8	> 500 m	Pasai Bridge	No
9	GO_Z14_RIB_9	> 2 km	Danre Dam	No
10	GO_Z15_CHI_10	> 500 m	Motanga Bridge	No
11	GO_Z16_CHI_11	> 500 m	Motanga Bridge	No
12	GO_Z17_CHI_12	> 1 km	Taratikar Pool	No
13	GO_Z18_CHI_13	> 500 m	Taratikar Pool	No
14	GO_Z5_CHI_14	> 1 km	Biraniya Bridge	No
15	GO_Z5_CHI_15	> 1 km	Biraniya Bridge	No
16	GO_Z2_GE_16	> 1 km	Gerua River Bridge	No

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12.9 Replenishment Study of Sand Deposit Zones (Category 2): (Verified & Approved)

REPLENISHMENT OF SAND ASSESSED BY "AFTER THE MONSOON" SURVEY (THIRD) CARRIED OUT DURING NOVEMBER 2022									
Pre-Monsoon (January to March 2022)				Post-Monsoon (October to December 2022)					
Sl. No.	Sand Bar Code	Surface RL	Surface Area	Surface RL	Thickness Replenished	Volume Replenished	Depth of Sand Deposit	Volume of Sand Deposit	Rate of Replenishment
		in m	in m^2	in m	in m	in m^3	in m	in m^3	in %
1	GO_Z2_GE_1	-9.54	19700.04	-8.84	0.7	13790	1.0	19700	70.0
2	GO_Z3_GE_2	-2.19	9261.30	-1.39	0.8	7409	1.0	9261	80.0
3	GO_Z5_CHI_3	-0.32	35183.74	-0.12	0.2	7037	0.5	17592	40.0
4	GO_Z5_CHI_4	1.22	30340.51	2.32	1.1	33375	2.0	60681	55.0
5	GO_Z9_KAJ_5	25.96	27131.41	26.06	0.1	2713	0.5	13566	20.0
6	GO_Z10_KAJ_6	37.61	18239.67	37.91	0.3	5472	0.8	14592	37.5
7	GO_Z12_SAK_7	54.41	55115.09	54.71	0.3	16535	1.2	66138	25.0
8	GO_Z13_SAK_8	58.08	25921.45	58.58	1.2	31106	1.7	44066	70.6
9	GO_Z14_RIB_9	43.98	112943.26	44.28	0.3	33883	0.8	90355	37.5
10	GO_Z15_CHI_10	6.31	23932.43	6.71	0.4	9573	0.8	19146	50.0
11	GO_Z16_CHI_11	7.87	21040.74	8.37	0.5	10520	0.8	16833	62.5
12	GO_Z17_CHI_12	58.52	35461.76	59.62	1.1	39008	2.0	70924	55.0
13	GO_Z18_CHI_13	55.66	10617.42	55.86	0.2	2123	0.5	5309	40.0
14	GO_Z5_CHI_14	3.27	39841.29	3.67	0.4	15937	0.8	31873	50.0
15	GO_Z5_CHI_15	0.75	18180.09	1.05	0.3	5454	0.7	12726	42.9
16	GO_Z2_GE_16	-7.16	23652.03	-6.46	0.7	16556	1.0	23652	70.0
TOTAL						250490		516413	48.5

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13. DETAILS OF ECO-SENSITIVE AREA IN THE DISTRICT

As per notification of MoEF & CC, no any Eco Sensitive Zone falls in this district.

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14. IMPACT ON THE ENVIRONMENT DUE TO MINING

14.1 For Sand Mining:

The environmental components that are likely to be influenced or modified by the continuation of mining activities are: Air, Water, Noise, Soil, Hydrology, Ecology & Bio-diversity, Socio-economic status etc.

Major activities involve in the operation phase are -

- Excavation,
- Loading of material on truck by excavator
- Movement of vehicle on 'kaccha' road of villages

✓ Air Pollution

In mining activity, the only source of air pollution is excavation, transportation, loading and handling of minerals etc. The proposed mining operations are not anticipated to raise the concentration of pollutants beyond prescribed limits. However, the measures are suggested to mitigate the negative impact of the proposed mining activity to control the pollutants by plantation of trees along haul roads, specially near settlements, to help to reduce the impact of dust on the nearby villages; planning transportation routes of mined material so as to reach the nearest paved roads by shortest route (minimize transportation over unpaved road); regular water sprinkling on unpaved roads to avoid dust generation during transportation etc.

Emission of PM_{10}

The major sources of PM10 emission in case of sand mining project are the loading activity at mine site (loading of material over trucks/trucks by excavators) and the movement of vehicles on unpaved haul roads.

Loading of Material

The excavated materials will be loaded on dumpers using excavators.

Emission of PM10 due to Transportation

The hauling of minerals from the mine lease area to the end users via haul road (unpaved road) will cause emission of particulate matters. This emission will be limited to the extent of unpaved haul road starting from mining pit to nearest paved road connectivity.

Emission of CO from Vehicles

The excavated minerals will be transported outside the mining area for end use. The ARAI emission factors for CO emitting from heavy vehicles (diesel) is 3.92 gm/km or 6.32 g/mile.

Air Emissions

- Dust and air emission particularly due to the excavation, construction and movement of vehicles resulting in air pollution.
- No. of PCU/Hr. will increase due to mining in existing traffic scenario lead to air pollution which can cause adverse effect on human health of neighboring villagers like effect on breathing and respiratory system, damage to lung tissue, cancer and premature death, influenza or asthma.

✓ Noise Pollution

- Noise Impact due to mining activities.
- Human Noise from the machinery can cause hypertension, high stress level, hearing loss, sleep disturbance etc. due to prolonged exposure.
- Increase in the existing traffic due to this mining activity may occur unwanted sound and can also cause impact on human health of neighbouring villagers like effect on breathing and respiratory system, damage to lung tissue, cancer and premature death, influenza or asthma.

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✓ Water Pollution

- Flow pattern might be changed due to river bed mining.
- Mining activities depth will be increased, which may result in increase of flow velocity.
- Change in surface water quality and ground water quality.
- Impact on ground water recharge potential as the thickness of the natural filter materials (sediments) is reduce causing less infiltration.
- Waste water discharge.

✓ Soil Environment

- Mining activity may increase the soil erosion and soil degradation which have adverse impact on soil fertility.
- Top soil extraction from outside river-bed may also affect the soil fertility and productivity.
- During the flood, the soil erosion may occur.

✓ Solid Waste Generation/Management

- Flow pattern might be changed due to river bed mining.
- Mining activities depth will be increased, which may result in increase of flow velocity.
- Waste water discharge.

✓ Land Use

- The mining activity in the outside riverbed will be converted into the pit, which may cause soil erosion, soil degradation etc.
- Mining in the river-bed may change complete land use pattern including channel geometry, bed elevation, sediment transportation capacity which can reduce flow of the river and downstream erosion.

✓ Hydrology

- The mining in the riverbed area may cause the ground water contamination due to intersection of the water table.
- Change the topography will divert the river flow.
- Change in topography can change the river flow and flood may occur.
- Slope of mining area will change which can create soil erosion and divert rain water runoff channel.

✓ Topography, Drainage and Ground Water Contamination

- Spillage of oil from construction/transportation vehicles and equipment.

✓ Biological Environment

- Transportation of sand in the trucks/dumper will disturb the movement of wild animals like jungle cat, jackal, and other reptiles. Fugitive emission from vehicle movement will form a layer in leaves thus reducing the gaseous exchange process. This ultimately affects the growth of plants. Chances of vehicle collisions with wildlife attempting to cross roads are possible.
- Any human settlement in the mining area will disturb the vegetation cover and reptiles.
- Indiscriminate mining from active channels of rivers causes many adverse effects on the benthic fauna, which inhabits the bottom sandy substratum. Excessive sand extraction from rivers affects the eco-biology of many terrestrial insects whose initial life history begins in aquatic environments
- Stomatal index may be minimized due to dust deposit on leaf.

✓ Socio-economic

- Such shops along the roads will generate solid waste and waste water which will have adverse impact on human health.
- Further, the deep pits created in the channel also can contribute to an increase in accidents in the working environment.

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Adequate control measures will be adopted to check not only the wash-off from soil erosion but also uncontrolled flow of mine water.

✓ Noise Pollution

Mining operations involve deployment of mining machineries, drilling, blasting, excavation and transportation of stone. Noise may be generated by the impact from drill bits and mechanical vibration from drill casings, as well as impulse noise from exhaust and ancillary equipment such as fans and blowers for mine ventilation.

✓ Land Environment

The creation of landscape blots like open pits and piles of waste rocks due to mining operations can lead to the physical destruction of the land at the mining site. Such disruptions can contribute to the deterioration of the area's flora and fauna. There is also a huge possibility that many of the surface features that were present before mining activities cannot be replaced after the process has ended. The removal of soil layers and deep underground digging can destabilize the ground which threatens the future of roads and buildings in the area.

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15. REMEDIAL MEASURES TO MITIGATE THE IMPACT OF MINING ON THE ENVIRONMENT

15.1 Remedial Measures for Sand Mining:

✓ Air Environment:

During mining activity, the only source of air pollution is excavation, transportation, loading and handling of minerals etc. However, the measures are suggested to mitigate the negative impact of the proposed mining activity to control the pollutants by plantation of trees along haul roads, specially near settlements, to help to reduce the impact of dust on the nearby villages; planning transportation routes of mined material so as to reach the nearest paved roads by shortest route (minimize transportation over unpaved road); regular water sprinkling on unpaved roads to avoid dust generation during transportation etc.

Impact	Mitigation Measures
Air Emissions • Dust and air emission particularly due to the excavation, construction and movement of vehicles resulting in air pollution.	• Provision of spraying water to reduce dust emission on roads and particularly near existing settlements. • Excavated topsoil to be preserved and reused for landscaping. • The amount of exposed ground and stockpiles will be minimized so that re-suspension due to wind and subsequent dust fall is prevented. Heights of stock piles should control dust fall in nearby areas. • Arrangement of the soil will be such that existing drainage pattern, though altered, will still ensure that runoff does not carry away topsoil but reaches the water bodies with which it is linked. Ensuring all vehicles, generators and compressors are well maintained and regularly serviced.

The following measures are suggested to mitigate any negative impacts of mining:

- Planned multiple transportation routes in different direction to minimize the dust generation.
- Planned paved roads outside mine lease area to minimize the dust generation. Alternatively, planning transportation routes so as to reach the nearest paved roads by shortest route. (Minimize transportation over unpaved road).
- Frequent water sprinkling on unpaved roads (>2L/m²).
- Plantation of trees along haul roads, especially near settlements, to reduce the impact of dust on the nearby villages.
- Dust mask shall be provided to the workers engaged at dust ge1neration points like excavations and loading points.
- Transportation of material shall be carried out during day time only.
- The speed of trucks plying on the haul road should limited to 20 km/hour to avoid generation of dust.
- Covering of material by tarpaulin during transportation on trucks to prevent spillage of materials from the trucks.
- Overloading shall be avoided.

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Movement of Traffic-

Impact	Mitigation Measures
• No. of PCU/Hr. will increase due to mining in existing traffic scenario lead to air pollution which can cause adverse effect on human health of neighboring villagers like effect on breathing and respiratory system, damage to lung tissue, cancer and premature death, influenza or asthma.	• Vehicles with PUC Certificate will be hired. Regular maintenance of vehicles will be done to ensure smooth running of vehicle. It is proposed to plant local species trees per year with consultation of Forest department with some fruit bearing and medicinal trees, along the haul roads, outer periphery within the lease area to prevent the impact of dust in the nearby village. Regular Health checkup camps will be organized.
• No. of PCU /Hr. will increase in the existing traffic due to this mining activity hence vehicle collation may occur unwanted sound and can also cause impact on human health.	• In addition, truck drivers will be instructed to make minimum use of horns in the village area and sensitive zones. It is proposed to plant local species trees per year with consultation of Forest department with some fruit bearing and medicinal trees, along the haul roads, outer periphery within the lease area to reduce the impact of noise in the study area. Regular Health checkup camps will be organized.
• Accidents may be occurring due to fast movement of vehicles.	• To avoid accidents, the speed of vehicles will be low near habitation areas.

✓ **Noise Pollution:**

It can be stated that the impact on the present noise levels due to mining operations will be minimal and shall be restricted to transportation route only. There is no drilling and blasting envisaged in the sand mining so there is no impact of vibration.

Impact	Mitigation Measures
• Noise Impact due to mining activities. • Human Noise from the machinery can cause hypertension, high stress level, hearing loss, sleep disturbance etc. due to prolonged exposure. • Increase in the existing traffic due to the mining activity may occur unwanted sound and can also cause impact on human health of neighboring villagers like effect on breathing and respiratory system, damage to lung tissue, cancer and premature death, influenza or asthma.	• Noise generated be this equipment will be intermittent and does not cause much adverse impact. • The noise measurement data indicated that present noise levels in the study area is within the permissible limits of National Ambient Noise Quality Standards. • Periodical monitoring of noise will be done. • No other equipment except the transportation vehicles and excavator for loading will be allowed. • Proper maintenance of all equipment / machines will be carried out which help in reducing noise during operations. • In addition, truck drivers will be instructed to make minimum use of horns in the village area and sensitive zones. • Plantation will be taken up along the approach roads and vicinity of river bank. The plantation minimizes propagation of noise and also arrests dust. • Ear muffs will be provided while working on mining equipment. • Regular health check-ups will be conducted for any such health implications

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✓ **Water Environment:**

Impact	Mitigation Measures
• Flow pattern might be changed due to river bed mining. • Mining activities depth will be increased, which may result in increase of flow velocity.	• No diversion is anticipated. There will not be any adverse impact on flow pattern, surface hydrology and ground water regime. • Mining activities will be restricted to maximum 3 m depth, which will not cause much change in flow pattern of the river.
• Change in surface water quality and ground water quality.	• The mining will not be allowed below the water table. • Regular monitoring of water samples will be done as precautionary measures.
• Impact on ground water recharge potential as the thickness of the natural filter materials (sediments) is reduce causing less infiltration.	• Mining will be done as per approved Mine Plan and applicable Rules & Regulation, so that there is no damage on ground water recharge potential due to sand mining.
• Waste water discharge.	• Portable Bio-toilets will be used; hence no sewage/liquid effluent will be generated and contamination is also not expected due to percolation.

✓ **Soil Environment:**

Impact	Mitigation Measures
• Mining activity may increase the soil erosion and soil degradation which have adverse impact on soil fertility.	• It is already proposed to plant local species trees per year with consultation of Forest department with some fruit bearing and medicinal trees, along the haul roads, outer periphery within the mining area which enhances the binding property of the soil to check the erosion. • Water will be sprinkled on unpaved roads to avoid dust generation and soil erosion.
• Top soil extraction from outside riverbed may also affect the soil fertility and productivity.	• In case of riverbed, no top soil will be generated during the mining activity.
• During the flood, the soil erosion may occur.	• Mine lease area has been proposed leaving a safety distance from the bank inwards which will protect the banks. Check dams have been constructed at various places for protection of banks against direct attack of the rivers and avoid bank cutting.

✓ **Solid Waste Generation/Management:**

Impact	Mitigation Measures
• Flow pattern might be changed due to river bed mining. • Mining activities depth will be increased, which may result in increase of flow velocity.	• No diversion is proposed. There will not be any adverse impact on flow pattern, surface hydrology and ground water regime. • Mining activities will be restricted to maximum 3 m depth, which will not cause much change in flow pattern of the river.

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Impact	Mitigation Measures
• Waste water discharge.	• Portable Bio-toilets will be used; hence no sewage/liquid effluent will be generated and contamination is also not expected due to percolation.

✓ **Land Use:**

Impact	Mitigation Measures
• The mining activity in the outside riverbed will be converted into the pit. Which may cause soil erosion, soil degradation etc.	• It is proposed to plant of local species trees per year with consultation of Forest department with some fruit bearing and medicinal trees, along the haul roads, outer periphery within the mining area which enhances the binding property of the soil.
• Mining in the riverbed may change complete land use pattern including channel geometry, bed elevation, sediment transportation capacity which can reduce flow of the river and downstream erosion.	• The mining is planned in non-monsoon seasons only so that the excavated area will be replenished naturally during the subsequent rainy season for the river bed mining block. • Mine lease area has been proposed leaving a safety distance from the bank inwards which will protect the banks so channel geometry will not be disturbed. Check dams have been constructed at various places for protection of banks against direct attack of the rivers and avoid bank cutting. • Pre and post monsoon survey for sedimentation in the riverbed will be done regularly

✓ **Hydrogeology:**

Impact	Mitigation Measures
• The mining in the riverbed area may cause the ground water contamination due to intersection of the water table.	• The water table will not be intersected during mining in the riverbed as ultimate depth is limited Proper analysis/Monitoring will be done to check the ground and surface water
• Change the topography will divert the river flow.	• There is no proposal of any stream modification/diversion due to this mining activity hence there will be no any impact on flow of the river.
• Change in topography can change the river flow and flood may occur.	• Mining will be prohibited in monsoon season.
• Slope of mining area will change which can create soil erosion and divert rain water runoff channel.	• The maximum depth of mining in the river bed will not exceed 3 meters and the maximum depth of mining in outside riverbed will not exceed.

✓ **Topography, Drainage and Ground Water Contamination:**

Impact	Mitigation Measures
• Spillage of oil from construction/transportation vehicles and equipment.	• Spillage of oil from construction vehicles and equipment will be avoided. These should be inspected by supervisor for any leakage of oil. • Collection of water in pits will be avoided. • Contamination of soil will be avoided by suitable soil conservation measures.

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✓ **Biological Environment:**

Impact	Mitigation Measures
• Transportation of sand in the trucks/dumper will disturb the movement of wild animals like jungle cat, jackal, and other reptiles. Fugitive emission from vehicle movement will form a layer in leaves thus reducing the gaseous exchange process. This ultimately affects the growth of plants. Chances of vehicle collisions with wildlife attempting to cross roads are possible.	• Transportation of sand will only be day time. Access roads will not encroach into the riparian zones.
• Any human settlement in the mining area will disturb the vegetation cover and reptiles	• No human settlement will be permitted in the lease mining or nearby area. No mining will be carried out during the rainy season to minimize impact on aquatic life.
• Indiscriminate mining from active channels of rivers causes many adverse effects on the benthic fauna, which inhabits the bottom sandy substratum. Excessive sand extraction from rivers affects the eco-biology of many terrestrial insects whose initial life history begins in aquatic environments.	• Mining will be done only in riverbed and outside riverbed as per provided by DMG so there will be no impact on benthic fauna in riverbed hence no mitigation will be required.

✓ **Socio-economic:**

Impact	Mitigation Measures
• Due to mining and transportation of sand will generate the small shops, dhabas, garage, restaurant, vegetable shops etc. along the road and generate direct employment.	• Positive Impact
• Mining activity will generate direct employment which will be employed locally and preference will be given to local people.	• Positive Impact
• Such shops along the roads will generate solid waste and waste water which will have adverse impact on human health.	• Garbage bins will be provided for proper disposal of solid waste.
• Further, the deep pits created in the channel also can contribute to an increase in accidents in the working environment.	• The mined-out area outside river bed block will be reclaimed and any stored water will be pumped out.
• This creates serious threat to residents in the area who depend on river water for their domestic purposes.	• The mining is planned in non-monsoon seasons only so that the excavated area will be replenished naturally during the subsequent rainy season for the river bed mining block.
• The major source of socio-health impacts of transportation will generate from truck, dust etc. Increase in accidents as a result of rash	• It is proposed to plant of local species per year with consultation of Forest department with some fruit bearing and medicinal trees,

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Impact	Mitigation Measures
driving of dumpers carrying mineral through the roads may be possible.	along the haul roads, outer periphery within the mining area to control the dust. • Planning transportation routes of mined material so as to reach the nearest paved roads by shortest route. (minimize transportation over unpaved road). Alternatively, gravelled road may be constructed between mine lease area and nearest paved road connectivity; The speed of trucks plying on the haul road should limited to avoid generation of dust; and Covering of material during transportation on trucks to prevent spillage of sand from the trucks. The trucks will be covered by tarpaulin. Overloading will be avoided. • Regular water sprinkling on unpaved roads to avoid dust generation during transportation.

15.2 Remedial Measures for other than Sand Mining:

▪ Remedial Measures for Air Pollution:

- All machineries and transport vehicles will be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area.
- Tree plantation along the haul roads & approach road will be done. Plantation along the mine boundary shall be done with tree density of 2000 trees per Hectare as per the norms of MoEF&CC, to control dust & noise.
- Use of personal protective equipment like dust mask.
- Ambient air pollution monitoring will be carried out.

▪ Remedial Measures for Water Pollution:

- Mining is proposed to plan above the ground water table. Therefore, pumping of ground water from mine pit does not arise in this mine. The rain water during rainy season is proposed to settle in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system.
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation

▪ Remedial Measures for Noise Pollution:

- Diesel powered machineries, which is major source of noise in open cast mining shall be properly maintained. Attention shall be paid towards rigorous maintenance of the silencer of the diesel engines.
- Protective devices shall be provided for use of persons employed in the vicinity of high noise areas.

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- With the adoption of controlled blasting techniques, the ground vibrations will be minimized.
- Plantation around the lease boundary will cut the noise levels.

▪ Remedial Measures for Land Environment:

Some of the measures followed to minimize the impacts are as follows:

- The mining activities will be restricted within the lease area only.
- The waste material will be utilized for the construction of road and also will be used by the local people for construction work.
- The surface run off from the lease area will be retain within the lease and used for plantation, dust suppression and block cutting. So, there will be no soil erosion from the lease area and its surrounding due to mining activity.
- The dump will have inward slope with catch drains at inward side of the terrace and the catch drain of the individual terrace will be connected to the garland drain outside the periphery of the dump. Retaining wall and garland drain will be constructed around the dumps and the surface runoff water pass through the garland drain and finally settled in a settling pit before released outside.
- Retaining wall and garland drains for the proposed waste dump will be constructed to arrest wash offs from the dump.
- Maintenance/repair of vehicles and machineries will not be inside the mining area. However, steel trays will be used for any emergency repair and sudden leakage of oil.

▪ Remedial Measures for Waste Management:

The solid waste shall be dumped systematically with proper repose angle and stabilization as follows:

- Gradation of dump shall be done automatically as coarser materials go to the bottom and finer at the top and therefore drain of rain water flow freely to the bottom without endangering the stability of dump.
- Stabilization of dump with top soil and tree plantation shall make the dump more stable on long. Dump should be terraced for every 5 m height and stabilized.
- 1m height parapet shall be constructed for dumps more than 6m height along the toe to prevent and control wash out from dumps entering into natural system through rain water.
- Garland drainage around dump shall prevent under wash of dump by hydrostatic pressure to be developed by surface water and control wash outs and collapse.

▪ Remedial Measures for Flora and Fauna:

Extensive plantation comprising of pollutant resistant trees will be undertaken, which will serve not only as pollution sink but also as a noise barrier. It is proposed to include azadirachta Indica, and ficus Religiosa in the plantation program as they serve as sinks for gaseous emissions.

The impact on the fauna due to the mining activity will be insignificant. The progressive plantation over a period of time will reduce the impact, if any, on the fauna.

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16. RISK ASSESSMENT & DISASTER MANAGEMENT PLAN

16.1 Risk Assessment for Sand Mining:

Since, Sand Mining operation does not attract Mine Act 1952, it does not require any statutory personals, however the entire operation must be under the supervision of experience qualified person who can handle the labour employment effectively. The person must have knowledge of transportation activities with traffic rule & safety. It is always advisable to appoint such person who can understand the language of Mine plan & implement the same.

1. As such in case of sand mining activities does not have any short of risk in operational activity except prior to start the monsoon period all the manpower & equipment's to be withdrawn to safe location.
2. In case of temporary discontinuation of operation due to natural calamity or labour strike & Risk management plan to be developed based in the local condition.

- **Accidents due to Transportation and Movement of Mining Machineries**

Risks:
Most of the accidents occur during transportation by tippers/trucks and movement of Mining machineries.

Mitigation Measures:

- This can be prevented by regular training of all vehicle/machinery drivers/operators, regular maintenance of equipment and ensuring safe operations.
- All safety precautions and provision of MMR 1961 shall be strictly followed during all mining operations.
- Regular maintenance and testing of all mining equipment as per manufacturer's guidelines.
- All transportation within the main working area should be carried out under the direct supervision and control of the management;
- The vehicles must be maintained in good repairs and checked thoroughly at least once a week by a competent person authorized for this purpose by the management;
- Broad signs should be provided at each and every turning point especially for the guidance of the drivers of vehicles.
- To avoid dangers while reversing the trackless vehicles, especially at the embankment and tripping points, all areas for reversing of lorries should, as far as possible, be made man free, and there should be a light and sound device to indicate reversing of trucks; and
- A statutory provision of the fence, constant education, training etc. will go a long way in reducing the incidence of such accidents.

- **Risk Assessment:**

Hazard Identification & Risk Assessment (Hira)

The entire mining operation will be done under the supervision of the Mines Engineer/Mines manager having second class mines manager's certificate of competency and supported by a team of competent persons. Nevertheless, the following natural/industrial problems may by encountered during the mining operation:

- Accident due to Transportation or movement of heavy machineries
- Operation of mining equipment
- Accident due to storage of Fuel
- Filling of Mine due to excessive rain

Risk and Mitigation Measures:

Over Burden

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Risks:

The overburden dumps may cause landslides. High overburden dumps created at the quarry edge may cause sliding of the overburden dump or may cause failure of the pit slope due to excessive loading, thereby causing loss of life and property. Siltation of surface water may also cause run-off from overburden dumps.

Mitigation Measures:

- To prevent the failure of overburden slopes, especially during the rainy season, proper garland drain & bund are constructed around the dump.
- To prevent this, height of overburden dumps will be restricted. Further, no stone or loose rock or loose tree will be allowed to remain within 3 meters of the edge of the quarry. To prevent siltation of surface water, retaining wall will be constructed on the down side of each OB dump.

Accidents Due to Transportation and Movement of Mining Machineries

Risks:

Most of the accidents occur during transportation by tippers/trucks and movement of Mining machineries.

- Operations of jack hammers are often attributable to mechanical failures and human errors.

Mitigation Measures:

- This can be prevented by regular training of all vehicle/machinery drivers/operators, regular maintenance of equipment and ensuring safe operations.
- All safety precautions and provision of MMR 1961 shall be strictly followed during all mining operations.
- Regular maintenance and testing of all mining equipment as per manufacturer's guidelines.
- All transportation within the main working area should be carried out under the direct supervision and control of the management;
- The vehicles must be maintained in good repairs and checked thoroughly at least once a week by a competent person authorized for this purpose by the management;
- Broad signs should be provided at each and every turning point specially for the guidance of the drivers of vehicles.
- To avoid dangers while reversing the trackless vehicles, especially at the embankment and tripping points, all areas for reversing of lorries should, as far as possible, be made man free, and there should be a light and sound device to indicate reversing of trucks; and
- A statutory provision of the fence, constant education, training etc. will go a long way in reducing the incidence of such accidents.

Fuel Storage:

- No major storage of fuel envisaged in the mining lease area.

Water Logging:

Risks:

Filling of mine pit with excessive rain

Mitigation Measures:

- Provision of adequate capacity pumps for pumping out water from the mining pit with standby arrangements.
- Checking and regular maintenance of garland drainage and earthen bunds to avoid any inflow of surface water into the mine pit.

District Mining Officer,
Godda

- Proper drainage will be maintained to eliminate inundation of working pits during rains from run-off water. Suitable garland drain will be provided around pit along with sedimentation pits on each side.
- There is no danger of flood or inundation as the ground level is well below the plateau top, where mining will be carried out.

Safety Measures at Mine:

- The gradient of the haul road inside the pit, access trench and on the dumps will not be steeper than 1 in 16.
- The quarries will be protected by garland drains around the periphery for storm water drainage;

Care and Maintenance during Temporary Discontinuance:

In case of emergency arise as situation of temporary discontinuance due to court order or due to statutory requirements or any other unforeseen circumstances pit will be fenced and locked properly so as no one can enter in pit. All plantation will be protected with all due care for their survival. Maintenance and monitoring of discontinued mining operations i.e. maintenance of haul roads, will be done in view of re-open in near future.

16.2 Disaster Management Plan:

High risk incidents like land slide subsidence, flood, inundation, in the mine, fire, tailing damp failures etc. may occur for which an emergency plan for individual mine to ebb proposed for quick evacuation of men & machinery.

16.3 Vulnerability of the State:

Almost all the 24 districts are affected by different kind of disaster. There is great need to strengthen the capacity of State, District, Block and newly formed Panchayat level of departments, institutions and functionaries to respond to the Disaster at their own level in participation of community. Jharkhand is vulnerable to following kind of Hazards: -

- Drought,
- Mining Accidents,
- Chemical and Industrial Hazards,
- Lightning,
- Bird Flu,
- Flood,
- Earthquake,
- Fire/Forest Fire,
- Elephant Attacks,
- Climate Change, Biodiversity loss,
- Naxalism/Landmine Blasts etc.

Major Hazards affected districts	Name of Hazards	No. of districts affected	Name of the district
1.	Drought	All the 24 Districts (2010)	All districts affected
2.	Flood	01	(Sahibganj)
3.	Flash Flood	03	(Jamshedpur, Saraikela , Ranchi)
4.	Forest Fire	09	(Garhwa, Palamau, Latehar, Chatra, Hazaribagh, E. & W. Singhbhum, Simdega, Gumla)

District Mining Officer,
Godda.

5.	Lightening	09	(Palamau, Chatra, Latehar, Koderma, Ranchi, Giridih)
6.	Mining Hazards	09	(Hazaribagh, Lohardaga, Dumka) Latehar, Ramgarh, Dhanbad, Lohardaga, Giridih E & W Singhbhum & Koderma
7.	Earthquake Hazard- Zone – IV Zone – III Zone - II	02 Districts 15 Districts 7 Districts	(Godda & Sahibganj – Partially) (Godda, Sahibganj, Garhwa, Palamu, Chatra, Hazaribagh, Koderma, Giridih, Bokaro, Dhanbad, Deoghar, Dumka, Godda, Pakur, Jamtara) (Lohardaga, Ranchi, Ramgarh, Khunti, Gumla, E & W Singhbhum)

References:

- District Mining Office – Godda
- District Forest Office - Godda
- Geology of Bihar and Jharkhand by T. M. Mahadevan
- National Institute of Disaster Management Report
- Report of Central Ground Water Board, Ministry of Water Resources – State Unit Office, Ranchi, September 2013.
- Resource Map of Godda District from Geological Survey of India
- Geological Map of Godda District from Geological Survey of India
- D. S. R. of Sand – Godda
- http://www.jharkhandminerals.gov.in
- http://godda.nic.in
- https://en.wikipedia.org/wiki/Godda
- https://sameti.org/Soil_Inventory/Godda_Soil_Analysis.pdf
- Brief Industrial Profile of Godda District, MSME Development Institute, Godda
- Geological Maps of GSI
- Survey of India Topo Sheets
- GSI Memoirs Vol LXXVIII
- Geology and Mineral Resources of the States of India, GSI, Miscellaneous Publication No. 30, Part – V (Bihar & Jharkhand)
- Final NAQUIM-Godda District, Jharkhand
- https://www.hidustantimes.com

District Mining Officer,
Godda.

A Report of Living Organisms of Rivers of Godda District.

By

Dr. Sudhi Vatsa
Head, Department of Zoology
Mahila Mahavidyalaya ,Godda

The rivers of Godda District are home to a diverse range of aquatic life as fishes, molluscs, amphibia, reptiles, birds, crustaceans, benthic fauna, algae and macrophytes. Kajhia, Gerua, Chir, Sakri, Sunder, Harna, etc. are seasonal rivers of Godda. Many fishes like Notopterus (Pholui), Anguilla bengalensis (Boa), Tengra (Mystus tengra), Rohu (Labeo rohita), Chela, Mrigala, Kalbasu, Catla, Pangas, Mangur, Sal, Bili, Bata, Garai and many more are the main food of local people. The leading food of these fishes is zooplanktons and phytoplankton of the rivers. Producers and consumers both maintain the food chain of the rivers. Various varieties of frogs and snakes are available here. But many species of Turtles, Crocodiles, and Dolphins are endangered nowadays, are not found in above rivers in this district. We have to take proper care to save our mother rivers to save the biota here.

Vatsa
12·03·2023
Dr. [illegible]
HOD Zoo
Mahila College

District Mining Officer,
Godda.

अंचल कार्यालय, बसंतराय

cobsr592@gmail.com
पत्रांक 29 /रा0,

प्रेषक,

अंचल अधिकारी
बसंतराय।

सेवा में,

जिला खनन पदाधिकारी
गोड्डा।

बसंतराय, दिनांक 12 /01/2023

विषय :- **बालू खनिज का जिला सर्वेक्षण रिपोर्ट (DSR) के आंतरिम प्रतिवेदन में चिन्हित बालू घाटों का जाँच प्रतिवेदन के संबंध में।**

प्रसंग :- **आपका पत्रांक-12/एम0, दिनांक-07.12.2022**

महाशय,

उपर्युक्त विषयक प्रसांगिक पत्र के आलोक में राजस्व उप निरीक्षक एवं प्रभारी अंचल निरीक्षक से जाँच कराया गया। जाँचोपरान्त इस अंचल अन्तर्गत बालू घाटों का सर्वेक्षण निम्न प्रकार है :-

क्र0	मौजा का नाम	थाना न0.	खाता न0.	दाग न0.	रकवा	किस्म	नदी का नाम
1	राहा	4	129	188	18-06-08	गैरमजरूआ	गेरूआ
2	महेशटिकरी	6	42	79	09-04-12		
3	सनौर	71	79	605	18-04-16		
4	देशवर्ग	74	46	112/160	19-08-10		
5	उरकुसिया	225	09	33	10-06-08		

उपरोक्त बालूघाटों का बिन्दुवार प्रतिवेदन निम्न है :-

1. आवेदिका/चिन्हित भूमि का किस्म क्या है ? नही
2. क्या चिन्हित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–2 में जंगल झाडी के रूप में दर्ज है? नही
3. क्या 500 मीटर की दूरी के अंदर कोइमानव बसोवास ;ंइपजंजपवदद्ध स्थित है ? (हाँ/नही) नही
4. क्या 500 मीटर की दूरी के अंदर कोइजलीय निकास (Dam Reservoir) स्थित है ? (हाँ/नही) नही
5. क्या 500 मीटर की दूरी के अंदर कोइ नदी (River) स्थित है ? (हाँ/नही) हाँ
6. क्या 500 मीटर की दूरी के अंदर कोइ शैक्षणिक संस्थान (Edcational institute) स्थित है ? (हाँ/नही) नही
7. क्या 500 मीटर की दूरी के अंदर कोइ चिकित्सालय (Hospital) स्थित है ? (हाँ/नही) हाँ
8. क्या 500 मीटर की दूरी के अंदर कोइ अन्तराज्जीय सीमा है ? (हाँ/नही) हाँ

District Mining Officer,
Godda.

9. क्या 500 मीटर की दूरी के अंदर कोइ राष्ट्रीय धरोहर/पुरातात्विक ? (Monuments/Archaelogical) महत्व के सील स्थित है ? (हाँ/नही) नही

10- प्रस्तावित खनिज का अनुमानित उत्पादन –

(क) नदी किनारे से खनन परिषर की दूरी क्या है ? शून्य है।

(ख) नदी की कूल चौड़ाई का 1/5 भाग कितने मीटर में है

11- क्या प्रस्तावित परियोजना के कारण भंत्विपूर्ण जलागम (Water intak) या जलबहाव क्षेत्र में परिवर्त्तन होगा ? (यदि हाँ 4तो परिवर्त्तन का विवरण दें)-

अनुलग्नक – यथोक्त

14/1/23

अंचल अधिकारी
बसंतराय।
14/1/23

District Mining Officer,
Godda

सेवा में,

अंचल अधिकारी
बसंतराय।

बसंतराय, दिनांक...../01/2023

विषय :- बालू खनिज का जिला सर्वेक्षण रिपोर्ट (DSR) के आंतरिम प्रतिवेदन में चिन्हित बालू घाटों का जाँच प्रतिवेदन के संबंध में।

प्रसंग :- आपका पत्रांक-12/एम0, दिनांक-07.12.2022

महाशय,

उपर्युक्त विषयक प्रसांगिक पत्र के आलोक में राजस्व उप निरीक्षक एवं प्रभारी अंचल निरीक्षक से जॉच कराया गया। जॉचोपरान्त इस अंचल अन्तर्गत बालू घाटों का सर्वेक्षण निम्न प्रकार है :-

क्र0	मौजा का नाम	थाना न0.	खाता न0.	दाग न0.	रकवा	किस्म	नदी का नाम
1	राहा	4	129	188	18-06-08	गैरमजरूआ	गेरूआ
2	महेशटिकरी	6	42	79	09-04-12		
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4	देशवर्ग	74	46	112/160	19-08-10		
5	उरकुसिया	225	09	33	10-06-08		

उपरोक्त बालूघाटो का बिन्दुवार प्रतिवेदन निम्न है :-

1. आवेदिका/चिन्हित भूमि का किस्म क्या है ? नही
2. क्या चिन्हित भूमि की कोटि सर्वे खतियान यथा रजिस्टर-2 में जंगल झाड़ी के रूप में दर्ज है? नही
3. क्या 500 मीटर की दूरी के अंदर कोइमानव बसोवास ;ंइपजंजपवदद्ध स्थित है ? (हॉ/नही) नही
4. क्या 500 मीटर की दूरी के अंदर कोइजर्लाय निकास (Dam Reservoir) स्थित है ? (हाँ/नही) नही
5. क्या 500 मीटर की दूरी के अंदर कोइ नदी (River) स्थित है ? (हाँ/नही) हाँ
6. क्या 500 मीटर की दूरी के अंदर कोइ शैक्षणिक संस्थान (Edcational institute) स्थित है ? (हाँ/नही) नही
7. क्या 500 मीटर की दूरी के अंदर कोइ चिकित्सालय (Hospital) स्थित है ? (हाँ/नही) हाँ
8. क्या 500 मीटर की दूरी के अंदर कोइ अन्तराज्जीय सीमा है ? (हाँ/नही) हाँ
9. क्या 500 मीटर की दूरी के अंदर कोइ राष्ट्रीय धरोहर/पुरातात्विक ? (Monuments/Archaelogical) महत्व के सील स्थित है ? (हाँ/नही) नही
10. प्रस्तावित खनिज का अनुमानित उत्पादन -
    (क) नदी किनारे से खनन परिपर की दूरी क्या है ? शून्य है।
    (ख) नदी की कूल चौड़ाई का 1/5 भाग कितने मीटर में है
11. क्या प्रस्तावित परियोजना के कारण भंत्विपूर्ण जलागम (Water intak) या जलवहाव क्षेत्र में परिवर्त्तन होगा ? (यदि हाँ 4तो परिवर्त्तन का विवरण दें)-

अंचल अमीन
बसंतराय।

राजस्व उप निरीक्षक
हल्का-01

प्रभारी अंचल निरीक्षक
बसंतराय।

District Mining Officer,
Godda.

कार्यालय, अंचल अधिकारी, पथरगामा।

पत्रांक 841 /रा0,

प्रेषक,

अंचल अधिकारी,
पथरगामा।

सेवा में,

जिला खनन पदाधिकारी,
गोड्डा।

पथरगामा, दिनांक 28/12/2022

विषय :– बालू खनिज का जिला सर्वेक्षण जिला सर्वेक्षण रिपोर्ट (DSR) के आंतरिम प्रतिवेदन में चिन्हित बालू घाटों का जाँच प्रतिवेदन।

प्रसंग :– आपके कार्यालय के पत्रांक 1172/एम0 दिनांक 25.11.2022

महाशय,

उपरोक्त विषय के आलोक में राजस्व उपनिरीक्षक–सह– अंचल निरीक्षक से जाँच कराई गई। जाचोंपरान्त पाया कि अंचल पथरगामा अन्तर्गत निम्न बालू घाट हैं :–

क्र0	मौजा का नाम	थाना नं0	खाता नं0	दाग नं0	रकवा	रकवा (एकड़ में)	किस्म
1	सनातन	265	75	184	22–08–00 धूर	14 एकड़	नदी
2	सिमरिया	264	32	108	38–04–16 धूर	23.90 एकड़	नदी
3				160	13–10–08 धूर	8.45 एकड़	नदी
4				671	16–06–08 धूर	10.20 एकड़	नदी
5				201/672	03–05–18 धूर	2.05 एकड़	नदी
6	कन्हाई पकड़िया	258	20	16	29–15–04 धूर	18.6 एकड़	नदी
7	चकवा	262	26	466	15–06–15 धूर	9.58 एकड़	नदी

उपरोक्त बालू घाटों का बिन्दुवार प्रतिवेदन निम्न है :–

1. आवेदित/चिन्हित भूमि का किस्म क्या है? नदी।
2. क्या निन्हित भूमि की कोटि सर्व खतियान यथा रजिस्टर 2 में जंगल झाड़ी के रूप में दर्ज है? नहीं।
3. क्या 500 मीटर की दूरी के अन्दर कोई मानव बसाहट (HABITATION) स्थित है? नहीं।

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District Mining Officer,
Godda.

4. क्या 500 मीटर की दूरी के अन्दर कोई जलीय निकाय (Dam/Resevor) स्थित है?
   नदी है एवं जल का प्रवाह होता है।
5. क्या 500 मीटर की दूरी के अन्दर कोई शैक्षणिक संस्थान (Educational Institute) है? नहीं।
6. क्या 500 मीटर की दूरी के अन्दर कोई चिकित्सालय (Hospital) है? नहीं।
7. क्या 10 कि0मी0 की दूरी की परिधी में कोई अंतर्राज्यीय (Inter State) सीमा है?
   हाँ (उरकुसिया बॉर्डर है)
8. क्या 500 मीटर की दूरी के अन्दर कोई राष्ट्रीय धरोहर/पुरातत्वीय (Monuments/Archaelogical) महत्व के स्थल स्थित हैं ? नहीं।
9. प्रस्तावित खनिज का अनुमानित उत्पादन– –
10. नदी से रेत खनन के प्रकरण में
    (अ) नदी किनारे से खनन परिषर की दूरी क्या है ? –
    (ब) नदी की कुल चौड़ाई का 1/5 भाग कितने मीटर में है ? –
11. क्या प्रस्तावित परियोजना के कारण भंत्विपूर्ण जलागम (Water intake) या जलबहाव क्षेत्र में परिवर्त्तन होगा ? (यदि हाँ तो परिवर्त्तन का विवरण दें) –
    जाँच प्रतिवेदन अग्रेत्तर कार्रवाई हेतु प्रेषित।

विश्वासभाजन

अंचल अधिकारी,
पथरगामा

अंचल अधिकारी
पथरगामा, गोड्डा

अनुलग्नक :– यथोक्त।

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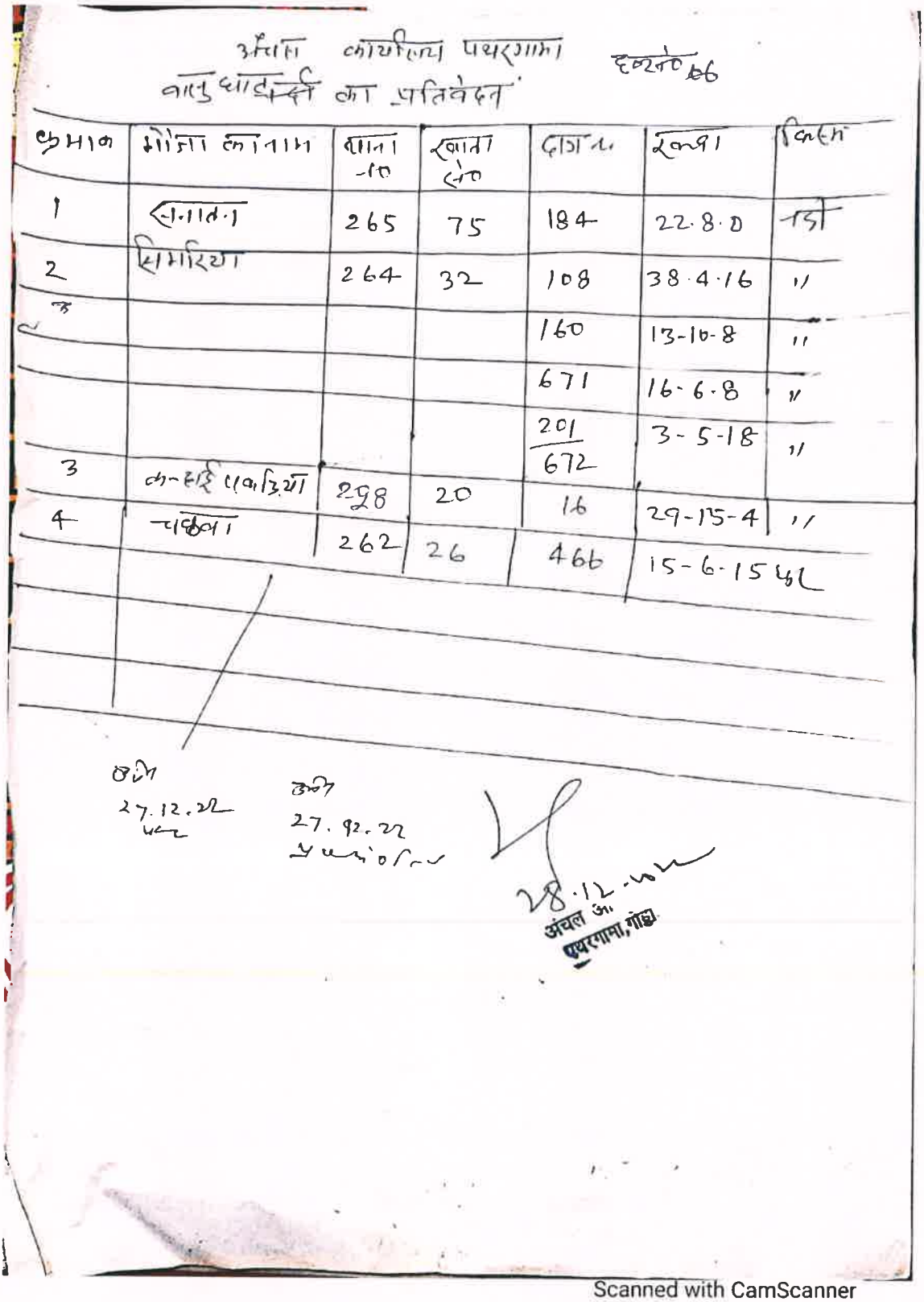
District Mining Officer,
Godda.



अंचल कार्यालय पथरगामा दिनांक 66
बालुघाट की का प्रतिवेदन

क्रमांक	मौजा का नाम	खाता नं०	खाता नं०	दाग नं०	रकबा	किस्म
1	[illegible]	265	75	184	22.8.0	[illegible]
2	[illegible]	264	32	108	38.4.16	"
				160	13-16-8	"
				671	16-6-8	"
				201/672	3-5-18	"
3	[illegible]	298	20	16	29-15-4	"
4	[illegible]	262	26	466	15-6-15	[illegible]

[illegible]
27.12.22

[illegible]
27.12.22

28.12.22
अंचल अ
पथरगामा, गोड्डा

Scanned with CamScanner

District Mining Officer,
Godda.

कार्यालय, अंचल अधिकारी, पथरगामा।

gmail-copgama@gmail.com

पत्रांक– 25 A /रा0

प्रेषक,

अंचल अधिकारी,
पथरगामा।

सेवा में,

जिला खनन पदाधिकारी,
गोड्डा।

पथरगामा, दिनांक– 16 /01/2023

विषय :– बालु घाट से संबंधित प्रतिवेदन के संबंध में।

महाशय,

उपर्युक्त विषय के आलोक में सूचित करना है कि राजस्व उपनिरीक्षक एवं अंचल निरीक्षक से जांच कराई गई जांचोपरान्त पाया कि मौजा जसमता थाना नं0 263 गैरमजरूआ खाता सं0 02 दाग नं0 13 किस्म नदी (गैरूआ) रकवा 31–15–10 धूर खतियान में दर्ज है। भूमि का विवरणी निम्न है –

क्र0सं0	मौजा का नाम	थाना नं0	खाता सं0	दाग नं0	रकवा	किस्म
1	जसमता	263	02	13	31–15–10 19.86 एकड	नदी

अनुलंग्नक :– यथोक्त।

विश्वासभाजन

अंचल अधिकारी,
पथरगामा। 2023

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Page 6-45

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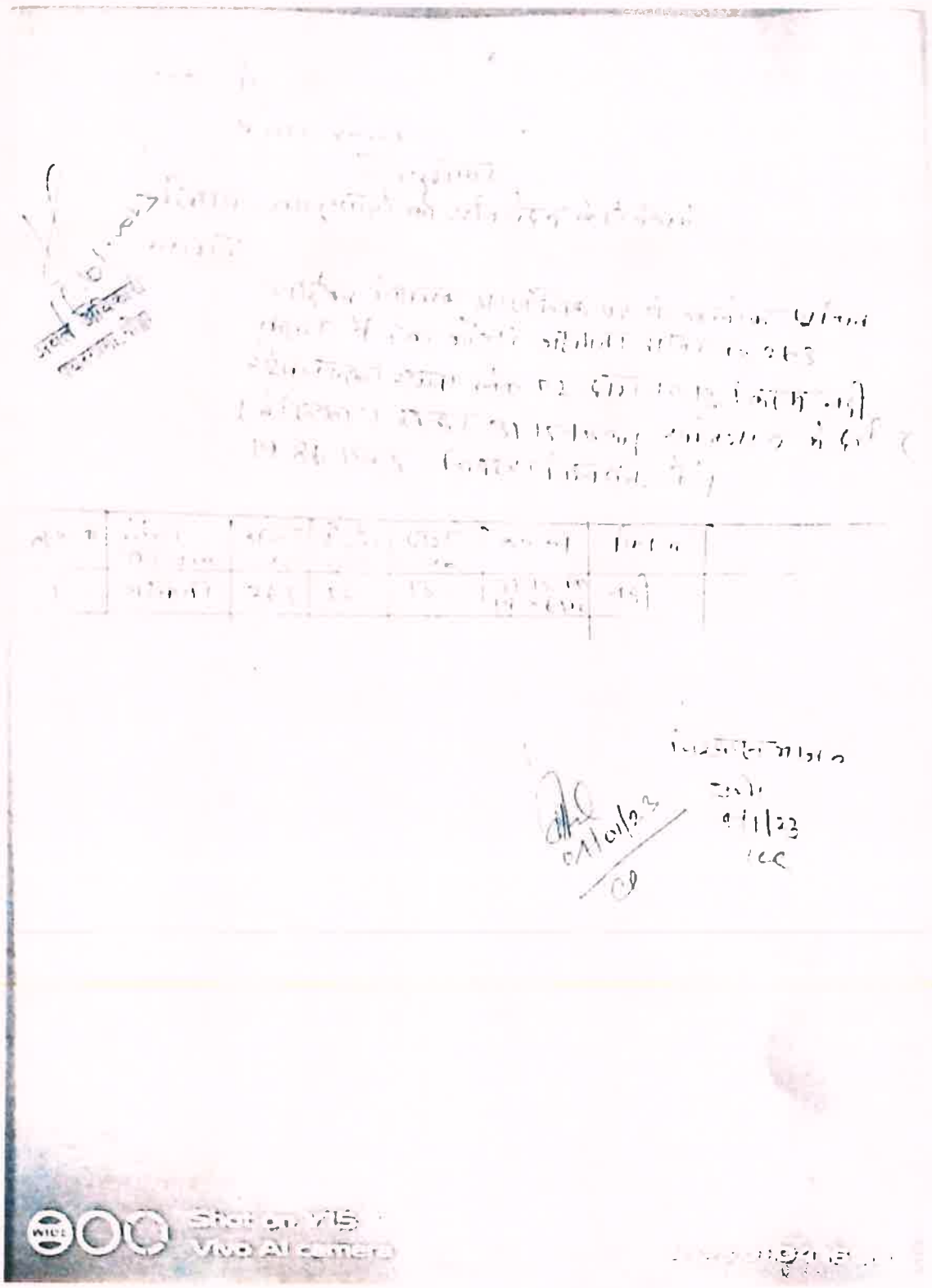
District Mining Officer,
Godda.



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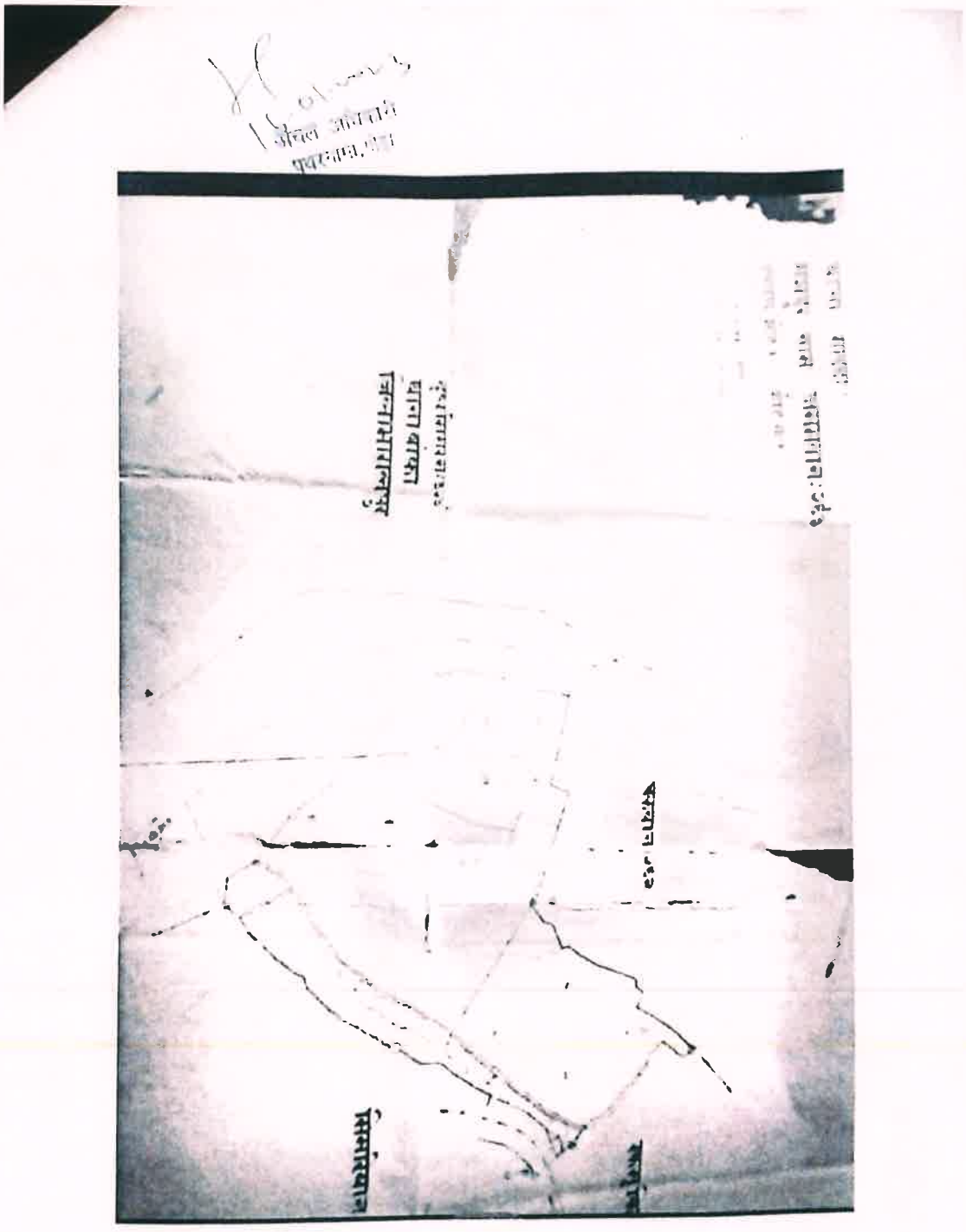
District Mining Officer,
Godda.



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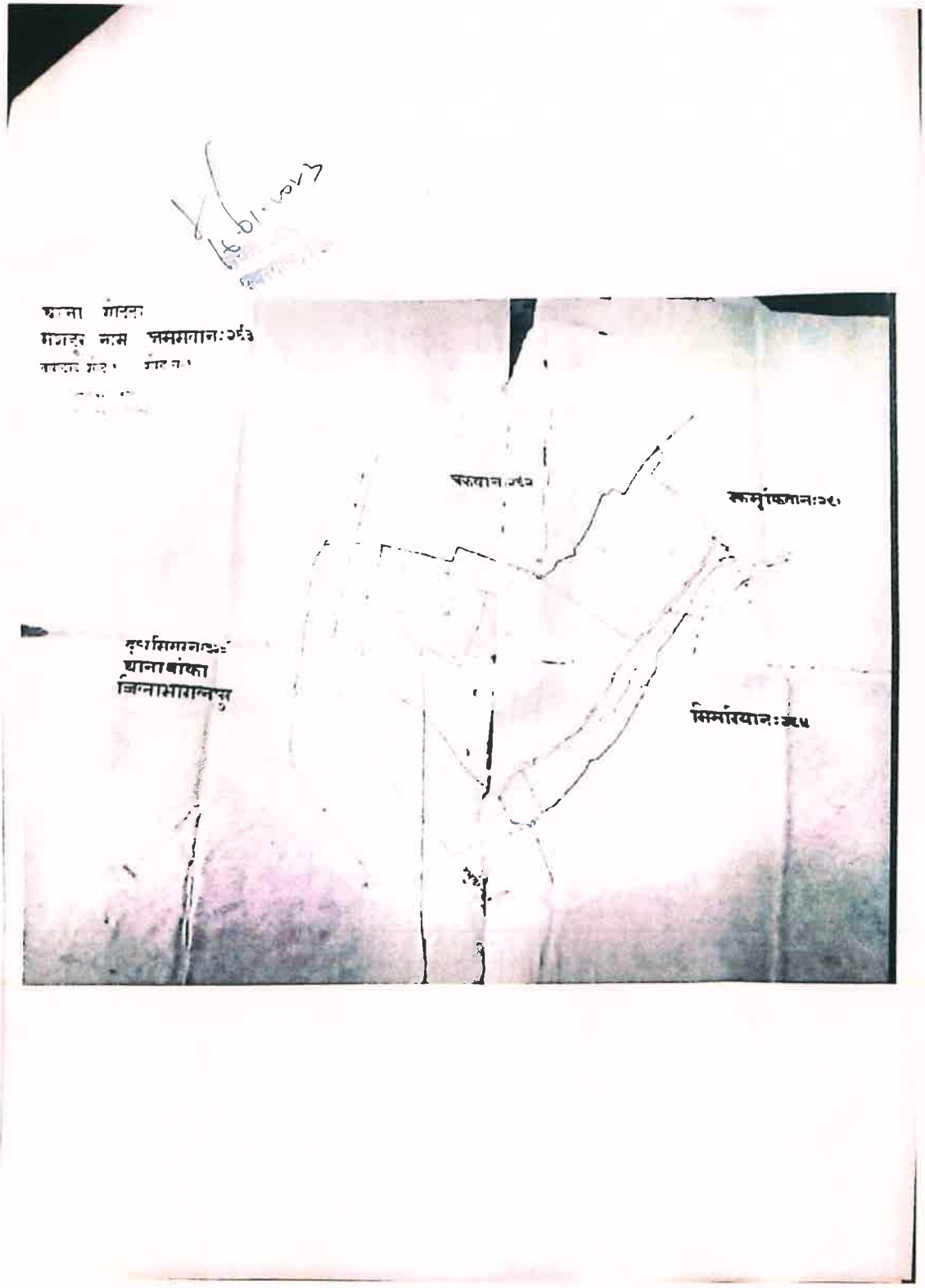
District Mining Officer,
Godda.



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District Mining Officer,
Godda.

arbhoomi.jharkhand.gov.in

झारखंड सरकार
राजस्व एवं भूमि सुधार विभाग
अधिकार अभिलेख

जमीनदार नाम
अ

रैयत का नाम, अभिभावक का नाम, रिश्ता
अ ——अ , जी।— पिता

जोता का नाम गोट्टा अंचल का नाम पथरगामा हलका का नाम हल्का 6 मौजा का नाम जरामता खतान प्रकार

खेवट नम्बर खाता नम्बर 2 थाना का नाम पथरगामा थाना नम्बर 263

खाता नम्बर	खेसरा नम्बर	पोहदी उत्तर 3 पोहदी दक्खिन 4	किस्म जमीन	मिजान	कैफियत / अध्युक्ति	हाकिम के तहकीकात मुताबिक लगान/सेस	लगान	
(1)	(2)	(3)	कियारी संख्या (5)	क्षेत्र	(8)	(9)	रो (10)	आ (11)
	1	अ अ	— 1	0 (बीघा) 5 (कठा) 9 (धुर)	नाला		0	0
	6	अ अ	— 1	2 (बीघा) 12 (कठा) 10 (धुर)	रास्ता		0	0
	7	अ अ	— 1	1 (बीघा) 19 (कठा) 14 (धुर)	परती बर्दीम		0	0
2	8	अ अ	— 1	2 (बीघा) 2 (कठा) 2 (धुर)	नदी निम्नदेह हजार डी निसफ मौजा सेमरआ न० 264		0	0
	11	अ अ	— 1	0 (बीघा) 6 (कठा) 8 (धुर)	गोटा		0	0
	13	अ अ	— 1	31 (बीघा) 15 (कठा) 10 (धुर)	गैरआ नदी निम्न देह हजार डी निसफ मौजा सेमरआ न० न० 264		0	0

खाता मे कुल प्लोट संख्या 6 खाता का कुल मिजान 39 (बीघा) 1 (कठा) 16 (धुर) खाता का कुल 0 0

यह एक कंप्यूटर जनित प्रति है 1/4/2023 4:38:49 PM

यह प्रपत्र केवल प्रार्थी की जानकारी के लिए है

किसी भी प्रकार की अशुद्धियों के लिए सम्बन्धित अंचलाधिकारी से संपर्क करें।

प्लाट का नक्शा देखने के लिए प्लाट नंबर क्लिक करें।

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District Mining Officer,
Godda.

Scanned with OKEN Scanner

अंचल अधिकारी का कार्यालय, गोड्डा सदर।

संशोधित प्रपत्र में सभी जिला सर्वे रिपोर्ट (District Survey Report) ऑन हेतु बालुघाटों से संबंधित प्रतिवेदन।

क्रम	खदान का नाम	खनन पट्टा का क्षेत्र	प्रस्तावित खनन की पद्धति	खसरा / प्लॉट नं.	रकबा (हे0 में)	नोमेन्स जोन	खसरा (Division)	जिला	क्या प्रस्तावित खदान की दूरी से 500 मीटर के अंदर कोई खनिज संरक्षित स्मारक है? यदि है तो क्या वे दूरी में है? (हाँ / नहीं)	क्या 500 मीटर की दूरी के अंदर कोई आबादी (Habitation) स्थित है? (हाँ / नहीं)	क्या 500 मीटर की दूरी के अंदर कोई जलीय निकाय (Dam Reservoir) है / नहीं	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है (हाँ / नहीं)	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational institute) स्थित है? (हाँ / नहीं)	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है? (हाँ / नहीं)	क्या 10 किलोमीटर की परिधि में कोई अतिसंवेदनशील क्षेत्र है? (हाँ / नहीं)	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर / पुरातात्विक महत्व के क्षेत्र स्थित है? (हाँ / नहीं)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	अ/ब्लॉक	दक्षिण दह पट्टा	ओपन कास्ट	दरेयूर 489	108	276	13-16-02	नदी	नहीं	नहीं	नहीं	नहीं	नहीं	नहीं	नहीं	नहीं
				गैर मजरुआ / 327	192	1256	10-19-08	नदी								
2	अ/ब्लॉक	दक्षिण-पश्चिम दह पट्टा	ओपन कास्ट	दरेयूर / 530	21	100	07-08-04	नदी	नहीं	नहीं	नहीं	नहीं	नहीं	नहीं	नहीं	नहीं
						192	15-01-17	नदी								
3	डी।	उत्तर दह पट्टा	ओपन	दरेयूर / 276	54	77	03-16-14	नदी	नहीं	हाँ	नहीं	नहीं	नहीं	हाँ	नहीं	नहीं
4	डी।	पश्चिम दह पट्टा	ओपन	दरेयूर / 276	11	16	02-04-14	नदी	नहीं	नहीं	नहीं	नहीं	नहीं	नहीं	हाँ	नहीं
						1	08-13-08	नदी								

03/01/23 (अंचल अधिकारी)

03/01/2023 (अंचल निरीक्षक)

03/01/23 अंचल अधिकारी गोड्डा सदर।

ज्ञापांक 14 /जा0, दिनांक 03/01/2023

प्रतिलिपि– जिला खनन पदाधिकारी गोड्डा को उनके पत्रांक–1172/एम्0, दिनांक–23.11.2022 के आलोक में सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

03/01/23 अंचल अधिकारी, गोड्डा सदर।

District Mining Officer,
Godda

अंचल कार्यालय, पोड़ैयाहाट

पत्रांक 33 /रा0

प्रेषक,

अंचल अधिकारी,
पोड़ैयाहाट।

सेवा में,

जिला खनन पदाधिकारी,
गोड्डा।

पोड़ैयाहाट, दिनांक–07.01.2023

विषयः– बालू खनिज का जिला सर्वेक्षण रिपोर्ट (DSR) के आंतरिम प्रतिवेदन में चिन्हित बालू घाटों का जाँच प्रतिवेदन के संबंध में।

प्रसंगः– आपका पत्रांक 12/एम0 दिनांक 07.12.2022

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के संबंध में राजस्व उपनिरीक्षक एवं प्रभारी अंचल निरीक्षक से जाँच कराया गया। जाँचोपरान्त इस अंचल अन्तर्गत बालू घाटों का सर्वेक्षण प्रतिवेदन निम्नवत है:–

क्र0	नदी का नाम	मौजा /बालू घाटों का नाम	थाना नं0	आनावादी खाता संख्या	खेसरा नं0	रकवा (एकड)में	किस्म
1	मोहानी से आसाढी माधुरी	आसाढी माधुरी	19	208	1141	31 एकड	नदी
		तेलियाटीकर	36	59	34	28 एकड	नदी
		मोहानी	39	61	246	14 एकड	नदी
2	ताराटीकर से डॉडे	ताराटीकर	61	63	254	12 एकड	नदी
		पसई	62	264	402	12 एकड	नदी
		डॉडे	41–43	473	1531	43 एकड	नदी
					4932	15 एकड	नदी
					1771	11 एकड	नदी
3	द्रोपद से मचखार	गढी	75	77	53	30 एकड	नदी
		मचखार	64	80	789	12 एकड	नदी
					84	65 एकड	नदी
4	मचखार से पसई	पसई	62	264	685	8 एकड	नदी
					2866	9 एकड	नदी

District Mining Officer,
Godda.

5	पसई से डॉडे	पसई	62	264	389	61 एकड	नदी
					303	61 एकड	नदी
6	बोडाचापड से लत्ता दिकवानी	बोडाचापड	69	85	527	23 एकड	नदी
					524		नदी
					666		नदी
		मटिहानी	68	75	2517	17 एकड	नदी
		लत्ता संताली	53	25	946	10.5 एकड	नदी
		लत्ता दिकवानी	54	46	439	10 एकड	नदी
7	लत्ता दिकवानी से ताराटीकर	सुरापपरवा	55	43	843	8 एकड	नदी
					902	10 एकड	नदी
		मचखार	64	80	735	5 एकड	नदी
		अमजोरा	57	38	167	16 एकड	नदी
		पकडीया	59	8	86	6.5 एकड	नदी
		बडगाँव	60	43	9	6 एकड	नदी

उपरोक्त बालू घाटों का बिन्दुवार प्रतिवेदन निम्न है :–

1. आवेदिका / चिन्हित भूमि का किस्म क्या है ? नदी
2. क्या चिन्हित भूमि की कोटि सर्वे खतियान यथा रजिस्टर 2 में जंगल झाडी के रूप में दर्ज है ? नहीं
3. क्या 500 मीटर की दूरी के अन्दर कोई मानव बसाहट (Habitation) स्थित है ? नही
4. क्या 500 मीटर की दूरी के अन्दर कोई जलीय निकाय (Dam/Reservior) स्थित है ? नदी है एवं जल का प्रवाह होता है।
5. कया 500 मीटर की दूरी के अन्दर कोई शैक्षणिक संस्थान (Educational Institute) है ? नहीं
6. क्या 500 मीटर की दूरी के अन्दर कोई चिकित्सालय (Hospital) है ? नही
7. क्या 10 कि0मी0 की दूरी की परिधि में कोई अंतर्राज्यीय (Inter State) सीमा है ? हॉ (बिहार राज्य सीमा)
8. क्या 500 मीटर की दूरी के अन्दर कोई राष्ट्रीय धरोहर / पुरातत्वीय (Monuments/Archaelogical) महत्व के स्थल स्थित है ? नहीं
9. प्रस्तावित खनिज का अनुमानित उत्पादन–
10. नदी से रेत खनन के प्रकरण में
    (अ) नदी किनारे से खनन परिषर की दूरी क्या है ? –

District Mining Officer,
Godda

(ब) नदी की कृल चौडाई का 1/5 भाग कितने मीटर में है ? –

11. क्या प्रस्तावित परियोजना के कारण भंत्विपूर्ण जलागम (Water intake) या जलबहाव क्षेत्र में परिवर्त्तन होगा ? (यदि हाँ 4तो परिवर्त्तन का विवरण दें) – जाँच प्रतिवेदन अग्रेत्तर कार्रवाई हेतु प्रेषित।

अनुलग्नकः– यथोक्त्।

विश्वासभाजन

17/01/23

अंचल अधिकारी,
पोड़ैयाहाट।

District Mining Officer,
Godda

सेवा में,

अंचल अधिकारी,
पोडैयाहाट।

विषयः– बालू खनिज का जिला सर्वेक्षण रिपोर्ट (DSR) के आंतरिम प्रतिवेदन में चिन्हित बालू घाटों का जाँच प्रतिवेदन के संबंध में।

प्रसंगः– जिला खनन पदाधिकारी, गोड्डा का पत्रांक 12/एम0 दिनांक 07.12.2022

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के संबंध में इस अंचल अन्तर्गत बालू घाटों का सर्वेक्षण प्रतिवेदन निम्नवत हैः–

क्र0	नदी का नाम	मौजा /बालू घाटों का नाम	थाना नं0	आनावादी खाता संख्या	खेसरा नं0	रकवा (एकड)में	किस्म
1	मोहानी से आसाढी माधुरी	आसाढी माधुरी	19	208	1141	31 एकड	नदी
		तेलियाटीकर	36	59	34	28 एकड	नदी
		मोहानी	39	61	246	14 एकड	नदी
2	ताराटीकर से डॉडे	ताराटीकर	61	63	254	12 एकड	नदी
		पसई	62	264	402	12 एकड	नदी
		डॉडे	41–43	473	1531	43 एकड	नदी
					4932	15 एकड	नदी
					1771	11 एकड	नदी
3	द्रोपद से मचखार	गढी	75	77	53	30 एकड	नदी
		मचखार	64	80	789	12 एकड	नदी
					84	6.5 एकड	नदी
4	मचखार से पसई	पसई	62	264	685	8 एकड	नदी
					2866	9 एकड	नदी
5	पसई से डॉडे	पसई	62	264	389	61 एकड	नदी
					303	61 एकड	नदी
6	बोडाचापड से लत्ता दिकवानी	बोडाचापड	69	85	527	23 एकड	नदी
					524		नदी
					666		नदी
		मटिहानी	68	75	2517	17 एकड	नदी
		लत्ता संताली	53	25	946	10.5 एकड	नदी

District Mining Officer,
Godda.

		लत्ता दिकवानी	54	46	439	10 एकड	नदी
7	लत्ता दिकवानी से ताराटीकर	सुरापपरवा	55	43	843	8 एकड	नदी
					902	10 एकड	नदी
		मचखार	64	80	735	5 एकड	नदी
		अमजोरा	57	38	167	16 एकड	नदी
		पकडीया	59	8	86	6.5 एकड	नदी
		बडगाँव	60	43	9	6 एकड	नदी

उपरोक्त बालू घाटों का बिन्दुवार प्रतिवेदन निम्न है :–

1. आवेदिका / चिन्हित भूमि का किस्म क्या है ? नदी
2. क्या चिन्हित भूमि की कोटि सर्वे खतियान यथा रजिस्टर 2 में जंगल झाडी के रूप में दर्ज है ? नहीं
3. क्या 500 मीटर की दूरी के अन्दर कोई मानव बसाहट (Habitation) स्थित है ? नही
4. क्या 500 मीटर की दूरी के अन्दर कोई जलीय निकाय (Dam/Reservior) स्थित है ? नदी है एवं जल का प्रवाह होता है।
5. कया 500 मीटर की दूरी के अन्दर कोई शैक्षणिक सस्थान (Educational Institute) है ? नहीं
6. क्या 500 मीटर की दूरी के अन्दर कोई चिकित्सालय (Hospital) है ? नही
7. क्या 10 कि0मी0 की दूरी की परिधि में कोई अंतर्राज्यीय (Inter State) सीमा है ? हाँ (बिहार राज्य सीमा)
8. क्या 500 मीटर की दूरी के अन्दर कोई राष्ट्रीय धरोहर / पुरातत्वीय (Monuments/Archaelogical) महत्व के स्थल स्थित है ? नहीं
9. प्रस्तावित खनिज का अनुमानित उत्पादन–
10. नदी से रेत खनन के प्रकरण में
    (अ) नदी किनारे से खनन परिषर की दूरी क्या है ? –
    (ब) नदी की कृल चौडाई का 1 / 5 भाग कितने मीटर में है ? –
11. क्या प्रस्तावित परियोजना के कारण भत्विपूर्ण जलागम (Water intake) या जलबहाव क्षेत्र में परिवर्त्तन होगा ? (यदि हाँ 4तो परिवर्त्तन का विवरण दें) –

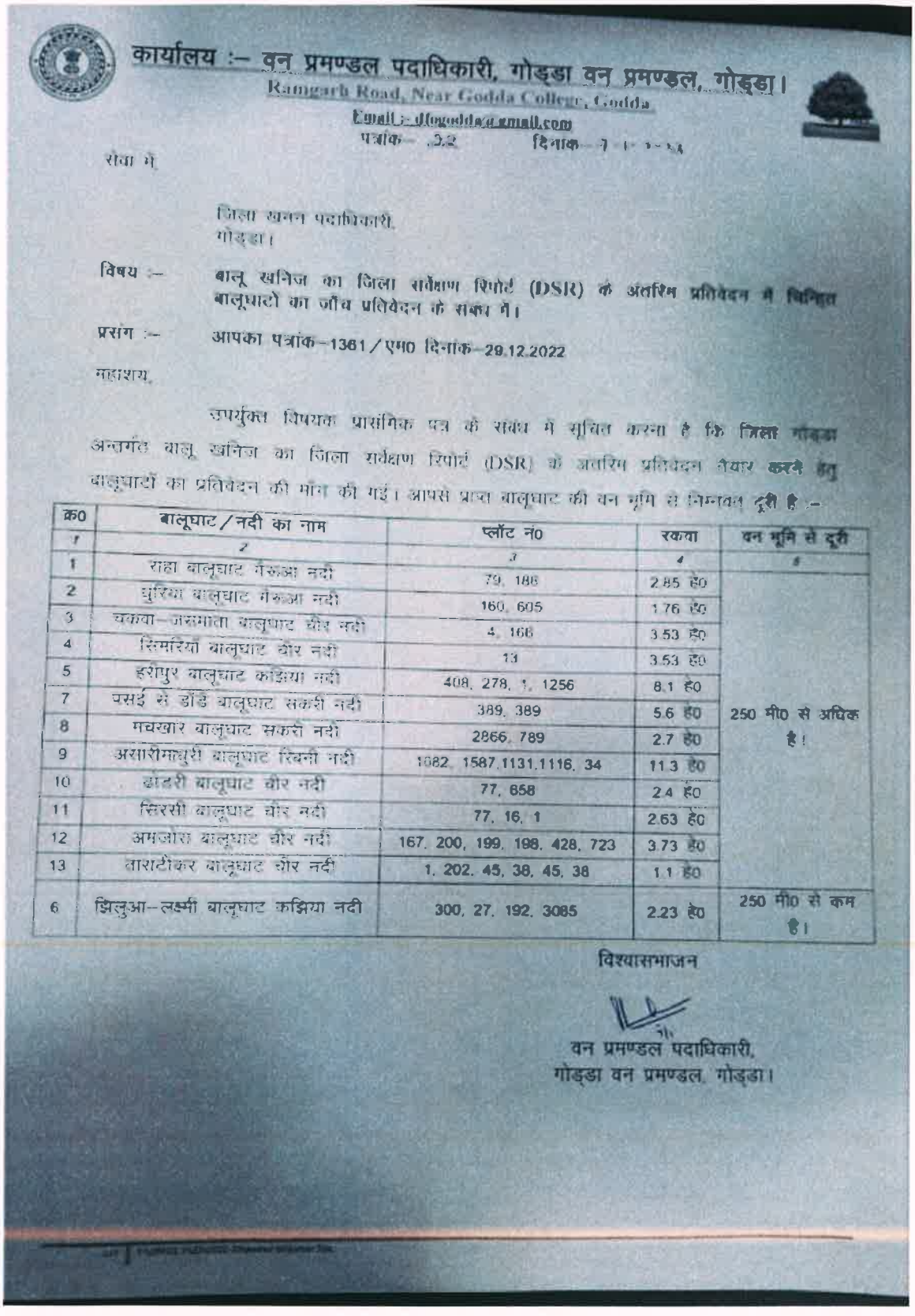
अतः सादर समर्पित।

अंचल अमीन
पोड़ैयाहाट

राजस्व उपनिरीक्षक
हल्का 04 एवं 06

प्रभारी अंचल निरीक्षक
पोड़ैयाहाट।

District Mining Officer,
Godda.



कार्यालय :– वन प्रमण्डल पदाधिकारी, गोड्डा वन प्रमण्डल, गोड्डा।
Ramgarh Road, Near Godda College, Godda
Email :- dfogodda@gmail.com
पत्रांक– 32 दिनांक– 7/1/23

सेवा में,

जिला खनन पदाधिकारी,
गोड्डा।

विषय :– बालू खनिज का जिला सर्वेक्षण रिपोर्ट (DSR) के अंतरिम प्रतिवेदन में चिन्हित बालूघाटों का जाँच प्रतिवेदन के संबंध में।

प्रसंग :– आपका पत्रांक–1361/एम0 दिनांक–29.12.2022

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के संबंध में सूचित करना है कि जिला गोड्डा अन्तर्गत बालू खनिज का जिला सर्वेक्षण रिपोर्ट (DSR) के अंतरिम प्रतिवेदन तैयार करने हेतु बालूघाटों का प्रतिवेदन की माँग की गई। आपसे प्राप्त बालूघाट की वन भूमि से निम्नवत दूरी है :–

क्र0	बालूघाट/नदी का नाम	प्लॉट नं0	रकबा	वन भूमि से दूरी
1	2	3	4	5
1	राहा बालूघाट गेरुआ नदी	79, 186	2.85 हे0	250 मी0 से अधिक है।
2	धुरिया बालूघाट गेरुआ नदी	160, 605	1.76 हे0	
3	चकवा–जरमाता बालूघाट चीर नदी	4, 166	3.53 हे0	
4	सिमरिया बालूघाट चीर नदी	13	3.53 हे0	
5	हरीपुर बालूघाट कंडिया नदी	408, 278, 1, 1256	8.1 हे0	
7	बसई से डोंडे बालूघाट सकरी नदी	389, 389	5.6 हे0	
8	मचखार बालूघाट सकरी नदी	2866, 789	2.7 हे0	
9	अरारीमाधुरी बालूघाट रिवनी नदी	1082, 1587,1131,1116, 34	11.3 हे0	
10	डांडरी बालूघाट चीर नदी	77, 658	2.4 हे0	
11	सिरसी बालूघाट चीर नदी	77, 16, 1	2.63 हे0	
12	अमजोरा बालूघाट चीर नदी	167, 200, 199, 198, 428, 723	3.73 हे0	
13	तारातीकर बालूघाट चीर नदी	1, 202, 45, 38, 45, 38	1.1 हे0	
6	झिलुआ–लक्ष्मी बालूघाट कंझिया नदी	300, 27, 192, 3085	2.23 हे0	250 मी0 से कम है।

विश्वासभाजन

वन प्रमण्डल पदाधिकारी,
गोड्डा वन प्रमण्डल, गोड्डा।

District Mining Officer,
Godda.

कार्यालय :– वन प्रमण्डल पदाधिकारी, गोड्डा वन प्रमण्डल, गोड्डा।
Ramgarh Road, Near Godda College, Godda.
Email :- dfogodda@gmail.com

पत्रांक– 1839 दिनांक– 30/12/2022

सेवा में,

जिला खनन पदाधिकारी,
गोड्डा।

विषय :– बालू खनिज का जिला सर्वेक्षण रिपोर्ट (DSR) के अंतरिम प्रतिवेदन में चिन्हित बालूघाटों का जाँच प्रतिवेदन के संबंध में।

प्रसंग :– आपका पत्रांक–1361/एम0 दिनांक–29.12.2022

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के संबंध में सूचित करना है कि जिला गोड्डा अन्तर्गत बालू खनिज का जिला सर्वेक्षण रिपोर्ट (DSR) के अंतरिम प्रतिवेदन तैयार करने हेतु बालूघाटों का प्रतिवेदन की माँग की गई है। प्रखण्ड–बसंतराय एवं पथरगामा अन्तर्गत अधिसूचित वन भूमि नही है। अतः उपरोक्त प्रखण्ड के निम्नलिखित प्रस्तावित बालूघाट वन भूमि सीमा अन्तर्गत नही है।

1. राहा बालूघाट गैरूआ नदी–2.85 हे0
2. धुरिया बालूघाट गैरूआ नदी–1.76 हे0
3. चकवा–जसमाता बालूघाट चीर नदी–3.53 हे0
4. सिमरियाँ बालूघाट चीर नदी–8.1 हे0

विश्वासभाजन

30/12/22
वन प्रमण्डल पदाधिकारी,
गोड्डा वन प्रमण्डल, गोड्डा।

District Mining Officer,
Godda

झारखण्ड सरकार
खान एवं भूतत्व विभाग
भूतत्व निदेशालय
अभियंत्रण छात्रावास–2, द्वितीय तल, धुर्वा, राँची
फोन–0651–3511681, ई–मेल–dir-geology@jharkhandmail.gov.in

पत्रांक – भू0नि0अन्वे–95 / 2021 राँची, दिनांक–

प्रेषक,

निदेशक, भूतत्व
झारखण्ड, राँची।

सेवा में,

सभी सहायक निदेशक, भूतत्व
झारखण्ड।

विषयः– जलीय जीवों के संबंध में सूचना एकत्र करने के संबंध में।

महाशय,

उपर्युक्त विषय के संबंध में कहना है कि SEAC के 99th बैठक में कतिपय जिलों के DSR (For Sand) के प्रस्तुतीकरण के दौरान जलीय जीवों के संबंध में सूचना DSR में संलग्न कराने का Observation दिया गया है।

अनुरोध है कि Zoological Survey of India अन्य संबंधित संस्थानों या जिला मत्स्य पदाधिकारी से जलीय जीवों से संबंधित सूचना प्राप्त कर DSR में संलग्न करते हेतु अग्रेतर कार्रवाई सुनिश्चित करें।

विश्वासभाजन

ह0 / –
(मनोज कुमार)
निदेशक, भूतत्व

ज्ञापांक– भू0नि0अन्वे–95 / 2021- 77 राँची, दिनांक– 31.01.23
प्रतिलिपिः– सभी सहायक / जिला खनन पदाधिकारी, झारखण्ड को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह0 अस्पष्ट
31.1.2023
निदेशक, भूतत्व

District Mining Officer,
Godda

कार्यालय, जिला मत्स्य पदाधिकारी –सह– मुख्य कार्यपालक पदाधिकारी, गोड्डा।
(E-Mail-dfogodda101@gmail.com)
पत्राक ...16.../

प्रेषक,

जिला मत्स्य पदाधिकारी –सह–
मुख्य कार्यपालक पदाधिकारी, गोड्डा।

सेवा में,

सहायक निदेशक भूतत्व,
जिला भूतात्विक कार्यालय,
दुमका।

By Mail

मत्स्य / गोड्डा, दिनांक– 01.02.2023 /

विषय :– गोड्डा जिलान्तर्गत गेरूआ, चिर, कझिया, सकरी एवं रिवानी नदियों में प्रस्तावित बालु घाटों में उपस्थित जलीय जीवों के संबंध में सूचना उपलब्ध कराने के संबंध में।

प्रसंग :– भवदीय पत्रांक– 15 दिनांक– 01.02.2023

महाशय,

उपरोक्त प्रसंगाधीन विषयक सूचित करते हुए कहना है कि गोड्डा जिलान्तर्गत अवस्थित किसी भी बालु घाटों / नदियों में मत्स्य विभाग, गोड्डा द्वारा कोई भी योजना संचालित नहीं है तथा न हीं किसी जगहों पर मत्स्य पालन से संबंधित कार्य संचालित है।

अतः प्रसंगाधीन पत्र में संलग्न विवरणी के प्रस्तावित बालु घाटों में उपस्थित जलीय जीवों की सूचना को शून्य समझा जाय।

विश्वासभाजन

01/02/23

जिला मत्स्य पदाधिकारी –सह–
मुख्य कार्यपालक पदाधिकारी, गोड्डा।

01.02.23

District Mining Officer,
Godda.

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Other Publications

Hindustan Times
(https://epaper.hindustantimes.com/Home/ArticleView?utm_source=htepaper&utm_medium=otherpublication)

होम | Nov 22, 2022 | भागलपुर | 13: BUSINESS | Help | सर्च | Reader

हिन्दुस्तान
www.livehindustan.com

अपना बिजनेस

11

वित्त मंत्रालय में बजट पर मंथन तेज

बजट में रोजगार वृद्धि पर जोर हो

तैयारी

कारोबारियों के प्रस्ताव को जुलाई में मंजूरी मिली

खपत बढ़ाने वाले उपाय बेहद जरूरी

एयरटेल ने हरियाणा में 57% महंगा किया शुल्क

स्टार्टअप नए क्षेत्रों में कर रहे विस्तार

रत्नाकर के संस्थापक संबाटा का निधन

शुल्क हटने से इस्पात उद्योग तेजी से बढ़ेगा

ई-कॉमर्स पर उत्पाद समीक्षा मानक 25 नवंबर से लागू

भारत मानक बनाने वाला

रामगढ़ (गोड्डा)
(जिला भू-अर्जन शाखा)
E-Mail- goddadlo2@gmail.com

प्रपत्र VI
प्रारंभिक अधिसूचना
(अधिनियम-30/2013 की धारा-11 (1) के अधीन)

जिला खनन कार्यालय, गोड्डा।
— खान-सूचना —

कार्यालय नगर पंचायत, महागामा (गोड्डा)
npmahagama@gmail.com

अल्पकालीन ई-निविदा आमंत्रण सूचना

बंधन - UDD/NPM/18/2022-23

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डिस्क्लेमर: इस वेबसाइट पर मौजूद सामग्री का प्रोपराइटर हिन्दुस्तान मीडिया लिमिटेड सुरक्षित (HTML) के पास है। बाबजूद के विपरीत उसमें ईमेल समेत डाटा-मालिक करने लायक किसी भी सामग्री का उपयोग व्यक्तिगत उपयोग के लिए ही किया जा सकता है। वहाँ मौजूद सामग्री और ईमेल (डीजिटल या किसी और माध्यम में) का गैर-अधिकृति, बिना अनुमति, बिना लाइसेंस के प्रकाशन अथवा प्रचार, प्रसार या वितरण कॉपीराइट अधिनियम किसी भी अन्य माध्यम से करना नियम है।

District Mining Officer,
Godda

Annexure – I

Details of Sand/M-Sand Sources:

a) Rivers:

Sl. No.	River Name	Total Stretch of River (in Km)	Type of River (Perennial/Non-Perennial)
1	Gerua Nadi	24.5	Non-Perennial
2	Khanji Nadi	19.5	Non-Perennial
3	Chir Nadi	25.7	Non-Perennial
4	Bansloi	20.3	Non-Perennial

b) De-Siltation Location: (Lakes/Ponds/Dams etc.):

Sl. No.	Name of Reservoir/Dams	Maintain/Controlled by State Govt./PSU etc.	Location	District	Tehsil	Village	Size (Ha.)
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil

c) Patta Lands/Khatedari Land:

Sl. No.	Owner	Sy. No	Area (Ha.)	District	Tehsil	Village	Agricultural Land (Yes/No)
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil

d) M-Sand Plants:

Sl. No.	Plant Name	Owner	District	Tehsil	Village	Geo-location	Quantity Tonnes/Annum
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Note: For inclusion of M-Sand Plant/Patta Land in DSR the plant/landowners need to submit the request to the Mining Department with complete details. Inclusion in DSR does not give them the right to operate the M-Sand Plant/Sand Mining lease.

District Mining Officer,
Godda.

Annexure – II

List of Potential Mining Leases (existing & proposed):

a) Rivers:

Sl. No.	River Details	Lease Details Mouza	Area (in Ha.)	Distance from PA/BR/WC (in KM)	Distance from Forest Area (in KM)	Mining Leases within 500m (if yes, Cluster area)	Total excavation (Mine depth max as 3 m) in (m^3/Yr.)	Bulk Density Tonne/m^3	Total excavation (Tonne/Yr.)	Mineral to be mined (Sand/Bajri/RBM etc.)	Existing /Proposed
1	Gerua Nadi	Raha	1.97	>0.25 Km	>0.25 Km	No	19700	1.71	33687.0	Sand	Proposed
2	Gerua Nadi	Deshbarag	0.93	>0.25 Km	>0.25 Km	No	9261	1.71	15836.3	Sand	Proposed
3	Chir Nadi	Chakwa	3.52	>0.25 Km	>0.25 Km	No	17592	1.72	30258.3	Sand	Proposed
4	Chir Nadi	Jasmata	3.03	>0.25 Km	>0.25 Km	No	60681	1.70	103157.7	Sand	Proposed
5	Kajhia Nadi	Haripur, Garbana	2.71	>0.25 Km	>0.25 Km	No	13566	1.73	23469.2	Sand	Proposed
6	Kajhia Nadi	Ghat Jhilua	1.82	>0.25 Km	>0.25 Km	No	14592	1.71	24952.3	Sand	Proposed
7	Sakri Nadi	Lauamahua, Pasai	5.51	>0.25 Km	>0.25 Km	No	66138	1.74	115080.2	Sand	Proposed
8	Sakri Nadi	Pasai, Garhi	2.59	>0.25 Km	>0.25 Km	No	44066	1.72	75793.5	Sand	Proposed
9	Ribani Nadi	Asarimadhuri, Teliyatikar	11.29	>0.25 Km	>0.25 Km	No	90355	1.70	153603.5	Sand	Proposed
10	Chir Nadi	Dhodhari	2.39	>0.25 Km	>0.25 Km	No	19146	1.71	32739.7	Sand	Proposed
11	Chir Nadi	Dalpatpur, Sirsa	2.10	>0.25 Km	>0.25 Km	No	16833	1.70	28616.1	Sand	Proposed
12	Chir Nadi	Amjora, Surapaparwa, Machkhara	3.55	>0.25 Km	>0.25 Km	No	70924	1.72	121989.3	Sand	Proposed
13	Chir Nadi	Taratikar, Pakariya, Bargaon	1.06	>0.25 Km	>0.25 Km	No	5309	1.71	9078.4	Sand	Proposed
14	Chir Nadi	Sanatan	3.98	>0.25 Km	>0.25 Km	No	31873	1.74	55459.1	Sand	Proposed
15	Chir Nadi	Jasmata	1.82	>0.25 Km	>0.25 Km	No	12726	1.71	21761.5	Sand	Proposed
16	Gerua Nadi	Bade	2.37	>0.25 Km	>0.25 Km	No	23652	1.72	40681.5	Sand	Proposed

District Mining Officer,
Godda.

b) De-Siltation Location: (Lakes/Ponds/Dams etc.):

Sl. No.	Name of Reservoir /Dams	Maintained/Controlled by State Govt./PSU etc.	Location	District	Tehsil	Village	Size (Ha.)	Quantity MT/Year	Existing /Proposed
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

c) Patta Lands/Khatedari Land:

Sl. No.	Owner	Sy. No	Area	District	Tehsil	Village	Total Reserve (MT)	Total Mineral to be mined (MT)	Existing /Proposed
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

d) M-Sand Plants:

Sl. No.	Plant Name	Owner	District	Tehsil	Village	Geo-location	Quantity Tonnes/Annum	Existing/Proposed
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

District Mining Officer,
Godda

Annexure – III

Cluster & Contiguous Cluster details:

Clusters:

Sl. No.	River Name	Cluster No.	Lease No.	Location (River-bed /Patta Land)	Village	Area (in Ha.)	Total Excavation (Ton)	Total Mineral Excavation (Ton)
1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Contiguous Clusters:

Sl. No.	River Name	Contiguous Cluster No.	Cluster No.	Number of leases in the Cluster	Location (River-bed /Patta Land)	Distance between Clusters	Village	Area of Cluster (Ha.)	Total Mineral Excavation (Ton)
1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

District Mining Officer
Godda

Annexure – IV

Transportation Routes for individual leases and leases in Cluster:

Sl. No.	Lease No.	Transportation Route No.	Number of tippers/day of lease	Number of tippers/day of all the lease on route	Length of Route in KM	Type of Road (Black Topped/unpaved)	Recommendation for road (Black Topped/unpaved)	The road will be Constructed by Govt./Lease Owner	Route Map & Location
1	1	1	@16 Tonne/Tipper (Avg.)	@16 Tonne/Tipper (Avg.)	41.10	Unpaved	Black Topped	Lease Owner	Attached as Map No. D1
2	2	2			20.92	Unpaved	Black Topped	Lease Owner	D2
3	3	3			12.34	Unpaved	Black Topped	Lease Owner	D3
4	4	4			12.34	Unpaved	Black Topped	Lease Owner	D4
5	5	5			3.50	Unpaved	Black Topped	Lease Owner	D5
6	6	6			0.71	Unpaved	Black Topped	Lease Owner	D6
7	7	7			11.8	Unpaved	Black Topped	Lease Owner	D7
8	8	8			10.91	Unpaved	Black Topped	Lease Owner	D8
9	9	9			11.93	Unpaved	Black Topped	Lease Owner	D9
10	10	10			8.24	Unpaved	Black Topped	Lease Owner	D10
11	11	11			9.61	Unpaved	Black Topped	Lease Owner	D11
12	12	12			6.49	Unpaved	Black Topped	Lease Owner	D12
13	13	13			8.93	Unpaved	Black Topped	Lease Owner	D13
14	14	14			12.34	Unpaved	Black Topped	Lease Owner	D14
15	15	15			12.34	Unpaved	Black Topped	Lease Owner	D15
16	16	16			41.10	Unpaved	Black Topped	Lease Owner	D16

District Mining Officer,
Godda.

Transportation Routes for individual leases and leases in Cluster:

Sl. No.	Cluster No.	Transportation Route No.	Number of tippers/day of cluster	Number of tippers/day of all the clusters on route	Length of Route in KM	Type of Road (Black Topped/ unpaved)	Recommendation for road (Black Topped/ unpaved)	The road will be Constructed by Govt./Lease Owner	Route Map & Location
1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

District Mining Officer,
Godda.

Annexure – V

Final List of Potential Mining Leases (existing & proposed):

a) Rivers:

Sl. No.	River Details	Lease Details Mouza	Area (in Ha.)	Distance from PA/BR/WC (in KM)	Distance from Forest Area (in KM)	Mining Leases within 500m (if yes, Cluster area)	Total excavation (Mine depth max as 3 m) in (m^3/Yr.)	Bulk Density Tonne/m^3	Total excavation (Tonne/Yr.)	Mineral to be mined (Sand/Bajri/RBM etc.)	Existing /Proposed
1	Gerua Nadi	Raha	1.97	>0.25 Km	>0.25 Km	No	19700	1.71	33687.0	Sand	Proposed
2	Gerua Nadi	Deshbarag	0.93	>0.25 Km	>0.25 Km	No	9261	1.71	15836.3	Sand	Proposed
3	Chir Nadi	Chakwa	3.52	>0.25 Km	>0.25 Km	No	17592	1.72	30258.3	Sand	Proposed
4	Chir Nadi	Jasmata	3.03	>0.25 Km	>0.25 Km	No	60681	1.70	103157.7	Sand	Proposed
5	Kajhia Nadi	Haripur, Garbana	2.71	>0.25 Km	>0.25 Km	No	13566	1.73	23469.2	Sand	Proposed
6	Kajhia Nadi	Ghat Jhilua	1.82	>0.25 Km	>0.25 Km	No	14592	1.71	24952.3	Sand	Proposed
7	Sakri Nadi	Lauamahua, Pasai	5.51	>0.25 Km	>0.25 Km	No	66138	1.74	115080.2	Sand	Proposed
8	Sakri Nadi	Pasai, Garhi	2.59	>0.25 Km	>0.25 Km	No	44066	1.72	75793.5	Sand	Proposed
9	Ribani Nadi	Asarimadhuri, Teliyatikar	11.29	>0.25 Km	>0.25 Km	No	90355	1.70	153603.5	Sand	Proposed
10	Chir Nadi	Dhodhari	2.39	>0.25 Km	>0.25 Km	No	19146	1.71	32739.7	Sand	Proposed
11	Chir Nadi	Dalpatpur, Sirsa	2.10	>0.25 Km	>0.25 Km	No	16833	1.70	28616.1	Sand	Proposed
12	Chir Nadi	Amjora, Surapaparwa, Machkhara	3.55	>0.25 Km	>0.25 Km	No	70924	1.72	121989.3	Sand	Proposed
13	Chir Nadi	Taratikar, Pakariya, Bargaon	1.06	>0.25 Km	>0.25 Km	No	5309	1.71	9078.4	Sand	Proposed
14	Chir Nadi	Sanatan	3.98	>0.25 Km	>0.25 Km	No	31873	1.74	55459.1	Sand	Proposed
15	Chir Nadi	Jasmata	1.82	>0.25 Km	>0.25 Km	No	12726	1.71	21761.5	Sand	Proposed
16	Gerua Nadi	Bade	2.37	>0.25 Km	>0.25 Km	No	23652	1.72	40681.5	Sand	Proposed

District Mining Officer,
Godda.

b) De-Siltation Location: (Lakes/Ponds/Dams etc.):

Sl. No.	Name of Reservoir /Dams	Maintained/Controlled by State Govt./PSU etc.	Location	District	Tehsil	Village	Size (Ha.)	Quantity MT/Year	Existing /Proposed
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

c) Patta Lands/Khatedari Land:

Sl. No.	Owner	Sy. No	Area	District	Tehsil	Village	Total Reserve (MT)	Total Mineral to be mined (MT)	Existing /Proposed
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

d) M-Sand Plants:

Sl. No.	Plant Name	Owner	District	Tehsil	Village	Geo-location	Quantity Tonnes/Annum	Existing/Proposed
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

District Mining Officer,
Godda.

Annexure – VI

Final List of Cluster & Contiguous Cluster:

Clusters:

Sl. No.	River Name	Cluster No.	Lease No.	Location (River-bed /Patta Land)	Village	Area (in Ha.)	Total Excavation (Ton)	Total Mineral Excavation (Ton)
1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Contiguous Clusters:

Sl. No.	River Name	Contiguous Cluster No.	Cluster No.	Number of leases in the Cluster	Location (River-bed /Patta Land)	Distance between Clusters	Village	Area of Cluster (Ha.)	Total Mineral Excavation (Ton)
1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

District Mining Officer,
Godda

Annexure – VII

Final Transportation Routes for individual leases and leases in Cluster:

Sl. No.	Lease No.	Transportation Route No.	Number of tippers/day of lease	Number of tippers/day of all the lease on route	Length of Route in KM	Type of Road (Black Topped/unpaved)	Recommendation for road (Black Topped/unpaved)	The road will be Constructed by Govt./Lease Owner	Route Map & Location
1	1	1	@16 Tonne/Tipper (Avg.)	@16 Tonne/Tipper (Avg.)	41.10	Unpaved	Black Topped	Lease Owner	Attached as Map No. D1
2	2	2			20.92	Unpaved	Black Topped	Lease Owner	D2
3	3	3			12.34	Unpaved	Black Topped	Lease Owner	D3
4	4	4			12.34	Unpaved	Black Topped	Lease Owner	D4
5	5	5			3.50	Unpaved	Black Topped	Lease Owner	D5
6	6	6			0.71	Unpaved	Black Topped	Lease Owner	D6
7	7	7			11.8	Unpaved	Black Topped	Lease Owner	D7
8	8	8			10.91	Unpaved	Black Topped	Lease Owner	D8
9	9	9			11.93	Unpaved	Black Topped	Lease Owner	D9
10	10	10			8.24	Unpaved	Black Topped	Lease Owner	D10
11	11	11			9.61	Unpaved	Black Topped	Lease Owner	D11
12	12	12			6.49	Unpaved	Black Topped	Lease Owner	D12
13	13	13			8.93	Unpaved	Black Topped	Lease Owner	D13
14	14	14			12.34	Unpaved	Black Topped	Lease Owner	D14
15	15	15			12.34	Unpaved	Black Topped	Lease Owner	D15
16	16	16			41.10	Unpaved	Black Topped	Lease Owner	D16

District Mining Officer,
Godda.

Final Transportation Routes for individual leases and leases in Cluster:

Sl. No.	Cluster No.	Transportation Route No.	Number of tippers/day of cluster	Number of tippers/day of all the clusters on route	Length of Route in KM	Type of Road (Black Topped/ unpaved)	Recommendation for road (Black Topped/ unpaved)	The road will be Constructed by Govt./Lease Owner	Route Map & Location
1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

District Mining Officer,
Godda.

Annexe – II
Page-135

To whom it may concern

This is to certify that all sitting criteria/provisions of JSPCB & SEIAA, JHARKHAND has been complied.

As per JSPCB notification no. B-21, Ranchi dated 16/08/13.

Sl. No	Minimum distance from	Distance (in meter)
1	NH	100
2	SH	100
3	Distance metal road	50
4	Railway line	100
5	River	100
6	Any other river	100
7	Habitation	200
8	Forest/ Forest land	400

As per 58th-MOM-of-SEIAA Jharkhand

III. Revised format for PP to get the following information/certification from Circle Officer:-

क्रम सं०	निर्धारित बिन्दु	हाँ/नही
1.	क्या आवेदित भूमि की कोई भी खतियान यथा रजिस्टर-II में जंगल झाड़ी के रूप में दर्ज है?	
2.	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है?	
3.	क्या 500 मीटर की दूरी के अंदर कोई जलीय निकाय (Dam/Reservoir) स्थित है?	
4.	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है?	
5.	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है?	
6.	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है?	
7.	क्या 10 कि०मी० की परिधि में कोई अंतर्राज्यीय (Interstate) सीमा है?	
8.	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर/पुरातात्विक (Monuments/Archaeological) महत्व के स्थल स्थित है?	

As per 67th-MOM-of-SEIAA Jharkhand

iv. Revised format for project proponent to get the following information / certification from Divisional Forest Officer concerned :-

क्रम सं०	निर्धारित बिन्दु	हां / नही
1.	2.	3.
1.	क्या परियोजना स्थल से आरक्षित वन / संरक्षित वन भूमि से दूरी 250 मी० है?	
2.	क्या परियोजना स्थल No Mining Zone अंतर्गत आता है?	
3.	क्या परियोजना स्थल से 10 किलो मीटर की दूरी के अंदर कोई नेशनल पार्क है?	
4.	क्या परियोजना स्थल से 10 किलो मीटर की दूरी के अंदर कोई अभ्यारण्य एवं जैव विविधता क्षेत्र है?	
5.	क्या परियोजना स्थल से 10 किलो मीटर की दूरी के अंदर कोई इको सेंसिटिव जोन (Eco Sensitive Zone) है?	
6.	क्या आवेदित परियोजना ESZ के अन्तर्गत प्रवधित श्रेणी मे आता है अथवा नहीं?	

District Mining officer

Godda .

Eco Care

Phone : (0341) 2252011
Fax : (0341) 2252011
Email : ecocareasansol@rediffmail.com
Manoj Talkies Basement, Kumarpur
Asansol - 713304
Paschim Bardhaman (W.B.)

Specialised Hoouse on Environmental Monitoring, Analysis, Assessment & Management
ISO 9001:2015 Certified, OHSAS 45001:2018 Certified

ULR No. TC510923000000459F

Date of Print: 02.01.2023

Sand Texture Analysis Report

Client Name: Sathi Planners Private Limited
Client Address: Lake Avenue, Kanke Road, Ranchi,
Jharkhand, PIN - 834008
Sample Type: Riverbed Sand
Period of Sampling: 15. 12. 2022 to 20.12.2022
Sampling Density: Two per Hectare

Source: Multiple Rivers in Godda District
Period of Analysis: 22.12.2022 to 30.12.2022
Sample Condition: Sealed

Sand Ghat ID	Area (Ha)	Length (m)	No. of Samples	Sand Sample Collected for texture analysis						Bulk Density (Ton/m³)
				4.75mm to 2.00 mm		2.00mm to 425 micron		425 to 75 micron		
				Nos.	%	Nos.	%	Nos.	%	
GO_Z2_GE_16	2.37	662	5	0	0	3	60	2	40	1.71
GO_Z5_CHI_14	3.98	402	8	1	12.5	5	62.5	2	25	1.71
GO_Z5_CHI_4	3.03	252	7	1	14.29	4	57.14	2	28.57	1.72
GO_Z5_CHI_15	1.82	285	4	0	0	3	75	1	25	1.70
GO_Z2_GE_1	1.97	634	4	0	0	3	75	1	25	1.73
GO_Z3_GE_2	0.93	380	2	0	0	2	100	0	0	1.71
GO_Z5_CHI_3	3.52	705	8	1	12.5	5	62.5	2	25	1.74
GO_Z9_KAJ_5	2.71	422	6	1	16.67	4	66.67	1	16.67	1.72
GO_Z10_KAJ_6	1.82	521	4	0	0	3	75	1	25	1.70
GO_Z12_SAK_7	5.51	1188	12	1	8.33	7	58.33	4	33.33	1.71
GO_Z13_SAK_8	2.59	927	6	1	16.67	4	66.67	1	16.67	1.70
GO_Z14_RIB_9	11.29	1325	23	4	17.39	13	56.52	6	26.09	1.72
GO_Z15_CHI_10	2.39	349	5	1	20	3	60	1	20	1.71
GO_Z16_CHI_11	2.10	528	5	0	0	3	60	2	40	1.74
GO_Z17_CHI_12	3.55	933	8	1	12.5	5	62.5	2	25	1.71
GO_Z18_CHI_13	1.06	410	3	0	0	2	66.67	1	33.33	1.72

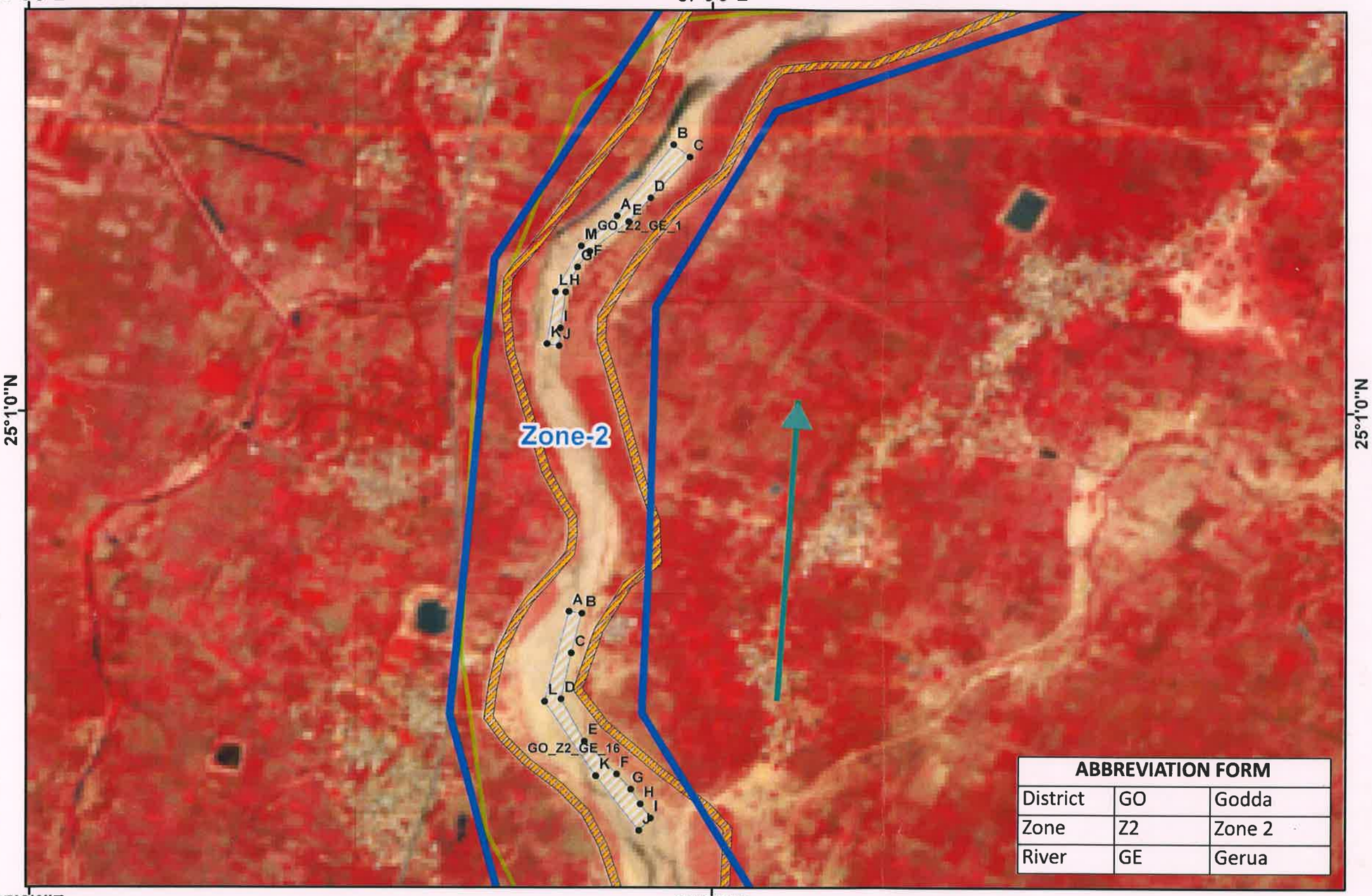
1. Test values are reported based on the samples received.
2. Samples will be destroyed after 7 days from the date of issues of the Test Report, subject to nature of preservation sample will be preserved as per the standard method.
3. The Test report shall not be reproduced without the written approval of the laboratory.

District Mining Officer,
Godda

Authorised Signatory

Dr. Mousumi Pal
Ph.D (Env.), Scientist
Authorised Signatory

Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Godda District, Jharkhand



ABBREVIATION FORM		
District	GO	Godda
Zone	Z2	Zone 2
River	GE	Gerua

Geo-Tagged Site Photograph

District Mining Officer
Godda.

Legend

- Godda District Boundary
- Railway
- Bridge
- Sand Ghat
- No Mining Zone
- Safety Barrier
- Sand Deposit Zone
- River Flow Direction

Limiting Coordinates of Zone 2	
Starting Point	87°9'45.921"E 25°2'6.462"N
Ending point	87°9'2.398"E 24°59'31.02"N

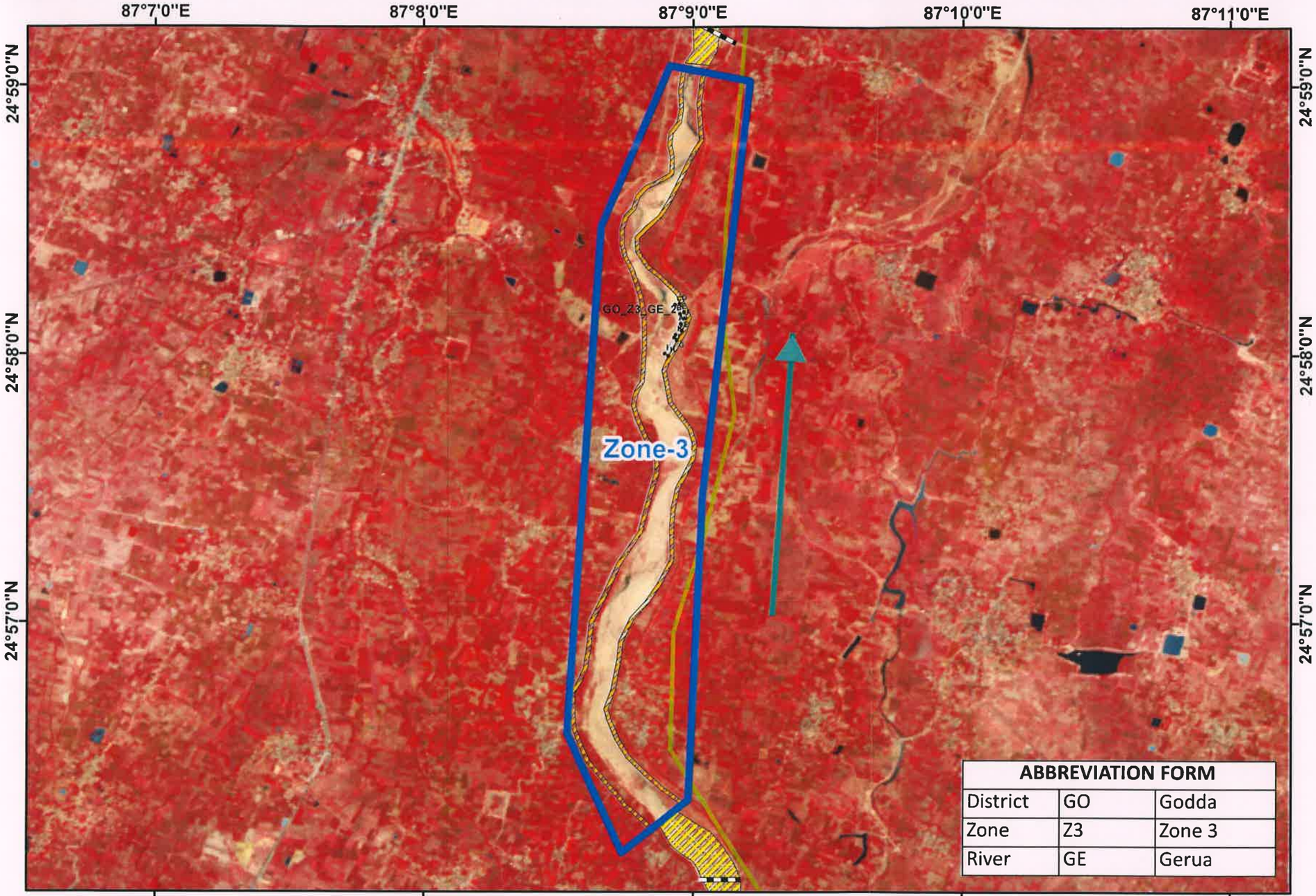
Sand Ghat Code	Area (in Ha)
GO_Z2_GE_16	2.36
GO_Z2_GE_1	1.97

River: Gerua Nadi
Sentinel 2 Satellite Imagery
Date of Capture: February, 2022 (Post-Monsoon)
Spatial Resolution: 10m

N W E S

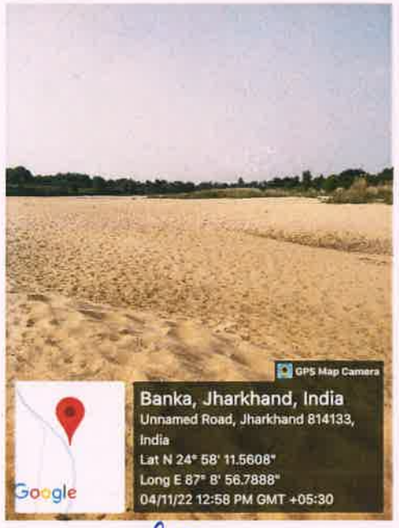
0 225 450 900 1,350 Meters

Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Godda District, Jharkhand



ABBREVIATION FORM		
District	GO	Godda
Zone	Z3	Zone 3
River	GE	Gerua

Geo-Tagged Site Photograph



District Mining Officer,
Godda.

Legend

- Godda District Boundary
- Railway
- River Flow Direction
- Bridge
- Sand Deposit Zone
- No Mining Zone
- Safety Barrier
- Sand Cover Area
- Sand Ghat

Sand Ghat Code	Area (in Ha)
GO_Z3_GE_2	0.92

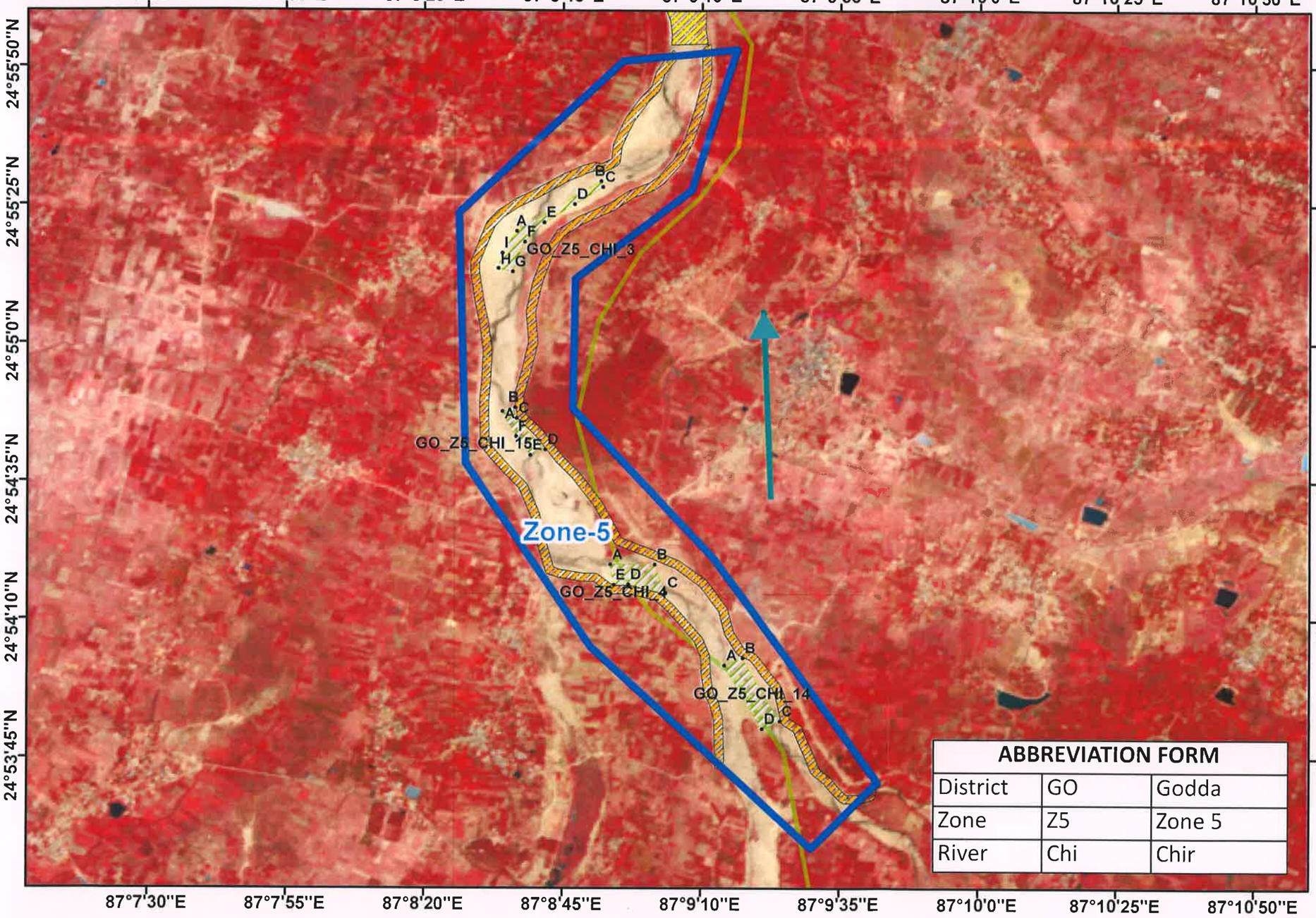
Limiting Coordinates of Zone 3	
Starting Point	87°9'3.131"E 24°59'2.919"N
Ending point	87°8'52.458"E 24°56'15.97"N

River: Gerua Nadi
Sentinel 2 Satellite Imagery
Date of Capture:November, 2022 (Post-Monsoon)
Spatial Resolution: 10m

N
W E
S

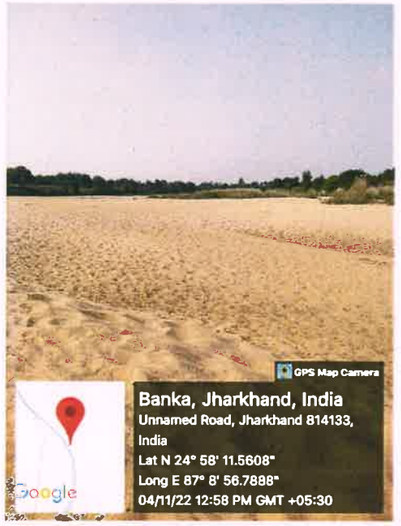
0 500 1,000 2,000 3,000
Meters

Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Godda District, Jharkhand



ABBREVIATION FORM		
District	GO	Godda
Zone	Z5	Zone 5
River	Chi	Chir

Geo-Tagged Site Photograph



District Mining Officer,
Godda.

Legend

- Godda District Boundary
- Railway
- Bridge
- Sand Deposit Zone
- No Mining Zone
- Safety Barrier
- Sand Ghat
- River Flow Direction

Sand Ghat Code	Area(in Ha)
GO_Z5_CHI_3	3.51
GO_Z5_CHI_4	3.3
GO_Z5_CHI_14	3.98
GO_Z5_CHI_15	1.81

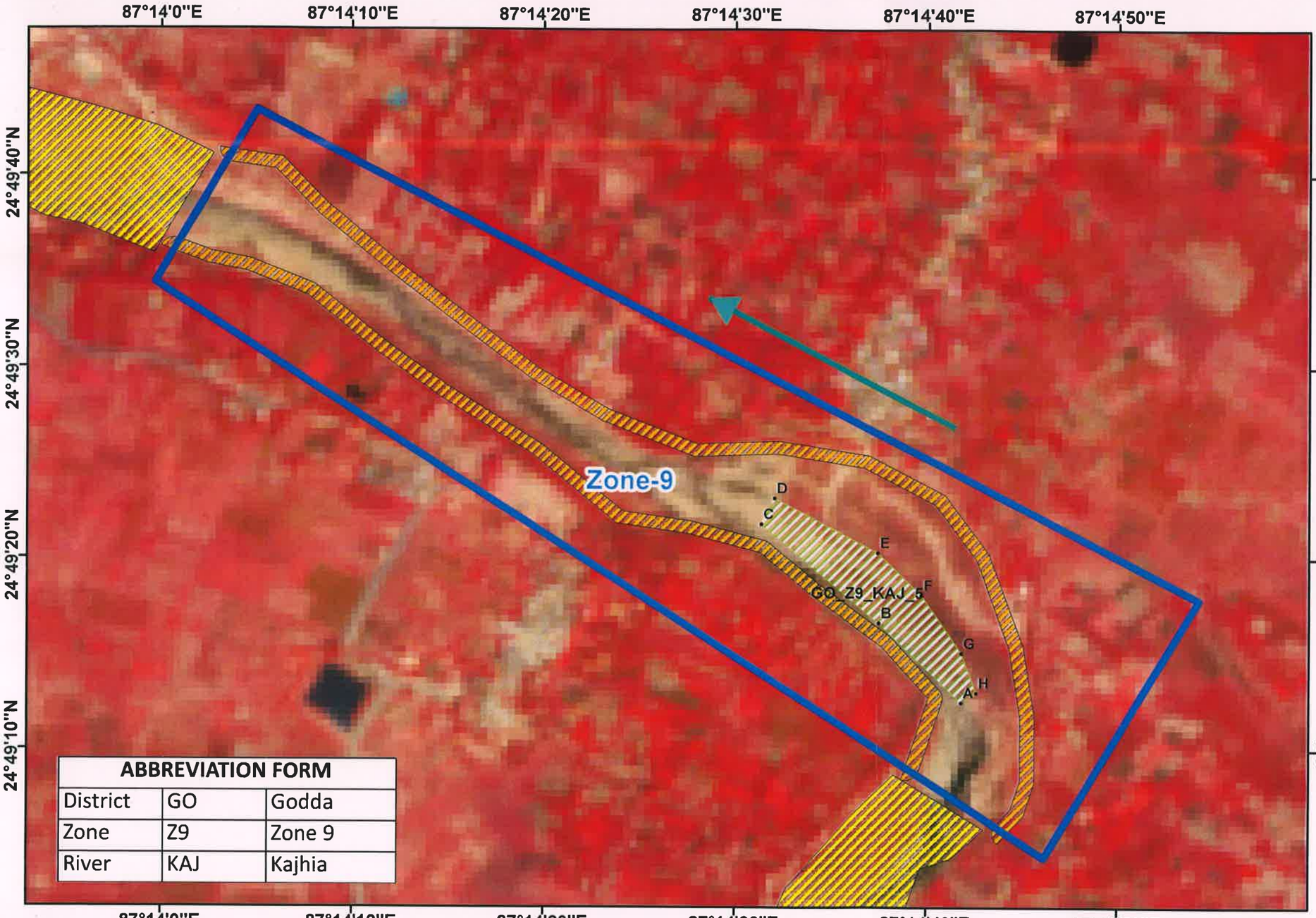
Limiting Coordinates of Zone 5	
Starting Point	87°9'5.473"E 24°55'51.753"N
Ending point	87°9'36.452"E 24°53'34.835"N

River: Chir Nadi
Sentinel 2 Satellite Imagery
Date of Capture: November, 2022 (Post-Monsoon)
Spatial Resolution: 10m

N W E S

0 470 940 1,880 2,820
Meters

Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Godda District, Jharkhand



ABBREVIATION FORM		
District	GO	Godda
Zone	Z9	Zone 9
River	KAJ	Kajhia

Geo-Tagged Site Photograph

Legend

- Godda District Boundary
- Railway
- Bridge
- Sand Deposit Zone
- No Mining Zone
- Safety Barrier
- Sand Ghat
- River Flow Direction

Sand Ghat Code	Area (in Ha)
GO_Z9_KAJ_5	2.71

Limiting Coordinates of Zone 9	
Starting Point	87°14'2.521"E 24°49'38.748"N
Ending point	87°14'50.094"E 24°49'10.957"N

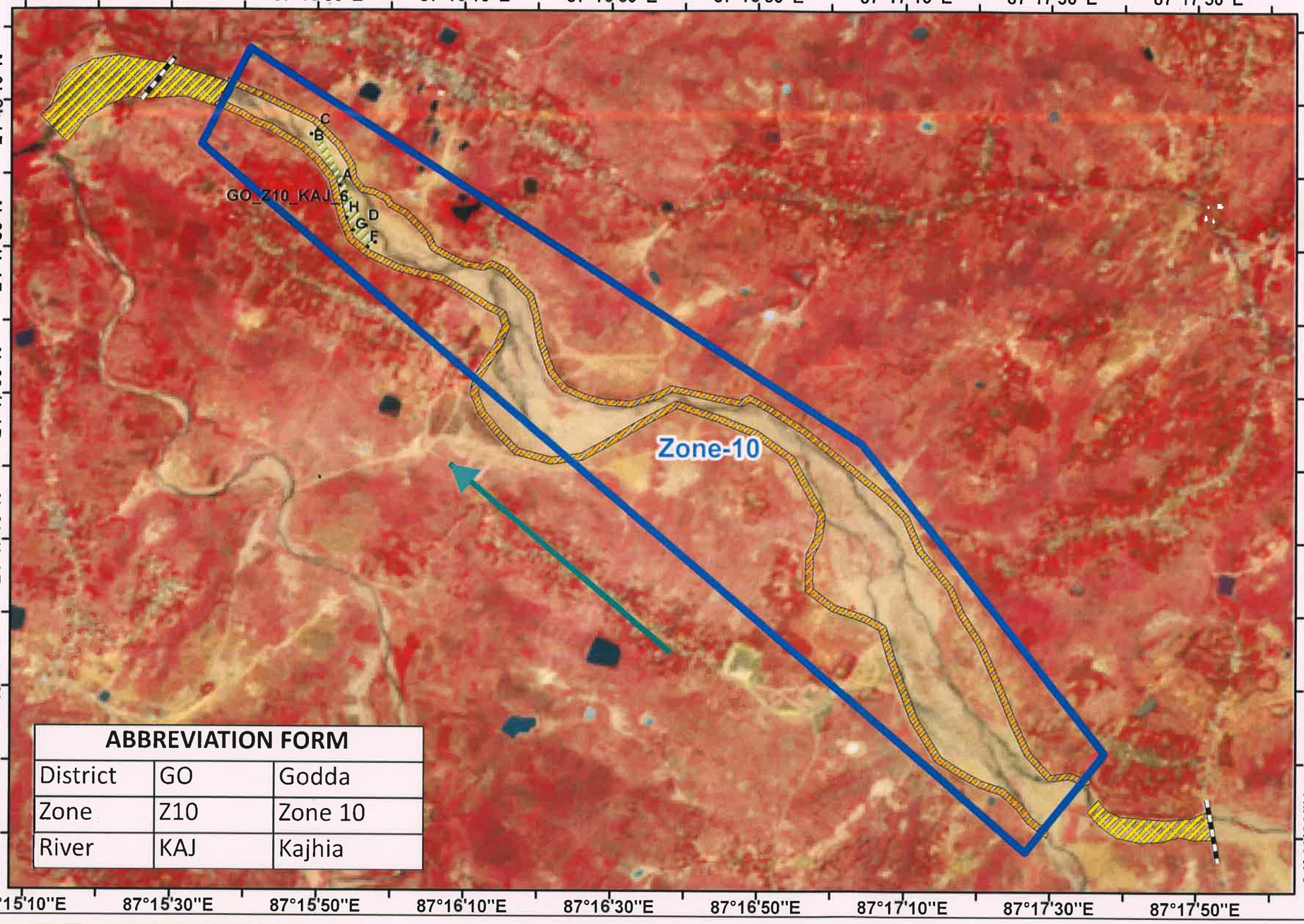
River: Kajhia Nadi
Sentinel 2 Satellite Imagery
Date of Capture: November, 2022 (Post-Monsoon)
Spatial Resolution: 10m

District Mining Officer,
Godda.

N
W E
S

0 135 270 540 810
Meters

Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Godda District, Jharkhand



ABBREVIATION FORM		
District	GO	Godda
Zone	Z10	Zone 10
River	KAJ	Kajhia

Geo-Tagged Site Photograph

District Mining Officer
Godda.

Legend

- Godda District Boundary
- Railway
- Bridge
- Sand Deposit Zone
- No Mining Zone
- Safety Barrier
- Sand Ghat
- River Flow Direction

Sand Ghat Code	Area (in Ha)
GO_Z10_KAJ_6	1.82

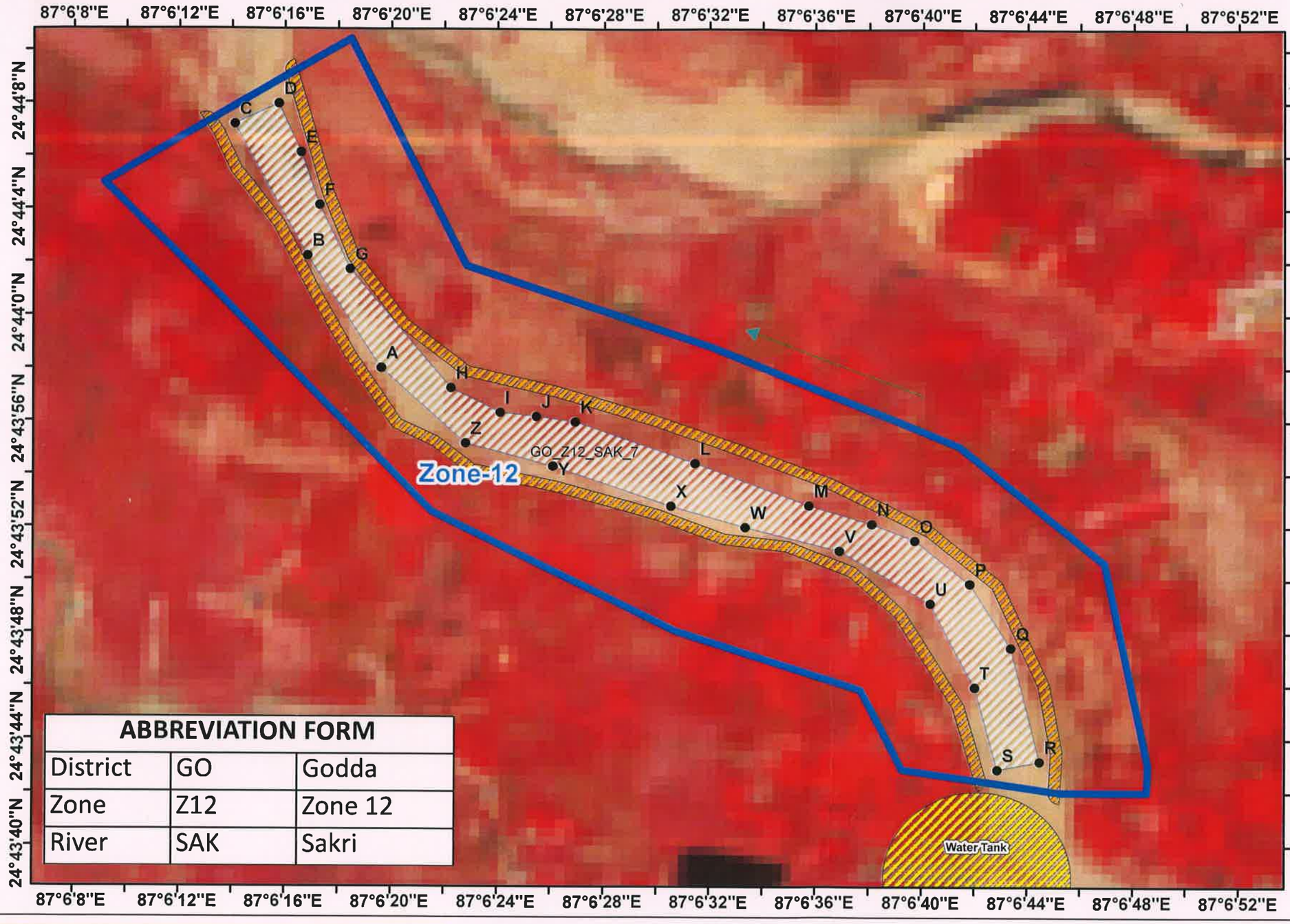
Limiting Coordinates of Zone 10	
Starting Point	87°15'37.541"E 24°48'10.992"N
Ending point	87°17'32.872"E 24°46'35.642"N

River: Kajhia Nadi
Sentinel 2 Satellite Imagery
Date of Capture: November, 2022 (Post-Monsoon)
Spatial Resolution: 10m

N W E S

0 355 710 1,420 2,130 Meters

Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Godda District, Jharkhand



ABBREVIATION FORM		
District	GO	Godda
Zone	Z12	Zone 12
River	SAK	Sakri

Geo-Tagged
Site Photographs

Legend

- Godda District Boundary
- Railway
- Bridge
- Sand Deposit Zone
- No Mining Zone
- Safety Barrier
- Sand Ghat
- River Flow Direction

Sand Ghat Code	Area (in Ha)
GO_Z12_SAK_7	5.51

Limiting Coordinates of Zone 12	
Starting Point	87°6'14.791"E 24°44'8.364"N
Ending point	87°6'42.61"E 24°43'42.513"N

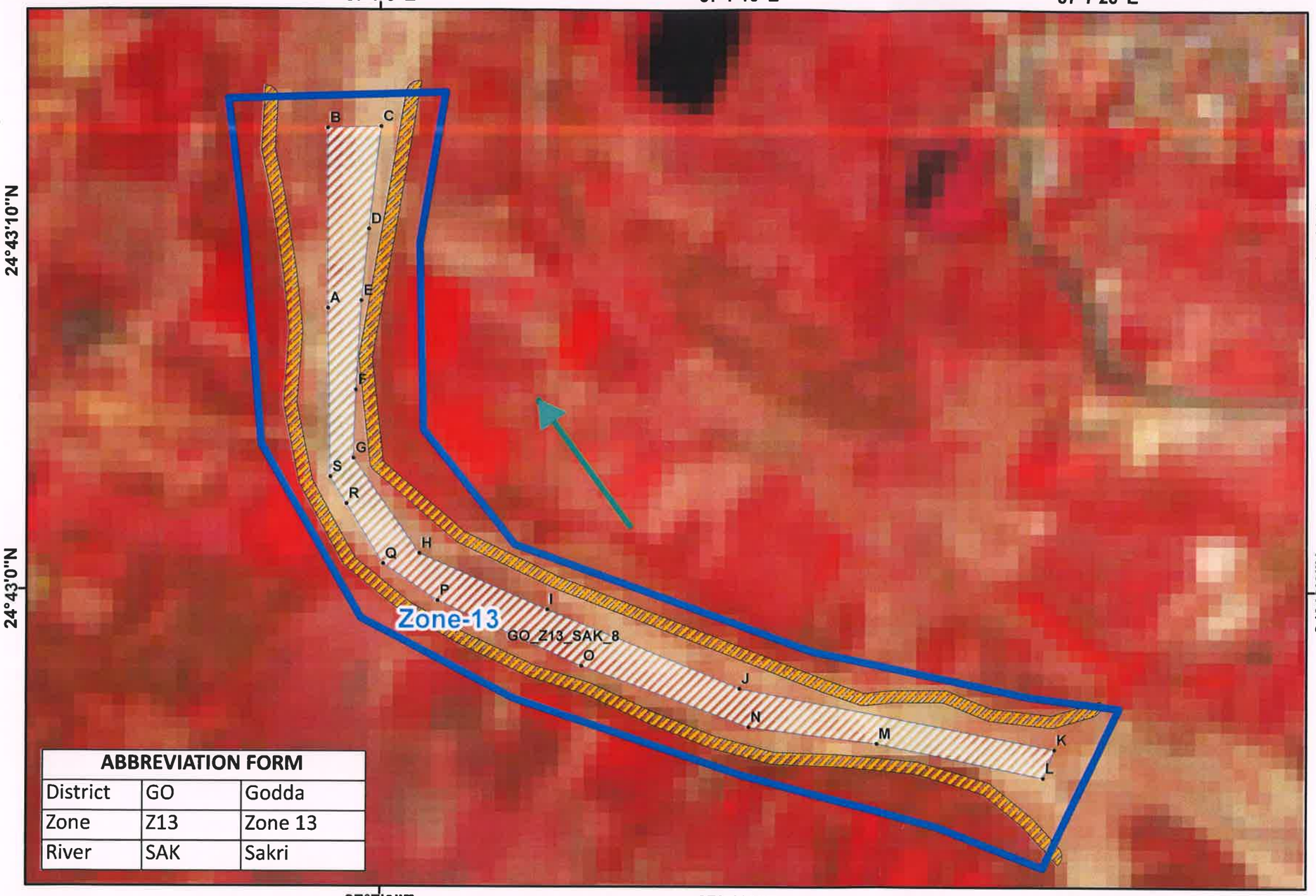
River: Sakri Nadi
Sentinel 2 Satellite Imagery
Date of Capture: November, 2022 (Post-Monsoon)
Spatial Resolution: 10m

District Mining Officer
Godda

N
W E
S

0 95 190 380 570
Meters

Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Godda District, Jharkhand



ABBREVIATION FORM		
District	GO	Godda
Zone	Z13	Zone 13
River	SAK	Sakri

Geo-Tagged Site Photograph

District Mining Officer,
Godda.

Legend

- Godda District Boundary
- Railway
- Bridge
- Sand Deposit Zone
- No Mining Zone
- Safety Barrier
- Sand Ghat
- River Flow Direction

Sand Ghat Code	Area (in Ha)
GO_Z13_SAK_8	2.59

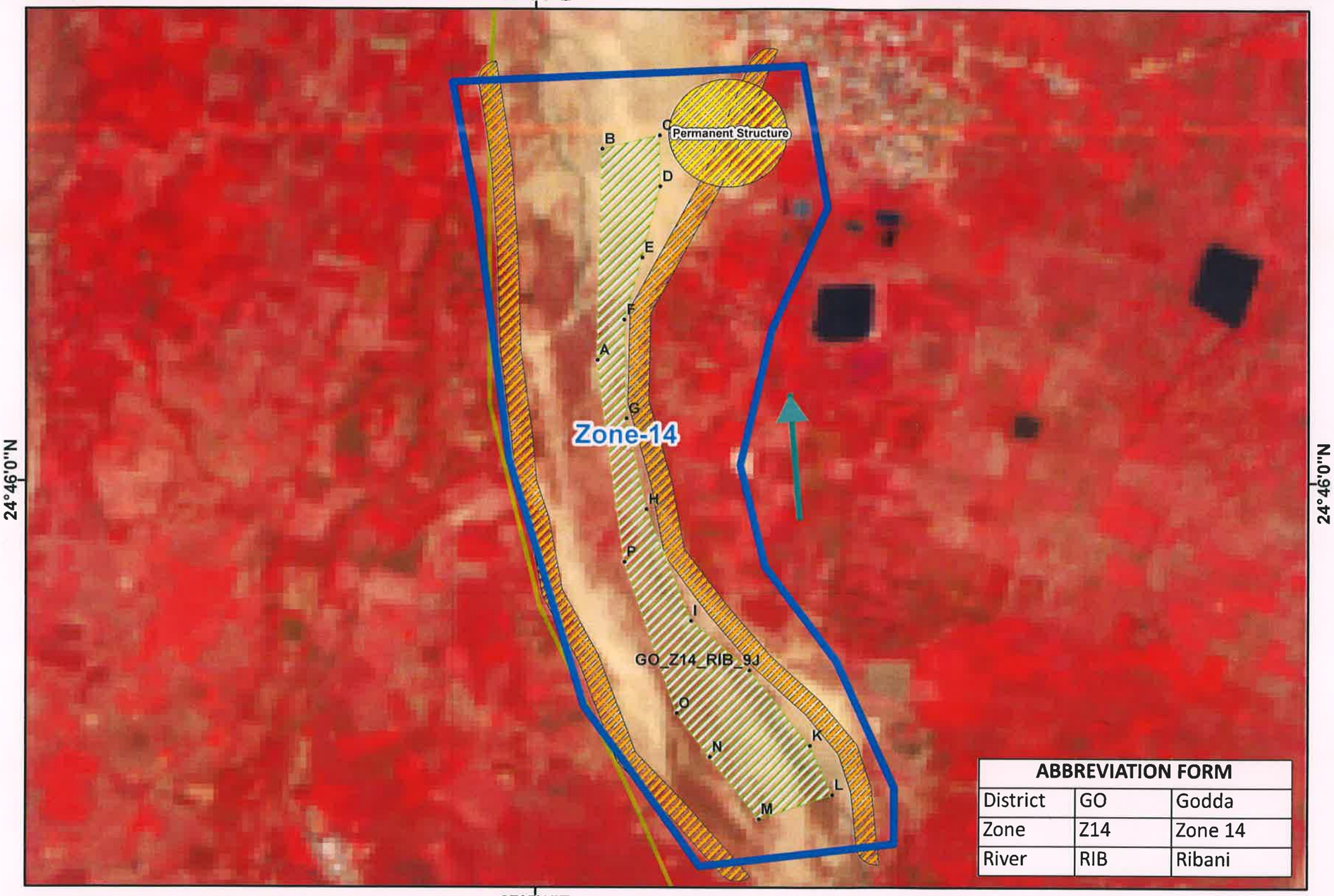
Limiting Coordinates of Zone 13	
Starting Point	87°6'58.695"E 24°43'13.971"N
Ending point	87°7'18.991"E 24°42'53.057"N

River: Sakri Nadi
Sentinel 2 Satellite Imagery
Date of Capture: November, 2022 (Post-Monsoon)
Spatial Resolution: 10m

N
W E
S

0 70 140 280 420
Meters

Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Godda District, Jharkhand



ABBREVIATION FORM		
District	GO	Godda
Zone	Z14	Zone 14
River	RIB	Ribani

Geo-Tagged Site Photograph

Legend

- Godda District Boundary
- Railway
- Bridge
- Sand Deposit Zone
- No Mining Zone
- Safety Barrier
- Sand Ghat
- River Flow Direction

Sand Ghat Code	Area (in Ha)
GO_Z14_RIB_9	11.29

Limiting Coordinates of Zone 14	
Starting Point	87°5'5.895"E 24°46'25.5"N
Ending point	87°5'16.622"E 24°45'37.014"N

River: Ribani Nadi
Sentinel 2 Satellite Imagery
Date of Capture: November, 2022 (Post-Monsoon)
Spatial Resolution: 10m

District Mining Officer,
Godda.

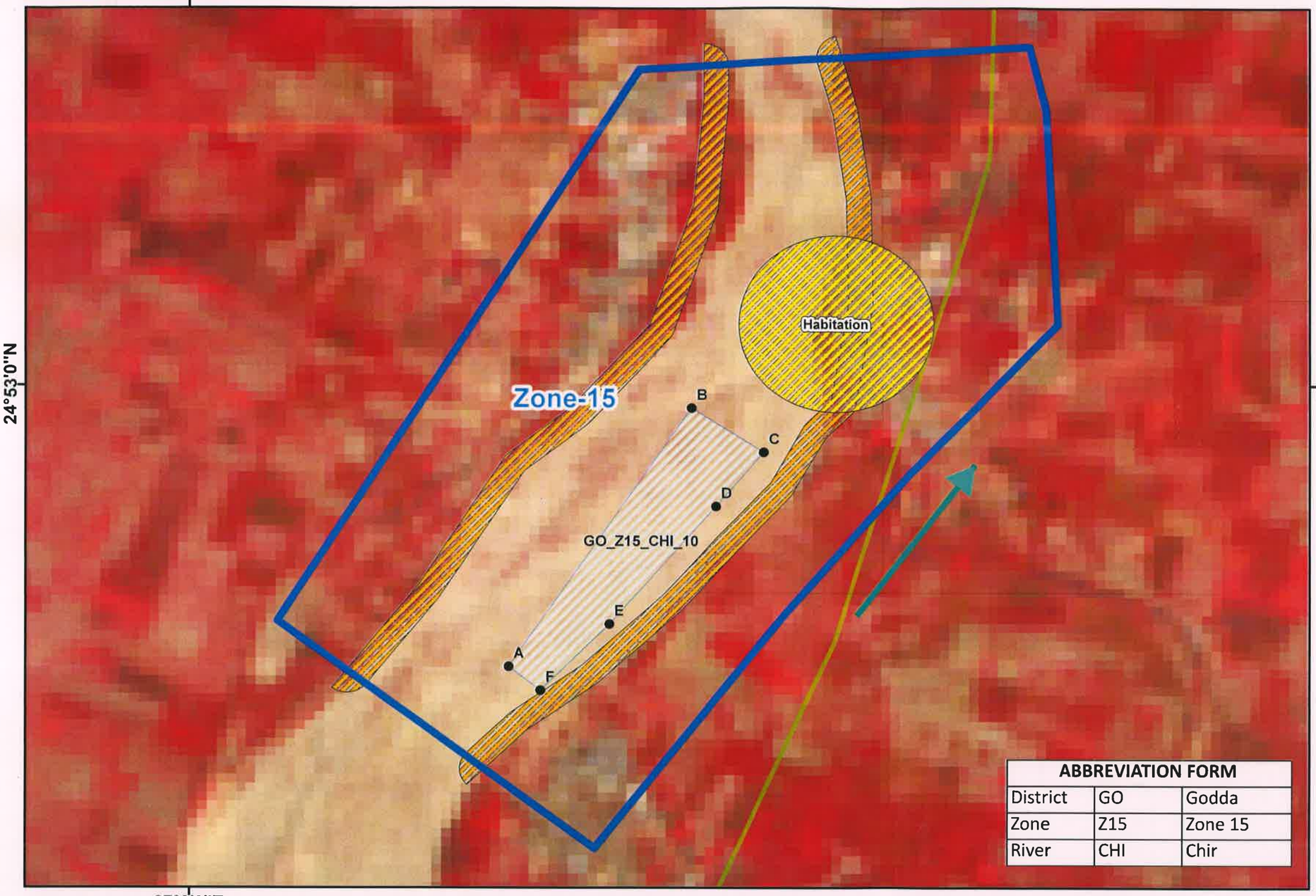
N
W E
S

0 160 320 640 960
Meters

Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Godda District, Jharkhand

87°9'0"E

24°53'0"N



ABBREVIATION FORM		
District	GO	Godda
Zone	Z15	Zone 15
River	CHI	Chir

87°9'0"E

24°53'0"N

Drone Imagery from Field Survey

District Mining Officer,
Godda.

Legend

- Godda District Boundary
- Railway
- Bridge
- Sand Deposit Zone
- No Mining Zone
- Safety Barrier
- River Flow Direction
- Sand Ghat

Sand Ghat Code	Area (in Ha)
GO_Z15_CHI_10	2.39

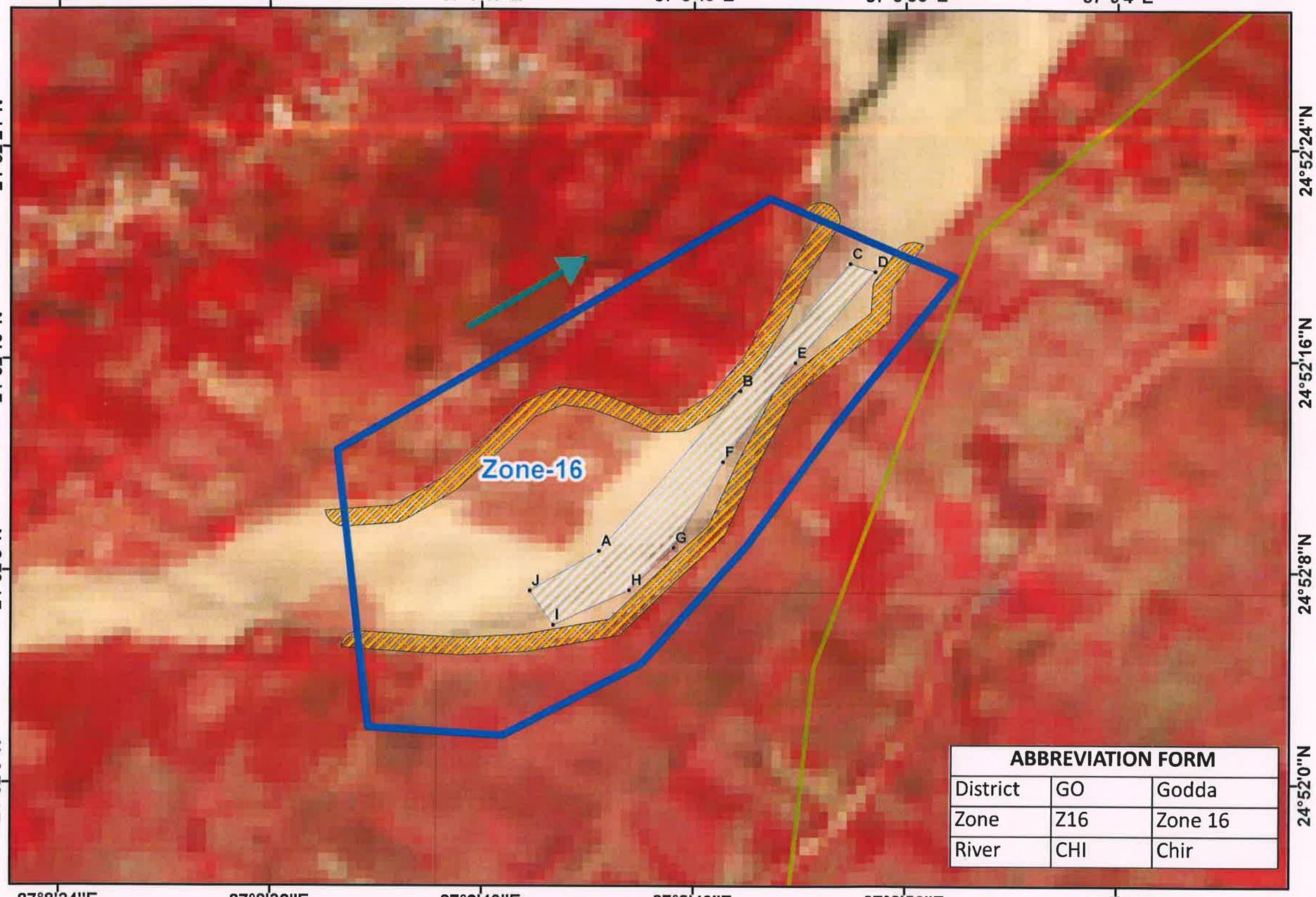
Limiting Coordinates of Zone 15	
Starting Point	87°9'30.642"E 24°53'12.412"N
Ending point	87°9'9.399"E 24°52'47.042"N

River: Chir Nadi
Sentinel 2 Satellite Imagery
Date of Capture: November, 2022 (Post-Monsoon)
Spatial Resolution: 10m

N
W E
S

0 95 190 380 570
Meters

Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Godda District, Jharkhand



ABBREVIATION FORM		
District	GO	Godda
Zone	Z16	Zone 16
River	CHI	Chir

Drone Imagery from Field Survey

District Mining Officer
Godda.

Legend

- Godda District Boundary
- Railway
- Bridge
- Sand Deposit Zone
- No Mining Zone
- Safety Barrier
- Sand Ghat
- River Flow Direction

Sand Ghat Code	Area (in Ha)
GO_Z16_CHI_11	2.1

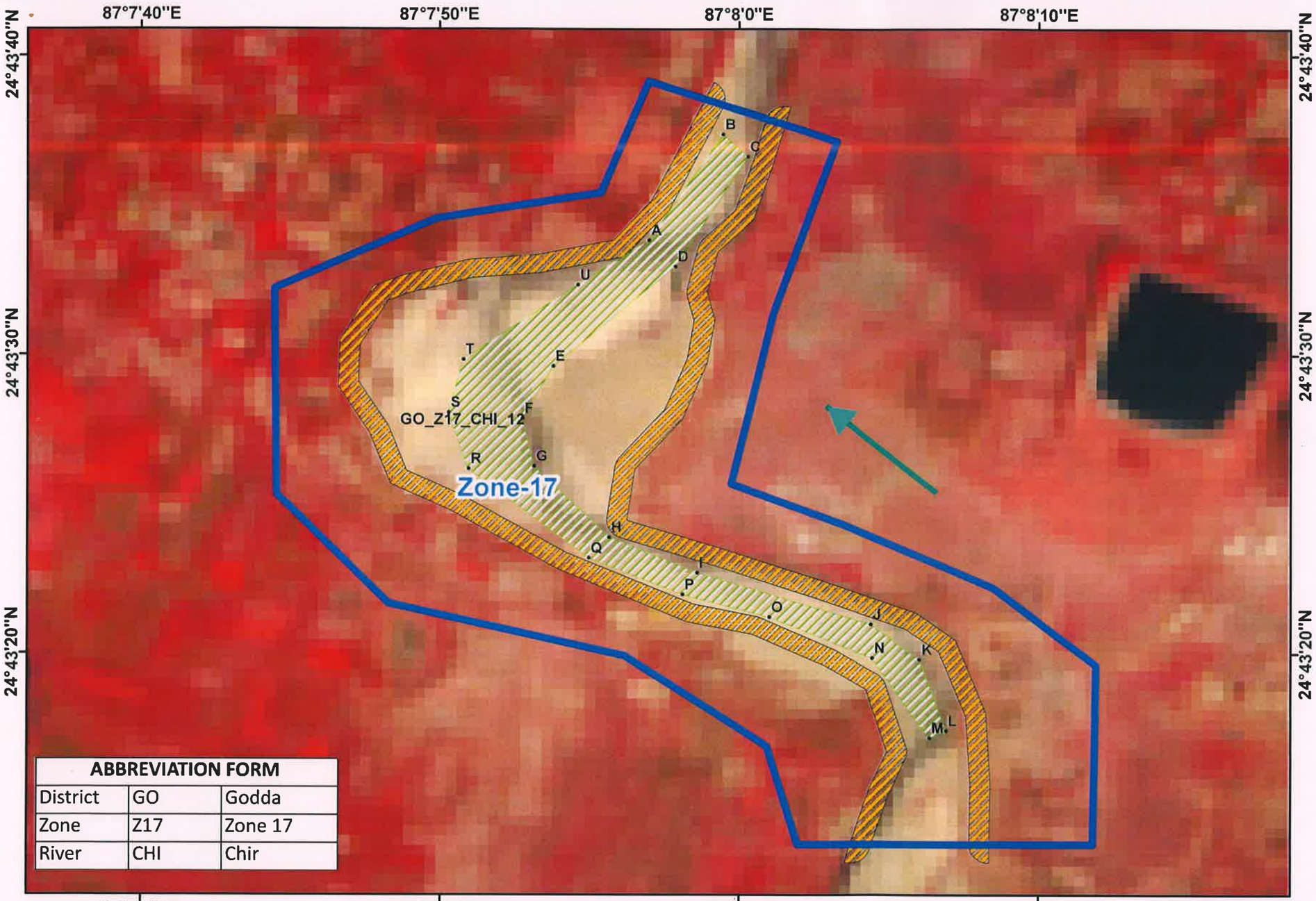
Limiting Coordinates of Zone 16	
Starting Point	87°8'54.094"E 24°52'20.851"N
Ending point	87°8'35.224"E 24°52'7.21"N

River: Chir Nadi
Sentinel 2 Satellite Imagery
Date of Capture: November, 2022 (Post-Monsoon)
Spatial Resolution: 10m

N
W E
S

0 95 190 380 570
Meters

Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Godda District, Jharkhand



ABBREVIATION FORM		
District	GO	Godda
Zone	Z17	Zone 17
River	CHI	Chir

Geo-Tagged Site Photograph

District Mining Officer
Godda.

Legend

- Godda District Boundary
- Railway
- Bridge
- Sand Deposit Zone
- No Mining Zone
- Safety Barrier
- Sand Ghat
- River Flow Direction

Sand Ghat Code	Area (in Ha)
GO_Z17_CHI_12	3.54

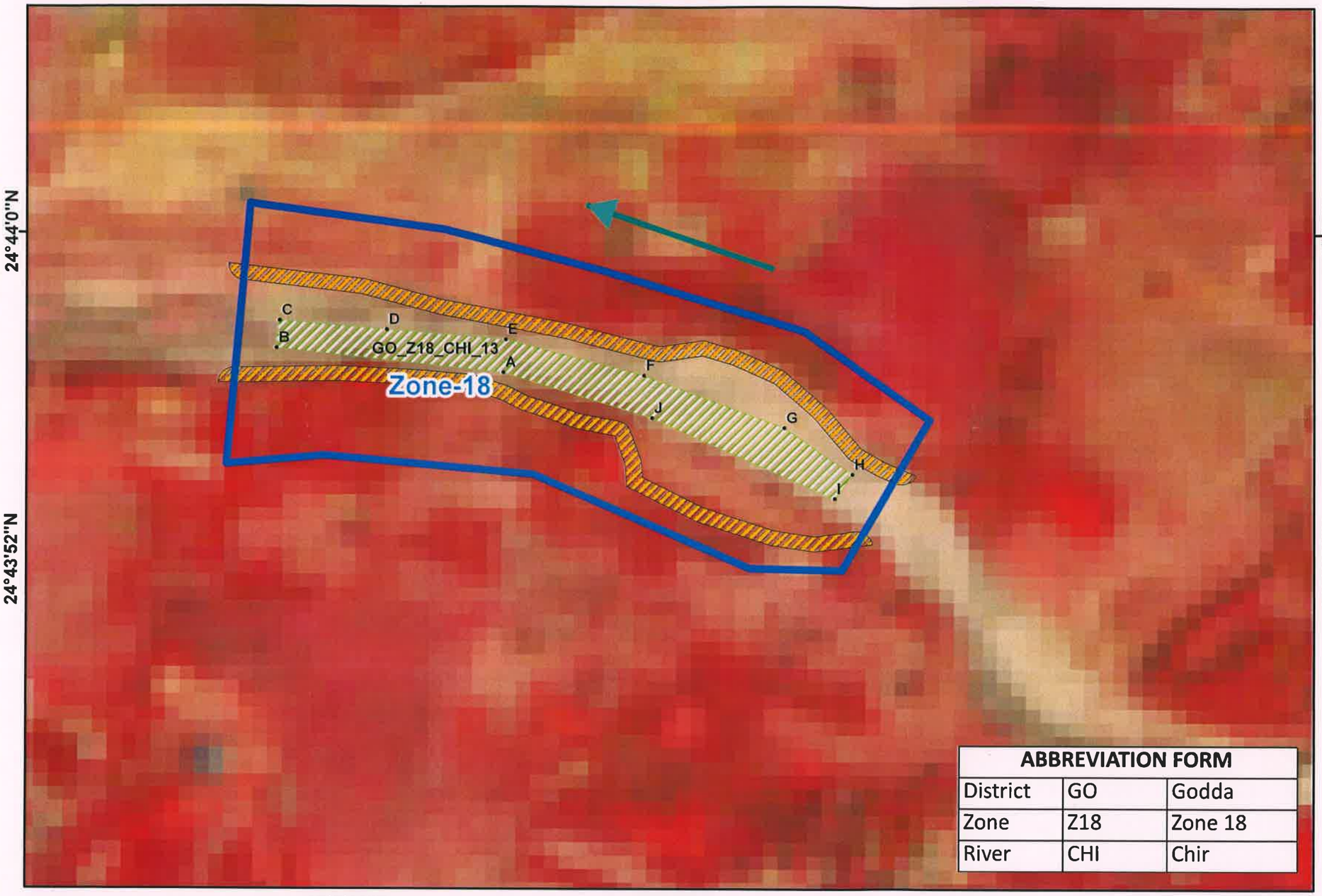
Limiting Coordinates of Zone 17	
Starting Point	87°8'0.261"E 24°43'38.309"N
Ending point	87°8'6.346"E 24°43'13.723"N

River: Chir Nadi
Sentinel 2 Satellite Imagery
Date of Capture: November, 2022 (Post-Monsoon)
Spatial Resolution: 10m

N
W E
S

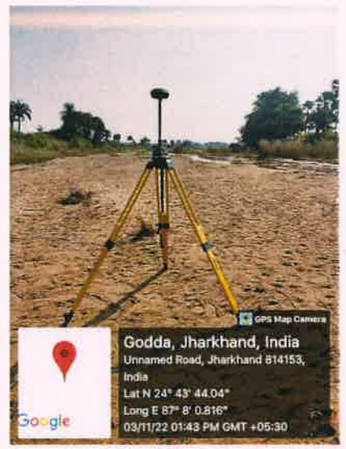
0 85 170 340 510
Meters

Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Godda District, Jharkhand



ABBREVIATION FORM		
District	GO	Godda
Zone	Z18	Zone 18
River	CHI	Chir

Geo-Tagged Site Photograph



District Mining Officer,
Godda.

Legend

- Godda District Boundary
- Railway
- Bridge
- Sand Deposit Zone
- No Mining Zone
- Safety Barrier
- River Flow Direction
- Sand Ghat

Sand Ghat Code	Area (in Ha)
GO_Z18_CHI_13	1.06

Limiting Coordinates of Zone 18	
Starting Point	87°7'25.293"E 24°43'57.89"N
Ending point	87°7'41.164"E 24°43'53.856"N

River: Chir Nadi
Sentinel 2 Satellite Imagery
Date of Capture: November, 2022 (Post-Monsoon)
Spatial Resolution: 10m

N
W E
S

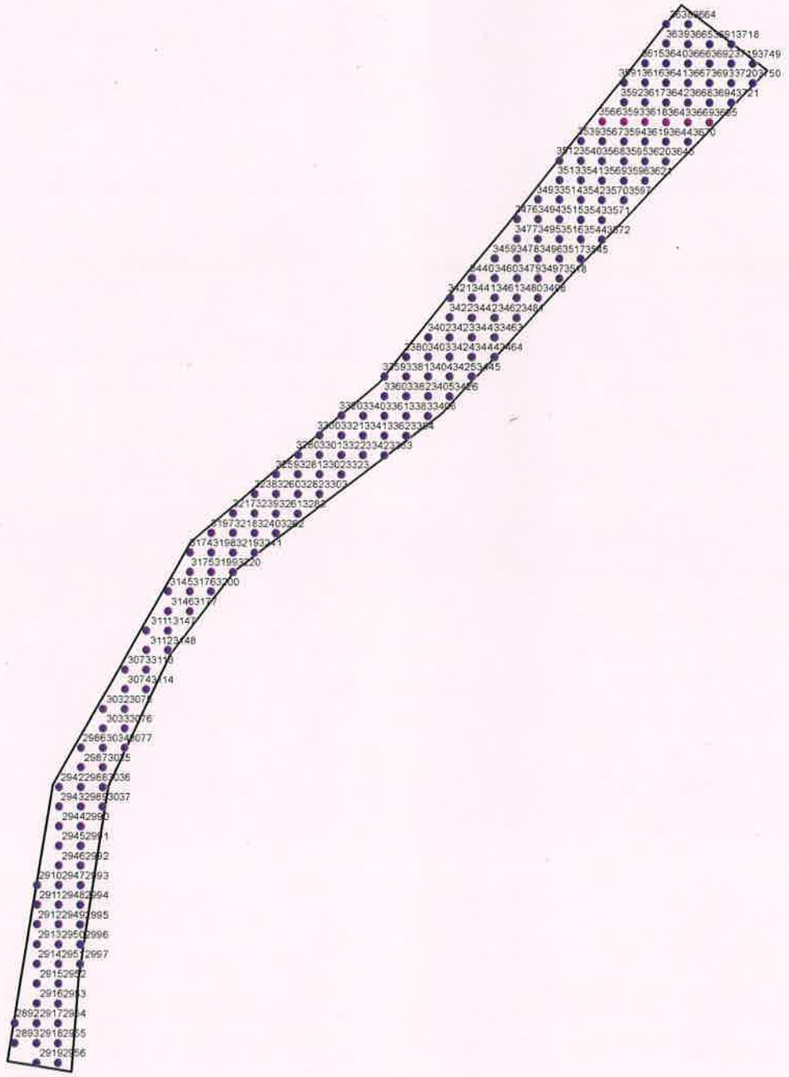
0 62.5 125 250 375
Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In Gerua River In Godda District

87°8'40"E

87°9'0"E

25°1'20"N



N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z2	Zone 2
River	GE	Gerua

87°8'40"E

87°9'0"E

Legend

- Sand Ghat Boundary
- Sand Ghat Grid Points

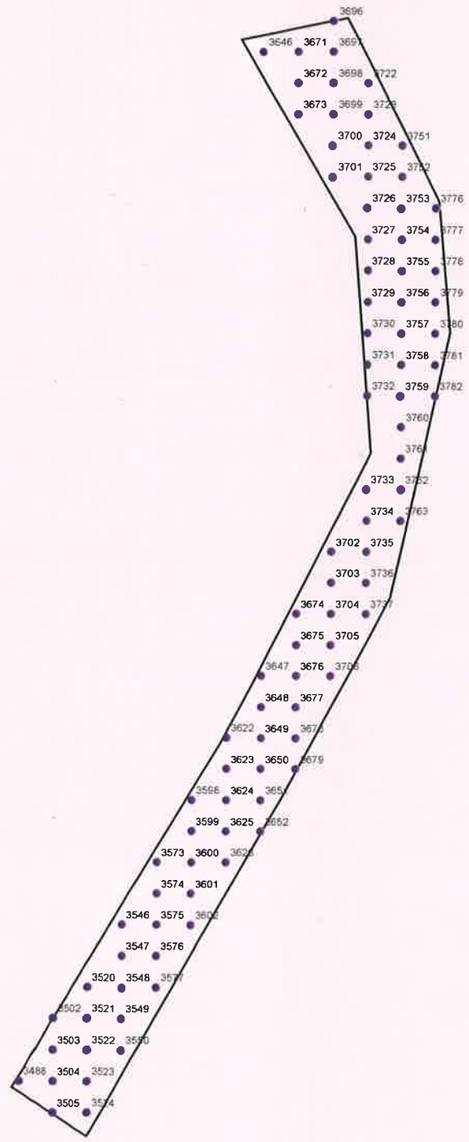
Sand Ghat Code	Area (in Ha)
GO_Z2_GE_1	1.97

District Mining Officer
Godda

0 45 90 180 270 360 Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In Gerua River In Godda District

87°9'0"E



N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z3	Zone 3
River	GE	Gerua

24°58'0"N

24°58'0"N

87°9'0"E

Legend

- Sand Ghat Boundary
- Sand Ghat Grid Points

Sand Ghat Code	Area (in Ha)
GO_Z3_GE_2	0.92

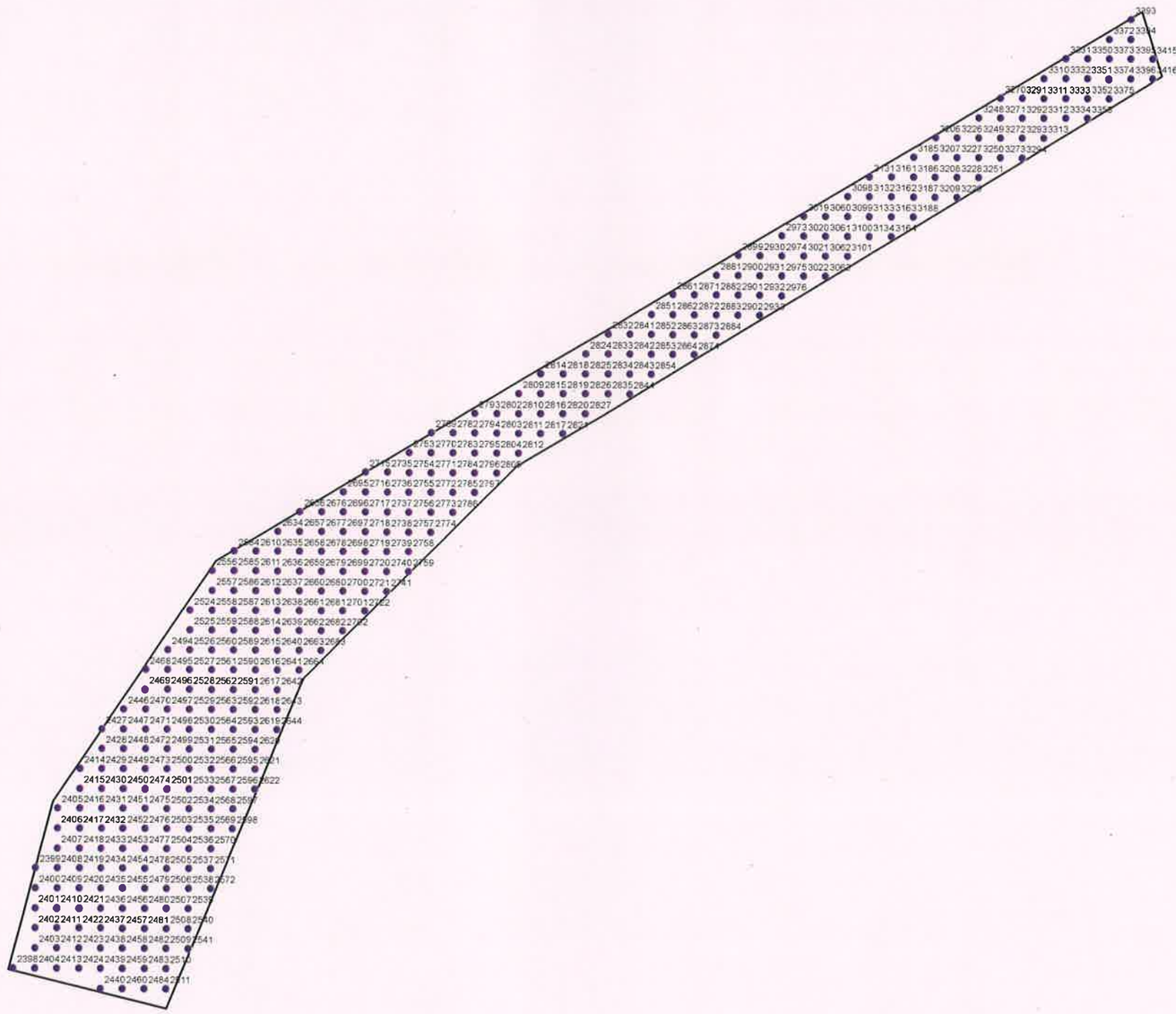
District Mining Officer,
Godda.

0 25 50 100 150 200 Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In Chir River In Godda District

87°8'40"E

24°55'20"N



N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z5	Zone 5
River	CHI	Chir

Legend

- Sand Ghat Boundary
- Sand Ghat Grid Points

Sand Ghat Code	Area (in Ha)
GO_Z5_CHI_3	3.51

District Mining Officer
Godda.

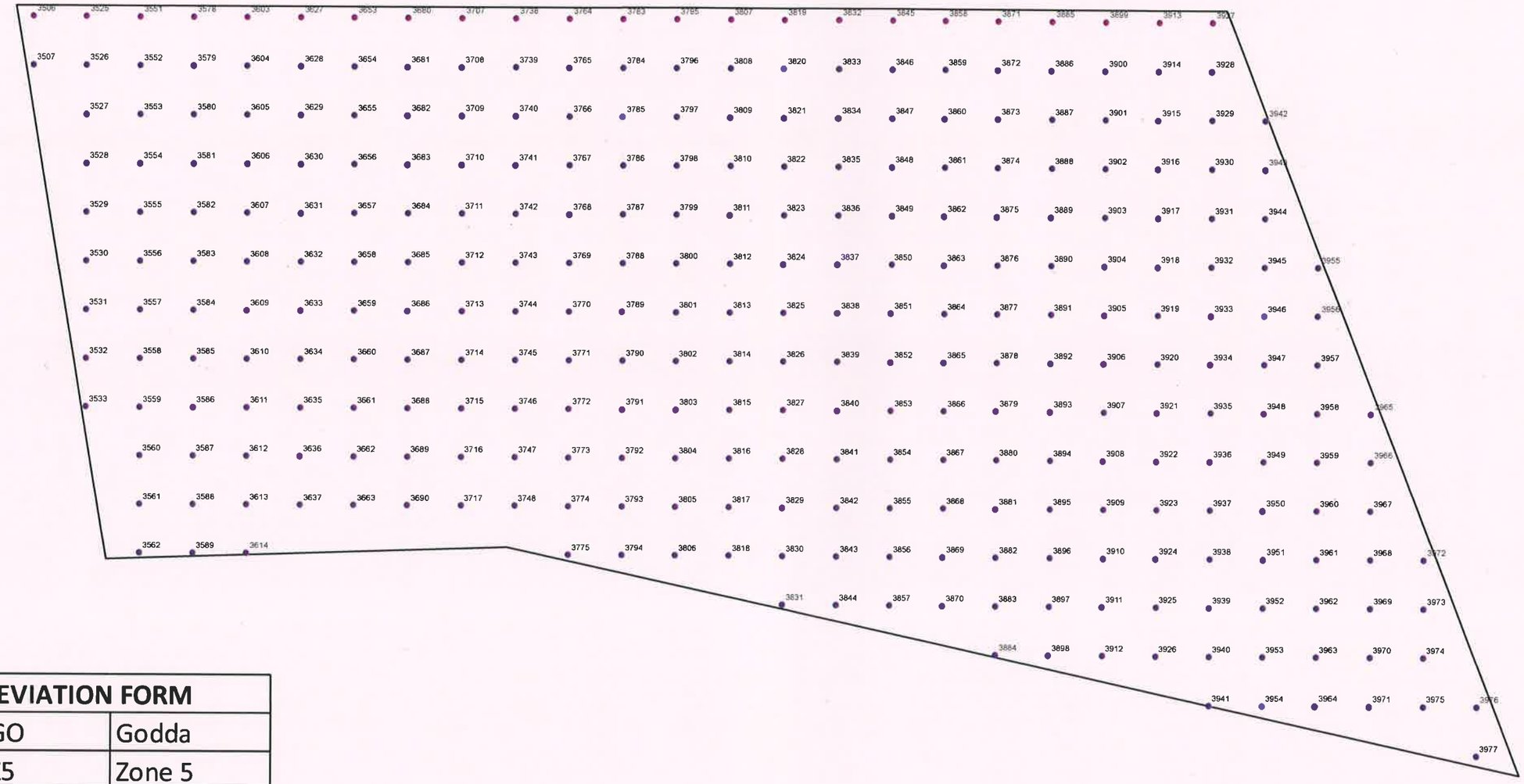
0 40 80 160 240 320
Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In Chir River In Godda District

87°9'0"E

24°54'20"N

N



ABBREVIATION FORM		
District	GO	Godda
Zone	Z5	Zone 5
River	CHI	Chir

87°9'0"E

Legend

- Sand Ghat Boundary
- Sand Ghat Grid Points

Sand Ghat Code	Area (in Ha)
GO_Z5_CHI_4	3.03

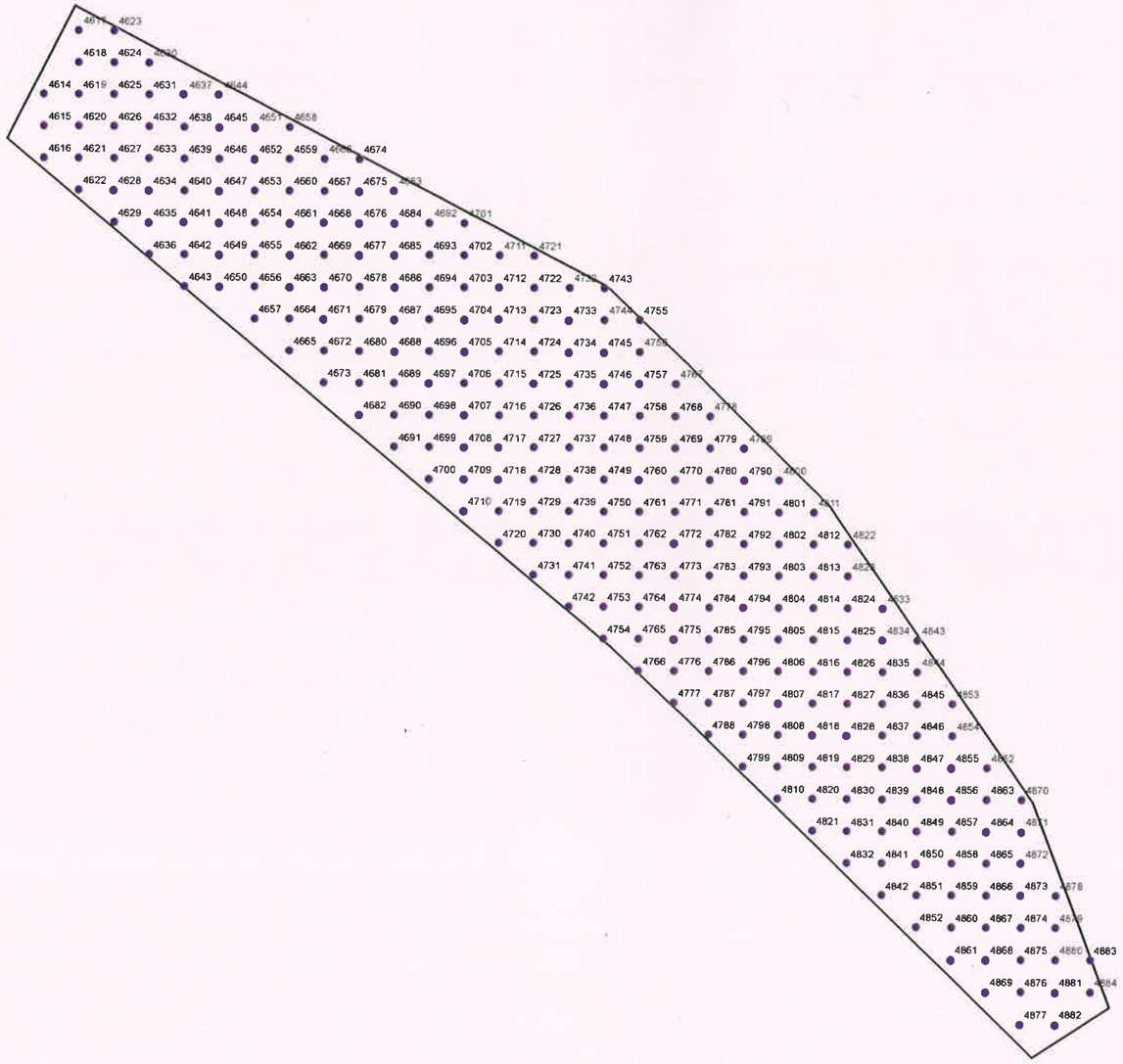
District Mining Officer,
Godda.

0 12.5 25 50 75 100
Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In Kajhia River In Godda District

87°14'40"E

24°49'20"N



N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z9	Zone 9
River	KAJ	Kajhia

87°14'40"E

Legend

- Sand Ghat Boundary
- Sand Ghat Grid Points

Sand Ghat Code	Area (in Ha)
GO_Z9_KAJ_5	2.7

District Mining Officer,
Godda.

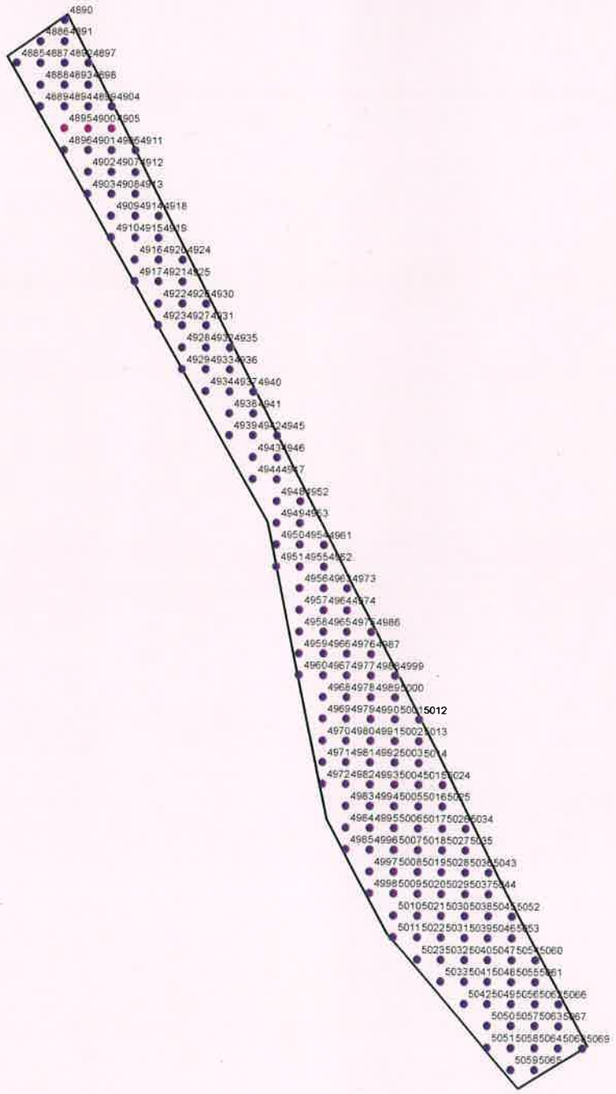
0 25 50 100 150 200 Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In Kajhia River In Godda District

87°15'40"E

87°16'0"E

24°48'0"N



ABBREVIATION FORM		
District	GO	Godda
Zone	Z10	Zone 10
River	KAJ	Kajhia

87°15'40"E

87°16'0"E

Legend

- Sand Ghat Boundary
- Sand Ghat Grid Points

Sand Ghat Code	Area (in Ha)
GO_Z10_KAJ_6	1.82

District Mining Officer,
Godda.

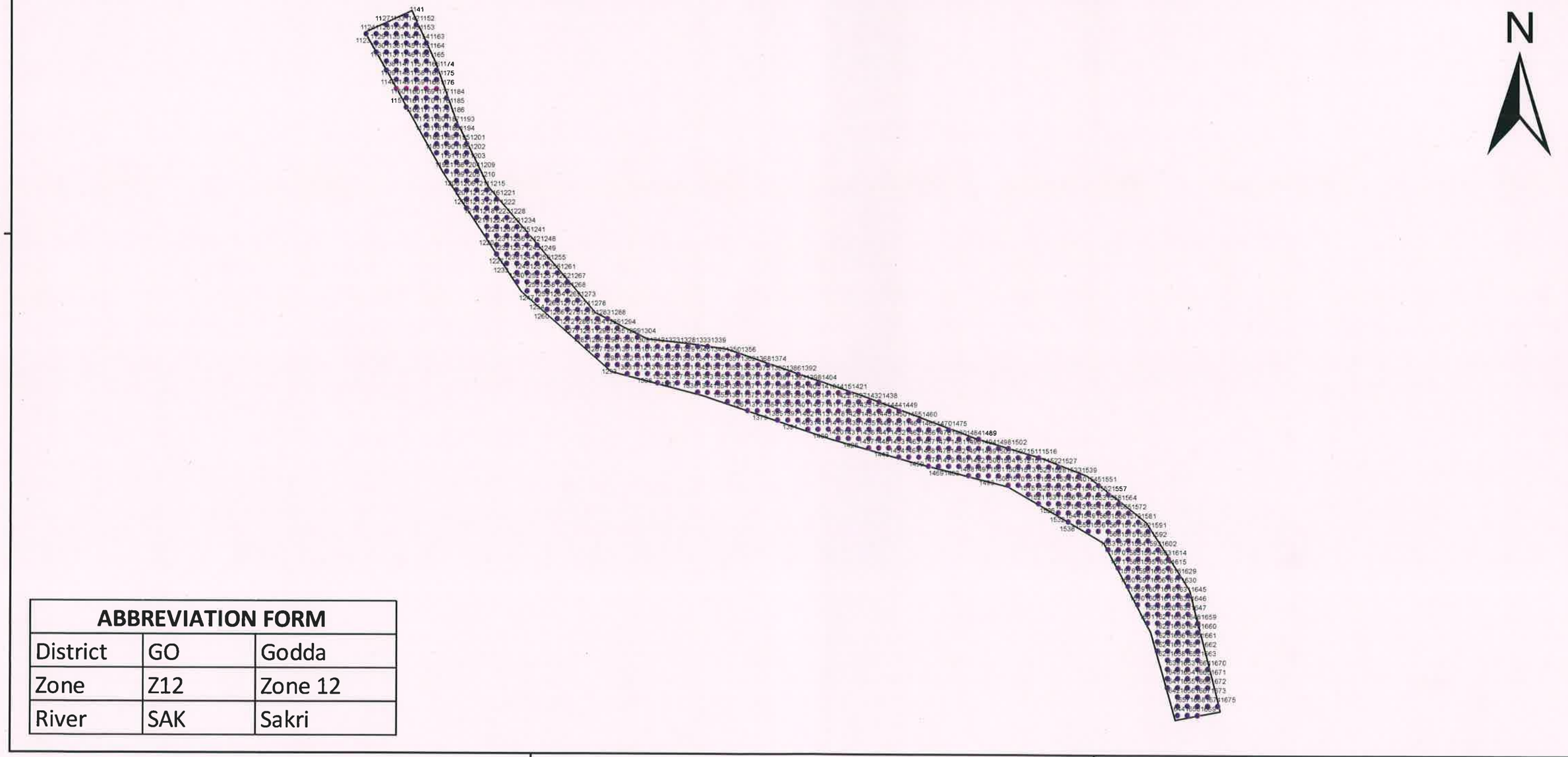
0 40 80 160 240 320
Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In Sakri River In Godda District

87°6'20"E

87°6'40"E

24°44'0"N



ABBREVIATION FORM		
District	GO	Godda
Zone	Z12	Zone 12
River	SAK	Sakri

Legend

- Sand Ghat Boundary
- Sand Ghat Grid Points

Sand Ghat Code	Area (in Ha)
GO_Z12_SAK_7	5.51

District Mining Officer,
Godda.

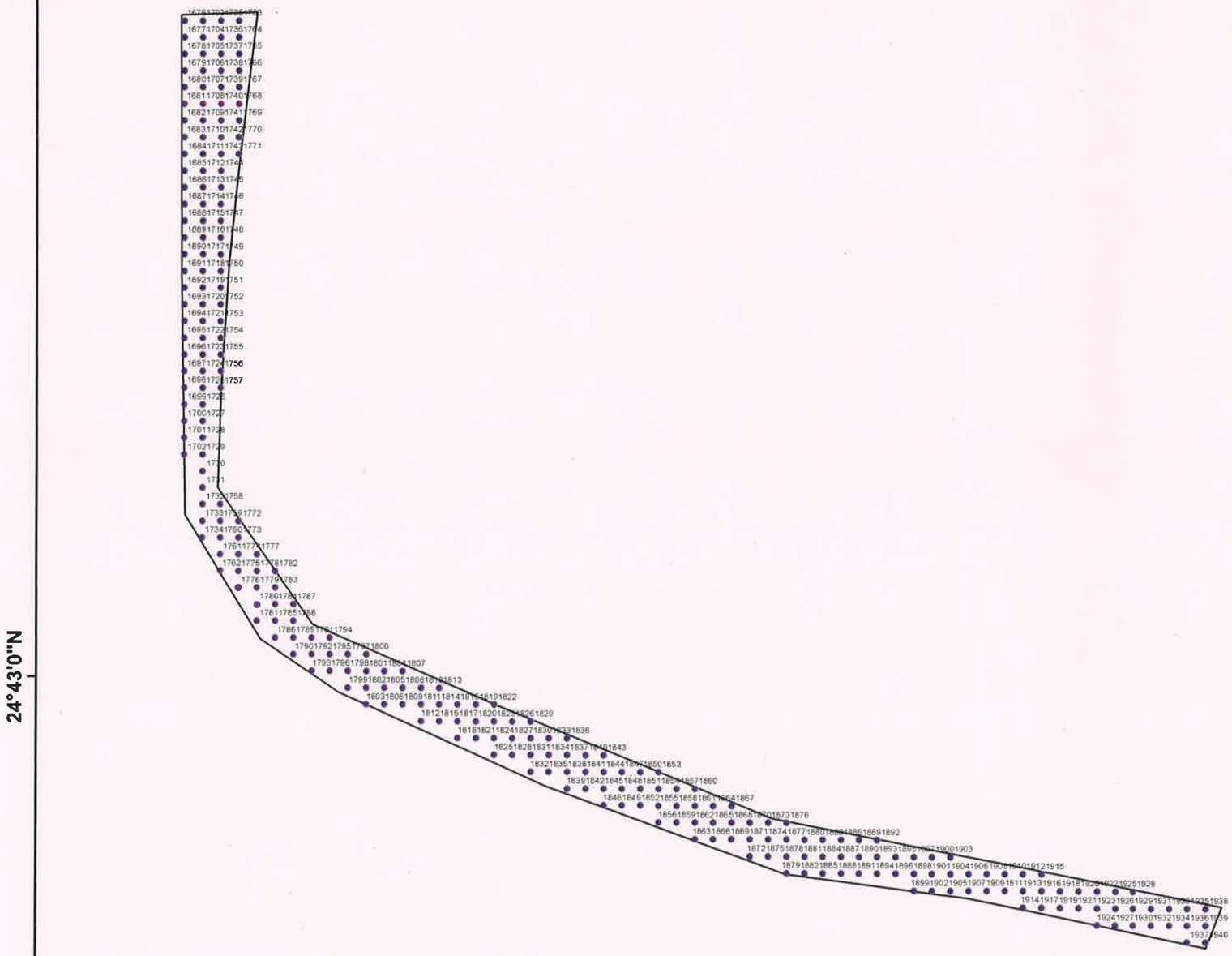
0 65 130 260 390 520
Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In Sakri River In Godda District

87°7'0"E

87°7'20"E

24°43'0"N



N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z13	Zone 13
River	SAK	Sakri

Legend

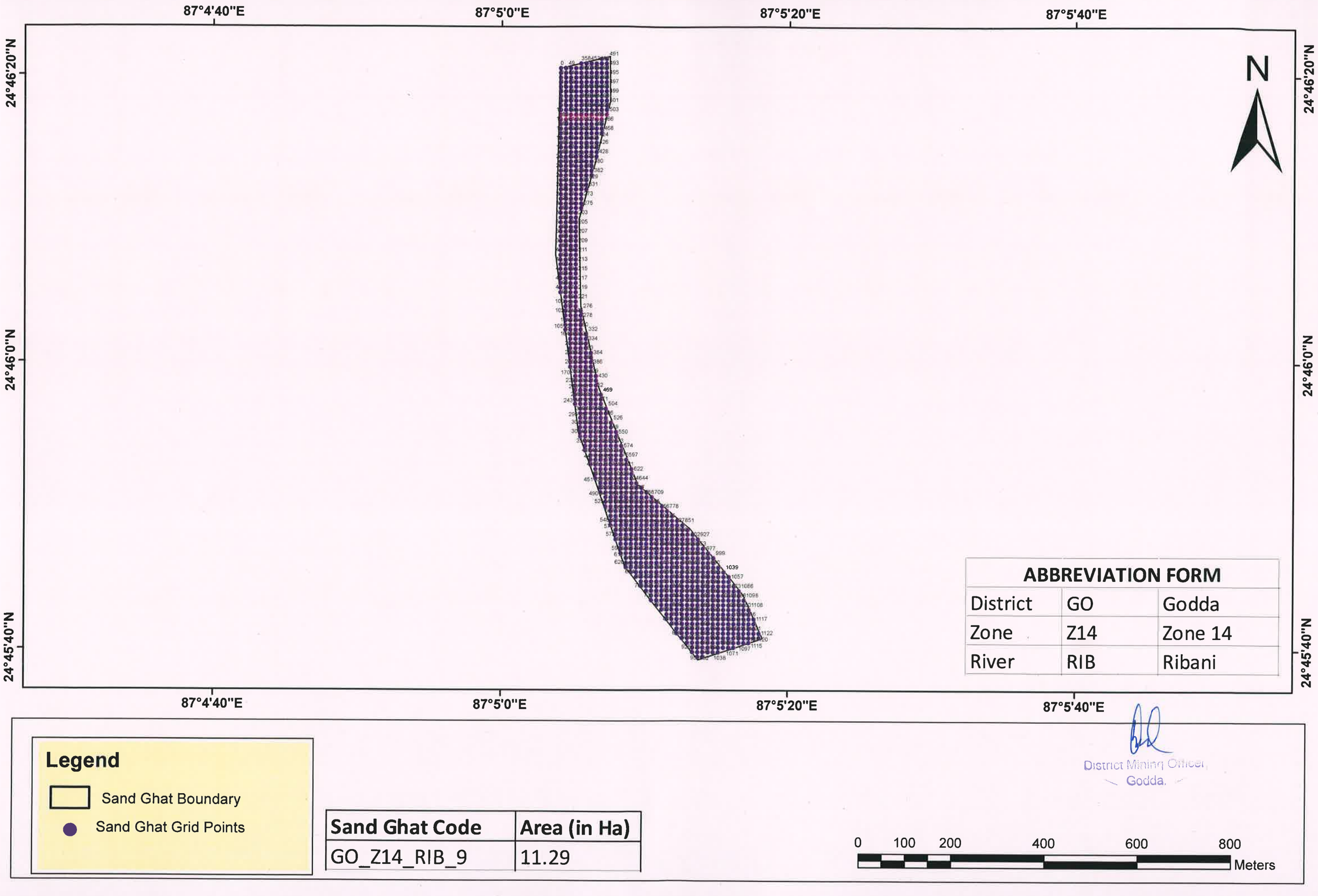
- Sand Ghat Boundary
- Sand Ghat Grid Points

Sand Ghat Code	Area (in Ha)
GO_Z13_SAK_8	2.59

0 40 80 160 240 320 Meters

District Mining Officer,
Godda.

Map showing 10m x 10m Grid Points Inside Sand Ghat In Ribani River In Godda District



ABBREVIATION FORM		
District	GO	Godda
Zone	Z14	Zone 14
River	RIB	Ribani

Legend

- Sand Ghat Boundary
- Sand Ghat Grid Points

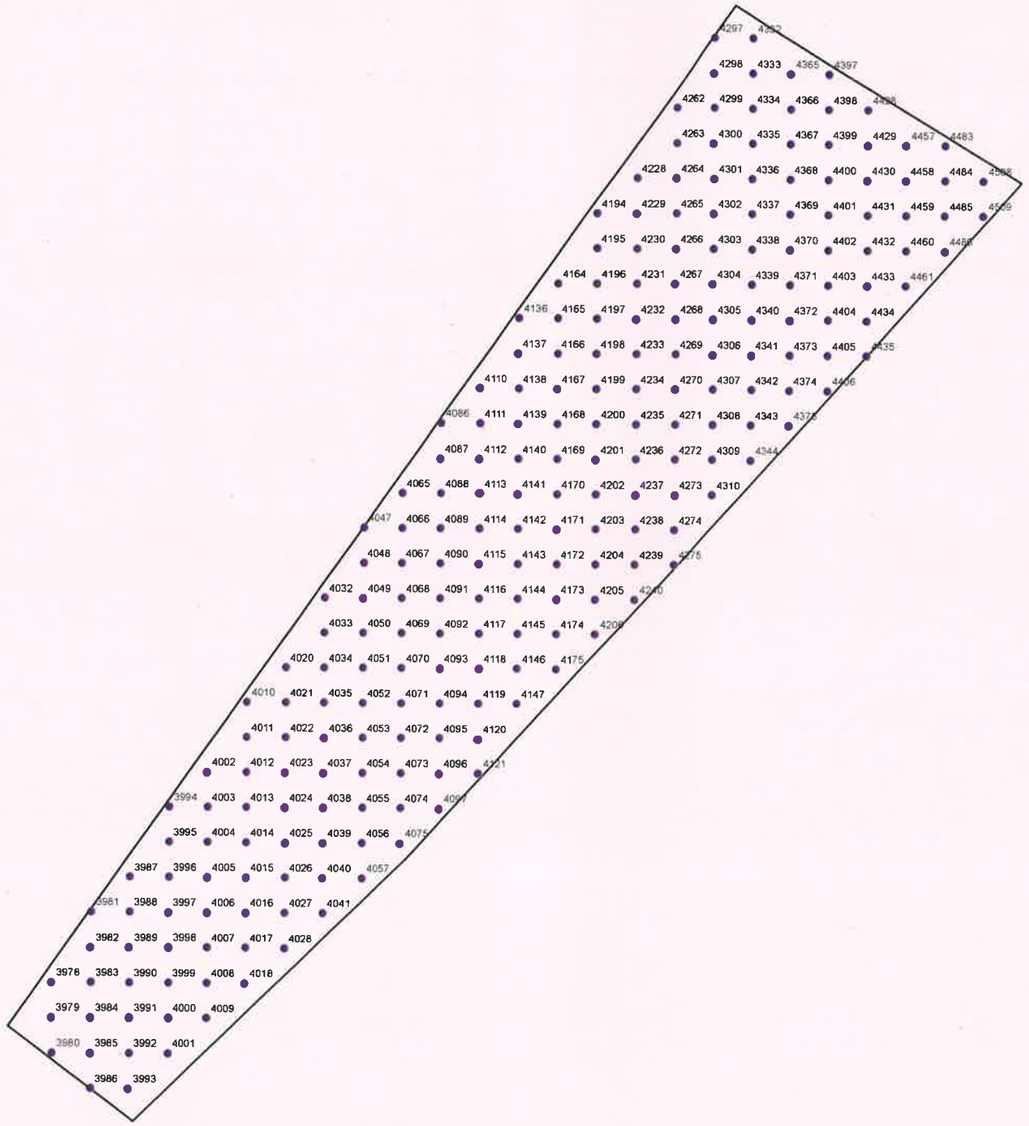
Sand Ghat Code	Area (in Ha)
GO_Z14_RIB_9	11.29

0 100 200 400 600 800 Meters

District Mining Officer
Godda.

Map showing 10m x 10m Grid Points Inside Sand Ghat In Chir River In Godda District

87°9'20"E



N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z15	Zone 15
River	CHI	Chir

87°9'20"E

Legend

- Sand Ghat Boundary
- Sand Ghat Grid Points

Sand Ghat Code	Area (in Ha)
GO_Z15_CHI_10	2.39

District Mining Officer
Godda.

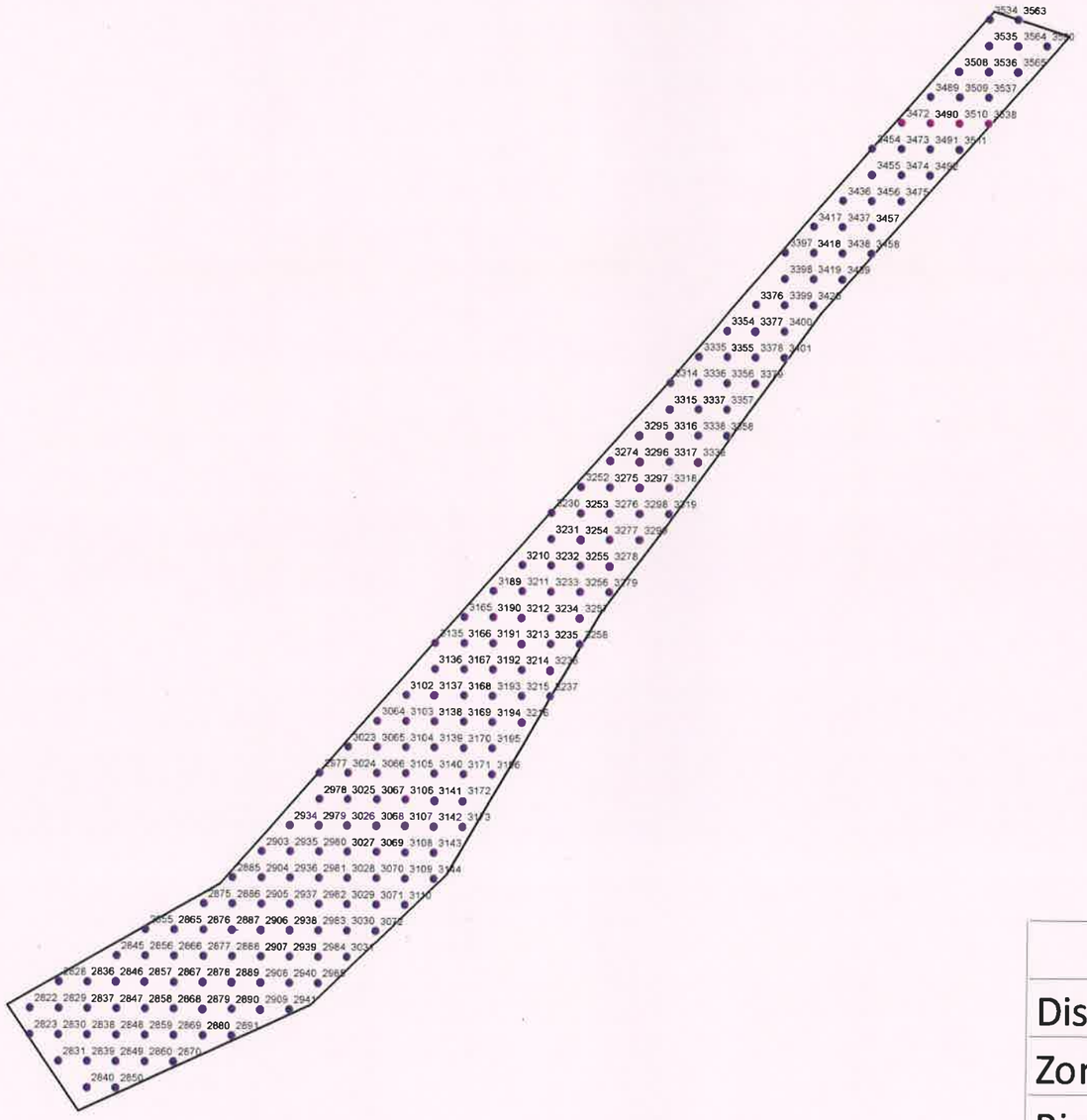
0 25 50 100 150 200
Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In Chir River In Godda District

87°8'40"E

87°9'0"E

24°52'20"N



N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z16	Zone 16
River	CHI	Chir

87°8'40"E

87°9'0"E

Legend

- Sand Ghat Boundary
- Sand Ghat Grid Points

Sand Ghat Code	Area (in Ha)
GO_Z16_CHI_11	2.1

District Mining Officer,
Godda.

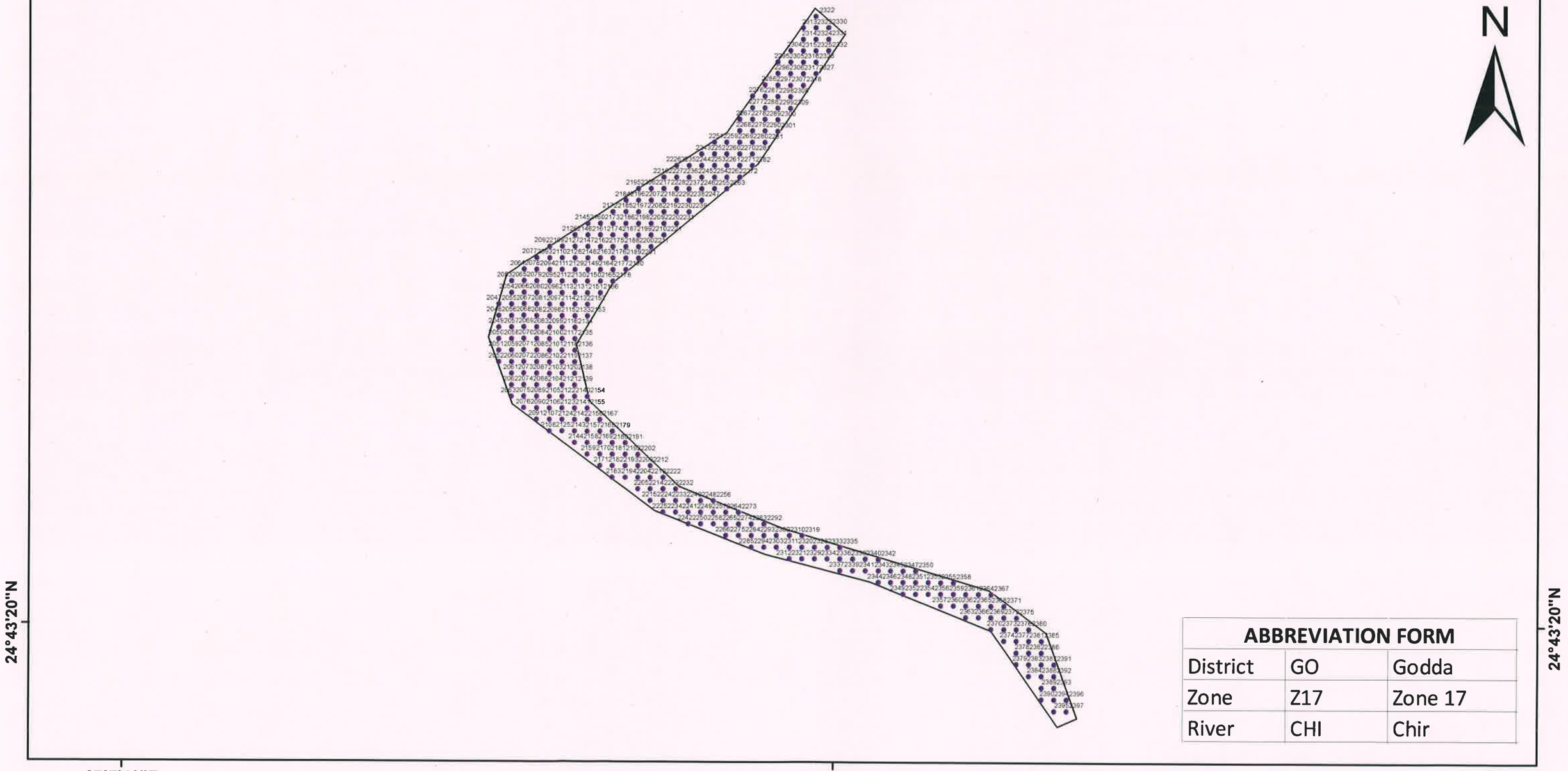
0 30 60 120 180 240 Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In Chir River In Godda District

87°7'40"E

87°8'0"E

24°43'20"N



ABBREVIATION FORM		
District	GO	Godda
Zone	Z17	Zone 17
River	CHI	Chir

Legend

- Sand Ghat Boundary
- Sand Ghat Grid Points

Sand Ghat Code	Area (in Ha)
GO_Z17_CHI_12	3.54

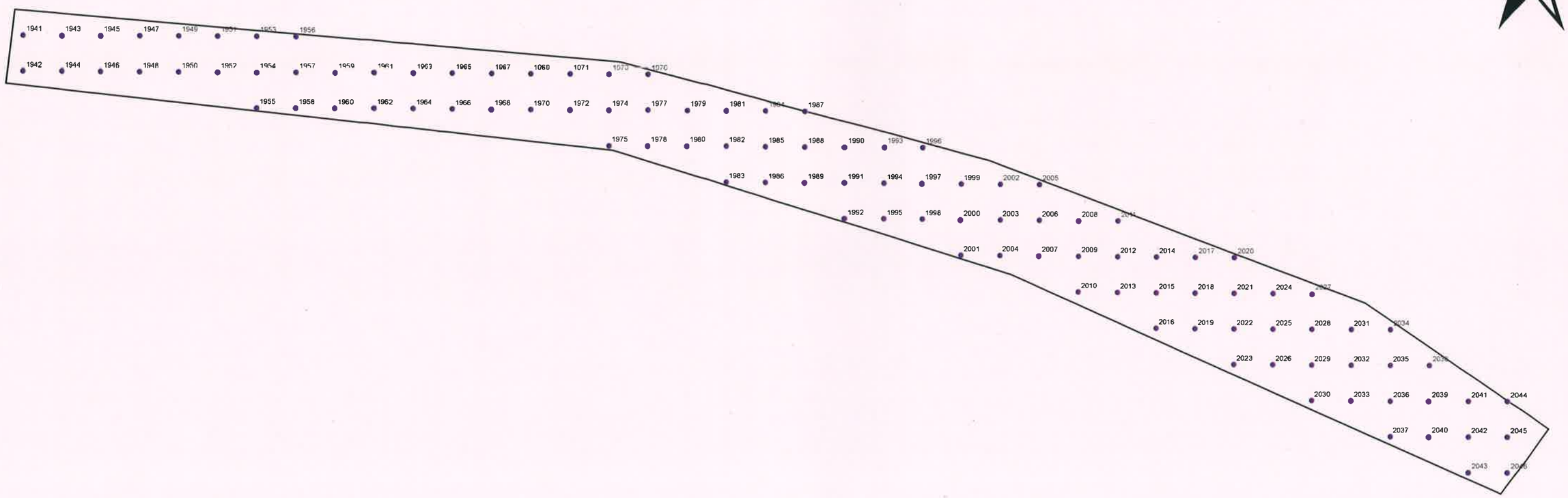
District Mining Officer
Godda.

0 50 100 200 300 400
Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In Chir River In Godda District

87°7'40"E

N



ABBREVIATION FORM		
District	GO	Godda
Zone	Z18	Zone 18
River	CHI	Chir

87°7'40"E

Legend

- Sand Ghat Boundary
- Sand Ghat Grid Points

Sand Ghat Code	Area (in Ha)
GO_Z18_CHI_13	1.06

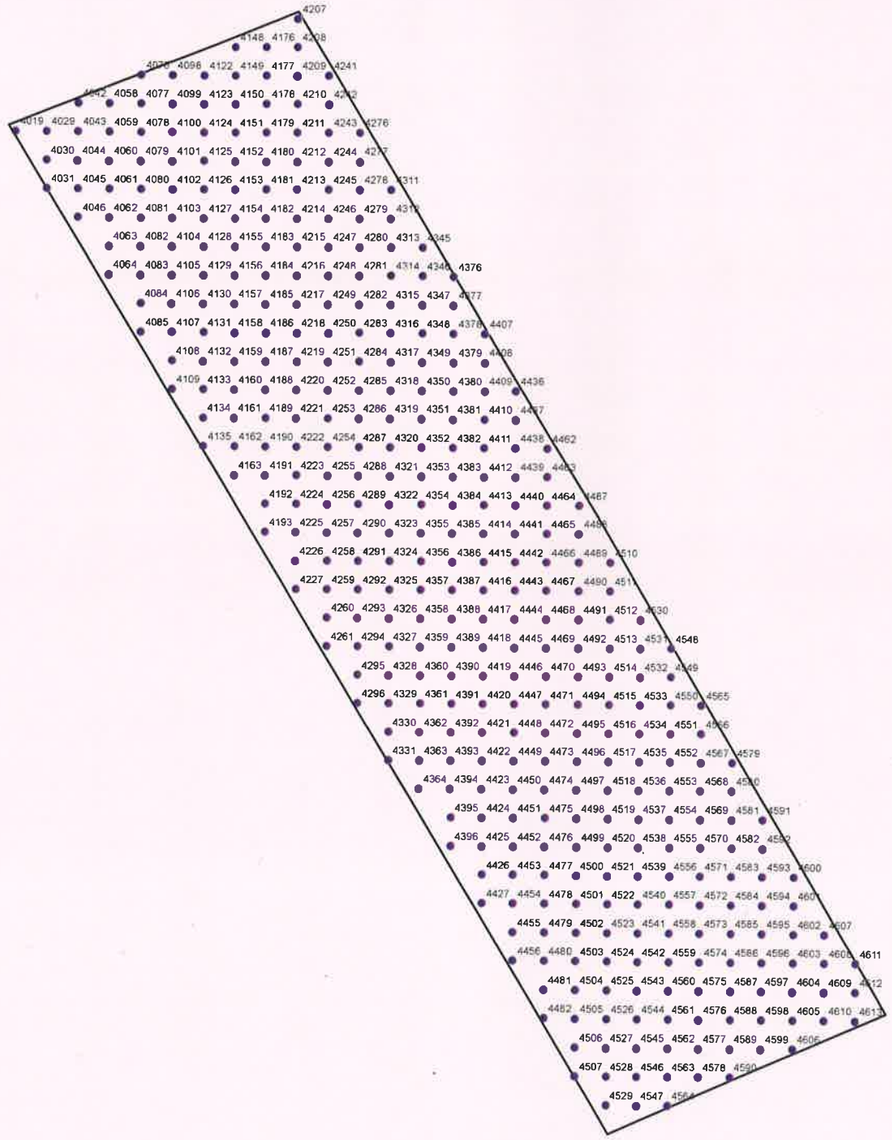
District Mining Officer,
Godda.

0 15 30 60 90 120
Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In Chir River In Godda District

87°9'20"E

24°54'0"N



N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z5	Zone 5
River	CHI	Chir

87°9'20"E

Legend

- Sand Ghat Boundary
- Sand Ghat Grid Points

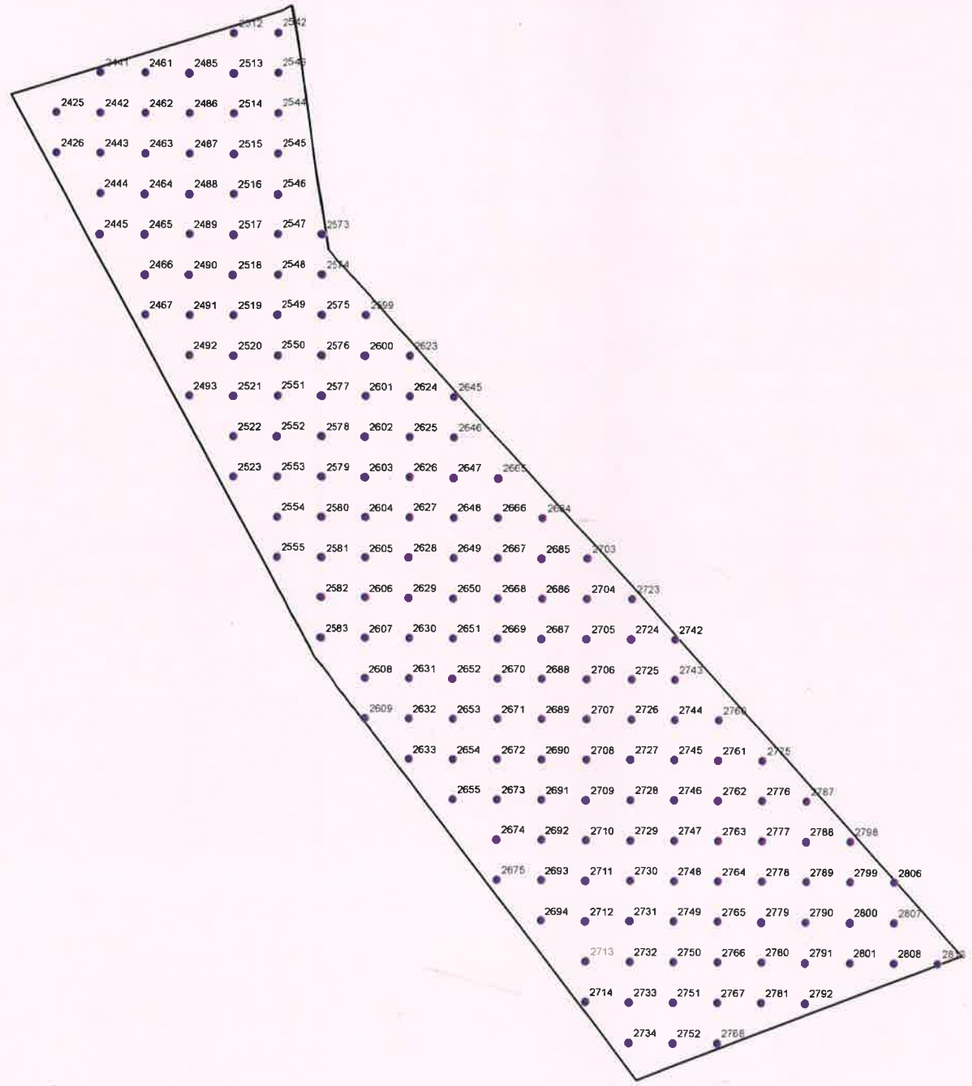
Sand Ghat Code	Area (in Ha)
GO_Z5_CHI_14	3.98

District Mining Officer,
Godda.

0 30 60 120 180 240 Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In Chir River In Godda District

87°8'40"E



N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z5	Zone 5
River	Chi	Chir

24°54'40"N

87°8'40"E

24°54'40"N

Legend

- Sand Ghat Boundary
- Sand Ghat Grid Points

Sand Ghat Code	Area (in Ha)
GO_Z5_CHI_15	1.81

District Mining Officer,
Godda.

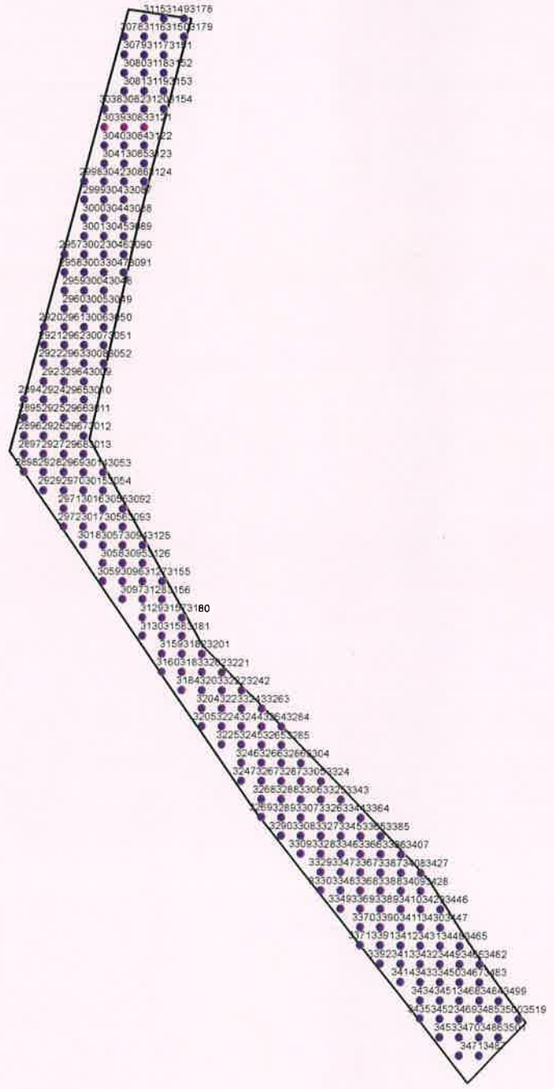
0 20 40 80 120 160
Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In Gerua River In Godda District

87°8'40"E

87°9'0"E

25°0'40"N



N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z2	Zone 2
River	GE	Gerua

87°8'40"E

87°9'0"E

Legend

- Sand Ghat Boundary
- Sand Ghat Grid Points

Sand Ghat Code	Area (in Ha)
GO_Z2_GE_16	2.36

0 50 100 200 300 400 Meters

District Mining Officer
Godda.

TABLE REPRESENTING ELEVATION (in m) WITH RESPECT TO 10m X 10m GRID WITHIN POTENTIAL SAND GHATS IN GODDA DISTRICT OF JHARKHAND

ANNEXURE - B17

FID	Sand Ghat Code	Latitude	Longitude	Elevation (in m)
0	GO_Z14_RIB_9	24° 46' 20.471" N	87° 5' 4.103" E	42.06
1	GO_Z14_RIB_9	24° 46' 20.146" N	87° 5' 4.103" E	42.30
2	GO_Z14_RIB_9	24° 46' 19.821" N	87° 5' 4.103" E	42.13
3	GO_Z14_RIB_9	24° 46' 19.496" N	87° 5' 4.102" E	42.25
4	GO_Z14_RIB_9	24° 46' 19.171" N	87° 5' 4.102" E	42.41
5	GO_Z14_RIB_9	24° 46' 18.846" N	87° 5' 4.102" E	42.47
6	GO_Z14_RIB_9	24° 46' 18.521" N	87° 5' 4.102" E	42.46
7	GO_Z14_RIB_9	24° 46' 18.195" N	87° 5' 4.102" E	42.51
8	GO_Z14_RIB_9	24° 46' 17.870" N	87° 5' 4.101" E	42.45
9	GO_Z14_RIB_9	24° 46' 17.545" N	87° 5' 4.101" E	42.45
10	GO_Z14_RIB_9	24° 46' 17.220" N	87° 5' 4.101" E	42.33
11	GO_Z14_RIB_9	24° 46' 16.895" N	87° 5' 4.101" E	42.79
12	GO_Z14_RIB_9	24° 46' 16.570" N	87° 5' 4.101" E	43.11
13	GO_Z14_RIB_9	24° 46' 16.245" N	87° 5' 4.100" E	42.85
14	GO_Z14_RIB_9	24° 46' 15.919" N	87° 5' 4.100" E	42.97
15	GO_Z14_RIB_9	24° 46' 15.594" N	87° 5' 4.100" E	42.74
16	GO_Z14_RIB_9	24° 46' 15.269" N	87° 5' 4.100" E	42.53
17	GO_Z14_RIB_9	24° 46' 14.944" N	87° 5' 4.099" E	42.62
18	GO_Z14_RIB_9	24° 46' 14.619" N	87° 5' 4.099" E	42.78
19	GO_Z14_RIB_9	24° 46' 14.294" N	87° 5' 4.099" E	42.72
20	GO_Z14_RIB_9	24° 46' 13.969" N	87° 5' 4.099" E	42.86
21	GO_Z14_RIB_9	24° 46' 13.644" N	87° 5' 4.099" E	42.78
22	GO_Z14_RIB_9	24° 46' 13.318" N	87° 5' 4.098" E	42.79
23	GO_Z14_RIB_9	24° 46' 12.993" N	87° 5' 4.098" E	43.06
24	GO_Z14_RIB_9	24° 46' 12.668" N	87° 5' 4.098" E	42.94
25	GO_Z14_RIB_9	24° 46' 12.343" N	87° 5' 4.098" E	43.37
26	GO_Z14_RIB_9	24° 46' 12.018" N	87° 5' 4.097" E	42.98
27	GO_Z14_RIB_9	24° 46' 11.693" N	87° 5' 4.097" E	42.97
28	GO_Z14_RIB_9	24° 46' 11.368" N	87° 5' 4.097" E	42.98
29	GO_Z14_RIB_9	24° 46' 11.043" N	87° 5' 4.097" E	43.45
30	GO_Z14_RIB_9	24° 46' 10.717" N	87° 5' 4.097" E	44.28
31	GO_Z14_RIB_9	24° 46' 10.392" N	87° 5' 4.096" E	43.89
32	GO_Z14_RIB_9	24° 46' 10.067" N	87° 5' 4.096" E	43.52
33	GO_Z14_RIB_9	24° 46' 9.742" N	87° 5' 4.096" E	45.04
34	GO_Z14_RIB_9	24° 46' 9.417" N	87° 5' 4.095" E	42.68
35	GO_Z14_RIB_9	24° 46' 9.092" N	87° 5' 4.095" E	43.56
36	GO_Z14_RIB_9	24° 46' 8.767" N	87° 5' 4.095" E	43.51
37	GO_Z14_RIB_9	24° 46' 8.442" N	87° 5' 4.095" E	42.71
38	GO_Z14_RIB_9	24° 46' 8.116" N	87° 5' 4.095" E	42.77
39	GO_Z14_RIB_9	24° 46' 7.791" N	87° 5' 4.095" E	42.83
40	GO_Z14_RIB_9	24° 46' 7.466" N	87° 5' 4.094" E	42.56
41	GO_Z14_RIB_9	24° 46' 7.141" N	87° 5' 4.094" E	42.77
42	GO_Z14_RIB_9	24° 46' 6.816" N	87° 5' 4.094" E	42.92
43	GO_Z14_RIB_9	24° 46' 6.491" N	87° 5' 4.094" E	43.02
44	GO_Z14_RIB_9	24° 46' 6.166" N	87° 5' 4.093" E	43.06
45	GO_Z14_RIB_9	24° 46' 5.840" N	87° 5' 4.093" E	43.16
46	GO_Z14_RIB_9	24° 46' 5.515" N	87° 5' 4.093" E	43.32
47	GO_Z14_RIB_9	24° 46' 5.190" N	87° 5' 4.093" E	43.22
48	GO_Z14_RIB_9	24° 46' 4.865" N	87° 5' 4.093" E	43.55
49	GO_Z14_RIB_9	24° 46' 20.471" N	87° 5' 4.459" E	42.53
50	GO_Z14_RIB_9	24° 46' 20.146" N	87° 5' 4.459" E	42.60
51	GO_Z14_RIB_9	24° 46' 19.821" N	87° 5' 4.459" E	42.59
52	GO_Z14_RIB_9	24° 46' 19.496" N	87° 5' 4.459" E	42.46
53	GO_Z14_RIB_9	24° 46' 19.171" N	87° 5' 4.458" E	42.53
54	GO_Z14_RIB_9	24° 46' 18.845" N	87° 5' 4.458" E	42.51
55	GO_Z14_RIB_9	24° 46' 18.520" N	87° 5' 4.458" E	42.64
56	GO_Z14_RIB_9	24° 46' 18.195" N	87° 5' 4.458" E	42.70
57	GO_Z14_RIB_9	24° 46' 17.870" N	87° 5' 4.457" E	42.76
58	GO_Z14_RIB_9	24° 46' 17.545" N	87° 5' 4.457" E	43.16
59	GO_Z14_RIB_9	24° 46' 17.220" N	87° 5' 4.457" E	42.53
60	GO_Z14_RIB_9	24° 46' 16.895" N	87° 5' 4.457" E	42.69
61	GO_Z14_RIB_9	24° 46' 16.570" N	87° 5' 4.457" E	42.83
62	GO_Z14_RIB_9	24° 46' 16.244" N	87° 5' 4.456" E	43.01
63	GO_Z14_RIB_9	24° 46' 15.919" N	87° 5' 4.456" E	43.08
64	GO_Z14_RIB_9	24° 46' 15.594" N	87° 5' 4.456" E	43.24
65	GO_Z14_RIB_9	24° 46' 15.269" N	87° 5' 4.456" E	42.97
66	GO_Z14_RIB_9	24° 46' 14.944" N	87° 5' 4.456" E	42.73
67	GO_Z14_RIB_9	24° 46' 14.619" N	87° 5' 4.455" E	42.70
68	GO_Z14_RIB_9	24° 46' 14.294" N	87° 5' 4.455" E	42.73
69	GO_Z14_RIB_9	24° 46' 13.969" N	87° 5' 4.455" E	42.79
70	GO_Z14_RIB_9	24° 46' 13.643" N	87° 5' 4.455" E	42.75
71	GO_Z14_RIB_9	24° 46' 13.318" N	87° 5' 4.454" E	42.59
72	GO_Z14_RIB_9	24° 46' 12.993" N	87° 5' 4.454" E	42.68
73	GO_Z14_RIB_9	24° 46' 12.668" N	87° 5' 4.454" E	43.54
74	GO_Z14_RIB_9	24° 46' 12.343" N	87° 5' 4.454" E	42.94
75	GO_Z14_RIB_9	24° 46' 12.018" N	87° 5' 4.454" E	42.99
76	GO_Z14_RIB_9	24° 46' 11.693" N	87° 5' 4.453" E	42.97
77	GO_Z14_RIB_9	24° 46' 11.367" N	87° 5' 4.453" E	42.77
78	GO_Z14_RIB_9	24° 46' 11.042" N	87° 5' 4.453" E	44.31
79	GO_Z14_RIB_9	24° 46' 10.717" N	87° 5' 4.453" E	42.61
80	GO_Z14_RIB_9	24° 46' 10.392" N	87° 5' 4.452" E	42.63
81	GO_Z14_RIB_9	24° 46' 10.067" N	87° 5' 4.452" E	43.10
82	GO_Z14_RIB_9	24° 46' 9.742" N	87° 5' 4.452" E	42.86
83	GO_Z14_RIB_9	24° 46' 9.417" N	87° 5' 4.452" E	42.71
84	GO_Z14_RIB_9	24° 46' 9.092" N	87° 5' 4.452" E	42.57
85	GO_Z14_RIB_9	24° 46' 8.766" N	87° 5' 4.451" E	42.54
86	GO_Z14_RIB_9	24° 46' 8.441" N	87° 5' 4.451" E	42.65
87	GO_Z14_RIB_9	24° 46' 8.116" N	87° 5' 4.451" E	42.66
88	GO_Z14_RIB_9	24° 46' 7.791" N	87° 5' 4.451" E	42.77
89	GO_Z14_RIB_9	24° 46' 7.466" N	87° 5' 4.450" E	42.70
90	GO_Z14_RIB_9	24° 46' 7.141" N	87° 5' 4.450" E	42.58
91	GO_Z14_RIB_9	24° 46' 6.816" N	87° 5' 4.450" E	42.89
92	GO_Z14_RIB_9	24° 46' 6.491" N	87° 5' 4.450" E	43.01
93	GO_Z14_RIB_9	24° 46' 6.165" N	87° 5' 4.450" E	43.08
94	GO_Z14_RIB_9	24° 46' 5.840" N	87° 5' 4.449" E	43.18
95	GO_Z14_RIB_9	24° 46' 5.515" N	87° 5' 4.449" E	43.09
96	GO_Z14_RIB_9	24° 46' 5.190" N	87° 5' 4.449" E	43.49
97	GO_Z14_RIB_9	24° 46' 4.865" N	87° 5' 4.449" E	43.64
98	GO_Z14_RIB_9	24° 46' 4.540" N	87° 5' 4.448" E	43.62
99	GO_Z14_RIB_9	24° 46' 4.215" N	87° 5' 4.448" E	43.98
100	GO_Z14_RIB_9	24° 46' 3.890" N	87° 5' 4.448" E	43.77
101	GO_Z14_RIB_9	24° 46' 3.564" N	87° 5' 4.448" E	43.54
102	GO_Z14_RIB_9	24° 46' 3.239" N	87° 5' 4.448" E	44.04
103	GO_Z14_RIB_9	24° 46' 2.914" N	87° 5' 4.447" E	44.18
104	GO_Z14_RIB_9	24° 46' 2.589" N	87° 5' 4.447" E	43.33
105	GO_Z14_RIB_9	24° 46' 2.264" N	87° 5' 4.447" E	43.83
106	GO_Z14_RIB_9	24° 46' 20.471" N	87° 5' 4.815" E	42.55
107	GO_Z14_RIB_9	24° 46' 20.146" N	87° 5' 4.815" E	42.62
108	GO_Z14_RIB_9	24° 46' 19.821" N	87° 5' 4.815" E	42.68
109	GO_Z14_RIB_9	24° 46' 19.495" N	87° 5' 4.815" E	42.74
110	GO_Z14_RIB_9	24° 46' 19.170" N	87° 5' 4.814" E	42.83
111	GO_Z14_RIB_9	24° 46' 18.845" N	87° 5' 4.814" E	42.85
112	GO_Z14_RIB_9	24° 46' 18.520" N	87° 5' 4.814" E	42.84
113	GO_Z14_RIB_9	24° 46' 18.195" N	87° 5' 4.814" E	42.81
114	GO_Z14_RIB_9	24° 46' 17.870" N	87° 5' 4.814" E	42.81
115	GO_Z14_RIB_9	24° 46' 17.545" N	87° 5' 4.813" E	42.78
116	GO_Z14_RIB_9	24° 46' 17.220" N	87° 5' 4.813" E	42.79
117	GO_Z14_RIB_9	24° 46' 16.894" N	87° 5' 4.813" E	42.95
118	GO_Z14_RIB_9	24° 46' 16.569" N	87° 5' 4.813" E	42.84
119	GO_Z14_RIB_9	24° 46' 16.244" N	87° 5' 4.812" E	42.94
120	GO_Z14_RIB_9	24° 46' 15.919" N	87° 5' 4.812" E	43.16
121	GO_Z14_RIB_9	24° 46' 15.594" N	87° 5' 4.812" E	43.04
122	GO_Z14_RIB_9	24° 46' 15.269" N	87° 5' 4.812" E	42.94
123	GO_Z14_RIB_9	24° 46' 14.944" N	87° 5' 4.812" E	43.08
124	GO_Z14_RIB_9	24° 46' 14.619" N	87° 5' 4.811" E	43.05
125	GO_Z14_RIB_9	24° 46' 14.293" N	87° 5' 4.811" E	42.84
126	GO_Z14_RIB_9	24° 46' 13.968" N	87° 5' 4.811" E	42.79
127	GO_Z14_RIB_9	24° 46' 13.643" N	87° 5' 4.811" E	42.93
128	GO_Z14_RIB_9	24° 46' 13.318" N	87° 5' 4.810" E	42.82
129	GO_Z14_RIB_9	24° 46' 12.993" N	87° 5' 4.810" E	42.82
130	GO_Z14_RIB_9	24° 46' 12.668" N	87° 5' 4.810" E	42.79
131	GO_Z14_RIB_9	24° 46' 12.343" N	87° 5' 4.810" E	42.93
132	GO_Z14_RIB_9	24° 46' 12.018" N	87° 5' 4.810" E	42.77
133	GO_Z14_RIB_9	24° 46' 11.692" N	87° 5' 4.809" E	43.28
134	GO_Z14_RIB_9	24° 46' 11.367" N	87° 5' 4.809" E	43.85
135	GO_Z14_RIB_9	24° 46' 11.042" N	87° 5' 4.809" E	44.41
136	GO_Z14_RIB_9	24° 46' 10.717" N	87° 5' 4.809" E	43.05
137	GO_Z14_RIB_9	24° 46' 10.392" N	87° 5' 4.809" E	43.87
138	GO_Z14_RIB_9	24° 46' 10.067" N	87° 5' 4.808" E	42.87
139	GO_Z14_RIB_9	24° 46' 9.742" N	87° 5' 4.808" E	42.64
140	GO_Z14_RIB_9	24° 46' 9.417" N	87° 5' 4.808" E	42.73
141	GO_Z14_RIB_9	24° 46' 9.091" N	87° 5' 4.808" E	42.73
142	GO_Z14_RIB_9	24° 46' 8.766" N	87° 5' 4.807" E	42.72
143	GO_Z14_RIB_9	24° 46' 8.441" N	87° 5' 4.807" E	42.68
144	GO_Z14_RIB_9	24° 46' 8.116" N	87° 5' 4.807" E	42.65
145	GO_Z14_RIB_9	24° 46' 7.791" N	87° 5' 4.807" E	42.74
146	GO_Z14_RIB_9	24° 46' 7.466" N	87° 5' 4.807" E	43.09
147	GO_Z14_RIB_9	24° 46' 7.141" N	87° 5' 4.806" E	42.81
148	GO_Z14_RIB_9	24° 46' 6.815" N	87° 5' 4.806" E	42.60
149	GO_Z14_RIB_9	24° 46' 6.490" N	87° 5' 4.806" E	43.81
150	GO_Z14_RIB_9	24° 46' 6.165" N	87° 5' 4.806" E	43.74
151	GO_Z14_RIB_9	24° 46' 5.840" N	87° 5' 4.805" E	43.87
152	GO_Z14_RIB_9	24° 46' 5.515" N	87° 5' 4.805" E	43.37
153	GO_Z14_RIB_9	24° 46' 5.190" N	87° 5' 4.805" E	43.16
154	GO_Z14_RIB_9	24° 46' 4.865" N	87° 5' 4.805" E	43.07
155	GO_Z14_RIB_9	24° 46' 4.540" N	87° 5' 4.805" E	43.09
156	GO_Z14_RIB_9	24° 46' 4.214" N	87° 5' 4.804" E	43.69
157	GO_Z14_RIB_9	24° 46' 3.889" N	87° 5' 4.804" E	43.69
158	GO_Z14_RIB_9	24° 46' 3.564" N	87° 5' 4.804" E	43.09
159	GO_Z14_RIB_9	24° 46' 3.239" N	87° 5' 4.804" E	43.64
160	GO_Z14_RIB_9	24° 46' 2.914" N	87° 5' 4.803" E	43.78
161	GO_Z14_RIB_9	24° 46' 2.589" N	87° 5' 4.803" E	43.82
162	GO_Z14_RIB_9	24° 46' 2.264" N	87° 5' 4.803" E	43.80
163	GO_Z14_RIB_9	24° 46' 1.939" N	87° 5' 4.803" E	44.05
164	GO_Z14_RIB_9	24° 46' 1.613" N	87° 5' 4.803" E	43.95
165	GO_Z14_RIB_9	24° 46' 1.288" N	87° 5' 4.802" E	44.25
166	GO_Z14_RIB_9	24° 46' 0.963" N	87° 5' 4.802" E	44.01
167	GO_Z14_RIB_9	24° 46' 0.638" N	87° 5' 4.802" E	44.59
168	GO_Z14_RIB_9	24° 46' 0.313" N	87° 5' 4.802" E	44.25
169	GO_Z14_RIB_9	24° 45' 59.988" N	87° 5' 4.801" E	44.58
170	GO_Z14_RIB_9	24° 45' 59.663" N	87° 5' 4.801" E	44.02
171	GO_Z14_RIB_9	24° 46' 20.471" N	87° 5' 5.171" E	42.69
172	GO_Z14_RIB_9	24° 46' 20.146" N	87° 5' 5.171" E	42.71
173	GO_Z14_RIB_9	24° 46' 19.820" N	87° 5' 5.171" E	42.73
174	GO_Z14_RIB_9	24° 46' 19.495" N	87° 5' 5.171" E	42.79
175	GO_Z14_RIB_9	24° 46' 19.170" N	87° 5' 5.171" E	42.88
176	GO_Z14_RIB_9	24° 46' 18.845" N	87° 5' 5.170" E	42.82
177	GO_Z14_RIB_9	24° 46' 18.520" N	87° 5' 5.170" E	42.83
178	GO_Z14_RIB_9	24° 46' 18.195" N	87° 5' 5.170" E	42.94
179	GO_Z14_RIB_9	24° 46' 17.870" N	87° 5' 5.170" E	42.83
180	GO_Z14_RIB_9	24° 46' 17.545" N	87° 5' 5.169" E	42.81
181	GO_Z14_RIB_9	24° 46' 17.219" N	87° 5' 5.169" E	42.83
182	GO_Z14_RIB_9	24° 46' 16.894" N	87° 5' 5.169" E	42.62
183	GO_Z14_RIB_9	24° 46' 16.569" N	87° 5' 5.169" E	42.79
184	GO_Z14_RIB_9	24° 46' 16.244" N	87° 5' 5.169" E	42.81
185	GO_Z14_RIB_9	24° 46' 15.919" N	87° 5' 5.168" E	43.40
186	GO_Z14_RIB_9	24° 46' 15.594" N	87° 5' 5.168" E	43.05
187	GO_Z14_RIB_9	24° 46' 15.269" N	87° 5' 5.168" E	43.06
188	GO_Z14_RIB_9	24° 46' 14.943" N	87° 5' 5.168" E	43.04
189	GO_Z14_RIB_9	24° 46' 14.618" N	87° 5' 5.167" E	43.01
190	GO_Z14_RIB_9	24° 46' 14.293" N	87° 5' 5.167" E	43.01
191	GO_Z14_RIB_9	24° 46' 13.968" N	87° 5' 5.167" E	42.98
192	GO_Z14_RIB_9	24° 46' 13.643" N	87° 5' 5.167" E	43.41
193	GO_Z14_RIB_9	24° 46' 13.318" N	87° 5' 5.167" E	42.96
194	GO_Z14_RIB_9	24° 46' 12.993" N	87° 5' 5.166" E	42.81
195	GO_Z14_RIB_9	24° 46' 12.668" N	87° 5' 5.166" E	42.75
196	GO_Z14_RIB_9	24° 46' 12.342" N	87° 5' 5.166" E	42.78
197	GO_Z14_RIB_9	24° 46' 12.017" N	87° 5' 5.166" E	42.88
198	GO_Z14_RIB_9	24° 46' 11.692" N	87° 5' 5.165" E	42.91
199	GO_Z14_RIB_9	24° 46' 11.367" N	87° 5' 5.165" E	42.82
200	GO_Z14_RIB_9	24° 46' 11.042" N	87° 5' 5.165" E	42.80
201	GO_Z14_RIB_9	24° 46' 10.717" N	87° 5' 5.165" E	42.83
202	GO_Z14_RIB_9	24° 46' 10.392" N	87° 5' 5.165" E	42.81
203	GO_Z14_RIB_9	24° 46' 10.067" N	87° 5' 5.164" E	42.89
204	GO_Z14_RIB_9	24° 46' 9.741" N	87° 5' 5.164" E	42.87
205	GO_Z14_RIB_9	24° 46' 9.416" N	87° 5' 5.164" E	42.75
206	GO_Z14_RIB_9	24° 46' 9.091" N	87° 5' 5.164" E	42.77
207	GO_Z14_RIB_9	24° 46' 8.766" N	87° 5' 5.163" E	42.66
208	GO_Z14_RIB_9	24° 46' 8.441" N	87° 5' 5.163" E	42.73
209	GO_Z14_RIB_9	24° 46' 8.116" N	87° 5' 5.163" E	42.68
210	GO_Z14_RIB_9	24° 46' 7.791" N	87° 5' 5.163" E	42.79
211	GO_Z14_RIB_9	24° 46' 7.466" N	87° 5' 5.163" E	42.86
212	GO_Z14_RIB_9	24° 46' 7.140" N	87° 5' 5.162" E	42.98
213	GO_Z14_RIB_9	24° 46' 6.815" N	87° 5' 5.162" E	43.01
214	GO_Z14_RIB_9	24° 46' 6.490" N	87° 5' 5.162" E	43.06
215	GO_Z14_RIB_9	24° 46' 6.165" N	87° 5' 5.162" E	42.96
216	GO_Z14_RIB_9	24° 46' 5.840" N	87° 5' 5.162" E	44.18
217	GO_Z14_RIB_9	24° 46' 5.515" N	87° 5' 5.161" E	43.17
218	GO_Z14_RIB_9	24° 46' 5.190" N	87° 5' 5.161" E	44.01
219	GO_Z14_RIB_9	24° 46' 4.864" N	87° 5' 5.161" E	43.09
220	GO_Z14_RIB_9	24° 46' 4.539" N	87° 5' 5.161" E	43.22
221	GO_Z14_RIB_9	24° 46' 4.214" N	87° 5' 5.160" E	43.67
222	GO_Z14_RIB_9	24° 46' 3.889" N	87° 5' 5.160" E	44.21
223	GO_Z14_RIB_9	24° 46' 3.564" N	87° 5' 5.160" E	43.93
224	GO_Z14_RIB_9	24° 46' 3.239" N	87° 5' 5.160" E	44.14
225	GO_Z14_RIB_9	24° 46' 2.914" N	87° 5' 5.160" E	44.54
226	GO_Z14_RIB_9	24° 46' 2.589" N	87° 5' 5.159" E	44.41
227	GO_Z14_RIB_9	24° 46' 2.263" N	87° 5' 5.159" E	43.85
228	GO_Z14_RIB_9	24° 46' 1.938" N	87° 5' 5.159" E	43.67
229	GO_Z14_RIB_9	24° 46' 1.613" N	87° 5' 5.159" E	43.58
230	GO_Z14_RIB_9	24° 46' 1.288" N	87° 5' 5.158" E	43.73
231	GO_Z14_RIB_9	24° 46' 0.963" N	87° 5' 5.158" E	44.00
232	GO_Z14_RIB_9	24° 46' 0.638" N	87° 5' 5.158" E	43.62
233	GO_Z14_RIB_9	24° 46' 0.313" N	87° 5' 5.158" E	43.68
234	GO_Z14_RIB_9	24° 45' 59.988" N	87° 5' 5.158" E	43.90
235	GO_Z14_RIB_9	24° 45' 59.662" N	87° 5' 5.157" E	44.30
236	GO_Z14_RIB_9	24° 45' 59.337" N	87° 5' 5.157" E	43.56
237	GO_Z14_RIB_9	24° 45' 59.012" N	87° 5' 5.157" E	43.82
238	GO_Z14_RIB_9	24° 45' 58.687" N	87° 5' 5.157" E	43.58
239	GO_Z14_RIB_9	24° 45' 58.362" N	87° 5' 5.156" E	44.14
240	GO_Z14_RIB_9	24° 45' 58.037" N	87° 5' 5.156" E	45.26
241	GO_Z14_RIB_9	24° 45' 57.712" N	87° 5' 5.156" E	45.18
242	GO_Z14_RIB_9	24° 45' 57.387" N	87° 5' 5.156" E	45.58
243	GO_Z14_RIB_9	24° 45' 57.061" N	87° 5' 5.156" E	45.45
244	GO_Z14_RIB_9	24° 46' 20.796" N	87° 5' 5.528" E	43.04
245	GO_Z14_RIB_9	24° 46' 20.470" N	87° 5' 5.528" E	43.06
246	GO_Z14_RIB_9	24° 46' 20.145" N	87° 5' 5.527" E	43.20
247	GO_Z14_RIB_9	24° 46' 19.820" N	87° 5' 5.527" E	43.11
248	GO_Z14_RIB_9	24° 46' 19.495" N	87° 5' 5.527" E	42.99
249	GO_Z14_RIB_9	24° 46' 19.170" N	87° 5' 5.527" E	43.02
250	GO_Z14_RIB_9	24° 46' 18.845" N	87° 5' 5.526" E	42.99
251	GO_Z14_RIB_9	24° 46' 18.520" N	87° 5' 5.526" E	42.99
252	GO_Z14_RIB_9	24° 46' 18.195" N	87° 5' 5.526" E	43.06
253	GO_Z14_RIB_9	24° 46' 17.869" N	87° 5' 5.526" E	43.15
254	GO_Z14_RIB_9	24° 46' 17.544" N	87° 5' 5.526" E	43.25
255	GO_Z14_RIB_9	24° 46' 17.219" N	87° 5' 5.525" E	42.88
256	GO_Z14_RIB_9	24° 46' 16.894" N	87° 5' 5.525" E	42.70
257	GO_Z14_RIB_9	24° 46' 16.569" N	87° 5' 5.525" E	42.82
258	GO_Z14_RIB_9	24° 46' 16.244" N	87° 5' 5.525" E	42.77
259	GO_Z14_RIB_9	24° 46' 15.919" N	87° 5' 5.524" E	42.90
260	GO_Z14_RIB_9	24° 46' 15.594" N	87° 5' 5.524" E	43.04
261	GO_Z14_RIB_9	24° 46' 15.268" N	87° 5' 5.524" E	44.07
262	GO_Z14_RIB_9	24° 46' 14.943" N	87° 5' 5.524" E	43.18
263	GO_Z14_RIB_9	24° 46' 14.618" N	87° 5' 5.524" E	43.32
264	GO_Z14_RIB_9	24° 46' 14.293" N	87° 5' 5.523" E	43.12
265	GO_Z14_RIB_9	24° 46' 13.968" N	87° 5' 5.523" E	43.12
266	GO_Z14_RIB_9	24° 46' 13.643" N	87° 5' 5.523" E	43.22
267	GO_Z14_RIB_9	24° 46' 13.318" N	87° 5' 5.523" E	43.07
268	GO_Z14_RIB_9	24° 46' 12.993" N	87° 5' 5.522" E	42.95
269	GO_Z14_RIB_9	24° 46' 12.667" N	87° 5' 5.522" E	42.95
270	GO_Z14_RIB_9	24° 46' 12.342" N	87° 5' 5.522" E	42.83
271	GO_Z14_RIB_9	24° 46' 12.017" N	87° 5' 5.522" E	42.80
272	GO_Z14_RIB_9	24° 46' 11.692" N	87° 5' 5.522" E	42.83
273	GO_Z14_RIB_9	24° 46' 11.367" N	87° 5' 5.521" E	42.78
274	GO_Z14_RIB_9	24° 46' 11.042" N	87° 5' 5.521" E	42.85
275	GO_Z14_RIB_9	24° 46' 10.717" N	87° 5' 5.521" E	42.90
276	GO_Z14_RIB_9	24° 46' 3.564" N	87° 5' 5.516" E	43.59
277	GO_Z14_RIB_9	24° 46' 3.239" N	87° 5' 5.516" E	43.53
278	GO_Z14_RIB_9	24° 46' 2.914" N	87° 5' 5.516" E	44.42
279	GO_Z14_RIB_9	24° 46' 2.588" N	87° 5' 5.515" E	44.13
280	GO_Z14_RIB_9	24° 46' 2.263" N	87° 5' 5.515" E	44.45
281	GO_Z14_RIB_9	24° 46' 1.938" N	87° 5' 5.515" E	44.18
282	GO_Z14_RIB_9	24° 46' 1.613" N	87° 5' 5.515" E	44.08
283	GO_Z14_RIB_9	24° 46' 1.288" N	87° 5' 5.515" E	44.63
284	GO_Z14_RIB_9	24° 46' 0.963" N	87° 5' 5.514" E	45.17
285	GO_Z14_RIB_9	24° 46' 0.638" N	87° 5' 5.514" E	44.72
286	GO_Z14_RIB_9	24° 46' 0.312" N	87° 5' 5.514" E	44.74
287	GO_Z14_RIB_9	24° 45' 59.987" N	87° 5' 5.514" E	44.44
288	GO_Z14_RIB_9	24° 45' 59.662" N	87° 5' 5.513" E	44.47
289	GO_Z14_RIB_9	24° 45' 59.337" N	87° 5' 5.513" E	44.86
290	GO_Z14_RIB_9	24° 45' 59.012" N	87° 5' 5.513" E	44.15
291	GO_Z14_RIB_9	24° 45' 58.687" N	87° 5' 5.513" E	45.53
292	GO_Z14_RIB_9	24° 45' 58.362" N	87° 5' 5.513" E	44.66
293	GO_Z14_RIB_9	24° 45' 58.037" N	87° 5' 5.512" E	44.88
294	GO_Z14_RIB_9	24° 45' 57.711" N	87° 5' 5.512" E	44.67
295	GO_Z14_RIB_9	24° 45' 57.386" N	87° 5' 5.512" E	44.58
296	GO_Z14_RIB_9	24° 45' 57.061" N	87° 5' 5.512" E	45.22
297	GO_Z14_RIB_9	24° 45' 56.736" N	87° 5' 5.511" E	44.85
298	GO_Z14_RIB_9	24° 45' 56.411" N	87° 5' 5.511" E	44.53
299	GO_Z14_RIB_9	24° 45' 56.086" N	87° 5' 5.511" E	44.35
300	GO_Z14_RIB_9	24° 45' 55.761" N	87° 5' 5.511" E	44.14
301	GO_Z14_RIB_9	24° 45' 55.436" N	87° 5' 5.511" E	44.36
302	GO_Z14_RIB_9	24° 45' 55.110" N	87° 5' 5.510" E	44.67
303	GO_Z14_RIB_9	24° 45' 54.785" N	87° 5' 5.510" E	44.57
304	GO_Z14_RIB_9	24° 46' 20.795" N	87° 5' 5.884" E	43.12

TABLE REPRESENTING ELEVATION (in m) WITH RESPECT TO 10m X 10m GRID WITHIN POTENTIAL SAND GHATS IN GODDA DISTRICT OF JHARKHAND

ANNEXURE - B17

598	GO_Z14_RIB_9	24° 45' 52.833" N	87° 5' 8.713" E	44.58
599	GO_Z14_RIB_9	24° 45' 52.508" N	87° 5' 8.713" E	43.51
600	GO_Z14_RIB_9	24° 45' 52.182" N	87° 5' 8.713" E	43.39
601	GO_Z14_RIB_9	24° 45' 51.857" N	87° 5' 8.713" E	43.63
602	GO_Z14_RIB_9	24° 45' 51.532" N	87° 5' 8.713" E	44.05
603	GO_Z14_RIB_9	24° 45' 51.207" N	87° 5' 8.712" E	43.67
604	GO_Z14_RIB_9	24° 45' 50.882" N	87° 5' 8.712" E	44.01
605	GO_Z14_RIB_9	24° 45' 50.557" N	87° 5' 8.712" E	44.84
606	GO_Z14_RIB_9	24° 45' 50.232" N	87° 5' 8.712" E	44.69
607	GO_Z14_RIB_9	24° 45' 49.907" N	87° 5' 8.711" E	44.67
608	GO_Z14_RIB_9	24° 45' 49.581" N	87° 5' 8.711" E	44.48
609	GO_Z14_RIB_9	24° 45' 49.256" N	87° 5' 8.711" E	45.00
610	GO_Z14_RIB_9	24° 45' 48.931" N	87° 5' 8.711" E	44.65
611	GO_Z14_RIB_9	24° 45' 48.606" N	87° 5' 8.711" E	44.96
612	GO_Z14_RIB_9	24° 45' 48.281" N	87° 5' 8.710" E	44.86
613	GO_Z14_RIB_9	24° 45' 47.956" N	87° 5' 8.710" E	44.89
614	GO_Z14_RIB_9	24° 45' 47.631" N	87° 5' 8.710" E	44.70
615	GO_Z14_RIB_9	24° 45' 47.305" N	87° 5' 8.710" E	44.83
616	GO_Z14_RIB_9	24° 45' 46.980" N	87° 5' 8.709" E	44.98
617	GO_Z14_RIB_9	24° 45' 46.655" N	87° 5' 8.709" E	45.29
618	GO_Z14_RIB_9	24° 45' 46.330" N	87° 5' 8.709" E	45.79
619	GO_Z14_RIB_9	24° 45' 46.005" N	87° 5' 8.709" E	46.87
620	GO_Z14_RIB_9	24° 45' 45.680" N	87° 5' 8.709" E	46.75
621	GO_Z14_RIB_9	24° 45' 52.507" N	87° 5' 9.069" E	44.40
622	GO_Z14_RIB_9	24° 45' 52.182" N	87° 5' 9.069" E	43.62
623	GO_Z14_RIB_9	24° 45' 51.857" N	87° 5' 9.069" E	45.40
624	GO_Z14_RIB_9	24° 45' 51.532" N	87° 5' 9.069" E	43.70
625	GO_Z14_RIB_9	24° 45' 51.207" N	87° 5' 9.068" E	43.67
626	GO_Z14_RIB_9	24° 45' 50.882" N	87° 5' 9.068" E	43.51
627	GO_Z14_RIB_9	24° 45' 50.557" N	87° 5' 9.068" E	43.48
628	GO_Z14_RIB_9	24° 45' 50.231" N	87° 5' 9.068" E	44.28
629	GO_Z14_RIB_9	24° 45' 49.906" N	87° 5' 9.068" E	44.61
630	GO_Z14_RIB_9	24° 45' 49.581" N	87° 5' 9.067" E	44.35
631	GO_Z14_RIB_9	24° 45' 49.256" N	87° 5' 9.067" E	44.89
632	GO_Z14_RIB_9	24° 45' 48.931" N	87° 5' 9.067" E	44.88
633	GO_Z14_RIB_9	24° 45' 48.606" N	87° 5' 9.067" E	44.84
634	GO_Z14_RIB_9	24° 45' 48.281" N	87° 5' 9.066" E	44.70
635	GO_Z14_RIB_9	24° 45' 47.956" N	87° 5' 9.066" E	44.58
636	GO_Z14_RIB_9	24° 45' 47.630" N	87° 5' 9.066" E	44.77
637	GO_Z14_RIB_9	24° 45' 47.305" N	87° 5' 9.066" E	44.77
638	GO_Z14_RIB_9	24° 45' 46.980" N	87° 5' 9.066" E	44.92
639	GO_Z14_RIB_9	24° 45' 46.655" N	87° 5' 9.065" E	44.75
640	GO_Z14_RIB_9	24° 45' 46.330" N	87° 5' 9.065" E	45.49
641	GO_Z14_RIB_9	24° 45' 46.005" N	87° 5' 9.065" E	46.42
642	GO_Z14_RIB_9	24° 45' 45.680" N	87° 5' 9.065" E	44.77
643	GO_Z14_RIB_9	24° 45' 45.355" N	87° 5' 9.064" E	44.87
644	GO_Z14_RIB_9	24° 45' 51.532" N	87° 5' 9.425" E	43.86
645	GO_Z14_RIB_9	24° 45' 51.207" N	87° 5' 9.425" E	43.93
646	GO_Z14_RIB_9	24° 45' 50.882" N	87° 5' 9.424" E	44.13
647	GO_Z14_RIB_9	24° 45' 50.556" N	87° 5' 9.424" E	45.69
648	GO_Z14_RIB_9	24° 45' 50.231" N	87° 5' 9.424" E	44.40
649	GO_Z14_RIB_9	24° 45' 49.906" N	87° 5' 9.424" E	43.92
650	GO_Z14_RIB_9	24° 45' 49.581" N	87° 5' 9.423" E	44.64
651	GO_Z14_RIB_9	24° 45' 49.256" N	87° 5' 9.423" E	44.57
652	GO_Z14_RIB_9	24° 45' 48.931" N	87° 5' 9.423" E	44.83
653	GO_Z14_RIB_9	24° 45' 48.606" N	87° 5' 9.423" E	44.86
654	GO_Z14_RIB_9	24° 45' 48.280" N	87° 5' 9.423" E	44.77
655	GO_Z14_RIB_9	24° 45' 47.955" N	87° 5' 9.422" E	45.62
656	GO_Z14_RIB_9	24° 45' 47.630" N	87° 5' 9.422" E	44.84
657	GO_Z14_RIB_9	24° 45' 47.305" N	87° 5' 9.422" E	45.37
658	GO_Z14_RIB_9	24° 45' 46.980" N	87° 5' 9.422" E	45.64
659	GO_Z14_RIB_9	24° 45' 46.655" N	87° 5' 9.421" E	45.74
660	GO_Z14_RIB_9	24° 45' 46.330" N	87° 5' 9.421" E	45.75
661	GO_Z14_RIB_9	24° 45' 46.005" N	87° 5' 9.421" E	44.96
662	GO_Z14_RIB_9	24° 45' 45.679" N	87° 5' 9.421" E	45.02
663	GO_Z14_RIB_9	24° 45' 45.354" N	87° 5' 9.420" E	44.99
664	GO_Z14_RIB_9	24° 45' 45.029" N	87° 5' 9.420" E	44.99
665	GO_Z14_RIB_9	24° 45' 51.206" N	87° 5' 9.781" E	43.79
666	GO_Z14_RIB_9	24° 45' 50.881" N	87° 5' 9.780" E	43.73
667	GO_Z14_RIB_9	24° 45' 50.556" N	87° 5' 9.780" E	43.86
668	GO_Z14_RIB_9	24° 45' 50.231" N	87° 5' 9.780" E	44.66
669	GO_Z14_RIB_9	24° 45' 49.906" N	87° 5' 9.780" E	44.28
670	GO_Z14_RIB_9	24° 45' 49.581" N	87° 5' 9.779" E	43.87
671	GO_Z14_RIB_9	24° 45' 49.256" N	87° 5' 9.779" E	44.30
672	GO_Z14_RIB_9	24° 45' 48.931" N	87° 5' 9.779" E	44.53
673	GO_Z14_RIB_9	24° 45' 48.605" N	87° 5' 9.779" E	44.41
674	GO_Z14_RIB_9	24° 45' 48.280" N	87° 5' 9.779" E	44.82
675	GO_Z14_RIB_9	24° 45' 47.955" N	87° 5' 9.778" E	45.17
676	GO_Z14_RIB_9	24° 45' 47.630" N	87° 5' 9.778" E	44.72
677	GO_Z14_RIB_9	24° 45' 47.305" N	87° 5' 9.778" E	44.69
678	GO_Z14_RIB_9	24° 45' 46.980" N	87° 5' 9.778" E	44.86
679	GO_Z14_RIB_9	24° 45' 46.655" N	87° 5' 9.777" E	44.97
680	GO_Z14_RIB_9	24° 45' 46.329" N	87° 5' 9.777" E	45.12
681	GO_Z14_RIB_9	24° 45' 46.004" N	87° 5' 9.777" E	45.29
682	GO_Z14_RIB_9	24° 45' 45.679" N	87° 5' 9.777" E	45.23
683	GO_Z14_RIB_9	24° 45' 45.354" N	87° 5' 9.777" E	45.56
684	GO_Z14_RIB_9	24° 45' 45.029" N	87° 5' 9.776" E	44.95
685	GO_Z14_RIB_9	24° 45' 44.704" N	87° 5' 9.776" E	45.99
686	GO_Z14_RIB_9	24° 45' 44.379" N	87° 5' 9.776" E	46.48
687	GO_Z14_RIB_9	24° 45' 50.881" N	87° 5' 10.136" E	44.23
688	GO_Z14_RIB_9	24° 45' 50.556" N	87° 5' 10.136" E	43.88
689	GO_Z14_RIB_9	24° 45' 50.231" N	87° 5' 10.136" E	43.81
690	GO_Z14_RIB_9	24° 45' 49.906" N	87° 5' 10.136" E	43.84
691	GO_Z14_RIB_9	24° 45' 49.581" N	87° 5' 10.136" E	43.52
692	GO_Z14_RIB_9	24° 45' 49.255" N	87° 5' 10.135" E	44.74
693	GO_Z14_RIB_9	24° 45' 48.930" N	87° 5' 10.135" E	44.08
694	GO_Z14_RIB_9	24° 45' 48.605" N	87° 5' 10.135" E	43.76
695	GO_Z14_RIB_9	24° 45' 48.280" N	87° 5' 10.135" E	44.63
696	GO_Z14_RIB_9	24° 45' 47.955" N	87° 5' 10.134" E	45.38
697	GO_Z14_RIB_9	24° 45' 47.630" N	87° 5' 10.134" E	44.53
698	GO_Z14_RIB_9	24° 45' 47.305" N	87° 5' 10.134" E	45.25
699	GO_Z14_RIB_9	24° 45' 46.980" N	87° 5' 10.134" E	45.81
700	GO_Z14_RIB_9	24° 45' 46.654" N	87° 5' 10.134" E	44.94
701	GO_Z14_RIB_9	24° 45' 46.329" N	87° 5' 10.133" E	45.49
702	GO_Z14_RIB_9	24° 45' 46.004" N	87° 5' 10.133" E	44.69
703	GO_Z14_RIB_9	24° 45' 45.679" N	87° 5' 10.133" E	46.29
704	GO_Z14_RIB_9	24° 45' 45.354" N	87° 5' 10.133" E	46.82
705	GO_Z14_RIB_9	24° 45' 45.029" N	87° 5' 10.132" E	45.64
706	GO_Z14_RIB_9	24° 45' 44.704" N	87° 5' 10.132" E	46.26
707	GO_Z14_RIB_9	24° 45' 44.379" N	87° 5' 10.132" E	45.17
708	GO_Z14_RIB_9	24° 45' 44.053" N	87° 5' 10.132" E	45.92
709	GO_Z14_RIB_9	24° 45' 50.556" N	87° 5' 10.492" E	44.29
710	GO_Z14_RIB_9	24° 45' 50.231" N	87° 5' 10.492" E	44.53
711	GO_Z14_RIB_9	24° 45' 49.906" N	87° 5' 10.492" E	44.45
712	GO_Z14_RIB_9	24° 45' 49.580" N	87° 5' 10.492" E	44.02
713	GO_Z14_RIB_9	24° 45' 49.255" N	87° 5' 10.491" E	43.54
714	GO_Z14_RIB_9	24° 45' 48.930" N	87° 5' 10.491" E	44.03
715	GO_Z14_RIB_9	24° 45' 48.605" N	87° 5' 10.491" E	44.19
716	GO_Z14_RIB_9	24° 45' 48.280" N	87° 5' 10.491" E	44.50
717	GO_Z14_RIB_9	24° 45' 47.955" N	87° 5' 10.491" E	44.29
718	GO_Z14_RIB_9	24° 45' 47.630" N	87° 5' 10.490" E	45.11
719	GO_Z14_RIB_9	24° 45' 47.304" N	87° 5' 10.490" E	44.30
720	GO_Z14_RIB_9	24° 45' 46.979" N	87° 5' 10.490" E	46.09
721	GO_Z14_RIB_9	24° 45' 46.654" N	87° 5' 10.490" E	46.14
722	GO_Z14_RIB_9	24° 45' 46.329" N	87° 5' 10.489" E	44.79
723	GO_Z14_RIB_9	24° 45' 46.004" N	87° 5' 10.489" E	45.65
724	GO_Z14_RIB_9	24° 45' 45.679" N	87° 5' 10.489" E	46.56
725	GO_Z14_RIB_9	24° 45' 45.354" N	87° 5' 10.489" E	44.80
726	GO_Z14_RIB_9	24° 45' 45.029" N	87° 5' 10.488" E	46.01
727	GO_Z14_RIB_9	24° 45' 44.703" N	87° 5' 10.488" E	45.54
728	GO_Z14_RIB_9	24° 45' 44.378" N	87° 5' 10.488" E	45.76
729	GO_Z14_RIB_9	24° 45' 44.053" N	87° 5' 10.488" E	45.06
730	GO_Z14_RIB_9	24° 45' 43.728" N	87° 5' 10.488" E	45.08
731	GO_Z14_RIB_9	24° 45' 43.403" N	87° 5' 10.487" E	45.16
732	GO_Z14_RIB_9	24° 45' 50.230" N	87° 5' 10.848" E	44.25
733	GO_Z14_RIB_9	24° 45' 49.905" N	87° 5' 10.848" E	44.54
734	GO_Z14_RIB_9	24° 45' 49.580" N	87° 5' 10.848" E	44.37
735	GO_Z14_RIB_9	24° 45' 49.255" N	87° 5' 10.847" E	44.79
736	GO_Z14_RIB_9	24° 45' 48.930" N	87° 5' 10.847" E	44.62
737	GO_Z14_RIB_9	24° 45' 48.605" N	87° 5' 10.847" E	44.32
738	GO_Z14_RIB_9	24° 45' 48.280" N	87° 5' 10.847" E	45.86
739	GO_Z14_RIB_9	24° 45' 47.955" N	87° 5' 10.847" E	44.38
740	GO_Z14_RIB_9	24° 45' 47.629" N	87° 5' 10.846" E	44.87
741	GO_Z14_RIB_9	24° 45' 47.304" N	87° 5' 10.846" E	44.68
742	GO_Z14_RIB_9	24° 45' 46.979" N	87° 5' 10.846" E	44.49
743	GO_Z14_RIB_9	24° 45' 46.654" N	87° 5' 10.846" E	44.29
744	GO_Z14_RIB_9	24° 45' 46.329" N	87° 5' 10.845" E	46.83
745	GO_Z14_RIB_9	24° 45' 46.004" N	87° 5' 10.845" E	45.51
746	GO_Z14_RIB_9	24° 45' 45.679" N	87° 5' 10.845" E	45.77
747	GO_Z14_RIB_9	24° 45' 45.353" N	87° 5' 10.845" E	45.67
748	GO_Z14_RIB_9	24° 45' 45.028" N	87° 5' 10.845" E	46.46
749	GO_Z14_RIB_9	24° 45' 44.703" N	87° 5' 10.844" E	45.14
750	GO_Z14_RIB_9	24° 45' 44.378" N	87° 5' 10.844" E	45.15
751	GO_Z14_RIB_9	24° 45' 44.053" N	87° 5' 10.844" E	44.95
752	GO_Z14_RIB_9	24° 45' 43.728" N	87° 5' 10.844" E	44.97
753	GO_Z14_RIB_9	24° 45' 43.403" N	87° 5' 10.843" E	45.38
754	GO_Z14_RIB_9	24° 45' 43.078" N	87° 5' 10.843" E	45.57
755	GO_Z14_RIB_9	24° 45' 49.905" N	87° 5' 11.204" E	44.22
756	GO_Z14_RIB_9	24° 45' 49.580" N	87° 5' 11.204" E	44.47
757	GO_Z14_RIB_9	24° 45' 49.255" N	87° 5' 11.204" E	44.86
758	GO_Z14_RIB_9	24° 45' 48.930" N	87° 5' 11.203" E	43.70
759	GO_Z14_RIB_9	24° 45' 48.605" N	87° 5' 11.203" E	44.37
760	GO_Z14_RIB_9	24° 45' 48.279" N	87° 5' 11.203" E	43.92
761	GO_Z14_RIB_9	24° 45' 47.954" N	87° 5' 11.203" E	44.50
762	GO_Z14_RIB_9	24° 45' 47.629" N	87° 5' 11.202" E	44.54
763	GO_Z14_RIB_9	24° 45' 47.304" N	87° 5' 11.202" E	44.65
764	GO_Z14_RIB_9	24° 45' 46.979" N	87° 5' 11.202" E	44.79
765	GO_Z14_RIB_9	24° 45' 46.654" N	87° 5' 11.202" E	45.24
766	GO_Z14_RIB_9	24° 45' 46.329" N	87° 5' 11.202" E	44.77
767	GO_Z14_RIB_9	24° 45' 46.004" N	87° 5' 11.201" E	44.36
768	GO_Z14_RIB_9	24° 45' 45.678" N	87° 5' 11.201" E	45.02
769	GO_Z14_RIB_9	24° 45' 45.353" N	87° 5' 11.201" E	46.21
770	GO_Z14_RIB_9	24° 45' 45.028" N	87° 5' 11.201" E	44.98
771	GO_Z14_RIB_9	24° 45' 44.703" N	87° 5' 11.200" E	45.00
772	GO_Z14_RIB_9	24° 45' 44.378" N	87° 5' 11.200" E	45.04
773	GO_Z14_RIB_9	24° 45' 44.053" N	87° 5' 11.200" E	45.00
774	GO_Z14_RIB_9	24° 45' 43.728" N	87° 5' 11.200" E	44.62
775	GO_Z14_RIB_9	24° 45' 43.403" N	87° 5' 11.200" E	44.89
776	GO_Z14_RIB_9	24° 45' 43.077" N	87° 5' 11.199" E	45.35
777	GO_Z14_RIB_9	24° 45' 42.752" N	87° 5' 11.199" E	45.53
778	GO_Z14_RIB_9	24° 45' 49.580" N	87° 5' 11.560" E	44.74
779	GO_Z14_RIB_9	24° 45' 49.255" N	87° 5' 11.560" E	44.72
780	GO_Z14_RIB_9	24° 45' 48.929" N	87° 5' 11.559" E	44.29
781	GO_Z14_RIB_9	24° 45' 48.604" N	87° 5' 11.559" E	43.72
782	GO_Z14_RIB_9	24° 45' 48.279" N	87° 5' 11.559" E	44.43
783	GO_Z14_RIB_9	24° 45' 47.954" N	87° 5' 11.559" E	44.44
784	GO_Z14_RIB_9	24° 45' 47.629" N	87° 5' 11.559" E	44.49
785	GO_Z14_RIB_9	24° 45' 47.304" N	87° 5' 11.558" E	44.81
786	GO_Z14_RIB_9	24° 45' 46.979" N	87° 5' 11.558" E	44.86
787	GO_Z14_RIB_9	24° 45' 46.654" N	87° 5' 11.558" E	46.13
788	GO_Z14_RIB_9	24° 45' 46.328" N	87° 5' 11.558" E	44.84
789	GO_Z14_RIB_9	24° 45' 46.003" N	87° 5' 11.557" E	44.88
790	GO_Z14_RIB_9	24° 45' 45.678" N	87° 5' 11.557" E	44.73
791	GO_Z14_RIB_9	24° 45' 45.353" N	87° 5' 11.557" E	44.80
792	GO_Z14_RIB_9	24° 45' 45.028" N	87° 5' 11.557" E	44.31
793	GO_Z14_RIB_9	24° 45' 44.703" N	87° 5' 11.556" E	44.58
794	GO_Z14_RIB_9	24° 45' 44.378" N	87° 5' 11.556" E	45.17
795	GO_Z14_RIB_9	24° 45' 44.053" N	87° 5' 11.556" E	44.87
796	GO_Z14_RIB_9	24° 45' 43.727" N	87° 5' 11.556" E	46.15
797	GO_Z14_RIB_9	24° 45' 43.402" N	87° 5' 11.556" E	46.73
798	GO_Z14_RIB_9	24° 45' 43.077" N	87° 5' 11.555" E	45.09
799	GO_Z14_RIB_9	24° 45' 42.752" N	87° 5' 11.555" E	46.04
800	GO_Z14_RIB_9	24° 45' 42.427" N	87° 5' 11.555" E	45.11
801	GO_Z14_RIB_9	24° 45' 42.102" N	87° 5' 11.555" E	45.59
802	GO_Z14_RIB_9	24° 45' 49.254" N	87° 5' 11.916" E	44.97
803	GO_Z14_RIB_9	24° 45' 48.929" N	87° 5' 11.915" E	45.39
804	GO_Z14_RIB_9	24° 45' 48.604" N	87° 5' 11.915" E	44.38
805	GO_Z14_RIB_9	24° 45' 48.279" N	87° 5' 11.915" E	44.07
806	GO_Z14_RIB_9	24° 45' 47.954" N	87° 5' 11.915" E	44.96
807	GO_Z14_RIB_9	24° 45' 47.629" N	87° 5' 11.915" E	44.57
808	GO_Z14_RIB_9	24° 45' 47.304" N	87° 5' 11.914" E	44.81
809	GO_Z14_RIB_9	24° 45' 46.979" N	87° 5' 11.914" E	44.78
810	GO_Z14_RIB_9	24° 45' 46.653" N	87° 5' 11.914" E	44.58
811	GO_Z14_RIB_9	24° 45' 46.328" N	87° 5' 11.914" E	44.83
812	GO_Z14_RIB_9	24° 45' 46.003" N	87° 5' 11.913" E	44.49
813	GO_Z14_RIB_9	24° 45' 45.678" N	87° 5' 11.913" E	44.99
814	GO_Z14_RIB_9	24° 45' 45.353" N	87° 5' 11.913" E	45.13
815	GO_Z14_RIB_9	24° 45' 45.028" N	87° 5' 11.913" E	44.96
816	GO_Z14_RIB_9	24° 45' 44.703" N	87° 5' 11.913" E	45.58
817	GO_Z14_RIB_9	24° 45' 44.377" N	87° 5' 11.912" E	45.10
818	GO_Z14_RIB_9	24° 45' 44.052" N	87° 5' 11.912" E	45.35
819	GO_Z14_RIB_9	24° 45' 43.727" N	87° 5' 11.912" E	45.77
820	GO_Z14_RIB_9	24° 45' 43.402" N	87° 5' 11.912" E	45.12
821	GO_Z14_RIB_9	24° 45' 43.077" N	87° 5' 11.911" E	45.29
822	GO_Z14_RIB_9	24° 45' 42.752" N	87° 5' 11.911" E	45.85
823	GO_Z14_RIB_9	24° 45' 42.427" N	87° 5' 11.911" E	46.55
824	GO_Z14_RIB_9	24° 45' 42.102" N	87° 5' 11.911" E	45.80
825	GO_Z14_RIB_9	24° 45' 41.776" N	87° 5' 11.911" E	45.46
826	GO_Z14_RIB_9	24° 45' 48.929" N	87° 5' 12.272" E	44.94
827	GO_Z14_RIB_9	24° 45' 48.604" N	87° 5' 12.271" E	44.84
828	GO_Z14_RIB_9	24° 45' 48.279" N	87° 5' 12.271" E	43.73
829	GO_Z14_RIB_9	24° 45' 47.954" N	87° 5' 12.271" E	45.88
830	GO_Z14_RIB_9	24° 45' 47.629" N	87° 5' 12.271" E	44.82
831	GO_Z14_RIB_9	24° 45' 47.303" N	87° 5' 12.270" E	45.00
832	GO_Z14_RIB_9	24° 45' 46.978" N	87° 5' 12.270" E	44.74
833	GO_Z14_RIB_9	24° 45' 46.653" N	87° 5' 12.270" E	44.83
834	GO_Z14_RIB_9	24° 45' 46.328" N	87° 5' 12.270" E	45.00
835	GO_Z14_RIB_9	24° 45' 46.003" N	87° 5' 12.270" E	45.30
836	GO_Z14_RIB_9	24° 45' 45.678" N	87° 5' 12.269" E	45.20
837	GO_Z14_RIB_9	24° 45' 45.353" N	87° 5' 12.269" E	45.17
838	GO_Z14_RIB_9	24° 45' 45.028" N	87° 5' 12.269" E	44.64
839	GO_Z14_RIB_9	24° 45' 44.702" N	87° 5' 12.269" E	44.87
840	GO_Z14_RIB_9	24° 45' 44.377" N	87° 5' 12.268" E	44.94
841	GO_Z14_RIB_9	24° 45' 44.052" N	87° 5' 12.268" E	45.39
842	GO_Z14_RIB_9	24° 45' 43.727" N	87° 5' 12.268" E	45.34
843	GO_Z14_RIB_9	24° 45' 43.402" N	87° 5' 12.268" E	45.22
844	GO_Z14_RIB_9	24° 45' 43.077" N	87° 5' 12.267" E	45.15
845	GO_Z14_RIB_9	24° 45' 42.752" N	87° 5' 12.267" E	45.54
846	GO_Z14_RIB_9	24° 45' 42.427" N	87° 5' 12.267" E	45.26
847	GO_Z14_RIB_9	24° 45' 42.101" N	87° 5' 12.267" E	47.05
848	GO_Z14_RIB_9	24° 45' 41.776" N	87° 5' 12.267" E	45.36
849	GO_Z14_RIB_9	24° 45' 41.451" N	87° 5' 12.266" E	45.72
850	GO_Z14_RIB_9	24° 45' 41.126" N	87° 5' 12.266" E	44.74
851	GO_Z14_RIB_9	24° 45' 48.604" N	87° 5' 12.627" E	44.52
852	GO_Z14_RIB_9	24° 45' 48.279" N	87° 5' 12.627" E	44.68
853	GO_Z14_RIB_9	24° 45' 47.953" N	87° 5' 12.627" E	44.75
854	GO_Z14_RIB_9	24° 45' 47.628" N	87° 5' 12.627" E	45.49
855	GO_Z14_RIB_9	24° 45' 47.303" N	87° 5' 12.626" E	45.38
856	GO_Z14_RIB_9	24° 45' 46.978" N	87° 5' 12.626" E	45.01
857	GO_Z14_RIB_9	24° 45' 46.653" N	87° 5' 12.626" E	45.00
858	GO_Z14_RIB_9	24° 45' 46.328" N	87° 5' 12.626" E	45.12
859	GO_Z14_RIB_9	24° 45' 46.003" N	87° 5' 12.626" E	45.02
860	GO_Z14_RIB_9	24° 45' 45.678" N	87° 5' 12.625" E	45.02
861	GO_Z14_RIB_9	24° 45' 45.353" N	87° 5' 12.625" E	45.30
862	GO_Z14_RIB_9	24° 45' 45.027" N	87° 5' 12.625" E	45.20
863	GO_Z14_RIB_9	24° 45' 44.702" N	87° 5' 12.625" E	45.20
864	GO_Z14_RIB_9	24° 45' 44.377" N	87° 5' 12.624" E	45.26
865	GO_Z14_RIB_9	24° 45' 44.052" N	87° 5' 12.624" E	45.24
866	GO_Z14_RIB_9	24° 45' 43.727" N	87° 5' 12.624" E	45.13
867	GO_Z14_RIB_9	24° 45' 43.402" N	87° 5' 12.624" E	45.09
868	GO_Z14_RIB_9	24° 45' 43.077" N	87° 5' 12.624" E	45.16
869	GO_Z14_RIB_9	24° 45' 42.751" N	87° 5' 12.623" E	45.40
870	GO_Z14_RIB_9	24° 45' 42.426" N	87° 5' 12.623" E	45.56
871	GO_Z14_RIB_9	24° 45' 42.101" N	87° 5' 12.623" E	45.59
872	GO_Z14_RIB_9	24° 45' 41.776" N	87° 5' 12.623" E	45.73
873	GO_Z14_RIB_9	24° 45' 41.451" N	87° 5' 12.622" E	45.45
874	GO_Z14_RIB_9	24° 45' 41.126" N	87° 5' 12.622" E	46.64
875	GO_Z14_RIB_9	24° 45' 40.801" N	87° 5' 12.622" E	45.90
876	GO_Z14_RIB_9	24° 45' 48.278" N	87° 5' 12.983" E	44.58
877	GO_Z14_RIB_9	24° 45' 47.953" N	87° 5' 12.983" E	45.14
878	GO_Z14_RIB_9	24° 45' 47.628" N	87° 5' 12.983" E	43.86
879	GO_Z14_RIB_9	24° 45' 47.303" N	87° 5' 12.983" E	45.77
880	GO_Z14_RIB_9	24° 45' 46.978" N	87° 5' 12.982" E	44.89
881	GO_Z14_RIB_9	24° 45' 46.653" N	87° 5' 12.982" E	45.15
882	GO_Z14_RIB_9	24° 45' 46.328" N	87° 5' 12.982" E	45.10
883	GO_Z14_RIB_9	24° 45' 46.003" N	87° 5' 12.982" E	45.22
884	GO_Z14_RIB_9	24° 45' 45.677" N	87° 5' 12.981" E	45.31
885	GO_Z14_RIB_9	24° 45' 45.352" N	87° 5' 12.981" E	45.21
886	GO_Z14_RIB_9	24° 45' 45.027" N	87° 5' 12.981" E	45.67
887	GO_Z14_RIB_9	24° 45' 44.702" N	87° 5' 12.981" E	45.46
888	GO_Z14_RIB_9	24° 45' 44.377" N	87° 5' 12.981" E	45.36
889	GO_Z14_RIB_9	24° 45' 44.052" N	87° 5' 12.980" E	45.37
890	GO_Z14_RIB_9	24° 45' 43.727" N	87° 5' 12.980" E	45.46
891	GO_Z14_RIB_9	24° 45' 43.401" N	87° 5' 12.980" E	45.16
892	GO_Z14_RIB_9	24° 45' 43.076" N	87° 5' 12.980" E	44.93
893	GO_Z14_RIB_9	24° 45' 42.751" N	87° 5' 12.979" E	45.03
894	GO_Z14_RIB_9	24° 45' 42.426" N	87° 5' 12.979" E	45.35
895	GO_Z14_RIB_9	24° 45' 42.101" N	87° 5' 12.979" E	45.49
896	GO_Z14_RIB_9	24° 45' 41.776" N	87° 5' 12.979" E	45.58
897	GO_Z14_RIB_9	24° 45' 41.451" N	87° 5' 12.979" E	45.41
898	GO_Z14_RIB_9	24° 45' 41.126" N	87° 5' 12.978" E	45.59
899	GO_Z14_RIB_9	24° 45' 40.800" N	87° 5' 12.978" E	45.54
900	GO_Z14_RIB_9	24° 45' 40.475" N	87° 5' 12.978" E	45.66
901	GO_Z14_RIB_9	24° 45' 47.953" N	87° 5' 13.339" E	44.45
902	GO_Z14_RIB_9	24° 45' 47.628" N	87° 5' 13.339" E	44.26
903	GO_Z14_RIB_9	24° 45' 47

TABLE REPRESENTING ELEVATION (in m) WITH RESPECT TO 10m X 10m GRID WITHIN POTENTIAL SAND GHATS IN GODDA DISTRICT OF JHARKHAND

ANNEXURE - B17

598	GO_Z14_RIB_9	24° 45' 52.833" N	87° 5' 8.713" E	44.56
599	GO_Z14_RIB_9	24° 45' 52.508" N	87° 5' 8.713" E	43.51
600	GO_Z14_RIB_9	24° 45' 52.182" N	87° 5' 8.713" E	43.39
601	GO_Z14_RIB_9	24° 45' 51.857" N	87° 5' 8.713" E	43.63
602	GO_Z14_RIB_9	24° 45' 51.532" N	87° 5' 8.713" E	44.05
603	GO_Z14_RIB_9	24° 45' 51.207" N	87° 5' 8.712" E	43.67
604	GO_Z14_RIB_9	24° 45' 50.882" N	87° 5' 8.712" E	44.01
605	GO_Z14_RIB_9	24° 45' 50.557" N	87° 5' 8.712" E	44.84
606	GO_Z14_RIB_9	24° 45' 50.232" N	87° 5' 8.712" E	44.69
607	GO_Z14_RIB_9	24° 45' 49.907" N	87° 5' 8.711" E	44.67
608	GO_Z14_RIB_9	24° 45' 49.581" N	87° 5' 8.711" E	44.48
609	GO_Z14_RIB_9	24° 45' 49.256" N	87° 5' 8.711" E	45.00
610	GO_Z14_RIB_9	24° 45' 48.931" N	87° 5' 8.711" E	44.65
611	GO_Z14_RIB_9	24° 45' 48.606" N	87° 5' 8.711" E	44.96
612	GO_Z14_RIB_9	24° 45' 48.281" N	87° 5' 8.710" E	44.86
613	GO_Z14_RIB_9	24° 45' 47.956" N	87° 5' 8.710" E	44.89
614	GO_Z14_RIB_9	24° 45' 47.631" N	87° 5' 8.710" E	44.70
615	GO_Z14_RIB_9	24° 45' 47.305" N	87° 5' 8.710" E	44.83
616	GO_Z14_RIB_9	24° 45' 46.980" N	87° 5' 8.709" E	44.98
617	GO_Z14_RIB_9	24° 45' 46.655" N	87° 5' 8.709" E	45.29
618	GO_Z14_RIB_9	24° 45' 46.330" N	87° 5' 8.709" E	45.79
619	GO_Z14_RIB_9	24° 45' 46.005" N	87° 5' 8.709" E	46.87
620	GO_Z14_RIB_9	24° 45' 45.680" N	87° 5' 8.709" E	46.75
621	GO_Z14_RIB_9	24° 45' 52.507" N	87° 5' 9.069" E	44.40
622	GO_Z14_RIB_9	24° 45' 52.182" N	87° 5' 9.069" E	43.62
623	GO_Z14_RIB_9	24° 45' 51.857" N	87° 5' 9.069" E	45.40
624	GO_Z14_RIB_9	24° 45' 51.532" N	87° 5' 9.069" E	43.70
625	GO_Z14_RIB_9	24° 45' 51.207" N	87° 5' 9.068" E	43.67
626	GO_Z14_RIB_9	24° 45' 50.882" N	87° 5' 9.068" E	43.51
627	GO_Z14_RIB_9	24° 45' 50.557" N	87° 5' 9.068" E	43.48
628	GO_Z14_RIB_9	24° 45' 50.231" N	87° 5' 9.068" E	44.28
629	GO_Z14_RIB_9	24° 45' 49.906" N	87° 5' 9.068" E	44.81
630	GO_Z14_RIB_9	24° 45' 49.581" N	87° 5' 9.067" E	44.35
631	GO_Z14_RIB_9	24° 45' 49.256" N	87° 5' 9.067" E	44.89
632	GO_Z14_RIB_9	24° 45' 48.931" N	87° 5' 9.067" E	44.88
633	GO_Z14_RIB_9	24° 45' 48.606" N	87° 5' 9.067" E	44.84
634	GO_Z14_RIB_9	24° 45' 48.281" N	87° 5' 9.066" E	44.70
635	GO_Z14_RIB_9	24° 45' 47.956" N	87° 5' 9.066" E	44.58
636	GO_Z14_RIB_9	24° 45' 47.630" N	87° 5' 9.066" E	44.77
637	GO_Z14_RIB_9	24° 45' 47.305" N	87° 5' 9.066" E	44.77
638	GO_Z14_RIB_9	24° 45' 46.980" N	87° 5' 9.066" E	44.92
639	GO_Z14_RIB_9	24° 45' 46.655" N	87° 5' 9.065" E	44.75
640	GO_Z14_RIB_9	24° 45' 46.330" N	87° 5' 9.065" E	45.49
641	GO_Z14_RIB_9	24° 45' 46.005" N	87° 5' 9.065" E	46.42
642	GO_Z14_RIB_9	24° 45' 45.680" N	87° 5' 9.065" E	44.77
643	GO_Z14_RIB_9	24° 45' 45.355" N	87° 5' 9.064" E	44.87
644	GO_Z14_RIB_9	24° 45' 51.532" N	87° 5' 9.425" E	43.86
645	GO_Z14_RIB_9	24° 45' 51.207" N	87° 5' 9.425" E	43.93
646	GO_Z14_RIB_9	24° 45' 50.882" N	87° 5' 9.424" E	44.13
647	GO_Z14_RIB_9	24° 45' 50.556" N	87° 5' 9.424" E	45.69
648	GO_Z14_RIB_9	24° 45' 50.231" N	87° 5' 9.424" E	44.40
649	GO_Z14_RIB_9	24° 45' 49.906" N	87° 5' 9.424" E	43.92
650	GO_Z14_RIB_9	24° 45' 49.581" N	87° 5' 9.423" E	44.64
651	GO_Z14_RIB_9	24° 45' 49.256" N	87° 5' 9.423" E	44.57
652	GO_Z14_RIB_9	24° 45' 48.931" N	87° 5' 9.423" E	44.83
653	GO_Z14_RIB_9	24° 45' 48.606" N	87° 5' 9.423" E	44.86
654	GO_Z14_RIB_9	24° 45' 48.280" N	87° 5' 9.423" E	44.77
655	GO_Z14_RIB_9	24° 45' 47.955" N	87° 5' 9.422" E	45.62
656	GO_Z14_RIB_9	24° 45' 47.630" N	87° 5' 9.422" E	44.84
657	GO_Z14_RIB_9	24° 45' 47.305" N	87° 5' 9.422" E	45.37
658	GO_Z14_RIB_9	24° 45' 46.980" N	87° 5' 9.422" E	45.64
659	GO_Z14_RIB_9	24° 45' 46.655" N	87° 5' 9.421" E	45.74
660	GO_Z14_RIB_9	24° 45' 46.330" N	87° 5' 9.421" E	45.75
661	GO_Z14_RIB_9	24° 45' 46.005" N	87° 5' 9.421" E	44.96
662	GO_Z14_RIB_9	24° 45' 45.679" N	87° 5' 9.421" E	45.02
663	GO_Z14_RIB_9	24° 45' 45.354" N	87° 5' 9.420" E	44.99
664	GO_Z14_RIB_9	24° 45' 45.029" N	87° 5' 9.420" E	44.99
665	GO_Z14_RIB_9	24° 45' 51.206" N	87° 5' 9.781" E	43.79
666	GO_Z14_RIB_9	24° 45' 50.881" N	87° 5' 9.780" E	43.73
667	GO_Z14_RIB_9	24° 45' 50.556" N	87° 5' 9.780" E	43.86
668	GO_Z14_RIB_9	24° 45' 50.231" N	87° 5' 9.780" E	44.66
669	GO_Z14_RIB_9	24° 45' 49.906" N	87° 5' 9.780" E	44.28
670	GO_Z14_RIB_9	24° 45' 49.581" N	87° 5' 9.779" E	43.87
671	GO_Z14_RIB_9	24° 45' 49.256" N	87° 5' 9.779" E	44.30
672	GO_Z14_RIB_9	24° 45' 48.931" N	87° 5' 9.779" E	44.53
673	GO_Z14_RIB_9	24° 45' 48.605" N	87° 5' 9.779" E	44.41
674	GO_Z14_RIB_9	24° 45' 48.280" N	87° 5' 9.779" E	44.82
675	GO_Z14_RIB_9	24° 45' 47.955" N	87° 5' 9.778" E	45.17
676	GO_Z14_RIB_9	24° 45' 47.630" N	87° 5' 9.778" E	44.72
677	GO_Z14_RIB_9	24° 45' 47.305" N	87° 5' 9.778" E	44.69
678	GO_Z14_RIB_9	24° 45' 46.980" N	87° 5' 9.778" E	44.86
679	GO_Z14_RIB_9	24° 45' 46.655" N	87° 5' 9.777" E	44.97
680	GO_Z14_RIB_9	24° 45' 46.329" N	87° 5' 9.777" E	45.12
681	GO_Z14_RIB_9	24° 45' 46.004" N	87° 5' 9.777" E	45.29
682	GO_Z14_RIB_9	24° 45' 45.679" N	87° 5' 9.777" E	45.23
683	GO_Z14_RIB_9	24° 45' 45.354" N	87° 5' 9.777" E	45.56
684	GO_Z14_RIB_9	24° 45' 45.029" N	87° 5' 9.776" E	44.95
685	GO_Z14_RIB_9	24° 45' 44.704" N	87° 5' 9.776" E	45.99
686	GO_Z14_RIB_9	24° 45' 44.379" N	87° 5' 9.776" E	46.48
687	GO_Z14_RIB_9	24° 45' 50.881" N	87° 5' 10.136" E	44.23
688	GO_Z14_RIB_9	24° 45' 50.556" N	87° 5' 10.136" E	43.88
689	GO_Z14_RIB_9	24° 45' 50.231" N	87° 5' 10.136" E	43.81
690	GO_Z14_RIB_9	24° 45' 49.906" N	87° 5' 10.136" E	43.84
691	GO_Z14_RIB_9	24° 45' 49.581" N	87° 5' 10.136" E	43.52
692	GO_Z14_RIB_9	24° 45' 49.255" N	87° 5' 10.135" E	44.74
693	GO_Z14_RIB_9	24° 45' 48.930" N	87° 5' 10.135" E	44.08
694	GO_Z14_RIB_9	24° 45' 48.605" N	87° 5' 10.135" E	43.76
695	GO_Z14_RIB_9	24° 45' 48.280" N	87° 5' 10.135" E	44.63
696	GO_Z14_RIB_9	24° 45' 47.955" N	87° 5' 10.134" E	45.38
697	GO_Z14_RIB_9	24° 45' 47.630" N	87° 5' 10.134" E	44.53
698	GO_Z14_RIB_9	24° 45' 47.305" N	87° 5' 10.134" E	45.25
699	GO_Z14_RIB_9	24° 45' 46.980" N	87° 5' 10.134" E	45.81
700	GO_Z14_RIB_9	24° 45' 46.654" N	87° 5' 10.134" E	44.94
701	GO_Z14_RIB_9	24° 45' 46.329" N	87° 5' 10.133" E	45.49
702	GO_Z14_RIB_9	24° 45' 46.004" N	87° 5' 10.133" E	44.69
703	GO_Z14_RIB_9	24° 45' 45.679" N	87° 5' 10.133" E	46.29
704	GO_Z14_RIB_9	24° 45' 45.354" N	87° 5' 10.133" E	46.82
705	GO_Z14_RIB_9	24° 45' 45.029" N	87° 5' 10.132" E	45.64
706	GO_Z14_RIB_9	24° 45' 44.704" N	87° 5' 10.132" E	46.26
707	GO_Z14_RIB_9	24° 45' 44.379" N	87° 5' 10.132" E	45.17
708	GO_Z14_RIB_9	24° 45' 44.053" N	87° 5' 10.132" E	45.92
709	GO_Z14_RIB_9	24° 45' 50.556" N	87° 5' 10.492" E	44.29
710	GO_Z14_RIB_9	24° 45' 50.231" N	87° 5' 10.492" E	44.53
711	GO_Z14_RIB_9	24° 45' 49.906" N	87° 5' 10.492" E	44.45
712	GO_Z14_RIB_9	24° 45' 49.580" N	87° 5' 10.492" E	44.02
713	GO_Z14_RIB_9	24° 45' 49.255" N	87° 5' 10.491" E	43.54
714	GO_Z14_RIB_9	24° 45' 48.930" N	87° 5' 10.491" E	44.03
715	GO_Z14_RIB_9	24° 45' 48.605" N	87° 5' 10.491" E	44.19
716	GO_Z14_RIB_9	24° 45' 48.280" N	87° 5' 10.491" E	44.50
717	GO_Z14_RIB_9	24° 45' 47.955" N	87° 5' 10.491" E	44.29
718	GO_Z14_RIB_9	24° 45' 47.630" N	87° 5' 10.490" E	45.11
719	GO_Z14_RIB_9	24° 45' 47.304" N	87° 5' 10.490" E	44.30
720	GO_Z14_RIB_9	24° 45' 46.979" N	87° 5' 10.490" E	46.09
721	GO_Z14_RIB_9	24° 45' 46.654" N	87° 5' 10.490" E	46.14
722	GO_Z14_RIB_9	24° 45' 46.329" N	87° 5' 10.489" E	44.79
723	GO_Z14_RIB_9	24° 45' 46.004" N	87° 5' 10.489" E	45.65
724	GO_Z14_RIB_9	24° 45' 45.679" N	87° 5' 10.489" E	46.56
725	GO_Z14_RIB_9	24° 45' 45.354" N	87° 5' 10.489" E	44.80
726	GO_Z14_RIB_9	24° 45' 45.029" N	87° 5' 10.488" E	46.01
727	GO_Z14_RIB_9	24° 45' 44.703" N	87° 5' 10.488" E	45.54
728	GO_Z14_RIB_9	24° 45' 44.378" N	87° 5' 10.488" E	45.76
729	GO_Z14_RIB_9	24° 45' 44.053" N	87° 5' 10.488" E	45.06
730	GO_Z14_RIB_9	24° 45' 43.728" N	87° 5' 10.488" E	45.08
731	GO_Z14_RIB_9	24° 45' 43.403" N	87° 5' 10.487" E	45.16
732	GO_Z14_RIB_9	24° 45' 50.230" N	87° 5' 10.848" E	44.25
733	GO_Z14_RIB_9	24° 45' 49.905" N	87° 5' 10.848" E	44.54
734	GO_Z14_RIB_9	24° 45' 49.580" N	87° 5' 10.848" E	44.37
735	GO_Z14_RIB_9	24° 45' 49.255" N	87° 5' 10.847" E	44.79
736	GO_Z14_RIB_9	24° 45' 48.930" N	87° 5' 10.847" E	44.62
737	GO_Z14_RIB_9	24° 45' 48.605" N	87° 5' 10.847" E	44.32
738	GO_Z14_RIB_9	24° 45' 48.280" N	87° 5' 10.847" E	45.86
739	GO_Z14_RIB_9	24° 45' 47.955" N	87° 5' 10.847" E	44.38
740	GO_Z14_RIB_9	24° 45' 47.629" N	87° 5' 10.846" E	44.87
741	GO_Z14_RIB_9	24° 45' 47.304" N	87° 5' 10.846" E	44.68
742	GO_Z14_RIB_9	24° 45' 46.979" N	87° 5' 10.846" E	44.49
743	GO_Z14_RIB_9	24° 45' 46.654" N	87° 5' 10.846" E	44.29
744	GO_Z14_RIB_9	24° 45' 46.329" N	87° 5' 10.845" E	46.83
745	GO_Z14_RIB_9	24° 45' 46.004" N	87° 5' 10.845" E	45.51
746	GO_Z14_RIB_9	24° 45' 45.679" N	87° 5' 10.845" E	45.77
747	GO_Z14_RIB_9	24° 45' 45.353" N	87° 5' 10.845" E	45.67
748	GO_Z14_RIB_9	24° 45' 45.028" N	87° 5' 10.845" E	46.46
749	GO_Z14_RIB_9	24° 45' 44.703" N	87° 5' 10.844" E	45.14
750	GO_Z14_RIB_9	24° 45' 44.378" N	87° 5' 10.844" E	45.15
751	GO_Z14_RIB_9	24° 45' 44.053" N	87° 5' 10.844" E	44.95
752	GO_Z14_RIB_9	24° 45' 43.728" N	87° 5' 10.844" E	44.97
753	GO_Z14_RIB_9	24° 45' 43.403" N	87° 5' 10.843" E	45.38
754	GO_Z14_RIB_9	24° 45' 43.078" N	87° 5' 10.843" E	45.57
755	GO_Z14_RIB_9	24° 45' 49.905" N	87° 5' 11.204" E	44.22
756	GO_Z14_RIB_9	24° 45' 49.580" N	87° 5' 11.204" E	44.47
757	GO_Z14_RIB_9	24° 45' 49.255" N	87° 5' 11.204" E	44.86
758	GO_Z14_RIB_9	24° 45' 48.930" N	87° 5' 11.203" E	43.70
759	GO_Z14_RIB_9	24° 45' 48.605" N	87° 5' 11.203" E	44.37
760	GO_Z14_RIB_9	24° 45' 48.279" N	87° 5' 11.203" E	43.92
761	GO_Z14_RIB_9	24° 45' 47.954" N	87° 5' 11.203" E	44.50
762	GO_Z14_RIB_9	24° 45' 47.629" N	87° 5' 11.202" E	44.54
763	GO_Z14_RIB_9	24° 45' 47.304" N	87° 5' 11.202" E	44.65
764	GO_Z14_RIB_9	24° 45' 46.979" N	87° 5' 11.202" E	44.79
765	GO_Z14_RIB_9	24° 45' 46.654" N	87° 5' 11.202" E	45.24
766	GO_Z14_RIB_9	24° 45' 46.329" N	87° 5' 11.202" E	44.77
767	GO_Z14_RIB_9	24° 45' 46.004" N	87° 5' 11.201" E	44.36
768	GO_Z14_RIB_9	24° 45' 45.678" N	87° 5' 11.201" E	45.02
769	GO_Z14_RIB_9	24° 45' 45.353" N	87° 5' 11.201" E	46.21
770	GO_Z14_RIB_9	24° 45' 45.028" N	87° 5' 11.201" E	44.98
771	GO_Z14_RIB_9	24° 45' 44.703" N	87° 5' 11.200" E	45.00
772	GO_Z14_RIB_9	24° 45' 44.378" N	87° 5' 11.200" E	45.04
773	GO_Z14_RIB_9	24° 45' 44.053" N	87° 5' 11.200" E	45.00
774	GO_Z14_RIB_9	24° 45' 43.728" N	87° 5' 11.200" E	44.62
775	GO_Z14_RIB_9	24° 45' 43.403" N	87° 5' 11.200" E	44.89
776	GO_Z14_RIB_9	24° 45' 43.077" N	87° 5' 11.199" E	45.35
777	GO_Z14_RIB_9	24° 45' 42.752" N	87° 5' 11.199" E	45.53
778	GO_Z14_RIB_9	24° 45' 49.580" N	87° 5' 11.560" E	44.74
779	GO_Z14_RIB_9	24° 45' 49.255" N	87° 5' 11.560" E	44.72
780	GO_Z14_RIB_9	24° 45' 48.929" N	87° 5' 11.559" E	44.29
781	GO_Z14_RIB_9	24° 45' 48.604" N	87° 5' 11.559" E	43.72
782	GO_Z14_RIB_9	24° 45' 48.279" N	87° 5' 11.559" E	44.43
783	GO_Z14_RIB_9	24° 45' 47.954" N	87° 5' 11.559" E	44.44
784	GO_Z14_RIB_9	24° 45' 47.629" N	87° 5' 11.559" E	44.49
785	GO_Z14_RIB_9	24° 45' 47.304" N	87° 5' 11.558" E	44.81
786	GO_Z14_RIB_9	24° 45' 46.979" N	87° 5' 11.558" E	44.86
787	GO_Z14_RIB_9	24° 45' 46.654" N	87° 5' 11.558" E	46.13
788	GO_Z14_RIB_9	24° 45' 46.328" N	87° 5' 11.558" E	44.84
789	GO_Z14_RIB_9	24° 45' 46.003" N	87° 5' 11.557" E	44.88
790	GO_Z14_RIB_9	24° 45' 45.678" N	87° 5' 11.557" E	44.73
791	GO_Z14_RIB_9	24° 45' 45.353" N	87° 5' 11.557" E	44.80
792	GO_Z14_RIB_9	24° 45' 45.028" N	87° 5' 11.557" E	44.31
793	GO_Z14_RIB_9	24° 45' 44.703" N	87° 5' 11.556" E	44.58
794	GO_Z14_RIB_9	24° 45' 44.378" N	87° 5' 11.556" E	45.17
795	GO_Z14_RIB_9	24° 45' 44.053" N	87° 5' 11.556" E	44.87
796	GO_Z14_RIB_9	24° 45' 43.727" N	87° 5' 11.556" E	46.15
797	GO_Z14_RIB_9	24° 45' 43.402" N	87° 5' 11.556" E	46.73
798	GO_Z14_RIB_9	24° 45' 43.077" N	87° 5' 11.555" E	45.09
799	GO_Z14_RIB_9	24° 45' 42.752" N	87° 5' 11.555" E	46.04
800	GO_Z14_RIB_9	24° 45' 42.427" N	87° 5' 11.555" E	45.11
801	GO_Z14_RIB_9	24° 45' 42.102" N	87° 5' 11.555" E	45.59
802	GO_Z14_RIB_9	24° 45' 49.254" N	87° 5' 11.916" E	44.97
803	GO_Z14_RIB_9	24° 45' 48.929" N	87° 5' 11.915" E	45.39
804	GO_Z14_RIB_9	24° 45' 48.604" N	87° 5' 11.915" E	44.38
805	GO_Z14_RIB_9	24° 45' 48.279" N	87° 5' 11.915" E	44.07
806	GO_Z14_RIB_9	24° 45' 47.954" N	87° 5' 11.915" E	44.96
807	GO_Z14_RIB_9	24° 45' 47.629" N	87° 5' 11.915" E	44.57
808	GO_Z14_RIB_9	24° 45' 47.304" N	87° 5' 11.914" E	44.81
809	GO_Z14_RIB_9	24° 45' 46.979" N	87° 5' 11.914" E	44.78
810	GO_Z14_RIB_9	24° 45' 46.653" N	87° 5' 11.914" E	44.58
811	GO_Z14_RIB_9	24° 45' 46.328" N	87° 5' 11.914" E	44.83
812	GO_Z14_RIB_9	24° 45' 46.003" N	87° 5' 11.913" E	44.49
813	GO_Z14_RIB_9	24° 45' 45.678" N	87° 5' 11.913" E	44.99
814	GO_Z14_RIB_9	24° 45' 45.353" N	87° 5' 11.913" E	45.13
815	GO_Z14_RIB_9	24° 45' 45.028" N	87° 5' 11.913" E	44.95
816	GO_Z14_RIB_9	24° 45' 44.703" N	87° 5' 11.913" E	45.58
817	GO_Z14_RIB_9	24° 45' 44.377" N	87° 5' 11.912" E	45.10
818	GO_Z14_RIB_9	24° 45' 44.052" N	87° 5' 11.912" E	45.35
819	GO_Z14_RIB_9	24° 45' 43.727" N	87° 5' 11.912" E	45.77
820	GO_Z14_RIB_9	24° 45' 43.402" N	87° 5' 11.912" E	45.12
821	GO_Z14_RIB_9	24° 45' 43.077" N	87° 5' 11.911" E	45.29
822	GO_Z14_RIB_9	24° 45' 42.752" N	87° 5' 11.911" E	45.85
823	GO_Z14_RIB_9	24° 45' 42.427" N	87° 5' 11.911" E	46.55
824	GO_Z14_RIB_9	24° 45' 42.102" N	87° 5' 11.911" E	45.80
825	GO_Z14_RIB_9	24° 45' 41.776" N	87° 5' 11.911" E	45.46
826	GO_Z14_RIB_9	24° 45' 48.929" N	87° 5' 12.272" E	44.94
827	GO_Z14_RIB_9	24° 45' 48.604" N	87° 5' 12.271" E	44.84
828	GO_Z14_RIB_9	24° 45' 48.279" N	87° 5' 12.271" E	43.73
829	GO_Z14_RIB_9	24° 45' 47.954" N	87° 5' 12.271" E	45.88
830	GO_Z14_RIB_9	24° 45' 47.629" N	87° 5' 12.271" E	44.82
831	GO_Z14_RIB_9	24° 45' 47.303" N	87° 5' 12.270" E	45.00
832	GO_Z14_RIB_9	24° 45' 46.978" N	87° 5' 12.270" E	44.74
833	GO_Z14_RIB_9	24° 45' 46.653" N	87° 5' 12.270" E	44.83
834	GO_Z14_RIB_9	24° 45' 46.328" N	87° 5' 12.270" E	45.00
835	GO_Z14_RIB_9	24° 45' 46.003" N	87° 5' 12.270" E	45.30
836	GO_Z14_RIB_9	24° 45' 45.678" N	87° 5' 12.269" E	45.20
837	GO_Z14_RIB_9	24° 45' 45.353" N	87° 5' 12.269" E	45.17
838	GO_Z14_RIB_9	24° 45' 45.028" N	87° 5' 12.269" E	44.64
839	GO_Z14_RIB_9	24° 45' 44.702" N	87° 5' 12.269" E	44.87
840	GO_Z14_RIB_9	24° 45' 44.377" N	87° 5' 12.268" E	44.94
841	GO_Z14_RIB_9	24° 45' 44.052" N	87° 5' 12.268" E	45.39
842	GO_Z14_RIB_9	24° 45' 43.727" N	87° 5' 12.268" E	45.34
843	GO_Z14_RIB_9	24° 45' 43.402" N	87° 5' 12.268" E	45.22
844	GO_Z14_RIB_9	24° 45' 43.077" N	87° 5' 12.267" E	45.15
845	GO_Z14_RIB_9	24° 45' 42.752" N	87° 5' 12.267" E	45.54
846	GO_Z14_RIB_9	24° 45' 42.427" N	87° 5' 12.267" E	45.26
847	GO_Z14_RIB_9	24° 45' 42.101" N	87° 5' 12.267" E	47.05
848	GO_Z14_RIB_9	24° 45' 41.776" N	87° 5' 12.267" E	45.36
849	GO_Z14_RIB_9	24° 45' 41.451" N	87° 5' 12.266" E	45.72
850	GO_Z14_RIB_9	24° 45' 41.126" N	87° 5' 12.266" E	44.74
851	GO_Z14_RIB_9	24° 45' 48.604" N	87° 5' 12.627" E	44.52
852	GO_Z14_RIB_9	24° 45' 48.279" N	87° 5' 12.627" E	44.68
853	GO_Z14_RIB_9	24° 45' 47.953" N	87° 5' 12.627" E	44.75
854	GO_Z14_RIB_9	24° 45' 47.628" N	87° 5' 12.627" E	45.49
855	GO_Z14_RIB_9	24° 45' 47.303" N	87° 5' 12.626" E	45.38
856	GO_Z14_RIB_9	24° 45' 46.978" N	87° 5' 12.626" E	45.01
857	GO_Z14_RIB_9	24° 45' 46.653" N	87° 5' 12.626" E	45.00
858	GO_Z14_RIB_9	24° 45' 46.328" N	87° 5' 12.626" E	45.12
859	GO_Z14_RIB_9	24° 45' 46.003" N	87° 5' 12.626" E	45.02
860	GO_Z14_RIB_9	24° 45' 45.678" N	87° 5' 12.625" E	45.02
861	GO_Z14_RIB_9	24° 45' 45.352" N	87° 5' 12.625" E	45.30
862	GO_Z14_RIB_9	24° 45' 45.027" N	87° 5' 12.625" E	45.20
863	GO_Z14_RIB_9	24° 45' 44.702" N	87° 5' 12.625" E	45.20
864	GO_Z14_RIB_9	24° 45' 44.377" N	87° 5' 12.624" E	45.26
865	GO_Z14_RIB_9	24° 45' 44.052" N	87° 5' 12.624" E	45.24
866	GO_Z14_RIB_9	24° 45' 43.727" N	87° 5' 12.624" E	45.13
867	GO_Z14_RIB_9	24° 45' 43.402" N	87° 5' 12.624" E	45.09
868	GO_Z14_RIB_9	24° 45' 43.077" N	87° 5' 12.624" E	45.16
869	GO_Z14_RIB_9	24° 45' 42.751" N	87° 5' 12.623" E	45.40
870	GO_Z14_RIB_9	24° 45' 42.426" N	87° 5' 12.623" E	45.56
871	GO_Z14_RIB_9	24° 45' 42.101" N	87° 5' 12.623" E	45.59
872	GO_Z14_RIB_9	24° 45' 41.776" N	87° 5' 12.623" E	45.73
873	GO_Z14_RIB_9	24° 45' 41.451" N	87° 5' 12.622" E	45.45
874	GO_Z14_RIB_9	24° 45' 41.126" N	87° 5' 12.622" E	46.64
875	GO_Z14_RIB_9	24° 45' 40.801" N	87° 5' 12.622" E	45.90
876	GO_Z14_RIB_9	24° 45' 48.278" N	87° 5' 12.983" E	44.58
877	GO_Z14_RIB_9	24° 45' 47.953" N	87° 5' 12.983" E	45.14
878	GO_Z14_RIB_9	24° 45' 47.628" N	87° 5' 12.983" E	43.86
879	GO_Z14_RIB_9	24° 45' 47.303" N	87° 5' 12.983" E	45.77
880	GO_Z14_RIB_9	24° 45' 46.978" N	87° 5' 12.982" E	44.89
881	GO_Z14_RIB_9	24° 45' 46.653" N	87° 5' 12.982" E	45.15
882	GO_Z14_RIB_9	24° 45' 46.328" N	87° 5' 12.982" E	45.10
883	GO_Z14_RIB_9	24° 45' 46.003" N	87° 5' 12.982" E	45.22
884	GO_Z14_RIB_9	24° 45' 45.677" N	87° 5' 12.981" E	45.31
885	GO_Z14_RIB_9	24° 45' 45.352" N	87° 5' 12.981" E	45.21
886	GO_Z14_RIB_9	24° 45' 45.027" N	87° 5' 12.981" E	45.67
887	GO_Z14_RIB_9	24° 45' 44.702" N	87° 5' 12.981" E	45.46
888	GO_Z14_RIB_9	24° 45' 44.377" N	87° 5' 12.981" E	45.36
889	GO_Z14_RIB_9	24° 45' 44.052" N	87° 5' 12.980" E	45.37
890	GO_Z14_RIB_9	24° 45' 43.727" N	87° 5' 12.980" E	45.46
891	GO_Z14_RIB_9	24° 45' 43.401" N	87° 5' 12.980" E	45.16
892	GO_Z14_RIB_9	24° 45' 43.076" N	87° 5' 12.980" E	44.93
893	GO_Z14_RIB_9	24° 45' 42.751" N	87° 5' 12.979" E	45.03
894	GO_Z14_RIB_9	24° 45' 42.426" N	87° 5' 12.979" E	45.35
895	GO_Z14_RIB_9	24° 45' 42.101" N	87° 5' 12.979" E	45.49
896	GO_Z14_RIB_9	24° 45' 41.776" N	87° 5' 12.979" E	45.58
897	GO_Z14_RIB_9	24° 45' 41.451" N	87° 5' 12.979" E	45.41
898	GO_Z14_RIB_9	24° 45' 41.126" N	87° 5' 12.978" E	45.59
899	GO_Z14_RIB_9	24° 45' 40.800" N	87° 5' 12.978" E	45.54
900	GO_Z14_RIB_9	24° 45' 40.475" N	87° 5' 12.978" E	45.66
901	GO_Z14_RIB_9	24° 45' 47.953" N	87° 5' 13.339" E	44.45
902	GO_Z14_RIB_9	24° 45' 47.628" N	87° 5' 13.339" E	44.26
903	GO_Z14_RIB_9	24° 45' 47

TABLE REPRESENTING ELEVATION (in m) WITH RESPECT TO 10m X 10m GRID WITHIN POTENTIAL SAND GHATS IN GODDA DISTRICT OF JHARKHAND

ANNEXURE - B17

1798	GO_Z13_SAK_8	24° 43' 0.112" N	87° 7' 1.785" E	58.64	1948	GO_Z18_CHI_13	24° 43' 57.314" N	87° 7' 27.469" E	55.59	2098	GO_Z17_CHI_12	24° 43' 28.682" N	87° 7' 52.002" E	59.60	2248	GO_Z17_CHI_12	24° 43' 23.476" N	87° 7' 56.269" E	59.89
1799	GO_Z13_SAK_8	24° 42' 59.787" N	87° 7' 1.784" E	59.30	1949	GO_Z18_CHI_13	24° 43' 57.639" N	87° 7' 27.825" E	55.47	2099	GO_Z17_CHI_12	24° 43' 28.357" N	87° 7' 52.002" E	59.67	2249	GO_Z17_CHI_12	24° 43' 23.151" N	87° 7' 56.268" E	59.78
1800	GO_Z13_SAK_8	24° 43' 0.437" N	87° 7' 2.141" E	59.66	1950	GO_Z18_CHI_13	24° 43' 57.314" N	87° 7' 27.825" E	55.72	2100	GO_Z17_CHI_12	24° 43' 28.032" N	87° 7' 52.002" E	60.06	2250	GO_Z17_CHI_12	24° 43' 22.825" N	87° 7' 56.268" E	59.96
1801	GO_Z13_SAK_8	24° 43' 0.112" N	87° 7' 2.141" E	60.01	1951	GO_Z18_CHI_13	24° 43' 57.639" N	87° 7' 28.182" E	55.57	2101	GO_Z17_CHI_12	24° 43' 27.707" N	87° 7' 52.001" E	59.83	2251	GO_Z17_CHI_12	24° 43' 33.555" N	87° 7' 56.635" E	58.94
1802	GO_Z13_SAK_8	24° 42' 59.787" N	87° 7' 2.140" E	59.65	1952	GO_Z18_CHI_13	24° 43' 57.314" N	87° 7' 28.181" E	55.85	2102	GO_Z17_CHI_12	24° 43' 27.381" N	87° 7' 52.001" E	59.91	2252	GO_Z17_CHI_12	24° 43' 33.230" N	87° 7' 56.635" E	59.08
1803	GO_Z13_SAK_8	24° 42' 59.461" N	87° 7' 2.140" E	59.82	1953	GO_Z18_CHI_13	24° 43' 57.639" N	87° 7' 28.538" E	55.62	2103	GO_Z17_CHI_12	24° 43' 27.056" N	87° 7' 52.001" E	59.87	2253	GO_Z17_CHI_12	24° 43' 32.905" N	87° 7' 56.634" E	59.05
1804	GO_Z13_SAK_8	24° 43' 0.111" N	87° 7' 2.497" E	60.11	1954	GO_Z18_CHI_13	24° 43' 57.313" N	87° 7' 28.537" E	55.64	2104	GO_Z17_CHI_12	24° 43' 26.731" N	87° 7' 52.000" E	59.86	2254	GO_Z17_CHI_12	24° 43' 32.579" N	87° 7' 56.634" E	59.37
1805	GO_Z13_SAK_8	24° 42' 59.786" N	87° 7' 2.496" E	59.66	1955	GO_Z18_CHI_13	24° 43' 56.988" N	87° 7' 28.537" E	55.58	2105	GO_Z17_CHI_12	24° 43' 26.406" N	87° 7' 52.000" E	59.86	2255	GO_Z17_CHI_12	24° 43' 32.254" N	87° 7' 56.634" E	59.31
1806	GO_Z13_SAK_8	24° 42' 59.461" N	87° 7' 2.496" E	59.18	1956	GO_Z18_CHI_13	24° 43' 57.638" N	87° 7' 28.894" E	55.65	2106	GO_Z17_CHI_12	24° 43' 26.081" N	87° 7' 52.000" E	59.93	2256	GO_Z17_CHI_12	24° 43' 23.476" N	87° 7' 56.625" E	59.77
1807	GO_Z13_SAK_8	24° 43' 0.111" N	87° 7' 2.853" E	59.67	1957	GO_Z18_CHI_13	24° 43' 57.313" N	87° 7' 28.893" E	55.67	2107	GO_Z17_CHI_12	24° 43' 25.756" N	87° 7' 51.999" E	60.00	2257	GO_Z17_CHI_12	24° 43' 23.151" N	87° 7' 56.624" E	59.90
1808	GO_Z13_SAK_8	24° 42' 59.786" N	87° 7' 2.852" E	60.13	1958	GO_Z18_CHI_13	24° 43' 56.988" N	87° 7' 28.893" E	55.62	2108	GO_Z17_CHI_12	24° 43' 25.431" N	87° 7' 51.999" E	60.40	2258	GO_Z17_CHI_12	24° 43' 22.826" N	87° 7' 56.624" E	59.99
1809	GO_Z13_SAK_8	24° 42' 59.461" N	87° 7' 2.852" E	59.75	1959	GO_Z18_CHI_13	24° 43' 57.313" N	87° 7' 29.249" E	55.60	2109	GO_Z17_CHI_12	24° 43' 30.632" N	87° 7' 52.360" E	59.40	2259	GO_Z17_CHI_12	24° 43' 33.555" N	87° 7' 56.991" E	58.94
1810	GO_Z13_SAK_8	24° 42' 59.786" N	87° 7' 3.208" E	60.03	1960	GO_Z18_CHI_13	24° 43' 56.988" N	87° 7' 29.249" E	55.68	2110	GO_Z17_CHI_12	24° 43' 30.307" N	87° 7' 52.360" E	59.35	2260	GO_Z17_CHI_12	24° 43' 33.229" N	87° 7' 56.991" E	59.04
1811	GO_Z13_SAK_8	24° 42' 59.461" N	87° 7' 3.208" E	60.06	1961	GO_Z18_CHI_13	24° 43' 57.313" N	87° 7' 29.605" E	55.75	2111	GO_Z17_CHI_12	24° 43' 29.982" N	87° 7' 52.360" E	59.39	2261	GO_Z17_CHI_12	24° 43' 32.904" N	87° 7' 56.990" E	59.31
1812	GO_Z13_SAK_8	24° 42' 59.135" N	87° 7' 3.208" E	59.10	1962	GO_Z18_CHI_13	24° 43' 56.987" N	87° 7' 29.605" E	55.76	2112	GO_Z17_CHI_12	24° 43' 29.657" N	87° 7' 52.359" E	59.39	2262	GO_Z17_CHI_12	24° 43' 32.579" N	87° 7' 56.990" E	59.20
1813	GO_Z13_SAK_8	24° 42' 59.785" N	87° 7' 3.564" E	60.35	1963	GO_Z18_CHI_13	24° 43' 57.312" N	87° 7' 29.961" E	55.84	2113	GO_Z17_CHI_12	24° 43' 29.332" N	87° 7' 52.359" E	59.40	2263	GO_Z17_CHI_12	24° 43' 32.254" N	87° 7' 56.990" E	59.15
1814	GO_Z13_SAK_8	24° 42' 59.460" N	87° 7' 3.564" E	60.41	1964	GO_Z18_CHI_13	24° 43' 56.987" N	87° 7' 29.961" E	55.70	2114	GO_Z17_CHI_12	24° 43' 29.007" N	87° 7' 52.359" E	59.41	2264	GO_Z17_CHI_12	24° 43' 23.150" N	87° 7' 56.980" E	59.89
1815	GO_Z13_SAK_8	24° 42' 59.135" N	87° 7' 3.563" E	59.25	1965	GO_Z18_CHI_13	24° 43' 57.312" N	87° 7' 30.317" E	55.67	2115	GO_Z17_CHI_12	24° 43' 28.682" N	87° 7' 52.358" E	59.45	2265	GO_Z17_CHI_12	24° 43' 22.825" N	87° 7' 56.980" E	59.92
1816	GO_Z13_SAK_8	24° 42' 59.460" N	87° 7' 3.920" E	59.80	1966	GO_Z18_CHI_13	24° 43' 56.987" N	87° 7' 30.317" E	55.79	2116	GO_Z17_CHI_12	24° 43' 28.357" N	87° 7' 52.358" E	59.42	2266	GO_Z17_CHI_12	24° 43' 22.500" N	87° 7' 56.979" E	59.97
1817	GO_Z13_SAK_8	24° 42' 59.135" N	87° 7' 3.919" E	59.24	1967	GO_Z18_CHI_13	24° 43' 57.312" N	87° 7' 30.673" E	55.65	2117	GO_Z17_CHI_12	24° 43' 28.031" N	87° 7' 52.358" E	59.56	2267	GO_Z17_CHI_12	24° 43' 34.204" N	87° 7' 57.348" E	58.85
1818	GO_Z13_SAK_8	24° 42' 58.810" N	87° 7' 3.919" E	60.05	1968	GO_Z18_CHI_13	24° 43' 56.987" N	87° 7' 30.673" E	55.66	2118	GO_Z17_CHI_12	24° 43' 27.706" N	87° 7' 52.357" E	59.51	2268	GO_Z17_CHI_12	24° 43' 33.879" N	87° 7' 57.347" E	58.91
1819	GO_Z13_SAK_8	24° 42' 59.460" N	87° 7' 4.276" E	59.54	1969	GO_Z18_CHI_13	24° 43' 57.311" N	87° 7' 31.029" E	55.61	2119	GO_Z17_CHI_12	24° 43' 27.381" N	87° 7' 52.357" E	59.84	2269	GO_Z17_CHI_12	24° 43' 33.554" N	87° 7' 57.347" E	58.94
1820	GO_Z13_SAK_8	24° 42' 59.135" N	87° 7' 4.275" E	59.02	1970	GO_Z18_CHI_13	24° 43' 56.986" N	87° 7' 31.029" E	55.68	2120	GO_Z17_CHI_12	24° 43' 27.056" N	87° 7' 52.357" E	59.81	2270	GO_Z17_CHI_12	24° 43' 33.229" N	87° 7' 57.347" E	58.99
1821	GO_Z13_SAK_8	24° 42' 58.810" N	87° 7' 4.275" E	59.57	1971	GO_Z18_CHI_13	24° 43' 57.311" N	87° 7' 31.385" E	55.81	2121	GO_Z17_CHI_12	24° 43' 26.731" N	87° 7' 52.356" E	59.85	2271	GO_Z17_CHI_12	24° 43' 32.904" N	87° 7' 57.346" E	59.74
1822	GO_Z13_SAK_8	24° 42' 59.459" N	87° 7' 4.632" E	58.92	1972	GO_Z18_CHI_13	24° 43' 56.986" N	87° 7' 31.385" E	55.69	2122	GO_Z17_CHI_12	24° 43' 26.406" N	87° 7' 52.356" E	59.88	2272	GO_Z17_CHI_12	24° 43' 32.579" N	87° 7' 57.346" E	59.18
1823	GO_Z13_SAK_8	24° 42' 59.134" N	87° 7' 4.631" E	59.59	1973	GO_Z18_CHI_13	24° 43' 57.311" N	87° 7' 31.741" E	55.82	2123	GO_Z17_CHI_12	24° 43' 26.081" N	87° 7' 52.356" E	59.86	2273	GO_Z17_CHI_12	24° 43' 23.150" N	87° 7' 57.336" E	59.84
1824	GO_Z13_SAK_8	24° 42' 58.809" N	87° 7' 4.631" E	59.79	1974	GO_Z18_CHI_13	24° 43' 56.986" N	87° 7' 31.741" E	55.72	2124	GO_Z17_CHI_12	24° 43' 25.755" N	87° 7' 52.355" E	59.85	2274	GO_Z17_CHI_12	24° 43' 22.825" N	87° 7' 57.336" E	59.97
1825	GO_Z13_SAK_8	24° 42' 58.484" N	87° 7' 4.631" E	60.05	1975	GO_Z18_CHI_13	24° 43' 56.661" N	87° 7' 31.741" E	55.71	2125	GO_Z17_CHI_12	24° 43' 25.430" N	87° 7' 52.355" E	60.25	2275	GO_Z17_CHI_12	24° 43' 22.500" N	87° 7' 57.335" E	60.06
1826	GO_Z13_SAK_8	24° 42' 59.134" N	87° 7' 4.987" E	59.11	1976	GO_Z18_CHI_13	24° 43' 57.310" N	87° 7' 32.097" E	55.70	2126	GO_Z17_CHI_12	24° 43' 30.957" N	87° 7' 52.717" E	59.77	2276	GO_Z17_CHI_12	24° 43' 34.854" N	87° 7' 57.704" E	59.27
1827	GO_Z13_SAK_8	24° 42' 58.809" N	87° 7' 4.987" E	59.48	1977	GO_Z18_CHI_13	24° 43' 56.985" N	87° 7' 32.097" E	55.72	2127	GO_Z17_CHI_12	24° 43' 30.632" N	87° 7' 52.716" E	59.90	2277	GO_Z17_CHI_12	24° 43' 34.529" N	87° 7' 57.704" E	58.91
1828	GO_Z13_SAK_8	24° 42' 58.484" N	87° 7' 4.987" E	60.88	1978	GO_Z18_CHI_13	24° 43' 56.660" N	87° 7' 32.097" E	55.78	2128	GO_Z17_CHI_12	24° 43' 30.307" N	87° 7' 52.716" E	59.98	2278	GO_Z17_CHI_12	24° 43' 34.204" N	87° 7' 57.704" E	58.86
1829	GO_Z13_SAK_8	24° 42' 59.134" N	87° 7' 5.343" E	60.21	1979	GO_Z18_CHI_13	24° 43' 56.985" N	87° 7' 32.453" E	55.63	2129	GO_Z17_CHI_12	24° 43' 29.982" N	87° 7' 52.716" E	59.62	2279	GO_Z17_CHI_12	24° 43' 33.879" N	87° 7' 57.703" E	58.91
1830	GO_Z13_SAK_8	24° 42' 58.809" N	87° 7' 5.343" E	59.08	1980	GO_Z18_CHI_13	24° 43' 56.660" N	87° 7' 32.453" E	55.66	2130	GO_Z17_CHI_12	24° 43' 29.657" N	87° 7' 52.715" E	59.63	2280	GO_Z17_CHI_12	24° 43' 33.554" N	87° 7' 57.703" E	58.90
1831	GO_Z13_SAK_8	24° 42' 58.484" N	87° 7' 5.343" E	61.10	1981	GO_Z18_CHI_13	24° 43' 56.985" N	87° 7' 32.809" E	55.67	2131	GO_Z17_CHI_12	24° 43' 29.332" N	87° 7' 52.715" E	59.32	2281	GO_Z17_CHI_12	24° 43' 33.229" N	87° 7' 57.703" E	58.95
1832	GO_Z13_SAK_8	24° 42' 58.158" N	87° 7' 5.342" E	59.26	1982	GO_Z18_CHI_13	24° 43' 56.660" N	87° 7' 32.809" E	55.65	2132	GO_Z17_CHI_12	24° 43' 29.006" N	87° 7' 52.715" E	59.37	2282	GO_Z17_CHI_12	24° 43' 32.904" N	87° 7' 57.702" E	59.32
1833	GO_Z13_SAK_8	24° 42' 58.808" N	87° 7' 5.699" E	59.21	1983	GO_Z18_CHI_13	24° 43' 56.334" N	87° 7' 32.808" E	55.74	2133	GO_Z17_CHI_12	24° 43' 28.681" N	87° 7' 52.714" E	59.34	2283	GO_Z17_CHI_12	24° 43' 22.825" N	87° 7' 57.692" E	59.86
1834	GO_Z13_SAK_8	24° 42' 58.483" N	87° 7' 5.699" E	59.68	1984	GO_Z18_CHI_13	24° 43' 56.984" N	87° 7' 33.165" E	55.69	2134	GO_Z17_CHI_12	24° 43' 28.356" N	87° 7' 52.714" E	59.42	2284	GO_Z17_CHI_12	24° 43' 22.499" N	87° 7' 57.691" E	60.00
1835	GO_Z13_SAK_8	24° 42' 58.158" N	87° 7' 5.698" E	61.09	1985	GO_Z18_CHI_13	24° 43' 56.659" N	87° 7' 33.165" E	55.72	2135	GO_Z17_CHI_12	24° 43' 28.031" N	87° 7' 52.714" E	59.41	2285	GO_Z17_CHI_12	24° 43' 22.174" N	87° 7' 57.691" E	59.98
1836	GO_Z13_SAK_8	24° 42' 58.808" N	87° 7' 6.055" E	59.42	1986	GO_Z18_CHI_13	24° 43' 56.334" N	87° 7' 33.164" E	55.73	2136	GO_Z17_CHI_12	24° 43' 27.706" N	87° 7' 52.713" E	59.37	2286	GO_Z17_CHI_12	24° 43' 35.179" N	87° 7' 58.061" E	59.25
1837	GO_Z13_SAK_8	24° 42' 58.483" N	87° 7' 6.054" E	59.19	1987	GO_Z18_CHI_13	24° 43' 56.984" N	87° 7' 33.521" E	55.74	2137	GO_Z17_CHI_12	24° 43' 27.381" N	87° 7' 52.713" E	59.38	2287	GO_Z17_CHI_12	24° 43' 34.854" N	87° 7' 58.060" E	59.11
1838	GO_Z13_SAK_8	24° 42' 58.158" N	87° 7' 6.054" E	59.84	1988	GO_Z18_CHI_13	24° 43' 56.659" N	87° 7' 33.520" E	55.71	2138	GO_Z17_CHI_12	24° 43' 27.056" N	87° 7' 52.713" E	59.41	2288	GO_Z17_CHI_12	24° 43' 34.529" N	87° 7' 58.060" E	58.91
1839	GO_Z13_SAK_8	24° 42' 57.833" N	87° 7' 6.054" E	60.20	1989	GO_Z18_CHI_13	24° 43' 56.334" N	87° 7' 33.520" E	55.80	2139	GO_Z17_CHI_12	24° 43' 26.731" N	87° 7' 52.712" E	59.39	2289	GO_Z17_CHI_12	24° 43' 34.204" N	87° 7' 58.060" E	58.86
1840	GO_Z13_SAK_8	24° 42' 58.483" N	87° 7' 6.410" E	59.32	1990	GO_Z18_CHI_13	24° 43' 56.659" N	87° 7' 33.876" E	55.66	2140	GO_Z17_CHI_12	24° 43' 26.405" N	87° 7' 52.712" E	59.46	2290	GO_Z17_CHI_12	24° 43' 33.879" N	87° 7' 58.059" E	58.88
1841	GO_Z13_SAK_8	24° 42' 58.158" N	87° 7' 6.410" E	59.30	1991	GO_Z18_CHI_13	24° 43' 56.334" N	87° 7' 33.876" E	55.77	2141	GO_Z17_CHI_12	24° 43' 26.080" N	87° 7' 52.712" E	59.48	2291	GO_Z17_CHI_12	24° 43' 33.554" N	87° 7' 58.059" E	58.90
1842	GO_Z13_SAK_8	24° 42' 57.832" N	87° 7' 6.410" E	59.41	1992	GO_Z18_CHI_13	24° 43' 56.008" N	87° 7' 33.876" E	56.03	2142	GO_Z17_CHI_12	24° 43' 25.755" N	87° 7' 52.711" E	59.46	2292	GO_Z17_CHI_12	24° 43' 22.824" N	87° 7' 58.048" E	59.84
1843	GO_Z13_SAK_8	24° 42' 58.482" N	87° 7' 6.766" E	60.29	1993	GO_Z18_CHI_13	24° 43' 56.658" N	87° 7' 34.232" E	55.72	2143	GO_Z17_CHI_12	24° 43' 25.430" N	87° 7' 52.711" E	59.89	2293	GO_Z17_CHI_12	24° 43' 22.499" N	87° 7' 58.047" E	59.93
1844	GO_Z13_SAK_8	24° 42' 58.157" N	87° 7' 6.766" E	59.98	1994	GO_Z18_CHI_13	24° 43' 56.333" N	87° 7' 34.232" E	55.79	2144	GO_Z17_CHI_12	24° 43' 25.105" N	87° 7' 52.711" E	60.32	2294	GO_Z17_CHI_12	24° 43' 22.174" N	87° 7' 58.047" E	59.99
1845	GO_Z13_SAK_8	24° 42' 57.832" N	87° 7' 6.766" E	59.22	1995	GO_Z18_CHI_13	24° 43' 56.008" N	87° 7' 34.232" E	55.83	2145	GO_Z17_CHI_12	24° 43' 31.282" N	87° 7' 53.073" E	59.73	2295	GO_Z17_CHI_12	24° 43' 35.829" N	87° 7' 58.417" E	59.42
1846	GO_Z13_SAK_8	24° 42' 57.507" N	87° 7' 6.765" E	59.35	1996	GO_Z18_CHI_13	24° 43' 56.655" N	87° 7' 34.588" E	55.71	2146	GO_Z17_CHI_12	24° 43' 30.957" N	87° 7' 53.073" E	59.77	2296	GO_Z17_CHI_12	24° 43' 35.504" N	87° 7' 58.417" E	59.27
1847	GO_Z13_SAK_8	24° 42' 58.157" N	87° 7' 7.122" E	59.57	1997	GO_Z18_CHI_13	24° 43' 56.333" N	87° 7' 34.588" E	55.85	2147	GO_Z17_CHI_12	24° 43' 30.632" N	87° 7' 53.072" E	59.87	2297	GO_Z17_CHI_12	24° 43' 35.179" N	87° 7' 58.417" E	59.10
1848	GO_Z13_SAK_8	24° 42' 57.832" N	87° 7' 7.122" E	60.02	1998	GO_Z18_CHI_13	24° 43' 56.008" N	87° 7' 34.588" E	55.93	2148	GO_Z17_CHI_12	24° 43' 30.307" N	87° 7' 53.072" E	59.96	2298	GO_Z17_CHI_12	24° 43' 34.854" N	87° 7' 58.416" E	58.88
1849	GO_Z13_SAK_8	24° 42' 57.507" N	87° 7' 7.121" E	60.01	1999	GO_Z18_CHI_13	24° 43' 56.333" N	87° 7' 34.944" E	55.83	2149	GO_Z17_CHI_12	24° 43' 29.982" N	87° 7' 53.072" E	59.94	2299	GO_Z17_CHI_12	24° 43' 34.529" N	87° 7' 58.416" E	58.95
1850	GO_Z13_SAK_8	24° 42' 58.157" N	87° 7' 7.478" E	60.10	2000	GO_Z18_CHI_13	24° 43' 56.008" N	87° 7' 34.944" E	56.03	2150	GO_Z17_CHI_12	24° 43' 29.656" N	87° 7' 53.071" E	60.14	2300	GO_Z17_CHI_12	24° 43' 34.204" N	87° 7' 58.416" E	58.80
1851	GO_Z13_SAK_8	24° 42' 57.832" N	87° 7' 7.478" E	59.55	2001	GO_Z18_CHI_13	24° 43' 55.682" N	87° 7' 34.943" E	55.88	2151	GO_Z17_CHI_12	24° 43' 29.331" N	87° 7' 53.071" E	60.00	2301	GO_Z17_CHI_12	24° 43' 33.878" N	87° 7' 58.415" E	58.77
1852	GO_Z13_SAK_8	24° 42' 57.506" N	87° 7' 7.477" E	60.63	2002	GO_Z18_CHI_13	24° 43' 56.332" N	87° 7' 35.300" E	55.85	2152	GO_Z17_CHI_12	24° 43' 29.006" N	87° 7' 53.071" E	59.79	2302	GO_Z17_CHI_12	24° 43' 22.499" N	87° 7' 58.403" E	60.10
1853	GO_Z13_SAK_8	24° 42' 58.156" N	87° 7' 7.834" E	59.84	2003	GO_Z18_CHI_13	24° 43' 56.007" N	87° 7' 35.300" E	55.90	2153	GO_Z17_CHI_12	24° 43' 28.681" N	87° 7' 53.070" E	59.37	2303	GO_Z17_CHI_12	24° 43' 22.174" N	87° 7' 58.403" E	60.02
1854	GO_Z13_SAK_8	24° 42' 57.831" N	87° 7' 7.834" E	59.63	2004	GO_Z18_CHI_13	24° 43' 55.682" N	87° 7' 35.299" E	55.90	2154	GO_Z17_CHI_12	24° 43' 26.405" N	87° 7' 53.068" E	59.49	2304	GO_Z17_CHI_12	24° 43' 36.154" N	87° 7' 58.774" E	59.10
1855	GO_Z13_SAK_8	24° 42' 57.506" N	87° 7' 7.833" E	60.16	2005	GO_Z18_CHI_13	24° 43' 56.332" N	87° 7' 35.656" E	55.93	2155	GO_Z17_CHI_12	24° 43' 26.080" N	87° 7' 53.068" E	59.49	2305	GO_Z17_CHI_12	24° 43' 35.829" N	87° 7' 58.773" E	59.27
1856	GO_Z13_SAK_8	24° 42' 57.181" N	87° 7' 7.833" E	61.02	2006	GO_Z18_CHI_13	24° 43' 56.007" N	87° 7' 35.656" E	55.97	2156	GO_Z17_CHI_12	24° 43' 25.755" N	87° 7' 53.067" E	59.53	2306	GO_Z17_CHI_12	24° 43' 35.504" N	87° 7' 58.773" E	59.07
1857	GO_Z13_SAK_8	24° 42' 57.831" N	87° 7' 8.189" E	59.62	2007	GO_Z18_CHI_13	24° 43' 55.682" N	87° 7' 35.655" E	55.95	2157	GO_Z17_CHI_12	24° 43' 25.430" N	87° 7' 53.067" E	59.52	2307	GO_Z17_CHI_12	24° 43' 35.179" N	87° 7' 58.773" E	58.86
1858	GO_Z13_SAK_8	24° 42' 57.506" N	87° 7' 8.189" E	60.40	2008	GO_Z18_CHI_13	24° 43' 56.007" N	87° 7' 36.012" E	56.22	2158	GO_Z17_CHI_12	24° 43' 25.105" N	87° 7' 53.067" E	61.05	2308	GO_Z17_CHI_12	24° 43' 34.853" N	87° 7' 58.772" E	58.88
1859	GO_Z13_SAK_8	24° 42' 57.181" N	87° 7' 8.189" E	59.77	2009	GO_Z18_CHI_13	24° 43' 55.682" N	87° 7' 36.011" E	55.91	2159	GO_Z17_CHI_12	24° 43' 24.779" N	87° 7' 53.066" E	60.34	2309	GO_Z17_CHI_12	24° 43' 34.528" N	87° 7' 58.772" E	58.91
1860	GO_Z13_SAK_8	24° 42' 57.831" N	87° 7' 8.545" E	59.71	2010	GO_Z18_CHI_13	24° 43' 55.356" N	87° 7' 36.011" E	56.00	2160	GO_Z17_CHI_12	24° 43' 31.282" N	87° 7' 53.429" E	59.67	2310	GO_Z17_CHI_12	24° 43' 22.499" N	87° 7' 58.759" E	60.10
1861	GO_Z13_SAK_8	24° 42' 57.506" N	87° 7' 8.545" E	61.60	2011	GO_Z18_CHI_13	24° 43' 56.005" N	87° 7' 36.368" E	55.98	2161	GO_Z17_CHI_12	24° 43' 30.957" N	87° 7' 53.429" E	59.73	2311	GO_Z17_CHI_12	24° 43' 22.173" N	87° 7' 58.759" E	60.20
1862	GO_Z13_SAK_8	24° 42' 57.180" N	87° 7' 8.545" E	60.08	2012	GO_Z18_CHI_13	24° 43' 55.681" N	87° 7' 36.367" E	56.18	2162	GO_Z17_CHI_12	24° 43' 30.631" N	87° 7' 53.428" E	59.76	2312	GO_Z17_CHI_12	24° 43' 21.848" N	87° 7' 58.759" E	60.23
1863	GO_Z13_SAK_8	24° 42' 56.855" N	87° 7' 8.545" E	60.31	2013	GO_Z18_CHI_13	24° 43' 55.358" N	87° 7' 36.367" E	56.02	2163	GO_Z17_CHI_12	24° 43' 30.306" N	87° 7' 53.428" E	59.61	2313	GO_Z17_CHI_12	24° 43' 36.804" N	87° 7' 59.130" E	58.95
1864	GO_Z13_SAK_8	24° 42' 57.505" N	87° 7' 8.901" E	60.47	2014	GO_Z18_CHI_13	24° 43' 55.681" N	87° 7' 36.723" E	55.98	2164	GO_Z17_CHI_12	24° 43' 29.981" N	87° 7' 53.428" E	59.79	2314	GO_Z17_CHI_12	24° 43' 36.479" N	87° 7' 59.130" E	58.85
1865	GO_Z13_SAK_8	24° 42' 57.180" N	87° 7' 8.901" E	60.41	2015	GO_Z18_CHI_13	24° 43' 55.356" N	87° 7' 36.723" E	55.91	2165	GO_Z17_CHI_12	24° 43' 29.656" N	87° 7' 53.427" E	59.84	2315	GO_Z17_CHI_12	24° 43' 36.154" N	87° 7' 59.130" E	59.15
1866	GO_Z13_SAK_8	24° 42' 56.855" N	87° 7' 8.900" E	60.42	2016	GO_Z18_CHI_13	24° 43' 55.031" N	87° 7' 36.723" E	56.81	2166	GO_Z17_CHI_12	24° 43' 29.331" N	87° 7' 53.427" E	59.62	2316	GO_Z17_CHI_12	24° 43' 35.829" N	87° 7' 59.129" E	59.05
1867	GO_Z13_SAK_8	24° 42' 57.505" N	87° 7' 9.257" E	59.82	2017	GO_Z18_CHI_13	24° 43' 55.681" N	87° 7' 37.079" E	55.92	2167	GO_Z17_CHI_12	24° 43' 25.755" N	87° 7' 53.423" E	59.53	2317	GO_Z17_CHI_12	24° 43' 35.503" N	87° 7' 59.129" E	59.10
1868	GO_Z13_SAK_8	24° 42' 57.180" N	87° 7' 9.257" E	60.29	2018	GO_Z18_CHI_13	24° 43' 55.356" N	87° 7' 37.079" E	55.90	2168	GO_Z17_CHI_12	24° 43' 25.429" N	87° 7' 53.423" E	59.56	2318	GO_Z17_CHI_12	24° 43' 35.178" N	87° 7' 59.129" E	58.86
1869	GO_Z13_SAK_8	24° 42' 56.855" N	87° 7' 9.256" E	59.49	2019	GO_Z18_CHI_13	24° 43' 55.030" N	87° 7' 37.079" E	55.88	2169	GO_Z17_CHI_12	24° 43' 25.104" N	87° 7' 53.423" E	59.59	2319	GO_Z17_CHI_12	24° 43' 22.498" N	87° 7' 59.115" E	60.15
1870	GO_Z13_SAK_8	24° 42' 57.180" N	87° 7' 9.613" E	60.34	2020	GO_Z18_CHI_13	24° 43' 55.680" N	87° 7' 37.435" E	56.18	2170	GO_Z17_CHI_12	24° 43' 24.779" N	87° 7' 53.422" E	60.50	2320	GO_Z17_CHI_12	24° 43' 22.173" N	87° 7' 59.115" E	60.16
1871	GO_Z13_SAK_8	24° 42' 56.855" N	87° 7' 9.612" E	61.16	2021	GO_Z18_CHI_13	24° 43' 55.355" N	87° 7' 37.435" E	55.90	2171	GO_Z17_CHI_12	24° 43' 24.454" N	87° 7' 53.422" E	60.57	2321	GO_Z17_CHI_12	24° 43' 21.848" N	87° 7' 59.115" E	60.27
1872	GO_Z13_SAK_8	24° 42' 56.529" N	87° 7' 9.612" E	59.63	2022	GO_Z18_CHI_13	24° 43' 55.030" N	87° 7' 37.435" E	55.93	2172	GO_Z17_CHI_12	24° 43' 31.607" N	87° 7' 53.785" E	59.53	2322	GO_Z17_CHI_12	24° 43' 37.129" N	87° 7' 59.487" E	0.00
1873	GO_Z13_SAK_8	24° 42' 57.179" N	87° 7' 9.969" E	60.27	2023	GO_Z18_CHI_13	24° 43' 54.705" N	87° 7' 37.434" E	56.48	2173	GO_Z17_CHI_12	24° 43' 31.281" N	87° 7' 53.785" E	59.83	2323	GO_Z17_CHI_12	24° 43' 36.804" N	87° 7' 59.486" E	58.85
1874	GO_Z13_SAK_8	24° 42' 56.854" N	87° 7' 9.968" E	60.05	2024	GO_Z18_CHI_13	24° 43' 55.355" N	87° 7' 37.791" E	56.00	2174	GO_Z17_CHI_12	24° 43' 30.956" N	87° 7' 53.785" E	59.64	2324	GO_Z17_CHI_12	24° 43' 36.478" N

TABLE REPRESENTING ELEVATION (in m) WITH RESPECT TO 10m X 10m GRID WITHIN POTENTIAL SAND GHATS IN GODDA DISTRICT OF JHARKHAND

ANNEXURE - B17

2398	GO_Z5_CHI_3	24° 55' 13.518" N	87° 8' 33.389" E	0.98
2399	GO_Z5_CHI_3	24° 55' 15.143" N	87° 8' 33.747" E	0.57
2400	GO_Z5_CHI_3	24° 55' 14.818" N	87° 8' 33.747" E	0.50
2401	GO_Z5_CHI_3	24° 55' 14.493" N	87° 8' 33.746" E	0.66
2402	GO_Z5_CHI_3	24° 55' 14.168" N	87° 8' 33.746" E	0.59
2403	GO_Z5_CHI_3	24° 55' 13.843" N	87° 8' 33.746" E	0.90
2404	GO_Z5_CHI_3	24° 55' 13.518" N	87° 8' 33.745" E	0.60
2405	GO_Z5_CHI_3	24° 55' 16.119" N	87° 8' 34.105" E	0.62
2406	GO_Z5_CHI_3	24° 55' 15.793" N	87° 8' 34.104" E	0.63
2407	GO_Z5_CHI_3	24° 55' 15.468" N	87° 8' 34.104" E	0.44
2408	GO_Z5_CHI_3	24° 55' 15.143" N	87° 8' 34.104" E	0.56
2409	GO_Z5_CHI_3	24° 55' 14.818" N	87° 8' 34.103" E	0.62
2410	GO_Z5_CHI_3	24° 55' 14.493" N	87° 8' 34.103" E	0.88
2411	GO_Z5_CHI_3	24° 55' 14.168" N	87° 8' 34.103" E	0.79
2412	GO_Z5_CHI_3	24° 55' 13.843" N	87° 8' 34.102" E	0.73
2413	GO_Z5_CHI_3	24° 55' 13.518" N	87° 8' 34.102" E	0.76
2414	GO_Z5_CHI_3	24° 55' 16.768" N	87° 8' 34.462" E	0.27
2415	GO_Z5_CHI_3	24° 55' 16.443" N	87° 8' 34.462" E	0.33
2416	GO_Z5_CHI_3	24° 55' 16.118" N	87° 8' 34.461" E	0.27
2417	GO_Z5_CHI_3	24° 55' 15.793" N	87° 8' 34.461" E	0.54
2418	GO_Z5_CHI_3	24° 55' 15.468" N	87° 8' 34.461" E	0.49
2419	GO_Z5_CHI_3	24° 55' 15.143" N	87° 8' 34.460" E	0.66
2420	GO_Z5_CHI_3	24° 55' 14.818" N	87° 8' 34.460" E	0.56
2421	GO_Z5_CHI_3	24° 55' 14.493" N	87° 8' 34.459" E	0.62
2422	GO_Z5_CHI_3	24° 55' 14.167" N	87° 8' 34.459" E	0.52
2423	GO_Z5_CHI_3	24° 55' 13.842" N	87° 8' 34.459" E	0.82
2424	GO_Z5_CHI_3	24° 55' 13.517" N	87° 8' 34.458" E	0.78
2425	GO_Z5_CHI_15	24° 54' 47.507" N	87° 8' 34.428" E	0.81
2426	GO_Z5_CHI_15	24° 54' 47.182" N	87° 8' 34.428" E	0.73
2427	GO_Z5_CHI_3	24° 55' 17.418" N	87° 8' 34.819" E	0.05
2428	GO_Z5_CHI_3	24° 55' 17.093" N	87° 8' 34.819" E	-0.08
2429	GO_Z5_CHI_3	24° 55' 16.768" N	87° 8' 34.819" E	0.02
2430	GO_Z5_CHI_3	24° 55' 16.443" N	87° 8' 34.818" E	0.39
2431	GO_Z5_CHI_3	24° 55' 16.118" N	87° 8' 34.818" E	0.56
2432	GO_Z5_CHI_3	24° 55' 15.793" N	87° 8' 34.818" E	0.64
2433	GO_Z5_CHI_3	24° 55' 15.468" N	87° 8' 34.817" E	0.70
2434	GO_Z5_CHI_3	24° 55' 15.142" N	87° 8' 34.817" E	0.77
2435	GO_Z5_CHI_3	24° 55' 14.817" N	87° 8' 34.816" E	0.66
2436	GO_Z5_CHI_3	24° 55' 14.492" N	87° 8' 34.816" E	0.61
2437	GO_Z5_CHI_3	24° 55' 14.167" N	87° 8' 34.816" E	0.72
2438	GO_Z5_CHI_3	24° 55' 13.842" N	87° 8' 34.815" E	0.50
2439	GO_Z5_CHI_3	24° 55' 13.517" N	87° 8' 34.815" E	0.57
2440	GO_Z5_CHI_3	24° 55' 13.192" N	87° 8' 34.815" E	0.75
2441	GO_Z5_CHI_15	24° 54' 47.832" N	87° 8' 34.785" E	0.87
2442	GO_Z5_CHI_15	24° 54' 47.507" N	87° 8' 34.785" E	0.63
2443	GO_Z5_CHI_15	24° 54' 47.182" N	87° 8' 34.785" E	0.61
2444	GO_Z5_CHI_15	24° 54' 46.857" N	87° 8' 34.784" E	0.62
2445	GO_Z5_CHI_15	24° 54' 46.532" N	87° 8' 34.784" E	0.56
2446	GO_Z5_CHI_3	24° 55' 17.743" N	87° 8' 35.176" E	-0.03
2447	GO_Z5_CHI_3	24° 55' 17.418" N	87° 8' 35.176" E	0.09
2448	GO_Z5_CHI_3	24° 55' 17.093" N	87° 8' 35.176" E	-0.01
2449	GO_Z5_CHI_3	24° 55' 16.768" N	87° 8' 35.175" E	-0.04
2450	GO_Z5_CHI_3	24° 55' 16.443" N	87° 8' 35.175" E	0.10
2451	GO_Z5_CHI_3	24° 55' 16.117" N	87° 8' 35.174" E	0.05
2452	GO_Z5_CHI_3	24° 55' 15.792" N	87° 8' 35.174" E	0.12
2453	GO_Z5_CHI_3	24° 55' 15.467" N	87° 8' 35.174" E	0.22
2454	GO_Z5_CHI_3	24° 55' 15.142" N	87° 8' 35.173" E	0.50
2455	GO_Z5_CHI_3	24° 55' 14.817" N	87° 8' 35.173" E	0.40
2456	GO_Z5_CHI_3	24° 55' 14.492" N	87° 8' 35.173" E	0.52
2457	GO_Z5_CHI_3	24° 55' 14.167" N	87° 8' 35.172" E	0.60
2458	GO_Z5_CHI_3	24° 55' 13.842" N	87° 8' 35.172" E	0.51
2459	GO_Z5_CHI_3	24° 55' 13.517" N	87° 8' 35.171" E	0.76
2460	GO_Z5_CHI_3	24° 55' 13.191" N	87° 8' 35.171" E	0.51
2461	GO_Z5_CHI_15	24° 54' 47.832" N	87° 8' 35.142" E	0.64
2462	GO_Z5_CHI_15	24° 54' 47.507" N	87° 8' 35.141" E	0.68
2463	GO_Z5_CHI_15	24° 54' 47.182" N	87° 8' 35.141" E	0.65
2464	GO_Z5_CHI_15	24° 54' 46.857" N	87° 8' 35.141" E	0.67
2465	GO_Z5_CHI_15	24° 54' 46.531" N	87° 8' 35.140" E	0.65
2466	GO_Z5_CHI_15	24° 54' 46.206" N	87° 8' 35.140" E	0.62
2467	GO_Z5_CHI_15	24° 54' 45.881" N	87° 8' 35.140" E	0.52
2468	GO_Z5_CHI_3	24° 55' 18.393" N	87° 8' 35.534" E	0.04
2469	GO_Z5_CHI_3	24° 55' 18.068" N	87° 8' 35.533" E	0.00
2470	GO_Z5_CHI_3	24° 55' 17.743" N	87° 8' 35.533" E	-0.10
2471	GO_Z5_CHI_3	24° 55' 17.418" N	87° 8' 35.532" E	-0.16
2472	GO_Z5_CHI_3	24° 55' 17.093" N	87° 8' 35.532" E	-0.06
2473	GO_Z5_CHI_3	24° 55' 16.767" N	87° 8' 35.532" E	0.09
2474	GO_Z5_CHI_3	24° 55' 16.442" N	87° 8' 35.531" E	0.15
2475	GO_Z5_CHI_3	24° 55' 16.117" N	87° 8' 35.531" E	0.13
2476	GO_Z5_CHI_3	24° 55' 15.792" N	87° 8' 35.531" E	0.20
2477	GO_Z5_CHI_3	24° 55' 15.467" N	87° 8' 35.530" E	0.27
2478	GO_Z5_CHI_3	24° 55' 15.142" N	87° 8' 35.530" E	0.26
2479	GO_Z5_CHI_3	24° 55' 14.817" N	87° 8' 35.529" E	0.26
2480	GO_Z5_CHI_3	24° 55' 14.492" N	87° 8' 35.529" E	0.44
2481	GO_Z5_CHI_3	24° 55' 14.166" N	87° 8' 35.529" E	0.40
2482	GO_Z5_CHI_3	24° 55' 13.841" N	87° 8' 35.528" E	0.49
2483	GO_Z5_CHI_3	24° 55' 13.516" N	87° 8' 35.528" E	0.31
2484	GO_Z5_CHI_3	24° 55' 13.191" N	87° 8' 35.528" E	0.43
2485	GO_Z5_CHI_15	24° 54' 47.832" N	87° 8' 35.498" E	0.65
2486	GO_Z5_CHI_15	24° 54' 47.506" N	87° 8' 35.498" E	0.59
2487	GO_Z5_CHI_15	24° 54' 47.181" N	87° 8' 35.498" E	0.58
2488	GO_Z5_CHI_15	24° 54' 46.856" N	87° 8' 35.497" E	0.60
2489	GO_Z5_CHI_15	24° 54' 46.531" N	87° 8' 35.497" E	0.58
2490	GO_Z5_CHI_15	24° 54' 46.206" N	87° 8' 35.496" E	0.58
2491	GO_Z5_CHI_15	24° 54' 45.881" N	87° 8' 35.496" E	0.54
2492	GO_Z5_CHI_15	24° 54' 45.556" N	87° 8' 35.496" E	0.35
2493	GO_Z5_CHI_15	24° 54' 45.231" N	87° 8' 35.495" E	0.45
2494	GO_Z5_CHI_3	24° 55' 18.718" N	87° 8' 35.890" E	0.09
2495	GO_Z5_CHI_3	24° 55' 18.393" N	87° 8' 35.890" E	-0.03
2496	GO_Z5_CHI_3	24° 55' 18.068" N	87° 8' 35.890" E	0.01
2497	GO_Z5_CHI_3	24° 55' 17.742" N	87° 8' 35.889" E	0.09
2498	GO_Z5_CHI_3	24° 55' 17.417" N	87° 8' 35.889" E	0.00
2499	GO_Z5_CHI_3	24° 55' 17.092" N	87° 8' 35.889" E	0.11
2500	GO_Z5_CHI_3	24° 55' 16.767" N	87° 8' 35.888" E	0.03
2501	GO_Z5_CHI_3	24° 55' 16.442" N	87° 8' 35.888" E	0.00
2502	GO_Z5_CHI_3	24° 55' 16.117" N	87° 8' 35.887" E	0.08
2503	GO_Z5_CHI_3	24° 55' 15.792" N	87° 8' 35.887" E	0.06
2504	GO_Z5_CHI_3	24° 55' 15.467" N	87° 8' 35.887" E	0.13
2505	GO_Z5_CHI_3	24° 55' 15.141" N	87° 8' 35.886" E	0.07
2506	GO_Z5_CHI_3	24° 55' 14.816" N	87° 8' 35.886" E	0.14
2507	GO_Z5_CHI_3	24° 55' 14.491" N	87° 8' 35.886" E	0.09
2508	GO_Z5_CHI_3	24° 55' 14.166" N	87° 8' 35.885" E	0.27
2509	GO_Z5_CHI_3	24° 55' 13.841" N	87° 8' 35.885" E	0.13
2510	GO_Z5_CHI_3	24° 55' 13.516" N	87° 8' 35.884" E	0.12
2511	GO_Z5_CHI_3	24° 55' 13.191" N	87° 8' 35.884" E	0.03
2512	GO_Z5_CHI_15	24° 54' 48.156" N	87° 8' 35.855" E	3.54
2513	GO_Z5_CHI_15	24° 54' 47.831" N	87° 8' 35.855" E	3.06
2514	GO_Z5_CHI_15	24° 54' 47.506" N	87° 8' 35.854" E	0.42
2515	GO_Z5_CHI_15	24° 54' 47.181" N	87° 8' 35.854" E	0.78
2516	GO_Z5_CHI_15	24° 54' 46.856" N	87° 8' 35.854" E	0.77
2517	GO_Z5_CHI_15	24° 54' 46.531" N	87° 8' 35.853" E	0.70
2518	GO_Z5_CHI_15	24° 54' 46.206" N	87° 8' 35.853" E	0.63
2519	GO_Z5_CHI_15	24° 54' 45.880" N	87° 8' 35.853" E	0.58
2520	GO_Z5_CHI_15	24° 54' 45.555" N	87° 8' 35.852" E	0.42
2521	GO_Z5_CHI_15	24° 54' 45.230" N	87° 8' 35.852" E	0.41
2522	GO_Z5_CHI_15	24° 54' 44.905" N	87° 8' 35.851" E	0.38
2523	GO_Z5_CHI_15	24° 54' 44.580" N	87° 8' 35.851" E	0.58
2524	GO_Z5_CHI_3	24° 55' 19.368" N	87° 8' 36.248" E	-0.09
2525	GO_Z5_CHI_3	24° 55' 19.043" N	87° 8' 36.247" E	-0.08
2526	GO_Z5_CHI_3	24° 55' 18.717" N	87° 8' 36.247" E	0.07
2527	GO_Z5_CHI_3	24° 55' 18.392" N	87° 8' 36.247" E	0.03
2528	GO_Z5_CHI_3	24° 55' 18.067" N	87° 8' 36.246" E	0.00
2529	GO_Z5_CHI_3	24° 55' 17.742" N	87° 8' 36.246" E	-0.02
2530	GO_Z5_CHI_3	24° 55' 17.417" N	87° 8' 36.245" E	0.03
2531	GO_Z5_CHI_3	24° 55' 17.092" N	87° 8' 36.245" E	-0.09
2532	GO_Z5_CHI_3	24° 55' 16.767" N	87° 8' 36.245" E	-0.07
2533	GO_Z5_CHI_3	24° 55' 16.442" N	87° 8' 36.244" E	-0.05
2534	GO_Z5_CHI_3	24° 55' 16.116" N	87° 8' 36.244" E	-0.12
2535	GO_Z5_CHI_3	24° 55' 15.791" N	87° 8' 36.244" E	-0.01
2536	GO_Z5_CHI_3	24° 55' 15.466" N	87° 8' 36.243" E	-0.12
2537	GO_Z5_CHI_3	24° 55' 15.141" N	87° 8' 36.243" E	-0.17
2538	GO_Z5_CHI_3	24° 55' 14.816" N	87° 8' 36.242" E	-0.16
2539	GO_Z5_CHI_3	24° 55' 14.491" N	87° 8' 36.242" E	-0.22
2540	GO_Z5_CHI_3	24° 55' 14.166" N	87° 8' 36.242" E	-0.03
2541	GO_Z5_CHI_3	24° 55' 13.841" N	87° 8' 36.241" E	0.00
2542	GO_Z5_CHI_15	24° 54' 48.156" N	87° 8' 36.212" E	3.76
2543	GO_Z5_CHI_15	24° 54' 47.831" N	87° 8' 36.211" E	3.53
2544	GO_Z5_CHI_15	24° 54' 47.506" N	87° 8' 36.211" E	3.00
2545	GO_Z5_CHI_15	24° 54' 47.181" N	87° 8' 36.211" E	0.48
2546	GO_Z5_CHI_15	24° 54' 46.855" N	87° 8' 36.210" E	0.75
2547	GO_Z5_CHI_15	24° 54' 46.530" N	87° 8' 36.210" E	0.79
2548	GO_Z5_CHI_15	24° 54' 46.205" N	87° 8' 36.209" E	0.70
2549	GO_Z5_CHI_15	24° 54' 45.880" N	87° 8' 36.209" E	0.67
2550	GO_Z5_CHI_15	24° 54' 45.555" N	87° 8' 36.209" E	0.60
2551	GO_Z5_CHI_15	24° 54' 45.230" N	87° 8' 36.208" E	0.42
2552	GO_Z5_CHI_15	24° 54' 44.905" N	87° 8' 36.208" E	0.26
2553	GO_Z5_CHI_15	24° 54' 44.580" N	87° 8' 36.208" E	0.26
2554	GO_Z5_CHI_15	24° 54' 44.255" N	87° 8' 36.207" E	0.42
2555	GO_Z5_CHI_15	24° 54' 43.929" N	87° 8' 36.207" E	0.67
2556	GO_Z5_CHI_3	24° 55' 20.018" N	87° 8' 36.605" E	0.02
2557	GO_Z5_CHI_3	24° 55' 19.692" N	87° 8' 36.605" E	0.06
2558	GO_Z5_CHI_3	24° 55' 19.367" N	87° 8' 36.604" E	-0.03
2559	GO_Z5_CHI_3	24° 55' 19.042" N	87° 8' 36.604" E	-0.04
2560	GO_Z5_CHI_3	24° 55' 18.717" N	87° 8' 36.604" E	-0.01
2561	GO_Z5_CHI_3	24° 55' 18.392" N	87° 8' 36.603" E	-0.01
2562	GO_Z5_CHI_3	24° 55' 18.067" N	87° 8' 36.603" E	-0.06
2563	GO_Z5_CHI_3	24° 55' 17.742" N	87° 8' 36.602" E	-0.19
2564	GO_Z5_CHI_3	24° 55' 17.417" N	87° 8' 36.602" E	-0.27
2565	GO_Z5_CHI_3	24° 55' 17.091" N	87° 8' 36.602" E	-0.22
2566	GO_Z5_CHI_3	24° 55' 16.766" N	87° 8' 36.601" E	-0.27
2567	GO_Z5_CHI_3	24° 55' 16.441" N	87° 8' 36.601" E	-0.31
2568	GO_Z5_CHI_3	24° 55' 16.116" N	87° 8' 36.601" E	-0.36
2569	GO_Z5_CHI_3	24° 55' 15.791" N	87° 8' 36.600" E	-0.32
2570	GO_Z5_CHI_3	24° 55' 15.466" N	87° 8' 36.600" E	-0.24
2571	GO_Z5_CHI_3	24° 55' 15.141" N	87° 8' 36.599" E	0.02
2572	GO_Z5_CHI_3	24° 55' 14.816" N	87° 8' 36.599" E	0.10
2573	GO_Z5_CHI_15	24° 54' 46.530" N	87° 8' 36.566" E	0.85
2574	GO_Z5_CHI_15	24° 54' 46.205" N	87° 8' 36.566" E	0.82
2575	GO_Z5_CHI_15	24° 54' 45.880" N	87° 8' 36.566" E	0.75
2576	GO_Z5_CHI_15	24° 54' 45.555" N	87° 8' 36.565" E	0.67
2577	GO_Z5_CHI_15	24° 54' 45.230" N	87° 8' 36.565" E	0.58
2578	GO_Z5_CHI_15	24° 54' 44.904" N	87° 8' 36.564" E	0.41
2579	GO_Z5_CHI_15	24° 54' 44.579" N	87° 8' 36.564" E	0.20
2580	GO_Z5_CHI_15	24° 54' 44.254" N	87° 8' 36.564" E	0.10
2581	GO_Z5_CHI_15	24° 54' 43.929" N	87° 8' 36.563" E	0.16
2582	GO_Z5_CHI_15	24° 54' 43.604" N	87° 8' 36.563" E	0.59
2583	GO_Z5_CHI_15	24° 54' 43.279" N	87° 8' 36.563" E	0.59
2584	GO_Z5_CHI_3	24° 55' 20.342" N	87° 8' 36.962" E	0.18
2585	GO_Z5_CHI_3	24° 55' 20.017" N	87° 8' 36.962" E	0.12
2586	GO_Z5_CHI_3	24° 55' 19.692" N	87° 8' 36.961" E	-0.05
2587	GO_Z5_CHI_3	24° 55' 19.367" N	87° 8' 36.961" E	-0.14
2588	GO_Z5_CHI_3	24° 55' 19.042" N	87° 8' 36.960" E	-0.10
2589	GO_Z5_CHI_3	24° 55' 18.717" N	87° 8' 36.960" E	0.06
2590	GO_Z5_CHI_3	24° 55' 18.392" N	87° 8' 36.960" E	-0.08
2591	GO_Z5_CHI_3	24° 55' 18.067" N	87° 8' 36.959" E	-0.06
2592	GO_Z5_CHI_3	24° 55' 17.741" N	87° 8' 36.959" E	-0.11
2593	GO_Z5_CHI_3	24° 55' 17.416" N	87° 8' 36.959" E	-0.28
2594	GO_Z5_CHI_3	24° 55' 17.091" N	87° 8' 36.958" E	-0.07
2595	GO_Z5_CHI_3	24° 55' 16.766" N	87° 8' 36.958" E	-0.02
2596	GO_Z5_CHI_3	24° 55' 16.441" N	87° 8' 36.957" E	-0.05
2597	GO_Z5_CHI_3	24° 55' 16.116" N	87° 8' 36.957" E	0.07
2598	GO_Z5_CHI_3	24° 55' 15.791" N	87° 8' 36.957" E	0.26
2599	GO_Z5_CHI_15	24° 54' 45.879" N	87° 8' 36.922" E	0.97
2600	GO_Z5_CHI_15	24° 54' 45.554" N	87° 8' 36.922" E	0.92
2601	GO_Z5_CHI_15	24° 54' 45.229" N	87° 8' 36.921" E	0.80
2602	GO_Z5_CHI_15	24° 54' 44.904" N	87° 8' 36.921" E	0.80
2603	GO_Z5_CHI_15	24° 54' 44.579" N	87° 8' 36.921" E	0.64
2604	GO_Z5_CHI_15	24° 54' 44.254" N	87° 8' 36.920" E	0.61
2605	GO_Z5_CHI_15	24° 54' 43.929" N	87° 8' 36.920" E	0.51
2606	GO_Z5_CHI_15	24° 54' 43.604" N	87° 8' 36.919" E	0.68
2607	GO_Z5_CHI_15	24° 54' 43.278" N	87° 8' 36.919" E	0.64
2608	GO_Z5_CHI_15	24° 54' 42.953" N	87° 8' 36.919" E	0.54
2609	GO_Z5_CHI_15	24° 54' 42.628" N	87° 8' 36.918" E	0.66
2610	GO_Z5_CHI_3	24° 55' 20.342" N	87° 8' 37.318" E	0.07
2611	GO_Z5_CHI_3	24° 55' 20.017" N	87° 8' 37.318" E	0.05
2612	GO_Z5_CHI_3	24° 55' 19.692" N	87° 8' 37.318" E	-0.05
2613	GO_Z5_CHI_3	24° 55' 19.367" N	87° 8' 37.317" E	0.07
2614	GO_Z5_CHI_3	24° 55' 19.042" N	87° 8' 37.317" E	0.05
2615	GO_Z5_CHI_3	24° 55' 18.716" N	87° 8' 37.317" E	0.00
2616	GO_Z5_CHI_3	24° 55' 18.391" N	87° 8' 37.316" E	-0.08
2617	GO_Z5_CHI_3	24° 55' 18.066" N	87° 8' 37.316" E	-0.05
2618	GO_Z5_CHI_3	24° 55' 17.741" N	87° 8' 37.315" E	-0.15
2619	GO_Z5_CHI_3	24° 55' 17.416" N	87° 8' 37.315" E	0.06
2620	GO_Z5_CHI_3	24° 55' 17.091" N	87° 8' 37.315" E	0.02
2621	GO_Z5_CHI_3	24° 55' 16.766" N	87° 8' 37.314" E	0.04
2622	GO_Z5_CHI_3	24° 55' 16.441" N	87° 8' 37.314" E	0.14
2623	GO_Z5_CHI_15	24° 54' 45.554" N	87° 8' 37.278" E	0.90
2624	GO_Z5_CHI_15	24° 54' 45.229" N	87° 8' 37.278" E	0.81
2625	GO_Z5_CHI_15	24° 54' 44.904" N	87° 8' 37.277" E	1.07
2626	GO_Z5_CHI_15	24° 54' 44.579" N	87° 8' 37.277" E	0.97
2627	GO_Z5_CHI_15	24° 54' 44.253" N	87° 8' 37.277" E	0.78
2628	GO_Z5_CHI_15	24° 54' 43.928" N	87° 8' 37.276" E	0.57
2629	GO_Z5_CHI_15	24° 54' 43.603" N	87° 8' 37.276" E	0.61
2630	GO_Z5_CHI_15	24° 54' 43.278" N	87° 8' 37.276" E	0.64
2631	GO_Z5_CHI_15	24° 54' 42.953" N	87° 8' 37.275" E	0.51
2632	GO_Z5_CHI_15	24° 54' 42.628" N	87° 8' 37.275" E	0.70
2633	GO_Z5_CHI_15	24° 54' 42.303" N	87° 8' 37.274" E	0.81
2634	GO_Z5_CHI_3	24° 55' 20.667" N	87° 8' 37.675" E	0.00
2635	GO_Z5_CHI_3	24° 55' 20.342" N	87° 8' 37.675" E	0.01
2636	GO_Z5_CHI_3	24° 55' 20.017" N	87° 8' 37.675" E	-0.15
2637	GO_Z5_CHI_3	24° 55' 19.691" N	87° 8' 37.674" E	0.00
2638	GO_Z5_CHI_3	24° 55' 19.366" N	87° 8' 37.674" E	-0.01
2639	GO_Z5_CHI_3	24° 55' 19.041" N	87° 8' 37.673" E	0.07
2640	GO_Z5_CHI_3	24° 55' 18.716" N	87° 8' 37.673" E	-0.01
2641	GO_Z5_CHI_3	24° 55' 18.391" N	87° 8' 37.673" E	-0.05
2642	GO_Z5_CHI_3	24° 55' 18.066" N	87° 8' 37.672" E	-0.01
2643	GO_Z5_CHI_3	24° 55' 17.741" N	87° 8' 37.672" E	-0.06
2644	GO_Z5_CHI_3	24° 55' 17.416" N	87° 8' 37.672" E	0.03
2645	GO_Z5_CHI_15	24° 54' 45.229" N	87° 8' 37.634" E	0.99
2646	GO_Z5_CHI_15	24° 54' 44.903" N	87° 8' 37.634" E	1.03
2647	GO_Z5_CHI_15	24° 54' 44.578" N	87° 8' 37.634" E	1.02
2648	GO_Z5_CHI_15	24° 54' 44.253" N	87° 8' 37.633" E	1.16
2649	GO_Z5_CHI_15	24° 54' 43.928" N	87° 8' 37.633" E	1.33
2650	GO_Z5_CHI_15	24° 54' 43.603" N	87° 8' 37.632" E	1.02
2651	GO_Z5_CHI_15	24° 54' 43.278" N	87° 8' 37.632" E	0.62
2652	GO_Z5_CHI_15	24° 54' 42.953" N	87° 8' 37.632" E	0.54
2653	GO_Z5_CHI_15	24° 54' 42.628" N	87° 8' 37.631" E	0.68
2654	GO_Z5_CHI_15	24° 54' 42.302" N	87° 8' 37.631" E	0.88
2655	GO_Z5_CHI_15	24° 54' 41.977" N	87° 8' 37.631" E	0.83
2656	GO_Z5_CHI_3	24° 55' 20.992" N	87° 8' 38.032" E	0.04
2657	GO_Z5_CHI_3	24° 55' 20.666" N	87° 8' 38.032" E	0.02
2658	GO_Z5_CHI_3	24° 55' 20.341" N	87° 8' 38.032" E	0.01
2659	GO_Z5_CHI_3	24° 55' 20.016" N	87° 8' 38.031" E	-0.05
2660	GO_Z5_CHI_3	24° 55' 19.691" N	87° 8' 38.031" E	0.15
2661	GO_Z5_CHI_3	24° 55' 19.366" N	87° 8' 38.030" E	0.20
2662	GO_Z5_CHI_3	24° 55' 19.041" N	87° 8' 38.030" E	0.02
2663	GO_Z5_CHI_3	24° 55' 18.716" N	87° 8' 38.030" E	0.01
2664	GO_Z5_CHI_3	24° 55' 18.391" N	87° 8' 38.029" E	-0.09
2665	GO_Z5_CHI_15	24° 54' 44.578" N	87° 8' 37.990" E	1.42
2666	GO_Z5_CHI_15	24° 54' 44.253" N	87° 8' 37.990" E	1.40
2667	GO_Z5_CHI_15	24° 54' 43.928" N	87° 8' 37.989" E	1.30
2668	GO_Z5_CHI_15	24° 54' 43.603" N	87° 8' 37.989" E	1.17
2669	GO_Z5_CHI_15	24° 54' 43.277" N	87° 8' 37.989" E	1.03
2670	GO_Z5_CHI_15	24° 54' 42.952" N	87° 8' 37.988" E	0.53
2671	GO_Z5_CHI_15	24° 54' 42.627" N	87° 8' 37.988" E	0.73
2672	GO_Z5_CHI_15	24° 54' 42.302" N	87° 8' 37.987" E	0.74
2673	GO_Z5_CHI_15	24° 54' 41.977" N	87° 8' 37.987" E	0.78
2674	GO_Z5_CHI_15	24° 54' 41.652" N	87° 8' 37.987" E	0.75
2675	GO_Z5_CHI_15	24° 54' 41.327" N	87° 8' 37.986" E	0.80
2676	GO_Z5_CHI_3	24° 55' 20.991" N	87° 8' 38.389" E	-0.16
2677	GO_Z5_CHI_3	24° 55' 20.666" N	87° 8' 38.388" E	-0.18
2678	GO_Z5_CHI_3	24° 55' 20.341" N	87° 8' 38.388" E	-0.23
2679	GO_Z5_CHI_3	24° 55' 20.016" N	87° 8' 38.388" E	-0.02
2680	GO_Z5_CHI_3	24° 55' 19.691" N	87° 8' 38.387" E	0.11
2681	GO_Z5_CHI_3	24° 55' 19.366" N	87° 8' 38.387" E	0.02
2682	GO_Z5_CHI_3	24° 55' 19.040" N	87° 8' 38.387" E	0.05
2683	GO_Z5_CHI_3	24° 55' 18.715" N	87° 8' 38.386" E	-0.04
2684	GO_Z5_CHI_15	24° 54' 44.252" N	87° 8' 38.346" E	1.64
2685	GO_Z5_CHI_15	24° 54' 43.927" N	87° 8' 38.346" E	1.53
2686	GO_Z5_CHI_15	24° 54' 43.602" N	87° 8' 38.345" E	1.57
2687	GO_Z5_CHI_15	24° 54' 43.277" N	87° 8' 38.345" E	1.59
2688	GO_Z5_CHI_15	24° 54' 42.952" N	87° 8' 38.345" E	1.53
2689	GO_Z5_CHI_15	24° 54' 42.627" N	87° 8' 38.344" E	0.74
2690	GO_Z5_CHI_15	24° 54' 42.302" N	87° 8' 38.344" E	0.60
2691	GO_Z5_CHI_15	24° 54' 41.977" N	87° 8' 38.344" E	0.67
2692	GO_Z5_CHI_15	24° 54' 41.651" N	87° 8' 38.343" E	0.60
2693	GO_Z5_CHI_15	24° 54' 41.326" N	87° 8' 38.343" E	0.69
2694	GO_Z5_CHI_15	24° 54' 41.001" N	87° 8' 38.342" E	0.80
2695	GO_Z5_CHI_3	24° 55' 21.316" N	87° 8' 38.746" E	-0.38
2696	GO_Z5_CHI_3	24° 55' 20.991" N	87° 8' 38.745" E	-0.19
2697	GO_Z5_CHI_3	24° 55' 20.666" N	87° 8'

TABLE REPRESENTING ELEVATION (in m) WITH RESPECT TO 10m X 10m GRID WITHIN POTENTIAL SAND GHATS IN GODDA DISTRICT OF JHARKHAND

ANNEXURE - B17

2998	GO_Z2_GE_16	25° 0' 39.276" N	87° 8' 46.609" E	-7.50
2999	GO_Z2_GE_16	25° 0' 38.951" N	87° 8' 46.608" E	-7.43
3000	GO_Z2_GE_16	25° 0' 38.626" N	87° 8' 46.608" E	-7.33
3001	GO_Z2_GE_16	25° 0' 38.300" N	87° 8' 46.607" E	-7.32
3002	GO_Z2_GE_16	25° 0' 37.975" N	87° 8' 46.607" E	-7.40
3003	GO_Z2_GE_16	25° 0' 37.650" N	87° 8' 46.607" E	-7.36
3004	GO_Z2_GE_16	25° 0' 37.325" N	87° 8' 46.606" E	-7.51
3005	GO_Z2_GE_16	25° 0' 37.000" N	87° 8' 46.606" E	-7.76
3006	GO_Z2_GE_16	25° 0' 36.675" N	87° 8' 46.606" E	-7.77
3007	GO_Z2_GE_16	25° 0' 36.350" N	87° 8' 46.605" E	-7.76
3008	GO_Z2_GE_16	25° 0' 36.025" N	87° 8' 46.605" E	-7.60
3009	GO_Z2_GE_16	25° 0' 35.699" N	87° 8' 46.604" E	-7.53
3010	GO_Z2_GE_16	25° 0' 35.374" N	87° 8' 46.604" E	-7.51
3011	GO_Z2_GE_16	25° 0' 35.049" N	87° 8' 46.604" E	-7.54
3012	GO_Z2_GE_16	25° 0' 34.724" N	87° 8' 46.603" E	-7.50
3013	GO_Z2_GE_16	25° 0' 34.399" N	87° 8' 46.603" E	-7.50
3014	GO_Z2_GE_16	25° 0' 34.074" N	87° 8' 46.602" E	-7.51
3015	GO_Z2_GE_16	25° 0' 33.749" N	87° 8' 46.602" E	-7.49
3016	GO_Z2_GE_16	25° 0' 33.424" N	87° 8' 46.602" E	-7.62
3017	GO_Z2_GE_16	25° 0' 33.099" N	87° 8' 46.601" E	-7.81
3018	GO_Z2_GE_16	25° 0' 32.773" N	87° 8' 46.601" E	-7.68
3019	GO_Z5_CHI_3	24° 55' 25.860" N	87° 8' 46.238" E	-0.76
3020	GO_Z5_CHI_3	24° 55' 25.535" N	87° 8' 46.238" E	-0.43
3021	GO_Z5_CHI_3	24° 55' 25.210" N	87° 8' 46.237" E	-0.63
3022	GO_Z5_CHI_3	24° 55' 24.885" N	87° 8' 46.237" E	-0.48
3023	GO_Z16_CHI_11	24° 52' 10.462" N	87° 8' 46.008" E	8.68
3024	GO_Z16_CHI_11	24° 52' 10.137" N	87° 8' 46.008" E	8.63
3025	GO_Z16_CHI_11	24° 52' 9.811" N	87° 8' 46.007" E	8.33
3026	GO_Z16_CHI_11	24° 52' 9.486" N	87° 8' 46.007" E	8.42
3027	GO_Z16_CHI_11	24° 52' 9.161" N	87° 8' 46.007" E	8.16
3028	GO_Z16_CHI_11	24° 52' 8.836" N	87° 8' 46.006" E	8.24
3029	GO_Z16_CHI_11	24° 52' 8.511" N	87° 8' 46.006" E	8.25
3030	GO_Z16_CHI_11	24° 52' 8.186" N	87° 8' 46.006" E	8.36
3031	GO_Z16_CHI_11	24° 52' 7.861" N	87° 8' 46.005" E	9.15
3032	GO_Z2_GE_1	25° 1' 11.787" N	87° 8' 47.004" E	-8.72
3033	GO_Z2_GE_1	25° 1' 11.462" N	87° 8' 47.004" E	-8.43
3034	GO_Z2_GE_1	25° 1' 11.137" N	87° 8' 47.003" E	-8.09
3035	GO_Z2_GE_1	25° 1' 10.812" N	87° 8' 47.003" E	-8.11
3036	GO_Z2_GE_1	25° 1' 10.487" N	87° 8' 47.002" E	-8.16
3037	GO_Z2_GE_1	25° 1' 10.162" N	87° 8' 47.002" E	-8.13
3038	GO_Z2_GE_16	25° 0' 40.576" N	87° 8' 46.967" E	-7.81
3039	GO_Z2_GE_16	25° 0' 40.251" N	87° 8' 46.967" E	-7.67
3040	GO_Z2_GE_16	25° 0' 39.926" N	87° 8' 46.966" E	-7.69
3041	GO_Z2_GE_16	25° 0' 39.601" N	87° 8' 46.966" E	-7.60
3042	GO_Z2_GE_16	25° 0' 39.275" N	87° 8' 46.965" E	-7.55
3043	GO_Z2_GE_16	25° 0' 38.950" N	87° 8' 46.965" E	-7.39
3044	GO_Z2_GE_16	25° 0' 38.625" N	87° 8' 46.965" E	-7.36
3045	GO_Z2_GE_16	25° 0' 38.300" N	87° 8' 46.964" E	-7.33
3046	GO_Z2_GE_16	25° 0' 37.975" N	87° 8' 46.964" E	-7.34
3047	GO_Z2_GE_16	25° 0' 37.650" N	87° 8' 46.963" E	-7.32
3048	GO_Z2_GE_16	25° 0' 37.325" N	87° 8' 46.963" E	-7.34
3049	GO_Z2_GE_16	25° 0' 37.000" N	87° 8' 46.963" E	-7.49
3050	GO_Z2_GE_16	25° 0' 36.674" N	87° 8' 46.962" E	-7.76
3051	GO_Z2_GE_16	25° 0' 36.349" N	87° 8' 46.962" E	-7.78
3052	GO_Z2_GE_16	25° 0' 36.024" N	87° 8' 46.962" E	-7.77
3053	GO_Z2_GE_16	25° 0' 34.074" N	87° 8' 46.959" E	-7.50
3054	GO_Z2_GE_16	25° 0' 33.748" N	87° 8' 46.959" E	-7.55
3055	GO_Z2_GE_16	25° 0' 33.423" N	87° 8' 46.958" E	-7.58
3056	GO_Z2_GE_16	25° 0' 33.098" N	87° 8' 46.958" E	-7.70
3057	GO_Z2_GE_16	25° 0' 32.773" N	87° 8' 46.958" E	-7.73
3058	GO_Z2_GE_16	25° 0' 32.448" N	87° 8' 46.957" E	-7.58
3059	GO_Z2_GE_16	25° 0' 32.123" N	87° 8' 46.957" E	-7.56
3060	GO_Z5_CHI_3	24° 55' 25.860" N	87° 8' 46.595" E	-0.64
3061	GO_Z5_CHI_3	24° 55' 25.535" N	87° 8' 46.594" E	-0.75
3062	GO_Z5_CHI_3	24° 55' 25.210" N	87° 8' 46.594" E	-0.65
3063	GO_Z5_CHI_3	24° 55' 24.885" N	87° 8' 46.594" E	-0.45
3064	GO_Z16_CHI_11	24° 52' 10.786" N	87° 8' 46.365" E	8.53
3065	GO_Z16_CHI_11	24° 52' 10.461" N	87° 8' 46.365" E	8.48
3066	GO_Z16_CHI_11	24° 52' 10.136" N	87° 8' 46.364" E	8.56
3067	GO_Z16_CHI_11	24° 52' 9.811" N	87° 8' 46.364" E	8.47
3068	GO_Z16_CHI_11	24° 52' 9.486" N	87° 8' 46.363" E	8.87
3069	GO_Z16_CHI_11	24° 52' 9.161" N	87° 8' 46.363" E	8.19
3070	GO_Z16_CHI_11	24° 52' 8.836" N	87° 8' 46.363" E	8.07
3071	GO_Z16_CHI_11	24° 52' 8.511" N	87° 8' 46.362" E	8.27
3072	GO_Z16_CHI_11	24° 52' 8.185" N	87° 8' 46.362" E	9.51
3073	GO_Z2_GE_1	25° 1' 12.437" N	87° 8' 47.362" E	-8.66
3074	GO_Z2_GE_1	25° 1' 12.112" N	87° 8' 47.361" E	-8.51
3075	GO_Z2_GE_1	25° 1' 11.787" N	87° 8' 47.361" E	-8.28
3076	GO_Z2_GE_1	25° 1' 11.462" N	87° 8' 47.360" E	-7.98
3077	GO_Z2_GE_1	25° 1' 11.137" N	87° 8' 47.360" E	-7.97
3078	GO_Z2_GE_16	25° 0' 41.876" N	87° 8' 47.325" E	-7.98
3079	GO_Z2_GE_16	25° 0' 41.551" N	87° 8' 47.325" E	-7.89
3080	GO_Z2_GE_16	25° 0' 41.226" N	87° 8' 47.325" E	-7.83
3081	GO_Z2_GE_16	25° 0' 40.901" N	87° 8' 47.324" E	-7.82
3082	GO_Z2_GE_16	25° 0' 40.576" N	87° 8' 47.324" E	-7.76
3083	GO_Z2_GE_16	25° 0' 40.250" N	87° 8' 47.323" E	-7.68
3084	GO_Z2_GE_16	25° 0' 39.925" N	87° 8' 47.323" E	-7.58
3085	GO_Z2_GE_16	25° 0' 39.600" N	87° 8' 47.323" E	-7.45
3086	GO_Z2_GE_16	25° 0' 39.275" N	87° 8' 47.322" E	-7.44
3087	GO_Z2_GE_16	25° 0' 38.950" N	87° 8' 47.322" E	-7.47
3088	GO_Z2_GE_16	25° 0' 38.625" N	87° 8' 47.321" E	-7.39
3089	GO_Z2_GE_16	25° 0' 38.300" N	87° 8' 47.321" E	-7.38
3090	GO_Z2_GE_16	25° 0' 37.975" N	87° 8' 47.321" E	-7.38
3091	GO_Z2_GE_16	25° 0' 37.649" N	87° 8' 47.320" E	-7.35
3092	GO_Z2_GE_16	25° 0' 33.423" N	87° 8' 47.315" E	-7.54
3093	GO_Z2_GE_16	25° 0' 33.098" N	87° 8' 47.315" E	-7.66
3094	GO_Z2_GE_16	25° 0' 32.773" N	87° 8' 47.314" E	-7.74
3095	GO_Z2_GE_16	25° 0' 32.448" N	87° 8' 47.314" E	-7.75
3096	GO_Z2_GE_16	25° 0' 32.122" N	87° 8' 47.314" E	-7.71
3097	GO_Z2_GE_16	25° 0' 31.797" N	87° 8' 47.313" E	-7.61
3098	GO_Z5_CHI_3	24° 55' 26.185" N	87° 8' 46.952" E	-0.87
3099	GO_Z5_CHI_3	24° 55' 25.860" N	87° 8' 46.951" E	-0.66
3100	GO_Z5_CHI_3	24° 55' 25.535" N	87° 8' 46.951" E	-0.57
3101	GO_Z5_CHI_3	24° 55' 25.209" N	87° 8' 46.951" E	-0.64
3102	GO_Z16_CHI_11	24° 52' 11.111" N	87° 8' 46.722" E	8.57
3103	GO_Z16_CHI_11	24° 52' 10.786" N	87° 8' 46.721" E	8.57
3104	GO_Z16_CHI_11	24° 52' 10.461" N	87° 8' 46.721" E	8.61
3105	GO_Z16_CHI_11	24° 52' 10.136" N	87° 8' 46.721" E	8.49
3106	GO_Z16_CHI_11	24° 52' 9.811" N	87° 8' 46.720" E	8.49
3107	GO_Z16_CHI_11	24° 52' 9.486" N	87° 8' 46.720" E	8.20
3108	GO_Z16_CHI_11	24° 52' 9.160" N	87° 8' 46.719" E	8.22
3109	GO_Z16_CHI_11	24° 52' 8.835" N	87° 8' 46.719" E	8.69
3110	GO_Z16_CHI_11	24° 52' 8.510" N	87° 8' 46.719" E	9.63
3111	GO_Z2_GE_1	25° 1' 13.087" N	87° 8' 47.719" E	-8.53
3112	GO_Z2_GE_1	25° 1' 12.762" N	87° 8' 47.719" E	-8.52
3113	GO_Z2_GE_1	25° 1' 12.437" N	87° 8' 47.718" E	-8.53
3114	GO_Z2_GE_1	25° 1' 12.112" N	87° 8' 47.718" E	-8.26
3115	GO_Z2_GE_16	25° 0' 42.201" N	87° 8' 47.682" E	-8.08
3116	GO_Z2_GE_16	25° 0' 41.876" N	87° 8' 47.682" E	-7.89
3117	GO_Z2_GE_16	25° 0' 41.551" N	87° 8' 47.682" E	-7.80
3118	GO_Z2_GE_16	25° 0' 41.225" N	87° 8' 47.681" E	-7.82
3119	GO_Z2_GE_16	25° 0' 40.900" N	87° 8' 47.681" E	-7.76
3120	GO_Z2_GE_16	25° 0' 40.575" N	87° 8' 47.681" E	-7.78
3121	GO_Z2_GE_16	25° 0' 40.250" N	87° 8' 47.680" E	-7.80
3122	GO_Z2_GE_16	25° 0' 39.925" N	87° 8' 47.680" E	-7.79
3123	GO_Z2_GE_16	25° 0' 39.600" N	87° 8' 47.679" E	-7.57
3124	GO_Z2_GE_16	25° 0' 39.275" N	87° 8' 47.679" E	-7.56
3125	GO_Z2_GE_16	25° 0' 32.772" N	87° 8' 47.671" E	-7.73
3126	GO_Z2_GE_16	25° 0' 32.447" N	87° 8' 47.671" E	-7.64
3127	GO_Z2_GE_16	25° 0' 32.122" N	87° 8' 47.670" E	-7.67
3128	GO_Z2_GE_16	25° 0' 31.797" N	87° 8' 47.670" E	-7.66
3129	GO_Z2_GE_16	25° 0' 31.472" N	87° 8' 47.670" E	-7.42
3130	GO_Z2_GE_16	25° 0' 31.147" N	87° 8' 47.669" E	-7.20
3131	GO_Z5_CHI_3	24° 55' 26.510" N	87° 8' 47.309" E	-0.81
3132	GO_Z5_CHI_3	24° 55' 26.184" N	87° 8' 47.308" E	-0.81
3133	GO_Z5_CHI_3	24° 55' 25.859" N	87° 8' 47.308" E	-0.43
3134	GO_Z5_CHI_3	24° 55' 25.534" N	87° 8' 47.307" E	-0.54
3135	GO_Z16_CHI_11	24° 52' 11.761" N	87° 8' 47.079" E	8.81
3136	GO_Z16_CHI_11	24° 52' 11.436" N	87° 8' 47.078" E	8.54
3137	GO_Z16_CHI_11	24° 52' 11.111" N	87° 8' 47.078" E	8.56
3138	GO_Z16_CHI_11	24° 52' 10.786" N	87° 8' 47.078" E	8.61
3139	GO_Z16_CHI_11	24° 52' 10.461" N	87° 8' 47.077" E	8.56
3140	GO_Z16_CHI_11	24° 52' 10.135" N	87° 8' 47.077" E	8.50
3141	GO_Z16_CHI_11	24° 52' 9.810" N	87° 8' 47.077" E	8.33
3142	GO_Z16_CHI_11	24° 52' 9.485" N	87° 8' 47.076" E	8.20
3143	GO_Z16_CHI_11	24° 52' 9.160" N	87° 8' 47.076" E	7.95
3144	GO_Z16_CHI_11	24° 52' 8.835" N	87° 8' 47.075" E	9.78
3145	GO_Z2_GE_1	25° 1' 13.737" N	87° 8' 48.077" E	-8.51
3146	GO_Z2_GE_1	25° 1' 13.412" N	87° 8' 48.076" E	-8.50
3147	GO_Z2_GE_1	25° 1' 13.087" N	87° 8' 48.076" E	-8.53
3148	GO_Z2_GE_1	25° 1' 12.761" N	87° 8' 48.076" E	-8.49
3149	GO_Z2_GE_16	25° 0' 42.200" N	87° 8' 48.039" E	-8.02
3150	GO_Z2_GE_16	25° 0' 41.875" N	87° 8' 48.039" E	-7.91
3151	GO_Z2_GE_16	25° 0' 41.550" N	87° 8' 48.038" E	-7.87
3152	GO_Z2_GE_16	25° 0' 41.225" N	87° 8' 48.038" E	-7.81
3153	GO_Z2_GE_16	25° 0' 40.900" N	87° 8' 48.038" E	-8.22
3154	GO_Z2_GE_16	25° 0' 40.575" N	87° 8' 48.037" E	-7.77
3155	GO_Z2_GE_16	25° 0' 32.122" N	87° 8' 48.027" E	-7.58
3156	GO_Z2_GE_16	25° 0' 31.797" N	87° 8' 48.027" E	-7.62
3157	GO_Z2_GE_16	25° 0' 31.472" N	87° 8' 48.026" E	-7.56
3158	GO_Z2_GE_16	25° 0' 31.146" N	87° 8' 48.026" E	-7.59
3159	GO_Z2_GE_16	25° 0' 30.821" N	87° 8' 48.026" E	-7.09
3160	GO_Z2_GE_16	25° 0' 30.496" N	87° 8' 48.025" E	-7.53
3161	GO_Z5_CHI_3	24° 55' 26.509" N	87° 8' 47.665" E	-0.82
3162	GO_Z5_CHI_3	24° 55' 26.184" N	87° 8' 47.665" E	-0.64
3163	GO_Z5_CHI_3	24° 55' 25.859" N	87° 8' 47.664" E	-0.48
3164	GO_Z5_CHI_3	24° 55' 25.534" N	87° 8' 47.664" E	-0.43
3165	GO_Z16_CHI_11	24° 52' 12.086" N	87° 8' 47.436" E	8.79
3166	GO_Z16_CHI_11	24° 52' 11.761" N	87° 8' 47.435" E	8.56
3167	GO_Z16_CHI_11	24° 52' 11.436" N	87° 8' 47.435" E	8.58
3168	GO_Z16_CHI_11	24° 52' 11.110" N	87° 8' 47.434" E	8.74
3169	GO_Z16_CHI_11	24° 52' 10.785" N	87° 8' 47.434" E	8.67
3170	GO_Z16_CHI_11	24° 52' 10.460" N	87° 8' 47.434" E	8.52
3171	GO_Z16_CHI_11	24° 52' 10.135" N	87° 8' 47.433" E	8.24
3172	GO_Z16_CHI_11	24° 52' 9.810" N	87° 8' 47.433" E	8.29
3173	GO_Z16_CHI_11	24° 52' 9.485" N	87° 8' 47.433" E	8.07
3174	GO_Z2_GE_1	25° 1' 14.387" N	87° 8' 48.434" E	-8.48
3175	GO_Z2_GE_1	25° 1' 14.062" N	87° 8' 48.434" E	-8.39
3176	GO_Z2_GE_1	25° 1' 13.736" N	87° 8' 48.434" E	-8.49
3177	GO_Z2_GE_1	25° 1' 13.411" N	87° 8' 48.433" E	-8.49
3178	GO_Z2_GE_16	25° 0' 42.200" N	87° 8' 48.396" E	-8.14
3179	GO_Z2_GE_16	25° 0' 41.875" N	87° 8' 48.396" E	-7.61
3180	GO_Z2_GE_16	25° 0' 31.471" N	87° 8' 48.383" E	-7.62
3181	GO_Z2_GE_16	25° 0' 31.146" N	87° 8' 48.383" E	-7.78
3182	GO_Z2_GE_16	25° 0' 30.821" N	87° 8' 48.382" E	-7.63
3183	GO_Z2_GE_16	25° 0' 30.496" N	87° 8' 48.382" E	-7.02
3184	GO_Z2_GE_16	25° 0' 30.171" N	87° 8' 48.382" E	-7.30
3185	GO_Z5_CHI_3	24° 55' 26.834" N	87° 8' 48.022" E	-0.77
3186	GO_Z5_CHI_3	24° 55' 26.509" N	87° 8' 48.022" E	-0.64
3187	GO_Z5_CHI_3	24° 55' 26.184" N	87° 8' 48.021" E	-0.65
3188	GO_Z5_CHI_3	24° 55' 25.859" N	87° 8' 48.021" E	-0.42
3189	GO_Z16_CHI_11	24° 52' 12.411" N	87° 8' 47.792" E	8.78
3190	GO_Z16_CHI_11	24° 52' 12.086" N	87° 8' 47.792" E	8.71
3191	GO_Z16_CHI_11	24° 52' 11.760" N	87° 8' 47.792" E	8.48
3192	GO_Z16_CHI_11	24° 52' 11.435" N	87° 8' 47.791" E	8.62
3193	GO_Z16_CHI_11	24° 52' 11.110" N	87° 8' 47.791" E	8.72
3194	GO_Z16_CHI_11	24° 52' 10.785" N	87° 8' 47.790" E	8.45
3195	GO_Z16_CHI_11	24° 52' 10.460" N	87° 8' 47.790" E	8.33
3196	GO_Z16_CHI_11	24° 52' 10.135" N	87° 8' 47.790" E	8.81
3197	GO_Z2_GE_1	25° 1' 14.711" N	87° 8' 48.791" E	-8.51
3198	GO_Z2_GE_1	25° 1' 14.386" N	87° 8' 48.791" E	-8.35
3199	GO_Z2_GE_1	25° 1' 14.061" N	87° 8' 48.791" E	-8.42
3200	GO_Z2_GE_1	25° 1' 13.736" N	87° 8' 48.790" E	-8.50
3201	GO_Z2_GE_16	25° 0' 30.821" N	87° 8' 48.739" E	-7.53
3202	GO_Z2_GE_16	25° 0' 30.495" N	87° 8' 48.739" E	-7.68
3203	GO_Z2_GE_16	25° 0' 30.170" N	87° 8' 48.739" E	-7.12
3204	GO_Z2_GE_16	25° 0' 29.845" N	87° 8' 48.738" E	-7.37
3205	GO_Z2_GE_16	25° 0' 29.520" N	87° 8' 48.738" E	-7.35
3206	GO_Z5_CHI_3	24° 55' 27.159" N	87° 8' 48.379" E	-0.76
3207	GO_Z5_CHI_3	24° 55' 26.834" N	87° 8' 48.379" E	-0.59
3208	GO_Z5_CHI_3	24° 55' 26.509" N	87° 8' 48.378" E	-0.46
3209	GO_Z5_CHI_3	24° 55' 26.183" N	87° 8' 48.378" E	-0.52
3210	GO_Z16_CHI_11	24° 52' 12.735" N	87° 8' 48.149" E	8.74
3211	GO_Z16_CHI_11	24° 52' 12.410" N	87° 8' 48.149" E	8.66
3212	GO_Z16_CHI_11	24° 52' 12.085" N	87° 8' 48.148" E	8.54
3213	GO_Z16_CHI_11	24° 52' 11.760" N	87° 8' 48.148" E	8.51
3214	GO_Z16_CHI_11	24° 52' 11.435" N	87° 8' 48.148" E	8.49
3215	GO_Z16_CHI_11	24° 52' 11.110" N	87° 8' 48.147" E	8.41
3216	GO_Z16_CHI_11	24° 52' 10.785" N	87° 8' 48.147" E	8.28
3217	GO_Z2_GE_1	25° 1' 15.036" N	87° 8' 49.149" E	-8.70
3218	GO_Z2_GE_1	25° 1' 14.711" N	87° 8' 49.148" E	-8.39
3219	GO_Z2_GE_1	25° 1' 14.386" N	87° 8' 49.148" E	-8.35
3220	GO_Z2_GE_1	25° 1' 14.061" N	87° 8' 49.148" E	-8.48
3221	GO_Z2_GE_16	25° 0' 30.495" N	87° 8' 49.096" E	-7.50
3222	GO_Z2_GE_16	25° 0' 30.170" N	87° 8' 49.095" E	-7.57
3223	GO_Z2_GE_16	25° 0' 29.845" N	87° 8' 49.095" E	-7.59
3224	GO_Z2_GE_16	25° 0' 29.520" N	87° 8' 49.095" E	-7.47
3225	GO_Z2_GE_16	25° 0' 29.195" N	87° 8' 49.094" E	-7.40
3226	GO_Z5_CHI_3	24° 55' 27.158" N	87° 8' 48.736" E	-0.82
3227	GO_Z5_CHI_3	24° 55' 26.833" N	87° 8' 48.735" E	-0.79
3228	GO_Z5_CHI_3	24° 55' 26.508" N	87° 8' 48.735" E	-0.43
3229	GO_Z5_CHI_3	24° 55' 26.183" N	87° 8' 48.734" E	-0.59
3230	GO_Z16_CHI_11	24° 52' 13.385" N	87° 8' 48.506" E	8.73
3231	GO_Z16_CHI_11	24° 52' 13.060" N	87° 8' 48.506" E	8.73
3232	GO_Z16_CHI_11	24° 52' 12.735" N	87° 8' 48.506" E	8.65
3233	GO_Z16_CHI_11	24° 52' 12.410" N	87° 8' 48.505" E	8.47
3234	GO_Z16_CHI_11	24° 52' 12.085" N	87° 8' 48.505" E	8.46
3235	GO_Z16_CHI_11	24° 52' 11.760" N	87° 8' 48.504" E	8.46
3236	GO_Z16_CHI_11	24° 52' 11.435" N	87° 8' 48.504" E	8.61
3237	GO_Z16_CHI_11	24° 52' 11.109" N	87° 8' 48.504" E	8.15
3238	GO_Z2_GE_1	25° 1' 15.361" N	87° 8' 49.506" E	-8.67
3239	GO_Z2_GE_1	25° 1' 15.036" N	87° 8' 49.506" E	-8.39
3240	GO_Z2_GE_1	25° 1' 14.711" N	87° 8' 49.505" E	-8.48
3241	GO_Z2_GE_1	25° 1' 14.386" N	87° 8' 49.505" E	-8.54
3242	GO_Z2_GE_16	25° 0' 30.170" N	87° 8' 49.452" E	-7.47
3243	GO_Z2_GE_16	25° 0' 29.845" N	87° 8' 49.452" E	-7.45
3244	GO_Z2_GE_16	25° 0' 29.519" N	87° 8' 49.451" E	-7.41
3245	GO_Z2_GE_16	25° 0' 29.194" N	87° 8' 49.451" E	-7.59
3246	GO_Z2_GE_16	25° 0' 28.869" N	87° 8' 49.451" E	-7.57
3247	GO_Z2_GE_16	25° 0' 28.544" N	87° 8' 49.450" E	-7.35
3248	GO_Z5_CHI_3	24° 55' 27.483" N	87° 8' 49.092" E	-0.94
3249	GO_Z5_CHI_3	24° 55' 27.158" N	87° 8' 49.092" E	-0.96
3250	GO_Z5_CHI_3	24° 55' 26.833" N	87° 8' 49.092" E	-0.72
3251	GO_Z5_CHI_3	24° 55' 26.508" N	87° 8' 49.091" E	-0.68
3252	GO_Z16_CHI_11	24° 52' 13.710" N	87° 8' 48.863" E	8.67
3253	GO_Z16_CHI_11	24° 52' 13.385" N	87° 8' 48.863" E	8.65
3254	GO_Z16_CHI_11	24° 52' 13.060" N	87° 8' 48.862" E	8.55
3255	GO_Z16_CHI_11	24° 52' 12.735" N	87° 8' 48.862" E	8.42
3256	GO_Z16_CHI_11	24° 52' 12.410" N	87° 8' 48.862" E	8.42
3257	GO_Z16_CHI_11	24° 52' 12.084" N	87° 8' 48.861" E	8.38
3258	GO_Z16_CHI_11	24° 52' 11.759" N	87° 8' 48.861" E	8.17
3259	GO_Z2_GE_1	25° 1' 15.686" N	87° 8' 49.863" E	-8.68
3260	GO_Z2_GE_1	25° 1' 15.361" N	87° 8' 49.863" E	-8.44
3261	GO_Z2_GE_1	25° 1' 15.036" N	87° 8' 49.862" E	-8.52
3262	GO_Z2_GE_1	25° 1' 14.710" N	87° 8' 49.862" E	-8.94
3263	GO_Z2_GE_16	25° 0' 29.844" N	87° 8' 49.808" E	-7.47
3264	GO_Z2_GE_16	25° 0' 29.519" N	87° 8' 49.808" E	-7.38
3265	GO_Z2_GE_16	25° 0' 29.194" N	87° 8' 49.808" E	-7.33
3266	GO_Z2_GE_16	25° 0' 28.869" N	87° 8' 49.807" E	-7.30
3267	GO_Z2_GE_16	25° 0' 28.544" N	87° 8' 49.807" E	-7.33
3268	GO_Z2_GE_16	25° 0' 28.219" N	87° 8' 49.807" E	-7.19
3269	GO_Z2_GE_16	25° 0' 27.893" N	87° 8' 49.806" E	-7.20
3270	GO_Z5_CHI_3	24° 55' 27.808" N	87° 8' 49.449" E	-0.54
3271	GO_Z5_CHI_3	24° 55' 27.483" N	87° 8' 49.449" E	-0.93
3272	GO_Z5_CHI_3	24° 55' 27.158" N	87° 8' 49.449" E	-0.85
3273	GO_Z5_CHI_3	24° 55' 26.833" N	87° 8' 49.448" E	-0.80
3274	GO_Z16_CHI_11	24° 52' 14.035" N	87° 8' 49.220" E	8.72
3275	GO_Z16_CHI_11	24° 52' 13.710" N	87° 8' 49.219" E	8.64
3276	GO_Z16_CHI_11	24° 52' 13.385" N	87° 8' 49.219" E	8.43
3277	GO_Z16_CHI_11	24° 52' 13.059" N	87° 8' 49.219" E	8.30
3278	GO_Z16_CHI_11	24° 52' 12.734" N	87° 8' 49.218" E	8.13
3279	GO_Z16_CHI_11	24° 52' 12.409" N	87° 8' 49.218" E	8.25
3280	GO_Z2_GE_1	25° 1' 16.011" N	87° 8' 50.220" E	-8.67
3281	GO_Z2_GE_1	25° 1' 15.685" N	87° 8' 50.220" E	-8.63
3282	GO_Z2_GE_1	25° 1' 15.360" N	87° 8' 50.220" E	-8.43
3283	GO_Z2_GE_1	25° 1' 15.035" N	87° 8' 50.219" E	-8.55
3284	GO_Z2_GE_16	25° 0' 29.519" N	87° 8' 50.165" E	-7.47
3285	GO_Z2_GE_16	25° 0' 29.194" N	87° 8' 50.164" E	-7.24
3286	GO_Z2_GE_16	25° 0' 28.868" N	87° 8' 50.164" E	-7.28
3287	GO_Z2_GE_16	25° 0' 28.543" N	87° 8' 50.164" E	-7.24
3288	GO_Z2_GE_16	25° 0' 28.218" N	87° 8' 50.163" E	-7.22
3289	GO_Z2_GE_16	25° 0' 27.893" N	87° 8' 50.163" E	-7.20
3290	GO_Z2_GE_16	25° 0' 27.568" N	87° 8' 50.163" E	-7.06
3291	GO_Z5_CHI_3	24° 55' 27.808" N	87° 8' 49.806" E	-0.94
3292	GO_Z5_CHI_3	24° 55' 27.483" N	87° 8' 49.805" E	-0.90
3293	GO_Z5_CHI_3	24° 55' 27.157" N	87° 8' 49.805" E	-0.85
3294	GO_Z5_CHI_3	24° 55' 26.832" N	87° 8' 49.805" E	-0.76
3295	GO_Z16_CHI_11	24° 52' 14.360" N	87° 8' 49.577" E	8.25
3296	GO_Z16_CHI_11	24° 52' 14.034" N	87° 8' 49.576" E	8.22
3297	GO_Z16_CHI_11	24° 52' 13.709" N	87° 8' 49.576" E	8.10
3298	GO_Z16_CHI_11	24° 52' 13.384" N	87° 8' 49.575" E	8.00
3299	GO_Z16_CHI_11	24° 52' 13.059" N	87° 8' 49.575" E	7.91
3300	GO_Z2_GE_1	25° 1' 16.335" N	87° 8' 50.577" E	-8.96

TABLE REPRESENTING ELEVATION (in m) WITH RESPECT TO 10m X 10m GRID WITHIN POTENTIAL SAND GHATS IN GODDA DISTRICT OF JHARKHAND

ANNEXURE - B17

3598	GC_Z3_GE_2	24° 58' 3.210" N	87° 8' 55.340" E	-1.99
3599	GC_Z3_GE_2	24° 58' 2.885" N	87° 8' 55.340" E	-0.59
3600	GC_Z3_GE_2	24° 58' 2.560" N	87° 8' 55.340" E	-0.47
3601	GC_Z3_GE_2	24° 58' 2.235" N	87° 8' 55.339" E	-0.42
3602	GC_Z3_GE_2	24° 58' 1.909" N	87° 8' 55.339" E	-0.61
3603	GC_Z5_CHI_4	24° 54' 19.852" N	87° 8' 55.072" E	2.27
3604	GC_Z5_CHI_4	24° 54' 19.527" N	87° 8' 55.072" E	2.46
3605	GC_Z5_CHI_4	24° 54' 19.202" N	87° 8' 55.072" E	2.20
3606	GC_Z5_CHI_4	24° 54' 18.876" N	87° 8' 55.071" E	2.24
3607	GC_Z5_CHI_4	24° 54' 18.551" N	87° 8' 55.071" E	2.06
3608	GC_Z5_CHI_4	24° 54' 18.226" N	87° 8' 55.071" E	2.14
3609	GC_Z5_CHI_4	24° 54' 17.901" N	87° 8' 55.070" E	2.19
3610	GC_Z5_CHI_4	24° 54' 17.576" N	87° 8' 55.070" E	2.22
3611	GC_Z5_CHI_4	24° 54' 17.251" N	87° 8' 55.069" E	2.11
3612	GC_Z5_CHI_4	24° 54' 16.926" N	87° 8' 55.069" E	2.22
3613	GC_Z5_CHI_4	24° 54' 16.601" N	87° 8' 55.069" E	2.47
3614	GC_Z5_CHI_4	24° 54' 16.276" N	87° 8' 55.068" E	3.42
3615	GO_Z2_GE_1	25° 1' 22.507" N	87° 8' 55.937" E	-8.96
3616	GO_Z2_GE_1	25° 1' 22.182" N	87° 8' 55.937" E	-9.24
3617	GO_Z2_GE_1	25° 1' 21.857" N	87° 8' 55.936" E	-9.19
3618	GO_Z2_GE_1	25° 1' 21.532" N	87° 8' 55.936" E	-9.26
3619	GO_Z2_GE_1	25° 1' 21.207" N	87° 8' 55.936" E	-9.25
3620	GO_Z2_GE_1	25° 1' 20.882" N	87° 8' 55.935" E	-9.13
3621	GO_Z2_GE_1	25° 1' 20.557" N	87° 8' 55.935" E	-9.22
3622	GO_Z3_GE_2	24° 58' 3.860" N	87° 8' 55.698" E	-2.33
3623	GO_Z3_GE_2	24° 58' 3.535" N	87° 8' 55.698" E	-2.20
3624	GO_Z3_GE_2	24° 58' 3.210" N	87° 8' 55.697" E	-0.84
3625	GO_Z3_GE_2	24° 58' 2.884" N	87° 8' 55.697" E	-0.51
3626	GO_Z3_GE_2	24° 58' 2.559" N	87° 8' 55.696" E	-0.55
3627	GO_Z5_CHI_4	24° 54' 19.851" N	87° 8' 55.429" E	2.09
3628	GO_Z5_CHI_4	24° 54' 19.526" N	87° 8' 55.429" E	2.08
3629	GO_Z5_CHI_4	24° 54' 19.201" N	87° 8' 55.428" E	2.12
3630	GO_Z5_CHI_4	24° 54' 18.876" N	87° 8' 55.428" E	2.13
3631	GO_Z5_CHI_4	24° 54' 18.551" N	87° 8' 55.427" E	2.11
3632	GO_Z5_CHI_4	24° 54' 18.226" N	87° 8' 55.427" E	2.06
3633	GO_Z5_CHI_4	24° 54' 17.901" N	87° 8' 55.427" E	2.15
3634	GO_Z5_CHI_4	24° 54' 17.576" N	87° 8' 55.426" E	2.05
3635	GO_Z5_CHI_4	24° 54' 17.251" N	87° 8' 55.426" E	2.26
3636	GO_Z5_CHI_4	24° 54' 16.925" N	87° 8' 55.425" E	2.16
3637	GO_Z5_CHI_4	24° 54' 16.600" N	87° 8' 55.425" E	2.03
3638	GO_Z2_GE_1	25° 1' 23.157" N	87° 8' 56.295" E	-8.91
3639	GO_Z2_GE_1	25° 1' 22.832" N	87° 8' 56.294" E	-9.19
3640	GO_Z2_GE_1	25° 1' 22.507" N	87° 8' 56.294" E	-9.17
3641	GO_Z2_GE_1	25° 1' 22.182" N	87° 8' 56.294" E	-9.21
3642	GO_Z2_GE_1	25° 1' 21.857" N	87° 8' 56.293" E	-9.24
3643	GO_Z2_GE_1	25° 1' 21.532" N	87° 8' 56.293" E	-9.20
3644	GO_Z2_GE_1	25° 1' 21.206" N	87° 8' 56.292" E	-9.20
3645	GO_Z2_GE_1	25° 1' 20.881" N	87° 8' 56.292" E	-9.25
3646	GO_Z3_GE_2	24° 58' 11.012" N	87° 8' 56.063" E	-0.49
3647	GO_Z3_GE_2	24° 58' 4.510" N	87° 8' 56.055" E	-0.81
3648	GO_Z3_GE_2	24° 58' 4.185" N	87° 8' 56.055" E	-0.85
3649	GO_Z3_GE_2	24° 58' 3.859" N	87° 8' 56.055" E	-1.98
3650	GO_Z3_GE_2	24° 58' 3.534" N	87° 8' 56.054" E	-2.04
3651	GO_Z3_GE_2	24° 58' 3.209" N	87° 8' 56.054" E	-0.63
3652	GO_Z3_GE_2	24° 58' 2.884" N	87° 8' 56.053" E	-0.56
3653	GO_Z5_CHI_4	24° 54' 19.851" N	87° 8' 55.785" E	2.23
3654	GO_Z5_CHI_4	24° 54' 19.526" N	87° 8' 55.785" E	2.05
3655	GO_Z5_CHI_4	24° 54' 19.201" N	87° 8' 55.785" E	2.13
3656	GO_Z5_CHI_4	24° 54' 18.876" N	87° 8' 55.784" E	2.17
3657	GO_Z5_CHI_4	24° 54' 18.551" N	87° 8' 55.784" E	2.11
3658	GO_Z5_CHI_4	24° 54' 18.226" N	87° 8' 55.783" E	2.21
3659	GO_Z5_CHI_4	24° 54' 17.900" N	87° 8' 55.783" E	2.17
3660	GO_Z5_CHI_4	24° 54' 17.575" N	87° 8' 55.783" E	2.17
3661	GO_Z5_CHI_4	24° 54' 17.250" N	87° 8' 55.782" E	2.15
3662	GO_Z5_CHI_4	24° 54' 16.925" N	87° 8' 55.782" E	2.25
3663	GO_Z5_CHI_4	24° 54' 16.600" N	87° 8' 55.782" E	2.18
3664	GO_Z2_GE_1	25° 1' 23.157" N	87° 8' 56.652" E	-8.98
3665	GO_Z2_GE_1	25° 1' 22.832" N	87° 8' 56.651" E	-9.16
3666	GO_Z2_GE_1	25° 1' 22.506" N	87° 8' 56.651" E	-9.13
3667	GO_Z2_GE_1	25° 1' 22.181" N	87° 8' 56.650" E	-9.12
3668	GO_Z2_GE_1	25° 1' 21.856" N	87° 8' 56.650" E	-9.09
3669	GO_Z2_GE_1	25° 1' 21.531" N	87° 8' 56.650" E	-9.04
3670	GO_Z2_GE_1	25° 1' 21.206" N	87° 8' 56.649" E	-9.13
3671	GO_Z3_GE_2	24° 58' 11.012" N	87° 8' 56.420" E	-0.67
3672	GO_Z3_GE_2	24° 58' 10.687" N	87° 8' 56.419" E	-0.64
3673	GO_Z3_GE_2	24° 58' 10.362" N	87° 8' 56.419" E	-0.65
3674	GO_Z3_GE_2	24° 58' 5.160" N	87° 8' 56.413" E	-0.73
3675	GO_Z3_GE_2	24° 58' 4.834" N	87° 8' 56.412" E	-0.76
3676	GO_Z3_GE_2	24° 58' 4.509" N	87° 8' 56.412" E	-0.81
3677	GO_Z3_GE_2	24° 58' 4.184" N	87° 8' 56.412" E	-2.11
3678	GO_Z3_GE_2	24° 58' 3.859" N	87° 8' 56.411" E	-1.85
3679	GO_Z3_GE_2	24° 58' 3.534" N	87° 8' 56.411" E	-1.06
3680	GO_Z5_CHI_4	24° 54' 19.851" N	87° 8' 56.142" E	2.13
3681	GO_Z5_CHI_4	24° 54' 19.526" N	87° 8' 56.142" E	2.25
3682	GO_Z5_CHI_4	24° 54' 19.201" N	87° 8' 56.141" E	2.13
3683	GO_Z5_CHI_4	24° 54' 18.875" N	87° 8' 56.141" E	2.14
3684	GO_Z5_CHI_4	24° 54' 18.550" N	87° 8' 56.140" E	2.19
3685	GO_Z5_CHI_4	24° 54' 18.225" N	87° 8' 56.140" E	2.39
3686	GO_Z5_CHI_4	24° 54' 17.900" N	87° 8' 56.140" E	2.05
3687	GO_Z5_CHI_4	24° 54' 17.575" N	87° 8' 56.139" E	2.20
3688	GO_Z5_CHI_4	24° 54' 17.250" N	87° 8' 56.139" E	2.46
3689	GO_Z5_CHI_4	24° 54' 16.925" N	87° 8' 56.138" E	2.26
3690	GO_Z5_CHI_4	24° 54' 16.600" N	87° 8' 56.138" E	2.12
3691	GO_Z2_GE_1	25° 1' 22.831" N	87° 8' 57.008" E	-9.22
3692	GO_Z2_GE_1	25° 1' 22.506" N	87° 8' 57.008" E	-9.17
3693	GO_Z2_GE_1	25° 1' 22.181" N	87° 8' 57.007" E	-9.12
3694	GO_Z2_GE_1	25° 1' 21.856" N	87° 8' 57.007" E	-9.10
3695	GO_Z2_GE_1	25° 1' 21.531" N	87° 8' 57.006" E	-9.04
3696	GO_Z3_GE_2	24° 58' 11.337" N	87° 8' 56.777" E	-1.66
3697	GO_Z3_GE_2	24° 58' 11.011" N	87° 8' 56.777" E	-1.43
3698	GO_Z3_GE_2	24° 58' 10.686" N	87° 8' 56.776" E	-0.87
3699	GO_Z3_GE_2	24° 58' 10.361" N	87° 8' 56.776" E	-0.84
3700	GO_Z3_GE_2	24° 58' 10.036" N	87° 8' 56.775" E	-1.50
3701	GO_Z3_GE_2	24° 58' 9.711" N	87° 8' 56.775" E	-1.98
3702	GO_Z3_GE_2	24° 58' 5.810" N	87° 8' 56.770" E	-1.48
3703	GO_Z3_GE_2	24° 58' 5.484" N	87° 8' 56.770" E	-1.02
3704	GO_Z3_GE_2	24° 58' 5.159" N	87° 8' 56.769" E	-0.98
3705	GO_Z3_GE_2	24° 58' 4.834" N	87° 8' 56.769" E	-0.91
3706	GO_Z3_GE_2	24° 58' 4.509" N	87° 8' 56.769" E	-1.18
3707	GO_Z5_CHI_4	24° 54' 19.850" N	87° 8' 56.498" E	2.26
3708	GO_Z5_CHI_4	24° 54' 19.525" N	87° 8' 56.498" E	2.17
3709	GO_Z5_CHI_4	24° 54' 19.200" N	87° 8' 56.498" E	2.31
3710	GO_Z5_CHI_4	24° 54' 18.875" N	87° 8' 56.497" E	2.27
3711	GO_Z5_CHI_4	24° 54' 18.550" N	87° 8' 56.497" E	2.24
3712	GO_Z5_CHI_4	24° 54' 18.225" N	87° 8' 56.496" E	2.07
3713	GO_Z5_CHI_4	24° 54' 17.900" N	87° 8' 56.496" E	2.09
3714	GO_Z5_CHI_4	24° 54' 17.575" N	87° 8' 56.496" E	2.31
3715	GO_Z5_CHI_4	24° 54' 17.249" N	87° 8' 56.495" E	2.50
3716	GO_Z5_CHI_4	24° 54' 16.924" N	87° 8' 56.495" E	2.12
3717	GO_Z5_CHI_4	24° 54' 16.599" N	87° 8' 56.495" E	2.22
3718	GO_Z2_GE_1	25° 1' 22.831" N	87° 8' 57.365" E	-9.26
3719	GO_Z2_GE_1	25° 1' 22.506" N	87° 8' 57.364" E	-9.14
3720	GO_Z2_GE_1	25° 1' 22.181" N	87° 8' 57.364" E	-9.15
3721	GO_Z2_GE_1	25° 1' 21.856" N	87° 8' 57.364" E	-9.26
3722	GO_Z3_GE_2	24° 58' 10.686" N	87° 8' 57.133" E	-2.39
3723	GO_Z3_GE_2	24° 58' 10.361" N	87° 8' 57.132" E	-2.42
3724	GO_Z3_GE_2	24° 58' 10.036" N	87° 8' 57.132" E	-2.39
3725	GO_Z3_GE_2	24° 58' 9.711" N	87° 8' 57.132" E	-2.37
3726	GO_Z3_GE_2	24° 58' 9.385" N	87° 8' 57.131" E	-2.48
3727	GO_Z3_GE_2	24° 58' 9.060" N	87° 8' 57.131" E	-2.35
3728	GO_Z3_GE_2	24° 58' 8.735" N	87° 8' 57.130" E	-2.36
3729	GO_Z3_GE_2	24° 58' 8.410" N	87° 8' 57.130" E	-2.38
3730	GO_Z3_GE_2	24° 58' 8.085" N	87° 8' 57.130" E	-1.99
3731	GO_Z3_GE_2	24° 58' 7.760" N	87° 8' 57.129" E	-2.01
3732	GO_Z3_GE_2	24° 58' 7.435" N	87° 8' 57.129" E	-1.83
3733	GO_Z3_GE_2	24° 58' 6.459" N	87° 8' 57.128" E	-1.70
3734	GO_Z3_GE_2	24° 58' 6.134" N	87° 8' 57.127" E	-1.82
3735	GO_Z3_GE_2	24° 58' 5.809" N	87° 8' 57.127" E	-2.09
3736	GO_Z3_GE_2	24° 58' 5.484" N	87° 8' 57.127" E	-1.67
3737	GO_Z3_GE_2	24° 58' 5.159" N	87° 8' 57.126" E	-1.14
3738	GO_Z5_CHI_4	24° 54' 19.850" N	87° 8' 56.855" E	2.33
3739	GO_Z5_CHI_4	24° 54' 19.525" N	87° 8' 56.854" E	2.23
3740	GO_Z5_CHI_4	24° 54' 19.200" N	87° 8' 56.854" E	2.14
3741	GO_Z5_CHI_4	24° 54' 18.875" N	87° 8' 56.854" E	2.14
3742	GO_Z5_CHI_4	24° 54' 18.550" N	87° 8' 56.853" E	2.09
3743	GO_Z5_CHI_4	24° 54' 18.224" N	87° 8' 56.853" E	2.23
3744	GO_Z5_CHI_4	24° 54' 17.899" N	87° 8' 56.853" E	2.07
3745	GO_Z5_CHI_4	24° 54' 17.574" N	87° 8' 56.852" E	2.25
3746	GO_Z5_CHI_4	24° 54' 17.249" N	87° 8' 56.852" E	2.25
3747	GO_Z5_CHI_4	24° 54' 16.924" N	87° 8' 56.851" E	2.33
3748	GO_Z5_CHI_4	24° 54' 16.599" N	87° 8' 56.851" E	2.08
3749	GO_Z2_GE_1	25° 1' 22.505" N	87° 8' 57.721" E	-9.18
3750	GO_Z2_GE_1	25° 1' 22.180" N	87° 8' 57.721" E	-8.35
3751	GO_Z3_GE_2	24° 58' 10.035" N	87° 8' 57.489" E	-2.41
3752	GO_Z3_GE_2	24° 58' 9.710" N	87° 8' 57.488" E	-2.46
3753	GO_Z3_GE_2	24° 58' 9.385" N	87° 8' 57.488" E	-2.36
3754	GO_Z3_GE_2	24° 58' 9.060" N	87° 8' 57.487" E	-2.33
3755	GO_Z3_GE_2	24° 58' 8.735" N	87° 8' 57.487" E	-2.30
3756	GO_Z3_GE_2	24° 58' 8.410" N	87° 8' 57.487" E	-2.33
3757	GO_Z3_GE_2	24° 58' 8.085" N	87° 8' 57.486" E	-2.22
3758	GO_Z3_GE_2	24° 58' 7.760" N	87° 8' 57.486" E	-1.96
3759	GO_Z3_GE_2	24° 58' 7.434" N	87° 8' 57.486" E	-1.82
3760	GO_Z3_GE_2	24° 58' 7.109" N	87° 8' 57.485" E	-1.87
3761	GO_Z3_GE_2	24° 58' 6.784" N	87° 8' 57.485" E	-1.70
3762	GO_Z3_GE_2	24° 58' 6.459" N	87° 8' 57.484" E	-1.76
3763	GO_Z3_GE_2	24° 58' 6.134" N	87° 8' 57.484" E	-1.67
3764	GO_Z5_CHI_4	24° 54' 19.850" N	87° 8' 57.211" E	2.27
3765	GO_Z5_CHI_4	24° 54' 19.525" N	87° 8' 57.211" E	2.37
3766	GO_Z5_CHI_4	24° 54' 19.199" N	87° 8' 57.211" E	2.25
3767	GO_Z5_CHI_4	24° 54' 18.874" N	87° 8' 57.210" E	2.30
3768	GO_Z5_CHI_4	24° 54' 18.549" N	87° 8' 57.210" E	2.31
3769	GO_Z5_CHI_4	24° 54' 18.224" N	87° 8' 57.209" E	2.25
3770	GO_Z5_CHI_4	24° 54' 17.899" N	87° 8' 57.209" E	2.04
3771	GO_Z5_CHI_4	24° 54' 17.574" N	87° 8' 57.209" E	2.12
3772	GO_Z5_CHI_4	24° 54' 17.249" N	87° 8' 57.208" E	2.23
3773	GO_Z5_CHI_4	24° 54' 16.924" N	87° 8' 57.208" E	2.29
3774	GO_Z5_CHI_4	24° 54' 16.598" N	87° 8' 57.207" E	2.30
3775	GO_Z5_CHI_4	24° 54' 16.273" N	87° 8' 57.207" E	2.44
3776	GO_Z3_GE_2	24° 58' 9.385" N	87° 8' 57.845" E	-2.35
3777	GO_Z3_GE_2	24° 58' 9.060" N	87° 8' 57.844" E	-2.26
3778	GO_Z3_GE_2	24° 58' 8.735" N	87° 8' 57.844" E	-2.23
3779	GO_Z3_GE_2	24° 58' 8.409" N	87° 8' 57.843" E	-2.32
3780	GO_Z3_GE_2	24° 58' 8.084" N	87° 8' 57.843" E	-2.09
3781	GO_Z3_GE_2	24° 58' 7.759" N	87° 8' 57.843" E	-2.28
3782	GO_Z3_GE_2	24° 58' 7.434" N	87° 8' 57.842" E	-1.83
3783	GO_Z5_CHI_4	24° 54' 19.849" N	87° 8' 57.568" E	2.19
3784	GO_Z5_CHI_4	24° 54' 19.524" N	87° 8' 57.567" E	2.36
3785	GO_Z5_CHI_4	24° 54' 19.199" N	87° 8' 57.567" E	2.59
3786	GO_Z5_CHI_4	24° 54' 18.874" N	87° 8' 57.567" E	2.15
3787	GO_Z5_CHI_4	24° 54' 18.549" N	87° 8' 57.566" E	2.25
3788	GO_Z5_CHI_4	24° 54' 18.224" N	87° 8' 57.566" E	2.18
3789	GO_Z5_CHI_4	24° 54' 17.899" N	87° 8' 57.566" E	2.50
3790	GO_Z5_CHI_4	24° 54' 17.573" N	87° 8' 57.565" E	2.25
3791	GO_Z5_CHI_4	24° 54' 17.248" N	87° 8' 57.565" E	2.25
3792	GO_Z5_CHI_4	24° 54' 16.923" N	87° 8' 57.564" E	2.29
3793	GO_Z5_CHI_4	24° 54' 16.598" N	87° 8' 57.564" E	2.39
3794	GO_Z5_CHI_4	24° 54' 16.273" N	87° 8' 57.564" E	2.41
3795	GO_Z5_CHI_4	24° 54' 19.849" N	87° 8' 57.924" E	2.39
3796	GO_Z5_CHI_4	24° 54' 19.524" N	87° 8' 57.924" E	2.36
3797	GO_Z5_CHI_4	24° 54' 19.199" N	87° 8' 57.924" E	2.51
3798	GO_Z5_CHI_4	24° 54' 18.874" N	87° 8' 57.923" E	2.27
3799	GO_Z5_CHI_4	24° 54' 18.549" N	87° 8' 57.923" E	2.21
3800	GO_Z5_CHI_4	24° 54' 18.223" N	87° 8' 57.922" E	2.33
3801	GO_Z5_CHI_4	24° 54' 17.898" N	87° 8' 57.922" E	2.71
3802	GO_Z5_CHI_4	24° 54' 17.573" N	87° 8' 57.922" E	2.14
3803	GO_Z5_CHI_4	24° 54' 17.248" N	87° 8' 57.921" E	2.18
3804	GO_Z5_CHI_4	24° 54' 16.923" N	87° 8' 57.921" E	2.10
3805	GO_Z5_CHI_4	24° 54' 16.598" N	87° 8' 57.920" E	2.35
3806	GO_Z5_CHI_4	24° 54' 16.273" N	87° 8' 57.920" E	2.42
3807	GO_Z5_CHI_4	24° 54' 19.849" N	87° 8' 58.281" E	2.81
3808	GO_Z5_CHI_4	24° 54' 19.524" N	87° 8' 58.280" E	3.32
3809	GO_Z5_CHI_4	24° 54' 19.198" N	87° 8' 58.280" E	2.46
3810	GO_Z5_CHI_4	24° 54' 18.873" N	87° 8' 58.280" E	2.51
3811	GO_Z5_CHI_4	24° 54' 18.548" N	87° 8' 58.279" E	2.30
3812	GO_Z5_CHI_4	24° 54' 18.223" N	87° 8' 58.279" E	2.22
3813	GO_Z5_CHI_4	24° 54' 17.898" N	87° 8' 58.278" E	2.61
3814	GO_Z5_CHI_4	24° 54' 17.573" N	87° 8' 58.278" E	2.30
3815	GO_Z5_CHI_4	24° 54' 17.248" N	87° 8' 58.278" E	2.31
3816	GO_Z5_CHI_4	24° 54' 16.923" N	87° 8' 58.277" E	2.23
3817	GO_Z5_CHI_4	24° 54' 16.597" N	87° 8' 58.277" E	2.38
3818	GO_Z5_CHI_4	24° 54' 16.272" N	87° 8' 58.277" E	2.47
3819	GO_Z5_CHI_4	24° 54' 19.848" N	87° 8' 58.637" E	2.26
3820	GO_Z5_CHI_4	24° 54' 19.523" N	87° 8' 58.637" E	2.43
3821	GO_Z5_CHI_4	24° 54' 19.198" N	87° 8' 58.637" E	2.34
3822	GO_Z5_CHI_4	24° 54' 18.873" N	87° 8' 58.636" E	2.61
3823	GO_Z5_CHI_4	24° 54' 18.548" N	87° 8' 58.636" E	2.45
3824	GO_Z5_CHI_4	24° 54' 18.223" N	87° 8' 58.635" E	2.19
3825	GO_Z5_CHI_4	24° 54' 17.898" N	87° 8' 58.635" E	2.45
3826	GO_Z5_CHI_4	24° 54' 17.572" N	87° 8' 58.635" E	2.48
3827	GO_Z5_CHI_4	24° 54' 17.247" N	87° 8' 58.634" E	2.33
3828	GO_Z5_CHI_4	24° 54' 16.922" N	87° 8' 58.634" E	2.21
3829	GO_Z5_CHI_4	24° 54' 16.597" N	87° 8' 58.633" E	2.21
3830	GO_Z5_CHI_4	24° 54' 16.272" N	87° 8' 58.633" E	2.23
3831	GO_Z5_CHI_4	24° 54' 15.947" N	87° 8' 58.633" E	2.20
3832	GO_Z5_CHI_4	24° 54' 19.848" N	87° 8' 58.994" E	2.14
3833	GO_Z5_CHI_4	24° 54' 19.523" N	87° 8' 58.993" E	2.09
3834	GO_Z5_CHI_4	24° 54' 19.198" N	87° 8' 58.993" E	2.46
3835	GO_Z5_CHI_4	24° 54' 18.873" N	87° 8' 58.993" E	2.78
3836	GO_Z5_CHI_4	24° 54' 18.547" N	87° 8' 58.992" E	2.50
3837	GO_Z5_CHI_4	24° 54' 18.222" N	87° 8' 58.992" E	2.21
3838	GO_Z5_CHI_4	24° 54' 17.897" N	87° 8' 58.991" E	2.31
3839	GO_Z5_CHI_4	24° 54' 17.572" N	87° 8' 58.991" E	2.50
3840	GO_Z5_CHI_4	24° 54' 17.247" N	87° 8' 58.991" E	2.27
3841	GO_Z5_CHI_4	24° 54' 16.922" N	87° 8' 58.990" E	2.15
3842	GO_Z5_CHI_4	24° 54' 16.597" N	87° 8' 58.990" E	2.19
3843	GO_Z5_CHI_4	24° 54' 16.272" N	87° 8' 58.989" E	2.20
3844	GO_Z5_CHI_4	24° 54' 15.946" N	87° 8' 58.989" E	2.20
3845	GO_Z5_CHI_4	24° 54' 19.848" N	87° 8' 59.350" E	1.99
3846	GO_Z5_CHI_4	24° 54' 19.522" N	87° 8' 59.350" E	2.36
3847	GO_Z5_CHI_4	24° 54' 19.197" N	87° 8' 59.349" E	2.02
3848	GO_Z5_CHI_4	24° 54' 18.872" N	87° 8' 59.349" E	2.52
3849	GO_Z5_CHI_4	24° 54' 18.547" N	87° 8' 59.349" E	3.18
3850	GO_Z5_CHI_4	24° 54' 18.222" N	87° 8' 59.348" E	2.22
3851	GO_Z5_CHI_4	24° 54' 17.897" N	87° 8' 59.348" E	2.37
3852	GO_Z5_CHI_4	24° 54' 17.572" N	87° 8' 59.348" E	2.23
3853	GO_Z5_CHI_4	24° 54' 17.247" N	87° 8' 59.347" E	2.22
3854	GO_Z5_CHI_4	24° 54' 16.921" N	87° 8' 59.347" E	2.17
3855	GO_Z5_CHI_4	24° 54' 16.596" N	87° 8' 59.346" E	2.28
3856	GO_Z5_CHI_4	24° 54' 16.271" N	87° 8' 59.346" E	2.46
3857	GO_Z5_CHI_4	24° 54' 15.946" N	87° 8' 59.346" E	2.53
3858	GO_Z5_CHI_4	24° 54' 19.847" N	87° 8' 59.707" E	2.39
3859	GO_Z5_CHI_4	24° 54' 19.522" N	87° 8' 59.706" E	2.06
3860	GO_Z5_CHI_4	24° 54' 19.197" N	87° 8' 59.706" E	2.44
3861	GO_Z5_CHI_4	24° 54' 18.872" N	87° 8' 59.706" E	2.07
3862	GO_Z5_CHI_4	24° 54' 18.547" N	87° 8' 59.705" E	3.00
3863	GO_Z5_CHI_4	24° 54' 18.222" N	87° 8' 59.705" E	2.21
3864	GO_Z5_CHI_4	24° 54' 17.896" N	87° 8' 59.704" E	2.33
3865	GO_Z5_CHI_4	24° 54' 17.571" N	87° 8' 59.704" E	2.23
3866	GO_Z5_CHI_4	24° 54' 17.246" N	87° 8' 59.704" E	2.22
3867	GO_Z5_CHI_4	24° 54' 16.921" N	87° 8' 59.703" E	2.18
3868	GO_Z5_CHI_4	24° 54' 16.595" N	87° 8' 59.703" E	2.18
3869	GO_Z5_CHI_4	24° 54' 16.271" N	87° 8' 59.702" E	2.50
3870	GO_Z5_CHI_4	24° 54' 15.946" N	87° 8' 59.702" E	2.53
3871	GO_Z5_CHI_4	24° 54' 19.847" N	87° 9' 0.063" E	2.63
3872	GO_Z5_CHI_4	24° 54' 19.522" N	87° 9' 0.063" E	2.29
3873	GO_Z5_CHI_4	24° 54' 19.197" N	87° 9' 0.062" E	2.05
3874	GO_Z5_CHI_4	24° 54' 18.871" N	87° 9' 0.062" E	3.19
3875	GO_Z5_CHI_4	24° 54' 18.546" N	87° 9' 0.062" E	2.54
3876	GO_Z5_CHI_4	24° 54' 18.221" N	87° 9' 0.061" E	2.14
3877	GO_Z5_CHI_4	24° 54' 17.896" N	87° 9' 0.061" E	2.27
3878	GO_Z5_CHI_4	24° 54' 17.571" N	87° 9' 0.060" E	2.21
3879	GO_Z5_CHI_4	24° 54' 17.246" N	87° 9' 0.060" E	2.36
3880	GO_Z5_CHI_4	24° 54' 16.921" N	87° 9' 0.060" E	2.51
3881	GO_Z5_CHI_4	24° 54' 16.596" N	87° 9' 0.059" E	2.22
3882	GO_Z5_CHI_4	24° 54' 16.271" N	87° 9' 0.059" E	2.42
3883	GO_Z5_CHI_4	24° 54' 15.945" N	87° 9' 0.059" E	2.38
3884	GO_Z5_CHI_4	24° 54' 15.620" N	87° 9' 0.058" E	2.51
3885	GO_Z5_CHI_4	24° 54' 19.846" N	87° 9' 0.420" E	2.53
3886	GO_Z5_CHI_4	24° 54' 19.521" N	87° 9' 0.419" E	1.95
3887	GO_Z5_CHI_4	24° 54' 19.196" N	87° 9' 0.419" E	2.52
3888	GO_Z5_CHI_4	24° 54' 18.871" N	87° 9' 0.419" E	2.41
3889	GO_Z5_CHI_4	24° 54' 18.546" N	87° 9' 0.418" E	2.18
3890	GO_Z5_CHI_4	24° 54' 18.221" N	87° 9' 0.418" E	2.25
3891	GO_Z5_CHI_4	24° 54' 17.896" N	87° 9' 0.417" E	2.24
3892	GO_Z5_CHI_4	24° 54' 17.571" N	87° 9' 0.417" E	2.17
3893	GO_Z5_CHI_4	24° 54' 17.246" N	87° 9' 0.417" E	2.33
3894	GO_Z5_CHI_4	24° 54' 16.920" N	87° 9' 0.416" E	2.46
3895	GO_Z5_CHI_4	24° 54' 16.595" N	87° 9' 0.416" E	2.14
3896	GO_Z5_CHI_4	24° 54' 16.270" N	87° 9' 0.415" E	2.41
3897	GO_Z5_CHI_4	24° 54' 15.945" N	87° 9' 0.415" E	2.49
3898	GO_Z5_CHI_4	24° 54' 15.620" N	87° 9' 0.415" E	2.38
3899	GO_Z5_CHI_4	24° 54' 19.846" N	87° 9'

TABLE REPRESENTING ELEVATION (in m) WITH RESPECT TO 10m X 10m GRID WITHIN POTENTIAL SAND GHATS IN GODDA DISTRICT OF JHARKHAND

ANNEXURE - B17

4198	GO_Z15_CHI_10	24° 52' 55.948" N	87° 9' 17.070" E	6.89
4199	GO_Z15_CHI_10	24° 52' 55.623" N	87° 9' 17.069" E	6.96
4200	GO_Z15_CHI_10	24° 52' 55.297" N	87° 9' 17.069" E	7.56
4201	GO_Z15_CHI_10	24° 52' 54.972" N	87° 9' 17.069" E	6.68
4202	GO_Z15_CHI_10	24° 52' 54.647" N	87° 9' 17.068" E	6.52
4203	GO_Z15_CHI_10	24° 52' 54.322" N	87° 9' 17.068" E	6.66
4204	GO_Z15_CHI_10	24° 52' 53.997" N	87° 9' 17.067" E	6.78
4205	GO_Z15_CHI_10	24° 52' 53.672" N	87° 9' 17.067" E	7.63
4206	GO_Z15_CHI_10	24° 52' 53.347" N	87° 9' 17.067" E	7.07
4207	GO_Z5_CHI_14	24° 54' 2.923" N	87° 9' 17.510" E	3.92
4208	GO_Z5_CHI_14	24° 54' 2.598" N	87° 9' 17.509" E	4.04
4209	GO_Z5_CHI_14	24° 54' 2.272" N	87° 9' 17.509" E	3.79
4210	GO_Z5_CHI_14	24° 54' 1.947" N	87° 9' 17.508" E	4.27
4211	GO_Z5_CHI_14	24° 54' 1.622" N	87° 9' 17.508" E	4.01
4212	GO_Z5_CHI_14	24° 54' 1.297" N	87° 9' 17.508" E	4.20
4213	GO_Z5_CHI_14	24° 54' 0.972" N	87° 9' 17.507" E	4.14
4214	GO_Z5_CHI_14	24° 54' 0.647" N	87° 9' 17.507" E	3.55
4215	GO_Z5_CHI_14	24° 54' 0.322" N	87° 9' 17.506" E	3.40
4216	GO_Z5_CHI_14	24° 54' 0.000" N	87° 9' 17.506" E	3.50
4217	GO_Z5_CHI_14	24° 53' 59.671" N	87° 9' 17.506" E	3.29
4218	GO_Z5_CHI_14	24° 53' 59.346" N	87° 9' 17.505" E	3.46
4219	GO_Z5_CHI_14	24° 53' 59.021" N	87° 9' 17.505" E	4.04
4220	GO_Z5_CHI_14	24° 53' 58.696" N	87° 9' 17.504" E	3.67
4221	GO_Z5_CHI_14	24° 53' 58.371" N	87° 9' 17.504" E	3.29
4222	GO_Z5_CHI_14	24° 53' 58.046" N	87° 9' 17.504" E	3.47
4223	GO_Z5_CHI_14	24° 53' 57.721" N	87° 9' 17.503" E	3.34
4224	GO_Z5_CHI_14	24° 53' 57.396" N	87° 9' 17.503" E	3.42
4225	GO_Z5_CHI_14	24° 53' 57.070" N	87° 9' 17.502" E	3.55
4226	GO_Z5_CHI_14	24° 53' 56.745" N	87° 9' 17.502" E	3.50
4227	GO_Z5_CHI_14	24° 53' 56.420" N	87° 9' 17.502" E	3.54
4228	GO_Z15_CHI_10	24° 52' 57.573" N	87° 9' 17.428" E	6.65
4229	GO_Z15_CHI_10	24° 52' 57.248" N	87° 9' 17.428" E	6.52
4230	GO_Z15_CHI_10	24° 52' 56.923" N	87° 9' 17.427" E	6.57
4231	GO_Z15_CHI_10	24° 52' 56.598" N	87° 9' 17.427" E	6.65
4232	GO_Z15_CHI_10	24° 52' 56.272" N	87° 9' 17.427" E	6.91
4233	GO_Z15_CHI_10	24° 52' 55.947" N	87° 9' 17.426" E	6.63
4234	GO_Z15_CHI_10	24° 52' 55.622" N	87° 9' 17.426" E	7.46
4235	GO_Z15_CHI_10	24° 52' 55.297" N	87° 9' 17.425" E	7.61
4236	GO_Z15_CHI_10	24° 52' 54.972" N	87° 9' 17.425" E	6.66
4237	GO_Z15_CHI_10	24° 52' 54.647" N	87° 9' 17.425" E	6.73
4238	GO_Z15_CHI_10	24° 52' 54.322" N	87° 9' 17.424" E	6.87
4239	GO_Z15_CHI_10	24° 52' 53.997" N	87° 9' 17.424" E	7.60
4240	GO_Z15_CHI_10	24° 52' 53.671" N	87° 9' 17.423" E	7.23
4241	GO_Z5_CHI_14	24° 54' 2.272" N	87° 9' 17.865" E	3.56
4242	GO_Z5_CHI_14	24° 54' 1.947" N	87° 9' 17.865" E	4.15
4243	GO_Z5_CHI_14	24° 54' 1.622" N	87° 9' 17.865" E	4.11
4244	GO_Z5_CHI_14	24° 54' 1.297" N	87° 9' 17.864" E	4.04
4245	GO_Z5_CHI_14	24° 54' 0.972" N	87° 9' 17.864" E	4.09
4246	GO_Z5_CHI_14	24° 54' 0.646" N	87° 9' 17.863" E	3.37
4247	GO_Z5_CHI_14	24° 54' 0.321" N	87° 9' 17.863" E	3.78
4248	GO_Z5_CHI_14	24° 54' 0.000" N	87° 9' 17.863" E	3.53
4249	GO_Z5_CHI_14	24° 53' 59.671" N	87° 9' 17.862" E	3.48
4250	GO_Z5_CHI_14	24° 53' 59.346" N	87° 9' 17.862" E	3.26
4251	GO_Z5_CHI_14	24° 53' 59.021" N	87° 9' 17.861" E	3.52
4252	GO_Z5_CHI_14	24° 53' 58.696" N	87° 9' 17.861" E	3.86
4253	GO_Z5_CHI_14	24° 53' 58.371" N	87° 9' 17.860" E	3.98
4254	GO_Z5_CHI_14	24° 53' 58.045" N	87° 9' 17.860" E	3.42
4255	GO_Z5_CHI_14	24° 53' 57.720" N	87° 9' 17.860" E	3.40
4256	GO_Z5_CHI_14	24° 53' 57.395" N	87° 9' 17.859" E	3.49
4257	GO_Z5_CHI_14	24° 53' 57.070" N	87° 9' 17.859" E	3.62
4258	GO_Z5_CHI_14	24° 53' 56.745" N	87° 9' 17.858" E	3.46
4259	GO_Z5_CHI_14	24° 53' 56.420" N	87° 9' 17.858" E	3.44
4260	GO_Z5_CHI_14	24° 53' 56.095" N	87° 9' 17.858" E	3.49
4261	GO_Z5_CHI_14	24° 53' 55.770" N	87° 9' 17.857" E	3.59
4262	GO_Z15_CHI_10	24° 52' 58.223" N	87° 9' 17.785" E	6.75
4263	GO_Z15_CHI_10	24° 52' 57.898" N	87° 9' 17.785" E	6.94
4264	GO_Z15_CHI_10	24° 52' 57.573" N	87° 9' 17.785" E	7.12
4265	GO_Z15_CHI_10	24° 52' 57.247" N	87° 9' 17.784" E	7.28
4266	GO_Z15_CHI_10	24° 52' 56.922" N	87° 9' 17.784" E	7.16
4267	GO_Z15_CHI_10	24° 52' 56.597" N	87° 9' 17.783" E	7.04
4268	GO_Z15_CHI_10	24° 52' 56.272" N	87° 9' 17.783" E	6.58
4269	GO_Z15_CHI_10	24° 52' 55.947" N	87° 9' 17.783" E	7.67
4270	GO_Z15_CHI_10	24° 52' 55.622" N	87° 9' 17.782" E	7.02
4271	GO_Z15_CHI_10	24° 52' 55.297" N	87° 9' 17.782" E	6.66
4272	GO_Z15_CHI_10	24° 52' 54.972" N	87° 9' 17.781" E	6.73
4273	GO_Z15_CHI_10	24° 52' 54.646" N	87° 9' 17.781" E	6.80
4274	GO_Z15_CHI_10	24° 52' 54.321" N	87° 9' 17.781" E	6.99
4275	GO_Z15_CHI_10	24° 52' 53.996" N	87° 9' 17.780" E	7.80
4276	GO_Z5_CHI_14	24° 54' 1.621" N	87° 9' 18.221" E	3.42
4277	GO_Z5_CHI_14	24° 54' 1.296" N	87° 9' 18.221" E	3.28
4278	GO_Z5_CHI_14	24° 54' 0.971" N	87° 9' 18.220" E	3.20
4279	GO_Z5_CHI_14	24° 54' 0.646" N	87° 9' 18.220" E	3.61
4280	GO_Z5_CHI_14	24° 54' 0.321" N	87° 9' 18.219" E	3.73
4281	GO_Z5_CHI_14	24° 54' 0.000" N	87° 9' 18.219" E	3.62
4282	GO_Z5_CHI_14	24° 53' 59.671" N	87° 9' 18.219" E	3.39
4283	GO_Z5_CHI_14	24° 53' 59.346" N	87° 9' 18.218" E	3.47
4284	GO_Z5_CHI_14	24° 53' 59.020" N	87° 9' 18.218" E	3.28
4285	GO_Z5_CHI_14	24° 53' 58.695" N	87° 9' 18.217" E	3.35
4286	GO_Z5_CHI_14	24° 53' 58.370" N	87° 9' 18.217" E	3.60
4287	GO_Z5_CHI_14	24° 53' 58.045" N	87° 9' 18.217" E	3.43
4288	GO_Z5_CHI_14	24° 53' 57.720" N	87° 9' 18.216" E	3.41
4289	GO_Z5_CHI_14	24° 53' 57.395" N	87° 9' 18.216" E	3.48
4290	GO_Z5_CHI_14	24° 53' 57.070" N	87° 9' 18.215" E	3.54
4291	GO_Z5_CHI_14	24° 53' 56.745" N	87° 9' 18.215" E	3.43
4292	GO_Z5_CHI_14	24° 53' 56.419" N	87° 9' 18.215" E	3.44
4293	GO_Z5_CHI_14	24° 53' 56.094" N	87° 9' 18.214" E	3.60
4294	GO_Z5_CHI_14	24° 53' 55.769" N	87° 9' 18.214" E	3.50
4295	GO_Z5_CHI_14	24° 53' 55.444" N	87° 9' 18.213" E	3.60
4296	GO_Z5_CHI_14	24° 53' 55.119" N	87° 9' 18.213" E	3.65
4297	GO_Z15_CHI_10	24° 52' 58.873" N	87° 9' 18.143" E	6.71
4298	GO_Z15_CHI_10	24° 52' 58.548" N	87° 9' 18.142" E	6.58
4299	GO_Z15_CHI_10	24° 52' 58.222" N	87° 9' 18.142" E	6.69
4300	GO_Z15_CHI_10	24° 52' 57.897" N	87° 9' 18.141" E	7.06
4301	GO_Z15_CHI_10	24° 52' 57.572" N	87° 9' 18.141" E	6.81
4302	GO_Z15_CHI_10	24° 52' 57.247" N	87° 9' 18.141" E	7.64
4303	GO_Z15_CHI_10	24° 52' 56.922" N	87° 9' 18.140" E	6.97
4304	GO_Z15_CHI_10	24° 52' 56.597" N	87° 9' 18.140" E	6.59
4305	GO_Z15_CHI_10	24° 52' 56.272" N	87° 9' 18.139" E	7.46
4306	GO_Z15_CHI_10	24° 52' 55.947" N	87° 9' 18.139" E	6.92
4307	GO_Z15_CHI_10	24° 52' 55.621" N	87° 9' 18.139" E	6.86
4308	GO_Z15_CHI_10	24° 52' 55.296" N	87° 9' 18.138" E	7.49
4309	GO_Z15_CHI_10	24° 52' 54.971" N	87° 9' 18.138" E	6.71
4310	GO_Z15_CHI_10	24° 52' 54.646" N	87° 9' 18.137" E	6.97
4311	GO_Z5_CHI_14	24° 54' 0.971" N	87° 9' 18.577" E	3.48
4312	GO_Z5_CHI_14	24° 54' 0.646" N	87° 9' 18.576" E	3.35
4313	GO_Z5_CHI_14	24° 54' 0.321" N	87° 9' 18.576" E	3.44
4314	GO_Z5_CHI_14	24° 54' 0.000" N	87° 9' 18.575" E	3.49
4315	GO_Z5_CHI_14	24° 53' 59.670" N	87° 9' 18.575" E	3.65
4316	GO_Z5_CHI_14	24° 53' 59.345" N	87° 9' 18.575" E	3.63
4317	GO_Z5_CHI_14	24° 53' 59.020" N	87° 9' 18.574" E	3.64
4318	GO_Z5_CHI_14	24° 53' 58.695" N	87° 9' 18.574" E	3.37
4319	GO_Z5_CHI_14	24° 53' 58.370" N	87° 9' 18.573" E	3.42
4320	GO_Z5_CHI_14	24° 53' 58.045" N	87° 9' 18.573" E	3.35
4321	GO_Z5_CHI_14	24° 53' 57.720" N	87° 9' 18.573" E	3.41
4322	GO_Z5_CHI_14	24° 53' 57.394" N	87° 9' 18.572" E	3.47
4323	GO_Z5_CHI_14	24° 53' 57.069" N	87° 9' 18.572" E	3.42
4324	GO_Z5_CHI_14	24° 53' 56.744" N	87° 9' 18.571" E	3.63
4325	GO_Z5_CHI_14	24° 53' 56.419" N	87° 9' 18.571" E	3.56
4326	GO_Z5_CHI_14	24° 53' 56.094" N	87° 9' 18.571" E	3.53
4327	GO_Z5_CHI_14	24° 53' 55.769" N	87° 9' 18.570" E	3.60
4328	GO_Z5_CHI_14	24° 53' 55.444" N	87° 9' 18.570" E	3.56
4329	GO_Z5_CHI_14	24° 53' 55.119" N	87° 9' 18.569" E	3.55
4330	GO_Z5_CHI_14	24° 53' 54.793" N	87° 9' 18.569" E	3.65
4331	GO_Z5_CHI_14	24° 53' 54.468" N	87° 9' 18.569" E	3.56
4332	GO_Z15_CHI_10	24° 52' 58.872" N	87° 9' 18.499" E	0.00
4333	GO_Z15_CHI_10	24° 52' 58.547" N	87° 9' 18.499" E	6.87
4334	GO_Z15_CHI_10	24° 52' 58.222" N	87° 9' 18.498" E	7.01
4335	GO_Z15_CHI_10	24° 52' 57.897" N	87° 9' 18.498" E	6.56
4336	GO_Z15_CHI_10	24° 52' 57.572" N	87° 9' 18.497" E	7.35
4337	GO_Z15_CHI_10	24° 52' 57.247" N	87° 9' 18.497" E	7.55
4338	GO_Z15_CHI_10	24° 52' 56.922" N	87° 9' 18.497" E	7.22
4339	GO_Z15_CHI_10	24° 52' 56.596" N	87° 9' 18.496" E	7.11
4340	GO_Z15_CHI_10	24° 52' 56.271" N	87° 9' 18.496" E	6.91
4341	GO_Z15_CHI_10	24° 52' 55.946" N	87° 9' 18.495" E	6.94
4342	GO_Z15_CHI_10	24° 52' 55.621" N	87° 9' 18.495" E	7.21
4343	GO_Z15_CHI_10	24° 52' 55.296" N	87° 9' 18.495" E	6.85
4344	GO_Z15_CHI_10	24° 52' 54.971" N	87° 9' 18.494" E	7.15
4345	GO_Z5_CHI_14	24° 54' 0.320" N	87° 9' 18.932" E	3.65
4346	GO_Z5_CHI_14	24° 54' 0.000" N	87° 9' 18.932" E	3.69
4347	GO_Z5_CHI_14	24° 53' 59.670" N	87° 9' 18.932" E	3.56
4348	GO_Z5_CHI_14	24° 53' 59.345" N	87° 9' 18.931" E	3.46
4349	GO_Z5_CHI_14	24° 53' 59.020" N	87° 9' 18.931" E	3.51
4350	GO_Z5_CHI_14	24° 53' 58.695" N	87° 9' 18.930" E	3.66
4351	GO_Z5_CHI_14	24° 53' 58.369" N	87° 9' 18.930" E	3.55
4352	GO_Z5_CHI_14	24° 53' 58.044" N	87° 9' 18.929" E	3.47
4353	GO_Z5_CHI_14	24° 53' 57.719" N	87° 9' 18.929" E	3.45
4354	GO_Z5_CHI_14	24° 53' 57.394" N	87° 9' 18.929" E	3.53
4355	GO_Z5_CHI_14	24° 53' 57.069" N	87° 9' 18.928" E	3.63
4356	GO_Z5_CHI_14	24° 53' 56.744" N	87° 9' 18.928" E	3.63
4357	GO_Z5_CHI_14	24° 53' 56.419" N	87° 9' 18.927" E	3.52
4358	GO_Z5_CHI_14	24° 53' 56.094" N	87° 9' 18.927" E	3.58
4359	GO_Z5_CHI_14	24° 53' 55.768" N	87° 9' 18.927" E	3.56
4360	GO_Z5_CHI_14	24° 53' 55.443" N	87° 9' 18.926" E	3.56
4361	GO_Z5_CHI_14	24° 53' 55.118" N	87° 9' 18.926" E	3.62
4362	GO_Z5_CHI_14	24° 53' 54.793" N	87° 9' 18.925" E	3.54
4363	GO_Z5_CHI_14	24° 53' 54.468" N	87° 9' 18.925" E	3.69
4364	GO_Z5_CHI_14	24° 53' 54.143" N	87° 9' 18.925" E	3.73
4365	GO_Z15_CHI_10	24° 52' 58.547" N	87° 9' 18.855" E	0.00
4366	GO_Z15_CHI_10	24° 52' 58.222" N	87° 9' 18.855" E	6.63
4367	GO_Z15_CHI_10	24° 52' 57.897" N	87° 9' 18.854" E	7.35
4368	GO_Z15_CHI_10	24° 52' 57.571" N	87° 9' 18.854" E	7.55
4369	GO_Z15_CHI_10	24° 52' 57.246" N	87° 9' 18.853" E	7.54
4370	GO_Z15_CHI_10	24° 52' 56.921" N	87° 9' 18.853" E	6.98
4371	GO_Z15_CHI_10	24° 52' 56.596" N	87° 9' 18.853" E	6.81
4372	GO_Z15_CHI_10	24° 52' 56.271" N	87° 9' 18.852" E	7.84
4373	GO_Z15_CHI_10	24° 52' 55.946" N	87° 9' 18.852" E	6.84
4374	GO_Z15_CHI_10	24° 52' 55.621" N	87° 9' 18.851" E	6.89
4375	GO_Z15_CHI_10	24° 52' 55.296" N	87° 9' 18.851" E	6.73
4376	GO_Z5_CHI_14	24° 54' 0.000" N	87° 9' 19.288" E	3.45
4377	GO_Z5_CHI_14	24° 53' 59.670" N	87° 9' 19.288" E	3.99
4378	GO_Z5_CHI_14	24° 53' 59.344" N	87° 9' 19.288" E	3.64
4379	GO_Z5_CHI_14	24° 53' 59.019" N	87° 9' 19.287" E	3.81
4380	GO_Z5_CHI_14	24° 53' 58.694" N	87° 9' 19.287" E	3.73
4381	GO_Z5_CHI_14	24° 53' 58.369" N	87° 9' 19.286" E	3.54
4382	GO_Z5_CHI_14	24° 53' 58.044" N	87° 9' 19.286" E	3.64
4383	GO_Z5_CHI_14	24° 53' 57.719" N	87° 9' 19.286" E	3.60
4384	GO_Z5_CHI_14	24° 53' 57.394" N	87° 9' 19.285" E	3.67
4385	GO_Z5_CHI_14	24° 53' 57.069" N	87° 9' 19.285" E	3.35
4386	GO_Z5_CHI_14	24° 53' 56.743" N	87° 9' 19.284" E	3.40
4387	GO_Z5_CHI_14	24° 53' 56.418" N	87° 9' 19.284" E	3.68
4388	GO_Z5_CHI_14	24° 53' 56.093" N	87° 9' 19.283" E	3.55
4389	GO_Z5_CHI_14	24° 53' 55.768" N	87° 9' 19.283" E	3.53
4390	GO_Z5_CHI_14	24° 53' 55.443" N	87° 9' 19.283" E	3.57
4391	GO_Z5_CHI_14	24° 53' 55.118" N	87° 9' 19.282" E	3.65
4392	GO_Z5_CHI_14	24° 53' 54.793" N	87° 9' 19.282" E	3.63
4393	GO_Z5_CHI_14	24° 53' 54.468" N	87° 9' 19.281" E	3.67
4394	GO_Z5_CHI_14	24° 53' 54.142" N	87° 9' 19.281" E	3.75
4395	GO_Z5_CHI_14	24° 53' 53.817" N	87° 9' 19.281" E	3.81
4396	GO_Z5_CHI_14	24° 53' 53.492" N	87° 9' 19.280" E	3.77
4397	GO_Z15_CHI_10	24° 52' 58.546" N	87° 9' 19.211" E	0.00
4398	GO_Z15_CHI_10	24° 52' 58.221" N	87° 9' 19.211" E	7.40
4399	GO_Z15_CHI_10	24° 52' 57.896" N	87° 9' 19.211" E	7.38
4400	GO_Z15_CHI_10	24° 52' 57.571" N	87° 9' 19.210" E	7.11
4401	GO_Z15_CHI_10	24° 52' 57.246" N	87° 9' 19.210" E	7.00
4402	GO_Z15_CHI_10	24° 52' 56.921" N	87° 9' 19.209" E	6.68
4403	GO_Z15_CHI_10	24° 52' 56.596" N	87° 9' 19.209" E	6.89
4404	GO_Z15_CHI_10	24° 52' 56.271" N	87° 9' 19.209" E	7.35
4405	GO_Z15_CHI_10	24° 52' 55.945" N	87° 9' 19.208" E	6.82
4406	GO_Z15_CHI_10	24° 52' 55.620" N	87° 9' 19.208" E	7.09
4407	GO_Z5_CHI_14	24° 53' 59.344" N	87° 9' 19.644" E	3.92
4408	GO_Z5_CHI_14	24° 53' 59.019" N	87° 9' 19.644" E	4.09
4409	GO_Z5_CHI_14	24° 53' 58.694" N	87° 9' 19.643" E	3.67
4410	GO_Z5_CHI_14	24° 53' 58.369" N	87° 9' 19.643" E	3.75
4411	GO_Z5_CHI_14	24° 53' 58.044" N	87° 9' 19.642" E	3.64
4412	GO_Z5_CHI_14	24° 53' 57.718" N	87° 9' 19.642" E	3.50
4413	GO_Z5_CHI_14	24° 53' 57.393" N	87° 9' 19.642" E	3.82
4414	GO_Z5_CHI_14	24° 53' 57.068" N	87° 9' 19.641" E	3.56
4415	GO_Z5_CHI_14	24° 53' 56.743" N	87° 9' 19.641" E	3.54
4416	GO_Z5_CHI_14	24° 53' 56.418" N	87° 9' 19.640" E	3.48
4417	GO_Z5_CHI_14	24° 53' 56.093" N	87° 9' 19.640" E	3.45
4418	GO_Z5_CHI_14	24° 53' 55.768" N	87° 9' 19.640" E	3.62
4419	GO_Z5_CHI_14	24° 53' 55.443" N	87° 9' 19.639" E	3.58
4420	GO_Z5_CHI_14	24° 53' 55.117" N	87° 9' 19.639" E	3.63
4421	GO_Z5_CHI_14	24° 53' 54.792" N	87° 9' 19.638" E	3.73
4422	GO_Z5_CHI_14	24° 53' 54.467" N	87° 9' 19.638" E	3.74
4423	GO_Z5_CHI_14	24° 53' 54.142" N	87° 9' 19.638" E	3.49
4424	GO_Z5_CHI_14	24° 53' 53.817" N	87° 9' 19.637" E	3.79
4425	GO_Z5_CHI_14	24° 53' 53.492" N	87° 9' 19.637" E	3.78
4426	GO_Z5_CHI_14	24° 53' 53.167" N	87° 9' 19.636" E	3.84
4427	GO_Z5_CHI_14	24° 53' 52.842" N	87° 9' 19.636" E	3.84
4428	GO_Z15_CHI_10	24° 52' 58.221" N	87° 9' 19.568" E	0.00
4429	GO_Z15_CHI_10	24° 52' 57.896" N	87° 9' 19.567" E	6.97
4430	GO_Z15_CHI_10	24° 52' 57.571" N	87° 9' 19.567" E	7.50
4431	GO_Z15_CHI_10	24° 52' 57.246" N	87° 9' 19.566" E	6.57
4432	GO_Z15_CHI_10	24° 52' 56.920" N	87° 9' 19.566" E	6.87
4433	GO_Z15_CHI_10	24° 52' 56.595" N	87° 9' 19.565" E	7.97
4434	GO_Z15_CHI_10	24° 52' 56.270" N	87° 9' 19.565" E	6.75
4435	GO_Z15_CHI_10	24° 52' 55.945" N	87° 9' 19.565" E	7.03
4436	GO_Z5_CHI_14	24° 53' 58.693" N	87° 9' 20.000" E	3.90
4437	GO_Z5_CHI_14	24° 53' 58.368" N	87° 9' 19.999" E	3.87
4438	GO_Z5_CHI_14	24° 53' 58.043" N	87° 9' 19.999" E	4.21
4439	GO_Z5_CHI_14	24° 53' 57.718" N	87° 9' 19.998" E	4.26
4440	GO_Z5_CHI_14	24° 53' 57.393" N	87° 9' 19.998" E	3.57
4441	GO_Z5_CHI_14	24° 53' 57.068" N	87° 9' 19.998" E	3.75
4442	GO_Z5_CHI_14	24° 53' 56.743" N	87° 9' 19.997" E	3.73
4443	GO_Z5_CHI_14	24° 53' 56.418" N	87° 9' 19.997" E	3.58
4444	GO_Z5_CHI_14	24° 53' 56.092" N	87° 9' 19.996" E	3.53
4445	GO_Z5_CHI_14	24° 53' 55.767" N	87° 9' 19.996" E	3.53
4446	GO_Z5_CHI_14	24° 53' 55.442" N	87° 9' 19.996" E	3.74
4447	GO_Z5_CHI_14	24° 53' 55.117" N	87° 9' 19.995" E	3.68
4448	GO_Z5_CHI_14	24° 53' 54.792" N	87° 9' 19.995" E	3.64
4449	GO_Z5_CHI_14	24° 53' 54.467" N	87° 9' 19.994" E	3.67
4450	GO_Z5_CHI_14	24° 53' 54.142" N	87° 9' 19.994" E	3.81
4451	GO_Z5_CHI_14	24° 53' 53.817" N	87° 9' 19.994" E	3.79
4452	GO_Z5_CHI_14	24° 53' 53.491" N	87° 9' 19.993" E	3.76
4453	GO_Z5_CHI_14	24° 53' 53.166" N	87° 9' 19.993" E	3.81
4454	GO_Z5_CHI_14	24° 53' 52.841" N	87° 9' 19.992" E	3.87
4455	GO_Z5_CHI_14	24° 53' 52.516" N	87° 9' 19.992" E	3.88
4456	GO_Z5_CHI_14	24° 53' 52.191" N	87° 9' 19.992" E	3.80
4457	GO_Z15_CHI_10	24° 52' 57.895" N	87° 9' 19.924" E	0.00
4458	GO_Z15_CHI_10	24° 52' 57.570" N	87° 9' 19.923" E	6.74
4459	GO_Z15_CHI_10	24° 52' 57.245" N	87° 9' 19.923" E	7.36
4460	GO_Z15_CHI_10	24° 52' 56.920" N	87° 9' 19.922" E	7.73
4461	GO_Z15_CHI_10	24° 52' 56.595" N	87° 9' 19.922" E	7.28
4462	GO_Z5_CHI_14	24° 53' 58.043" N	87° 9' 20.355" E	4.07
4463	GO_Z5_CHI_14	24° 53' 57.718" N	87° 9' 20.355" E	3.99
4464	GO_Z5_CHI_14	24° 53' 57.393" N	87° 9' 20.355" E	3.82
4465	GO_Z5_CHI_14	24° 53' 57.067" N	87° 9' 20.354" E	3.63
4466	GO_Z5_CHI_14	24° 53' 56.742" N	87° 9' 20.354" E	3.62
4467	GO_Z5_CHI_14	24° 53' 56.417" N	87° 9' 20.353" E	3.69
4468	GO_Z5_CHI_14	24° 53' 56.092" N	87° 9' 20.353" E	3.51
4469	GO_Z5_CHI_14	24° 53' 55.767" N	87° 9' 20.352" E	3.67
4470	GO_Z5_CHI_14	24° 53' 55.442" N	87° 9' 20.352" E	3.58
4471	GO_Z5_CHI_14	24° 53' 55.117" N	87° 9' 20.352" E	3.67
4472	GO_Z5_CHI_14	24° 53' 54.792" N	87° 9' 20.351" E	3.61
4473	GO_Z5_CHI_14	24° 53' 54.466" N	87° 9' 20.351" E	4.12
4474	GO_Z5_CHI_14	24° 53' 54.141" N	87° 9' 20.350" E	3.72
4475	GO_Z5_CHI_14	24° 53' 53.816" N	87° 9' 20.350" E	3.81
4476	GO_Z5_CHI_14	24° 53' 53.491" N	87° 9' 20.350" E	3.74
4477	GO_Z5_CHI_14	24° 53' 53.166" N	87° 9' 20.349" E	3.69
4478	GO_Z5_CHI_14	24° 53' 52.841" N	87° 9' 20.349" E	3.66
4479	GO_Z5_CHI_14	24° 53' 52.516" N	87° 9' 20.348" E	3.99
4480	GO_Z5_CHI_14	24° 53' 52.191" N	87° 9' 20.348" E	3.92
4481	GO_Z5_CHI_14	24° 53' 51.866" N	87° 9' 20.348" E	3.89
4482	GO_Z5_CHI_14	24° 53' 51.540" N	87° 9' 20.347" E	3.62
4483	GO_Z15_CHI_10	24° 52' 57.895" N	87° 9' 20.280" E	0.00
4484	GO_Z15_CHI_10	24° 52' 57.570" N	87° 9' 20.280" E	0.00
4485	GO_Z15_CHI_10	24° 52' 57.245" N	87° 9' 20.279" E	7.01
4486	GO_Z15_CHI_10	24° 52' 56.920" N	87° 9' 20.279" E	7.23
4487	GO_Z5_CHI_14	24° 53' 57.392" N	87° 9' 20.711" E	4.12
4488	GO_Z5_CHI_14	24° 53' 57.067" N	87° 9' 20.711" E	4.15
4489	GO_Z5_CHI_14	24° 53' 56.742" N	87° 9' 20.710" E	3.94
4490	GO_Z5_CHI_14	24° 53' 56.417" N	87° 9' 20.710" E	3.76
4491	GO_Z5_CHI_14	24° 53' 56.092" N	87° 9' 20.709" E	3.67
4492	GO_Z5_CHI_14	24° 53' 55.767" N	87° 9' 20.709" E	3.55
4493	GO_Z5_CHI_14	24° 53' 55.441" N	87° 9' 20.709" E	3.73
4494	GO_Z5_CHI_14	24° 53' 55.116" N	87° 9' 20.708" E	3.55
4495	GO_Z5_CHI_14	24° 53' 54.791" N	87° 9' 20.708" E	3.72
4496	GO_Z5_CHI_14	24° 53' 54.466" N	87° 9' 20.707" E	3.67
4497	GO_Z5_CHI_14	24° 53' 54.141" N	87° 9'

TABLE REPRESENTING ELEVATION (in m) WITH RESPECT TO 10m X 10m GRID WITHIN POTENTIAL SAND GHATS IN GODDA DISTRICT OF JHARKHAND

ANNEXURE - B17

4798	GO_Z9_KAJ_5	24° 49' 15.734" N	87° 14' 38.836" E	25.77
4799	GO_Z9_KAJ_5	24° 49' 15.409" N	87° 14' 38.835" E	24.65
4800	GO_Z9_KAJ_5	24° 49' 18.335" N	87° 14' 39.197" E	26.52
4801	GO_Z9_KAJ_5	24° 49' 18.009" N	87° 14' 39.197" E	26.84
4802	GO_Z9_KAJ_5	24° 49' 17.684" N	87° 14' 39.196" E	26.51
4803	GO_Z9_KAJ_5	24° 49' 17.359" N	87° 14' 39.195" E	26.55
4804	GO_Z9_KAJ_5	24° 49' 17.034" N	87° 14' 39.195" E	26.44
4805	GO_Z9_KAJ_5	24° 49' 16.709" N	87° 14' 39.194" E	26.43
4806	GO_Z9_KAJ_5	24° 49' 16.384" N	87° 14' 39.193" E	26.36
4807	GO_Z9_KAJ_5	24° 49' 16.059" N	87° 14' 39.193" E	26.69
4808	GO_Z9_KAJ_5	24° 49' 15.734" N	87° 14' 39.192" E	26.46
4809	GO_Z9_KAJ_5	24° 49' 15.408" N	87° 14' 39.191" E	24.85
4810	GO_Z9_KAJ_5	24° 49' 15.083" N	87° 14' 39.191" E	24.77
4811	GO_Z9_KAJ_5	24° 49' 18.009" N	87° 14' 39.553" E	26.54
4812	GO_Z9_KAJ_5	24° 49' 17.684" N	87° 14' 39.552" E	26.57
4813	GO_Z9_KAJ_5	24° 49' 17.359" N	87° 14' 39.551" E	26.61
4814	GO_Z9_KAJ_5	24° 49' 17.033" N	87° 14' 39.551" E	26.47
4815	GO_Z9_KAJ_5	24° 49' 16.708" N	87° 14' 39.550" E	26.49
4816	GO_Z9_KAJ_5	24° 49' 16.383" N	87° 14' 39.550" E	26.56
4817	GO_Z9_KAJ_5	24° 49' 16.058" N	87° 14' 39.549" E	26.48
4818	GO_Z9_KAJ_5	24° 49' 15.733" N	87° 14' 39.548" E	26.48
4819	GO_Z9_KAJ_5	24° 49' 15.408" N	87° 14' 39.548" E	26.31
4820	GO_Z9_KAJ_5	24° 49' 15.083" N	87° 14' 39.547" E	25.78
4821	GO_Z9_KAJ_5	24° 49' 14.758" N	87° 14' 39.546" E	24.76
4822	GO_Z9_KAJ_5	24° 49' 17.683" N	87° 14' 39.908" E	26.62
4823	GO_Z9_KAJ_5	24° 49' 17.358" N	87° 14' 39.908" E	26.80
4824	GO_Z9_KAJ_5	24° 49' 17.033" N	87° 14' 39.907" E	26.57
4825	GO_Z9_KAJ_5	24° 49' 16.708" N	87° 14' 39.906" E	26.67
4826	GO_Z9_KAJ_5	24° 49' 16.383" N	87° 14' 39.906" E	26.70
4827	GO_Z9_KAJ_5	24° 49' 16.057" N	87° 14' 39.905" E	26.80
4828	GO_Z9_KAJ_5	24° 49' 15.732" N	87° 14' 39.905" E	26.57
4829	GO_Z9_KAJ_5	24° 49' 15.407" N	87° 14' 39.904" E	26.41
4830	GO_Z9_KAJ_5	24° 49' 15.082" N	87° 14' 39.903" E	26.37
4831	GO_Z9_KAJ_5	24° 49' 14.757" N	87° 14' 39.903" E	26.32
4832	GO_Z9_KAJ_5	24° 49' 14.432" N	87° 14' 39.902" E	25.21
4833	GO_Z9_KAJ_5	24° 49' 17.032" N	87° 14' 40.263" E	26.63
4834	GO_Z9_KAJ_5	24° 49' 16.707" N	87° 14' 40.263" E	26.62
4835	GO_Z9_KAJ_5	24° 49' 16.382" N	87° 14' 40.262" E	26.62
4836	GO_Z9_KAJ_5	24° 49' 16.057" N	87° 14' 40.261" E	26.61
4837	GO_Z9_KAJ_5	24° 49' 15.732" N	87° 14' 40.261" E	26.84
4838	GO_Z9_KAJ_5	24° 49' 15.407" N	87° 14' 40.260" E	26.59
4839	GO_Z9_KAJ_5	24° 49' 15.082" N	87° 14' 40.259" E	26.28
4840	GO_Z9_KAJ_5	24° 49' 14.756" N	87° 14' 40.259" E	26.38
4841	GO_Z9_KAJ_5	24° 49' 14.431" N	87° 14' 40.258" E	26.34
4842	GO_Z9_KAJ_5	24° 49' 14.106" N	87° 14' 40.258" E	25.27
4843	GO_Z9_KAJ_5	24° 49' 16.707" N	87° 14' 40.619" E	26.54
4844	GO_Z9_KAJ_5	24° 49' 16.381" N	87° 14' 40.618" E	26.73
4845	GO_Z9_KAJ_5	24° 49' 16.056" N	87° 14' 40.618" E	26.71
4846	GO_Z9_KAJ_5	24° 49' 15.731" N	87° 14' 40.617" E	26.93
4847	GO_Z9_KAJ_5	24° 49' 15.406" N	87° 14' 40.616" E	26.74
4848	GO_Z9_KAJ_5	24° 49' 15.081" N	87° 14' 40.616" E	26.87
4849	GO_Z9_KAJ_5	24° 49' 14.756" N	87° 14' 40.615" E	26.53
4850	GO_Z9_KAJ_5	24° 49' 14.431" N	87° 14' 40.614" E	26.51
4851	GO_Z9_KAJ_5	24° 49' 14.106" N	87° 14' 40.614" E	26.38
4852	GO_Z9_KAJ_5	24° 49' 13.780" N	87° 14' 40.613" E	25.63
4853	GO_Z9_KAJ_5	24° 49' 16.056" N	87° 14' 40.974" E	26.90
4854	GO_Z9_KAJ_5	24° 49' 15.731" N	87° 14' 40.973" E	26.96
4855	GO_Z9_KAJ_5	24° 49' 15.405" N	87° 14' 40.973" E	26.84
4856	GO_Z9_KAJ_5	24° 49' 15.080" N	87° 14' 40.972" E	26.84
4857	GO_Z9_KAJ_5	24° 49' 14.755" N	87° 14' 40.971" E	26.76
4858	GO_Z9_KAJ_5	24° 49' 14.430" N	87° 14' 40.971" E	26.60
4859	GO_Z9_KAJ_5	24° 49' 14.105" N	87° 14' 40.970" E	26.44
4860	GO_Z9_KAJ_5	24° 49' 13.780" N	87° 14' 40.969" E	26.28
4861	GO_Z9_KAJ_5	24° 49' 13.455" N	87° 14' 40.969" E	26.48
4862	GO_Z9_KAJ_5	24° 49' 15.405" N	87° 14' 41.329" E	27.10
4863	GO_Z9_KAJ_5	24° 49' 15.080" N	87° 14' 41.328" E	26.88
4864	GO_Z9_KAJ_5	24° 49' 14.755" N	87° 14' 41.328" E	26.98
4865	GO_Z9_KAJ_5	24° 49' 14.430" N	87° 14' 41.327" E	26.78
4866	GO_Z9_KAJ_5	24° 49' 14.104" N	87° 14' 41.326" E	26.46
4867	GO_Z9_KAJ_5	24° 49' 13.779" N	87° 14' 41.326" E	26.13
4868	GO_Z9_KAJ_5	24° 49' 13.454" N	87° 14' 41.325" E	26.45
4869	GO_Z9_KAJ_5	24° 49' 13.129" N	87° 14' 41.324" E	26.60
4870	GO_Z9_KAJ_5	24° 49' 15.079" N	87° 14' 41.684" E	27.15
4871	GO_Z9_KAJ_5	24° 49' 14.754" N	87° 14' 41.684" E	26.84
4872	GO_Z9_KAJ_5	24° 49' 14.429" N	87° 14' 41.683" E	26.80
4873	GO_Z9_KAJ_5	24° 49' 14.104" N	87° 14' 41.683" E	26.62
4874	GO_Z9_KAJ_5	24° 49' 13.779" N	87° 14' 41.682" E	25.67
4875	GO_Z9_KAJ_5	24° 49' 13.454" N	87° 14' 41.681" E	26.47
4876	GO_Z9_KAJ_5	24° 49' 13.128" N	87° 14' 41.681" E	26.62
4877	GO_Z9_KAJ_5	24° 49' 12.803" N	87° 14' 41.680" E	26.60
4878	GO_Z9_KAJ_5	24° 49' 14.103" N	87° 14' 42.039" E	26.85
4879	GO_Z9_KAJ_5	24° 49' 13.778" N	87° 14' 42.038" E	26.60
4880	GO_Z9_KAJ_5	24° 49' 13.453" N	87° 14' 42.037" E	26.60
4881	GO_Z9_KAJ_5	24° 49' 13.128" N	87° 14' 42.037" E	26.53
4882	GO_Z9_KAJ_5	24° 49' 12.803" N	87° 14' 42.036" E	26.51
4883	GO_Z9_KAJ_5	24° 49' 13.452" N	87° 14' 42.394" E	26.96
4884	GO_Z9_KAJ_5	24° 49' 13.127" N	87° 14' 42.393" E	26.73
4885	GO_Z10_KAJ_6	24° 48' 5.388" N	87° 15' 49.222" E	36.93
4886	GO_Z10_KAJ_6	24° 48' 5.712" N	87° 15' 49.579" E	37.27
4887	GO_Z10_KAJ_6	24° 48' 5.387" N	87° 15' 49.578" E	37.17
4888	GO_Z10_KAJ_6	24° 48' 5.062" N	87° 15' 49.578" E	36.95
4889	GO_Z10_KAJ_6	24° 48' 4.737" N	87° 15' 49.577" E	36.71
4890	GO_Z10_KAJ_6	24° 48' 6.037" N	87° 15' 49.936" E	37.77
4891	GO_Z10_KAJ_6	24° 48' 5.711" N	87° 15' 49.935" E	37.17
4892	GO_Z10_KAJ_6	24° 48' 5.386" N	87° 15' 49.934" E	36.99
4893	GO_Z10_KAJ_6	24° 48' 5.061" N	87° 15' 49.934" E	36.97
4894	GO_Z10_KAJ_6	24° 48' 4.736" N	87° 15' 49.933" E	37.04
4895	GO_Z10_KAJ_6	24° 48' 4.411" N	87° 15' 49.932" E	37.03
4896	GO_Z10_KAJ_6	24° 48' 4.086" N	87° 15' 49.932" E	36.85
4897	GO_Z10_KAJ_6	24° 48' 5.386" N	87° 15' 50.291" E	37.28
4898	GO_Z10_KAJ_6	24° 48' 5.061" N	87° 15' 50.290" E	36.86
4899	GO_Z10_KAJ_6	24° 48' 4.735" N	87° 15' 50.289" E	37.02
4900	GO_Z10_KAJ_6	24° 48' 4.410" N	87° 15' 50.289" E	37.34
4901	GO_Z10_KAJ_6	24° 48' 4.085" N	87° 15' 50.288" E	37.15
4902	GO_Z10_KAJ_6	24° 48' 3.760" N	87° 15' 50.287" E	36.96
4903	GO_Z10_KAJ_6	24° 48' 3.435" N	87° 15' 50.287" E	37.13
4904	GO_Z10_KAJ_6	24° 48' 4.735" N	87° 15' 50.645" E	37.34
4905	GO_Z10_KAJ_6	24° 48' 4.410" N	87° 15' 50.645" E	37.21
4906	GO_Z10_KAJ_6	24° 48' 4.085" N	87° 15' 50.644" E	37.15
4907	GO_Z10_KAJ_6	24° 48' 3.759" N	87° 15' 50.643" E	37.15
4908	GO_Z10_KAJ_6	24° 48' 3.434" N	87° 15' 50.643" E	37.04
4909	GO_Z10_KAJ_6	24° 48' 3.109" N	87° 15' 50.642" E	37.21
4910	GO_Z10_KAJ_6	24° 48' 2.784" N	87° 15' 50.641" E	36.99
4911	GO_Z10_KAJ_6	24° 48' 4.084" N	87° 15' 51.000" E	37.39
4912	GO_Z10_KAJ_6	24° 48' 3.759" N	87° 15' 51.000" E	37.29
4913	GO_Z10_KAJ_6	24° 48' 3.434" N	87° 15' 50.999" E	37.33
4914	GO_Z10_KAJ_6	24° 48' 3.109" N	87° 15' 50.998" E	37.16
4915	GO_Z10_KAJ_6	24° 48' 2.783" N	87° 15' 50.997" E	37.10
4916	GO_Z10_KAJ_6	24° 48' 2.458" N	87° 15' 50.997" E	37.02
4917	GO_Z10_KAJ_6	24° 48' 2.133" N	87° 15' 50.996" E	37.02
4918	GO_Z10_KAJ_6	24° 48' 3.108" N	87° 15' 51.354" E	37.23
4919	GO_Z10_KAJ_6	24° 48' 2.783" N	87° 15' 51.354" E	37.14
4920	GO_Z10_KAJ_6	24° 48' 2.458" N	87° 15' 51.353" E	37.13
4921	GO_Z10_KAJ_6	24° 48' 2.133" N	87° 15' 51.352" E	37.33
4922	GO_Z10_KAJ_6	24° 48' 1.807" N	87° 15' 51.352" E	37.15
4923	GO_Z10_KAJ_6	24° 48' 1.482" N	87° 15' 51.351" E	37.11
4924	GO_Z10_KAJ_6	24° 48' 2.457" N	87° 15' 51.709" E	37.30
4925	GO_Z10_KAJ_6	24° 48' 2.132" N	87° 15' 51.708" E	37.25
4926	GO_Z10_KAJ_6	24° 48' 1.807" N	87° 15' 51.708" E	37.27
4927	GO_Z10_KAJ_6	24° 48' 1.482" N	87° 15' 51.707" E	37.48
4928	GO_Z10_KAJ_6	24° 48' 1.157" N	87° 15' 51.706" E	37.34
4929	GO_Z10_KAJ_6	24° 48' 0.831" N	87° 15' 51.706" E	36.94
4930	GO_Z10_KAJ_6	24° 48' 1.806" N	87° 15' 52.064" E	37.29
4931	GO_Z10_KAJ_6	24° 48' 1.481" N	87° 15' 52.063" E	37.34
4932	GO_Z10_KAJ_6	24° 48' 1.156" N	87° 15' 52.063" E	37.45
4933	GO_Z10_KAJ_6	24° 48' 0.831" N	87° 15' 52.062" E	37.26
4934	GO_Z10_KAJ_6	24° 48' 0.506" N	87° 15' 52.061" E	37.06
4935	GO_Z10_KAJ_6	24° 48' 1.155" N	87° 15' 52.419" E	37.41
4936	GO_Z10_KAJ_6	24° 48' 0.830" N	87° 15' 52.418" E	37.46
4937	GO_Z10_KAJ_6	24° 48' 0.505" N	87° 15' 52.417" E	37.27
4938	GO_Z10_KAJ_6	24° 48' 0.180" N	87° 15' 52.417" E	37.10
4939	GO_Z10_KAJ_6	24° 47' 59.855" N	87° 15' 52.416" E	37.07
4940	GO_Z10_KAJ_6	24° 48' 0.504" N	87° 15' 52.774" E	37.61
4941	GO_Z10_KAJ_6	24° 48' 0.179" N	87° 15' 52.773" E	37.45
4942	GO_Z10_KAJ_6	24° 47' 59.854" N	87° 15' 52.772" E	37.11
4943	GO_Z10_KAJ_6	24° 47' 59.529" N	87° 15' 52.771" E	37.11
4944	GO_Z10_KAJ_6	24° 47' 59.204" N	87° 15' 52.771" E	37.16
4945	GO_Z10_KAJ_6	24° 47' 59.853" N	87° 15' 53.128" E	37.59
4946	GO_Z10_KAJ_6	24° 47' 59.528" N	87° 15' 53.128" E	37.33
4947	GO_Z10_KAJ_6	24° 47' 59.203" N	87° 15' 53.127" E	37.26
4948	GO_Z10_KAJ_6	24° 47' 58.878" N	87° 15' 53.126" E	37.38
4949	GO_Z10_KAJ_6	24° 47' 58.553" N	87° 15' 53.126" E	37.40
4950	GO_Z10_KAJ_6	24° 47' 58.228" N	87° 15' 53.125" E	37.42
4951	GO_Z10_KAJ_6	24° 47' 57.903" N	87° 15' 53.124" E	37.50
4952	GO_Z10_KAJ_6	24° 47' 58.877" N	87° 15' 53.482" E	37.30
4953	GO_Z10_KAJ_6	24° 47' 58.552" N	87° 15' 53.482" E	37.44
4954	GO_Z10_KAJ_6	24° 47' 58.227" N	87° 15' 53.481" E	37.53
4955	GO_Z10_KAJ_6	24° 47' 57.902" N	87° 15' 53.480" E	37.54
4956	GO_Z10_KAJ_6	24° 47' 57.577" N	87° 15' 53.480" E	37.68
4957	GO_Z10_KAJ_6	24° 47' 57.252" N	87° 15' 53.479" E	37.67
4958	GO_Z10_KAJ_6	24° 47' 56.927" N	87° 15' 53.478" E	37.47
4959	GO_Z10_KAJ_6	24° 47' 56.602" N	87° 15' 53.478" E	37.69
4960	GO_Z10_KAJ_6	24° 47' 56.276" N	87° 15' 53.477" E	37.83
4961	GO_Z10_KAJ_6	24° 47' 58.227" N	87° 15' 53.837" E	37.66
4962	GO_Z10_KAJ_6	24° 47' 57.901" N	87° 15' 53.837" E	37.50
4963	GO_Z10_KAJ_6	24° 47' 57.576" N	87° 15' 53.836" E	37.50
4964	GO_Z10_KAJ_6	24° 47' 57.251" N	87° 15' 53.835" E	37.81
4965	GO_Z10_KAJ_6	24° 47' 56.926" N	87° 15' 53.834" E	37.85
4966	GO_Z10_KAJ_6	24° 47' 56.601" N	87° 15' 53.834" E	37.60
4967	GO_Z10_KAJ_6	24° 47' 56.276" N	87° 15' 53.833" E	38.04
4968	GO_Z10_KAJ_6	24° 47' 55.951" N	87° 15' 53.832" E	38.11
4969	GO_Z10_KAJ_6	24° 47' 55.626" N	87° 15' 53.832" E	38.15
4970	GO_Z10_KAJ_6	24° 47' 55.300" N	87° 15' 53.831" E	37.99
4971	GO_Z10_KAJ_6	24° 47' 54.975" N	87° 15' 53.830" E	37.50
4972	GO_Z10_KAJ_6	24° 47' 54.650" N	87° 15' 53.830" E	37.25
4973	GO_Z10_KAJ_6	24° 47' 57.576" N	87° 15' 54.192" E	37.58
4974	GO_Z10_KAJ_6	24° 47' 57.251" N	87° 15' 54.191" E	37.72
4975	GO_Z10_KAJ_6	24° 47' 56.925" N	87° 15' 54.191" E	37.97
4976	GO_Z10_KAJ_6	24° 47' 56.600" N	87° 15' 54.190" E	37.84
4977	GO_Z10_KAJ_6	24° 47' 56.275" N	87° 15' 54.189" E	38.00
4978	GO_Z10_KAJ_6	24° 47' 55.950" N	87° 15' 54.189" E	38.15
4979	GO_Z10_KAJ_6	24° 47' 55.625" N	87° 15' 54.188" E	38.21
4980	GO_Z10_KAJ_6	24° 47' 55.300" N	87° 15' 54.187" E	38.25
4981	GO_Z10_KAJ_6	24° 47' 54.975" N	87° 15' 54.187" E	38.48
4982	GO_Z10_KAJ_6	24° 47' 54.650" N	87° 15' 54.186" E	38.12
4983	GO_Z10_KAJ_6	24° 47' 54.324" N	87° 15' 54.185" E	37.32
4984	GO_Z10_KAJ_6	24° 47' 53.999" N	87° 15' 54.184" E	37.34
4985	GO_Z10_KAJ_6	24° 47' 53.674" N	87° 15' 54.184" E	38.17
4986	GO_Z10_KAJ_6	24° 47' 56.925" N	87° 15' 54.547" E	37.93
4987	GO_Z10_KAJ_6	24° 47' 56.600" N	87° 15' 54.546" E	37.95
4988	GO_Z10_KAJ_6	24° 47' 56.275" N	87° 15' 54.545" E	38.32
4989	GO_Z10_KAJ_6	24° 47' 55.949" N	87° 15' 54.545" E	38.00
4990	GO_Z10_KAJ_6	24° 47' 55.624" N	87° 15' 54.544" E	38.26
4991	GO_Z10_KAJ_6	24° 47' 55.299" N	87° 15' 54.543" E	38.21
4992	GO_Z10_KAJ_6	24° 47' 54.974" N	87° 15' 54.543" E	38.33
4993	GO_Z10_KAJ_6	24° 47' 54.649" N	87° 15' 54.542" E	38.15
4994	GO_Z10_KAJ_6	24° 47' 54.324" N	87° 15' 54.541" E	38.06
4995	GO_Z10_KAJ_6	24° 47' 53.999" N	87° 15' 54.541" E	37.80
4996	GO_Z10_KAJ_6	24° 47' 53.674" N	87° 15' 54.540" E	37.34
4997	GO_Z10_KAJ_6	24° 47' 53.348" N	87° 15' 54.539" E	38.51
4998	GO_Z10_KAJ_6	24° 47' 53.023" N	87° 15' 54.539" E	38.46
4999	GO_Z10_KAJ_6	24° 47' 56.274" N	87° 15' 54.902" E	37.86
5000	GO_Z10_KAJ_6	24° 47' 55.949" N	87° 15' 54.901" E	37.92
5001	GO_Z10_KAJ_6	24° 47' 55.624" N	87° 15' 54.900" E	38.25
5002	GO_Z10_KAJ_6	24° 47' 55.299" N	87° 15' 54.900" E	38.46
5003	GO_Z10_KAJ_6	24° 47' 54.973" N	87° 15' 54.899" E	38.41
5004	GO_Z10_KAJ_6	24° 47' 54.648" N	87° 15' 54.898" E	38.53
5005	GO_Z10_KAJ_6	24° 47' 54.323" N	87° 15' 54.897" E	38.48
5006	GO_Z10_KAJ_6	24° 47' 53.998" N	87° 15' 54.897" E	38.06
5007	GO_Z10_KAJ_6	24° 47' 53.673" N	87° 15' 54.896" E	37.83
5008	GO_Z10_KAJ_6	24° 47' 53.348" N	87° 15' 54.895" E	38.60
5009	GO_Z10_KAJ_6	24° 47' 53.023" N	87° 15' 54.895" E	38.67
5010	GO_Z10_KAJ_6	24° 47' 52.698" N	87° 15' 54.894" E	38.36
5011	GO_Z10_KAJ_6	24° 47' 52.372" N	87° 15' 54.893" E	38.10
5012	GO_Z10_KAJ_6	24° 47' 55.623" N	87° 15' 55.256" E	37.87
5013	GO_Z10_KAJ_6	24° 47' 55.298" N	87° 15' 55.256" E	38.22
5014	GO_Z10_KAJ_6	24° 47' 54.973" N	87° 15' 55.255" E	38.89
5015	GO_Z10_KAJ_6	24° 47' 54.648" N	87° 15' 55.254" E	38.87
5016	GO_Z10_KAJ_6	24° 47' 54.323" N	87° 15' 55.254" E	38.47
5017	GO_Z10_KAJ_6	24° 47' 53.997" N	87° 15' 55.253" E	38.49
5018	GO_Z10_KAJ_6	24° 47' 53.672" N	87° 15' 55.252" E	38.38
5019	GO_Z10_KAJ_6	24° 47' 53.347" N	87° 15' 55.252" E	38.36
5020	GO_Z10_KAJ_6	24° 47' 53.022" N	87° 15' 55.251" E	38.77
5021	GO_Z10_KAJ_6	24° 47' 52.697" N	87° 15' 55.250" E	38.60
5022	GO_Z10_KAJ_6	24° 47' 52.372" N	87° 15' 55.249" E	38.30
5023	GO_Z10_KAJ_6	24° 47' 52.047" N	87° 15' 55.249" E	38.25
5024	GO_Z10_KAJ_6	24° 47' 54.647" N	87° 15' 55.611" E	38.37
5025	GO_Z10_KAJ_6	24° 47' 54.322" N	87° 15' 55.610" E	38.66
5026	GO_Z10_KAJ_6	24° 47' 53.997" N	87° 15' 55.609" E	38.57
5027	GO_Z10_KAJ_6	24° 47' 53.672" N	87° 15' 55.608" E	38.35
5028	GO_Z10_KAJ_6	24° 47' 53.347" N	87° 15' 55.608" E	38.48
5029	GO_Z10_KAJ_6	24° 47' 53.021" N	87° 15' 55.607" E	38.66
5030	GO_Z10_KAJ_6	24° 47' 52.696" N	87° 15' 55.606" E	38.66
5031	GO_Z10_KAJ_6	24° 47' 52.371" N	87° 15' 55.606" E	38.59
5032	GO_Z10_KAJ_6	24° 47' 52.046" N	87° 15' 55.605" E	38.53
5033	GO_Z10_KAJ_6	24° 47' 51.721" N	87° 15' 55.604" E	38.38
5034	GO_Z10_KAJ_6	24° 47' 53.996" N	87° 15' 55.965" E	38.69
5035	GO_Z10_KAJ_6	24° 47' 53.671" N	87° 15' 55.965" E	38.55
5036	GO_Z10_KAJ_6	24° 47' 53.346" N	87° 15' 55.964" E	38.58
5037	GO_Z10_KAJ_6	24° 47' 53.021" N	87° 15' 55.963" E	38.61
5038	GO_Z10_KAJ_6	24° 47' 52.696" N	87° 15' 55.963" E	38.73
5039	GO_Z10_KAJ_6	24° 47' 52.371" N	87° 15' 55.962" E	38.61
5040	GO_Z10_KAJ_6	24° 47' 52.045" N	87° 15' 55.961" E	38.91
5041	GO_Z10_KAJ_6	24° 47' 51.720" N	87° 15' 55.960" E	38.64
5042	GO_Z10_KAJ_6	24° 47' 51.395" N	87° 15' 55.960" E	38.55
5043	GO_Z10_KAJ_6	24° 47' 53.345" N	87° 15' 56.320" E	38.59
5044	GO_Z10_KAJ_6	24° 47' 53.020" N	87° 15' 56.319" E	38.80
5045	GO_Z10_KAJ_6	24° 47' 52.695" N	87° 15' 56.319" E	39.03
5046	GO_Z10_KAJ_6	24° 47' 52.370" N	87° 15' 56.318" E	39.08
5047	GO_Z10_KAJ_6	24° 47' 52.045" N	87° 15' 56.317" E	38.78
5048	GO_Z10_KAJ_6	24° 47' 51.720" N	87° 15' 56.317" E	39.17
5049	GO_Z10_KAJ_6	24° 47' 51.395" N	87° 15' 56.316" E	38.75
5050	GO_Z10_KAJ_6	24° 47' 51.069" N	87° 15' 56.315" E	38.48
5051	GO_Z10_KAJ_6	24° 47' 50.744" N	87° 15' 56.315" E	38.55
5052	GO_Z10_KAJ_6	24° 47' 52.694" N	87° 15' 56.675" E	38.84
5053	GO_Z10_KAJ_6	24° 47' 52.369" N	87° 15' 56.674" E	39.11
5054	GO_Z10_KAJ_6	24° 47' 52.044" N	87° 15' 56.673" E	39.26
5055	GO_Z10_KAJ_6	24° 47' 51.719" N	87° 15' 56.673" E	39.17
5056	GO_Z10_KAJ_6	24° 47' 51.394" N	87° 15' 56.672" E	39.04
5057	GO_Z10_KAJ_6	24° 47' 51.069" N	87° 15' 56.671" E	38.73
5058	GO_Z10_KAJ_6	24° 47' 50.744" N	87° 15' 56.671" E	38.59
5059	GO_Z10_KAJ_6	24° 47' 50.419" N	87° 15' 56.670" E	38.59
5060	GO_Z10_KAJ_6	24° 47' 52.044" N	87° 15' 57.030" E	38.67
5061	GO_Z10_KAJ_6	24° 47' 51.718" N	87° 15' 57.029" E	39.10
5062	GO_Z10_KAJ_6	24° 47' 51.393" N	87° 15' 57.028" E	39.39
5063	GO_Z10_KAJ_6	24° 47' 51.068" N	87° 15' 57.028" E	38.99
5064	GO_Z10_KAJ_6	24° 47' 50.743" N	87° 15' 57.027" E	38.86
5065	GO_Z10_KAJ_6	24° 47' 50.418" N	87° 15' 57.026" E	38.53
5066	GO_Z10_KAJ_6	24° 47' 51.393" N	87° 15' 57.384" E	38.14
5067	GO_Z10_KAJ_6	24° 47' 51.068" N	87° 15' 57.384" E	38.88
5068	GO_Z10_KAJ_6	24° 47' 50.742" N	87° 15' 57.383" E	39.05
5069	GO_Z10_KAJ_6	24° 47' 50.742" N	87° 15' 57.739" E	38.06

District Mining Officer,
Godda.

Map showing Contours of 0.25 Meter Interval Inside Sand Ghat In Gerua River In Godda District

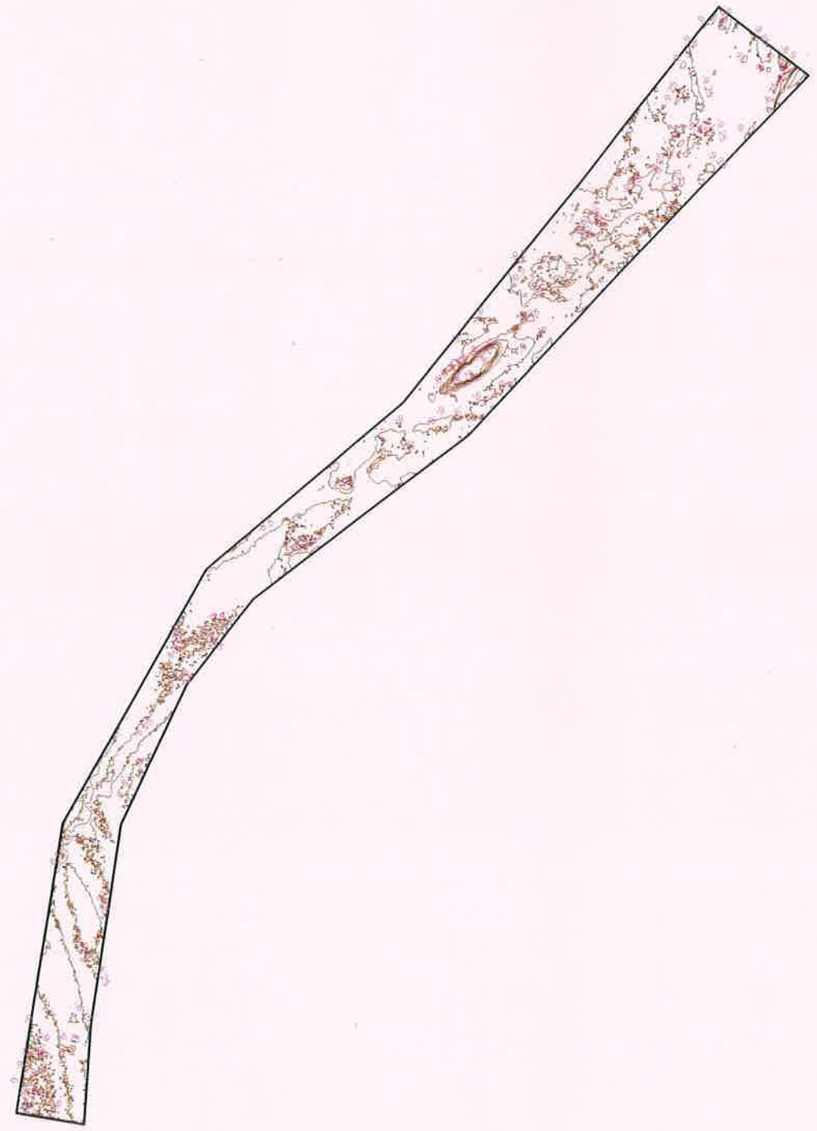
87°8'40"E

87°9'0"E

25°1'20"N

25°1'20"N

N



ABBREVIATION FORM		
District	GO	Godda
Zone	Z2	Zone 2
River	GE	Gerua

87°8'40"E

87°9'0"E

District Mining Officer
Godda.

Legend

Sand Ghat Boundary

Contour Line

Sand Ghat Code	Area (in Ha)
GO_Z2_GE_1	1.97

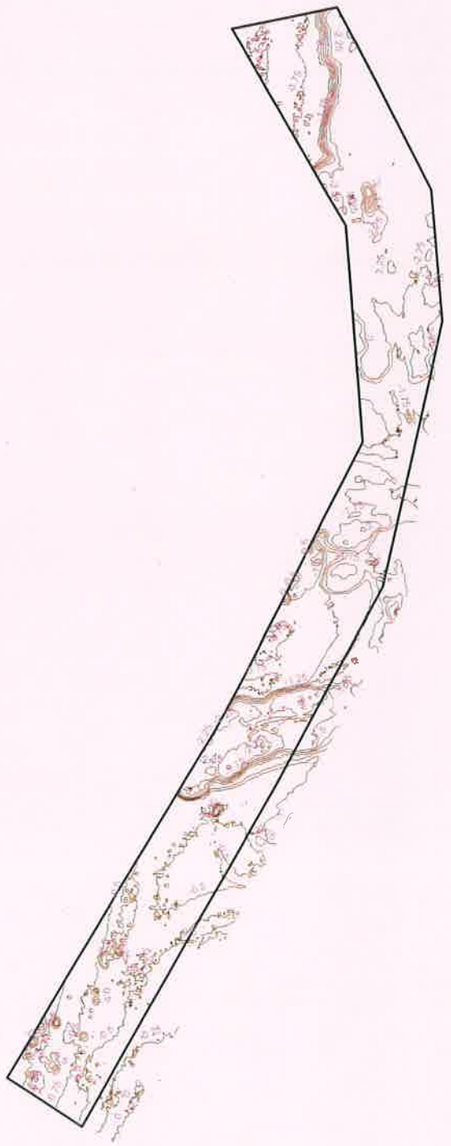
0 40 80 160 240 320

Meters

Map showing Contours of 0.25 Meter Interval Inside Sand Ghat In Gerua River In Godda District

87°9'0"E

N



24°58'0"N

24°58'0"N

87°9'0"E

ABBREVIATION FORM		
District	GO	Godda
Zone	Z3	Zone 3
River	GE	Gerua

Legend

Sand Ghat Boundary

Contour Line

Sand Ghat Code	Area (in Ha)
GO_Z3_GE_2	0.92

District Mining Officer,
Godda.

0 25 50 100 150 200 Meters

Map showing Contours of 0.25 Meter Interval Inside Sand Ghat In Chir River In Godda District

87°8'40"E

87°9'0"E

24°55'20"N

N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z5	Zone 5
River	CHI	Chir

87°8'40"E

87°9'0"E

District Mining Officer,
Godda.

Legend

Sand Ghat Boundary

Contour Line

Sand Ghat Code	Area (in Ha)
GO_Z5_CHI_3	3.51

0 40 80 160 240 320 Meters

Map showing Contours of 0.25 Meter Interval Inside Sand Ghat In Chir River In Godda District

87°9'0"E

24°54'20"N

N

24°54'20"N

87°9'0"E

ABBREVIATION FORM		
District	GO	Godda
Zone	Z5	Zone 5
River	CHI	Chir

Legend

Sand Ghat Boundary

Contour Line

Sand Ghat Code	Area (in Ha)
GO_Z5_CHI_4	3.3

0 12.5 25 50 75 100 Meters

District Mining Officer
Godda.

Map showing Contours of 0.25 Meter Interval Inside Sand Ghat In Kajhia River In Godda District

87°14'40"E

24°49'20"N

N

24°49'20"N

87°14'40"E

ABBREVIATION FORM		
District	GO	Godda
Zone	Z9	Zone 9
River	KAJ	Kajhia

Legend

Sand Ghat Boundary

Contour Line

Sand Ghat Code	Area (in Ha)
GO_Z9_KAJ_5	2.71

District Mining Officer
Godda

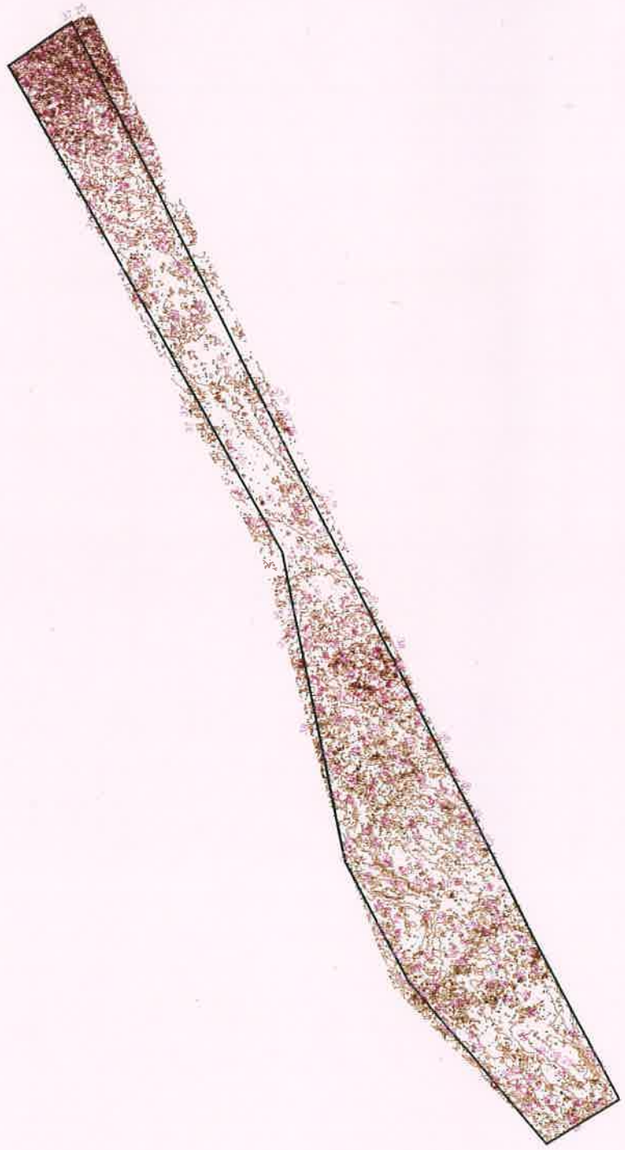
0 25 50 100 150 200 Meters

Map showing Contours of 0.25 Meter Interval Inside Sand Ghat In Kajhia River In Godda District

87°15'40"E

87°16'0"E

24°48'0"N



N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z10	Zone 10
River	KAJ	Kajhia

87°15'40"E

87°16'0"E

Legend

Sand Ghat Boundary

Contour Line

Sand Ghat Code	Area (in Ha)
GO_Z10_KAJ_6	1.82

District Mining Officer
Godda

0 37.5 75 150 225 300 Meters

Map showing Contours of 0.25 Meter Interval Inside Sand Ghat In Sakri River In Godda District

87°6'20"E

87°6'40"E

24°44'0"N

N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z12	Zone 12
River	SAK	Sakri

Legend

Sand Ghat Boundary

Contour Line

Sand Ghat Code	Area (in Ha)
GO_Z12_SAK_7	5.51

District Mining Officer
Godda

0 60 120 240 360 480 Meters

Map showing Contours of 0.25 Meter Interval Inside Sand Ghat In Sakri River In Godda District

87°7'0"E

87°7'20"E

N

24°43'0"N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z13	Zone 13
River	SAK	Sakri

87°7'0"E

87°7'20"E

Legend

Sand Ghat Boundary

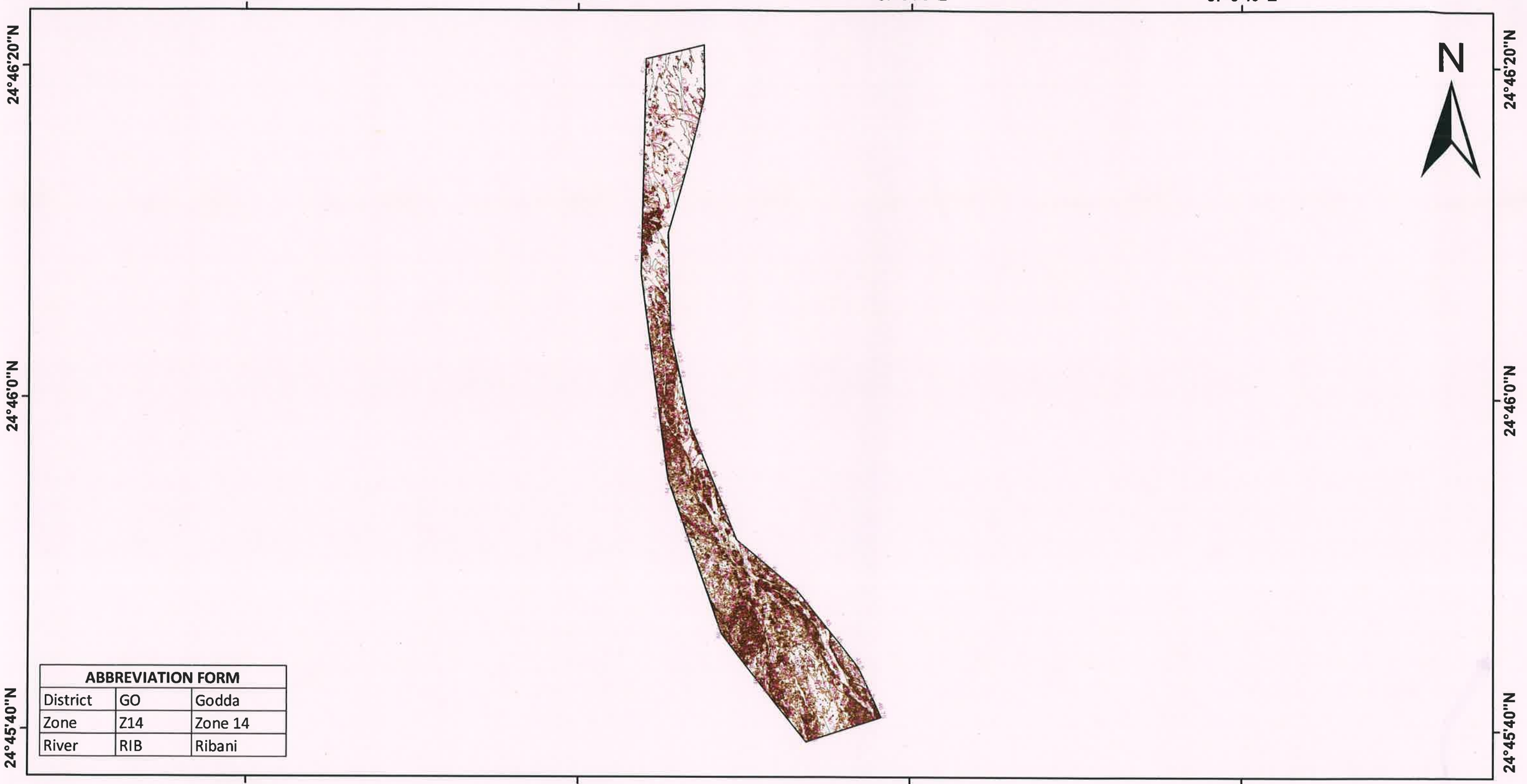
Contour Line

Sand Ghat Code	Area (in Ha)
GO_Z13_SAK_8	2.59

District Mining Officer
Godda.

0 40 80 160 240 320 Meters

Map showing Contours of 0.25 Meter Interval Inside Sand Ghat In Ribani River In Godda District



ABBREVIATION FORM		
District	GO	Godda
Zone	Z14	Zone 14
River	RIB	Ribani

Legend

Sand Ghat Boundary

Contour Line

Sand Ghat Code	Area (in Ha)
GO_Z14_RIB_9	11.29

0 100 200 400 600 800 Meters

District Mining Officer
Godda.

Map showing Contours of 0.25 Meter Interval Inside Sand Ghat In Chir River In Godda District

87°9'20"E

N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z15	Zone 15
River	CHI	Chir

87°9'20"E

Legend

Sand Ghat Boundary

Contour Line

Sand Ghat Code	Area (in Ha)
GO_Z15_CHI_10	2.39

District Mining Officer
Godda.

0 25 50 100 150 200 Meters

Map showing Contours of 0.25 Meter Interval Inside Sand Ghat In Chir River In Godda District

87°8'40"E

87°9'0"E

24°52'20"N

24°52'20"N

N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z16	Zone 16
River	CHI	Chir

87°8'40"E

87°9'0"E

Legend

Sand Ghat Boundary

Contour Line

Sand Ghat Code	Area (in Ha)
GO_Z16_CHI_11	2.1

District Mining Officer
Godda

0 30 60 120 180 240

Meters

Map showing Contours of 0.25 Meter Interval Inside Sand Ghat In Chir River In Godda District

87°7'40"E

87°8'0"E

N

24°43'20"N

24°43'20"N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z17	Zone 17
River	CHI	Chir

87°7'40"E

87°8'0"E

Legend

Sand Ghat Boundary

Contour Line

Sand Ghat Code	Area (in Ha)
GO_Z17_CHI_12	3.54

District Mining Officer
Godda

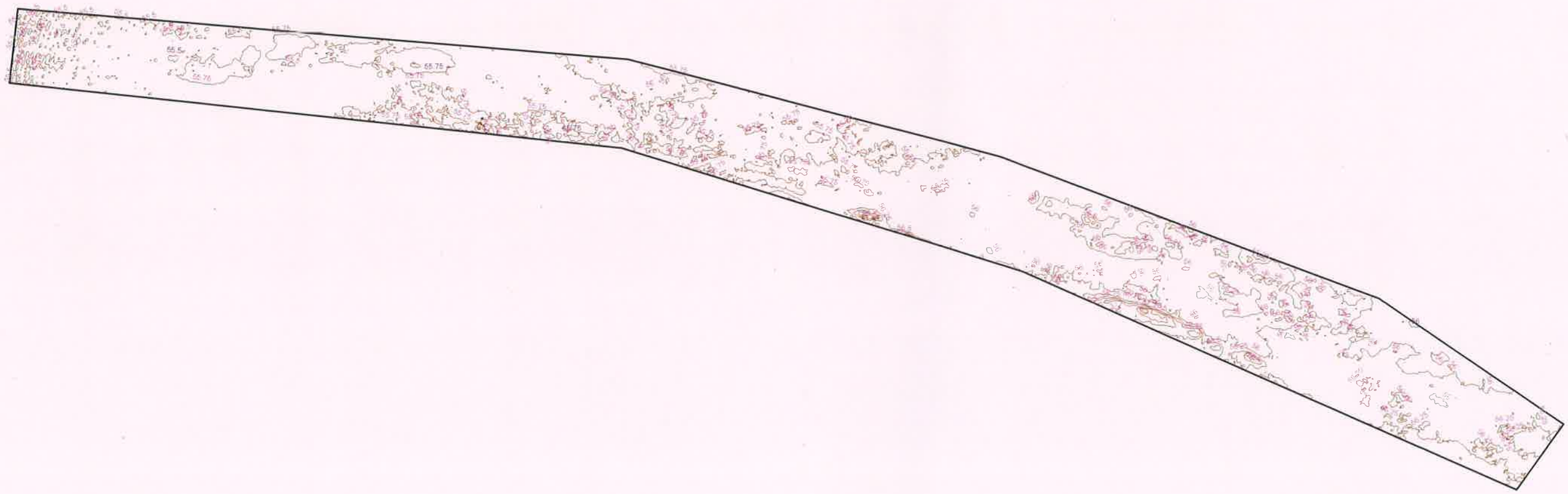
0 50 100 200 300 400

Meters

Map showing Contours of 0.25 Meter Interval Inside Sand Ghat In Chir River In Godda District

87°7'40"E

N



ABBREVIATION FORM		
District	GO	Godda
Zone	Z18	Zone 18
River	CHI	Chir

87°7'40"E

Legend

Sand Ghat Boundary

Contour Line

Sand Ghat Code	Area (in Ha)
GO_Z18_CHI_13	1.06

District Mining Officer
Godda

0 15 30 60 90 120
Meters

Map showing Contours of 0.25 Meter Interval Inside Sand Ghat In Chir River In Godda District

87°9'20"E

24°54'0"N

N

24°54'0"N

ABBREVIATION FORM		
District	GO	Godda
Zone	Z5	Zone 5
River	CHI	Chir

87°9'20"E

Legend

Sand Ghat Boundary

Contour Line

Sand Ghat Code	Area (in Ha)
GO_Z5_CHI_14	3.98

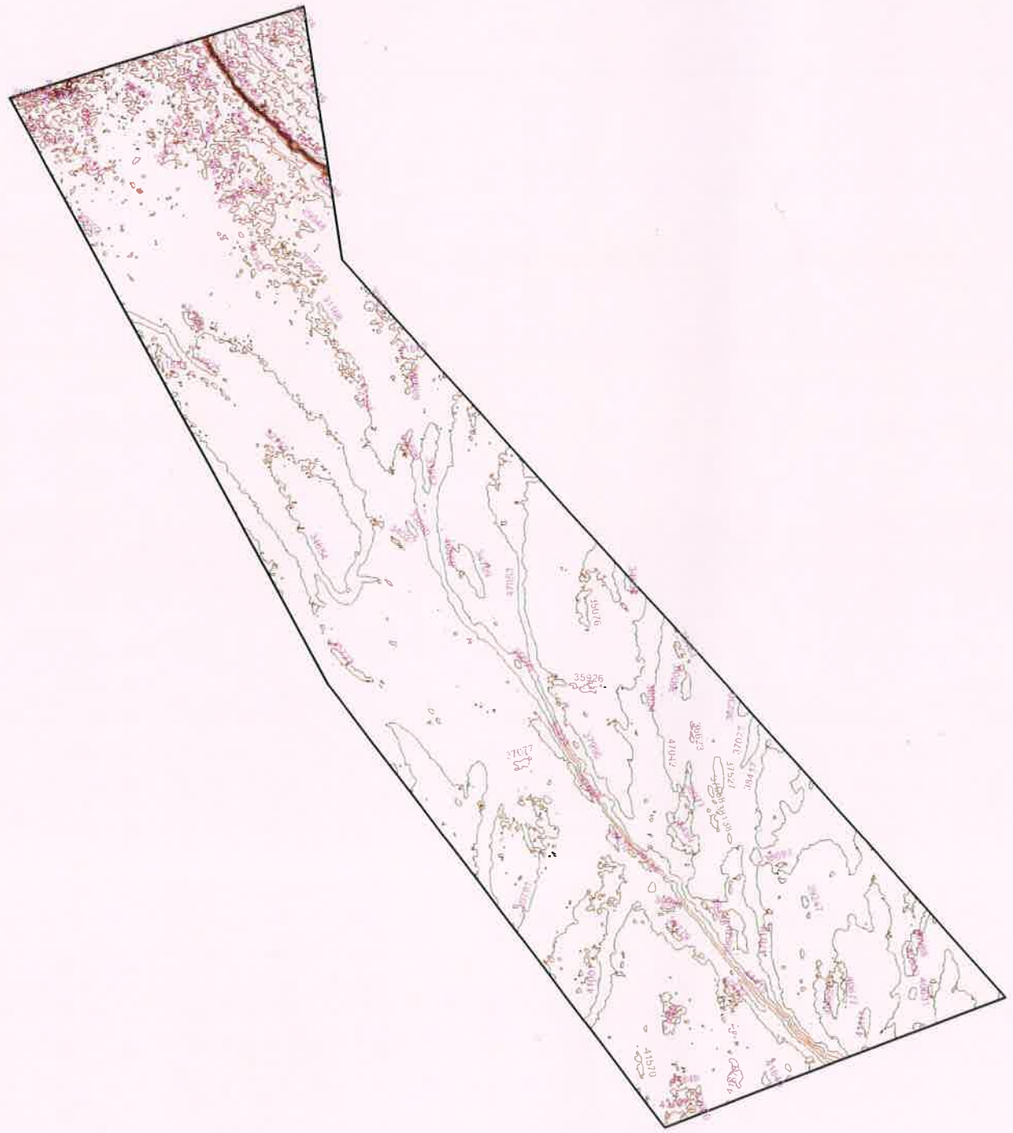
District Mining Officer
Godda

0 30 60 120 180 240 Meters

Map showing Contours of 0.25 Meter Interval Inside Sand Ghat In Chir River In Godda District

87°8'40"E

N



24°54'40"N

24°54'40"N

87°8'40"E

ABBREVIATION FORM		
District	GO	Godda
Zone	Z5	Zone 5
River	CHI	Chir

Legend

Sand Ghat Boundary

Contour Line

Sand Ghat Code	Area (in Ha)
GO_Z5_CHI_15	1.81

District Mining Officer
Godda

0 20 40 80 120 160
Meters

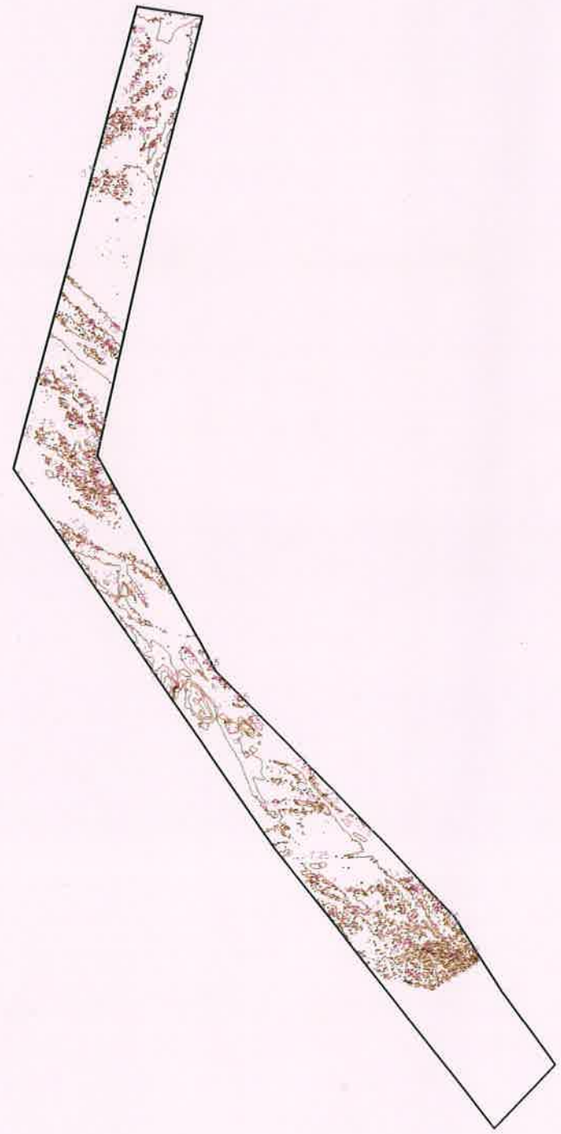
Map showing Contours of 0.25 Meter Interval Inside Sand Ghat In Gerua River In Godda District

87°8'40"E

87°9'0"E

25°0'40"N

N



ABBREVIATION FORM		
District	GO	Godda
Zone	Z2	Zone 2
River	GE	Gerua

87°8'40"E

87°9'0"E

Legend

Sand Ghat Boundary

Contour Line

Sand Ghat Code	Area (in Ha)
GO_Z2_GE_16	2.36

District Mining Officer,
Godda.

0 45 90 180 270 360 Meters

Route Map of Zone 2 , Godda District, Jharkhand

ABBREVIATION FORM		
District	GO	Godda
Zone	Z2	Zone 2
River	GE	Gerua

Distance from State Highway 41.10 Km

Legend

- Godda District Boundary
- Railway
- Bridge
- River Flow Direction
- Metalled Roads
- Approach Roads
- No Mining Zone
- Safety Barrier
- Sand Deposit Zone
- Sand Ghat

Sand Ghat Code	Area (in Ha)
GO_Z2_GE_16	2.36
GO_Z2_GE_1	1.97

Limiting Coordinates of Zone 2	
Starting Point	87°9'45.921"E 25°2'6.462"N
Ending point	87°9'2.398"E 24°59'31.02"N

District Mining Officer
Godda

N W E S

0 1,100 2,200 4,400 6,600 Meters

Route Map of Zone 3 , Godda District, Jharkhand

Legend

- Godda District Boundary
- Railway
- Bridge
- River Flow Direction
- Metalled Roads
- Approach Roads
- No Mining Zone
- Safety Barrier
- Sand Deposit Zone
- Sand Ghat

Sand Ghat Code	Area (in Ha)
GO_Z3_GE_2	0.92

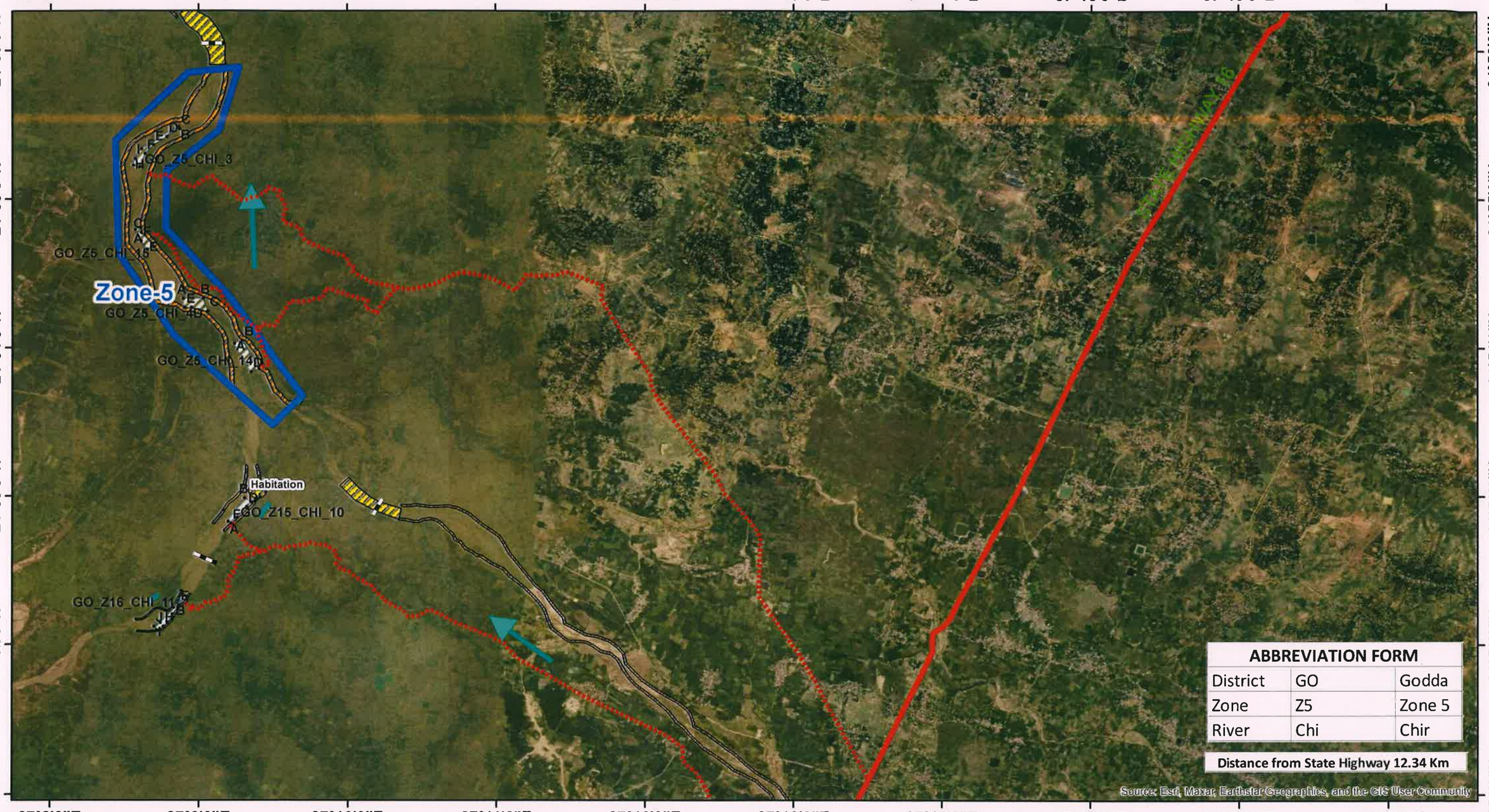
Limiting Coordinates of Zone 3	
Starting Point	87°9'3.131"E 24°59'2.919"N
Ending point	87°8'52.458"E 24°56'15.97"N

District Mining Officer
Godda

N W E S

0 1,000 2,000 4,000 6,000 Meters

Route Map of Zone 5 , Godda District, Jharkhand



ABBREVIATION FORM		
District	GO	Godda
Zone	Z5	Zone 5
River	Chi	Chir

Distance from State Highway 12.34 Km

Legend

- Godda District Boundary
- Railway
- Bridge
- River Flow Direction
- Metalled Roads
- Approach Roads
- No Mining Zone
- Safety Barrier
- Sand Deposit Zone
- Sand Ghat

Sand Ghat Code	Area(in Ha)
GO_Z5_CHI_3	3.51
GO_Z5_CHI_4	3.3
GO_Z5_CHI_14	3.98
GO_Z5_CHI_15	1.81

Limiting Coordinates of Zone 5	
Starting Point	87°9'5.473"E 24°55'51.753"N
Ending point	87°9'36.452"E 24°53'34.835"N

District Mining Officer
Godda

N W E S

0 950 1,900 3,800 5,700 Meters

Route Map of Zone 9 , Godda District, Jharkhand

Legend

- Godda District Boundary
- Railway
- Bridge
- River Flow Direction
- Metalled Roads
- Approach Roads
- No Mining Zone
- Safety Barrier
- Sand Deposit Zone
- Sand Ghat

Sand Ghat Code	Area (in Ha)
GO_Z9_KAJ_5	2.71

Limiting Coordinates of Zone 9	
Starting Point	87°14'2.521"E 24°49'38.748"N
Ending point	87°14'50.094"E 24°49'10.957"N

District Mining Officer,
Godda

N W E S

0 312.5 625 1,250 1,875 Meters

Route Map of Zone 10 , Godda District, Jharkhand

ABBREVIATION FORM		
District	GO	Godda
Zone	Z10	Zone 10
River	KAJ	Kajhia

Distance from National Highway 0.71 Km

Legend

- Godda District Boundary
- Railway
- Bridge
- River Flow Direction
- Metalled Roads
- Approach Roads
- No Mining Zone
- Safety Barrier
- Sand Deposit Zone
- Sand Ghat

Sand Ghat Code	Area (in Ha)
GO_Z10_KAJ_6	1.82

Limiting Coordinates of Zone 10	
Starting Point	87°15'37.541"E 24°48'10.992"N
Ending point	87°17'32.872"E 24°46'35.642"N

District Mining Officer
Godda

N W E S

0 360 720 1,440 2,160 Meters

Route Map of Zone 12 , Godda District, Jharkhand

87°7'0"E | 87°8'0"E | 87°9'0"E | 87°10'0"E | 87°11'0"E

24°45'0"N | 24°44'0"N | 24°43'0"N

Zone-12

Water Tank

STATE HIGHWAY 16

ABBREVIATION FORM		
District	GO	Godda
Zone	Z12	Zone 12
River	SAK	Sakri

Distance from State Highway 11.8 Km

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Legend

- Godda District Boundary
- Railway
- Bridge
- River Flow Direction
- Metalled Roads
- Approach Roads
- No Mining Zone
- Safety Barrier
- Sand Deposit Zone
- Sand Ghat

Sand Ghat Code	Area (in Ha)
GO_Z12_SAK_7	5.51

Limiting Coordinates of Zone 12	
Starting Point	87°6'14.791"E 24°44'8.364"N
Ending point	87°6'42.61"E 24°43'42.513"N

District Mining Officer
Godda

N | W | E | S

0 550 1,100 2,200 3,300 Meters

Route Map of Zone 13 , Godda District, Jharkhand

ABBREVIATION FORM		
District	GO	Godda
Zone	Z13	Zone 13
River	SAK	Sakri

Distance from State Highway 10.91 Km

Legend

- Godda District Boundary
- Railway
- Bridge
- River Flow Direction
- Metalled Roads
- Approach Roads
- No Mining Zone
- Safety Barrier
- Sand Deposit Zone
- Sand Ghat

Sand Ghat Code	Area (in Ha)
GO_Z13_SAK_8	2.59

Limiting Coordinates of Zone 13	
Starting Point	87°6'58.695"E 24°43'13.971"N
Ending point	87°7'18.991"E 24°42'53.057"N

District Mining Officer
Godda

N
W E
S

0 550 1,100 2,200 3,300
Meters

Route Map of Zone 14 , Godda District, Jharkhand

87°5'0"E | 87°6'0"E | 87°7'0"E | 87°8'0"E | 87°9'0"E | 87°10'0"E | 87°11'0"E | 87°12'0"E

24°46'0"N | 24°45'0"N | 24°44'0"N | 24°43'0"N

Permanent Structure

Zone-14

GO_Z14_RIB_9

GO_Z12_SAK_7

GO_Z18_CHI_13

GO_Z17_CHI_12

GO_Z13_SAK_8

Water Tank

STATE HIGHWAY 16

ABBREVIATION FORM		
District	GO	Godda
Zone	Z14	Zone 14
River	RIB	Ribani

Distance from State Highway 11.93 Km

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Legend

- Godda District Boundary
- Railway
- Bridge
- River Flow Direction
- Metalled Roads
- Approach Roads
- No Mining Zone
- Safety Barrier
- Sand Deposit Zone
- Sand Ghat

Sand Ghat Code	Area (in Ha)
GO_Z14_RIB_9	11.29

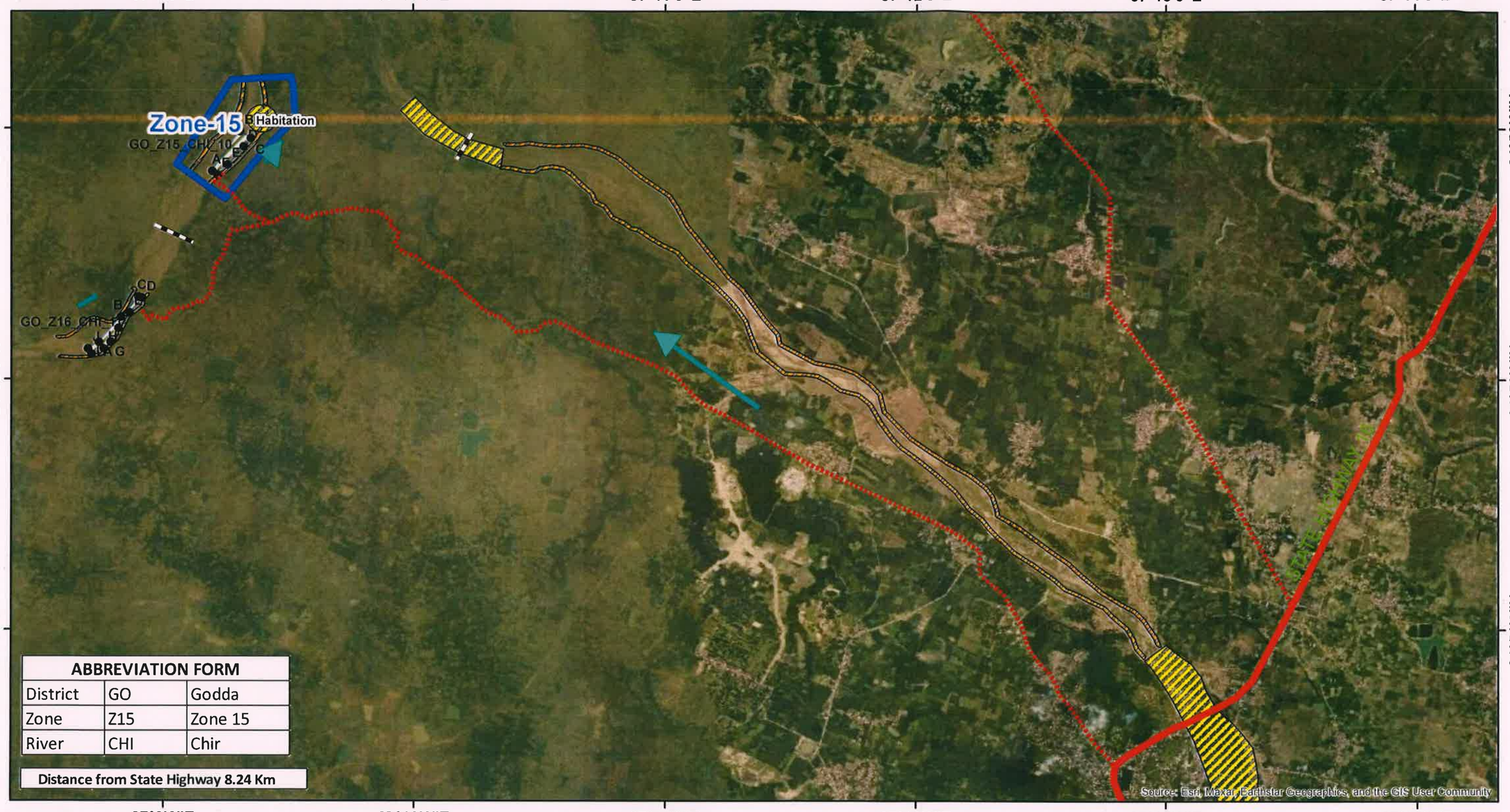
Limiting Coordinates of Zone 14	
Starting Point	87°5'5.895"E 24°46'25.5"N
Ending point	87°5'16.622"E 24°45'37.014"N

District Mining Officer
Godda

N | W | E | S

0 | 800 | 1,600 | 3,200 | 4,800 Meters

Route Map of Zone 15 , Godda District, Jharkhand



ABBREVIATION FORM		
District	GO	Godda
Zone	Z15	Zone 15
River	CHI	Chir

Distance from State Highway 8.24 Km

Legend

- Godda District Boundary
- Railway
- Bridge
- River Flow Direction
- Metalled Roads
- Approach Roads
- No Mining Zone
- Safety Barrier
- Sand Deposit Zone
- Sand Ghat

Sand Ghat Code	Area (in Ha)
GO_Z15_CHI_10	2.39

Limiting Coordinates of Zone 15	
Starting Point	87°9'30.642"E 24°53'12.412"N
Ending point	87°9'9.399"E 24°52'47.042"N

District Mining Officer
Godda

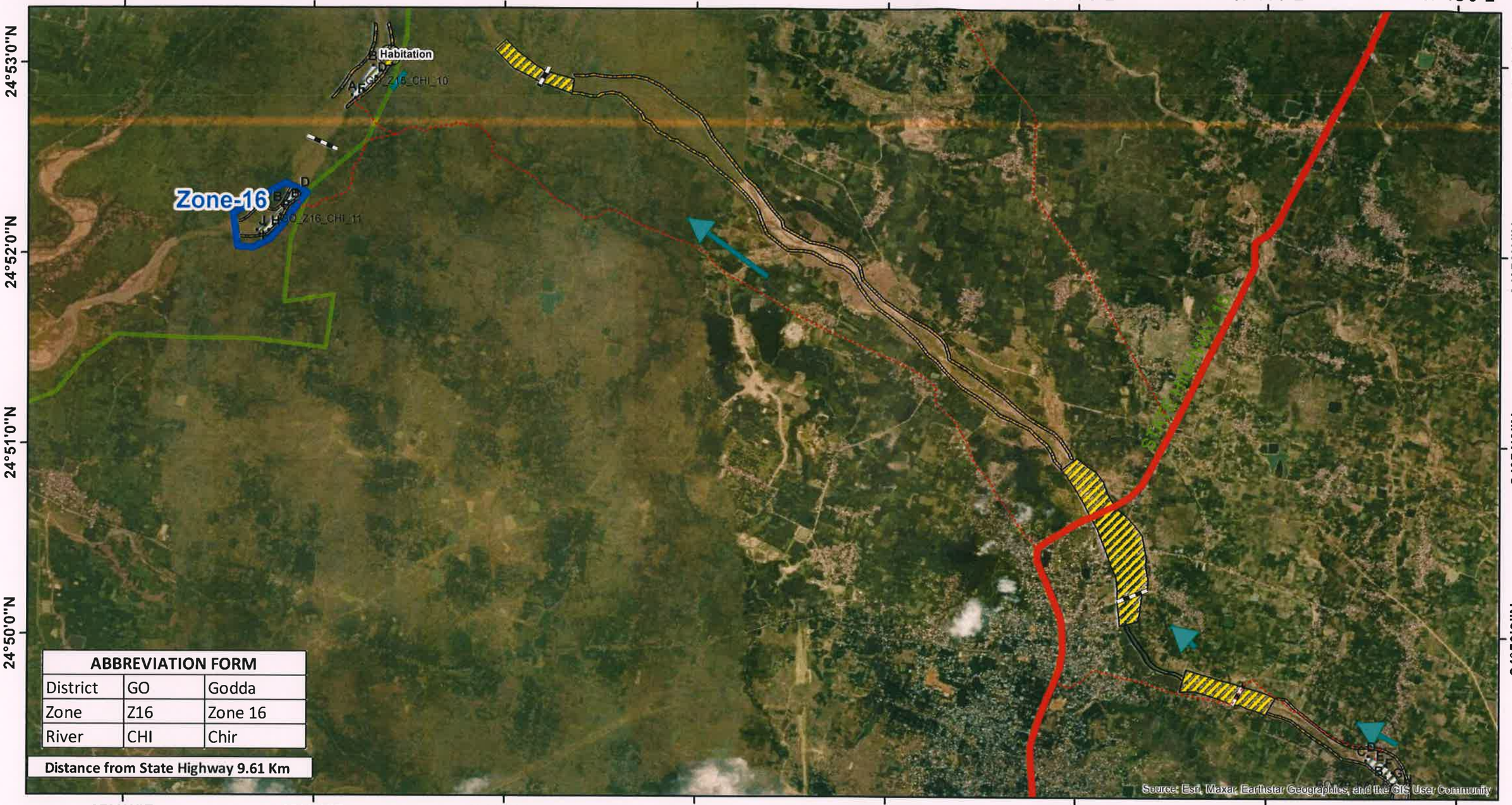
N
W
E
S

0 550 1,100 2,200 3,300 Meters

Route Map of Zone 16 , Godda District, Jharkhand

87°8'0"E 87°9'0"E 87°10'0"E 87°11'0"E 87°12'0"E 87°13'0"E 87°14'0"E 87°15'0"E

24°53'0"N 24°52'0"N 24°51'0"N 24°50'0"N



ABBREVIATION FORM		
District	GO	Godda
Zone	Z16	Zone 16
River	CHI	Chir

Distance from State Highway 9.61 Km

Legend

- Godda District Boundary
- Railway
- Bridge
- River Flow Direction
- Metalled Roads
- Approach Roads
- No Mining Zone
- Safety Barrier
- Sand Deposit Zone
- Sand Ghat

Sand Ghat Code	Area (in Ha)
GO_Z16_CHI_11	2.1

Limiting Coordinates of Zone 16	
Starting Point	87°8'54.094"E 24°52'20.851"N
Ending point	87°8'35.224"E 24°52'7.21"N

District Mining Officer,
Godda

N W E S

0 700 1,400 2,800 4,200 Meters

Route Map of Zone 17 , Godda District, Jharkhand

ABBREVIATION FORM		
District	GO	Godda
Zone	Z17	Zone 17
River	CHI	Chir

Distance from State Highway 6.49 Km

Legend

- Godda District Boundary
- Railway
- Bridge
- River Flow Direction
- Metalled Roads
- Approach Roads
- No Mining Zone
- Safety Barrier
- Sand Deposit Zone
- Sand Ghat

Sand Ghat Code	Area (in Ha)
GO_Z17_CHI_12	3.54

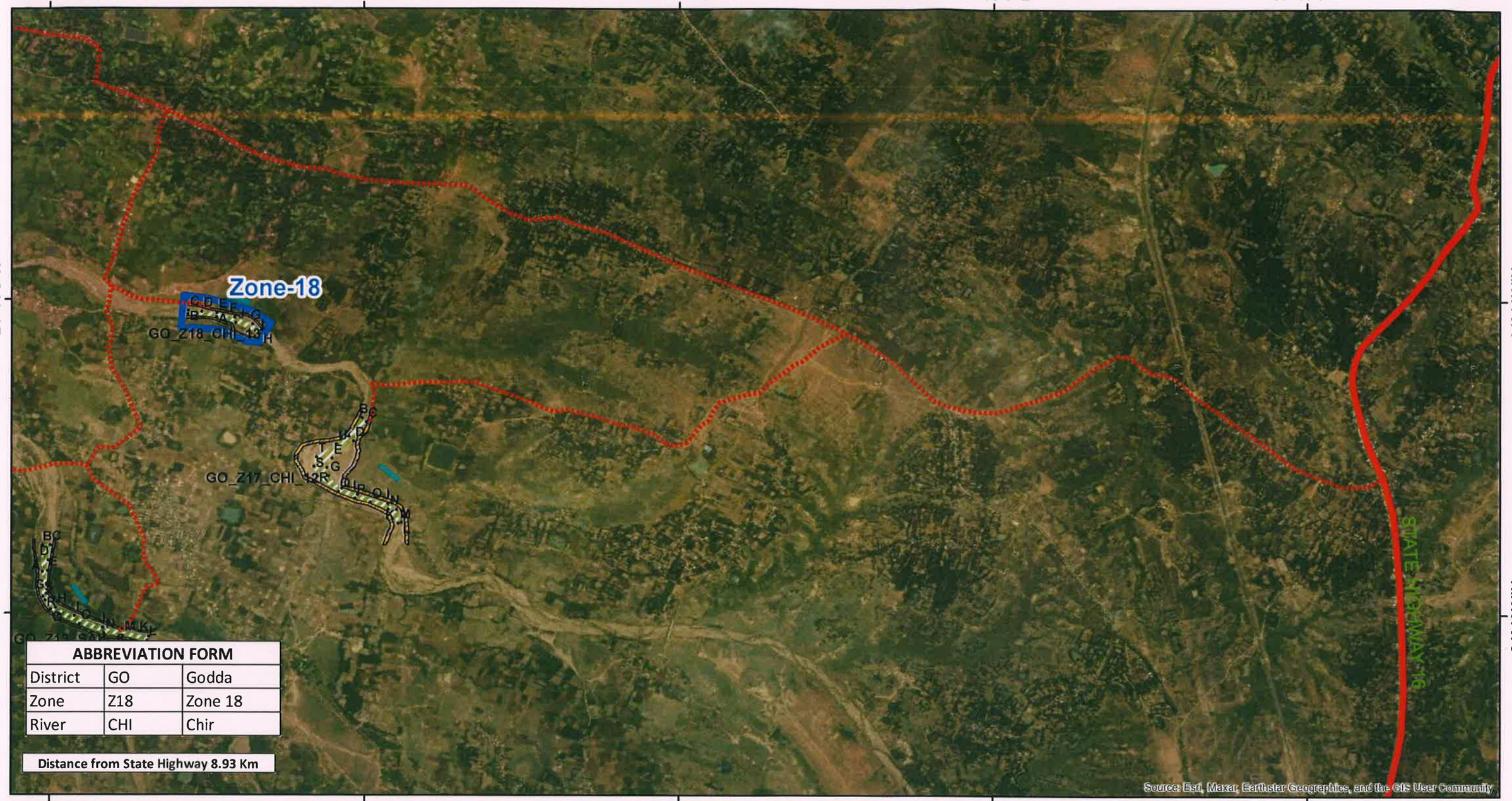
Limiting Coordinates of Zone 17	
Starting Point	87°8'0.261"E 24°43'38.309"N
Ending point	87°8'6.346"E 24°43'13.723"N

District Mining Officer
Godda

N W E S

0 362.5 725 1,450 2,175 Meters

Route Map of Zone 18 , Godda District, Jharkhand



ABBREVIATION FORM		
District	GO	Godda
Zone	Z18	Zone 18
River	CHI	Chir

Distance from State Highway 8.93 Km

Legend

- Godda District Boundary
- Railway
- Bridge
- River Flow Direction
- Metalled Roads
- Approach Roads
- No Mining Zone
- Safety Barrier
- Sand Deposit Zone
- Sand Ghat

Sand Ghat Code	Area (in Ha)
GO_Z18_CHI_13	1.06

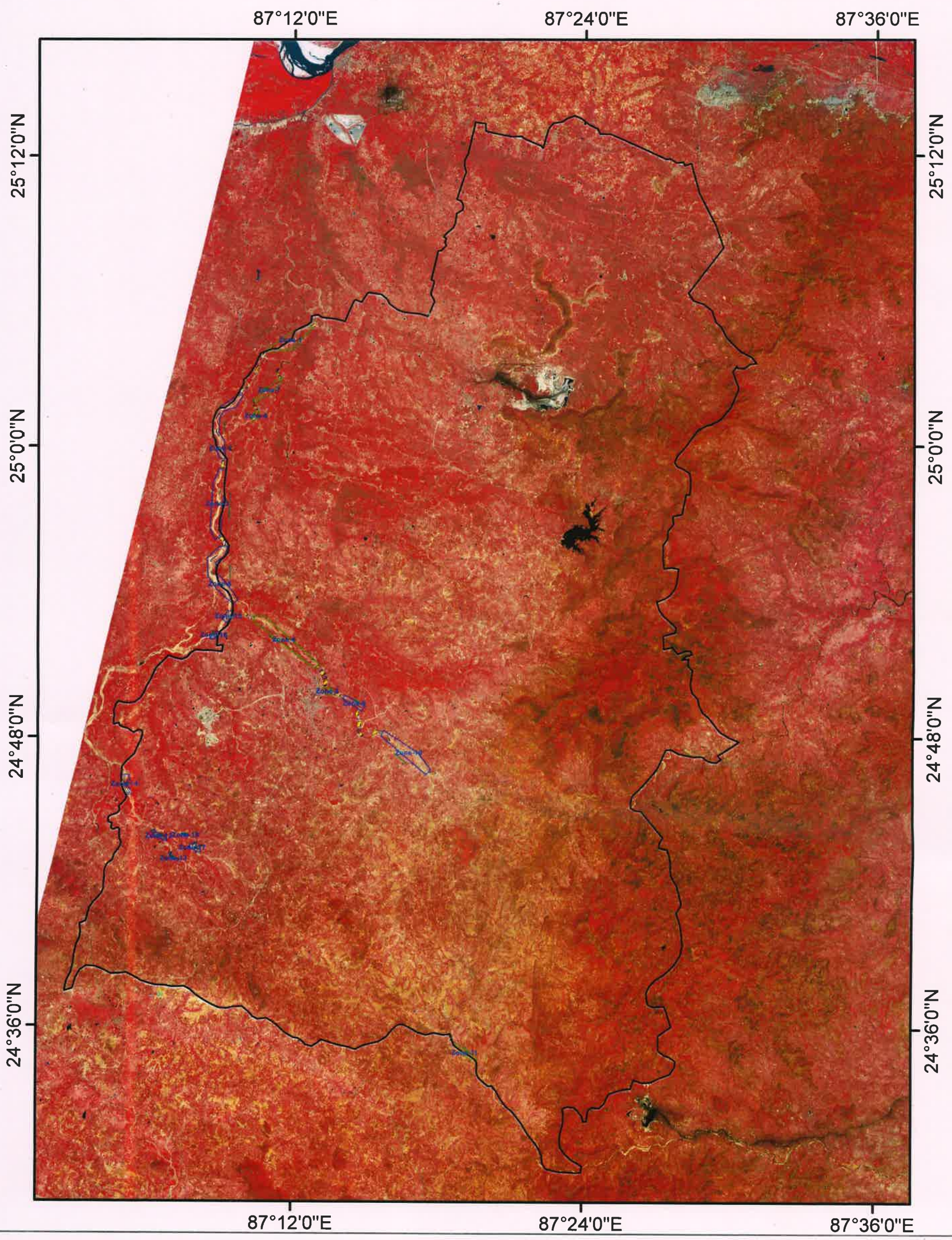
Limiting Coordinates of Zone 18	
Starting Point	87°7'25.293"E 24°43'57.89"N
Ending point	87°7'41.164"E 24°43'53.856"N

District Mining Officer
Godda

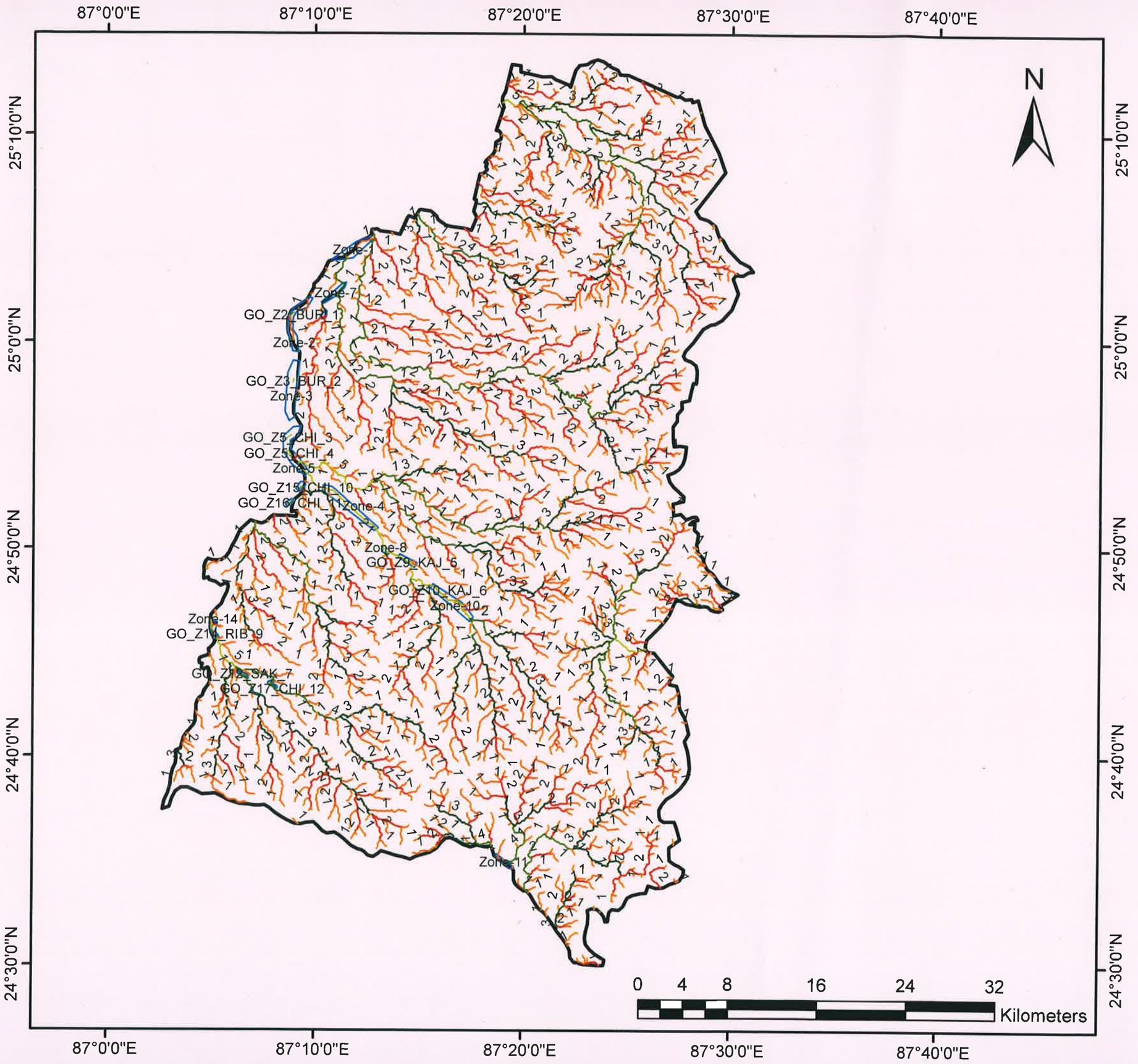
N
W E
S

0 450 900 1,800 2,700 Meters

Map showing Sand Potential Areas in Godda District, Jharkhand; Superimposed on Sentinel 2 Satellite Imagery



Stream Order map of Godda District



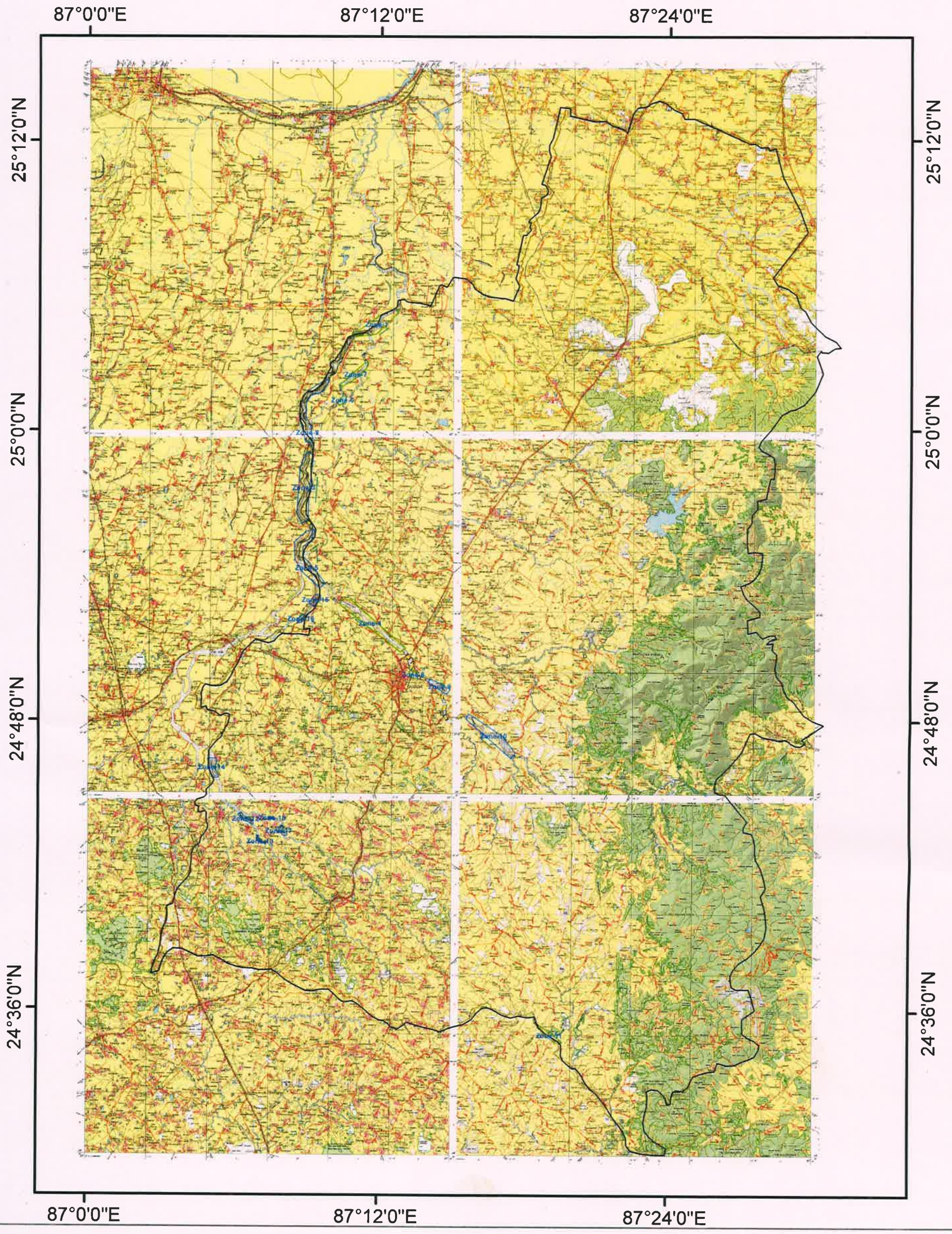
District Mining Officer
Godda

Legend

Stream_Order

- 1
- 2
- 3
- 4
- 5
- 6

Map showing Sand Potential Areas in Godda District, Jharkhand; Superimposed on Survey of India Toposheet



Godda District Boundary
Railway
Bridge
River Flow Direction
No Mining Zone
Category 2 Sand Deposit Zone
Category 1 Sand Deposit Zone
Sand Ghat

District Mining Officer
Godda

1 cm = 3 km

N
W
E
S

0 3,400 6,800 13,600 20,400
Meters