DISTRICT SURVEY REPORT

FOR

"SAND MINING OR RIVER-BED MINING"

IN

PALAMAU DISTRICT OF JHARKHAND

As per Gazette Notification No. - S.O. - 3611 (E), 25th July 2018 by MoEF & CC
& Enforcement & Monitoring Guidelines for Sand Mining 2020 by MoEF & CC

PREPARED BY:

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6	PA_Z12_NK_8	26.27	C6
7	PA_Z11_NK_9	178.08	C7
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CERTIFICATE

The District Survey Report (DSR) for Sand Mining or River-bed Mining in Palamau 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 Palamau District is prepared under;

- ✓ MoEF & CC, GoI Gazette Notification No. - S.O. 141 (E) dated 15/01/2016
- ✓ Sustainable Sand Mining Management Guidelines, 2016
- ✓ Sand Mining Policy of Government of Jharkhand, 2017
- ✓ MoEF & CC, GoI Gazette 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 Palamau District of Jharkhand State are correct to the best of our knowledge.

Authorized Signatory

M/s Sathi Planners Pvt. Ltd.

Recommended by Sub-Divisional Committee and Deputy Commissioner, Palamau

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1. PREFACE

The MoEF & CC, Govt. of India 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 also based on the reports submitted by expert committees and investigation teams. This DSR has been prepared in conformity with the S.O. - 3611 (E) 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 field data collection is an integral part of DSR prepration. This report has been prepared with the holistic approach and data provided by District Mining Office and study of Satellite imageries. The field data collection has been carried out in post-monsoon season and a DSR with all updated data has been prepared.

Palamau is a District in north-western Jharkhand, on the border of district Chatra in the east, Garhwa in the west, Latehar in the south and State of Bihar in the north. It came into existence on 1st January 1928. Palamau district lies between 24°38'N', 83°59'E to 23°47'N, 84°1'E and 23°57'N, 83°49'E to 24°8'N, 84°34'E. It covers an area of 5043.8 Km². The administrative headquarter of Palamau is Medininagar, situated on the bank of Koel River in between 24°3' North and 84°4' East. Daltonganj got its name from Colonel Dalton, Commissioner of Chhotanagpur in 1861. The new name of Daltonganj is now Medininagar in the name of the King Medini Rai.

Palamau is divided into three Sub-Divisions and further, the Sub-Divisions are divided into 21 blocks. The district is bounded in the north by Rohtas and Aurangabad district of Bihar, in the south by Latehar district and east by Chatra district, in the west by Garhwa district.

The drainage of the district is mainly controlled by the River Sone, River North Koel and its tributaries viz the Auranga and Amanat. The Koel, Auranga and Amanat have the upper reaches characterized by high bank and rocky beds while the lower reaches by sandy beds. The general line of drain is from south to north towards river Sone.

The occurrence of River-bed Sand and Gravel in the district has been established by Department of Mines and Geology, Government of Jharkhand and temporal study of imageries. It requires further systematic and scientific approach to quantify the resource along with their grade assessment. Sand mining is mainly practiced in Amanat, Auranga, Batane, Jinjoi, North Koel Rivers of Palamau district. This report also recommends to undertake detailed 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, January 2020 by MoEF & CC":

Clause No.	Particulars	Status/Compliance
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	Noted

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	Department dealing the mining activity in respective States.	
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 Land/Khatedari Land, M-Sand etc.	Complied with and explained in filled Annexure I, II & V of EMGSM 2020.
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 Sand 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 land. 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 land [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 and filled Annexure I, II & V of EMGSM 2020.
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 River-bed 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	Detailed Survey for capturing OGL has been done using UAV Drone/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.

	central 3/4th part of the River, width needs to be identified on a map. Out of the 3/4th part area, where there is a deposition/aggradation of the material needs to be identified. The remaining 1/4th 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.	
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 as Annexures.
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 condition arises. Such deviation shall be temporary & shall not be a permanent feature.	Agreed.
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.

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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 consummated. 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 consummate 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, no contiguous cluster has been formed.
m	The mining outside the River-bed 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 River-bed 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.
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 D21.
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	Sub-Divisional Committee has been visited tha Sand Ghats and recommended the same. (Photographs with details are enclosed)

	which after the site visit shall decide its suitability for mining.	
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 River-bed & 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. Attached as Annexure.
q	The LOI should not be granted for mining area falling on both Rive-rbed and outside River-bed. Therefore, in the same lease, both types of area should not be included.	Shall be considered while issuing the LoI.

2. INTRODUCTION

The District Survey Report of Palamau 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 Sept. 2006 and subsequent MoEF & CC issued Gazette Notification regarding Enforcement and Monitoring Guidelines for Sand Mining in January 2020. This report shall guide systematic and scientific utilization of natural resources, so that present and future generation may be benefitted at large. Prior to this, MoEF & CC had published Gazette Notification No. - 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 Minor mineral mining in the district.

The District Survey Report (DSR) is comprised of 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 from District Mining Office.

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2.1 Statutory Framework:

The table furnished below 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 mineral more 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 & CC"; 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 Gazette Notification No. - 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.

- **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.

h) 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.

i) Sand and Gravel may be extracted across the entire active channel during the dry season.

j) 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.

k) 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.

l) Sand and Gravel shall not be allowed to be extracted where erosion may occur, such as at the concave bank.

m) 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.

n) 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.

o) 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.

p) 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.

q) 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.

r) The Piedmont Zone (Bhabhar area) particularly in the Himalayan foothills, where River-bed 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.

s) Mining depth should be restricted to 3 meters and distance from the bank should be 1/4th of River width and should not be less than 7.5 meters.

t) 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.

u) Demarcation of mining area with pillars and geo-referencing should be done prior to the start of mining.

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f) 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.

g) 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 75 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 ensure that the objective to minimize the effects of River bank 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 minerals 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. Hence, MoEF & CC issued Enforcement and Monitoring Guidelines for Sand Mining in January 2020. 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.

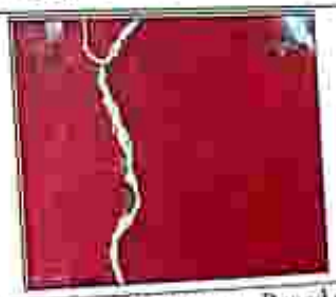
Data Source Identification: District Survey Report has been prepared based on the Primary data base collected from different sources. The data sources which are used in DSR are mostly Government published data based on the published report in reputed journal. District profile has been prepared based on the District Census 2011. 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.

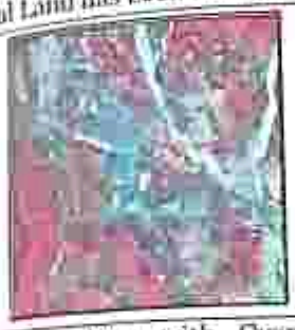
Data Analysis and Map preparation: Dataset which are captured during the report preparation, are gone through detail analysis work. District Survey Report involves the analytical implication of captured dataset to prepare relevant maps. Methodology adopted for preparation of relevant maps is explained 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.
	
Settlement – Area with Cyan Colour including geometrical shape has been recognized 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.

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- 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.
- 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: The field data collection is an integral part of DSR. This report has been prepared with the holistic approch and data provided by District Mining Office and study of Satellite imageries. The field data collection will be carried out 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 for 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 has been carried out by DGPS/Total Station to define the topography, contours and offsets of the River-bed. The surveys 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.

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Report Preparation: District Survey Report has been prepared to fulfill the purpose of identification of mining area for both Major and Minor mineral and their impact on environment. Report provides details of the Minor mineral (Sand) potential zones, Assessing mining prospect with respect to Minor Mineral Sand, replenishment study details includes in the report. Report also provides the socio environmental study for establishing mining leases of Minor minerals 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 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 the 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-bed 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 hanging 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.

Approved

Chronology:

S.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 SIC portal for review.
5	January 2023	Incorporating all the suggestions received and field verification by the Sub-Divisional Committee, DSR has been finalized.
6	May 2023	DSR has been placed in front of the Hon'ble SEAC Jharkhand for approval.

Approved

3. GENERAL PROFILE OF THE DISTRICT

3.1 General information:

Palamau is a District in north-western Jharkhand, on the border of Districts Chatra in the east, Garhwa in the west, Latehar in the south and state of Bihar in the north. It came into existence on 1st January 1928. Palamau district lies between 24°38'N, 83°59'E to 23°47'N, 84°1'E and 23°37'N, 83°42'E to 24°8'N, 84°34'E. It covers the area of 5043.8 km². The administrative headquarter of Palamau is Medininagar, situated on the bank of Koel River in between 24°3' north and 84°4' east. Daltonganj got its name from Colonel Dalton, Commissioner of Chhotanagpur in 1861. The new name of Daltonganj is now Medininagar in the name of the King Medini Rai.

Palamau is divided into three Sub-Divisions and further, the Sub-Divisions are divided into 21 blocks. The district is bounded in the north by Rohtas and Aurangabad district of Bihar, in the south by Latehar district and east by Chatra district, in the west by Garhwa district.

(Source – palamau.nic.in)

The drainage of the district is mainly controlled by the River Sone, River North Koel and its tributaries viz the Auranga and Amanat. The Koel, Auranga and Amanat have the upper reaches characterized by high bank and rocky beds while the lower reaches by sandy beds. The general line of drain is from south to north towards River Sone.

(Source – CGWB Report)

EAST	Chatra District
WEST	GarhwaDistrict
NORTH	Rohtas and Aurangabad District
SOUTH	Latehar District

Table 3.1: Administrative Set up of the Palamau District

Palamau is divided into three Sub-Divisions and further, the Sub-Divisions are divided into 21 blocks.

Subdivision & Blocks

- **No. of Blocks & Circles under Sadar Medininagar Sub-Division:**

Sl. No.	Block	Sl. No.	Circle
1.	Sadar Medininagar	1.	Sadar Medininagar
2.	Chainpur	2.	Chainpur
3.	Patan	3.	Patan
4.	Bishrampur	4.	Bishrampur
5.	Panki	5.	Panki
6.	Manatu	6.	Manatu
7.	Satbarwa	7.	Satbarwa

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Sl. No.	Block	Sl. No.	Circle
8.	Nilambar-Pitambarpur	8.	Nilambar-Pitambarpur
9.	Tarhasi	9.	Tarhasi
10.	Pandwa	10.	Pandwa
11.	Pandu	11.	Pandu
12.	Utari Road	12.	Utari Road
13.	Nawabazar	13.	Nawabazar
14.	Ramgarh		

- **No. of Blocks & Circles uder Chhatarpur Sub-Division:**

Sl. No.	Block	Sl. No.	Circle
1.	Chhatarpur	1.	Chhatarpur
2.	Hariharganj	2.	Hariharganj
3.	Naudiha Bazar	3.	Naudiha Bazar
4.	Pipra	4.	Pipra

- **No. of Blocks & Circles uder Hussainabad Sub-Division:**

Sl. No.	Block	Sl. No.	Circle
1.	Hussainabad	1.	Hussainabad
2.	Mohammadganj	2.	Mohammadganj
3.	Haidernagar		

(Source – palamau.nic.in)

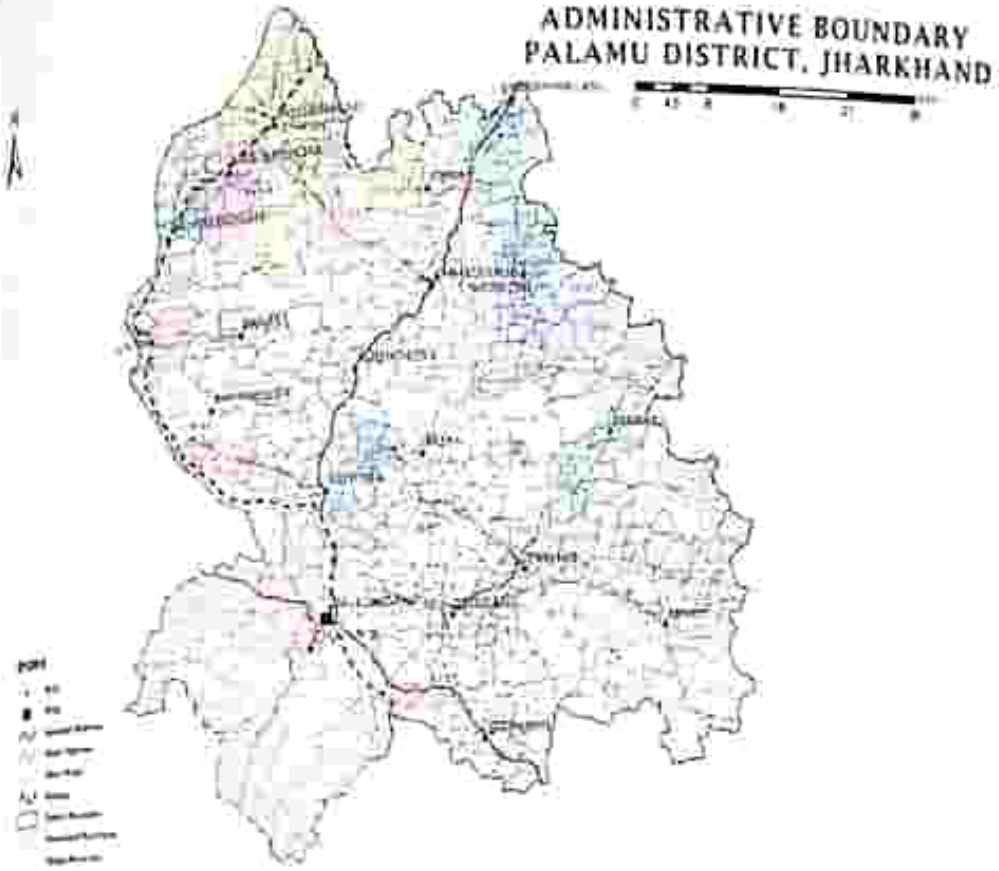


Figure 3.1: Administrative Boundary Map of Palamau

(Source - Jharkhand Space Application Center)

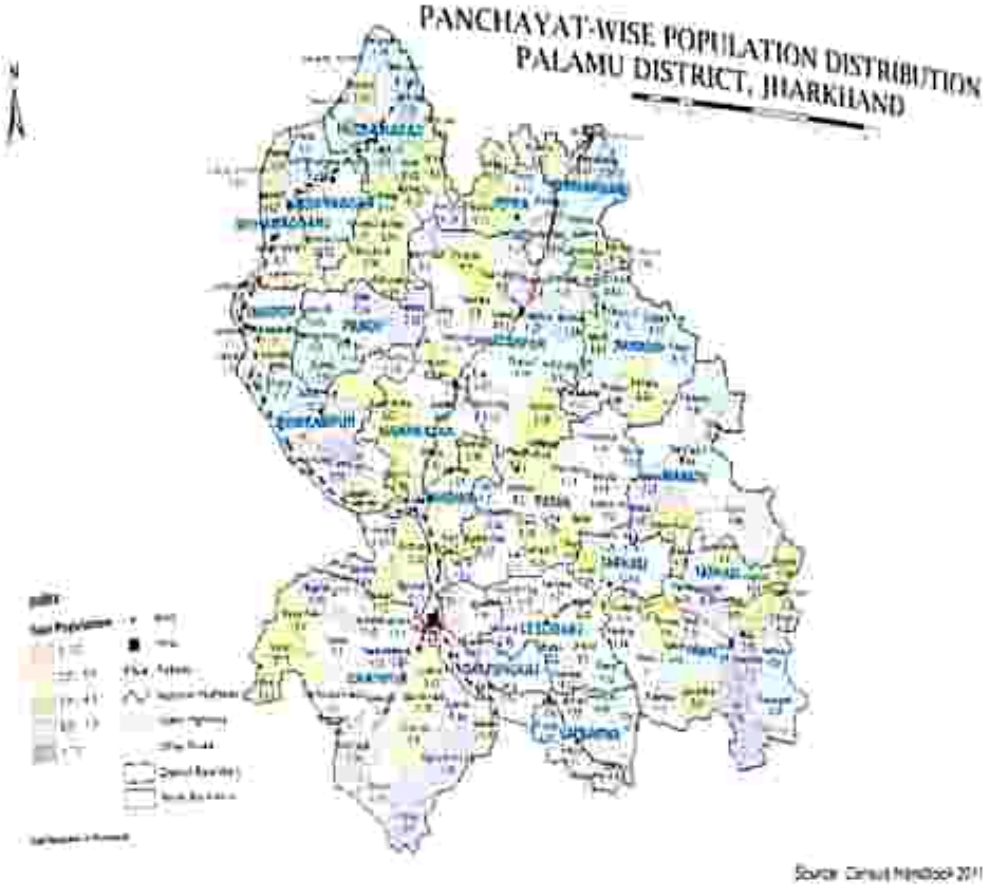


Figure 3.2: Block Map of Palamau

3.2 Climatic Condition:

The climate of this district is on the whole dry and bracing. The year can be divided into three main seasons: the cold season from November to March, the hot season from March to May and the monsoon season from June to September; October is a transitional month between monsoon and winter seasons.

The district is characterized by warm climate in March to June and later on there is a gradual decline in temperature from October onwards to December. January is the coolest month of the year. March, April and May are the hot and dry months of the district. The temperature varies from 5.6 degree Celsius to 46.7 degree Celsius. The district witnesses dust storms between March and June associated with low humidity, high temperature and fast blowing wind.

During winter seson the district records temperature between 6 to 18 degrees centigrade and during summer the temperature increases upto 47 degrees centigrade.

3.3 Rainfall:

The district falls under unassured rainfall zone and hence receives monsoon rains during June to September. The average rainfall of the district is less than 1200 mm as it comes under the rain shadow part. More than 80 percent of the precipitation is received during the monsoon months. Annual normal rainfall of the district is 1163.4 mm of which about 85% is received between June and October.

Records of rainfall for the district extend from 29 to 60 years over a network of 22 stations. The rainfall statements for the individual stations and for the district as a whole are given in. The average annual rainfall for the district as a whole is 1,335 mms. (52.55 inches). The northern portions of the district get comparatively lesser rain than the southern portions. Hussainabad in the extreme north gets an annual rainfall of 1,079 mms. (42.5 inches) while Netarhat in the plateau region of the south gets 1,817 mms. (71.5 inches). The rainy season is from June to September when the district gets 85 percent of the annual rainfall. From the onset of the monsoon by about the middle of June, rainfall rapidly increases reaching the peak value in August. The variation of rainfall from year to year is not large. During the 50 years' period from 1901 to 1950, the highest rainfall in the district amounting to 124 % of the normal occurred in 1919 and 1943: the lowest rainfall amounting to 61 percent of the normal was recorded in 1903. There were only six years when the rainfall was less than 80 percent of the normal. Two consecutive years of low rainfall occurred only twice during these fifty years. During 40 out of the 50 years the rainfall over the district was between 1,100 and 1.60 mms.

The highest rainfall in 24 hours was 364 mms (14.38 inches) recorded at Mahuadanr on the 26th June, 1945.

Table 3.4: Rainfall Data of Palamau from 2016-2020

3.4 Topography & Terrain:

The topography of Palamau district is characterized by highly rugged landscape with green forest all over the area. The elevation of the hill ranges in southern part of the district varies from 360-1110 m above msl. The master slope of the area in general tends towards north and east. In terms of the physiography the district shows the following four broad categories of landforms –

- East-West trending hill ranges, consisting of crystalline and metamorphic rocks in the southern part.
- Flat topped hills in the south-eastern.
- The sub-plateau area lying south of the plains are separated by narrow valleys in parts of Bishrampur block.
- Narrow valleys along the course of the major Rivers.

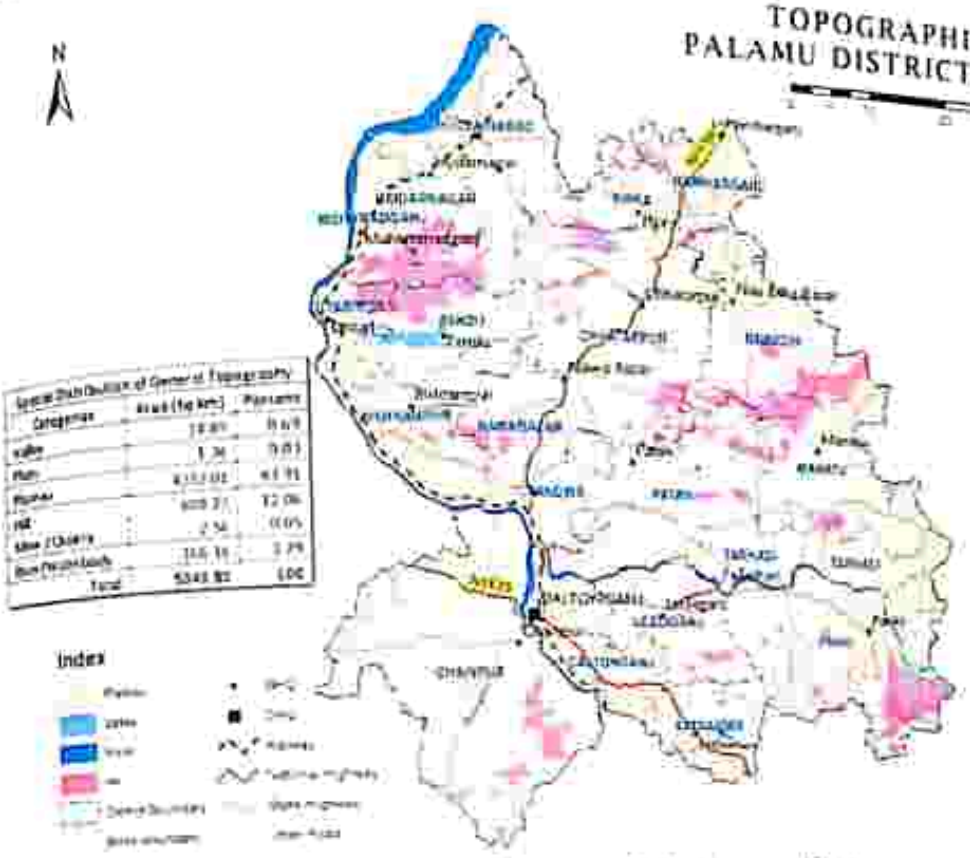
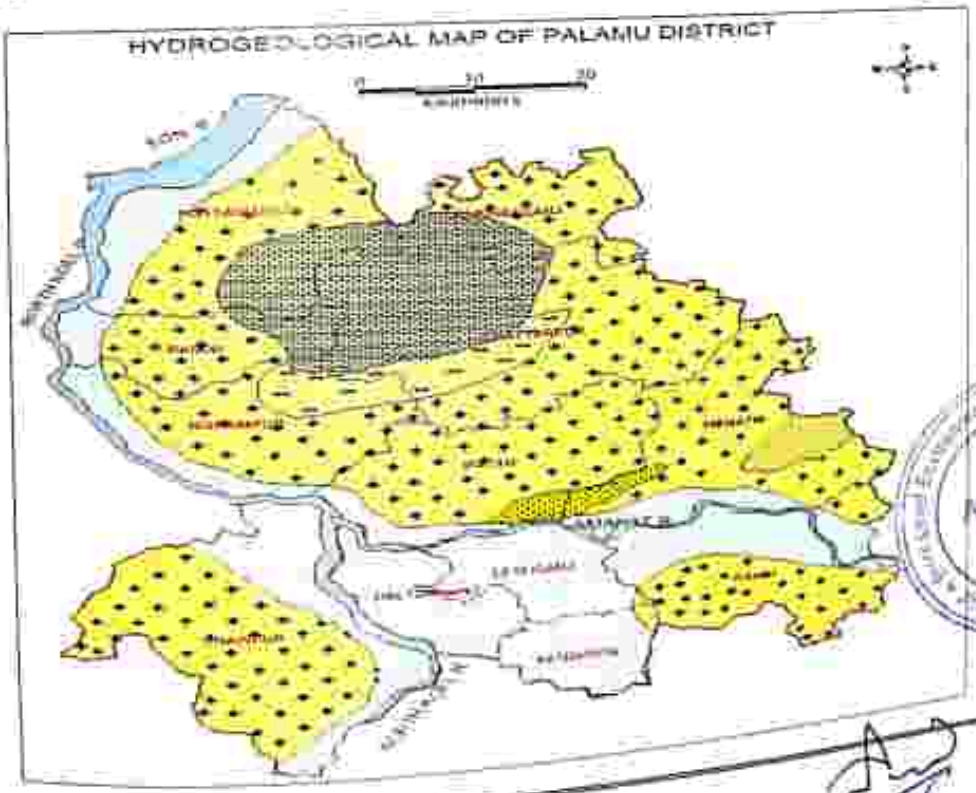


Figure 3.3: Topographical Map of Palamau
(Source - Jharkhand Space Application Center)

3.5 Water courses and Hydrogeology:



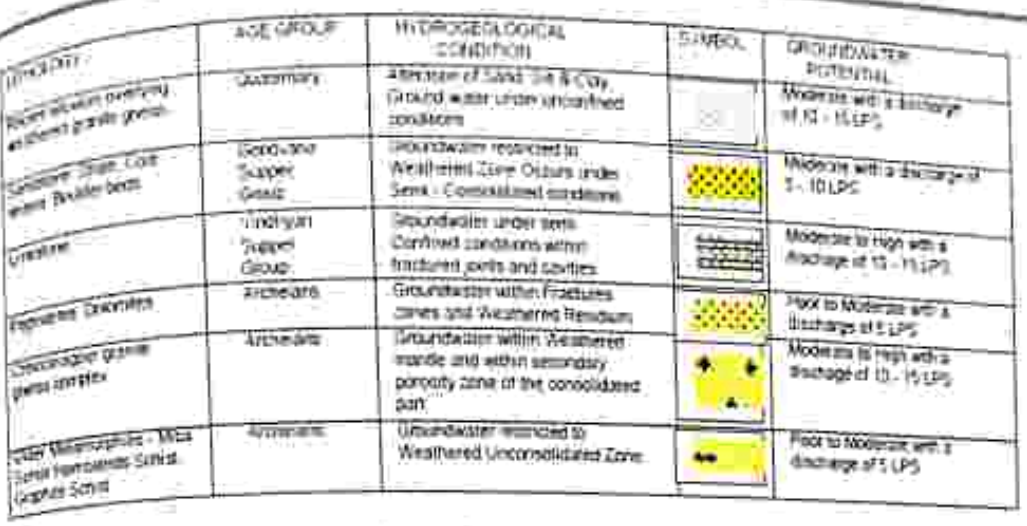


Figure 3.4: Hydrogeological Map of Palamau District

The district is covered by three major geological formations viz, the Precambrian crystallines, the Vindhyans and the Gondwanas. Besides, the Tertiary Laterite and Alluvium also cover part of the district. The Alluvium cover of considerable thickness occurs in the northern part of the district along the Sone and North Koel rivers. Ground water occurs mostly under phreatic condition in all the lithological units and locally under semiconfined and confined condition.

◊ Hydrogeology

The district is covered by three major geological formations viz, the Precambrian crystallines, the Vindhyans and the Gondwanas. Besides, the Tertiary Laterite and Alluvium also cover part of the district. The Alluvium cover of considerable thickness occurs in the northern part of the district along the Son and North Koel River. Ground water occurs mostly under phreatic condition in all the lithological units and locally under semiconfined and confined condition.

Depth to Water level

During May 2012, the depth to water levels in Ground Water Monitoring wells tapping shallow aquifer ranged from 3.5 to 13.5 m bgl. Depth to ground water levels during the post monsoon (November 2012) varied between 2.8 and 8.85 m bgl. Categorization of depth to water level of pre-monsoon period (May 2012) for Ground Water Monitoring wells in Palamau district is presented in Table -

Table 3.5: Well Frequency for Different Ranges of Depth to Water Level - May – 2012

No. of Wells analyzed	Depth to Water level (mbgl)		No./Percentage of Wells Showing Depth to Water Table (mbgl)									
	Min.	Max.	0.0-2.0	%	2.0-5.0	%	5.0-10.0	%	10.0-20.0	%	20.0-40.0	%
16	3.5	13.5	0	0	2	7.1	10	64.3	4	28.6	0	0

Categorization of depth to water level of post-monsoon period (November 2012) for Ground Water Monitoring wells in Palamau district is presented in Table -

Table 3.6: Well Frequency for Different Ranges of Depth to Water Level - Nov – 2012

No. of Wells analyzed	Depth to Water level (mbgl)	No./Percentage of Wells Showing Depth to Water Table (mbgl)

	Min.	Max.	0.0-2.0	%	2.0-5.0	%	5.0-10.0	%	10.0-20.0	%	20.0-40.0	%
20	2.8	8.85	0	0	8	40	12	60	0	0	0	0

The Depth to water level map has been prepared based on the analyzed water level data of pre and post-monsoon. In general, during premonsoon, 2012, depth to water level varies between 5 and 10 mbgl in 64.3% wells and > 10 mbgl in 28.6% wells, shallow water level also recorded in 2 wells out of 16 analyzed wells. In general, during post-monsoon, 2012, depth to water level varies between 5 and 10 mbgl in 60% wells and 2-5 mbgl in 40% wells, which represents the water level within 10 mbgl.

◊ Water Level Trend

Trend of Ground Water Level for the period 2003 to 2012 shows declining trend in 15 wells out of 17 in the range of 0.015–0.558 m/yr. Table 3.7:

Period 01-Jan-03 to 01-Jan-12					
Tehsil/Taluk	Location	Well No.	No. of Data	Rise	Fall
				(meter/Yr.)	(meter/Yr.)
Barwadih	Mandal	BPL13	5	1.189	-
Bishrampur	Bishrampur	BPL09	31	-	0.295
Bishrampur	Kajri	BPL27	29	-	0.086
Bishrampur	Rajhara	BPL08	31	-	0.032
Chhatarpur	Chhatarpur	BPL05	33	-	0.265
Chhatarpur	Sandha	BPL29	17	-	0.050
Daltonganj	Daltonganj	BPL07	35	-	0.304
Haribarganj	Haribarganj	BPL19	29	-	0.234
Hussainabad	Japla	BPL23	18	-	0.174
Lesliganj	Lesliganj	BPL26	23	-	0.251
Panki	Panki	BPL22	11	-	0.379
Patan	Kanda	BPL25	30	-	0.015
Patan	Nawadih	BPL18	24	-	0.558
Patan	Patan	BPL21	23	-	0.081
Satbarwa	Betla	BPL04	28	-	0.426
Satbarwa	Satbarwa	BPL24	34	-	0.026

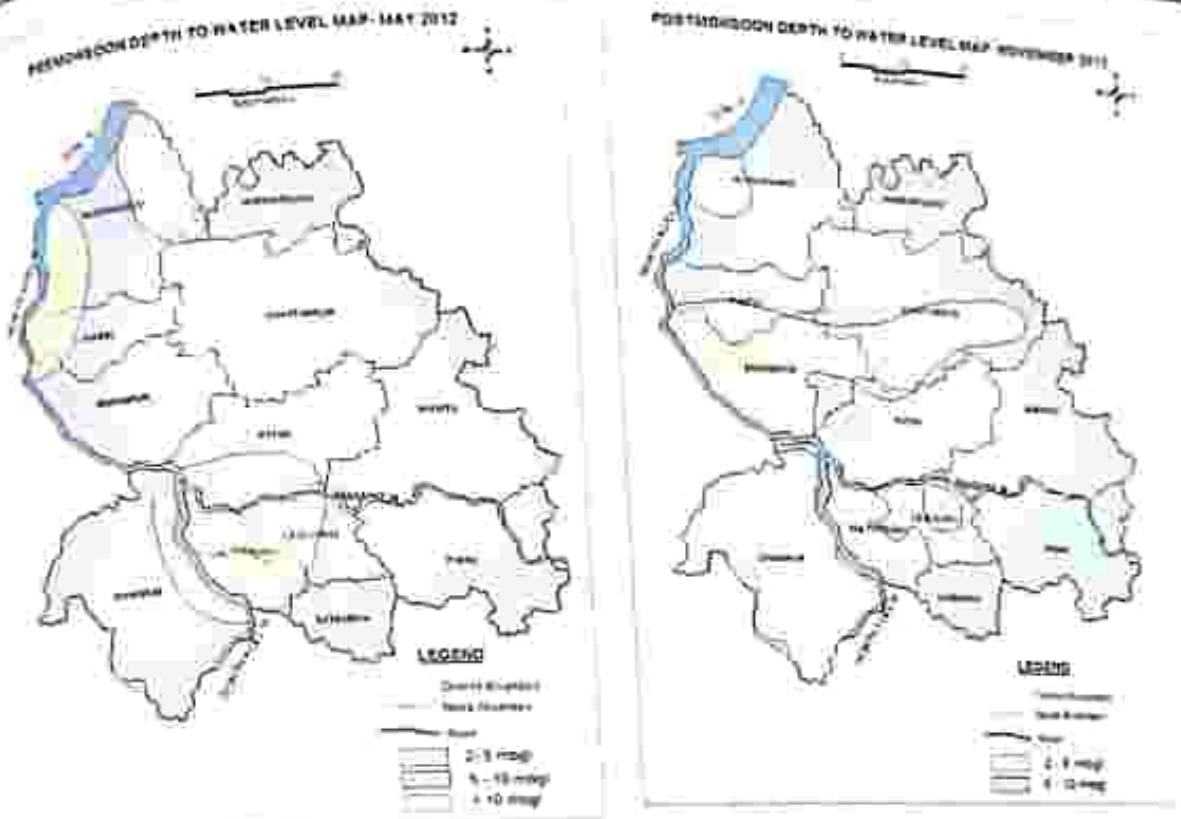


Fig IV: Pre & Post Monsoon Maps of Palamu District-2012

Fig. 3.5: Pre & Post-Monsoon Maps of Palamau District-2012

❖ Aquifer Parameters

A total of 6 exploratory wells and 8 observation wells have been constructed down to depth of 200 m in hard rock formation to decipher the potential fracture zones with their yields. The exploratory data reveals presence of potential fractures between 30 and 100 mbgl. The yield of the well in general as evident from the exploratory data has been found to vary between 1 and 62 m3/hr. The piezometric level varies between 4 and 9.3 m bgl. Aquifers lying between the depth range of 30-100 m have moderate prospects of ground water development. The summarized hydrogeological data of exploratory drilling in the district has been given in table.

Table 3.8: Summarised hydrogeological data of exploratory drilling of Palamau district

Rock Type	Depth range (m bgl)	No. of fractures tapped	Depth zone within which fractures confined	Static Water level (m bgl)	Yield (m³/hr.)
Granite gneiss	76.8-199.3	1-5	11-183.9	4-9.30	0.9-61.30

Fig. 3.6: Location of Exploratory Wells in Palamau District

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. Dug wells are in general of 2m diameter and between 8 to 15 m depth, depending on the thickness of the weathered zone, tapping the shallow ground water 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) are less susceptible to contamination from surface sources and
ii) they 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 Palamau district, the number of hand pumps drilled by PHED is 20065 of which 7171 are under working condition as on April 2012. There are 7715 dug wells, 213 shallow tube wells and 15 tubewells as per minor irrigation census 2006-07. 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. Table – 3.9:

Block	Annual Replenishable Ground Water Resource					
	Monsoon Season		Non-monsoon Season		Total	Natural Discharge during non-monsoon season
	Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources		
	1	2	3	4	5	6
Bishrampur	4170.08	6.67	530.59	41.82	4749.16	474.92
Chainpur	3434.64	49.66	617.74	40.42	4142.46	414.25
Chhatarpur	4469.71	92.10	580.57	35.66	5178.04	258.90
Daltonganj	2084.19	1.91	265.19	14.11	2365.41	236.54
Harihargani	1175.35	2.66	209.73	16.32	1404.07	70.20
Hussainabad	2252.57	115.23	390.97	25.60	2784.37	139.22
Lesliganj	1845.58	1.91	234.83	20.98	2103.30	210.33
Mariatu	4601.50	5.33	561.98	23.92	5192.73	519.27
Pandu	1138.58	385.06	201.99	17.26	1742.88	87.14
Panki	4056.38	296.98	516.13	19.95	4799.44	479.94
Patan	2560.27	672.28	461.69	44.94	3739.19	373.92
Satbarwa	1051.83	1.74	200.75	16.78	1271.11	127.11
Total	**32840.67**	**1541.53**	**4772.16**	**317.78**	**39472.15**	**3391.75**

❖ Ground Water Related Issue and Problems

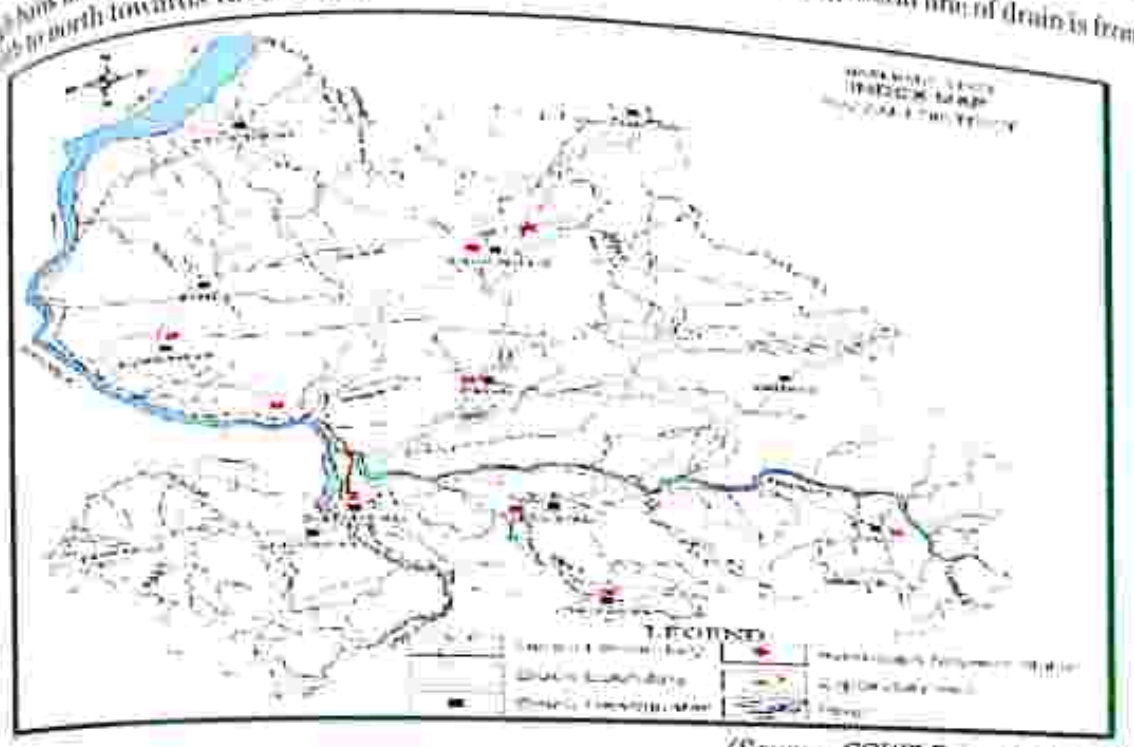
Some of key ground water related issues are -

1) Long term water level decline has been observed to the tune of 0.358 m/year at Nawadih, Patan Block.
2) Locating suitable sites for bore wells.
3) Suitable design of dug wells and hand pumps.
4) Taking up artificial recharge projects to augment the resource availability in Palamau district
5) Optimal development of irrigation intensity by developing ground water available for future uses.
6) Creating public awareness for conserving ground water through awareness camps, NGO's and mass media.

3.7 Drainage System:

The drainage of the district is mainly controlled by the River North Koel and its tributaries viz the Auranga and Amanat. The Koel, Auranga and Amanat have the upper reaches characterized by

high bank and rocky beds while the lower reaches by Sandy beds. The general line of drain is from south to north towards River Sone.



(Source: CGWB Report of Palamau)

Rivers of Palamau district:

North Koel River

North Koel rises on the Ranchi plateau and enters Palamau division, below Netarhat near Rud. After flowing nearly due west for about 32 kilometres, it turns north at an almost complete right angle through a gorge at Kutku, and flows through the centre of the district until it falls into the Son a few miles north-west of Haidarnagar. From its source to its junction with the Son its length is about 260 kilometres, and since it drains a catchment area of at least 9,100 kilometres², Total Length in the District is 128 km and drains a catchment area of 48.54 km² in the district. It naturally contributes a large supply of water to the Son during the rains. The North Koel, along with its tributaries, meanders through the northern part of Betla National Park.
The principal tributaries are Auranga and Amanat, both of which join it from the east, the former at Kechki, 16 kilometres south and the latter 8 kilometres north of Daltonganj. Another tributary is Burha, which joins the North Koel above Kutku at Bageshampa.

Sone River

Sone River of central India is the second largest of the 'Ganges' southern tributaries after Yamuna River. The Sone originates near Amarkantak in Madhya Pradesh, just east of the headwater of the Narmada River, and flows north-northwest through Madhya Pradesh State before turning sharply eastward where it encounters the southwest-northeast-Kaimur Range. The Sone parallels the Kaimur hills, flowing east-northeast through Uttar Pradesh, Jharkhand and Bihar States to join the Ganges just west of Patna. Geologically, the lower valley of the Sone is an extension of the Narmada Valley, and the Kaimur Range an extension of the Vindhya Range. Dehri on Sone and Sonbhadra are the major cities situated on Sone River. The Sone River at 784 kilometres long, is one of the longest Indian Rivers. Its chief tributaries are Rihand and North Koel.

Auranga River

Auranga originates near Soheda in a pass. It descends from the Ranchi plateau and pursues a winding course in a north-westerly direction for a distance of about 80 kilometres, till it flows into the Koel near Kechki 16 kilometres south of Daltonganj. It passes through a large valley, the southern face of which is formed by the Kumandih hills. Its bed widens rapidly and by the time it reaches the Palamau Fort it has attained a considerable size. Where the ruins of these two forts overlook it, the channel is crowded with huge masses of gneiss. Owing to its rocky bed, navigation is impossible in the rains, and at other times the supply of water is insufficient for even the smallest craft. Its principal tributaries are Sukri and Ghaghri.

Punpun River

The Punpun River is a tributary of the Ganges. It originates in Palamau district of Jharkhand and flows through Chatra, Aurangabad, Gaya and Patna districts of the Indian States of Jharkhand and Bihar. The Punpun originates on the Chhotaagpur Plateau, at an elevation of 300 metres (980 ft.). The river mostly flows in a north-east direction and joins the Ganges at Fatuha, 25 kilometres downstream of Patna. The main tributaries of the Punpun are Batane, Madar and Mohar.

The Amanat River

The Amanat originates on the Hazaribagh plateau, and then forms the southern boundary of Lawalong Wildlife Sanctuary, in Simaria Police Station area of Chatra district. Thereafter, it flows almost due west through Palamau district till it joins the North Koel River 8 km north of Daltonganj. It flows through a rich, well cultivated valley; and is the principal drainage channel of the east of the Palamau district. Its tributaries are: Jinjoi, Sapni, Maila and Piri.

(Source – CGWB Report, Palamau)

Fig. 3.7: Stream Order Map of Palamau District

3.8 Demography:

In 2011, Palamau had population of 1,939,869 of which male and female were 1,006,302 and 933,567 respectively. In 2001 census, Palamau had a population of 1,537,465 of which males were 797,524 and remaining 739,941 were females. Palamau district population constituted 5.88 percent of total Maharashtra population. In 2001 census, this figure for Palamau District was at 5.71 percent of Maharashtra population.

There was change of 26.17 percent in the population compared to population as per 2001. In the previous Census of India 2001, Palamau district recorded increase of 28.89 % to its population compared to 1991. Table – 3.10:

Description	2011	2001
Population	19.40 Lakhs	15.37 Lakhs
Actual Population	1,939,869	1,537,465
Male	1,006,302	797,524
Female	933,567	739,941
Population Growth	26.17%	28.89%
Area in km²	4,393	4,393
Density/km²	442	303
Proportion to Jharkhand Population	5.88%	5.71%
Sex Ratio (Per 1000)	928	928
Child Sex Ratio (0-6 Age)	945	963
Average Literacy	63.63	61.15
Male Literacy	74.30	79.82
Female Literacy	52.09	40.84
Total Child Population (0-6 Age)	329,728	310,478
Male Population (0-6 Age)	169,543	158,127
Female Population (0-6 Age)	160,185	152,351
Literates	1,024,563	750,203
Male Literates	621,706	510,338

Approved

Description	2011	2001
Female Literates	402,857	239,955
Child Proportion (0-6 Age)	17.00%	20.15%
Boys Proportion (0-6 Age)	16.85%	19.83%
Girls Proportion (0-6 Age)	17.16%	20.59%

(Source - https://www.census2011.co.in/)

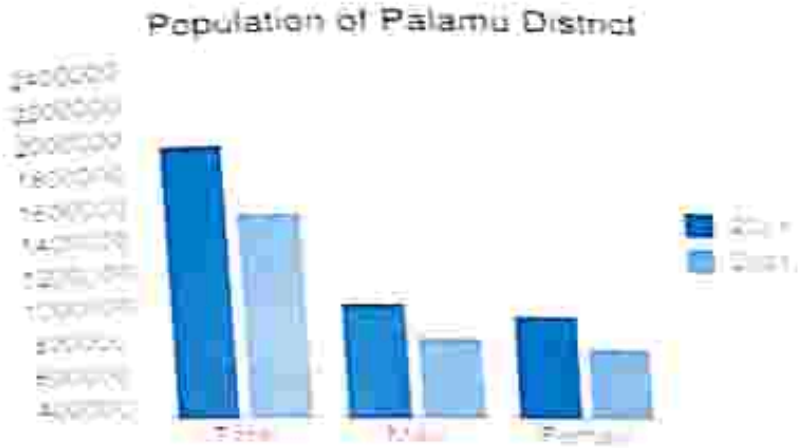


Fig. 3.9: Population Map of Palamau District

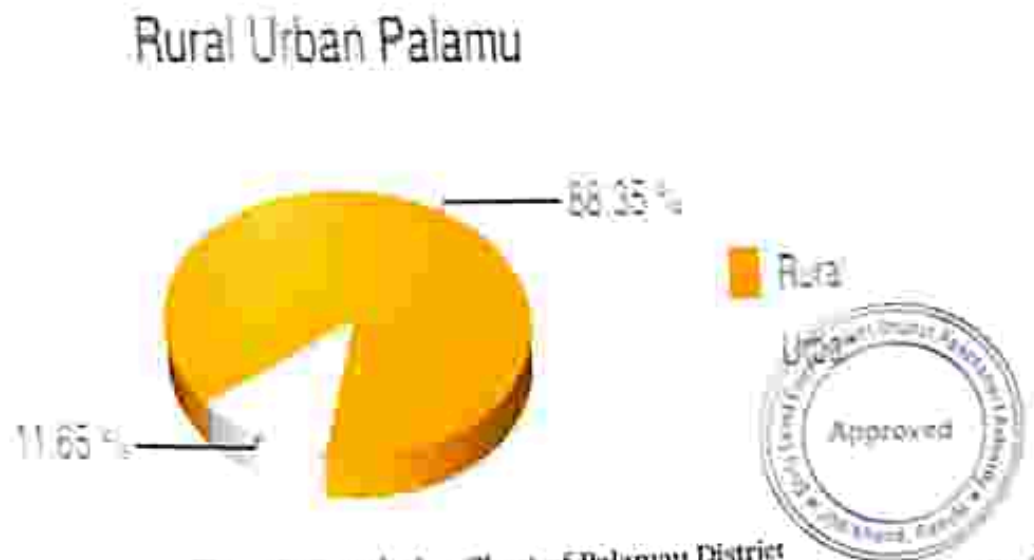


Fig. 3.8: Population Chart of Palamau District

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

3.9 Connectivity - Palamau District:

Roadways: -

Daltonganj-Ranchi Road - Out of the total length of 104 miles between Daltonganj to Ranchi a length of 66 miles is in this district. It is one of the finest all-weather roads in the State, bridged at all necessary points, and entirely black-topped.

Daltonganj-Aurangabad Road - Out of the total distance of 60 miles between Daltonganj and Aurangabad, 44 miles lie in Palamau district. This is also a State highway, fully bridged and entirely black-topped. This all-weather road touches Nawa, Chhatarpur police-station and Hariharganj police-station and a branch road takes off to Nabinagar in Gaya district. This road serves as an all-weather link between Daltonganj and Patna via Grand Trunk Road and Gaya and during fair weather through canal road.

North Koel Bridge Link Road - This State highway takes off from near the bridge on Sadabah river about 11 miles from Daltonganj on Daltonganj-Aurangabad Road and connects

Daltonganj-Barwadih-Bhandaria-Godarnana Road - This road bifurcates at a distance of 7 miles from Daltonganj at Bhusar on Daltonganj-Ranchi Road, passes through Kutmu and then takes a turn to Barwadih and Godarmana touching Hutar coalfields and crossing North Koil near about Hutar.

Fig. 3.9: Road Map of Palamau District *(Source – palamau.nic.in)*

Railways

Major Railway Station

Daltonganj Railway Station - Daltonganj Railway Station, station code DTO, is a Railway Station serving the cities of Daltonganj and Palamau in Palamau district of the Indian State of Jharkhand. Daltonganj Station is also the headquarters of the Palamau division of the East

Central Railway Zone of the Indian Railways. It is also a major Station on the CIC route and will be a primary hub on the Ranchi–New Delhi route after the opening of the Ranchi–Tori Rail Line. Major trains such as the Ranchi Rajdhani Express, Muri Express, Sambalpur–Varanasi Express, Palamau Express, Ranchi–Varanasi Express, Ranchi–Ajmer Garib Nawaz Express, Triveni Express, Ahmedabad Kolkata Express, Jharkhand Swarna Jayanti Express, Jharkhand Sampark Kranti Express, and Shaktipunj Express also stop here. Daltonganj has trains running frequently to Ranchi, Delhi, Kolkata, Varanasi, and Patna.

LOCATION INDEX MAP

Fig.3.10: Location Map of Palamau District

Approved

3.10 Cropping Pattern:

Paddy (Oryza sativa) is the most important crop in the district, Maize (Zea mays) forms another important crop. Jowar (sarghun vulgare) is another drought resistance cereal. Gram or boot (cicer arietinum is the most important rabi crop. Wheat (Triticum sativum) is grown more or less in all part of the Palamau. Amongst the less important cereals are millet or bajra (Remisetum typhurdiul), sawn (Penicum jrumentaeum), kodo (Paspalaum scrobi exlatum) and china (Penicum miliaceum).

3.11 Flora & Fauna:

The elevations on which these forests lie vary from 700' to 3,819' (the highest peak of the Barwai hills) a height second only to that of Parasnath hills. The general topography of the terrain is very hilly on the south, hilly on the north with intereceptions of level and undulating stretches. In the south of the district specially in the Old Reserved Forests Sal (Shorea robusta) forms the main crop along with its other associates in major part of the area. Sal sometimes constitutes 50 % of the crop. It grows very well on the fringes of the nalas and lower slopes of the hills. It also occurs in fair abundance in the Old Protected Forests with similar growth wherever the destruction by men has not been conspicuous. In the Khalsa Reserved Forests it does not appear in remote patches but the size and the proportion is low. The New Private Forests which have been taken over for management (after they had been badly hacked by the people specially during the War and the transitional period) contain Sal only in very remote areas where it forms merely a sprinkle. The sizes also are low, the stems are defective and usually they are small saplings sprouting over old high stumps. The usual associates of Sal are as follows: -

Asan (Terminalia tomentosa), Karam (Adina cordifolia), Kend (Diespyros tomentosa), Guri (Mitragynaparvifolia), Kusum (Scheleicheratrijuga), Gulgal (Cochlospetmumgossypium), Kenjhi (Stereulia Villosa), Ginjan (Odina wodier), Piar (Buchanania Latifolia), Siris (Boswellia serrata) and etc.

The fact that the area could grow good Sal is exhibited by the few remnants which have put very high growths here and there. In the Barasand Block Sals of 7'' and 8'' girth is still not uncommon.

The major part of the area in the district, however, is covered with miscellaneous crop with sprinkle of Sal. They are found distributed almost all over the area and have acquired some economic importance since the introduction of intensive method of forest exploitation. The mixed miscellaneous forests consist of the following species: -

Khair (Acacia catecha), Asana (Terminalia tomentosa), Karam (Adina cordifolia), Juri (Mitragyna parvifolia), Sidha (Lagerstroemia parviflora), Karjali (Cleistanthus collinus), Kekar (Garuga pinnata), Mahua (Bassialati folia), Paras (Butea frondosa), Gamhar (Gmelina arborea), Bia (petrocarpus marsupium), Chilbi (Holoptelea intergrifolia), Sandhan (Ougfiniadal bergiades), Semal (Bombax malabaricum), Medh (Litsaea semifera). Rohan (Soymida febrifuga), Piar (Buchananiala ufolia), Bel. (Aegle marmelos), Kedar (Garuga pinnata). Dhautha (Anogeilasti latifolia), Salai (Boswellia thurifera), Keonjhi (Stereuli aurens), Kend (Diespyros tomentosa), Bhurhul (Chloroxylon swietenia), Papar (Gardenia latifolia), Kusum (Schlichera trijuga), Belsal (Limonia acidissima), Dhola (Alangiuillla mareki), Sissam (Dalbergia latifolia).

Bamboos, however, form the main crop mixed with miscellaneous and also with Sal in almost the entire forest area of his district leaving only a few exceptions. The species is Dendro calamusstrictus. In favourable localities it has acquired girth from 13" to 15" at the base and height 32 to 35 ft. The reproduction is satisfactory and the incidence is very heavy. Good bamboos abound in Betla, Maromar, Baresand, Adheya, Dauna, Bhumbhor, Hisra, Joon, Katra, Hosatu, Saneya, Jauhar, Latd'ag, Mundu, Relargarh, Lawabar, Tandwli, Garhgaon and many other locations. On account of very great demand of the Paper Mills and the public for house building purposes the bamboo forests of this district have acquired enormous significance. Out of all the districts in the State this district produces the highest yield of bamboos.

Khair is found almost all over Palamau forests in fairly large proportions varying in sizes and density. In the populated areas they have been very badly lopped by the graziers and have failed to put on growth fit for commercial exploitation. Reckless cutting of the past specially in the forests which were not under Government control has at the present moment reduced the number of exploitable trees considerably. Tree in the lower age classes abound which when given proper protection will acquire value. The potentiality, however, of Khair production is immense and the quality is one of the most reputed in the State and in the neighbouring areas.

Palamau Wildlife Sanctuary

Lying between 83°50' and 84 °36' E longitudes and 23°25' and 23°55' N latitudes, the Palamau Wildlife Sanctuary was initially created over a forest area of 979.97 km² and since then an area of 226.32 km² of this sanctuary has been notified as Betla National Park. Both the areas have been included in the Palamau Tiger Reserve created under Project Tiger. The annual temperature here varies from 4 °C to 50°C and the mean annual rainfall is 1075 mm. The area is drained by the North Koel and its tributary, the Burha River. Forests here are of Dry as well as moist deciduous types with bamboo brakes. Besides diverse herbs, shrubs and grasses. The important tree species are Sal, Asan, Sidha, Semal, Karam, Chilbil, Kusum, Bherhul, Dhaura, Khair, Salai etc. The sanctuary is rich in flora and fauna with 47 species of mammals, 174 species of birds, 970 species of flora including 25 species of climbers, 46 species of shrubs in addition to herbs, grasses etc. Tiger, Leopard, Elephant, Gaur, Sambhar, Cheetal, Barking Deer, Sloth Bear, Nilgai, Wild Dog, Wolf, Hyaena etc and varieties of reptiles and beautiful birds can be sighted here without much effort. Once ruled by the Chero Kings, the sanctuary also has many historical monuments and forts, deep inside Betla forests on the banks of the Auranga River. Other attractions nearby are Lodh and Sugabandh Water Falls and Tatapa Hot-water Spring.

Palamau Tiger Reserve

Palamau Tiger Reserve was established when India was introducing the famous Project Tiger in the year 1973 to save the endangered asset of our Country. It was believed that with the introduction of this reserve the endangered species of tigers along with other wild counts would be preserved and cared under the Wildlife Protection Act. Year ago before the establishment of Palamau Tiger Reserve, the management of these forests was highly commercial. There were some cattle camps and the area was open for grazing. The entire forest area used to be ravaged by fires every year with the unchecked activities of poaching. But today, the present area of the Reserve got duly constituted either as Protected Forest or Reserved Forest under the Indian Forest Act, 1927 way back in 1947.

The Palamau Tiger Reserve is located in the western side of Latehar district on the Chhotanagpur plateau in Jharkhand.

The forest is surrounded by the Netarhat Forest in the South, Auranga River in the North, Latehar Forest Division on the East and Garhwa Forest Division and Sarguja District of Chhattisgarh on the West.

The Palamau Tiger Reserve is very important for its biodiversity. The project area is constituted mainly of Sal forests, mixed deciduous forests and bamboo groves. The reserve zone is the watershed area for 3 important Rivers Koel, Burha and Auranga.

The scientific management of the forests had started as early as 1864 and over the years, large forest areas were notified as reserved forests, protected forests, wildlife sanctuary and national park. The forest is spread over an area of 1129.93 km², of which 414.08 km² is marked as core area (critical tiger habitat) and the rest 715.85 km² as buffer area. Of the total area, 226.32 km² is designated as Betla National Park. In the buffer zone, 53 km² is marked as tourist zone. This entire zone is under the administrative control of Chief Conservator of Forest & Field Director, Palamau Tiger Reserve. Under whom, there are 2 divisional forest officers each for core area and buffer area Forest Division.

The Palamau Tiger Reserve was constituted in the year 1974 under PROJECT TIGER. It is one of the first 9 tiger reserves created in the country at inception of 'Project Tiger'. Palamau Tiger Reserve has the distinction of being the first sanctuary in the world in which a tiger census was carried out as a pugmark count, as early as 1932 under the supervision of J.W. Nicholson, the then DFO, Palamau.

The area was closed for grazing, timber and any type of NTFP collection. The extensive fire management, soil and moisture conservation measures were adopted. The wildlife management

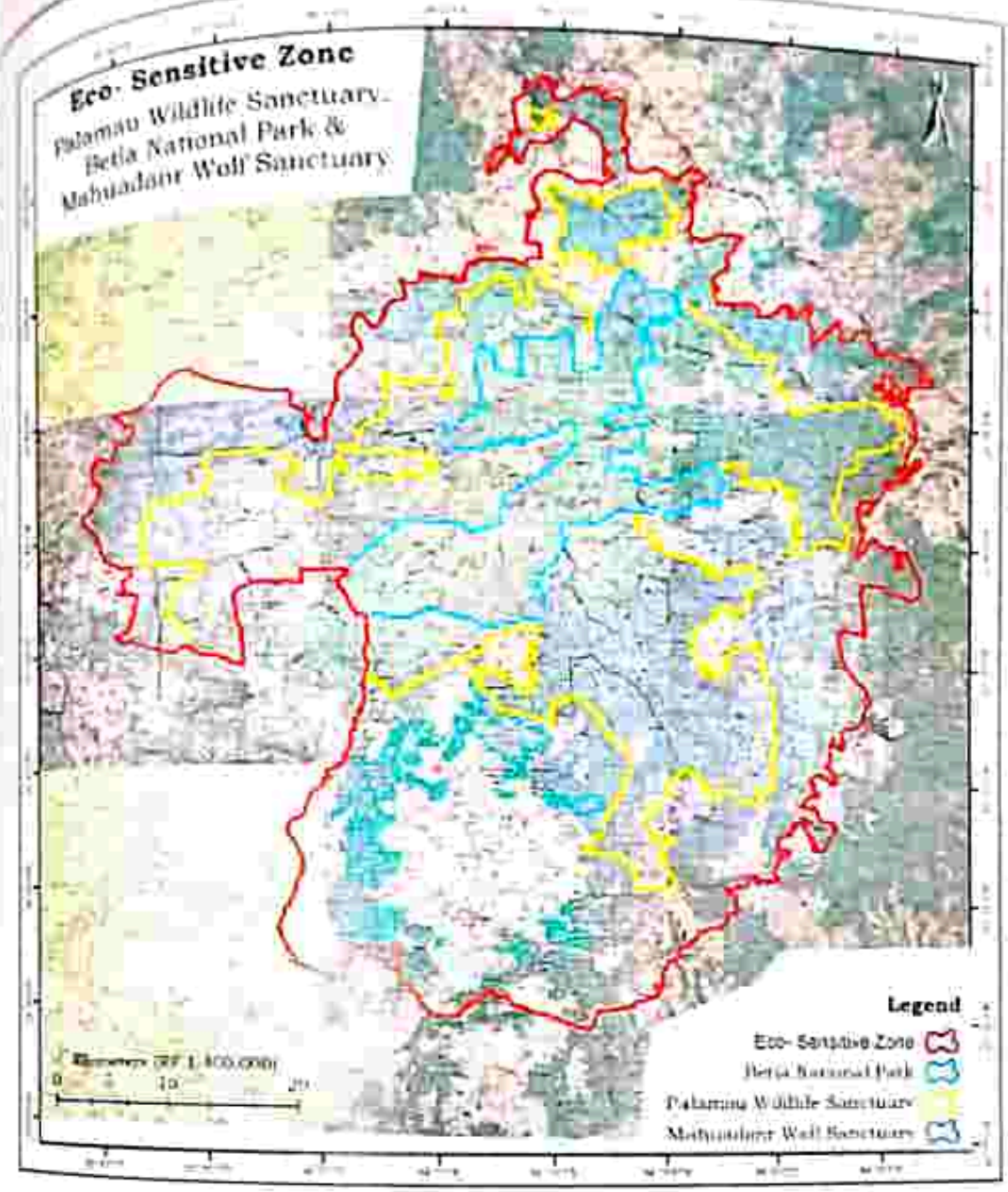


Fig. 3.11: Eco-Sensitive Zone in Palamau District

4. PHYSIOGRAPHY OF THE DISTRICT

4.1 General Landforms:

In Palamau district, hills are wildly scattered in south but the north is plain. The general slope of the district is from south to north. Geologically, the hill area is made of metamorphic rocks with Sandstones, Conglomerates and Lava cappings having thick mantle of Laterite at some places. Alluvium is found in lower parts. This district is drained by the River North Koel and its tributaries Auranga and Amanat. The general line of drain is from south to north towards River Sone.

4.2 Soil:

Three Soil orders namely Entisols, Inceptisols and Alfisols were observed in Palamau district. Alfisols were the dominant soils covering 53.9 % of total gross area followed by Entisols (21.5 %) and Inceptisols (20.0 %). Alfisols amongst which Red Sandy Soils are common and Ultisols of which red and yellow soils are common.

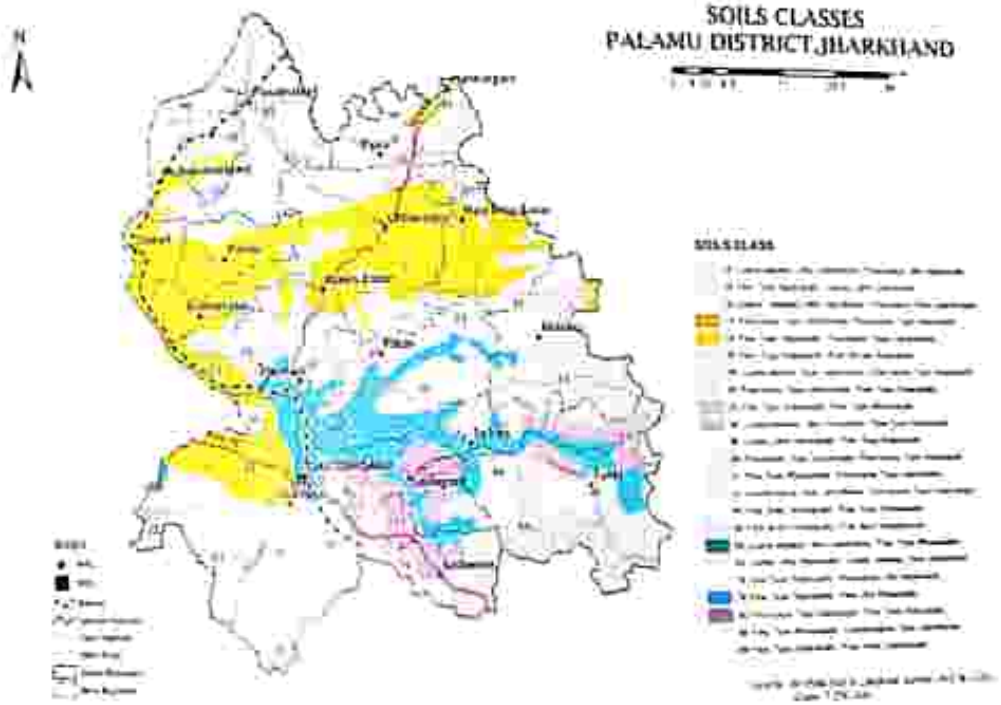


Fig. 4.1: Soil Classes of Palamau District

(Source - Jharkhand Space Application Center)

4.3 Different Geomorphological Units:

The topography of Palamau district is characterized by highly rugged landscape with green forest all over the area. The elevation of the hill ranges in southern part of the district varies from 360-1110 m above msl. The master slope of the area in general tends towards north and east. In terms of the physiography the district shows the following four broad categories of landforms.

- East-West trending hill ranges, consisting of crystalline and metamorphic rocks in the southern part.

- flat topped hills in the south-eastern.
- The sub-plateau area lying south of the plains are separated by narrow valleys in parts of Bishrampur block.
- Narrow valleys along the course of the major Rivers.

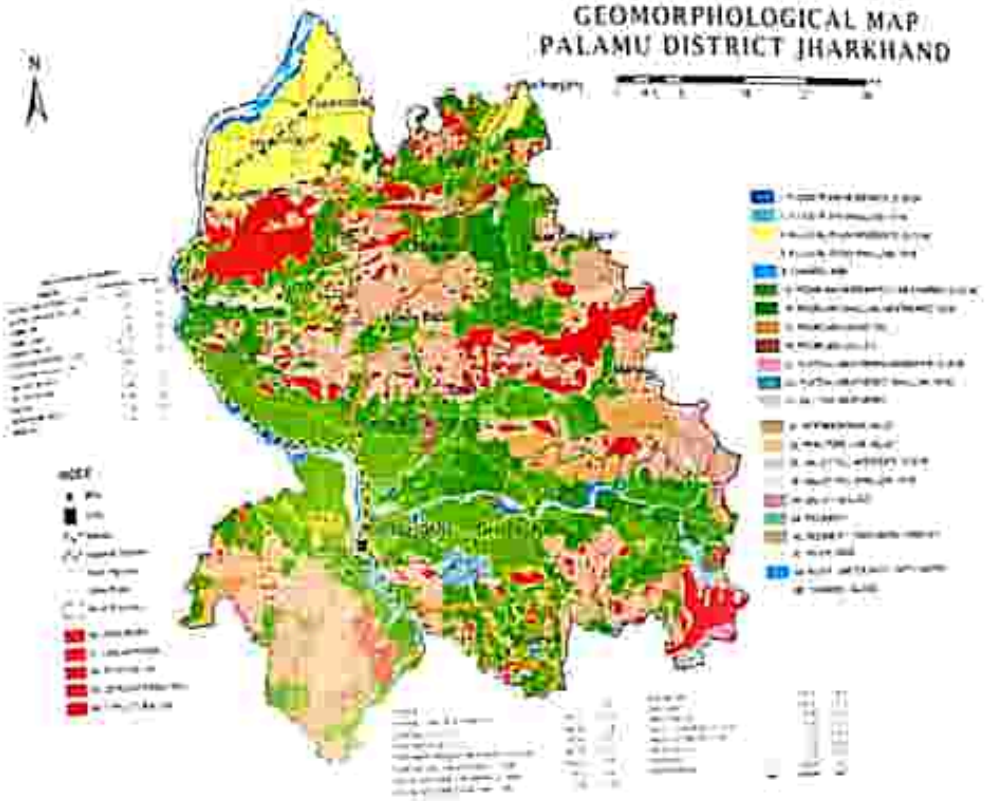


Fig. 4.2: Geomorphological Map of Palamau District

(Source - Jharkhand Space Application Center)

5. LAND UTILIZATION PATTERN OF THE DISTRICT

5.1 Forest:

Out of total geographical area of 4393 km², forest area covers nearly 1215.73 km². The tribal economy revolves around using forest products, by products and minor products. Kendu leaves, sal seed 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.

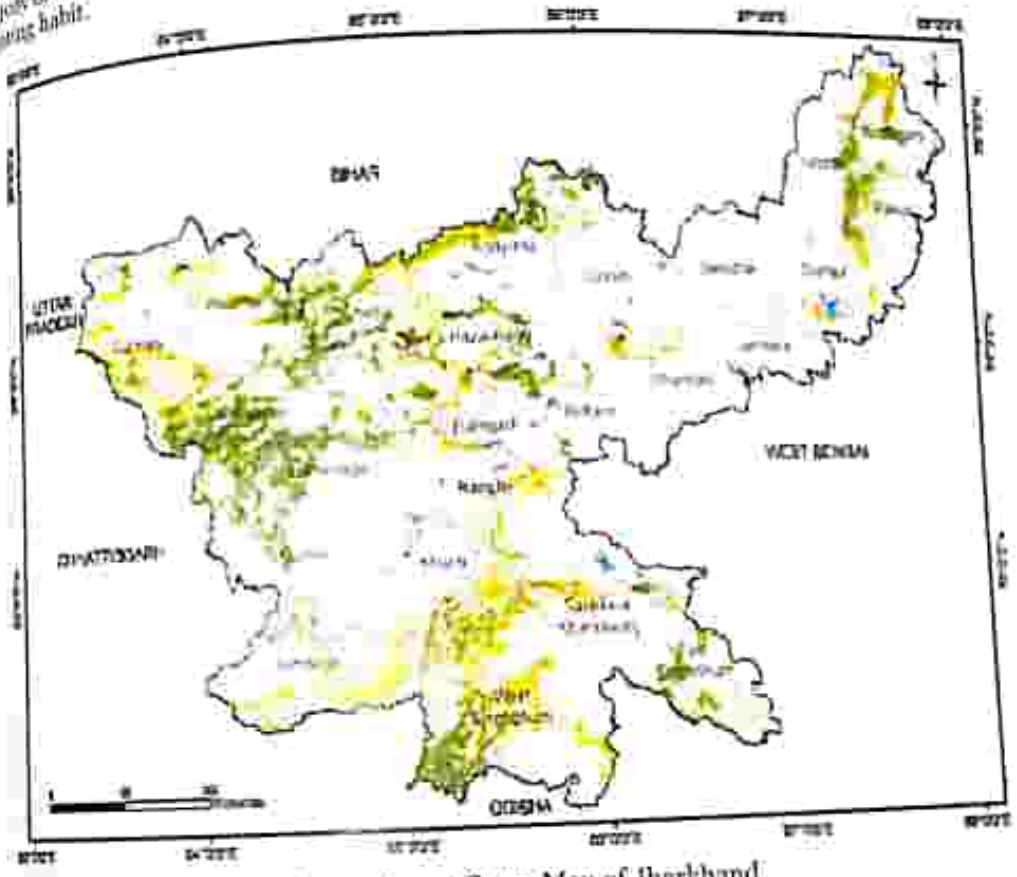


Fig. 5.1: Forest Cover Map of Jharkhand
(Source: India State of Forest Report, 2021)

The Palamau district is with good area covered under the Forest. Forest is mostly present on the north-west-south part of the district. Because of the human intervention forest has not been spared even on hills. There are a few reserves forest situated in Palamau district. The vegetations generally traced in Palamau district are timber species like Sheesham, Teak, Gamhar.

Common Trees in Palamau district –

Sal – *Shorea robusta*
Mahua – *Madhuca longifolia*
Arjun – *Terminalia arjuna*
Asana – *Pterocarpusmarsupium*
Mango – *Mangifera indica*,
Neem – *Azadirachta indica*,
Tamarind – *Tamarindus indica*

Approved

Table 5.1: District-wise Forest Cover Area in Jharkhand (Area in Km²)

District	Geographical Area (GA)	ISFR Assessment				Tree Cover	Change wrt 2019 assessment	Scrub
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total			
	7,893	60.99	231.84	281.67	574.50	10.98	2.41	17.91
	3,518	344.28	831.73	650.09	1,787.09	47.91	4.74	211.47
	2,477	0.00	14.10	191.90	205.80	8.31	2.26	14.24
	2,040	0.00	44.00	174.18	218.18	10.70	4.64	18.05
	3,761	0.00	295.40	378.23	673.63	15.39	0.32	44.55
	3,502	54.91	591.03	434.15	1,080.09	30.34	1.31	22.81
	4,093	125.14	413.60	892.55	1,431.22	34.98	40.11	44.37
	4,962	77.15	338.54	490.19	905.91	18.26	6.67	29.50
	2,265	12.81	271.88	138.66	423.35	18.68	0.00	14.77
	5,360	104.69	985.81	552.65	1,643.15	30.66	0.89	8.73
	3,555	230.11	348.54	784.54	1,363.19	38.35	10.42	15.89
	1,811	0.00	20.84	85.18	106.02	5.85	5.38	5.12
	2,533	72.97	344.58	456.18	913.74	36.06	8.23	3.11
	2,540	80.80	484.43	442.82	1,028.05	40.49	-0.42	6.37
	4,291	480.36	1,308.83	613.75	2,403.04	56.00	-3.10	3.12
	1,502	174.09	218.40	111.94	504.44	33.59	-0.70	1.98
	1,811	2.55	132.40	111.84	246.80	13.65	-0.13	20.06
	4,393	52.82	517.73	840.18	1,410.73	27.67	14.91	84.23
	1,341	30.56	109.32	190.98	331.26	24.72	2.35	14.43
	5,007	82.89	363.97	741.98	1,188.78	23.93	4.29	27.96
	2,063	17.76	255.73	297.48	573.95	27.82	1.82	47.53
	2,657	22.03	213.84	338.73	574.60	21.63	0.36	21.87
	3,774	21.97	362.54	857.89	1,243.40	32.95	2.48	20.28
	7,854	401.93	1,153.80	1,553.11	3,108.84	45.61	2.30	47.16
Grand Total	**79,710**	**2,601.05**	**9,686.91**	**11,431.58**	**23,721.54**	**29.76**	**100.73**	**584.20**

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

5.2 Agriculture & Irrigation:

Palamau district, located in the western part of the Jharkhand, is one of the drought prone districts of the State where agriculture is characterized by low productivity and subsistence and marginal farming. Majority of the rural population still depend on agriculture with very little non farm employment opportunity. Further, the pace of industrialisation in the district is very slow resulting in increased pressure on agriculture. Mono-cropping is generally practised in the district due to lack of irrigation facilities and agriculture is mostly based on the monsoon. The main Kharif crops grown are Paddy, Maize, Arhar and Pigeon-peas. Maize is cultivated in the uplands and paddy on medium and low lands. Black gram and wheat are grown in some areas during the Rabi season. As irrigation facilities are limited, cultivation in summer is rare and is confined to growing vegetable, cash crops in areas having irrigation facilities. There is potential in the district to develop dairy as an additional activity for farmers and main activity for unemployed youth in rural area. The prospect of promoting dairy projects is high in Hussainabad, Chainpur, Harihargunj and Daltonganj blocks of the district. Further, Sheep, Goat and Pig rearing has substantial potential in the district. Gratory is predominant activity among many families as a

supplementary activity in the area. Potential for the sectors like poultry and fishery exists in the district. The poor level of skill and awareness among farmers is the reason for low level of growth in these sectors. The climate of the district is suitable for dry land horticulture crops and in recent years steps have been taken to motivate the people to take up this activity. There is a progeny nursery run by the Fruit Research Centre, Chianki which supplies good planting material to the farmers. The Krishi Vigyan Kendra (KVK) provides training and technical help to farmers.

Palamau district has a geographical area of 524690 ha. out of which only 18.66% is net sown area. The area under forest is 43.23% of total geographical area which includes reserve forests, demarcated protected forest, undemarcated protected forest and unclassified forest. The land utilization pattern of the district and different blocks of Palamau district is given in the following table:

Summary of land utilization pattern of Palamu district

Item	Area in ha.	% to total Geog Area
Total Geographic area	524690	
Total Forest area	226850	43.23
Land Put to non-agricultural use	19610	3.73
Barren and unutilized land	31590	6.02
Cultivable wasteland	9960	1.89
Permanent Pasture and other grazing land	1870	0.35
Land under Mis. Trees	7130	1.35
Other than Current Fallow (upto 2 to 5 years)	48140	9.17
Current Fallow	78000	14.86
Net Sown area	97950	18.66
Total irrigated area	36101	6.88

Block-wise Land Utilization pattern (ha) of Palamu district

Sl. No	Block	Net Cultiv-ated Area	Current Fallow	Cultivable Wasteland	Forest	Barren non-cultivable	Permanent Pasture	Other Fallow
1.	Daltonganj	7379	4110	305	4011	880	306	2401
2.	Satbarwa	5417	2117	419	3866	637	80	1069
3.	Chainpur	10263	6280	1165	28222	5121	280	6890
4 &5	Bishrampur & Pandu	14029	13992	836	19632	2712	115	6472
6.	Hussainabad	10808	12716	923	6227	5898	28	8731
7	Hariharganj	5039	3967	140	9239	960	9	2859
8.	Chattarpur	14796	13540	392	1923	30661	9	4414
9.	Patan	7597	10117	1047	2816	12080	211	4879
10	Manatu	6348	6001	845	1310	28999	339	3054
11	Panki	5431	8193	498	2625	19259	259	5688
12	Lesliganj	7274	3920	178	217	3855	94	2356

IRRIGATION BY DIFFERENT SOURCES (Areas in Ha. and Number of Structures)	Number of Structures	Area (Ha.)
4th MI Census		
Dugwell	77,715	12,783
Tubewell/Borwell	228	
Tank/ponds		
Canals		8,675
Other sources	Mulay River Scheme, Jinjori and Sonare irrigation schemes	11,446

(Source – District Agriculture Plan of Palamau District)

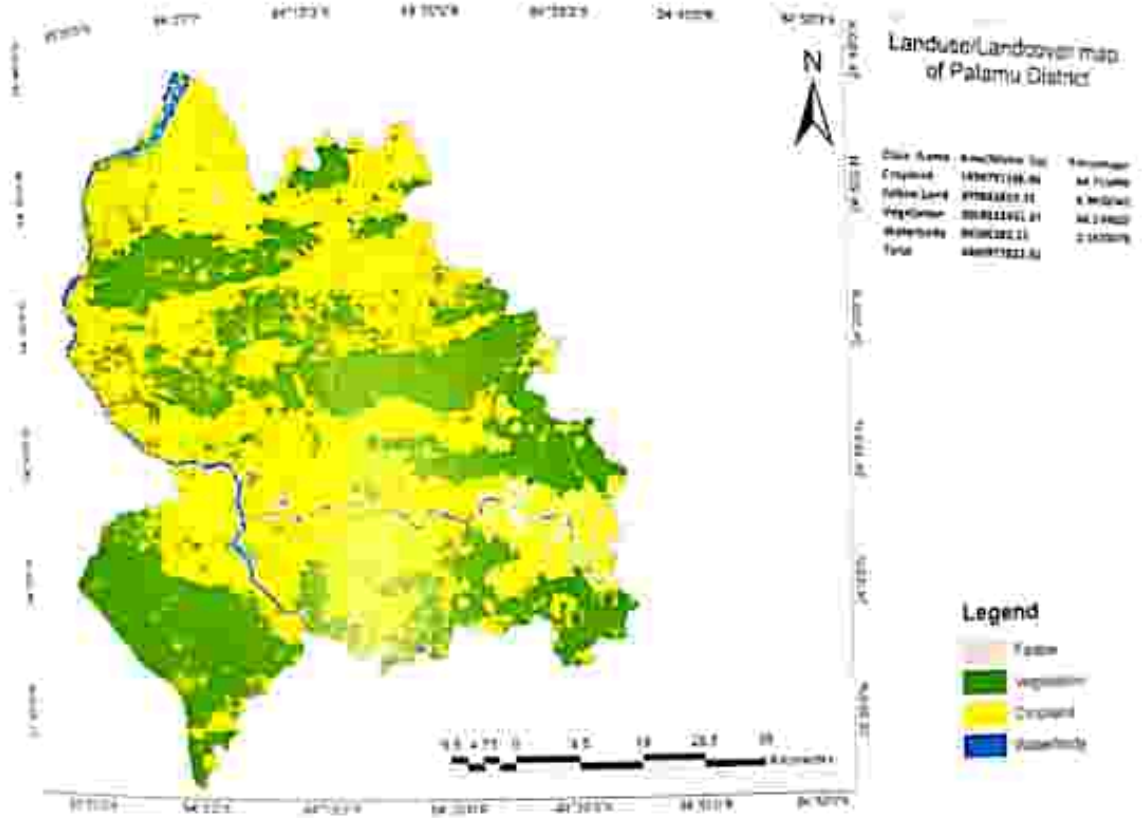


Fig. 5.2: Land Use Land Cover Map of Palamau District

6. GEOLOGY & MINERAL WEALTH

6.1 Geology:

The geological formation of the Palamau district comprise mainly rocks of Archaean, Vindhyan and Gondwana ages, the last cut by dykes of Deccan trap age. The Archaean rocks include both Schists of Dharwar age and Gneisses and Granite. The Schists, mainly Hornblende and Biotite, are the oldest rocks of the area and occur as parallel and lenticular bands in the Gneisses. The Schists are intruded by Epidiorites, Amphibolites, and Gneisses. Garnetiferous Sillimanite-Graphite-Schists, similar to the Khondalites, also occur near Daltonganj and Latehar. Smaller patches of these rocks are found in the manner of inclusions in the most prevalent and the Biotite and Sillimanite Schists are rare.

Cale-Silicate rocks and crystalline Limestones of Dharwar age are largely developed in certain areas. The Gneisses and Granites are, however, the most predominant rocks of the district as in other parts of Chhotanagpur. They give rise to prominent groups of hills in the northern and southern parts of the district.

Geologically, much of the district is yet unexplored except the areas around Daltonganj, the Coalfields and other economic deposits such as those of Magnetite, Limestone and Clays, etc.

The Archaean rocks can be grouped under the following heads: -

i) Crystalline Limestone - Marbles and Cale-silicate rocks.
ii) Amphibolites.
iii) Dolerites and Meta-Dolerites.
iv) Granites and Granite-Gneisses

The Amphibolites are dark grey and black-coloured rocks and are found in many parts of the district including the area near Daltonganj. They are inclusions of older rocks in the Gneiss as would appear from the abundance of small stringers of Amphibolites in the Granite, and the lit-part-lit injection of Granite in the Amphibolites near their margins which has produced Composite-Gneiss, and show beautiful ptygmatic folding.

The Dolerite occur as dykes and bands and show various degrees of metamorphism. The slightly metamorphosed dolerites are known as meta-dolerites but in some areas the rocks are converted to Epidiorite and Amphibolite in which Hornblende has more or less replaced the Pyroxene while in the meta-dolerites, the original ophitic texture characteristic of igneous origin is present though the pyroxene is altered to amphibole. Some varieties contain Hypersthene and approach basic Charnockite in appearance.

The Gneisses and Granites show a greater diversity of texture than of mineral composition. The Gneisses are generally banded; the banding being made conspicuous by the parallel orientation of the ferromagnesian minerals. With alternating bands of Schists and Granitic material the Gneisses pass into composite Gneisses and Migmatites. The bands of the composite Gneisses are very much contorted giving rise to ptygmatic folding. The Schist bands of the Migmatites carry Sillimanite, Garnet, Hornblende, Sphene, Zoisite, Diopside and Cordierite have also developed locally.

Among the Granites the following three varieties can be distinguished which grade into each other: normal pink-coloured alkali Granite characterized by Pink Potash Feldspar, in some places Gneissose; white-coloured Oligoclase Granite; and porphyritic Granite and Augen Gneiss with large lenticular porphyroblasts of Potash Feldspar. The Granites are younger than the Gneisses and show intrusive relation to the latter.

Pegmatites are common in the Granitic and Gneissic country, but are also found cutting through Mica-Schists, crystalline Limestone and Marble. They are coarse-grained but also merge into finer-grained Granitic types. They are common in the country between Daltonganj and Lesliganj

and also at Kini and Kohrito the east. Although they form irregular veins, thick masses also occur containing considerable amount of Muscovite. Workable deposits occur Lesliganj, Kini and Kohri. On the northern slopes of the hill at Lamba the Pegmatites carry large quantities of Magnetite crystals. Feldspar and Quartz veins derived from the residual Pegmatitis liquids are also found in many places.

There are five hillocks in the Gore hill area four of which have beds of Magnetite associated with a certain amount of Haematite on their top. The structure appears to be synclinal with the Iron ore at the top of the hills. The Magnetite beds are underlain by Tremolite-Schists some of which contain some Magnetite. On the south-western part of the hills Limestone and Calciphyre are exposed below the base and the central part of the hills below the Tremolite-Schists. Masses of intrusive Dolerite are found on the north-western side of the Gore hill.

(Source – palamau.nic.in)

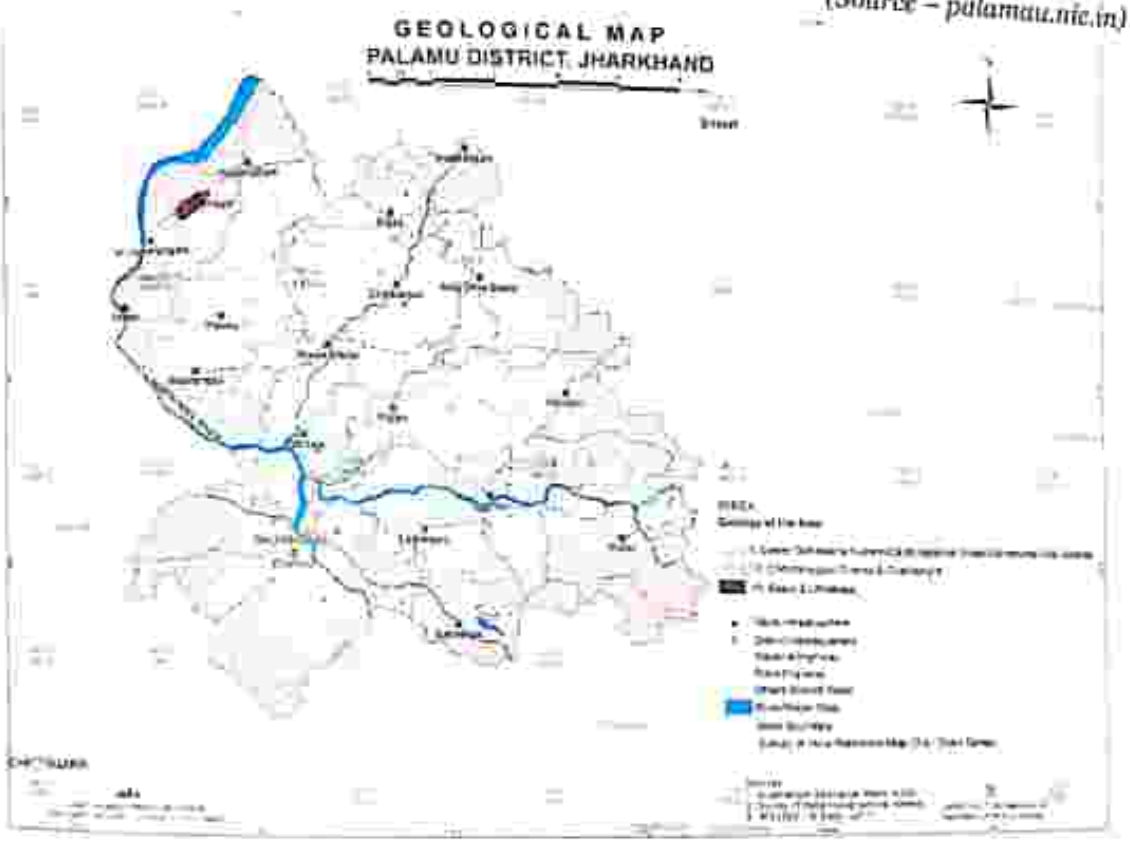


Fig. 6.1: Geological Map of Palamau District

6.2 Overview of Mineral Resources:

From the geological report, it appears that there are deposits of various minerals. The important minerals which are available in this district in commercial scale are Coal, Limestone, Fireclay and Laterite. There are also traces of deposits of Iron-ore, Graphite, Building Stones, Dolomite, Red Ochre, Yellow Ochre, Bauxite and Lead. As to the commercial value of all the minerals, it is difficult to say whether a large-scale industrial development is possible except in the case of Coal, Limestone and Fireclay. So far as Coal is concerned at present two collieries, one at Rajhara and the other Hutar Colliery at Barwadih, are working.

Sand is the basic raw material for its utilization in any development activity through out the world. Sand is primarily produced from mining operations on the surface on the surface of the Earth, near the River-beds and the Sand quarrying below the surface of Earth. In the earlier time the mud houses/buildings were constructed with the use of mud. However, with the passage of time, new technique of development activities was started. As such the demand of Minor mineral started on an increasing trend. In order to meet the requirement of raw material for construction, the extraction of Sand carried out manually/semi mechanized from the River-beds. Sand is the important River-bed mineral found to be potential for mining. Considerable quantity of quality Sand is found to occur in the River-bed of the district.

Fig. 6.2: Mineral Map of Palamau District
(Source: JSAC, Dept. of Mines & Geology, Govt. of Jharkhand)

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 Palamau District

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

7.2 List of Category – 1 Sand Ghats of the District - Rivers having 1st and 2nd Stream Order or Sand Ghats having non–commercial deposits in the district with their location, length in the district, place of origin and remarks on occurrences of Sand reserve and category:

Sl. No.	Name of the River	Location	Distance within District (in Kms)	Place of Origin	Remarks	Category
1	Kayli River	Satbarwa	15	Ghutuaa Pahad	Non-Commercial Sand Deposit	Category- 1
2	Kundahiya Nala	Lesliganj	15.5	Maharia		Category- 1
3	Sadabah Nala	Chainpur	6	Kmanaj		Category- 1
4	Sapni River	Tarhasi	8	Ambabar Tiker		Category- 1
5	BatuaNala	Tarhasi	4			Category- 1
6	Banai Nala	Panki	4	Banai phad		Category- 1
7	Klolalwa Nala	Panki	11.2	Hurlong Pahad		Category- 1
8	Devgana Nala	Lesliganj	6	Nawadih Pahad		Category- 1
9	Gohri Nala	Manatu	3	Gohri Pahad		Category- 1
10	Harhdwa Nala	Manatu	14	Karmatara Pahad		Category- 1
11	Sowns Nala	Panki	8.8	Chandwar Pahad		Category- 1
12	Haribanwa Nala	Satbarwa	6	Yekta		Category- 1
13	Andhrbar Nala	Satbarwa	8	Namudag Latear		Category- 1
14	Semragahu Nala	Satbarwa	6	Bakoriya		Category- 1
15	Satbahini Nala	Chaingur	14	Ramgarh		Category- 1

16	Semrai Nala	Chainpur	5	Semriya		Category - I
17	Badhka Nala	Satbarwa	5	Devthahie		Category - I
18	Garh Nala	Satbarwa	3.5	Yekta Goan		Category - I
19	Parsan Nala	Chainpur	2.5	Pindo Pahad		Category - I
20	Piri River	Panki	15	Banai Pahad		Category - I
21	Banka Nala	Patan	11	Kala Pahad		Category - I
22	Akhralal Nala	Patan	5	Akrahi Pahad		Category - I
23	Narayan Nala	Satbarwa	3	Serendag Pahad		Category - I
24	Kararwaar River	Hussainabad	26.5	Gajnadham		Category - I
25	Harhi River	Hussainabad	13.75	Sikai		Category - I
26	Kukhi Nala	Haider Nagar	10	Anhi Gram		Category - I
27	Jahadi Nala	Haider Nagar	8	Mangarhah		Category - I
28	Lathiya Nala	Mohmadganj	8.75	Dumchanch		Category - I
29	Sangrahu Nala	Mohmadganj	7.5	Seetachuon		Category - I
30	Shivepur Nala	Nondiha Bazar	4	Sarnidih		Category - I
31	Batre Nala	Haribarganj	4.5	Baghna		Category - I
32	Khajuriya Nala	Harihargunj	4.2	Jharna		Category - I
33	Sukhadiya Nala	Chhatarpur	2.25	Silidag		Category - I
34	Chouri River	Nawalnzar	6	Tali		Category - I
35	Khatisot River	Nawalnzar	30	Nawa		Category - I
36	Khajuriya Nala	Umtari Road	7	Lamba Pahad		Category - I
37	Kourav Nala	Bisharmpur	8	Hatai		Category - I
38	Bhelwa River	Pandu	7.5	Hatalkhas		Category - I
39	Jharna Nala	Pandu	3.5	Ghortiya		Category - I
40	Khaja Nala	Pandu	5	Mangarhah		Category - I
41	Simaluna Nala	Pandu	5	Kutku Pahad		Category - I
42	Jhunghi River	Pandu	8	Mangarhah		Category - I

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

Sl. No.	Name	Location	Total Amount (in INR)
1	Shri Brahamdev Prasad	Sanglim	1864906.00
2	Shri Shiv Kumar	Rehla Kalan	6225000.00
3	Shri Brahmdev Prasad	Bokeyakhurd	1864906.00
4	Shri Shivkumar Prasad	Shahpur	11225000.00
5	Shri Brahamdev Prasad	Rajwar (Hariharguj)	4455000.00
6	Shri Amit Gupta	Udaygarh	1243271.00
7	Shri Brahamdev Prasad	Jhari Nimiya	1551000.00
8	Shri Brahamdev Prasad	Taridih	1243271.00
9	Shri Upender Singh	Dangwar	20000000.00
10	Shri Upender Singh	Barepur	31500000.00
11	Shri Upender Singh	Dewarikala	3075000.00
12	Shri Santosh Kumar Singh	Sunda	4973084.00
13	Shri Zamirudin Ansari	Kalyanpur	6080000.00
14	Shri Pradeep Kr. Singh	Sangbar	239000.00
15	Shri Ajay Kumar Gupta	Pathe	3124000.00
16	Shri Niranjan Prasad	Redua	6240000.00
17	Shri Upender singh	Koluhwa	1115229.00
18	Shri Upender singh	Pansa	23046300.00
19	Shri Upender singh	Dhabkhurd	1864906.00
20	Shri Brahamdev Prasad	Kuruwa	530000.00
21	Shri Arun Kumar Tiwari	Hisra	2486542.00
22	Shri Kishan Kumar Singh	Rampur	2503000.00
23	Shri Upender Singh	Singra Kala	6226000.00
24	Shri Shiv Kumar Prasad	Dhangardih	6216355.00
25	Shri Anup Kumar Singh	Julanga	1073000.00

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

Sl. No.	Name	Location	FY-2017-2018		FY-2018-19		FY-2019-20 to 2022-23	
			Production	Dispatch	Production	Dispatch	Production	Dispatch
1	Brahamdev Prasad	Sanglim	112650.00	130211.00	634067.00	634067.00	N.A.	N.A.
2	Shiv Kumar	Rehla	1133001.00	1133001.00	2428255.00	2428255.00	N.A.	N.A.
3	Brahmdev Prasad	Bokeyakhurd	389171.00	250122.00	686390.00	6863390.00	N.A.	N.A.
4	Shiv Kumar	Shahpur	460570.00	460570.00	1517745.00	1517745.00	N.A.	N.A.
5	Brahamdev Prasad	Rajwar (Hariharguj)	326855.00	567809.35	1043170.00	1043170.00	N.A.	N.A.
6	Amit Gupta	Udaygarh	400400.00	438275.00	246985.00	207560.00	N.A.	N.A.
7	Brahamdev Prasad	Jhari Nimiya	234372.62	223140.00	206130.00	206130.00	N.A.	N.A.
8	Brahamdev Prasad	Taridih	592833.70	5035087.00	487391.00	487391.00	N.A.	N.A.
9	Upender Singh	Dangwar	2123760.82	2029540.60	1512430.00	1512480.00	N.A.	N.A.
10	Upender Singh	Barepur	2605053.00	0.0	6508558.00	6598568.00	N.A.	N.A.
11	Upender Singh	Dewarikala	3458785.00	2575329.00	1512434.00	1512434.00	N.A.	N.A.
12	Santosh Kumar Singh	Sunda	1147307.95	1385026.40	780091.00	780091.00	N.A.	N.A.
13	Zamiruddin Ansari	Kalyanpur	442799.60	657678.35	14695.00	14695.00	N.A.	N.A.
14	Pradeep Kr. Singh	Sanbar	950400.00	703961.00	800234.10	627798.12	N.A.	N.A.
15	Ajay Kumar Gupta	Pathe	699905.50	1110355.30	1117560.00	1117560.00	N.A.	N.A.
16	Niranjan Prasad	Redma	0.0	665800.00	N.A.	N.A.	N.A.	N.A.
17	Upender Singh	Koluhwa	875557.90	1247589.80	568546.00	568546.00	N.A.	N.A.
18	Upender Singh	Pansa	1087744.28	2059577.30	1068239.00	1068239.00	N.A.	N.A.
19	Upender Singh	Dhabkhurd	28374.00	28374.00	374570.00	374570.00	N.A.	N.A.
20	Brahamdev Prasad	Kundwa	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
21	Arun Kumar Tiwari	Hisra	385205.00	538040.00	778450.00	786650.00	N.A.	N.A.
22	Kishan Kumar Singh	Rampur	665266.00	665266.00	670212.00	671812.00	N.A.	N.A.
23	Upender Singh	Singra Kala	0.0	0.0	13492.00	13492.00	N.A.	N.A.
24	Shiv Kumar Prasad	Dhangardih	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
25	Anup Kumar Singh	Jalanga	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

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)

The demand of Sand in Palamau district is already high as 22 Nos. of Sand Ghats were operated in district up to the F.Y. 2018-019 only. Although, demand of Sand becomes three times more with respect to supply within district. Therefore, 19 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.

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.

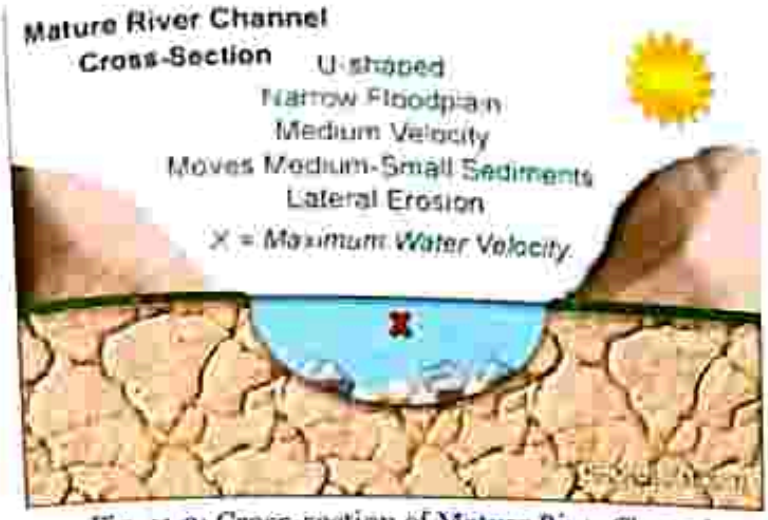


Fig. 11.2: Cross-section of Mature River Channel

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.

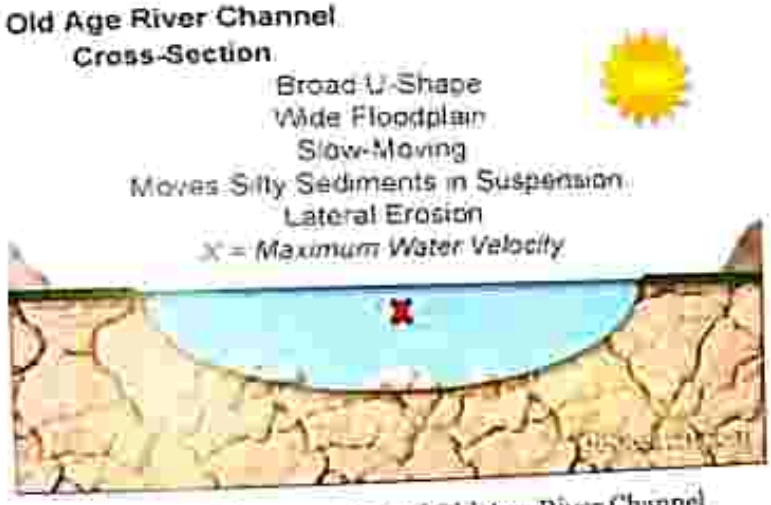


Fig. 11.3: Cross-section of Old Age River Channel

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. As shown in Figure, 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.

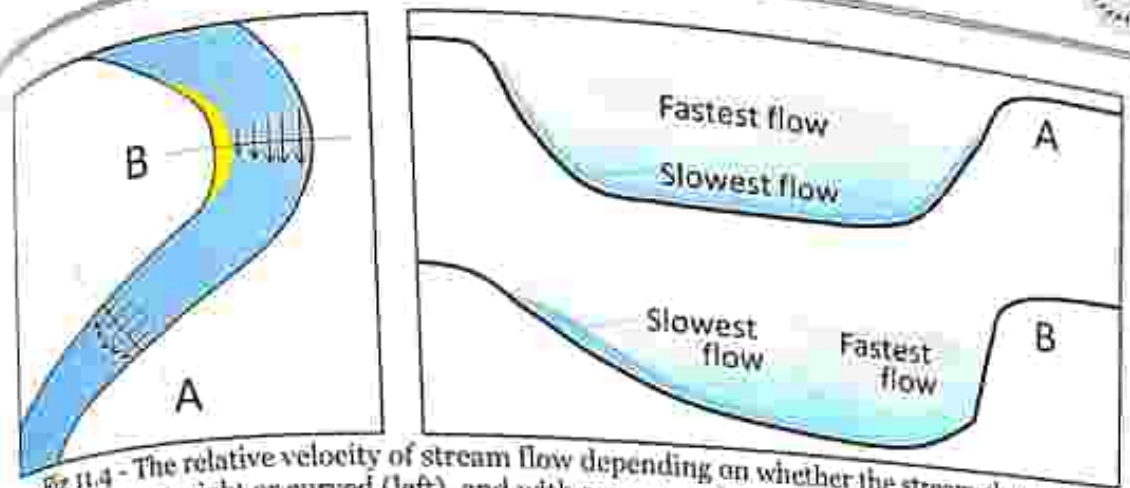


Fig 11.4 - The relative velocity of stream flow depending on whether the stream channel is straight or curved (left), and with respect to the water depth (right)

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., m³/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 11.5 - shows the nature of sediment transportation in a stream. Large particles rest on the bottom – bed load — and 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 Philip Hjulstrom

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 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.

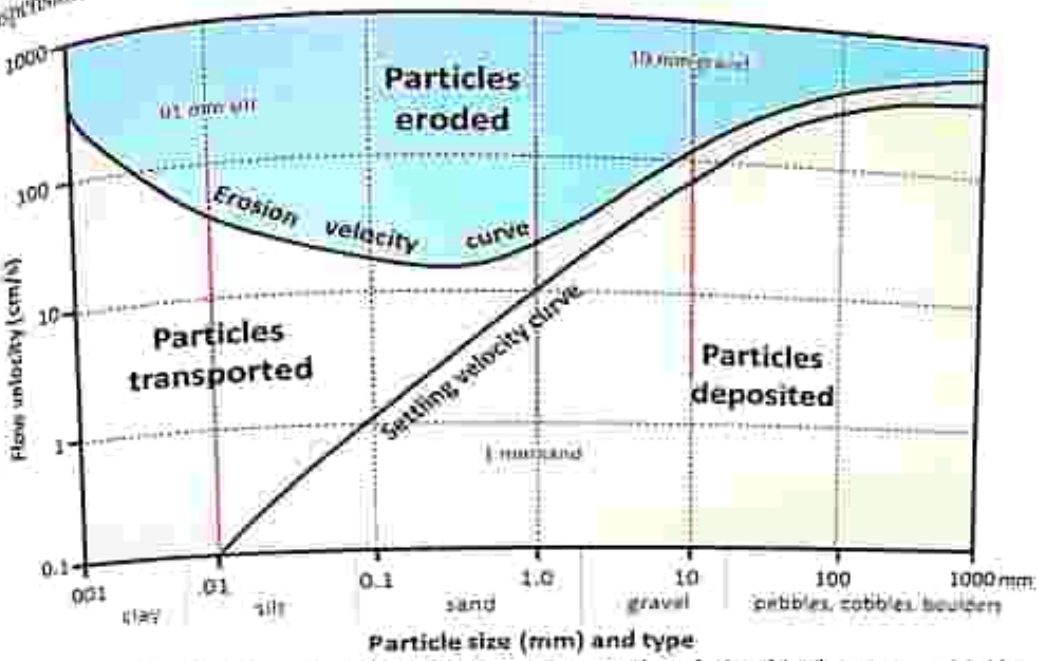


Figure 11.6: The Hjulström-Sundborg diagram showing the relationships between particle size and the tendency to be eroded, transported, or deposited at different current velocities

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 shown in Figure 11.7. 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 **levee**.

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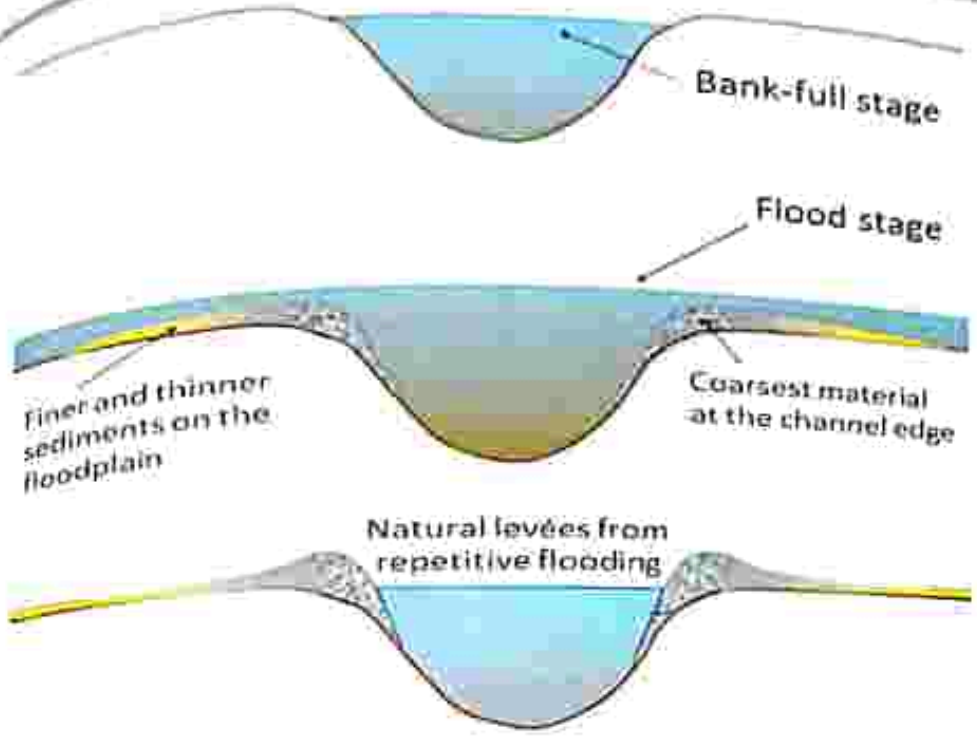

Figure 11.7: The development of natural levées during flooding of a stream. The sediments of the levée become increasingly fine away from the stream channel, and even finer sediments – Clay, Silt, and fine Sand — are deposited across most of the flood plain. [SE]

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.

Floodplains 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.

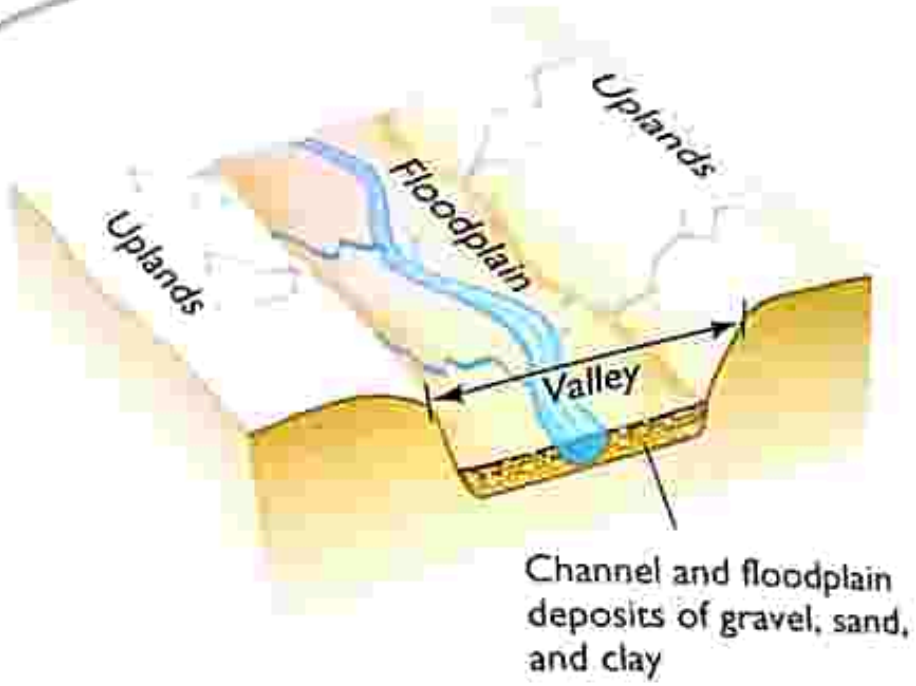

Figure 11.8: Flood Plain

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 non-point source. If a non-point source contains man-made contaminants or natural forms of pollution (such as rotting leaves) the runoff is called non-point source pollution. A land area which produces 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 non-point 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.**

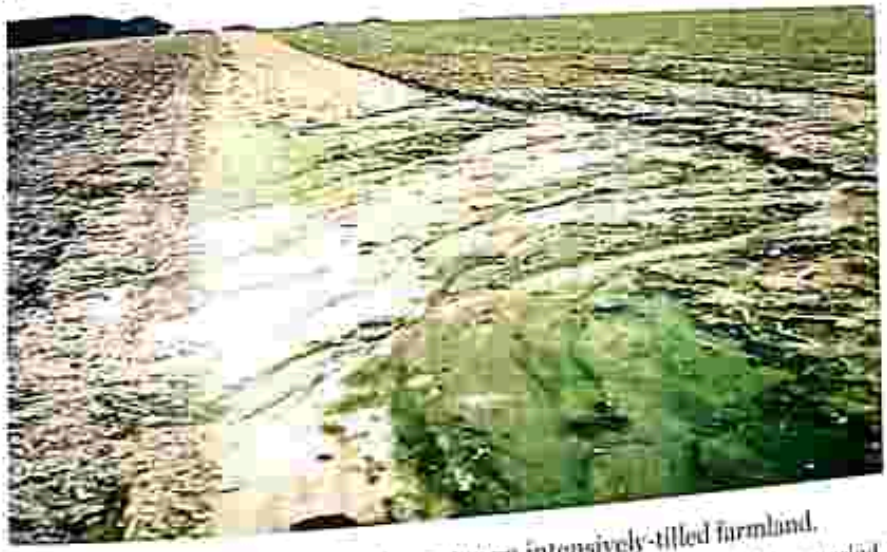

Figure 11-9: Soil erosion by water on intensively-tilled farmland.

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 10

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:

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 miles^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 miles^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>a10): S=1958*(e-0.055*Q) *[1.43-0.26Log (A)]

- **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 erodivity 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
q = 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/Stream	Area Drained (km²)	% Area Drained in the District
1	Amanat	14.38	0.28
2	Auranga	0.12	0.0024
3	Batane Nadi	0.15	0.0029
4	Jinjoi Nadi	0.99	0.02
5	North Koel	45.01	0.89

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
1	Amanat	64.1	Jhardag	289
2	Auranga	8.37	Herum	293
3	Batane Nadi	41.4	Saraidih	272
4	Jinjoi Nadi	45.8	Bansikhurd	354
5	North Koel	104.0	Rohtas	129

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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 [March - May 2022]				Post-Monsoon [October - December 2022]					
Sl. No.	Sand Ghat ID	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	PA_Z13_SO_1	105.1	364300.00	107.0	1.9	692170.0	3.0	1092909.0	63.3
2	PA_Z13_SO_4	122.7	304500.00	124.5	1.8	548100.0	2.5	761250.0	72.0
3	PA_Z13_SO_5	124.4	105200.00	126.1	1.7	178840.0	2.5	263000.0	68.0
4	PA_Z13_NK_6	130.5	552200.00	132.3	1.8	993960.0	2.5	1380500.0	72.0
5	PA_Z12_NK_7	166.8	826500.00	168.9	2.1	1735650.0	3.0	2479500.0	70.0
6	PA_Z12_NK_8	173.5	262700.00	175.1	1.6	420320.0	2.5	656750.0	64.0
7	PA_Z11_NK_9	183.3	1780800.00	185.0	1.7	3027360.0	2.5	4452000.0	68.0
8	PA_Z11_NK_10	187.9	1031800.00	189.6	1.7	1754060.0	2.5	2579500.0	68.0
9	PA_Z11_NK_11	191.7	2050300.00	193.4	1.7	3485510.0	2.5	5125750.0	68.0
10	PA_Z16_NK_13	207.7	552900.00	209.5	1.8	995220.0	2.5	1382250.0	72.0
11	PA_Z8_AMA_14	199.1	867600.00	200.8	1.7	1474920.0	2.5	2169000.0	68.0
12	PA_Z7_AMA_15	205.4	182100.00	207.4	2.0	364200.0	3.0	546300.0	66.7
13	PA_Z7_AMA_16	204.5	40800.00	205.7	1.2	48960.0	2.0	81600.0	60.0
14	PA_Z6_AMA_20	225.0	919000.00	226.8	1.8	1654200.0	2.5	2297500.0	72.0
15	PA_Z6_AMA_21	230.2	296400.00	232.0	1.8	533520.0	2.5	741000.0	72.0
16	PA_Z4_AMA_23	241.2	168900.00	242.9	1.7	287130.0	2.5	422250.0	68.0
17	PA_Z4_AMA_24	245.6	302900.00	247.3	1.7	514930.0	2.5	757250.0	68.0
18	PA_Z3_AMA_26	259.1	48800.00	260.2	1.1	53680.0	2.0	97600.0	55.0
19	PA_Z3_AMA_27	271.2	559800.00	272.7	1.5	839700.0	2.5	1399500.0	60.0
TOTAL						19602430.0		28685400.0	68.3

12.4 Jharkhand State Sand Mining Policy 2017:

- **Categorization of Streams/Rivers:**

a. Identification of the Sand available in different order of streams such as 1st, 2nd, 3rd, 4th, 5th order or more shall be carried out by the District Survey Committee based on its size and capacity.

b. Based on District Survey Report the Survey Committee shall categorize the River in 1st order and 2nd order stream/river as Category-1 and 3rd order and above as Category-2.

c. However, based on recommendation of District Survey Committee and depending upon local conditions/requirements, the State may review and change the positioning of a particular order of Stream/River into a particular category of Category-1 or Category-2.

- **Management of Sand Deposits of Category-1 Streams/Rivers:**

a. The Sand deposits of Category-1 Stream/Rivers will be kept fully free from domain of grant of mining lease.

b. The Sand from this category can be used only for non-commercial purposes such as domestic purpose, Community purposes, Government Sponsored Schemes etc. or as defined in Appendix–IX of Part–II–Section-3-Sub Section-(ii) of Extraordinary Gazette of MoEF & CC, Government of India New Delhi dated 15th January 2016.

c. Gram Panchayat/Local Self Government shall be responsible for supervision of sand collection from such area.

d. There shall be no transfer or subletting of the sand deposits from these Streams/Rivers.

e. The Sand from these Streams/Rivers shall be free from any taxes, royalty or levy.

f. For the purpose of maintenance of the approach road, management, supervision etc. a nominal Maintenance Charge shall be levied by Gram Panchayat/Local Self Government per unit volume of sand lifted/collected/dispatched, as per the rate decided by Department of Industries, Mines and Geology, Government of Jharkhand.

g. It shall be responsibility of Gram Panchayat/Local Self Government to ensure that Sand from these deposits is not used for any commercial purposes and to regulate the same, a receipt-cum dispatch challan will be issued by the Gram Panchayat/Local Self Government in the format as prescribed by the State.

h. The maintenance charge so collected shall be deposited in the account of Gram Panchayat/Local Self Government.

i. The book keeping of this account shall be maintained by Gram Panchayat/Local Self Government according to prevailing rules and guidelines of the Gram Panchayat/Local Self Government.

j. Under no circumstances the sand shall be allowed to be stored from these Streams/Rivers.

k. As mentioned in para 7-(i) - (B) of Part–II–Section-3-Sub Section-(ii) of Extraordinary Gazette of MoEF & CC, Government of India, New Delhi dated 15th January, 2016 such usage of Sand shall be exempted from environmental clearance.

l. This shall be the responsibility of the Gram Panchayat/Local Self-Government to restrict Sand mining in prohibited areas as directed by the Department.

m. Under no circumstances mechanized lifting of Sand shall be allowed from these category of Streams/Rivers.

n. The Deputy Commissioner shall put in place proper administrative/enforcement mechanism to ensure no commercial/illegal extraction of Sand from these orders of Streams/Rivers.

- **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.

12.5 Details of 'Category 1' Sand Ghats:

DETAILS OF 'CATEGORY 1' SAND GHATS IN PALAMAU, JHARKHAND

Sl. No.	Name of Sand Ghat	River	Circle	Panchayat	Mouza	Place of Origin	Length of River/Nala (in Kms.)	Khata No.	Plot Nos.	Area (in Acres)
1	Baimbi a Ghat, Bhusariya	Koel	Medininagar		Hisra/Pokhraha			144	155	5.00
2	Dubelganj Ghat	Auranga	Medininagar		Duba				193	3.00
3	Vaidewa Tola Ghat	Koel	Medininagar		Sua				38/38	1.00
4	Lakshmiwara Tola Surya Uday Singh ke Ghat ke pass Ghat	Koel	Medininagar		Sua				37/41	1.00
5	Mori Ghat	Koel	Medininagar		Teliya Bandh Kauriya				5/268	1.00
6	Tukituka (Kartuka) Sand Ghat	Batane Nadi	Chhattarpur	Rudwa	Tukituka		0.50	18	312	6.00
7	Chiru (Tetariyadih) Sand Ghat	Batane Nadi	Chhattarpur	Chiru	Chiru (Tetariyadih)		0.00	131	1853	0.00
8	Chiru (Hesla) Sand Ghat	Batane Nadi	Chhattarpur	Chiru	Chiru (Hesla)		0.00	131	1916	0.00
9	Chiru (Chahallhathan) Sand Ghat	Batane Nadi	Chhattarpur	Chiru	Chiru (Chahallhathan)		0.33	131	1918	1.00
10	Chiru (Patkhahi) Sand Ghat	Batane Nadi	Chhattarpur	Chiru	Chiru (Patkhahi)		0.12	131	1879	0.00
11	Raghunatpura Nadi Ghat	Banki Nadi	Chhattarpur	Kewal	Raghunatpura		0.00	28	278	0.00
12	Rud Sand Ghat	Banki Nadi	Chhattarpur	Kewal	Rud		0.15	50	319	1.00
13	Bhandardih Sand Ghat	Batane Nadi	Chhattarpur	Bajaiya	Bhandardih		0.37	58	954	5.00
14	Sajwan Salempur Sand Ghat	Sone	Haidernagar		Sajwan Salempur			903	4	38.00
15	Kalam Khurd Sand Ghat	Sone	Haidernagar		Kalam Khurd			222	1	24.00

28	Murma Sand Ghat	Sadabah Nadi	Pandwa	Murma	Murma	Joda Khurd Pahad	10.0	97	1,55	
29	Pandwa Sand Ghat	Sadabah Nadi	Pandwa	Pandwa	Pandwa	Joda Khurd Pahad	12.0	293	267	
30	Gareriyadih (Baghmanwa) Sand Ghat	Durgawati Nadi	Pandwa	Lohda	Gareriyadih (Baghmanwa)	Patan (Saguna)	10.0	377	4537	
31	Garikhas Sand Ghat	Durgawati Nadi	Pandwa	Garikhas	Garikhas	Patan (Saguna)	12.0	495	247	
32	Jhari Sand Ghat	Sadabah Nadi	Pandwa	Chhechhouri	Jhari	Joda Khurd Pahad	1.0	69	1	
33	Chhechhouri Sand Ghat	Sadabah Nadi	Pandwa	Chhechhouri	Chhechhouri	Joda Khurd Pahad	1.5	129	670, 727, 449, 385, 222	
34	Golhana Sand Ghat	Jinjoi Nadi	Pandwa	Kajri	Golhana	Manatu Jangal	10.0	153	530	
35	Titlangi Sand Ghat	Chaako Nadi	Panki	Loharsi	Titlangi	Chatra	2.5	18	341	9.20
36	Gidi Sand Ghat	Chaako Nadi	Panki	Loharsi	Gidi	Chatra	2.0	11	104	2.00
37	Kelhawa Sand Ghat	Chaako Nadi	Panki	Kelhawa	Kelhawa	Chatra	2.5	44	435.1	17.01
38	Boroditi Sand Ghat	Amanat Nadi	Panki	Kelhawa	Boroditi	Hazaribag	2.5	27	1, 340, 108	17.20
39	Dwarika Sand Ghat	Amanat Nadi	Panki	Kelhargarh	Dwarika	Hazaribag	0.5	109	1 (968, 941,806, 833,700	25.54
33		Sadabah Nala	Chainpur	Karma & Bochi		Kmanij	6.0			
34		Sathahini Nala	Chainpur	Ramgarh		Ramgarh	43.0			
32		Semra Nala	Chainpur	Semra		Semriya	5.00			
33		Parsan Nala	Chainpur	Parsan		Pinde Pahad	2.5			
34		Bansi Nala	Panki	Hotal		Bansi Pahad	4.00			
35		Kholawa Nala	Panki	Sangalim & Hurlung		Hurlung Pahad	11.2			
36		Sowan Nala	Panki	Hotal		Chandwar Pahad	8.8			
37		Piri River	Panki	Asohar & Hotal		Bansi Pahad	15.0			
38		Banka Nala	Patan	Saguna		Kala Pahad	17.0			

DISTRICT SURVEY REPORT FOR
SAND MINING OR RIVER BED MINING IN
PALAMAU DISTRICT OF JHARKHAND

39		Akrahi Nala	Patan	Jaraghatoli		Akrahi Pahad	5.0			
40		Akrahi Nala	Patan	Saraiyan		Akrahi Pahad	5.0			
41		Kayli River	Satbarwa	Ghatiya		Ghatiya Pahari	15.0			
42		Harbanwa Nala	Satbarwa	Ghatiya		Yekta	8.0			
43		Anaitehar Nala	Satbarwa	Bakoria		Namuding Latehar	8.0			
44		Semrgatha Nala	Satbarwa	Bakoria		Bakoriya	6.0			
45		Radhika Nala	Satbarwa	Rewaratu		Devibahle	5.0			
46		Garh Nala	Satbarwa	Ghatiya		Yekta Gaon	3.5			
47		Narayan Nala	Satbarwa	Ghatiya		Serandag, Pahad	3.0			
48		Gaheri Nala	Manatu	Warai Khurd		Gahri Pahad	3.0			
49		Harbadwa Nala	Manatu	Nandiha		Karmatanr Pahad	14.0			
50		Kandahiya Nala	Lesliganj	Pipra Khurd		Maharaja	05			
51		Dengana Nala	Lesliganj	Rajhara		Nawadih Nala	6.0			
52		Bhelwa River	Pandu			Hanuchhas	7.5			
53		Jharna Nala	Pandu	Dada Kala		Ghatiya	3.0			
54		Khola River	Pandu	Pandu		Mangardah	6.0			
55		Sushama Nala	Pandu	Dada Kala		Kutka Pahad	3.0			
56		Jhanghi River	Pandu	Mahuagaon		Mangardah	8.0			
57		Sajma Nala	Tarhasi			Ambabar Tikar	8.0			
58		Ratan Nala	Tarhasi			Nawadih Pahad	4.0			
59		Chuparhi River	Nawadihar	Kanda		Tali	8.0			
60		Rhotasi River	Nawadihar	Khutaur		Nawa	20.0			
61		Khajuriya River	Uttri Road	Karhatta		Lamba Pahad	7.0			
62		Rautra River	Rehmanpur	Kumhar Kala		Hatal	8.0			
63		Batre Nala	Harbargani	Kutahiya & Semarsot		Raghna	4.0			
64		Khajuriya Nala	Harihargani	Sarwa		Bhatia	4.5			

65		Tathiya Nala	Mohammadganj	Kadal Kurmi		Domchanch	8.75				
66		Sangrahi Nala	Mohammadganj	Mohammadganj		Sentachum	7.5				
67		Rukhi Nala	Haidernagar	Kuhli		Amhi Gram	10.0				
68		Jahali Nala	Haidernagar	Bebaspur		Mangardah	8.0				
69		Kararwar River	Hussainabad	Pathra & Pokhli		Gajnadham	20.5				
70		Harhi River	Hussainabad	Kurmipur		Sikni	13.75				
71		Sukhadiya Nala	Chhatarpur	Sildag		Sildag	2.25				
[illegible]		[illegible]	[illegible]	[illegible]		[illegible]	[illegible]				
[illegible]		[illegible]	[illegible]	[illegible]		[illegible]	[illegible]				

12.6 Details of 'Category 2' Sand Ghats:

DETAILS OF 'CATEGORY 2' SAND GHATS IN DIST. - PALAMAU, JHARKHAND

Sl. No.	Zone	River	Circle/Block	Sand Ghat ID	Mouza	Plot Nos.	Area (in Ha.)	Label	Latitude	Longitude
								A	24° 37' 56.398" N	84° 00' 39.333" E
								B	24° 37' 43.049" N	84° 00' 48.734" E
								C	24° 37' 43.574" N	84° 00' 46.103" E
								D	24° 38' 04.292" N	84° 00' 48.436" E
								E	24° 38' 12.253" N	84° 00' 40.663" E
								F	24° 38' 18.154" N	84° 00' 50.021" E
								G	24° 38' 17.513" N	84° 00' 57.249" E
								H	24° 38' 17.095" N	84° 01' 05.820" E
								I	24° 38' 07.304" N	84° 01' 05.585" E
								J	24° 38' 05.090" N	84° 01' 07.615" E
1	Zone-13	Sone River	Hussainabad	PA_Z13_SO_1	Dangwar	231	36.43	K	24° 38' 01.339" N	84° 01' 04.990" E
2	Zone-13	Sone River	Haidernagar	PA_Z13_SO_4	Parta	1	30.45	A	24° 31' 24.981" N	84° 22' 17.852" E

								B	24° 32' 30.716" N	83° 55' 37.865" E
								C	24° 32' 20.444" N	83° 55' 49.066" E
								D	24° 32' 19.018" N	83° 55' 59.379" E
								E	24° 32' 14.544" N	83° 55' 57.031" E
								F	24° 32' 14.695" N	83° 55' 39.429" E
								G	24° 32' 16.389" N	83° 55' 37.029" E
								H	24° 32' 15.774" N	83° 55' 25.954" E
								I	24° 32' 16.325" N	83° 55' 14.886" E
3	Zone-13	Sone River	Haidernagar, Mohammad Ganj	PA_Z13_SO_5	Kabra Kalan	1	10.52	A	24° 32' 09.919" N	83° 53' 09.206" E
								B	24° 32' 16.021" N	83° 53' 19.867" E
								C	24° 32' 17.124" N	83° 53' 26.799" E
								D	24° 32' 17.192" N	83° 53' 30.459" E
								E	24° 32' 20.506" N	83° 53' 37.029" E
								F	24° 32' 13.767" N	83° 53' 38.274" E
								G	24° 32' 12.434" N	83° 53' 28.337" E
								H	24° 32' 11.018" N	83° 53' 18.037" E
4	Zone-13	North Koel	Mohammadganj	PA_Z13_NK_6	Kollua Soubarsa	1284 & 1285	55.43	A	24° 26' 47.378" N	83° 31' 19.708" E
								B	24° 26' 59.456" N	83° 31' 18.162" E
								C	24° 27' 09.328" N	83° 31' 17.536" E
								D	24° 27' 21.085" N	83° 31' 18.335" E
								E	24° 27' 31.526" N	83° 31' 18.830" E
								F	24° 27' 41.011" N	83° 31' 18.171" E
								G	24° 27' 49.988" N	83° 31' 17.593" E
								H	24° 27' 48.766" N	83° 31' 27.783" E
								I	24° 27' 39.798" N	83° 31' 37.146" E
								J	24° 27' 31.630" N	83° 31' 25.663" E

								K	24° 27' 22.880" N	83° 31' 27.624" E
								L	24° 27' 14.764" N	83° 31' 26.121" E
								M	24° 26' 45.691" N	83° 31' 27.001" E
								A	24° 11' 06.585" N	83° 34' 38.426" E
								B	24° 11' 27.266" N	83° 34' 11.857" E
								C	24° 11' 33.571" N	83° 34' 17.954" E
								D	24° 11' 24.732" N	83° 34' 24.845" E
								E	24° 11' 15.413" N	83° 34' 14.924" E
								F	24° 11' 09.929" N	83° 34' 41.914" E
								G	24° 11' 04.858" N	83° 34' 07.076" E
								H	24° 11' 00.498" N	83° 34' 59.183" E
								I	24° 10' 51.701" N	83° 35' 0" 344" E
								J	24° 10' 42.344" N	83° 35' 13.630" E
								K	24° 10' 32.239" N	83° 35' 25.224" E
								L	24° 10' 24.975" N	83° 35' 32.782" E
								M	24° 10' 10.969" N	83° 35' 17.902" E
								N	24° 10' 11.369" N	83° 35' 43.946" E
								O	24° 10' 05.376" N	84° 35' 55.103" E
								P	24° 09' 58.481" N	84° 36' 08.939" E
								Q	24° 09' 54.272" N	83° 36' 08.824" E
								R	24° 10' 02.388" N	83° 35' 50.244" E
								S	24° 10' 16.792" N	83° 35' 31.230" E
5	Zone-12	North Koel	Bishrampur	PA_Biz_NK_7	Malhatoli Jinjira Tolta	502, 1012, 1439 696, 763, 764 696, 763, 764	82.65			
								A	24° 09' 34.021" N	83° 36' 46.982" E
								B	24° 09' 39.514" N	83° 35' 47.245" E
								C	24° 09' 33.448" N	83° 35' 43.041" E
								D	24° 09' 26.598" N	83° 35' 29.571" E
6	Zone-12	North Koel	Bishrampur	PA_Biz_NK_8	Lahara	2567, 2568, 2569	98.57			

2	Zone-II	North East	Bishrampur, Nawa Bazar, Chainpur	PA_Z1_NK_9	Rampur Bukeya Khurd	1, 1340, 1341 344	498.08	E	24° 09' 24.091" N	83° 57' 29.684" E
								F	24° 09' 19.991" N	83° 57' 38.---" E
								G	24° 09' 18.338" N	83° 57' 43.824" E
								H	24° 09' 13.420" N	83° 57' 41.570" E
								I	24° 09' 17.081" N	83° 57' 29.220" E
								J	24° 09' 30.479" N	83° 57' 01.253" E

A	24° 08' 54.227" N	83° 58' 48.209" E
B	24° 08' 51.326" N	83° 58' 37.066" E
C	24° 09' 06.882" N	83° 58' 43.472" E
D	24° 09' 09.014" N	83° 58' 52.358" E
E	24° 09' 15.480" N	83° 59' 46.215" E
F	24° 09' 13.796" N	84° 00' 01.821" E
G	24° 09' 09.753" N	84° 00' 13.231" E
H	24° 09' 00.806" N	84° 00' 27.742" E
I	24° 08' 56.285" N	84° 00' 38.813" E
J	24° 08' 52.583" N	84° 01' 10.082" E
K	24° 08' 53.465" N	84° 01' 40.296" E
L	24° 09' 05.436" N	84° 01' 53.021" E
M	24° 09' 03.894" N	84° 02' 09.264" E
N	24° 08' 54.060" N	84° 02' 0.842" E
O	24° 08' 53.816" N	84° 01' 33.84-" E
P	24° 08' 46.004" N	84° 01' 30.994" E
Q	24° 08' 39.284" N	84° 01' 19.290" E
R	24° 08' 41.261" N	84° 01' 00.-90" E
S	24° 08' 46.314" N	84° 00' 39.0-8" E
T	24° 09' 02.220" N	84° 00' 4-.43" E
U	24° 09' 09.473" N	83° 59' 59.136" E
V	24° 09' 05.103" N	83° 58' 23.---" E

					Bokoya Kalan	1		W	24° 08' 01.962" N	83° 59' 03.[illegible]" E
8	Zone-11	North Koel	Pandwa, Chainpur	PA_Z11_NK_10	Gangi Lidki Kaktus	419 496 366	103.18	A B C D E F G H I J K L M N	24° 08' 09.615" N 24° 08' 25.757" N 24° 08' 25.962" N 24° 08' 08.587" N 24° 07' 50.394" N 24° 07' 33.259" N 24° 07' 18.836" N 24° 07' 07.528" N 24° 06' 58.678" N 24° 06' 58.680" N 24° 07' 17.191" N 24° 07' 37.749" N 24° 07' 47.001" N 24° 07' 54.807" N	84° 03' 06.424" E 84° 03' 01.445" E 84° 03' 09.494" E 84° 03' 17.545" E 84° 03' 36.219" E 84° 03' 37.201" E 84° 03' 44.558" E 84° 03' 49.177" E 84° 03' 48.[illegible]" E 84° 03' 31.455" E 84° 03' 20.631" E 84° 03' 23.891" E 84° 03' 16.[illegible]" E 84° 03' 14.236" E
9	Zone-11	North Koel	Medininagar (Daltonganj), Chainpur	PA_Z11_NK_11	Singraha Kalan Singhraha Khurd	460, 463 1, 2331, 2332	305.93	A B C D E F G H I J	24° 06' 21.791" N 24° 06' 32.828" N 24° 06' 30.302" N 24° 06' 04.280" N 24° 05' 50.927" N 24° 05' 16.685" N 24° 05' 07.999" N 24° 05' 38.033" N 24° 05' 50.867" N 24° 05' 51.186" N	84° 03' 20.807" E 84° 03' 22.314" E 84° 03' 33.036" E 84° 03' 28.824" E 84° 03' 49.470" E 84° 03' 52.084" E 84° 03' 38.789" E 84° 03' 16.31[illegible]" E 84° 03' 22.[illegible]" E 84° 03' 21.[illegible]" E

10	Zone-16	North Koel	Medininagar (Daltonganj)	PA_Z16_NK_13	Gochu	1.528	55.29	A	24° 00' 56.907" N	84° 04' 15.500" E
								B	24° 00' 59.334" N	84° 04' 39.482" E
								C	24° 00' 46.491" N	84° 04' 41.773" E
								D	24° 00' 40.030" N	84° 04' 24.396" E
								E	24° 00' 33.191" N	84° 04' 21.421" E
								F	24° 00' 26.012" N	84° 04' 21.220" E
								G	24° 00' 17.056" N	84° 04' 24.172" E
								H	24° 00' 05.720" N	84° 04' 32.502" E
								I	23° 59' 52.914" N	84° 04' 47.484" E
								J	23° 59' 51.531" N	84° 05' 42.440" E
								K	23° 59' 48.880" N	84° 04' 39.418" E
								L	23° 59' 34.958" N	84° 04' 33.806" E
								M	24° 00' 01.537" N	84° 04' 26.679" E
								N	24° 00' 07.704" N	84° 04' 21.471" E
								O	24° 00' 12.775" N	84° 04' 19.826" E
								P	24° 00' 18.943" N	84° 04' 13.577" E
								Q	24° 00' 24.014" N	84° 04' 12.288" E
								R	24° 00' 32.591" N	84° 04' 13.134" E
								S	24° 00' 41.089" N	84° 04' 18.085" E
11	Zone-8	Amanat	Patan, Medininagar (Daltonganj)	PA_Z8_AMA_14	Metal	2.415	86.79	A	24° 04' 30.377" N	84° 05' 30.048" E
								B	24° 04' 58.371" N	84° 05' 28.05" E
								C	24° 05' 03.226" N	84° 05' 27.989" E
								D	24° 05' 03.432" N	84° 05' 33.845" E
								E	24° 05' 09.591" N	84° 05' 47.211" E
								F	24° 05' 13.491" N	84° 06' 03.444" E
								G	24° 05' 15.484" N	84° 06' 22.470" E
								H	24° 04' 38.509" N	84° 06' 19.264" E
								I	24° 04' 53.041" N	84° 06' 06.224" E

DISTRICT SURVEY REPORT FOR...
SAND MINING OR RIVER-BED MINING IN
PALAMAU DISTRICT OF JHARKHAND

								J	24° 04' 50.205" N	84° 08' 00.812" E
								K	24° 04' 47.799" N	84° 08' 00.993" E
								L	24° 04' 47.806" N	84° 07' 52.202" E
12	Zone-7	Amanat	Patan, Medininagar (Daltonganj), Nilambar-Pitambarpur	PA_Z7_AMA_15	Jaitukhand	1 (As per Jharbhumi)	18.21	A	24° 04' 35.238" N	84° 08' 00.320" E
								B	24° 04' 40.583" N	84° 07' 52.186" E
								C	24° 04' 47.231" N	84° 08' 04.582" E
								D	24° 04' 53.809" N	84° 08' 11.500" E
								E	24° 04' 58.047" N	84° 08' 17.153" E
								F	24° 04' 53.966" N	84° 08' 31.720" E
								G	24° 04' 44.421" N	84° 08' 13.042" E
								H	24° 04' 38.185" N	84° 08' 00.455" E
13	Zone-7	Amanat	Patan	PA_Z7_AMA_16	Kanke Khurd	612	4.08	A	24° 05' 09.533" N	84° 09' 05.451" E
								B	24° 05' 09.720" N	84° 09' 09.308" E
								C	24° 05' 07.401" N	84° 09' 09.885" E
								D	24° 05' 06.332" N	84° 09' 03.987" E
								E	24° 05' 05.202" N	84° 08' 57.078" E
								F	24° 05' 04.473" N	84° 08' 52.870" E
								G	24° 05' 07.647" N	84° 08' 53.283" E
14	Zone-6	Amanat	Lesliganj, Tarhani	PA_Z6_AMA_20			91.00	A	24° 5' 11.194" N	84° 12' 19.502" E
								B	24° 5' 09.443" N	84° 12' 17.580" E
								C	24° 5' 11.062" N	84° 12' 13.590" E
								D	24° 5' 10.854" N	84° 12' 22.523" E
								E	24° 5' 13.005" N	84° 12' 4.341" E
								F	24° 5' 9.831" N	84° 12' 11.434" E
								G	24° 5' 13.016" N	84° 12' 26.676" E

Approved

					Delhi	780, 1008, 1030		M	24° 4' 58.332" N	84° 16' 32.595" E
					Barbuna	517		I	24° 4' 47.008" N	84° 16' 36.736" E
					Bishunpur	449		J	24° 4' 53.406" N	84° 16' 20.750" E
								K	24° 4' 39.135" N	84° 16' 9.393" E
								L	24° 5' 6.475" N	84° 15' 51.861" E
15	Zone-6	Amanat	Lesliganj, Tarhasi	PA_Z6_AMA_21	Misir Patra	190, 191	29.64	A	24° 04' 24.866" N	84° 17' 00.531" E
								B	24° 04' 30.943" N	84° 16' 57.695" E
								C	24° 04' 33.761" N	84° 17' 03.059" E
								D	24° 04' 22.239" N	84° 17' 12.215" E
								E	24° 04' 17.342" N	84° 17' 17.427" E
								F	24° 04' 13.183" N	84° 17' 24.429" E
								G	24° 04' 06.645" N	84° 17' 22.840" E
								H	24° 04' 08.488" N	84° 17' 12.000" E
								I	24° 04' 16.026" N	84° 17' 06.184" E
16	Zone-4	Amanat	Tarhasi	PA_Z4_AMA_21	Gurturi	864, 888	16.89	A	24° 04' 43.921" N	84° 21' 38.735" E
					Kumbradih	234		B	24° 04' 51.637" N	84° 21' 38.978" E
								C	24° 04' 53.619" N	84° 21' 53.859" E
								D	24° 04' 54.713" N	84° 22' 02.181" E
								E	24° 04' 54.236" N	84° 22' 11.803" E
								F	24° 04' 53.254" N	84° 22' 20.732" E
								G	24° 04' 50.476" N	84° 22' 31.989" E
								H	24° 04' 50.167" N	84° 22' 42.170" E
								I	24° 04' 50.809" N	84° 22' 07.240" E
								J	24° 04' 50.324" N	84° 21' 55.798" E
								K	24° 04' 49.302" N	84° 21' 50.252" E
								L	24° 04' 49.53" N	84° 21' 43.946" E

17	Zone-4	Amanat	Tarhasi, Panki	PA_Z4_AMA_24	Bhitiya Damlac Kumbradih	736 327	30.29	A	24° 05' 52.308" N	84° 22' 37.385" E
								B	24° 05' 02.722" N	84° 22' 30.239" E
								C	24° 05' 08.627" N	84° 22' 30.650" E
								D	24° 05' 06.233" N	84° 22' 28.491" E
								E	24° 05' 20.285" N	84° 22' 24.644" E
								F	24° 05' 20.804" N	84° 22' 24.433" E
								G	24° 05' 36.034" N	84° 22' 25.430" E
								H	24° 05' 36.410" N	84° 22' 36.309" E
								I	24° 05' 24.971" N	84° 22' 36.814" E
								J	24° 05' 11.608" N	84° 22' 37.448" E
28	Zone-3	Amanat	Tarhasi, Panki	PA_Z3_AMA_26	Barwaiya	512	4.88	A	24° 04' 45.85" N	84° 2' 40.103" E
								B	24° 04' 50.419" N	84° 2' 1.232" E
								C	24° 04' 30.775" N	84° 2' 21.765" E
								D	24° 04' 30.0095" N	84° 2' 50.285" E
								E	24° 04' 40.886" N	84° 2' 30.522" E
								F	24° 04' 46.044" N	84° 2' 30.483" E
								G	24° 04' 46.745" N	84° 2' 28.854" E
								H	24° 04' 46.232" N	84° 2' 22.714" E
29	Zone-3	Amanat	Panki	PA_Z3_AMA_27			55.98	A	24° 04' 53.301" N	84° 2' 58.421" E
								B	24° 04' 36.693" N	84° 2' 15.956" E
								C	24° 04' 38.041" N	84° 2' 16.116" E
								D	24° 04' 30.785" N	84° 2' 40.252" E
								E	24° 04' 15.946" N	84° 2' 41.085" E
								F	24° 04' 07.814" N	84° 2' 40.235" E
								G	24° 03' 58.22" N	84° 2' 40.789" E

									H	24° 03' 44.486" N	84° 29' 33.595" E
									I	24° 03' 33.189" N	84° 29' 46.269" E
									J	24° 03' 29.931" N	84° 29' 33.930" E
									K	24° 03' 37.100" N	84° 29' 33.793" E
									L	24° 03' 47.044" N	84° 29' 34.492" E
									M	24° 03' 50.471" N	84° 29' 35.314" E
									N	24° 03' 55.953" N	84° 29' 34.081" E
									O	24° 04' 02.395" N	84° 29' 33.238" E
									P	24° 04' 15.278" N	84° 29' 30.928" E

Barwadih	2561, 2562
Ukua	827, 818

12.7 Details of Sand Deposit Zones:

Sl. No.	Zone No.	Zone Boundary Coordinates	Reference Point Coordinates	Elevation (m)	No. of Sand Ghats within Zone & Total Area (in Ha.)
1	Zone- 1	Low Sand Deposit			
2	Zone- 2		84°29'41.33"E, 24° 03'04.58"N	291	2 Nos., 60.85
3	Zone- 3	84°26'05.246"E 24°05'16.154"N to 84°29'42.434"E 24°03'25.51"N	84°21'13.87"E, 24° 04'33.67"N	276	2 Nos., 47.17
4	Zone- 4	84°21'23.875"E 24°04'43.675"N to 84°25'35.542"E 24°05'20.406"N	Low Sand Deposit		
5	Zone- 5		84°16'47.30"E, 24° 04'38.60"N	260	2 Nos., 121.33
6	Zone- 6	84°11'54.262"E 24°05'31.189"N to 84°17'41.303"E 24°04'11.236"N	84° 06'38.21"E, 24° 04'57.97"N	237	2 Nos., 22.50
7	Zone- 7	84°06'59.031"E 24°05'00.287"N to 84°11'09.411"E 24°05'42.000"N	84° 04'30.92"E, 24° 06'28.20"N	233	1 No., 86.75
8	Zone- 8	84°04'38.351"E 24°06'33.922"N to 84°06'23.749"E 24°05'07.462"N	Low Sand Deposit		
9	Zone- 9	Low Sand Deposit			
10	Zone- 10		83°57'56.93"E, 24° 08'54.86"N	220	3 Nos., 486.98
11	Zone- 11	83°58'17.038"E 24°08'59.608"N to 84°03'35.204"E 24°05'06.552"N	83°53'53.70"E, 24°11'26.61"N	201	2 Nos., 108.62
12	Zone- 12	83°52'40.989"E 24°12'40.314"N to 84°57'41.057"E 24°09'13.320"N	83°51'05.26"E, 24°30'43.38"N	158	4 Nos., 132.01
13	Zone- 13	84°01'07.976"E 24°38'25.964"N to 83°48'47.018"E 24°20'56.844"N	Low Sand Deposit		
14	Zone- 14	Low Sand Deposit			
15	Zone- 15		84° 3'33.41"E, 24° 1'51.37"N	232	1 No., 55.28
16	Zone- 16	84°03'46.455"E 24°01'52.536"N to 84°04'50.214"E 23°59'48.415"N	Low Sand Deposit		
17	Zone- 17	Low Sand Deposit			
18	Zone- 18	Low Sand Deposit			
19	Zone- 19				

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

Distance from nearest Bridge for each Sand Ghat in Palamau District

Sl. No.	Sand Ghat Code	(1X) Span of Bridge	Distance to be maintain		Actual Aerial Distance from Nearest Bridge	Upstream/ Downstream	Name of Bridge	Whether on NH or SH
			(5X) Span of Bridge in Upstream	(10X) Span of Bridge in Downstream				
		m	m	m	m			
1	PA_Z13_SO_1	34.79	174.0	N.A.	34674.22	Upstream	Railway Colony Bridge	No
2	PA_Z13_SO_4	34.79	174.0	N.A.	48672.39	Upstream	Railway Colony Bridge	No
3	PA_Z13_SO_5	34.79	174.0	N.A.	51720.67	Upstream	Railway Colony Bridge	No
4	PA_Z13_NK_6	19.07	N.A.	190.7	3972.60	Downstream	Jharha Bridge	No
5	PA_Z12_NK_7	41.53	207.7	N.A.	454.90	Upstream	Meherna Kalan Bridge	No
6	PA_Z12_NK_8	41.53	207.7	N.A.	6044.70	Upstream	Meherna Kalan Bridge	No
7	PA_Z11_NK_9	23.30	116.5	N.A.	1106.20	Upstream	Motihara Bridge	No
8	PA_Z11_NK_10	36.62	N.A.	366.2	4047.21	Downstream	Chenrabar Bridge	No
9	PA_Z11_NK_11	36.62	N.A.	366.2	666.05	Downstream	Chenrabar Bridge	No
10	PA_Z16_NK_13	38.20	191.0	N.A.	2275.09	Upstream	Waris Nagar Bridge	No
11	PA_Z8_AMA_14	33.23	N.A.	332.3	612.06	Downstream	Siki Kalan Bridge	No
12	PA_Z7_AMA_15	33.23	166.2	N.A.	2358.22	Upstream	Siki Kalan Bridge	No
13	PA_Z7_AMA_16	33.23	166.2	N.A.	4118.51	Upstream	Siki Kalan Bridge	No
14	PA_Z6_AMA_20	22.96	N.A.	229.6	433.56	Downstream	Bishunpur Bridge	No
15	PA_Z6_AMA_21	22.96	114.8	N.A.	396.67	Upstream	Bishunpur Bridge	No
16	PA_Z4_AMA_23	25.73	128.8	N.A.	754.76	Upstream	Salgan Bridge	No
17	PA_Z4_AMA_24	25.73	128.8	N.A.	2415.52	Upstream	Salgan Bridge	No
18	PA_Z3_AMA_26	18.87	N.A.	188.7	692.57	Downstream	Chattarpur Bridge	No
19	PA_Z3_AMA_27	18.38	N.A.	183.8	754.32	Downstream	Kolhua Bridge	No

12.9 Replenishment Study of Sand Deposits (Category 2) [Verified & Approved]

REPLENISHMENT OF SAND ASSESSED BY "AFTER THE MONSOON" SURVEY (THIRD) CARRIED OUT DURING NOVEMBER 2022									
Pre-Monsoon [March - May 2022]				Post-Monsoon [October - December 2022]					
Sl. No.	Sand Ghat ID	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	PA_Z13_SO_1	105.1	364300.00	107.0	1.9	692170.0	3.0	1092900.0	63.3
2	PA_Z13_SO_4	122.7	304500.00	124.5	1.8	548100.0	2.5	761250.0	72.0
3	PA_Z13_SO_5	124.4	105200.00	126.1	1.7	178840.0	2.5	263000.0	68.0
4	PA_Z13_NK_6	130.5	552200.00	132.3	1.8	993960.0	2.5	1380500.0	72.0
5	PA_Z12_NK_7	166.8	826500.00	168.9	2.1	1735650.0	3.0	2479500.0	70.0
6	PA_Z12_NK_8	173.5	262700.00	175.1	1.6	420320.0	2.5	656750.0	64.0
7	PA_Z11_NK_9	183.3	1780800.00	185.0	1.7	3027360.0	2.5	4452000.0	68.0
8	PA_Z11_NK_10	187.9	1031800.00	189.6	1.7	1754060.0	2.5	2579500.0	68.0
9	PA_Z11_NK_11	191.7	2050300.00	193.4	1.7	3485510.0	2.5	5125750.0	68.0
10	PA_Z16_NK_13	207.7	552900.00	209.5	1.8	995220.0	2.5	1382250.0	72.0
11	PA_Z8_AMA_14	199.1	867600.00	200.8	1.7	1474920.0	2.5	2169000.0	68.0
12	PA_Z7_AMA_15	205.4	182100.00	207.4	2.0	364200.0	3.0	546300.0	66.7
13	PA_Z7_AMA_16	204.5	40800.00	205.7	1.2	48960.0	2.0	81600.0	60.0
14	PA_Z6_AMA_20	225.0	919000.00	226.8	1.8	1654200.0	2.5	2297500.0	72.0
15	PA_Z6_AMA_21	230.2	296400.00	232.0	1.8	533520.0	2.5	741000.0	72.0
16	PA_Z4_AMA_23	241.2	168900.00	242.9	1.7	287130.0	2.5	422250.0	68.0
17	PA_Z4_AMA_24	245.6	302900.00	247.3	1.7	514930.0	2.5	757250.0	68.0
18	PA_Z3_AMA_26	259.1	48800.00	260.2	1.1	53680.0	2.0	97600.0	55.0
19	PA_Z3_AMA_27	271.2	559800.00	272.7	1.5	839700.0	2.5	1399500.0	60.0
	TOTAL					19602430.0		28685400.0	68.3

Note:

To estimate the replenishment of Sand, the pre-monsoon (First & Second Survey) data has been assessed through study of Satellite imageries and 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.

13. DETAILS OF ECO-SENSITIVE AREA IN THE DISTRICT

Palamau Wildlife Sanctuary:

Lying between 83°50' and 84 °36' E longitudes and 23°25' and 23°55' N latitudes, the Palamau Wildlife Sanctuary was initially created over a forest area of 979.97 Km² and since then an area of 226.32 Km² of this sanctuary has been notified as Betla National Park. Both the areas have been included in the Palamau Tiger Reserve created under Project Tiger. The annual temperature here varies from 4° to 50°C and the mean annual rainfall is 1075 mm. The area is drained by the North Koel and its tributary, the Burha River. Forests here are of Dry as well as moist deciduous types with bamboo brakes. Besides diverse herbs, shrubs and grasses, the important tree species are Sal, Asana, Sidha, Semal, Karam, Chilbil, Kusum, Bherhul, Dhaura, Khair, Salai etc. The Sanctuary is rich in flora and fauna with 47 species of mammals, 174 species of birds, 970 species of flora including 25 species of climbers, 46 species of shrubs in addition to herbs, grasses etc. Tiger, Leopard, Elephant, Gaur, Sambhar, Cheetal, Barking Deer, Sloth Bear, Nilgai, Wild Dog, Wolf, Hyena etc. and varieties of reptiles and beautiful birds can be sighted here without much effort. Once ruled by the Chero Kings, the sanctuary also has many historical monuments and forts, deep inside Betla forests on the banks of the Auranga River. Other attractions nearby are Lodh and Sugabandh Water Falls and Tataha Hot-water Spring.

Palamau Tiger Reserve:

Palamau Tiger Reserve was established when India was introducing the famous Project Tiger in the year 1973 to save the endangered asset of our country. It was believed that with the introduction of this reserve the endangered species of tigers along with other wild counts would be preserved and cared under the Wildlife Protection Act. Years ago before the establishment of Palamau Tiger Reserve, the management of these forests was highly commercial. There were some cattle camps and the area was open for grazing. The entire forest area used to be ravaged by fires every year with the unchecked activities of poaching. But today, the present area of the Reserve got duly constituted either as Protected Forest or Reserved Forest under the Indian Forest Act, 1927 way back in 1947.

The Palamau Tiger Reserve is located in the western side of Latehar district on the Chhotanagpur plateau in Jharkhand.

The forest is surrounded by the Netarhat Forest in the South, Auranga River in the North, Latehar Forest Division on the East and Garhwa Forest Division and Sarguja District of Chhattisgarh on the West.

The Palamau Tiger Reserve is very important for its biodiversity. The project area is constituted mainly of Sal forests, mixed deciduous forests and bamboo groves. The reserve zone is the watershed area for 3 important Rivers Koel, Burha and Auranga.

The scientific management of the forests had started as early as 1864 and over the years, large forest areas were notified as reserved forests, protected forests, wildlife sanctuary and national park. The forest is spread over an area of 1129.93 Km², of which 414.08 Km², is marked as core area (critical Tiger habitat) and the rest 715.85 Km² as buffer area. Of the total area, 226.32 Km² is designated as Betla national park. In the buffer zone, 53 Km² is marked as tourist zone. This entire zone is under the administrative control of Chief Conservator of Forest & Field Director, Palamau Tiger Reserve. Under whom, there are 2 divisional forest officers each for core area and buffer area Forest Division.

The Palamau Tiger Reserve was constituted in the year 1974 under PROJECT TIGER. It is one of the first 9 Tiger Reserves created in the country at inception of 'Project Tiger'. Palamau Tiger Reserve has the distinction of being the first Sanctuary in the world in which a Tiger census was carried out as a pugmark count, as early as 1932 under the supervision of J.W. Nicholson, the then DFO, Palamau.

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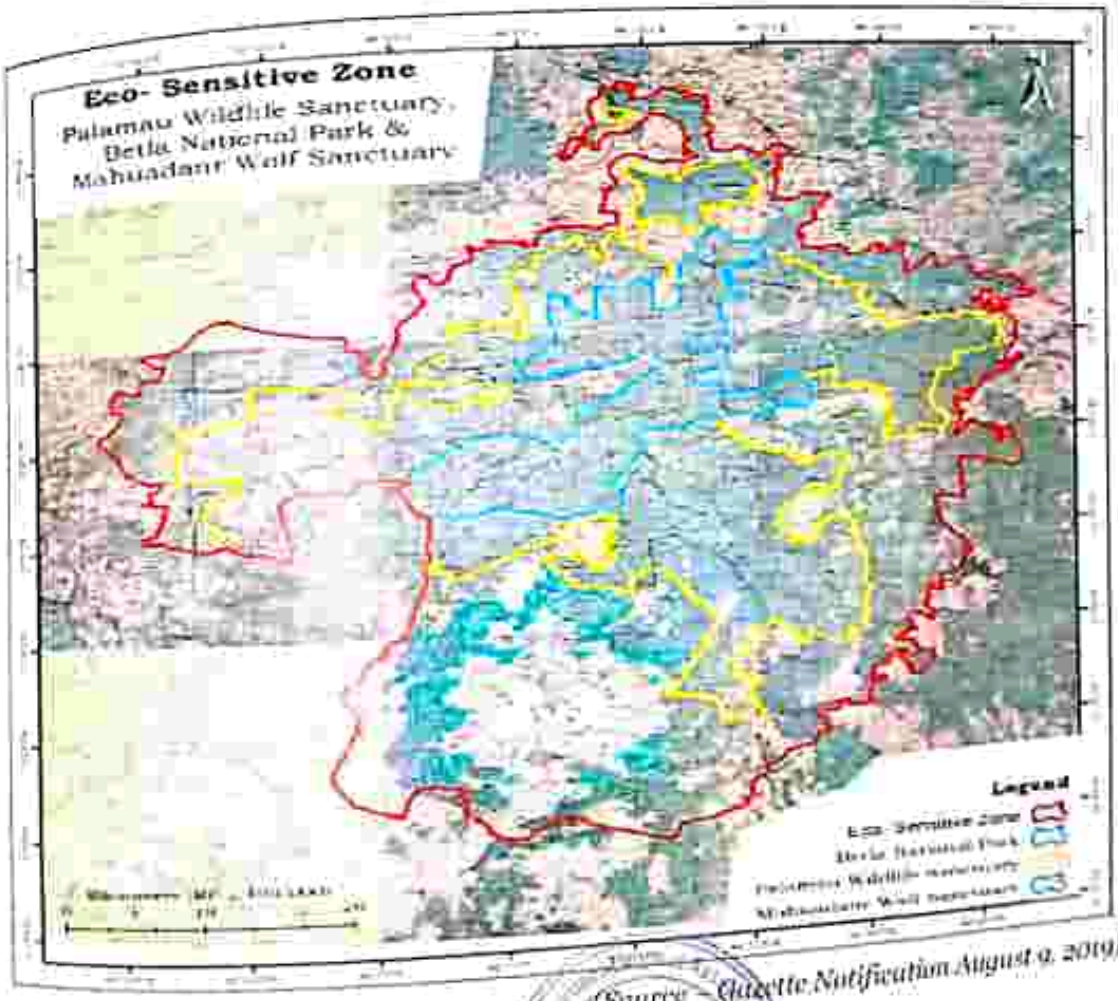
The area was closed for grazing, timber and any type of NTFP collection. The extensive fire management, soil and moisture conservation measures were adopted. The wildlife management practices in the core area were also initiated simultaneously. The grass lands were created by removing the climbers. The waterhole management, artificial salt soil blocks, provisions and very strict anti-poaching mechanism with the help of local communities resulted in overall improvement in habitat and wildlife.

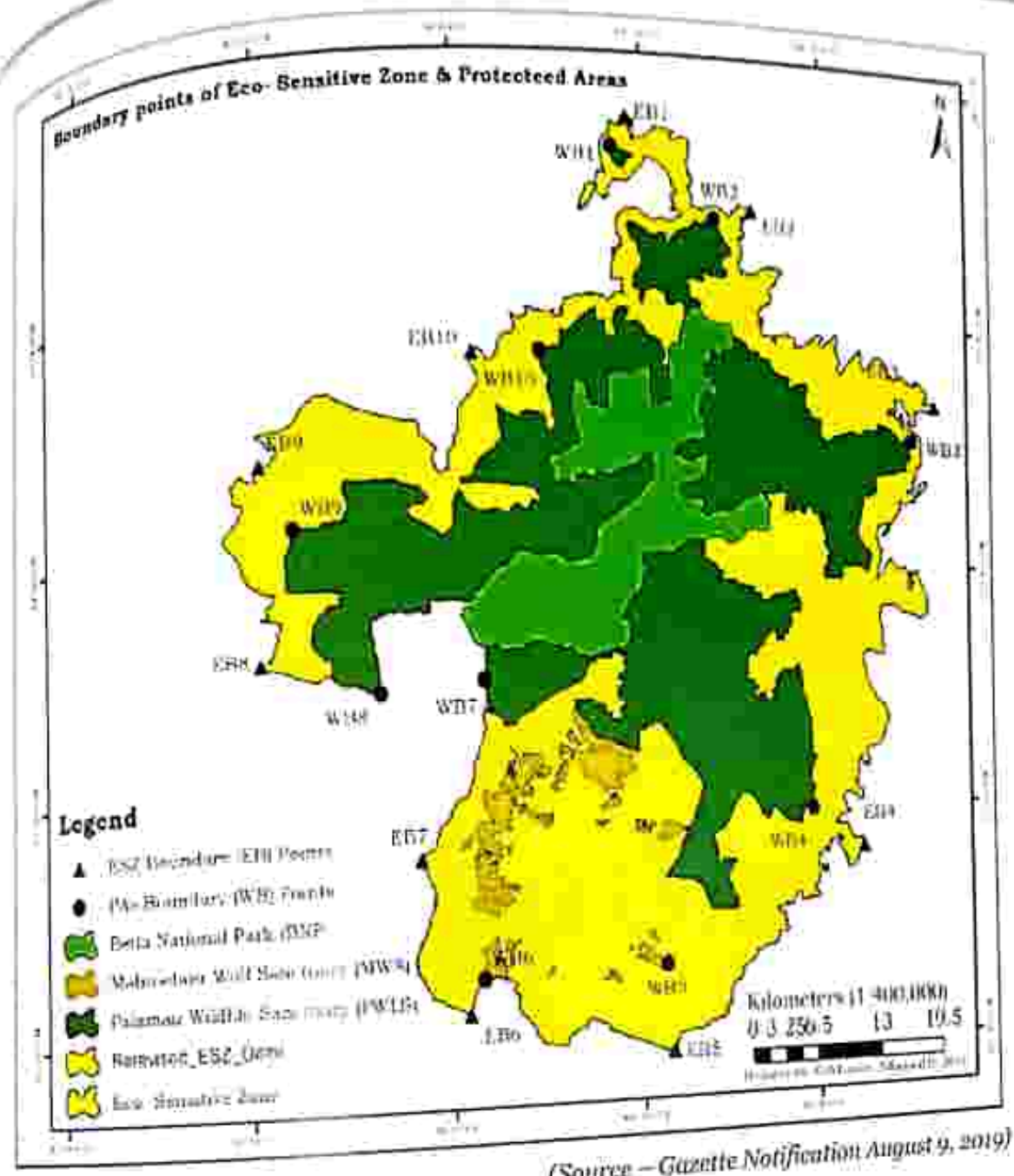
Betla National Park:

Betla National Park is a national park located on the Chhotanagpur Plateau in the Latehar and Palamau district of Jharkhand, India. The park hosts a wide variety of wildlife. Initially comprising 1,026 km² (396 mi²) of the Palamau Tiger Reserve, an additional 226 km² (87 mi²) was added to the park in 1989 and 63 km² (24 mi²) of the Mahuadanr Wolf Sanctuary. Betla was one of the first national parks in India to become a Tiger reserve under Project Tiger, in 1974. The park is under administration of the Forest Department.

Map of Eco-Sensitive Zone of Palamau Wildlife Sanctuary, Betla National Park



(Source – Gazette Notification August 9, 2019)



(Source – Gazette Notification August 9, 2019)

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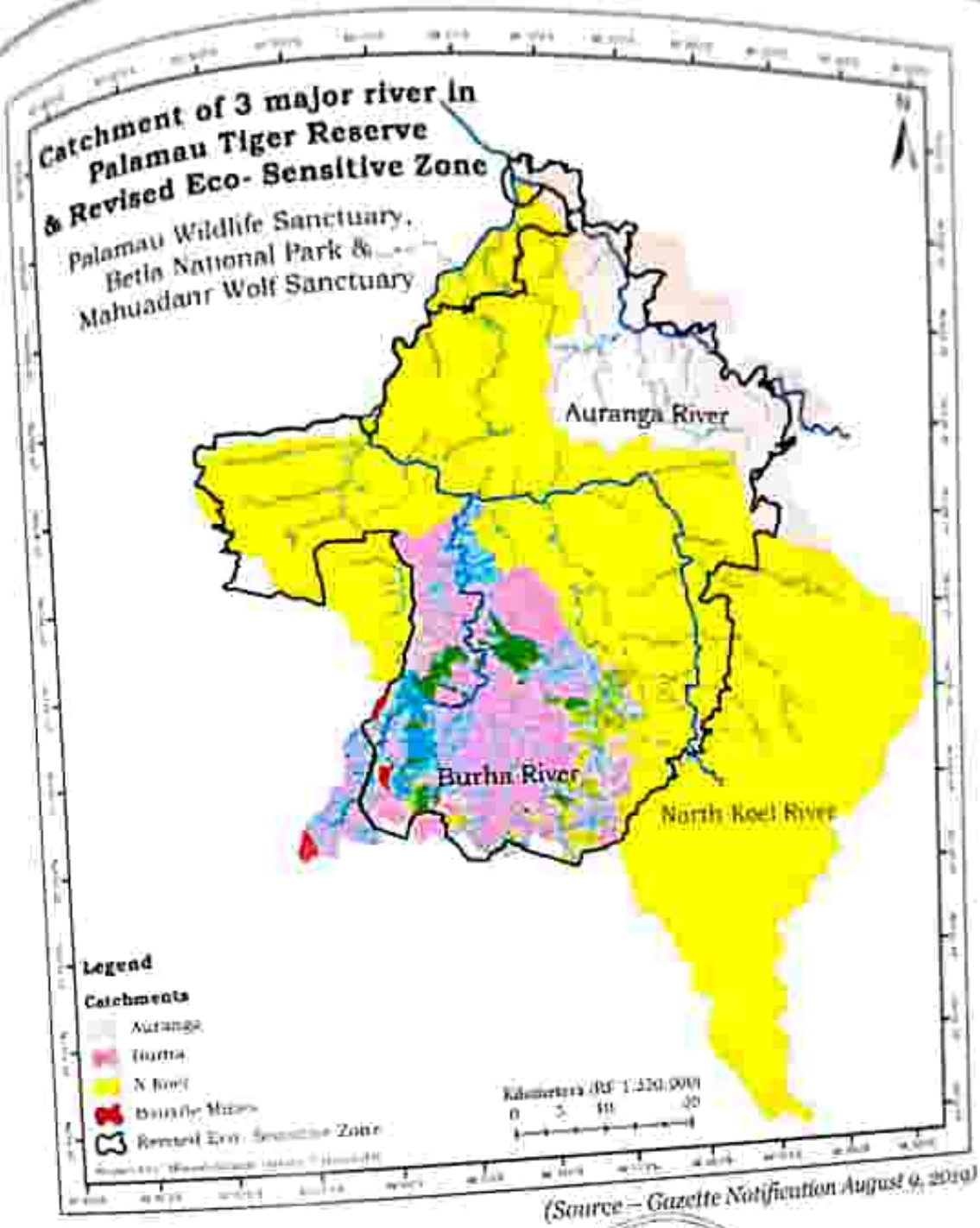

(Source – Gazette Notification August 9, 2019)

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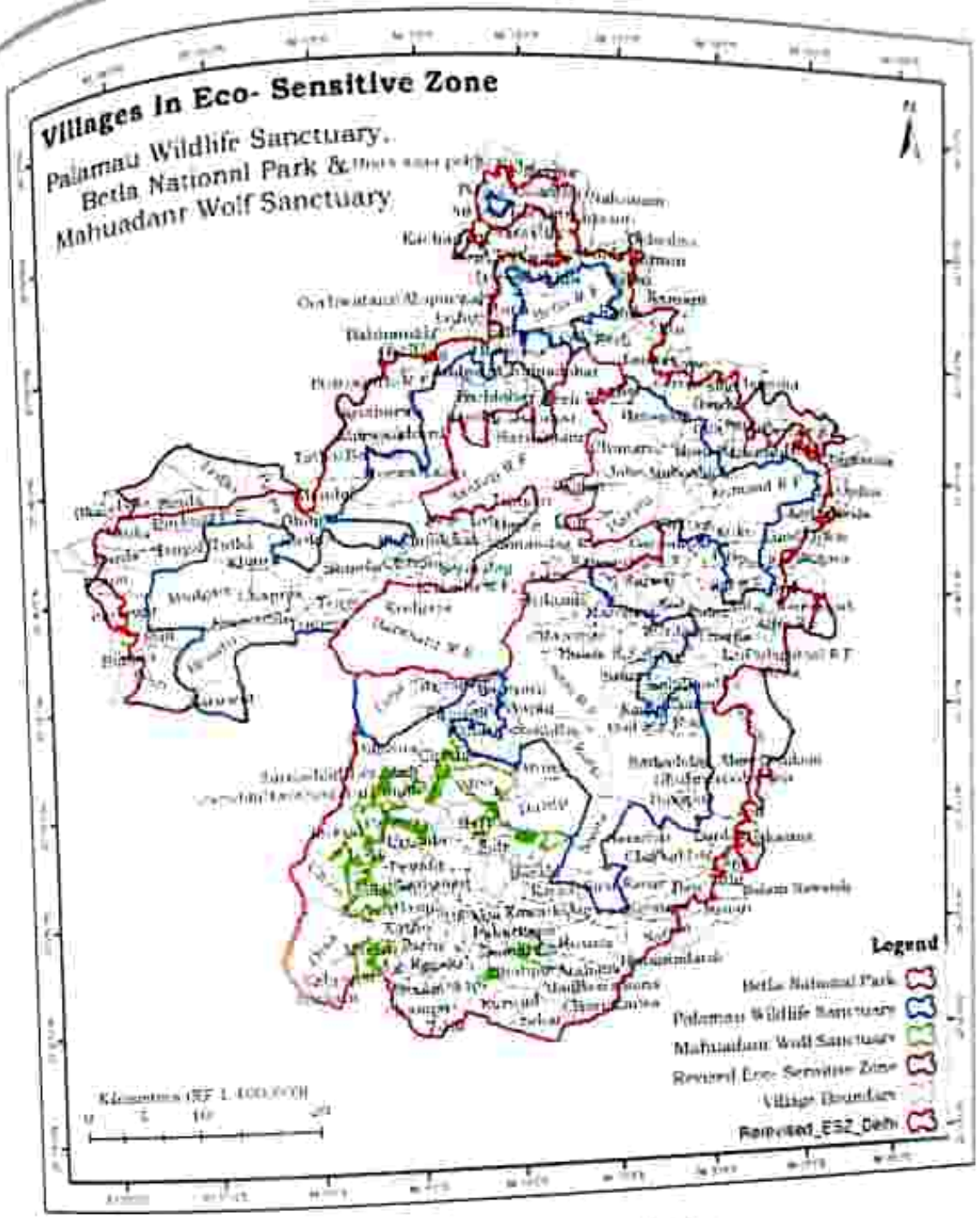

Boundary description of Eco-Sensitive Zone:

(Source—Gazette Notification August 9, 2019)

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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 PM_{10} 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.

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- 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.

✓ **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 River-bed 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.

Approved

✓ 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.

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.

Approved

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 Top Soil 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 generation 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.

Approved

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.

✓ **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, water 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 River-bed, 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.
• 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.

Approved

✓ **Land Use:**

Impact	Mitigation Measures
• The mining activity in the outside River-bed 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 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.	• 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 River-bed 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 River-bed 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.

Approved

✓ **Biological Environment:**

Impact	Mitigation Measures
• Transportation of Sand in the trucks/dumpers 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 distorb 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 River-bed as per provided by DMG so there will be no impact on benthic fauna in River-bed hence no mitigation will be required.
• Stomatal index may be minimized due to dust deposit on leaf.	• Water will be sprinkled on unpaved roads to avoid dust generation.

✓ **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. • This creates serious threat to residents in the area who depend on River water for their domestic purposes.	• The mined-out area outside River-bed block will be reclaimed and any stored water will be pumped out. • 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.

Approved

Impact	Mitigation Measures
• The major source of socio-health impacts of transportation will generate from truck, dust etc. Increase in accidents as a result of rash driving of dumpers carrying mineral through the roads may be possible.	• It is proposed to plant of local species per year with consultation of Forest Department with some fruit bearing and medicinal trees, 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 2500 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.

Approved

- **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.
- 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.

Approved

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 personnals, 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.

Approved

Risk and Mitigation Measures:

Over Burden

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.
- 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)
5.	Lightening	09	(Palamau, Chatra, Latehar, Koderma, Ranchi, Giridih)
6.	Mining Hazards	09	Hazaribagh, Lohardagga, Dumka) Latehar, Ramgarh, Dhanbad, Lohardagga, 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)

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Approved

REPORT FROM CIRCLE OFFICERS FOR 'CATEGORY I' SAND GHATS

कार्यालय,अंचल अधिकारी,छत्तरपुर (पलामू)।

पत्रांक 314 / दिनांक 10 / 05 / 2023

प्रेषक

अंचल अधिकारी,
छत्तरपुर।

सेवा में,

जिला खनन पदाधिकारी
पलामू।

विषय: बालु घाट को श्रेणी–I(Category-I) में शामिल करने के संबंध में

महाशय,

उपर्युक्त विषयक कहना है कि छत्तरपुर अंचल अन्तर्गत निम्न बालु घाट को श्रेणी–I(Category-I) में शामिल करने हेतु चेक लिस्ट एवं ट्रेस नक्शा इस पत्र के साथ संलग्न कर आवश्यक कार्रवाई हेतु भेजी जा रही है। जिसका विवरणी निम्नवत है–

क्र०सं०	मौजा	नदी का नाम	खाता सं०	प्लॉट सं०	रकबा (एकड़ में)	किस्म भूमि	आपत्ति
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उपरोक्त बालु घाट को श्रेणी–I(Category-I) में शामिल किया जा सकता है।

अनुलग्नक: यथोक्त।

विश्वासभाजन

अंचल अधिकारी,
छत्तरपुर।

Approved

चेक लिस्ट

प्रस्तावित योजना का नाम बालू घाट निर्माण हेतु

ग्राम चुकदुल्ल

थाना कटरा

अंचल 12 (बारह)

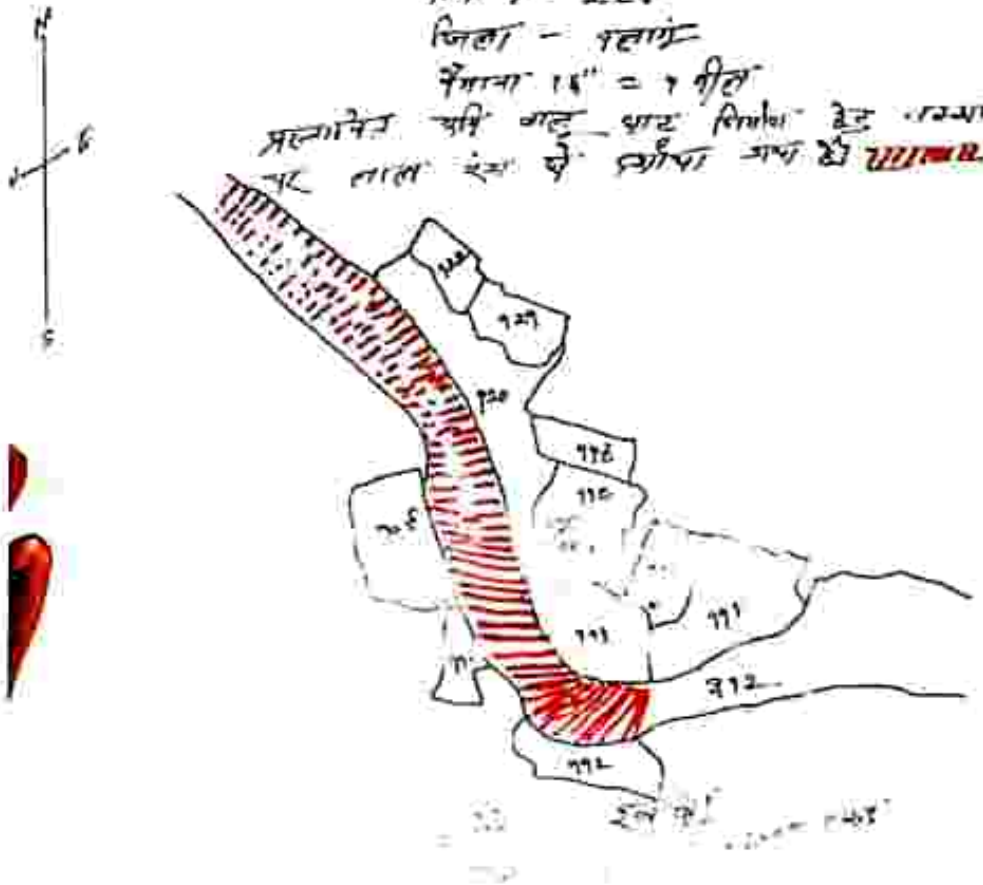
312 (तीन सौ बारह)

जिला मुख्यालय से दूरी (सड़क) 30 किमी

जिला मुख्यालय से पुलिस थाने की दूरी –

योजना का सिनिल चेक

अंचल अधिकारी
कटरा, पलामू



कार्यालय,अंचल अधिकारी,छत्तरपुर (पलामू)।

पत्रांक 314 /दिनांक 10/05/2023

प्रेषक

अंचल अधिकारी,
छत्तरपुर।

सेवा में,

जिला खनन पदाधिकारी,
पलामू।

विषय– बालु घाट को श्रेणी–I(Category-1) में शामिल करने के संबंध में

महाशय

उपर्युक्त विषयक कहना है कि छत्तरपुर अंचल अन्तर्गत निम्न बालु घाट को श्रेणी–I(Category-1) में शामिल करने हेतु जैक रिपोर्ट एवं देय नक्शा इस पत्र के साथ संलग्न कर अग्रेतर कार्रवाई हेतु भेजी जा रही है। जिसका विवरणी निम्नवत है –

क्रमांक	मौजा	नदी का नाम	खाता नं०	प्लॉट नं०	रकबा (एकड़ में)	किस सूची	अनुशंसा
1	[illegible]	[illegible]	15	512	6.00	नहीं	–
2	[illegible]	[illegible]	131	1651	0.50 जलमग्न	जोनिकल रिपोर्ट्स इसे नदी खनन क्षेत्र घोषित करने की अनुशंसा में खनन के लिए सूची किया उपयुक्त नहीं बताया जा सका।	
3	[illegible]	[illegible]	[illegible]	1616	0.50 जलमग्न	[illegible]	[illegible]
4	[illegible]	[illegible]	[illegible]	[illegible]	1.00 जलमग्न	[illegible]	[illegible]
5	[illegible]	[illegible]	[illegible]	3575	0.50 जलमग्न	[illegible]	[illegible]

उपरोक्त बालु घाट को श्रेणी–I(Category-1) में शामिल किया जा सकता है।

विश्वासभाजन

अंचल अधिकारी,
छत्तरपुर।

अनुलग्नक– यथोक्त।

Approved

कार्यालय अंचल अधिकारी, हैदरनगर।

Email-cohaidernagar@gmail.com

पत्रांक–०४५८ / दिनांक– 8-5-2023

प्रेषक,

अंचल अधिकारी,
हैदरनगर।

सेवा में,

जिला खनन पदाधिकारी,
पलामू।

विषय :– बालु घाट ग्राम–सजवन सलेमपुर एवं ग्राम–कबरा खुर्द के संबंध में।

महाशय,

उपर्युक्त विषय के संबंध में कहना है कि अंचल हैदरनगर अन्तर्गत ग्राम पंचायत खरगडा एवं परता के मुखिया द्वारा क्रमशः सजवन सलेमपुर तथा कबरा खुर्द बालु घाट को निलामी प्रक्रिया से बाहर रखते हुए ग्राम पंचायत के अधीन रखने हेतु अनुरोध किया गया है।

अतः उक्त के आलोक में सजवन सलेमपुर तथा कबरा खुर्द बालु घाट को Category1 में रखने हेतु प्रस्तावित किया जाता है। पत्र के साथ राजस्व उपनिरीक्षक/प्रभारी अंचल निरीक्षक एवं अंचल अमीन का जाँच प्रतिवेदन एवं ट्रेस नक्सा संलग्न है।

सादर सूचनार्थ समर्पित।

विश्वासभाजन

अंचल अधिकारी,
हैदरनगर।

State Level Environment Impact Assessment Authority
Approved

सेवा में,

अंचल अधिकारी हैदरनगर,
पलामू

विषय - आवेदन स्वीकृति हेतु आवश्यक जाँच प्रतिवेदन।

महोदय,

उपरोक्त विषयक आवेदन के संदर्भ में आदेश अपेक्षित है कि अंचल अन्तर्गत मौजा का अंतर्गत खाता खेसरा अंकित भूमि से आवेदक द्वारा बालू उत्खनन हेतु आवेदन स्वीकृति जाँच निम्नवत् पाया गया कि—

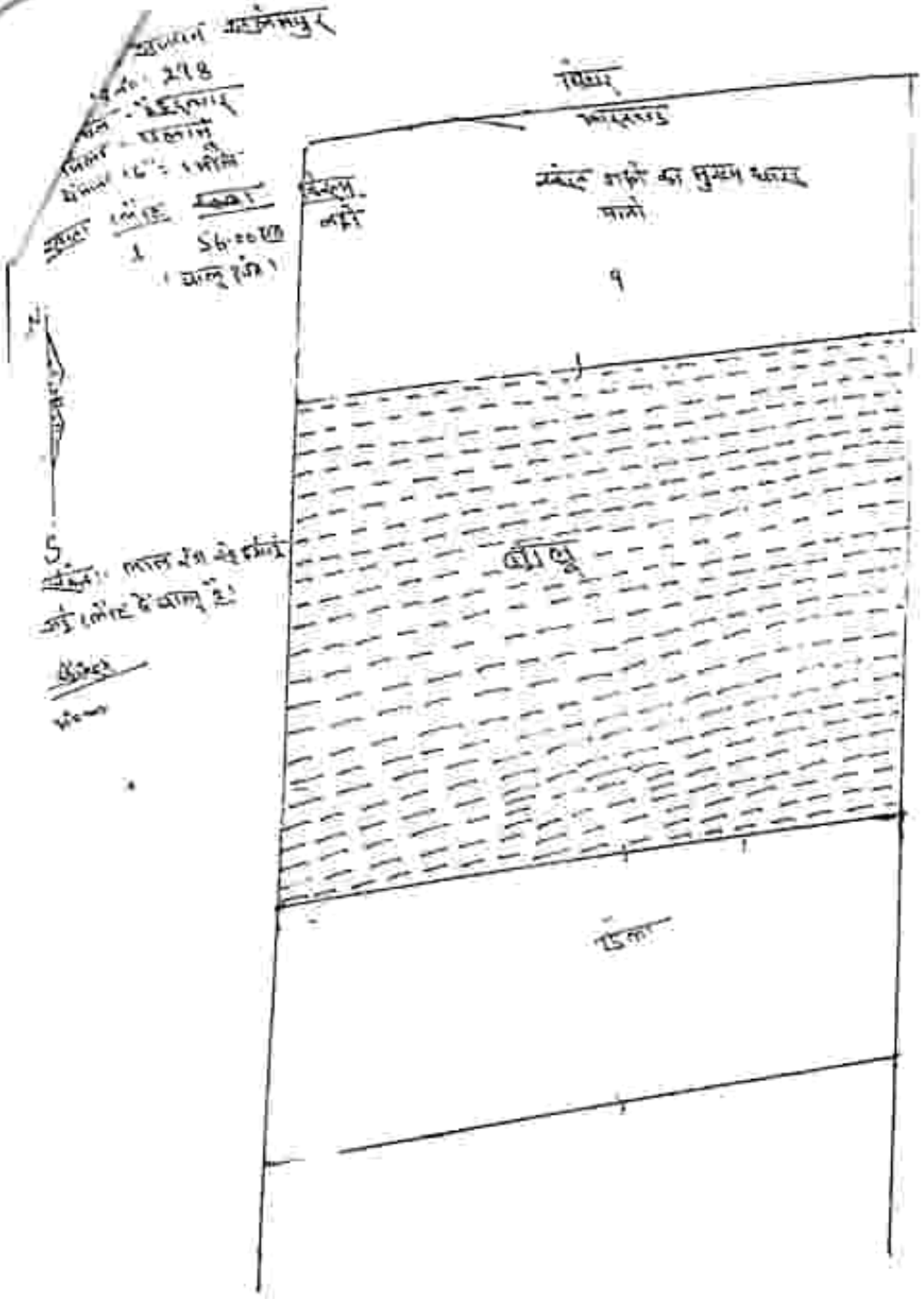
1— मौजा कबरा खुर्द का खाता नं 222 खेसरा नं 1 में आवेदक द्वारा भूमि से बालू उत्खनन हेतु आवेदन किया है। अंचल अन्तर्गत कबरा खुर्द नक्शा में खाता खेसरा दर्शित नहीं है।

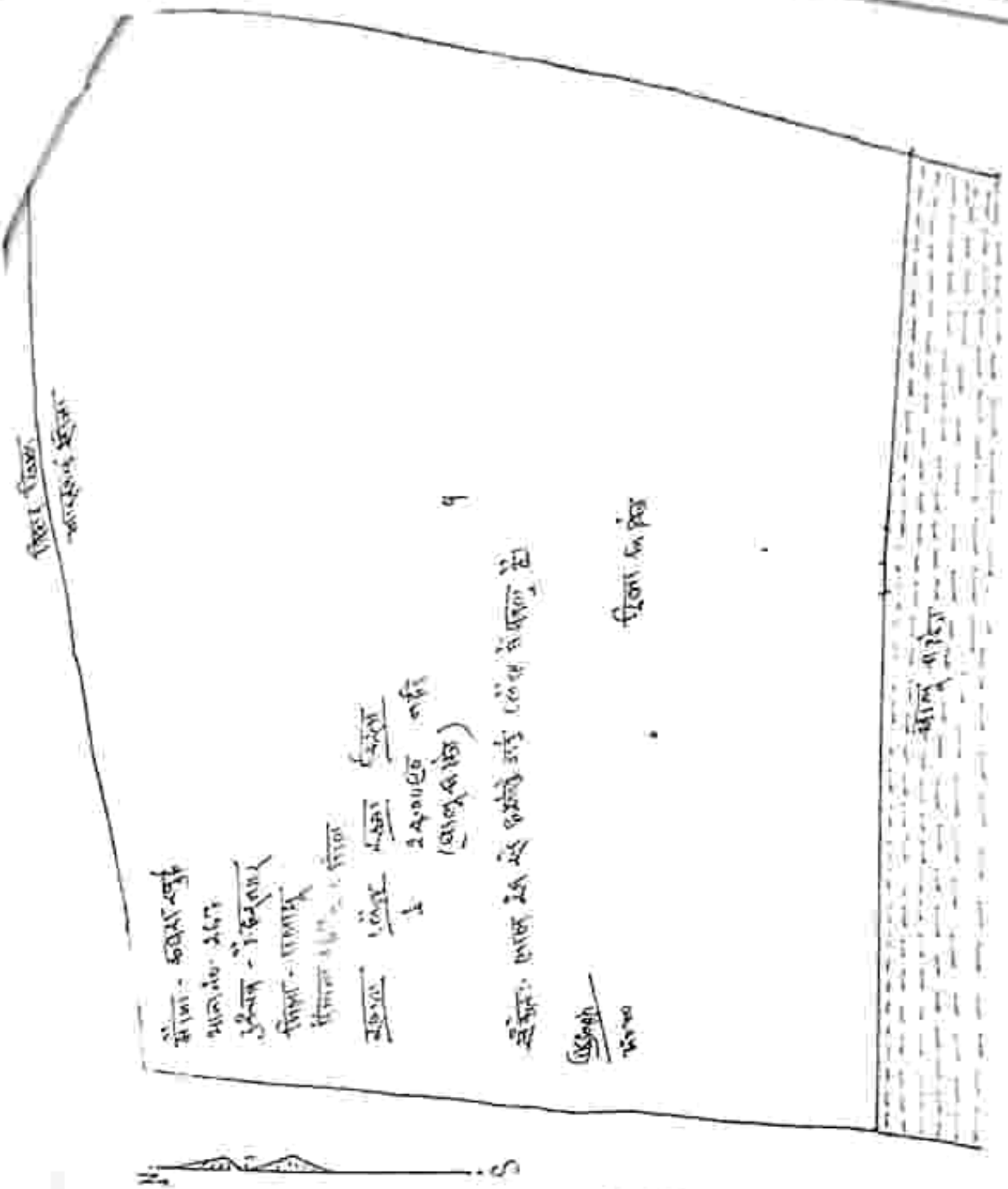
2. मौजा अंचल अन्तर्गत हैदरनगर में खाता नं 123 खेसरा नं 1 में खाताधृत रकबा भूमि से बालू उत्खनन किया जाना है। अंचल अन्तर्गत कबरा खुर्द नक्शा में खाता खेसरा दर्शित है।

अतः महोदय उपरोक्त सूचनाओं के आलोक में बालू उत्खनन हेतु प्रतिवेदन प्रस्तुत है।

06/12/2023 Sunil Ikka 6/12/23

Approved





सदर मेदिनीनगर।

कार्यालय, अंचल अधिकारी, सदर मेदिनीनगर

Email. : cosadar.medi@gmail.com
Mob. : 7991177546

पत्रांक- 62 /

प्रेषक,

अंचल अधिकारी,
सदर मेदिनीनगर।

सेवा में,

जिला खनन पदाधिकारी,
पलामू।

दिनांक- 13/05/2023

विषयः- प्रखण्ड सदर मेदिनीनगर अवस्थित बालू घाट केटेगरी-I के संबंध में।

महाशय,

उपरोक्त विषयक कहना है कि प्रखण्ड सदर मेदिनीनगर के अंतर्गत निम्नांकित बालू घाटों को केटेगरी-I के रुप में मान्यता देने पर विचार किया जा सकता है :-

क्र0	बालू घाट का नाम	नदी का नाम	मौजा
1	भैंसलिया घाट, भुसड़िया	कोयल नदी	हिसरा उर्फ पोखराहा
2	डुबलगंज घाट	औरंगा	दुबा
3	बिन्दुवा टोला घाट	कोयल नदी	सुआ
4	दक्षिणवारा टोला सुआ उदय सिंह के घर पास घाट	कोयल नदी	सुआ
5	मोलयी घाट	कोयल नदी	सैलिया बाम कोड़िया

विश्वरंजन
अंचल अधिकारी,
सदर मेदिनीनगर।

सदर मेदिनीनगर।

कार्यालय, अंचल अधिकारी, सदर मेदिनीनगर

Email : cosadar.mnn@gmail.com
Mob : 9931171140

पत्रांक 627

प्रेषक,

अंचल अधिकारी
सदर मेदिनीनगर।

सेवा में

जिला खनन पदाधिकारी
पलामू।

दिनांक 15.5.2023

विषय – प्रखण्ड सदर मेदिनीनगर अवस्थित बालू घाट कैटेगरी–I के संबंध में।

महाशय,

उपरोक्त विषयक कहना है कि प्रखण्ड सदर मेदिनीनगर के अंतर्गत निम्नांकित बालू घाटों को कैटेगरी–I के रूप में मान्यता देने पर विचार किया जा सकता है –

क्र0	बालू घाट का नाम	नदी का नाम	मौजा	खाता	प्लॉट	रकबा
1	हैमतिया घाट, भुसडिया	कोयल नदी	हिस्सा उर्फ पोखराहा	144	155	3.00 एक
2	डुमरगत घाट	औरगा	करमा	–	483	3.00 एक
3	हेन्दुआ टोला घाट	कोयल नदी	सुआ	–	3638	0.50 एक
4	दक्षिणवारा टोला सुआ उदय सिंह के घर पास घाट	कोयल नदी	सुआ	–	3590	0.50 एक
5	नालवी घाट	कोयल नदी	शेलिया बाध कोडिया	–	3268	0.50 एक

संलग्नक: उक्त का कार्यालयी का ईसमैप.

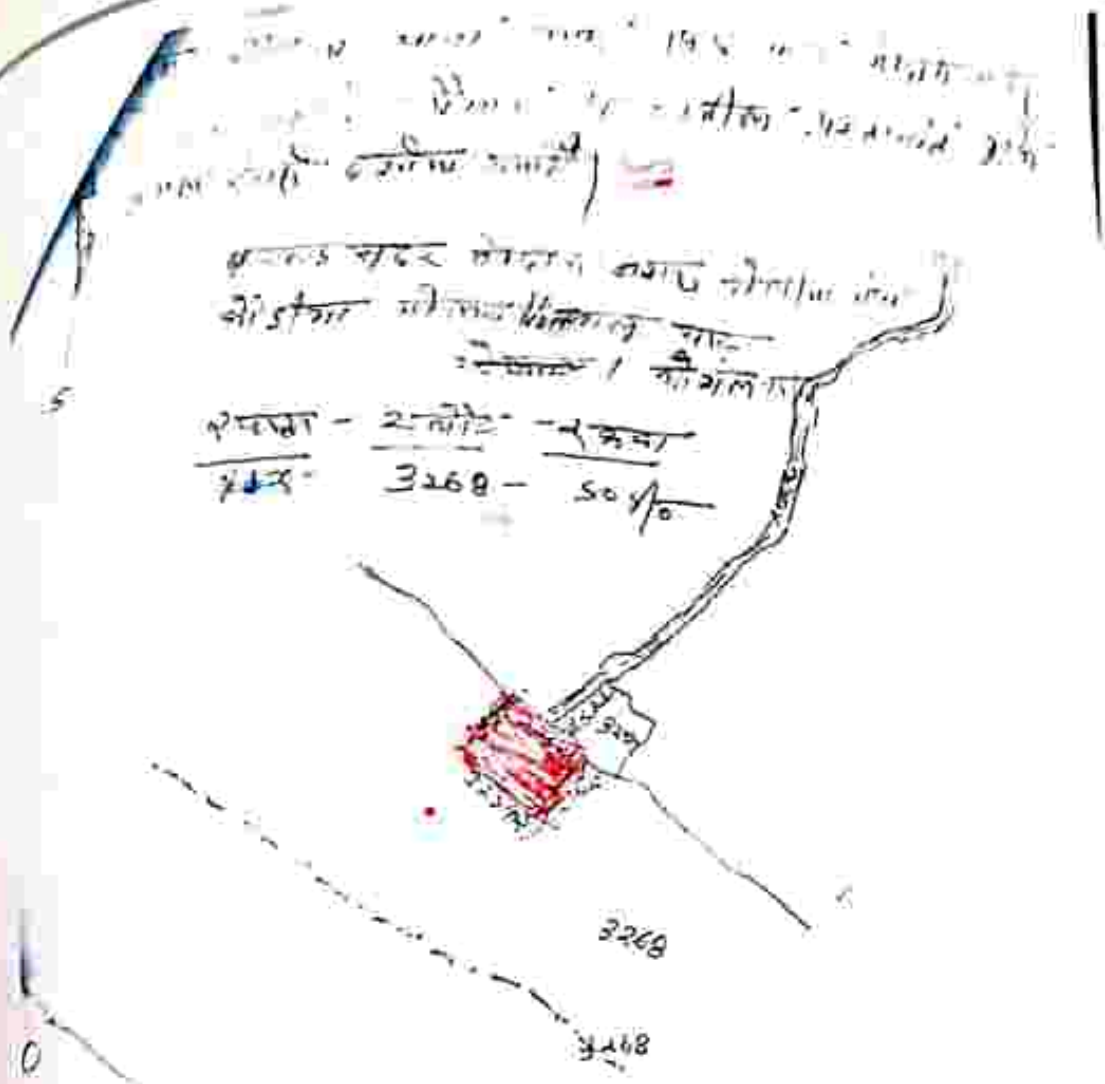
विश्वासभाजन
15/5/2023
अंचल अधिकारी,
सदर मेदिनीनगर।

Approved

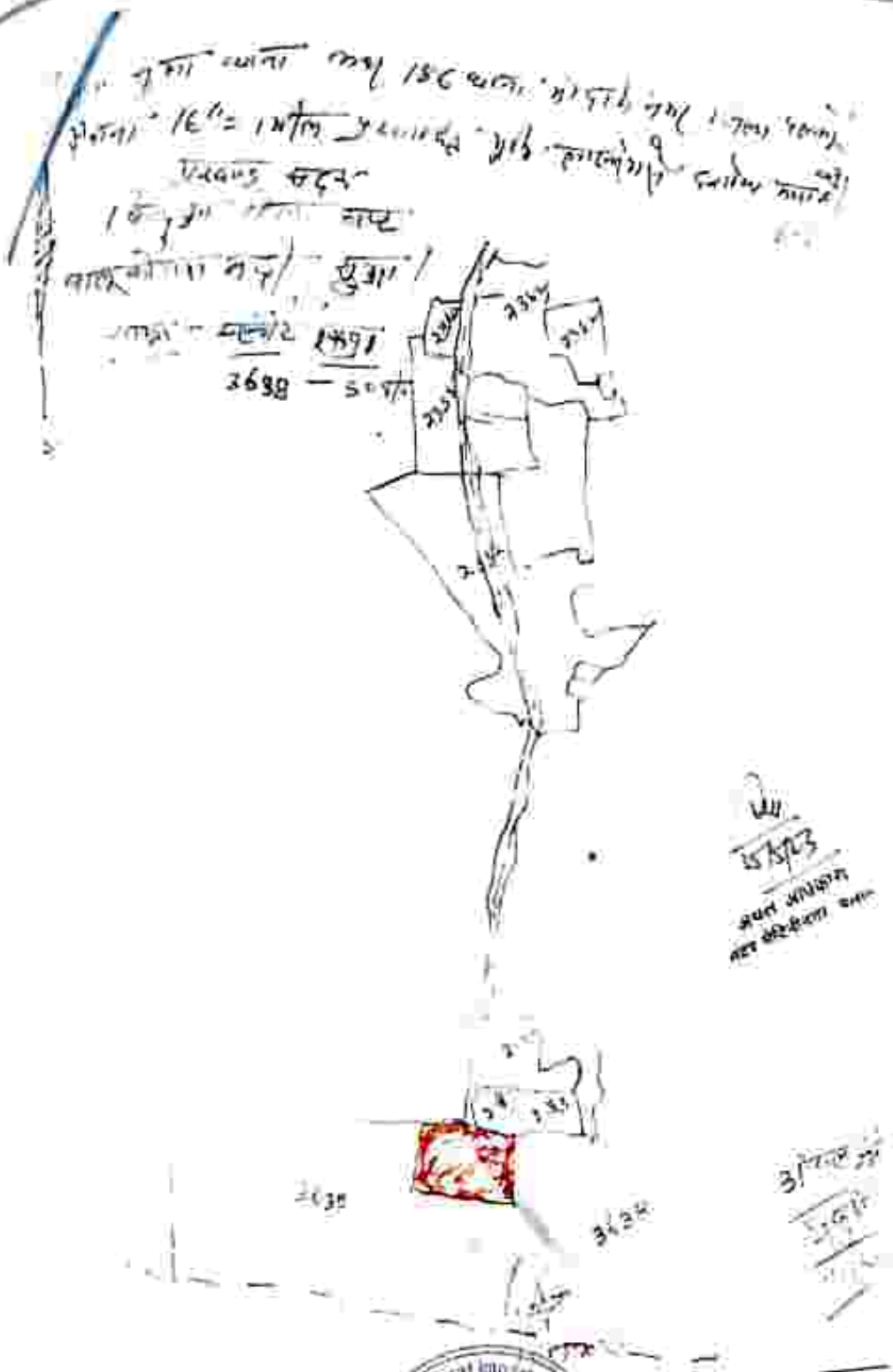
15/5/23
সহায়ক অধিকারী
বরবে মহিলা-পিপরা ৮২০

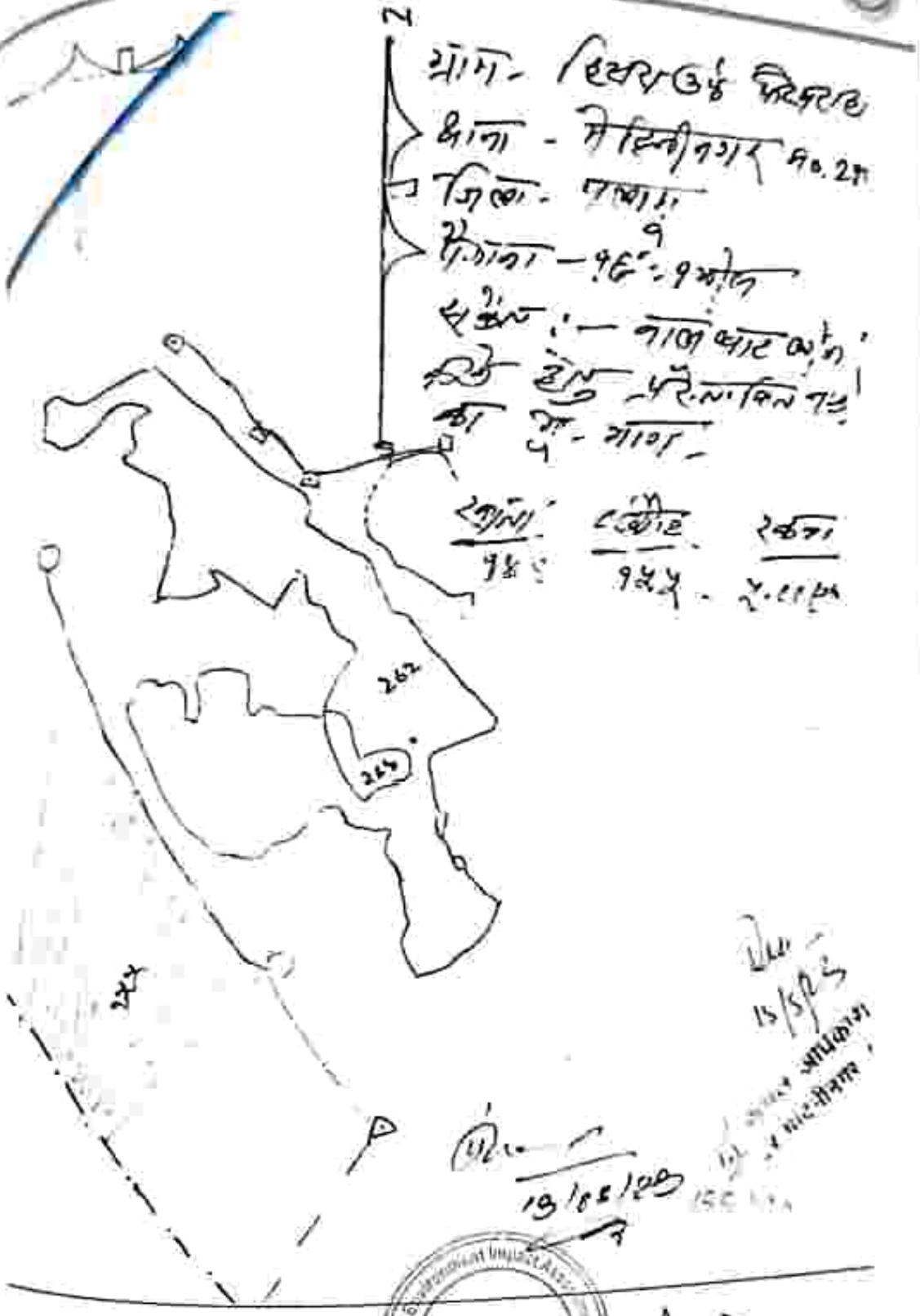
18/05/23

Approved




Approved




N
262
263
Approved

कार्यालय अंचल अधिकारी, नौडीहा बाजार, पलामू।

पत्रांक 70 / दिनांक 23.01.23

प्रेषक,

अंचल अधिकारी,
नौडीहा बाजार, पलामू।

सेवा में,

जिला खनन पदाधिकारी,
पलामू।

विषय :- बालु घाट को श्रेणी श्रेणी –I (Category-I) में शामिल करने के संबंध में।

महाशय,

उपर्युक्त विषय के संबंध में कहना है कि नौडीहा बाजार अंचल अंतर्गत निम्न बालू घाट को श्रेणी –I (Category-I) में शामिल करने हेतु चेक लिस्ट एवं ट्रेस मक्षा इस पत्र के साथ संलग्न कर अग्रेतर कार्रवाई हेतु भेजी जा रही है। जिसका विवरणी निम्नवत है :-

क्र0	मौजा	नदी का नाम	खाता सं0	प्लॉट	किस्म मृत्ति	अभियुक्ति
1	गुलाबझरी	भीमराही नदी पर	50	1090	नदी	
2	अन्ता कला	सफी नदी	33	209	नदी	

उपरोक्त बालु घाट को श्रेणी–I (Category-I) में शामिल किया जा सकता है।

अनुलग्नक :- यथोक्त।

विश्वासभाजन

23/01/2023

अंचल अधिकारी
नौडीहा बाजार पलामू।

Approved

चेक स्लीप

प्रस्तावित योजना का नाम भाग बिन्ना पहा से पाल पार दुर्गी नदी

ग्राम बिन्ना पहा

पंचायत डगरा

खाता नं0 33

प्लॉट नं0 200

जिरात भूमि नदी

ग्राम सीमा से अन्दर है या नहीं नदि के

ग्राम-जिलाद्द गुजरता है या नहीं गुजरता

योजना से विस्थापित क्षेत्र का रकबा 0

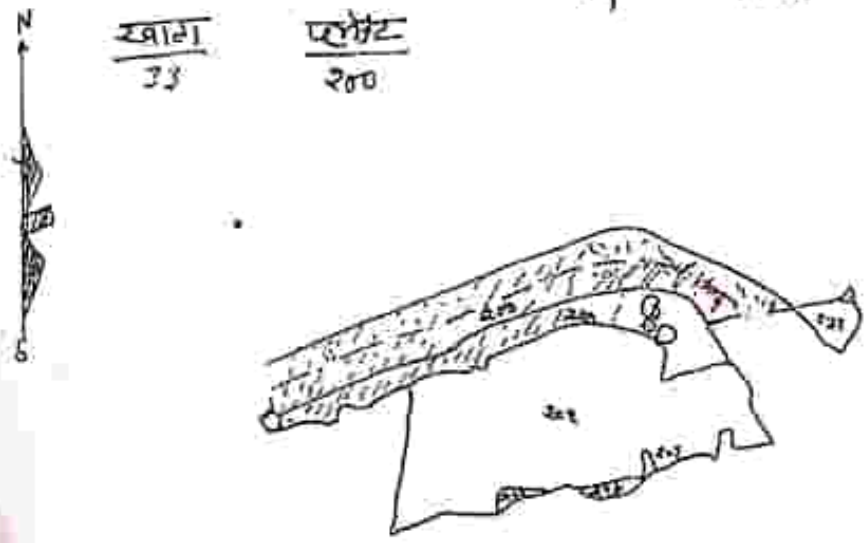
हस्ताक्षर अनंचारी

अंचल निरीक्षक

अंचल अधिकारी
मेदिनी नगर, पलामू

तहसील नाम - अमानत गंज
थाना नं 495
थाना - मोहीडा बाजार
जिला पलामू
सैमला से दिस्टेंस 7 KM
अक्षांश मौजा का नाम - ग्राम अमा, थाना से पश्चिम पर
बालू घाट निर्माण

खाता	प्लॉट
33	200



हस्ताक्षर
12.02.2023

चेक स्लीप

प्रस्तावित योजना का नाम ग्राम - मुलावजती में बालू खनन नीलामी नई ग्र

ग्राम मुलावजती

पंचायत अहमीडुर

खाता नं0 50

प्लौट नं0 1030

किस्म भूमि नदी

वन सीमा से बाहर है या नही बाहर है।

वाद विवाद मुक्त है या नही मुक्त है।

योजना से सिंचित क्षेत्र का रकबा ∞

16/01/2023
हल्का कर्मचारी

अंचल निरीक्षक

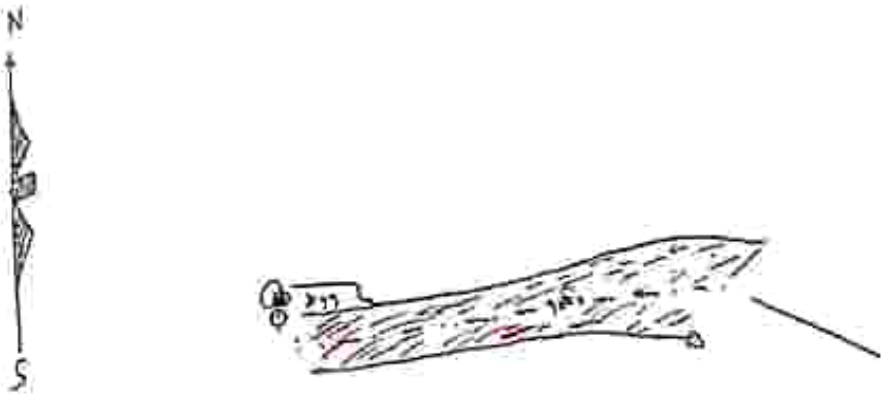
अंचल अधिकारी
नावीडीह बाजार, पलामू

Approved

ग्राम - सुलाबरी
थाना नं 4 & 5
राजस्व थाना - चैनपुर
थाना - मेदिनीनगर
जिला - पलामू
थाना से दिशा एवं दूरी - 16 & 9 कि०मी०
प्रस्तावित क्षेत्र का नाम - ग्राम सुलाबरी में नदी गर्भ का भाग

स्केल
1 से०मी० = 20 मी०

प्रस्तावित खनन क्षेत्र को लाल रंग से दिखाया गया है



12.12.2020
खनन क्षेत्र

Approved

कार्यालय अंचल अधिकारी, नौडीहा बाजार, पलामू।

पत्रांक 214 / दिनांक 12.05.2023

प्रेषक,
अंचल अधिकारी,
नौडीहा बाजार, पलामू।

सेवा में,
जिला खनन पदाधिकारी,
पलामू।

विषय :- बालू घाट को श्रेणी –I (Category-I) में शामिल करने के संबंध में।

महाशय,

उपर्युक्त विषय के संबंध में कहना है कि नौडीहा बाजार अंचल अंतर्गत निम्न बालू घाट को श्रेणी –I (Category-I) में शामिल करने हेतु चेक लिस्ट एवं ट्रेस नक्शा इस पत्र के साथ संलग्न कर अग्रेतर कार्रवाई हेतु भेजी जा रही है। जिसका विवरणी निम्नवत है :–

क्र०	मौजा	नदी का नाम	खाता सं०	प्लॉट	किस्म भूमि	अभियुक्ति
1	खरडीहा	डुमुनियाटांड़	38	39	गदी	

उपरोक्त बालु घाट को श्रेणी–I (Category-I) में शामिल किया जा सकता है।

अनुलग्नक :– यथोक्त।

विश्वासभाजन
19/5/2023
अंचल अधिकारी,
नौडीहा बाजार, पलामू।

Approved

चेक स्लीप

प्रस्तावित योजना का नाम ..... भाग घाट

ग्राम ..... भटौंदा

पंचायत ..... भटौंदा

खाता नं० 36

प्लॉट नं० 37

जिस्म भूमि ..... पड़ी

क्या सीमा से बाहर है या नहीं ..... पार्ट है

घाट-डिपार्ट भुक्त है या नहीं ..... हुआ है

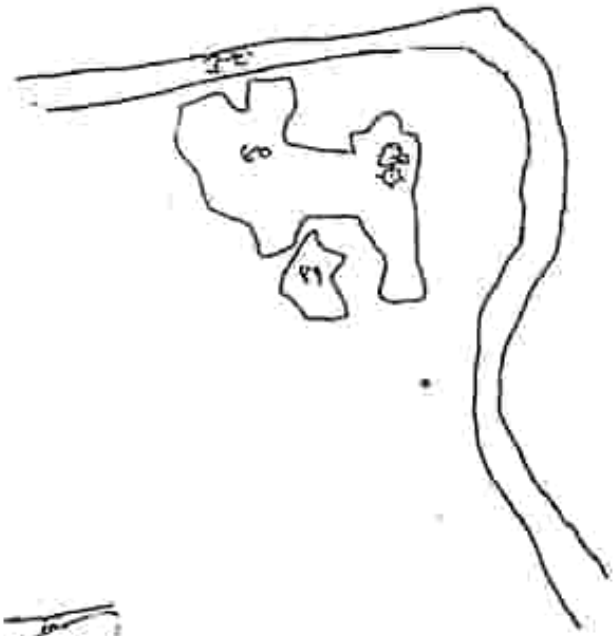
योजना से संबंधित क्षेत्र का रकबा 0.1

16/05/2023
हस्ताक्षर अभ्यर्थी

16/5/23
अंचल निरीक्षक

16/5/23
अंचल अधिकारी
नावाडीह चैनपुर, पलामू

Approved
State Level Environment Impact Assessment Authority
Jharkhand, Ranchi



Approved

कार्यालय – अंचल अधिकारी, पण्डवा, पलामू।

पत्रांक ...272... / दिनांक 02/05/2023

प्रेषक,

अंचल अधिकारी,
पण्डवा।

सेवा में,

जिला खनन पदाधिकारी,
पलामू।

विषय :– पण्डवा अंचल अन्तर्गत प्रथम श्रेणी का घाट से संबंधित प्रतिवेदन का प्रेषण।

महाशय,

उपर्युक्त विषय के संबंध में कहना है कि पण्डवा अंचल अन्तर्गत प्रथम श्रेणी का बालू घाट का स्थल जाँच सरायम उप निरीक्षक, अंचल अमीन एवं अंचल निरीक्षक से करायी गयी। प्रथम श्रेणी वन घाट से संबंधित प्रतिवेदन सिहित प्रपत्र में निम्नवत है :–

विहित प्रपत्र

अंचल का नाम	बालूघाट का नाम	नदी / नाला का नाम	घाट नदी / नाला की लम्बाई (किलोमीटर)	उपलब्ध स्थल	किस Category का बालू घाट है	अनुमति (Non Commercial San Deposits)		
						ग्राम	खाता सं0	प्लॉट सं0
पण्डवा	नुरमा	स्वर्णरेखा नदी	10	जोड़ा खुर्द पहाड़	प्रथम श्रेणी	नुरमा	97	1,65
	पण्डवा	स्वर्णरेखा नदी	12	जोड़ा खुर्द पहाड़		पण्डवा	263	267
	लाहदा	दुर्गावती नदी	10	गादन सगुना		गढ़हरियाडीह (बघमनवा)	377	4537
	गादीखास	दुर्गावती नदी	12	गादन सगुना		गादीखास	405	347
	छेछारी	स्वर्णरेखा नदी	1	जोड़ा खुर्द पहाड़		झरी	69	1
	छेछारी	स्वर्णरेखा नदी	1.5	जोड़ा खुर्द पहाड़		छेछारी	122	670,727,440 385,372

विश्वसभाजन

अंचल अधिकारी
पण्डवा।

कार्यालय: अंचल अधिकारी, पांकी, पलामू

पत्रांक 325 दिनांक 12-05-23

प्रेषक,

अंचल अधिकारी,
पांकी।

सेवा में,

जिला खनन पदाधिकारी,
मेदिनीनगर, पलामू।

विषय– बालूघाट को श्रेणी–I (Category- I) में शामिल करने के संबंध में।

महाशय,

उपरोक्त विषयक प्रासंगिक पत्र के संबंध में कहना है, कि अंचल पांकी अन्तर्गत बालूघाट को श्रेणी–I Category- I में शामिल करने हेतु चेक लिस्ट एवं ट्रेस नक्शा इस पत्र के साथ संलग्न कर अग्रेतर कार्रवाई हेतु भेजी जा रही है। जिसका विवरण निम्नवत है:–

क्र0 सं0	मौजा	नदी का नाम	खाता सं0	प्लॉट सं0	रकबा (ए0)	किस्म भूमि	अभ्युक्ति
1	तितलमो	चाको नदी	18	541	9.20 ए0	नदी	
2	गोडो	चाको नदी	11	104	2.00 ए0	नदी	
3	केल्हवा	चाको नदी	44	435,1	17.61 ए0	नदी	
4	बोरोदिरी	अमानत नदी	27	01,540,498	47.20 ए0	नदी	
5	डुरिका	अमानत नदी	100	1, 194 633 / 649 695 700	35.54 ए0	नदी	

उपरोक्त बालूघाट को श्रेणी–I Category- I में शामिल किया जा सकता है।

विश्वासभाजन

12/05/23

अंचल अधिकारी,
पांकी।

Approved

चेक स्लीप

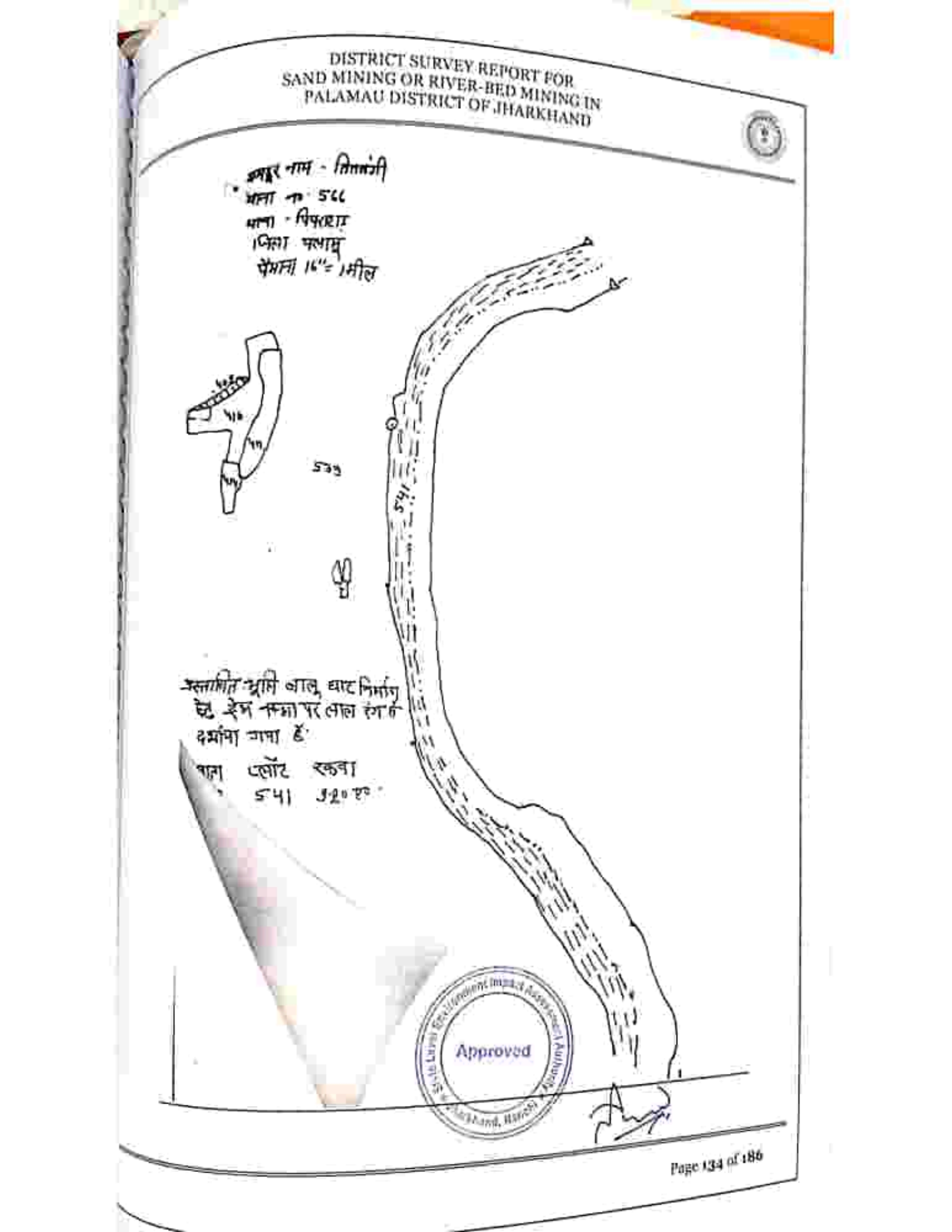
1. प्रस्तावित योजना का नाम बालू घाट निर्माण हेतु
2. ग्राम तितलंगी
3. पंचायत भोरसी
4. खाता सं0 18
5. प्लॉट सं0 541
6. किस्म भूमि गै० – नदी चार्का
7. वन सीमा से बाहर है या नही बाहर
8. वाद विवाद से मुक्त है या नही ×
9. योजना से संबित क्षेत्र का रकबा ×

Sunil Jee
हल्का कर्मचारी

अंचल निरीक्षक
14/1/23

अंचल पदाधिकारी

Approved


ब्लॉक नाम - तिलंजी
थाना नं 58
थाना - पिपरहरा
जिला पलामू
पैमाना 16" = 1 मील
539
541
प्रस्तावित बालू घाट निर्माण
क्षेत्र को लाल रंग से
दर्शाया गया है
थाना ब्लॉक रकबा
541 3.2 हे.
Approved

चेक स्लीप

1. प्रस्तावित योजना का नाम पाकुल घाट निर्माण हेतु
2. ग्राम नीरी
3. पंचायत लौहरगी
4. खाता सं0 11
5. प्लॉट सं0 104
6. किस भूमि नदी (पत्थर)
7. वन सीमा से बाहर है या नही पहर
8. वाद विवाद से मुक्त है या नही ×
9. योजना से संबित क्षेत्र का रकबा ×

हल्का कर्मचारी

अंचल निरीक्षक 12/5/23

अंचल पदाधिकारी

Approved

समहूर नाम - जीडी
थाना नं० - 564
थाना पिपराहद
जिला पलामू
पैमाना 16" = 1 मील

प्रस्तावित भूमि खान, घाट निर्माण क्षेत्र
क्षेत्र लम्बा पर लाल रंग से दर्शाया
गया है।

खाता	प्लॉट	रकबा
	104	1.00 ए०

Approved

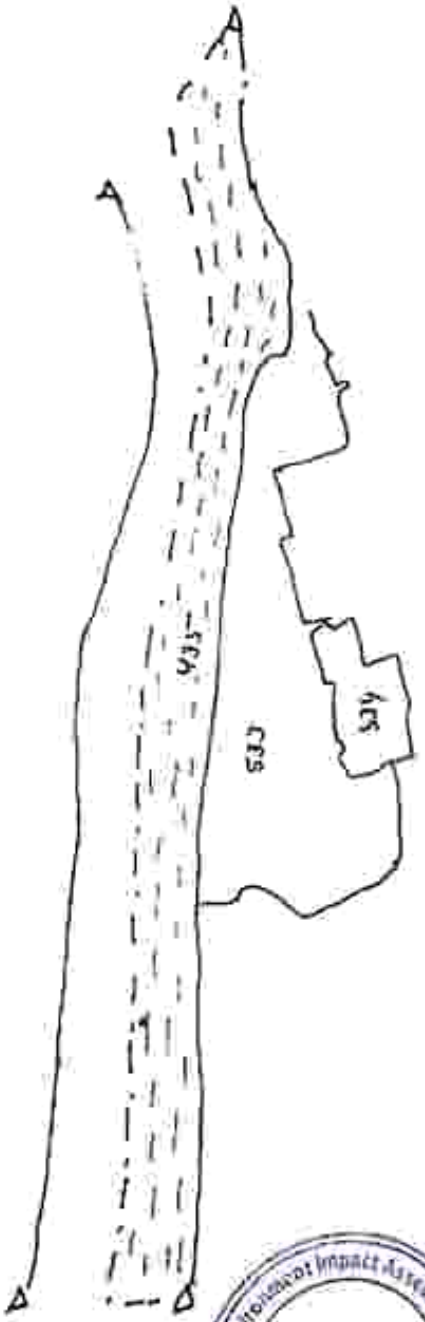
चेक स्लीप

1. प्रस्तावित योजना का नाम पालु घाट निर्माण हेतु
2. ग्राम केल्हुवा
3. पंचायत केल्हुवा
4. खाता सं0 44
5. प्लौट सं0 435, 1
6. किस भूमि नदी
7. वन सीमा से बाहर है या नहीं बाहर
8. वाद विवाद से मुक्त है या नहीं
9. योजना से संचित क्षेत्र का रकबा

हल्का कर्मचारी | अंचल निरीक्षक | अंचल पदाधिकारी

Approved

3
130
Approved

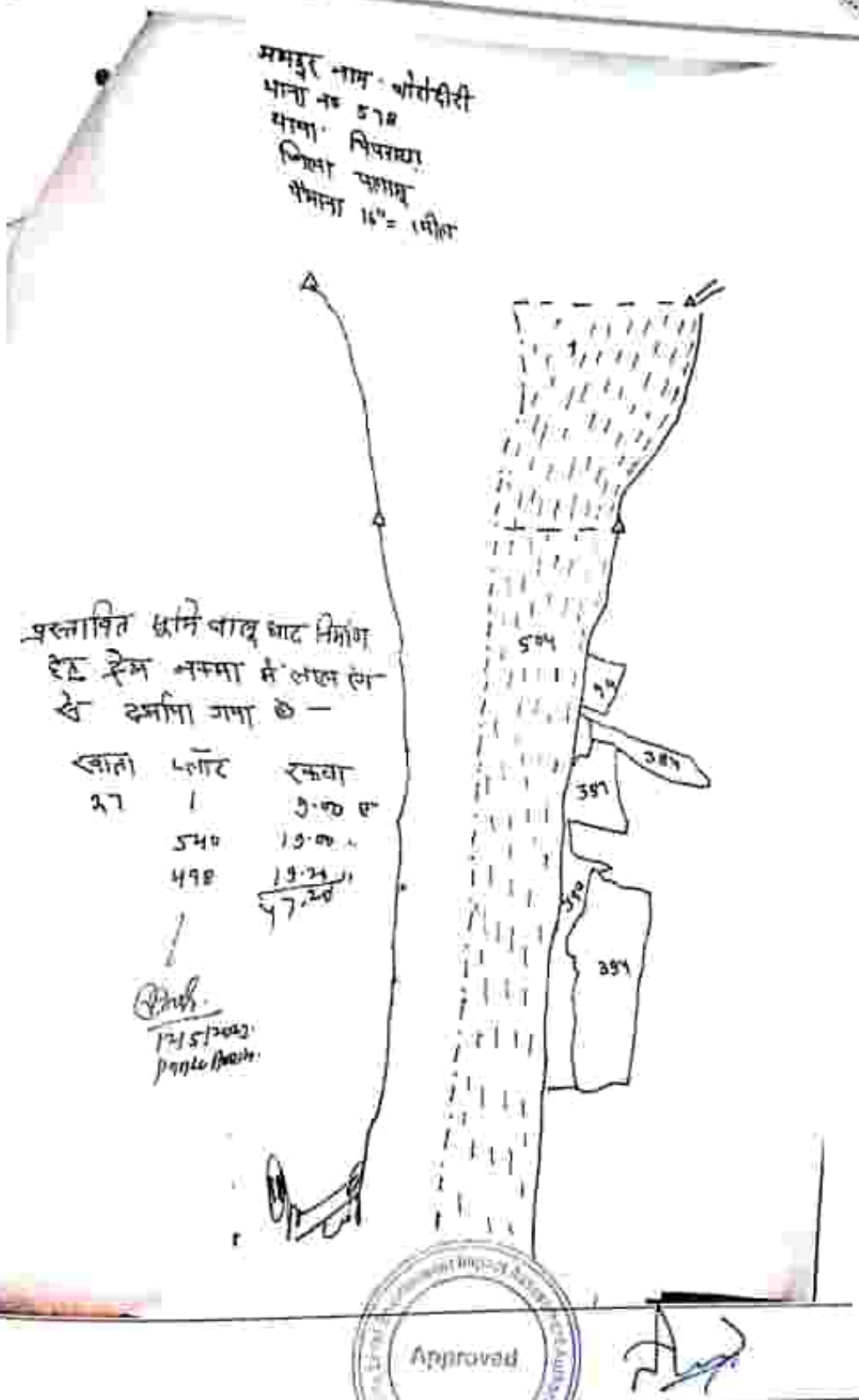


चेक स्लीप

1. प्रस्तावित योजना का नाम बालू घाट निर्माण हेतु
2. ग्राम पोरोदिरी
3. पंचायत कोन्हवा
4. खाता सं0 27
5. प्लॉट सं0 01, 540, 498
6. किस्म भूमि जॉ० मार्शि (नदी अगाध)
7. वन सीमा से बाहर है या नही बाहर
8. वाद विवाद से मुक्त है या नही ✓
9. योजना से संबंधित क्षेत्र का रकबा X

हल्का कर्मचारी | अंचल निरीक्षक | अंचल पदाधिकारी

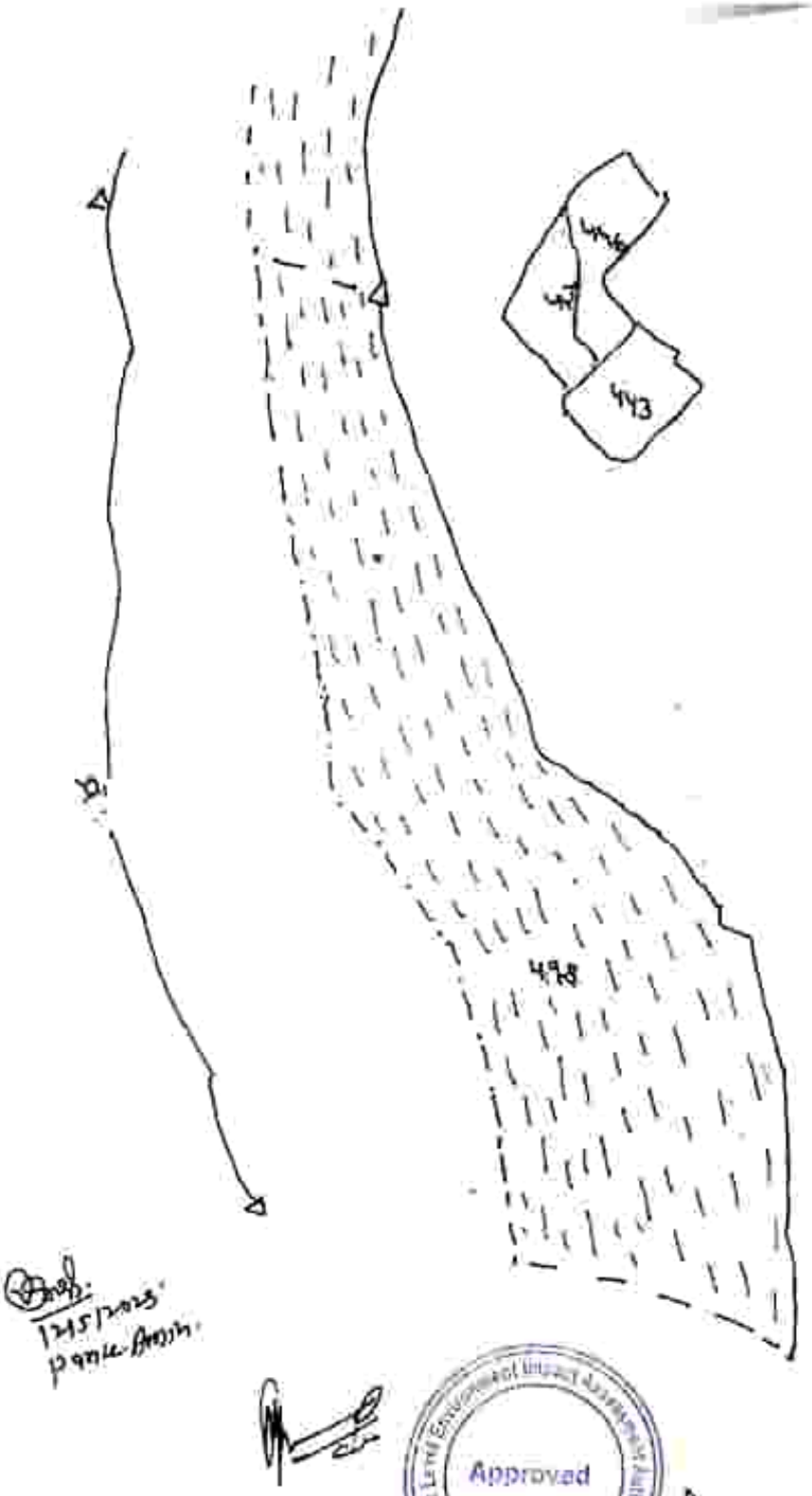
Approved



प्रस्तावित क्षेत्रे बालू घाट निर्माण हेतु ईस नक्शा में लाल लेखे से दर्शाया गया है —

खाता	प्लॉट	रकबा
27	1	3.00 ए०
	540	13.00 "
	498	13.24 "
		47.24

12/5/2022
Pandit Bhoi


443
443
443
Approved

चेक स्लीप

1. प्रस्तावित योजना का नाम बालू घाट निर्माण हेतु

2. ग्राम कुनारिका

3. पंचायत कोकरगढ़

4. खाता सं0 100

5. प्लौट सं0 $\frac{6}{678}$ $\frac{194}{639}$ $\frac{633}{780}$

6. किस भूमि गै० मालिक (नदी) अनाबाद

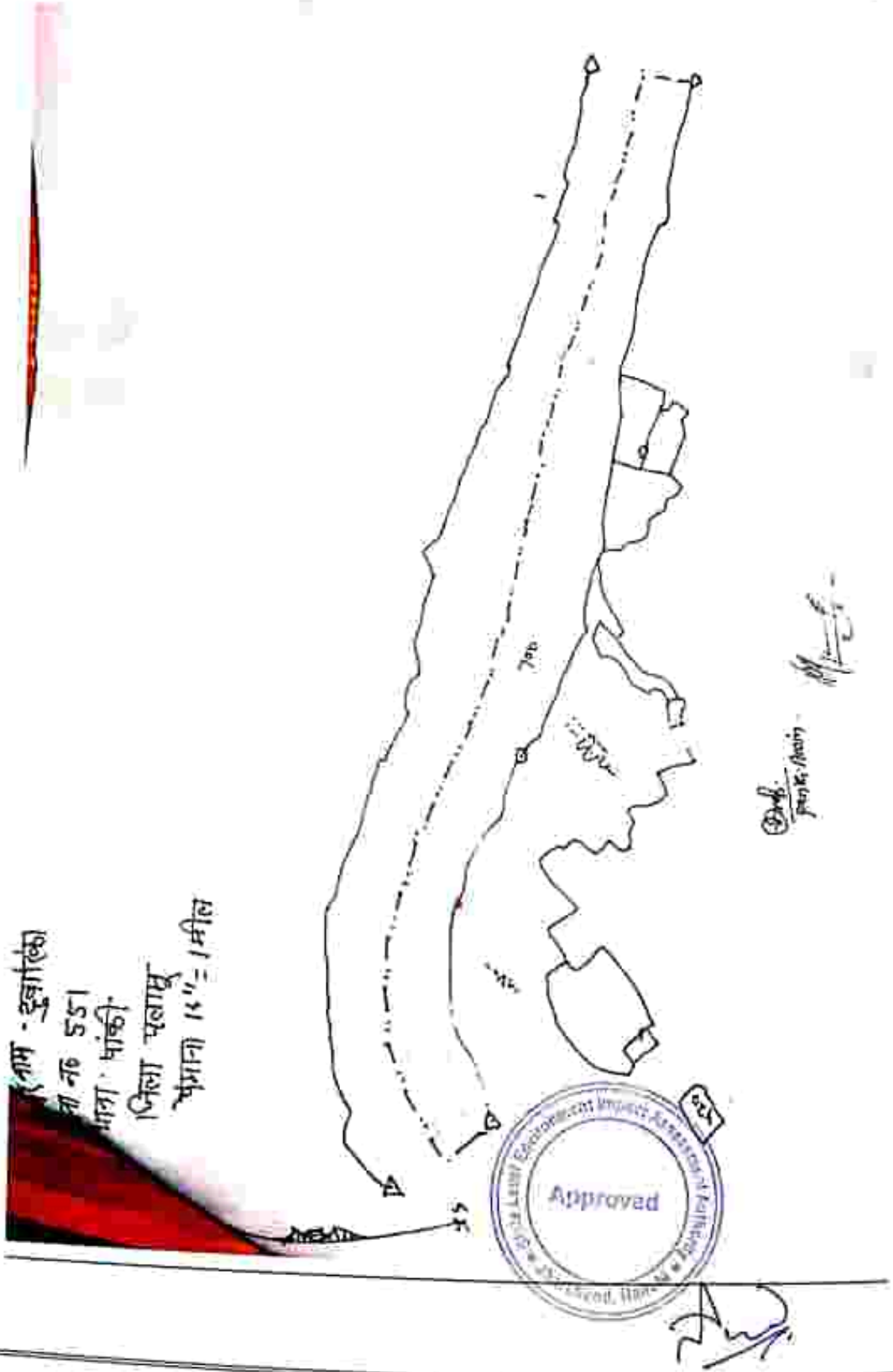
7. वन सीमा से बाहर है या नही बाहर

8. वाद विवाद से मुक्त है या नही है मुक्त

9. योजना से संचित क्षेत्र का रकबा X

छल्की चौधरी अंचल निरीक्षक अंचल पदाधिकारी

Approved


Approved

कार्यालय – अंचल अधिकारी, पण्डवा, पलामू।

पत्रांक 272 /दिनांक 02/05/2023

प्रेषक,

अंचल अधिकारी,
पण्डवा।

सेवा में,

जिला खनन पदाधिकारी,
पलामू।

विषय :– पण्डवा अंचल अन्तर्गत प्रथम श्रेणी का घाट से संबंधित प्रतिवेदन का प्रेषण।

महाशय,

उपर्युक्त विषय के संबंध में कहना है कि पण्डवा अंचल अन्तर्गत प्रथम श्रेणी का बालू घाट का स्थल जाँच राजस्व उप निरीक्षक, अंचल अमीन एवं अंचल निरीक्षक से करायी गयी। प्रथम श्रेणी का घाट से संबंधित प्रतिवेदन निहित प्रपत्र में निम्नवत है :–

निहित प्रपत्र

अंचल का नाम	पंचायत का नाम	नदी / नाला का नाम	उक्त नदी / नाला की लम्बाई (किलोमीटर)	उद्गम स्थल	किस Category का बालू घाट है	अधिकृत (Non Commercial San Deposit)		
						ग्राम	खाता सं0	प्लॉट सं0
पण्डवा	मुरमा	सदानद नदी	10	खोंडा खुर्द पहाड़	प्रथम श्रेणी	मुरमा	97	1,66
	पण्डवा	सदानद नदी	12	जोरा खुर्द पहाड़		पण्डवा	263	267
	लाहदा	दुर्गावती नदी	10	पाटन सगुना		गढ़ीरियाडीह (बघमनवा)	377	4537
	गढ़ीखास	दुर्गावती नदी	12	पाटन सगुना		गढ़ीखास	405	247
	छछौरी	सदानद नदी	1	जोरा खुर्द पहाड़		झरी	69	1
	छछौरी	सदानद नदी	1.5	जोरा खुर्द पहाड़		छछौरी	122	670,727,440 385,372

विश्वासभाजन

अंचल अधिकारी
पण्डवा।

Approved

सेवा में

अंचल अधिकारी,

पण्डवा।

द्वारा– अंचल निरीक्षक पण्डवा।

विषय– पण्डवा अंचल अन्तर्गत प्रथम श्रेणी का बालू घाट के संबंध में प्रतिवेदन।

महाशय,

उपर्युक्त विषयक प्रतिवेदित करना है कि इस अंचल अन्तर्गत ग्राम अरी, एवं छेछौरी से होकर बहने वाली सदावह नदी पर प्रथम श्रेणी बालू घाट से संबंधित वांछित प्रतिवेदन विहित प्रपत्र में निम्न प्रकार है:–

अंचल का नाम	पंचायत का नाम	नदी / नाला का नाम	उक्त नदी / नाला की लम्बाई(कि०मी०)	उदगम स्थल	किस कैटेगरी का बालू घाट है	अभ्युक्ति(Non Commercial Sand Deposit)
1	2	3	4	5	6	7
पण्डवा	छेछौरी	सदावह नदी	1 कि०मी०	जोड़ा खुर्द पहाड़	प्रथम श्रेणी	ग्राम–अरी खाता सं0–69 प्लॉट सं0–1
	छेछौरी	सदावह नदी	1.5 कि०मी०	जोड़ा खुर्द पहाड़		ग्राम–छेछौरी खाता सं0–122 प्लॉट सं0–670, 727, 440, 385, 372

अतः प्रतिवेदन आवश्यक कार्रवाई हेतु समर्पित।

विश्वासभाजन

Approved

सेवा में

अंचल अधिकारी,

पण्डवा।

द्वारा:— अंचल निरीक्षक पण्डवा।

विषय:— पण्डवा अंचल अन्तर्गत प्रथम श्रेणी का बालू घाट के संबंध में प्रतिवेदन।

महाशय,

उपर्युक्त विषयक प्रतिवेदित करना है कि इस अंचल अन्तर्गत ग्राम पण्डवा एवं मुरमा से होकर बहने वाली सदावह नदी तथा ग्राम गढ़ेरियाडीह एवं गाढ़ीखास से होकर बहने वाली दुर्गावती नदी पर प्रथम श्रेणी बालू घाट से संबंधित वांछित प्रतिवेदन निहित प्रपत्र में निम्न प्रकार है:—

अंचल का नाम	पंचायत का नाम / ग्राम का नाम	नदी / नाला का नाम	उक्त नदी / नाले की लम्बाई(कि०मी०)	उदगम स्थल	किस कैटेगरी का बालू घाट है	अभ्युक्ति(Non Commercial Sand Deposit)
1	2	3	4	5	6	7
पण्डवा	मुरमा	सदावह नदी	1 कि०मी०	जोरा खुर्द पहाड़	प्रथम श्रेणी	ग्राम—मुरमा खाता सं०—97 प्लॉट सं०—1, 65
	पण्डवा	सदावह नदी	1.5 कि०मी०	जोरा खुर्द पहाड़		ग्राम—पण्डवा खाता सं०—268 प्लॉट सं०—267
	गढ़ेरियाडीह	दुर्गावती नदी	1.5 कि०मी०	पाटन - सगुना		ग्राम—गढ़ेरियाडीह (सगनवा) खाता सं०—377 प्लॉट सं०—4537
	गाढ़ीखास	दुर्गावती नदी	1.5 कि०मी०	पाटन सगुना		ग्राम—गाढ़ीखास खाता सं०—405 प्लॉट सं०—247

अतः प्रतिवेदन आवश्यक कार्रवाई हेतु समर्पित।

विश्वासभाजन

5/5/23

5/5/2023

Approved

सेवा में

अंचल अधिकारी,

पण्डवा।

द्वारा:— अंचल निरीक्षक पण्डवा।

विषय— पण्डवा अंचल अन्तर्गत प्रथम श्रेणी का बालू घाट के संबंध में प्रतिवेदन।

महाशय,

उपर्युक्त विषयक प्रतिवेदित करना है कि इस अंचल अन्तर्गत ग्राम पण्डवा एवं मुरमा से होकर बहने वाली सदावह नदी तथा ग्राम गढ़ेरियाडीह एवं गाड़ीखास से होकर बहने वाली दुर्गावती नदी पर प्रथम श्रेणी बालू घाट से संबंधित वांछित प्रतिवेदन विहित प्रपत्र में निम्न प्रकार है:—

अंचल का नाम	पंचायत का नाम	नदी/नाला का नाम	उक्त नदी/नालों की लम्बाई(कि0मी0)	उद्गम स्थल	किस कैटेगरी का बालू घाट है	अभ्युक्ति(Non Commercial Sand Deposit)
1	2	3	4	5	6	7
पण्डवा	मुरमा	सदावह नदी	10 कि0मी0	जोंडा खुर्द पहाड़	प्रथम श्रेणी	खाता स0–97 प्लॉट स0–1, 65
	पण्डवा	सदावह नदी	12 कि0मी0	जोंडा खुर्द पहाड़		खाता स0–263 प्लॉट स0–267
	गढ़ेरियाडीह (बघमरनवा)	दुर्गावती नदी	10 कि0मी0	पाटन सगुना		खाता स0–377 प्लॉट स0–4537
	गाड़ीखास	दुर्गावती नदी	12 कि0मी0	पाटन सगुना		खाता स0–405 प्लॉट स0–247

अतः प्रतिवेदन आवश्यक कार्रवाई हेतु समर्पित।

विश्वासभाजन

5/05/2023

Approved

कार्यालय,अंचल अधिकारी,छत्तरपुर (पलामू)।

पत्रांक 153 / दिनांक 28 / 02 / 2023

प्रेषक,

अंचल अधिकारी,
छत्तरपुर।

सेवा में,

जिला खनन पदाधिकारी,
पलामू।

विषय:– बालू घाट को श्रेणी–I(Category-1) में शामिल करने के संबंध में

महाशय,

उपर्युक्त विषयक कहना है कि छत्तरपुर अंचल अन्तर्गत निम्न बालू घाट को श्रेणी–I(Category-1) में शामिल करने हेतु चैक लिस्ट एवं ट्रेस नक्शा इस पत्र के साथ संलग्न कर अग्रेतर कार्रवाई हेतु भेजी जा रही है। जिसका विवरणी निम्नवत है:–

क्र0सं0	मौजा	नदी का नाम	खाता सं0	प्लॉट सं0	रकबा (एकड़ में)	किस्म भूमि	अभ्युक्ति
1	बाघमाडा	बावरी नदी	29	378	0.30	नदी	–
2	रूद	बावरी नदी	20	311	1.00	नदी	–
3	भण्डारडीह	बटाने नदी	59	154	5.00	नदी	–

उपरोक्त बालू घाट को श्रेणी–I(Category-1) में शामिल किया जा सकता है।

संलग्नक– यथोक्त।

विश्वासभाजन

अंचल अधिकारी,
छत्तरपुर।

Approved

NEW DOCUMENTS 2022-23

चेक-स्लिप

प्रस्तावित योजना का नाम :- मौजा नद में कांकी नदी पर बालुघाट निर्माण हेतु

ग्राम :- नद

पंचायत :- कबला

खाता :- 20 (बैरासजनसुआ मालिक)

प्लॉट :- 311

किस्म भूमि :- नदी

वन सीमा से मुक्त है या नही :- मुक्त है।

वाद-विवाद से मुक्त है या नही :- मुक्त है।

योजना से सिंचित क्षेत्र का रकबा :- —

अंचल पदाधिकारी द्वारा प्रस्तावित घाट का रकबा सत्यापित।

28/12/23
हल्का कर्मचारी

अंचल निरीक्षक

अंचल अधिकारी

Approved


मौजा - भरतपुर
थाना नं॰ - 241
जिला - पलामू
पैमाना 16" = 1 मील
प्रस्तावित बालू घाट निर्माण क्षेत्र नक्शा में
लाल रंग से दर्शाया गया है।
314
312
310
311
रकबा
2.0
प्लॉट
311
रकबा
0.00
फोरम
खाली नहीं
अंचल अधिकारी

चेक-स्लिप

योजना का नाम :- मौजा भण्डरीह मे खटाने नदी पर पाइकर ब्रिज निर्माण हेतु

ग्राम :- भण्डरीह

पंचायत :- पकौया

खाता :- 59 (अयढ) मौ/खतिया मालिक

प्लॉट :- 154 (एक सौ चौवन)

किस्म भूमि :- "खटाने नदी"

वन सीमा से मुक्त है या नही :- मुक्त है।

वाद-विवाद से मुक्त है या नही :- मुक्त है।

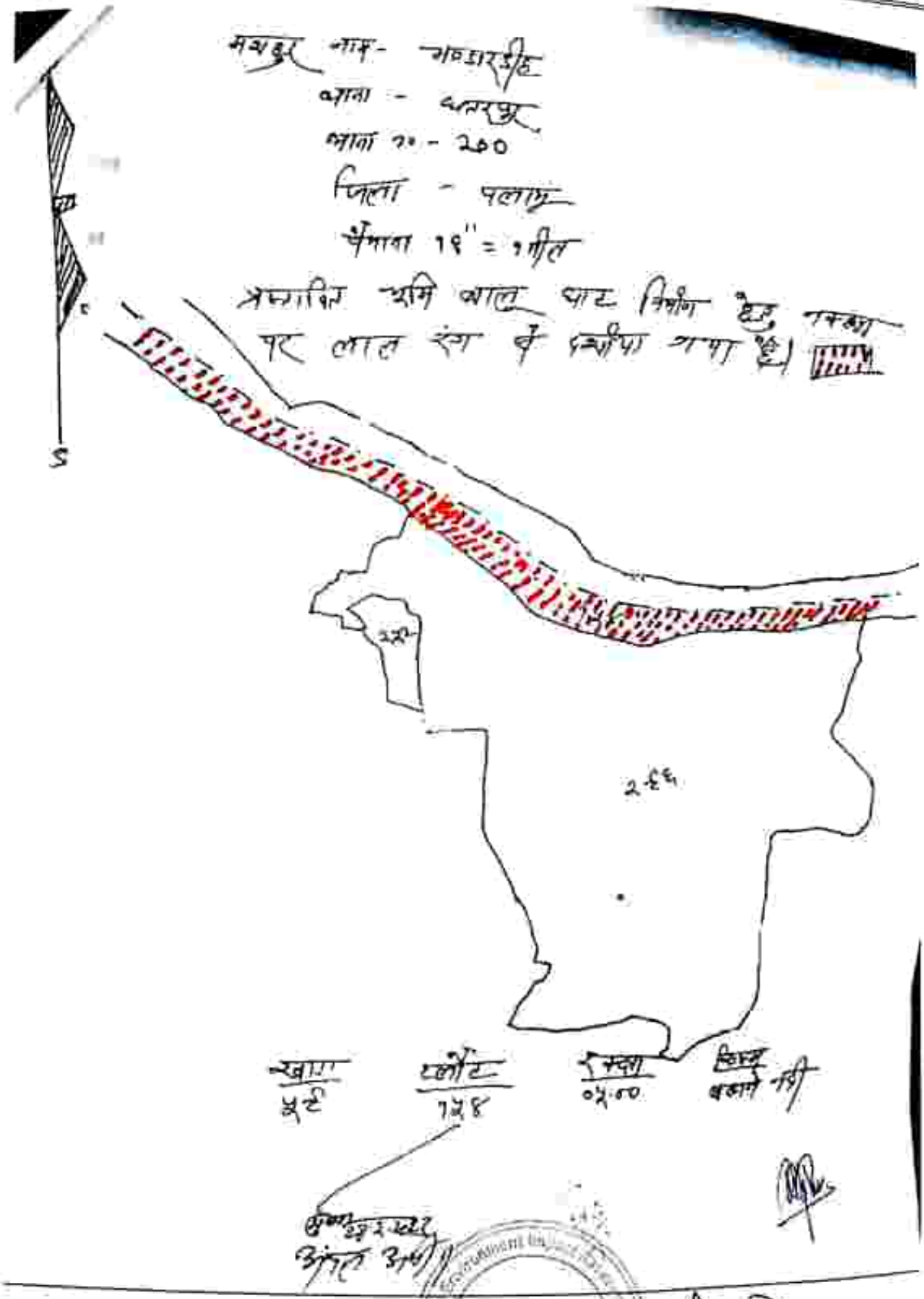
योजना से सिंचित क्षेत्र का रकबा :- -

अंचलाधिकारी द्वारा अन्तर्गत प्लॉट का नम्बा सहमत।

हल्का कर्मचारी

अंचल निरीक्षक

अंचल अधिकारी


मजदूर नाम- गणेशरविहि
थाना - चतरपुर
थाना नं - 200
जिला - पलामू
पैमाना 19" = 1 मील
प्रस्तावित भूमि लाल पट्टा निर्माण हेतु नक्शा
पर लाल रंग से चिन्हित गया है।
S
22
2.66
खाता
५८
प्लॉट
758
रकबा
०५.००
किस्म
बलुआ मिट्टी
पुराना रास्ता
अंकित नहीं

चेक-स्लिप

प्रस्तावित योजना का नाम :- मौजा – बाहरकण्डा से बकरी नदी पर बालू घाट, [illegible]

ग्राम :- बाहरकण्डा

पंचायत :- कबला

खाता :- 26 (दो सौ छब्बीस मात्र)

प्लॉट :- 378

किस्म भूमि :- नदी

वन सीमा से मुक्त है या नहीं :- हाँ है

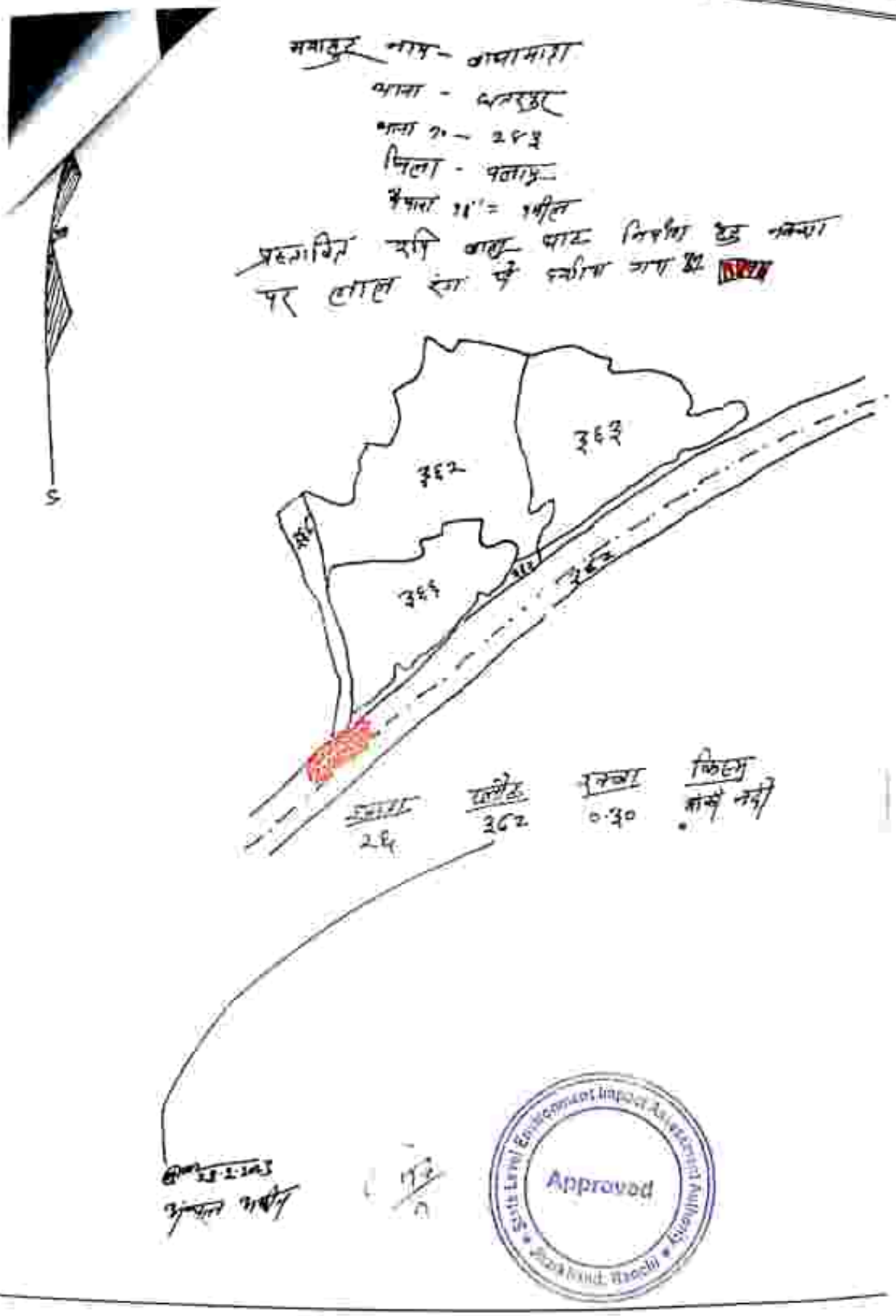
वाद–विवाद से मुक्त है या नहीं :- हाँ है

योजना से सिंचित क्षेत्र का रकबा :- —

[illegible]

हल्का कर्मचारी | अंचल निरीक्षक | अंचल अधिकारी

Approved


समाकुर नाम- आधामारा
थाना - चतरो
शीट नं.- 2853
जिला - पलामू
पैमाना 1" = 1 मील
प्रस्तावित खनि क्षेत्र पार्ट निशान हुई नक्शा
पर लाल रंग से दर्शाया गया है
362
363
365
366
खनन क्षेत्र
2.4
खसरा नं.
362
खनन
0.30
किस्म
बालू नदी
Approved
State Level Environment Impact Assessment Authority
Jharkhand, Ranchi

पलामू जिलान्तर्गत वर्तमान मे निम्नलिखित Categories- I अर्न्तगत 44 मानचित्र चिन्हित है।

SL No	Name of River	Location	Distance in the District (Km)	Place of Origin
1	Saidabah Nala	Chainpur	6	Kmanaj
2	Satbahini Nala		14	Ramgarh
3	Semra Nala		5	Semriya
4	Parsan Nala		2.5	PindePahad
5	HanaiNala	Panki	4	HanaiPahad
6	KlolalwaNala		11.2	Hurlong Pahad
7	SownsNala		8.8	Chandwar Pahad
8	Pin River		15	BanaiPahad
9	Banka Nala	Patan	11	Kala Pahad
10	AkrahiNala		5	AkrahiPahad
11	AkrahiNala		5	AkrahiPahad
12	Kayli River	Satbarwa	15	Ghotuaapahad
13	Harihanwa Nala		6	Yekta
14	Andhrbar Nala		8	Namudag Latehar
15	Semrgarha Nala		6	Bakoriya
16	Badhka Nala		5	Devthahio
17	GarhNala		3.5	YektaGaon
18	Narayan Nala		3	Serendag Pahad
19	Narayan Nala		3	Serendag Pahad
20	Gohri Nala	Manatu	3	Gohri Pahad
21	Harhdwa Nala		14	Karmatar Pahad
22	Kundahiya Nala	Lesliganj	15.5	Maharja
23	DevganaNala		6	Nawadih Pahad
24	Bhelwa River	Pandu	7.5	Hatakhas
25	Jharna Nala		3.5	Ghartiya
26	Khuja River		5	Mangardah
27	Shushama Nala		5	KutkuPahad
28	Jhanghi River		8	Mangardah
29	Sapna Nala	Tarhasi	8	Ambabar Tiker
30	Batua Nala		4	Nawadih Pahad
31	Chourhi River	Nawabajar	6	Tali
32	Khutisot River		30	Nawa
33	Khajuriya Nala	Utari road	7	LambaPahad
34	Kourav River	Bishrampur	8	Hatai
35	Batuee Nala	Harihargunj	4.5	Bagluna
36	Khajuriya Nala		4.2	Jharna
37	Lathoya Nala	Mohammadganj	8.75	Domchanch
38	SangrahaNala		7.5	Seetachuom
39	Kukhi Nala	Haidarnagar	10	Amhi Gram
40	Jahadi Nala		8	Mangardah
41	Kararwaar River	Hussainabad	20.5	Gamadham
42	Harhi River		13.75	Sikni
43	SukhdiyaNala	Chatarpur	2.25	Sitdag
44	Shivpur Nala	Naudiha bazar	4	Saradih

पलामू जिलान्तर्गत Categories - I के अन्तर्गत अन्तर्वाह/परवाह में आने वाले नदी/नालों की सूची।

पलामू जिलान्तर्गत बेतला अभयारण्य अधिसूचित Categories - I के अन्तर्गत आने वाले नदी/नाला की सूची।

क्रम सं.	प्रखण्ड का नाम	पंचायत का नाम	नदी/नाला का नाम	प्रवाह नदी/नाले की लम्बाई (किलोमीटर)	उद्गम स्थल (Origin)	किस Category का अनुसूचित है।	अधिसूचित
1	Chainpur	Kuruwa & Jorkitt	Sukhdeh Nala	6	Hasanoi	Category- I	NON COMMERCIAL SAND DEPOSITS
2		Ranguch	Sukhdehi Nala	14	Ranguch		
3		Semra	Semra Nala	5	Semra		
4		Chesen	Parsan Nala	25	Pindrapahat		

पलामू जिलान्तर्गत पांकी अरण्यक्षेत्र अधिसूचित Categories - I के अन्तर्गत आने वाले नदी/नाले की सूची।

क्रम सं.	प्रखण्ड का नाम	पंचायत का नाम	नदी/नाला का नाम	प्रवाह नदी/नाले की लम्बाई (किलोमीटर)	उद्गम स्थल (Origin)	किस Category का अनुसूचित है।	अधिसूचित
1	Pakri	Dakai	Dhasi Nala	4	Pandrapahat	Category- I	NON COMMERCIAL SAND DEPOSITS
2		Kapalin & Harbang	Khalaha Nala	11.2	Harbang Pahat		
3		Dehra	Sonar Nala	8.8	Chandwar Pahar		
4		Ambar & Hesa	Pao River	18	Pandrapahat		

पलामू जिलान्तर्गत पाटन अरण्यक्षेत्र अधिसूचित Categories - I के अन्तर्गत आने वाले नदी/नाले की सूची।

क्रम सं.	प्रखंड का नाम	पंचायत का नाम	नदी/नाला का नाम	प्रवाह नदी/नाले की लम्बाई (किलोमीटर)	उद्गम स्थल (Origin)	किस Category का अनुसूचित है।	अधिसूचित
1	Patan	Sagma	Rauka Nala	11	Kala Pahad	Category- I	NON COMMERCIAL SAND DEPOSITS
2		Jaigdeora	Akrahi Nala	5	Akrahi Pahad		
3		Sehawa	Akrahi Nala	5	Akrahi Pahad		

पलामू जिलान्तर्गत सतबरवा अभयारण्य अधिसूचित Categories - I के अन्तर्गत आने वाले नदी/नाले की सूची।

क्रम सं.	प्रखंड का नाम	पंचायत का नाम	नदी/नाला का नाम	प्रवाह नदी/नाले की लम्बाई (किलोमीटर)	उद्गम स्थल (Origin)	किस Category का अनुसूचित है।	अधिसूचित
1	Satbarwa	Dhuma	Koyli River	15	Ghutmanpahat	Category- I	NON COMMERCIAL SAND DEPOSITS
2		Dhuma	Haridanwa Nala	6	Yekta		
3		Hahatu	Andhiyar Nala	11	Namuday Lauthar		
4		Hahatu	Semargadwa Nala	6	Rahuriya		
5		Rewaniya	Radhika Nala	5	Deothalabi		
6		Dhuma	Garh Nala	3.5	Yekta Gaon		
7		Dhuma	Narayan Nala	3	Seremday Pahat		
8		Dhuma	Nagdiya Nala	3	Seremday Pahat		

2

पलामू जिलान्तर्गत पलामू अनुमंडलान्तर्गत अवस्थित Categories - I के अन्तर्गत आने वाले नदी/नालों की सूची।

क्र० सं०	अंचल का नाम	पंचायत का नाम	नदी/नाला का नाम	उक्त नदी/नाले की लम्बाई (किलोमीटर)	उद्गम स्थल (Origin)	किस Category का अनुमोद है।	अभियुक्ति
1	Manika	Wawa Khurd	Gehri Nala	3	Gehri Pahad	Category- I	[illegible]
2		Nawadih	Kathaiya Nala	11	Karmatar Pahad		

पलामू जिलान्तर्गत सतबरवा अनुमंडलान्तर्गत अवस्थित Categories - I के अन्तर्गत आने वाले नदी/नालों की सूची।

क्र० सं०	अंचल का नाम	पंचायत का नाम	नदी/नाला का नाम	उक्त नदी/नाले की लम्बाई (किलोमीटर)	उद्गम स्थल (Origin)	किस Category का अनुमोद है।	अभियुक्ति
1	Lesliganj	Pipra Khurd	Kamalabigha Nala	15.5	Hathiya	Category- I	[illegible]
2		Rajkara	Devpanchala	6	Nawadih Pahad		

पलामू जिलान्तर्गत पाण्डु अनुमंडलान्तर्गत अवस्थित Categories - I के अन्तर्गत आने वाले नदी/नालों की सूची।

क्र० सं०	अंचल का नाम	पंचायत का नाम	नदी/नाला का नाम	उक्त नदी/नाले की लम्बाई (किलोमीटर)	उद्गम स्थल (Origin)	किस Category का अनुमोद है।	अभियुक्ति
1	Pandu	-	Bhelwa River	7.5	Ratankhar	Category- I	[illegible]
2		Hadi Lala	Dharua Nala	3.5	Ghartiya		
3		Pandu	Bhoja River	3	Mangaridah		
4		Dada kala	Dhuchama Nala	5	Katiku Pahad		
5		Mahughawa	Jhanghi River	0	Mangaridah		

पलामू जिलान्तर्गत तरहसी अनुमंडलान्तर्गत अवस्थित Categories - I के अन्तर्गत आने वाले नदी/नालों की सूची।

क्र० सं०	अंचल का नाम	पंचायत का नाम	नदी/नाला का नाम	उक्त नदी/नाले की लम्बाई (किलोमीटर)	उद्गम स्थल (Origin)	किस Category का अनुमोद है।	अभियुक्ति
1	Tarhasi	-	Tapra Nala	8	Ambabar Tikar	Category- I	[illegible]
2		-	Barra Nala	4	Nawadih Pahad		

पलामू जिलान्तर्गत नावाबाजार अनुमंडलान्तर्गत अवस्थित Categories - I के अन्तर्गत आने वाले नदी/नालों की सूची।

क्र० सं०	अंचल का नाम	पंचायत का नाम	नदी/नाला का नाम	उक्त नदी/नाले की लम्बाई (किलोमीटर)	उद्गम स्थल (Origin)	किस Category का अनुमोद है।	अभियुक्ति
1	Nawa bajar	Kanda	Chhorlo River	6	Tab	Category- I	[illegible]
2		Khurmu	Khurmu River	30	Nawa		

पलामू जिलान्तर्गत उदौरी रोड अनुमंडलान्तर्गत अवस्थित Categories - I के अन्तर्गत आने वाले नदी/नालों की सूची।

क्र० सं०	अंचल का नाम	पंचायत का नाम	नदी/नाला का नाम	उक्त नदी/नाले की लम्बाई (किलोमीटर)	उद्गम स्थल (Origin)	किस Category का अनुमोद है।	अभियुक्ति
1	Daltonganj	Karkatta	Khajuriya Nala	7	Lamba Pahad	Category- I	[illegible]

पलामू जिलान्तर्गत विश्रामपुर अंचलान्तर्गत अवस्थित Categories - I के अन्तर्गत आने वाले नदी / नाला की सूची

क्र० सं०	ग्राम का नाम	पंचायत का नाम	नदी / नाला का नाम	उक्त नदी / नाली की लम्बाई (किलोमीटर)	उद्गम स्थल (Origin)	किस Category का बालुघाट है	अभ्युक्ति
1	Bishrampur	Kumhhi kala	Kunray River	8	Hazi	Category - I	

पलामू जिलान्तर्गत हरिहरगंज अंचलान्तर्गत अवस्थित Categories - I के अन्तर्गत आने वाले नदी / नाला की सूची

क्र० सं०	ग्राम का नाम	पंचायत का नाम	नदी / नाला का नाम	उक्त नदी / नाली की लम्बाई (किलोमीटर)	उद्गम स्थल (Origin)	किस Category का बालुघाट है	अभ्युक्ति
1	Hariharganj	Kuhibiya & Jamgawan	Bairo Nala	4.3	Ragina	Category - I	
		Sarsiti	Khajuriya Nala	4.2	Jharna		

पलामू जिलान्तर्गत मोहम्मदगंज अंचलान्तर्गत अवस्थित Categories - I के अन्तर्गत आने वाले नदी / नाला की सूची

क्र० सं०	ग्राम का नाम	पंचायत का नाम	नदी / नाला का नाम	उक्त नदी / नाली की लम्बाई (किलोमीटर)	उद्गम स्थल (Origin)	किस Category का बालुघाट है	अभ्युक्ति
2	Mohammad ganj	Kadal kurrai	Lathoya Nala	8.75	Dumchanch	Category - I	
		Mohammadganj	Sangrahalkala	7.5	Seetarhuun		

पलामू जिलान्तर्गत हैदरनगर अंचलान्तर्गत अवस्थित Categories - I के अन्तर्गत आने वाले नदी / नाला की सूची

क्र० सं०	ग्राम का नाम	पंचायत का नाम	नदी / नाला का नाम	उक्त नदी / नाली की लम्बाई (किलोमीटर)	उद्गम स्थल (Origin)	किस Category का बालुघाट है	अभ्युक्ति
2	Haidarnagar	Kukhi	Kukhi Nala	10	Amba Gram	Category - I	
		Belarpur	Jahali Nala	8	Mangardah		

पलामू जिलान्तर्गत हुसैनाबाद अंचलान्तर्गत अवस्थित Categories - I के अन्तर्गत आने वाले नदी / नाला की सूची

क्र० सं०	ग्राम का नाम	पंचायत का नाम	नदी / नाला का नाम	उक्त नदी / नाली की लम्बाई (किलोमीटर)	उद्गम स्थल (Origin)	किस Category का बालुघाट है	अभ्युक्ति
3	Hussainabad	Pathra & Paldih	Kanarwaar River	20.5	Gajnalkam	Category - I	
		Kurmipar	Harla River	13.75	Sikri		

पलामू जिलान्तर्गत छतरपुर अंचलान्तर्गत अवस्थित Categories - I के अन्तर्गत आने वाले नदी / नाला की सूची

क्र० सं०	ग्राम का नाम	पंचायत का नाम	नदी / नाला का नाम	उक्त नदी / नाली की लम्बाई (किलोमीटर)	उद्गम स्थल (Origin)	किस Category का बालुघाट है	अभ्युक्ति
1	Chatarpur	Sildag	Sukhndiya Nala	2.25	Sildag	Category - I	

पलामू जिलान्तर्गत नीलीहा बाजार अंचलान्तर्गत अवस्थित Categories-I के अन्तर्गत आने वाले नदी / नाला की सूची।

क्र० सं०	ग्राम का नाम	पंचायत का नाम	नदी / नाला का नाम	उक्त नदी / नाली की लम्बाई (किलोमीटर)	उद्गम स्थल (Origin)	किस Category का बालुघाट है	अभ्युक्ति
1	Nilidiha Bazar	Saraidih	Shivpur Nala	4	Saraidih	Category - I	

Category 2

E-mail- cohishrampur2023@gmail.com

कार्यालय अंचल अधिकारी, विश्रामपुर (पलामू)।

पत्रांक 124 /दिनांक 13/02/2023

प्रेषक,

अंचल अधिकारी,
विश्रामपुर।

सेवा में,

जिला खनन पदाधिकारी,
पलामू, मेदिनीनगर।

15/02/2023

विषय : बालू घाट से संबंधित जाँच प्रतिवेदन समर्पित करने के संबंध में।

प्रसंग : भवदीय पत्रांक 3392/एम0, दिनांक 23.12.2022

महाशय,

उपर्युक्त विषयक एवं प्रासंगिक पत्र के संबंध में सादर सूचित करना है कि विश्रामपुर अंचल अन्तर्गत बालूघाटों के District Survey Report (DSR) of Sand Prepared किया जाने के क्रम में चिन्हित श्रेणी–2 के बालूघाटों (ग्राम गुरहा कला, तौलरा, मल्लाहटोली, घघुआ, लालगढ़, पंजरी कला) का भौतिक सत्यापन संबंधित राजस्व एवं निरीक्षकों द्वारा कराया गया, जाँचोपरान्त, जाँच प्रतिवेदन इस पत्र के साथ संलग्न कर अग्रेतर कार्रवाई हेतु भेजी जा रही है।

कृपया पावती स्वीकार किया जाय।

अनु0 – यथोक्त।

14/02/2023

विश्वासभाजन

13/02/23

अंचल अधिकारी,
विश्रामपुर।

Approved

सेवा में
अंचल पदाधिकारी
सिकंदरा, जमुई

विषय :- ग्राम - लोदमा के खाता/प्लॉट की अवलिखित (चौहद्दी प्रतिवेदन)

महाशय

उपर्युक्त विषय के संबंध में ग्राम लोदमा खाता प्लॉट खेसरा - 696, 748 1670 के सम्बन्धित स्थल (चौहद्दी किया) जमीन स्थल की चौहद्दी से सम्बन्धित निम्नानुसार प्रतिवेदन निम्नप्रकार है।

1. क्या आवेदित भूमि की कोई सूचे खतियान अथवा रजिस्टर-II में जंगल झाड़ी के रूप में दर्ज है ? → नहीं

2. क्या 500 मीटर की दूरी के अन्दर कोई मानव पवाहट (Habitation) स्थित है ? → नहीं

3. क्या 500 मीटर की दूरी के अन्दर कोई जलाशय निकाय (Dam/Reservoir) स्थित है ? → नहीं

4. क्या 500 मीटर की दूरी के अन्दर कोई नदी (River) स्थित है या नहीं

5. क्या 500 मीटर की दूरी के अन्दर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है ? → नहीं

6. क्या 500 मीटर की दूरी के अन्दर कोई चिकित्सालय (Hospital) स्थित है ? → नहीं

7. क्या 10 किo मीo की परिधि में कोई अंतर्राज्यीय (Inter State) सीमा है ? → नहीं

8. क्या 500 मीटर की दूरी के अन्दर कोई राष्ट्रीय धरोहर/पुरातात्विक (Monument/Archaeological) महत्व के स्थल स्थित है ? → नहीं

13/01/2023
K.C

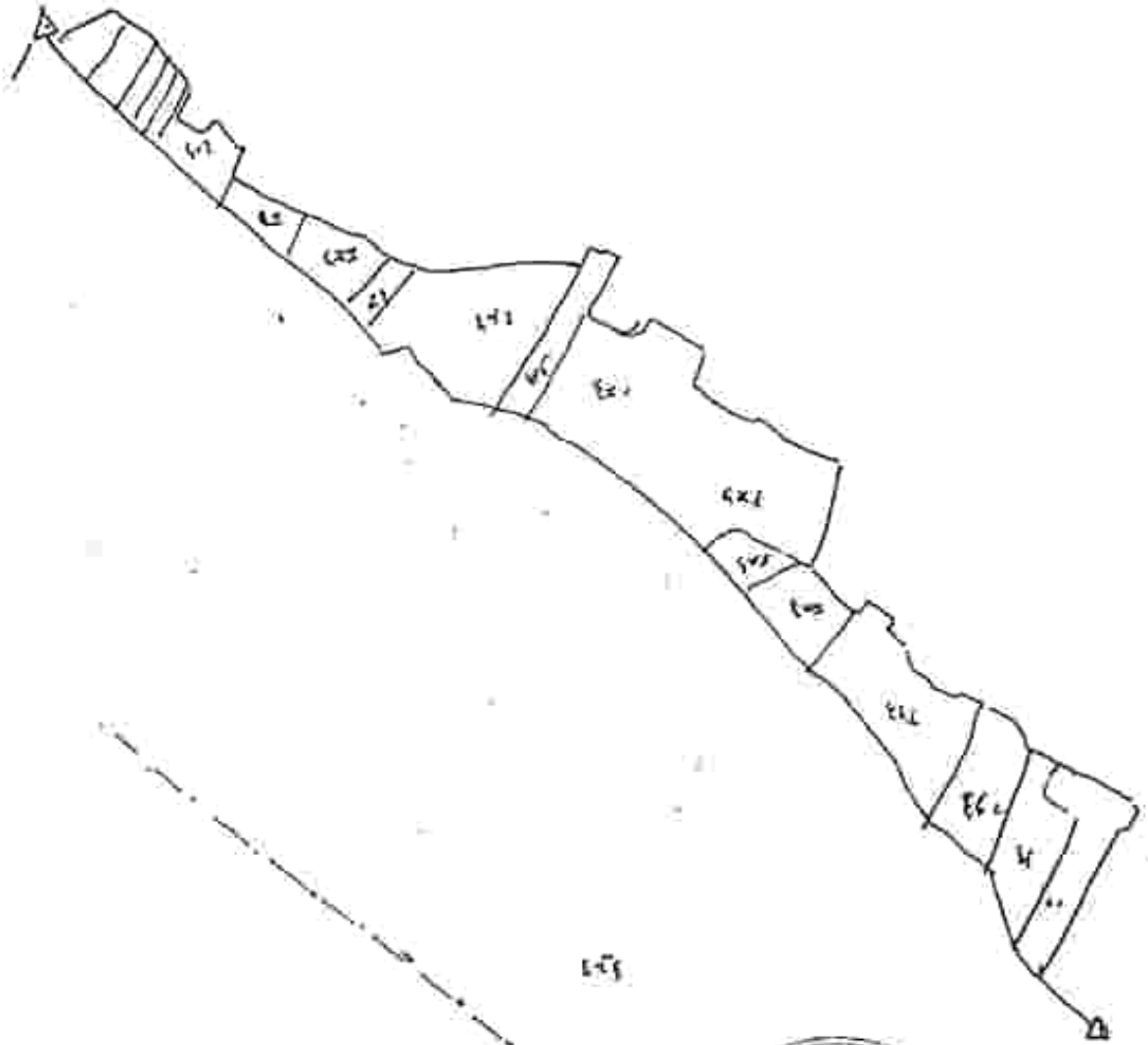
Approved

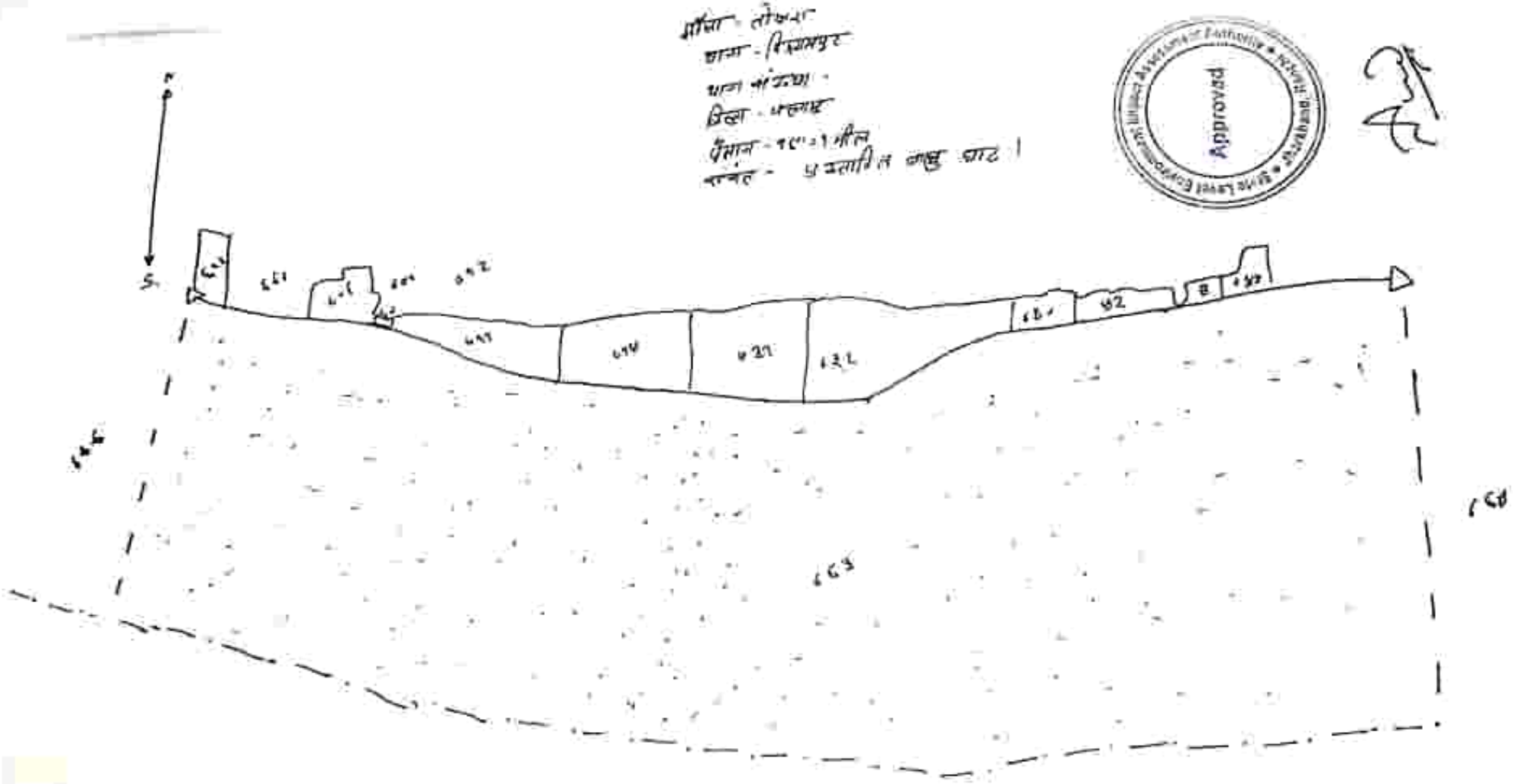
N

S

मौजा - तोरपा
थाना - बिशनपुर
थाना संख्या -
जिला - खूंटी
दिशा - 16" - 1 मील
अंचल - खूंटी || जादू गढ़

प्लॉट - ६६६





ग्रामीण - तोरवार
थाना - सिवनमुड़
थाना मांडला -
जिला - मण्डला
पैमाना - 1" = 1 मील
कथन - प्रस्तावित लाइन घाट ।

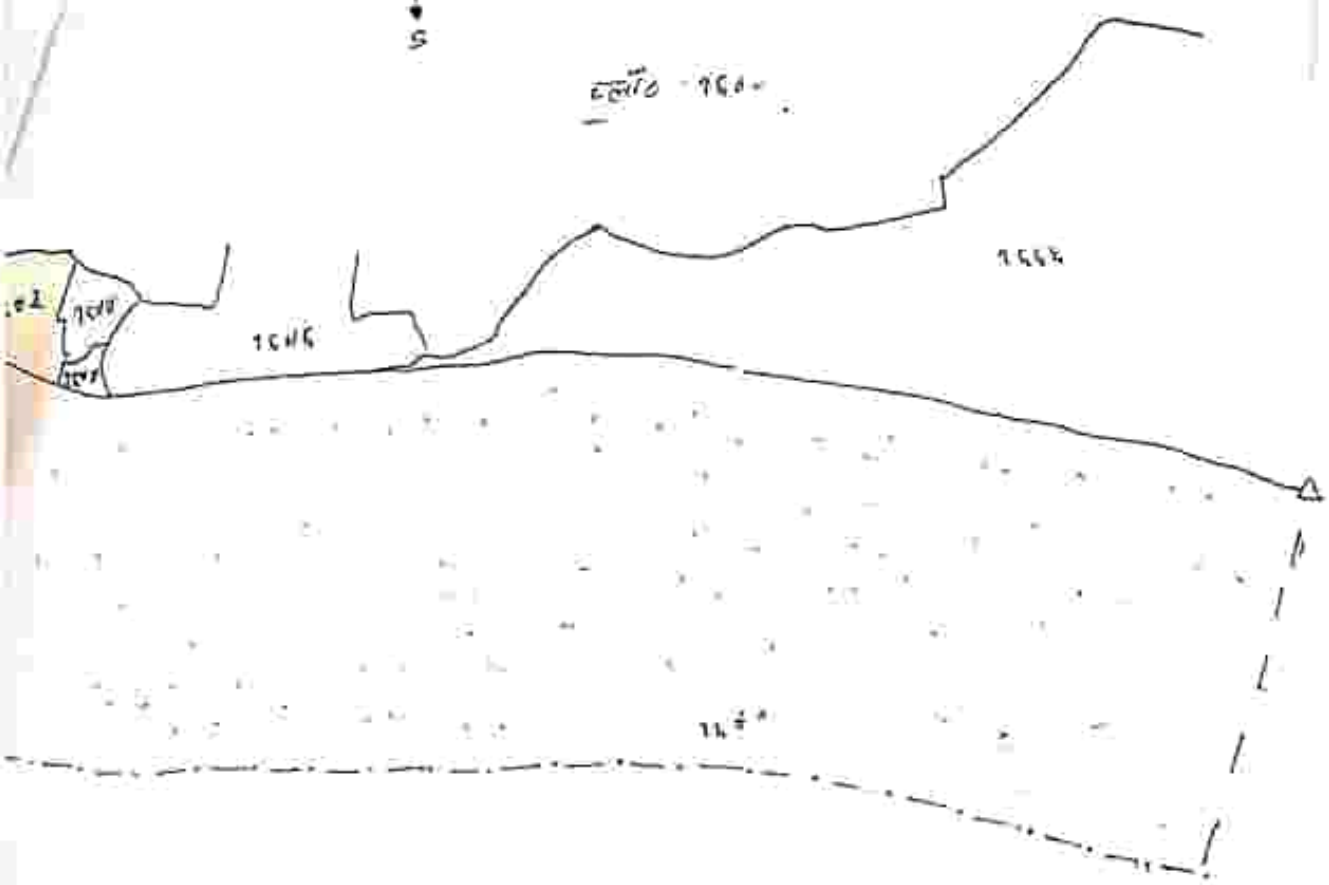
11/12/23
अंचल अभियंता
सिवनमुड़

मौजा - [illegible]
थाना - [illegible]
थाना अंक सं - [illegible]
जिला - पलामू
पैमाना 1 इंच = 1 मीटर
अभिलेख - प्रस्तावित नाला घाट

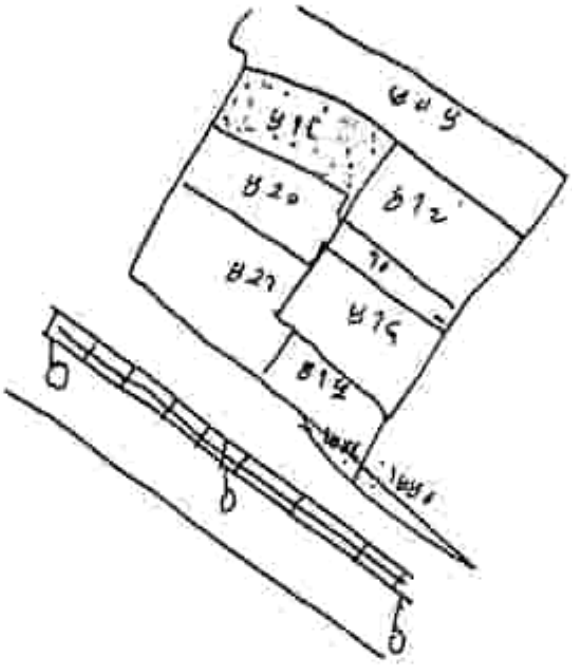
N

S

दर्शाए गए -



अपर समाहर्ता
पलामू



मौजा - ~~बोलबम~~ मलाहटोली
थाना - रिसामपुर
थाना संख्या -
जिला - भागलपुर
पैमाना - 1" = 1 मीटर
संकेत - पश्चातित ~~भू~~ घाट।

प्लॉट - ४१६

S.

2/2/2023
अंचल अधिकारी
रिसामपुर

नोट :- सत्यापित।
उपरोक्त प्लॉट देखने से ऐसा प्रतीत होता है। कब ही यह तथ्य से लगभग 500 मी. की दूरी पर रेलवे लाईन से उत्तर दिशा में अवस्थित है। कृपया उसपर ध्यान दिया जाये।

[illegible] प्राप्त [illegible]
[illegible] [illegible] दूसरा ओर्डर
[illegible]

Approved

02/02/2023

1:

N

1016

सेवा में
अंचलाधिकारी
सिंहभूमपुर, प्रयागपुर

विषय - ग्राम - मलाहटोली के मत्स्याचार को अवगणित जॉन अभिनिर्धारण

अधोहस्ताक्षरी विषय के सम्बन्ध में ग्राम - मलाहटोली मत्स्याचार खेसरा - 502, 1012, 1437 से सम्बन्धित स्थल जॉन किया / वर्णित स्थान की सिफारिश से सम्बन्धित निम्न प्रतिवेदन निम्नप्रकार है।

① क्या अभिनिर्धारित भूमि में कोई ऐसे खनिजयान अथवा रजिस्टर्ड में जंगल - झाड़ी के रूप में दर्ज है? → नहीं

2. क्या 500 मीटर की दूरी के अन्दर कोई मानव पड़ाव (Habitating) स्थित है? → नहीं

3. क्या 500 मीटर की दूरी के अन्दर कोई जलीय निकाय (Dam/Reservoir) स्थित है? → नहीं

4. क्या 500 मीटर की दूरी के अन्दर कोई नदी (River) स्थित है? - नहीं

5. क्या 500 मीटर की दूरी के अन्दर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है? → नहीं

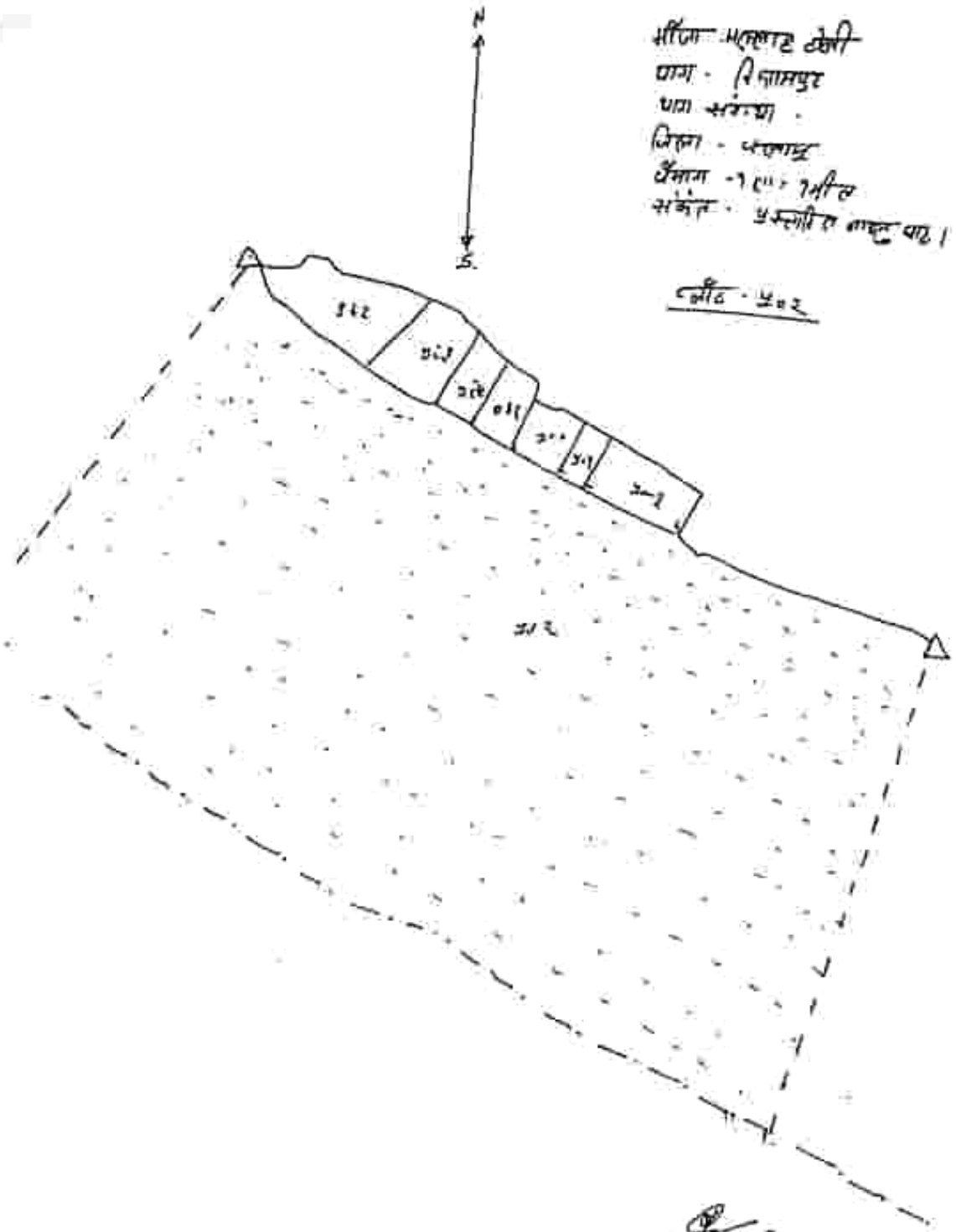
6. क्या 500 मीटर की दूरी के अन्दर कोई चिकित्सालय (Hospital) स्थित है? - नहीं

7. क्या 10 कि० मी० की परिधि में कोई अंतर्राज्यीय (Interstate) सीमा है? - नहीं

⑧ क्या 500 मीटर की दूरी के अन्दर कोई ऐतिहासिक धरोहर / पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है? नहीं

दिनांक 12/01/2023
K.C

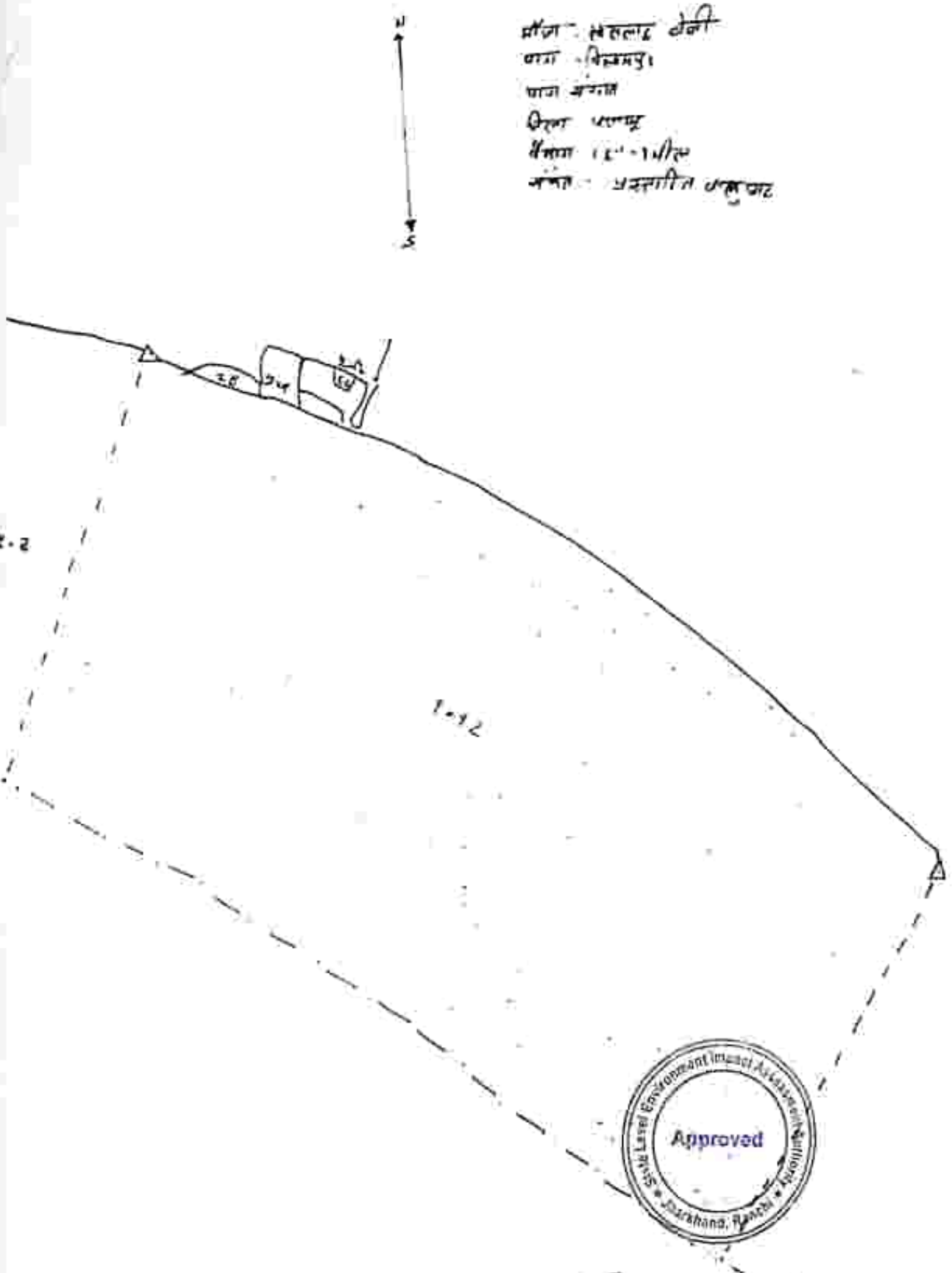
Approved



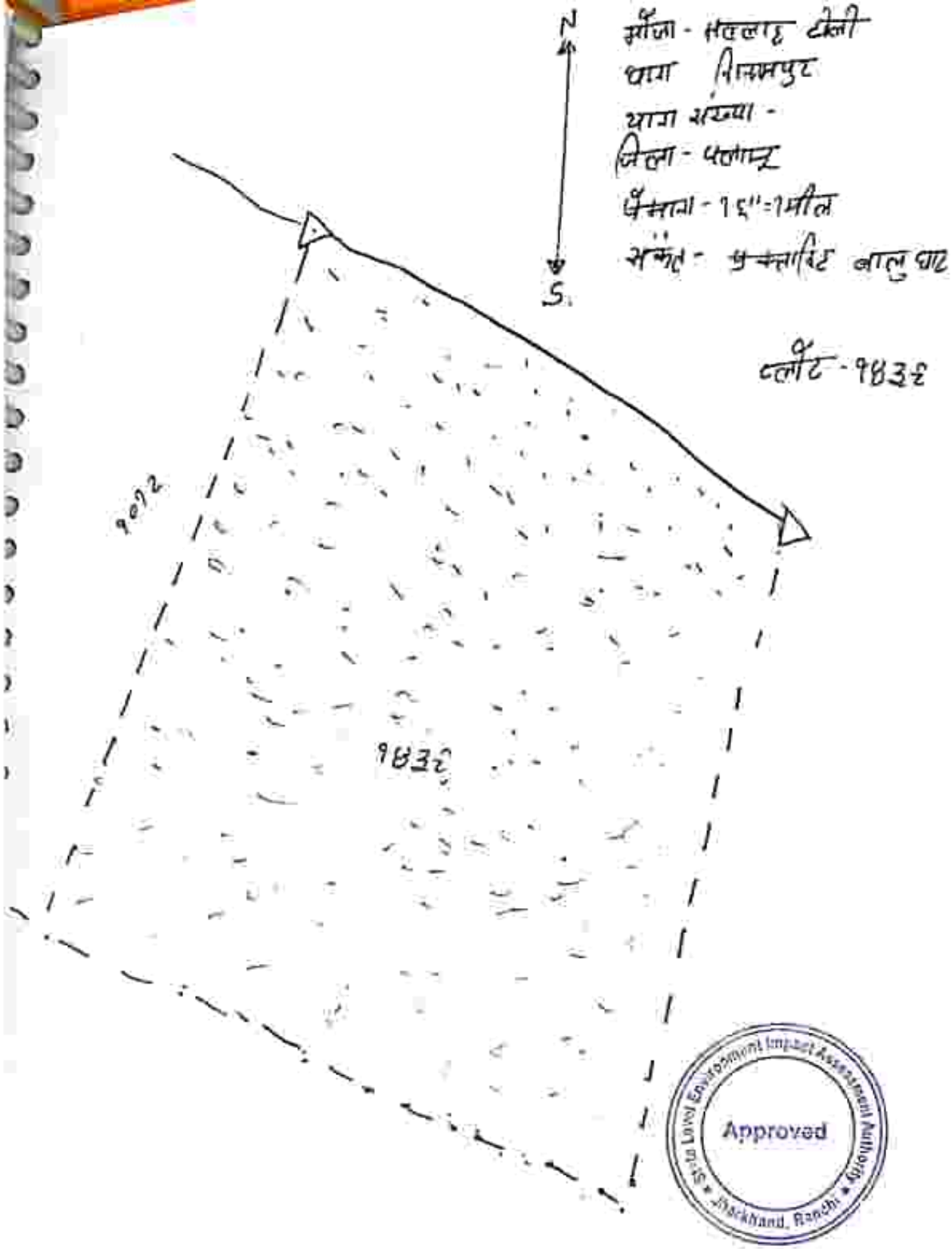
मौजा - मलवाट टोली
थाना - रिलासपुर
थाना संख्या -
जिला - पलामू
पैमाना - १" = १ मील
संकेत - प्रस्तावित खनन पट्टा।

2/2/2023

Approved
State Level Environment Impact Assessment Authority
Jharkhand, Ranchi



21/12/23
अवर सचिव
रिम्स, राँची



2/2/2023
अंचल अधिकारी
विश्रामपुर

सेवा में,

श्री सहायक अभियन्ता महोदय

विद्युत्त खंड ।

विषय :- ग्राम सालाडीह में कोयला से 1*250 MW पावर प्लांट के कार्यालय निर्माण कार्यहेतु संकलित आवेदन।

प्रसंग :- निदेशक (मानव संसाधन) कार्यालय का ज्ञापन संख्या 3102/M
दिनांक 23/12/22

महोदय, उपरोक्त विषयक प्रसंगित पत्र के अनुपालन में अंकित प्रतिवेदन निम्नवत् निवेदित है।

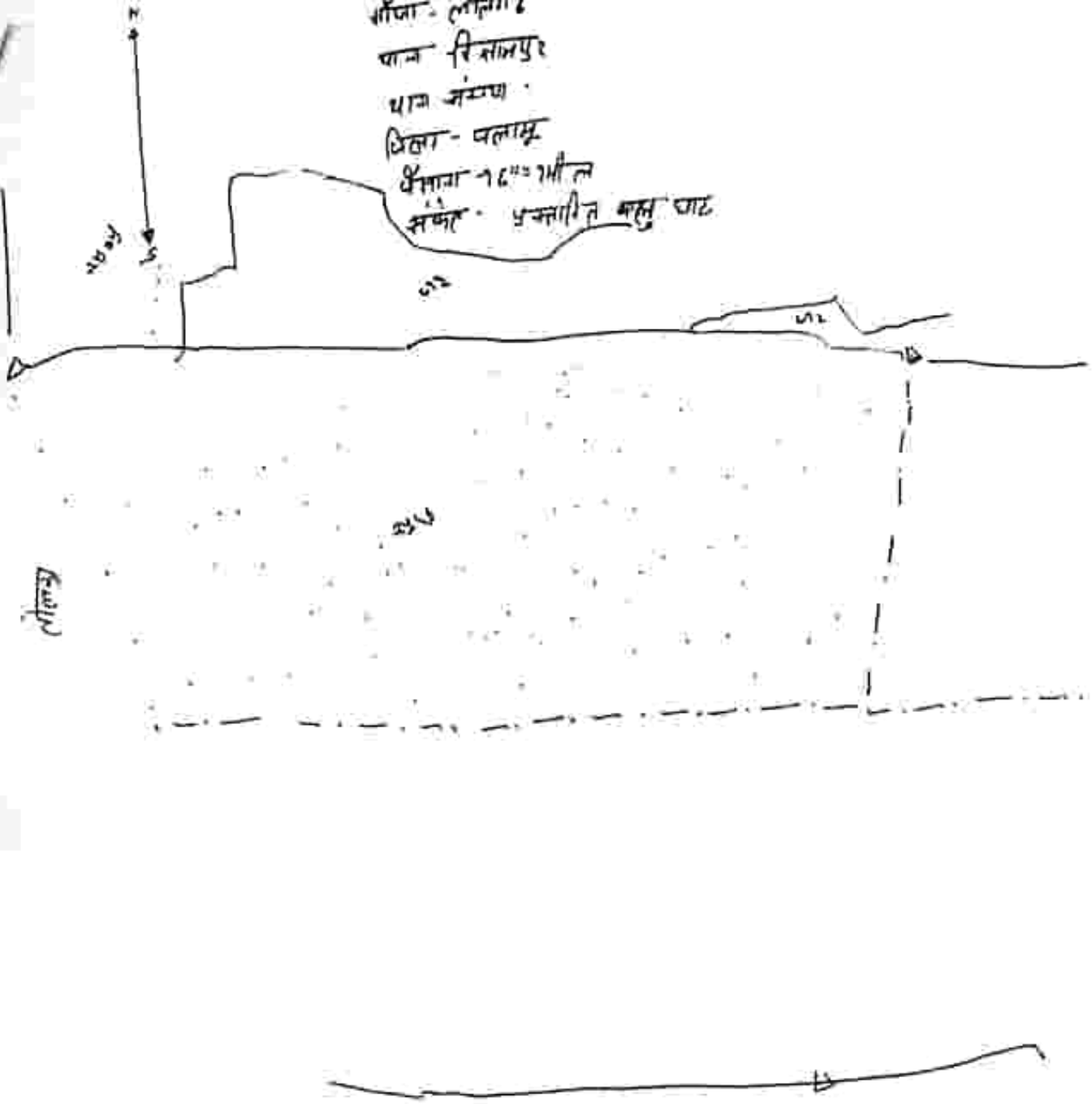
1. क्या आवेदित भूमि की कोई सर्वे खतियान तथा Registry से संबंधित कागजी कार्य में पाई है — नहीं।
2. क्या प्रस्तावित की दूरी के अन्दर कोई मंदिर स्थापित है — नहीं।
3. क्या प्रस्ताव की दूरी के अन्दर कोई तालाब निर्मित है — हाँ।
4. क्या प्रस्तावित की दूरी के अन्दर कोई औद्योगिक संस्थान है — हाँ ITI संस्थान
5. क्या प्रस्तावित की दूरी के अन्दर कोई नदी स्थित है — हाँ
6. क्या प्रस्तावित की दूरी के अन्दर कोई अंतर्राष्ट्रीय सीमा है।
7. क्या प्रस्तावित की दूरी के अन्दर कोई निर्माणाधीन है।
8. क्या प्रस्तावित की दूरी के अन्दर कोई राष्ट्रीय धरोहर पुरातात्त्विक महत्व स्थल है — नहीं।

अग्रेतर कार्यवाही हेतु प्रतिवेदन समर्पित।

Approved

आपका विश्वासपात्र

9/1/23


थाना - लातेहार
थाना - रिसालपुर
थाना नंबर -
जिला - पलामू
पैमाना 1"= 1000'
संकेत - प्रस्तावित बालू घाट
N
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
S15
S16
S17
S18
S19
S20
S21
S22
S23
S24
S25
S26
S27
S28
S29
S30
S31
S32
S33
S34
S35
S36
S37
S38
S39
S40

सेवा में,

श्री सक्षम अंचल अधिकारी महोदय

विक्रमगढ़ अंचल

विषय:— ग्राम मालपाड़ के खसरा नं. 248 की जोत के बारे में आपत्ति जिसके करने से संबंधित मांग अधिकार

प्रसंग:— ✓ आपका स्वयं पत्रांक का पत्रांक 7392/म. दिनांक 23/12/22.

महाशय,

उपरोक्त विषयक प्रसंगाधीन पत्र के अनुपालन में वांछित प्रतिवेदन निम्नवत है।

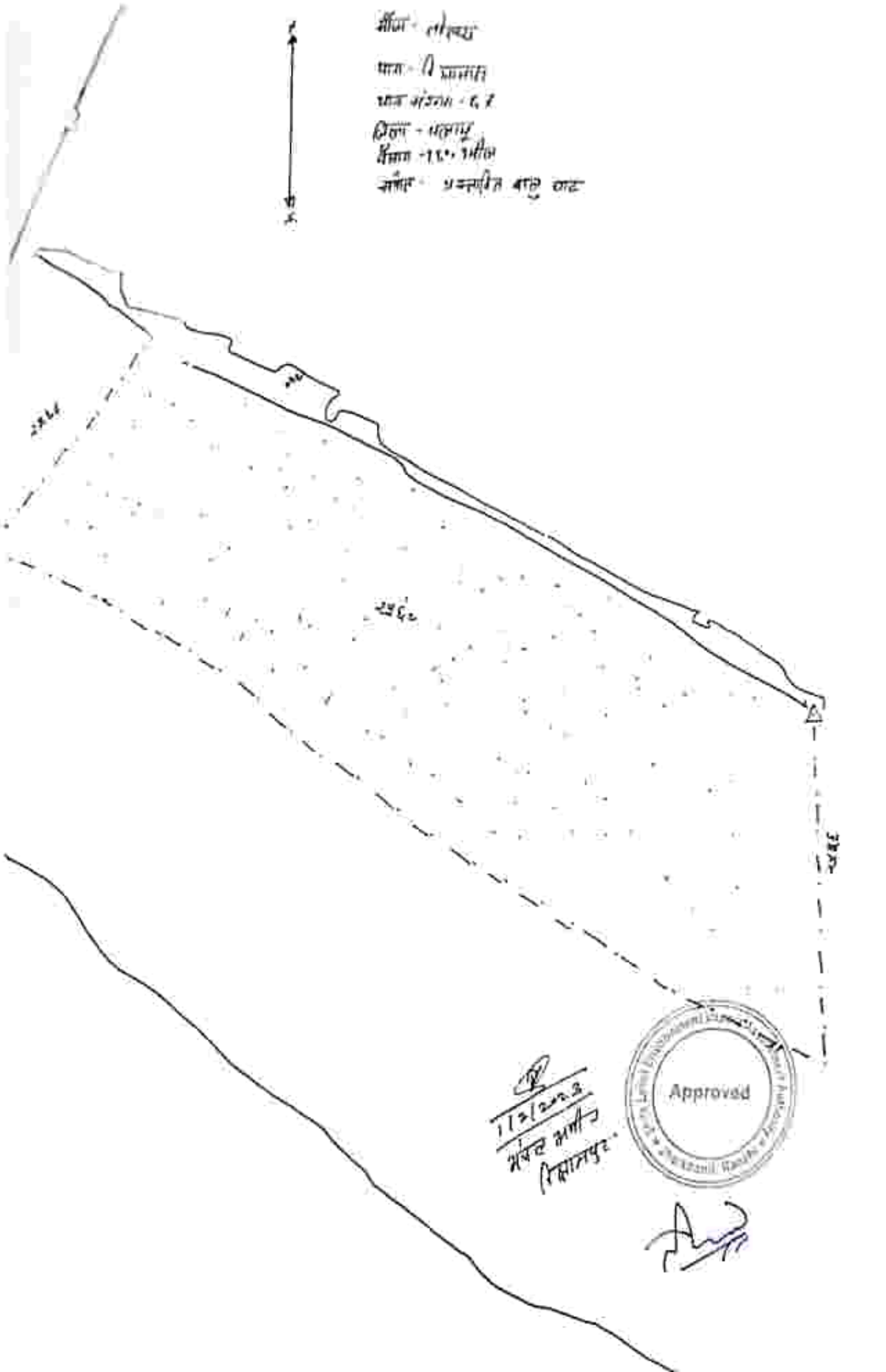
1. क्या आलोचित भूमि की कोई खेत खलिहान तथा Registered मंगल-माटी घर्ट है — नहीं।
2. क्या 500 मीटर की दूरी के अन्दर कोई मालवाहक — नहीं।
3. क्या 500 मीटर की दूरी के अन्दर कोई नलीय नियम है — हाँ।
4. क्या 500 मीटर की दूरी के अन्दर कोई नहीं है — हाँ।
5. क्या 500 मी की दूरी के अन्दर कोई औद्योगिक संस्थान है — हाँ।
6. क्या 500 मीटर की दूरी के अन्दर कोई चिकित्सालय है — हाँ। ITI
7. क्या 10 km की परिधि के अन्दर कोई अन्तर्राष्ट्रीय सीमा है — नहीं
8. क्या 500 मीटर की दूरी के अन्दर कोई सार्वजनिक धरोहर/पुरातात्विक महत्व के स्थल स्थित है — नहीं।

अग्रेतर कार्यवाही हेतु प्रतिवेदन समर्पित।

विश्वास भवदीय

9/12/23

Approved


Approved

कार्यालय अंचल अधिकारी, चैनपुर, पलामू।

पत्रांक 116 /दिनांक 24/01/2023

प्रेषक

अंचल अधिकारी
चैनपुर, पलामू।

सेवा में,

जिला खनन पदाधिकारी,
मेदिनीनगर, पलामू।

विषय – जांच प्रतिवेदन उपलब्ध कराने के संबंध में।

प्रसंग – भवदीय पत्रांक 3392 / एम0 दिनांक 23.12.2022

महोदय,

उपर्युक्त विषयक प्रासंगिक पत्र के आलोक में राजस्व उप निरीक्षक, अंचल निरीक्षक एवं अंचल अमीन से प्राप्त जांच प्रतिवेदन एवं ट्रेस नक्शा संलग्न कर आवश्यक कार्रवाई हेतु भेजा जा रहा है, जो निम्नवत् है :–

क्र0	बालुघाट का नाम	मौजा	खाता	प्लॉट	रकबा (ए0 में)	किस्म	नदी का नाम
1	कोयल नदी बालु घाट मुखरामघाट बसरियाकला	बसरियाकला	96	1065	2.06	नदी	उत्तरी कोयल
2	कोयल नदी बालु घाट दोकरा	दोकरा	40	1	2.00	नदी	उत्तरी कोयल
3	बोकेया कला	बेजेया कला	–	1	2.00	नदी	उत्तरी कोयल
4	कबतुआ	कबातुआ	–	366	2.60	नदी	उत्तरी कोयल
5	कवारी	कवारी	–	1992	2.50	नदी	उत्तरी कोयल
6	कल्याणपुर	कल्याणपुर	–	324	3.00	नदी	उत्तरी कोयल
7	चेड़ावार	चेड़ावार	–	765	2.00	नदी	उत्तरी कोयल
8	अयोध्या कोल्हुआ	अयोध्या कोल्हुआ	–	504	2.00	नदी	उत्तरी कोयल
9	खिरीवार	खिरीवारी	–	1054	2.00	नदी	उत्तरी कोयल
10	बोकेया खुर्द	बोकेया खुर्द	–	344	2.10	नदी	उत्तरी कोयल
11	करमडीह	करमडीह	–	436	2.25	नदी	उत्तरी कोयल

अनु0 – यथोक्त।

Approved

विश्वासभाजन
24.01.2023
अंचल अधिकारी,
चैनपुर, पलामू।

कार्यालय अंचल अधिकारी, चैनपुर, पलामू।

बालू घाट का जिला खनन पदाधिकारी के पत्रांक – 3392 /एम0, दिनांक – 23.12.2022 के आलोक में बालू घाट श्रेणी – 2 का जाँच प्रतिवेदन :–

(क) बालू घाट का नाम :– कोयल नदी बालू घाट चुरचामखाड़ बसखिरकला

(ख) भूमि का विवरण :–

मौजा	खाता	प्लॉट	रकबा	किस्म	नदी का नाम
बसखिरकला	96	1065	2.06	नदी	उत्तरी कोयल

क्र0सं0	जाँच की बिंदु	जाँच का रिपोर्ट
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है ।	नहीं
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाइट (Habitation) स्थित है।	नहीं
3	क्या 500 मीटर की दूरी के अंदर कोई जलीय निकाय (Dam/Rescrvoir) स्थित है।	नहीं
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है।	है नहीं है
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Education Instute) स्थित है।	नहीं
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है।	नहीं
7	क्या 10 कि0मी0 की परिधि में कोई अंतर्राज्यीय (Interstate) सीमा है।	नहीं
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर /पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है।	नहीं

अंचल अधिकारी
चैनपुर पलामू।

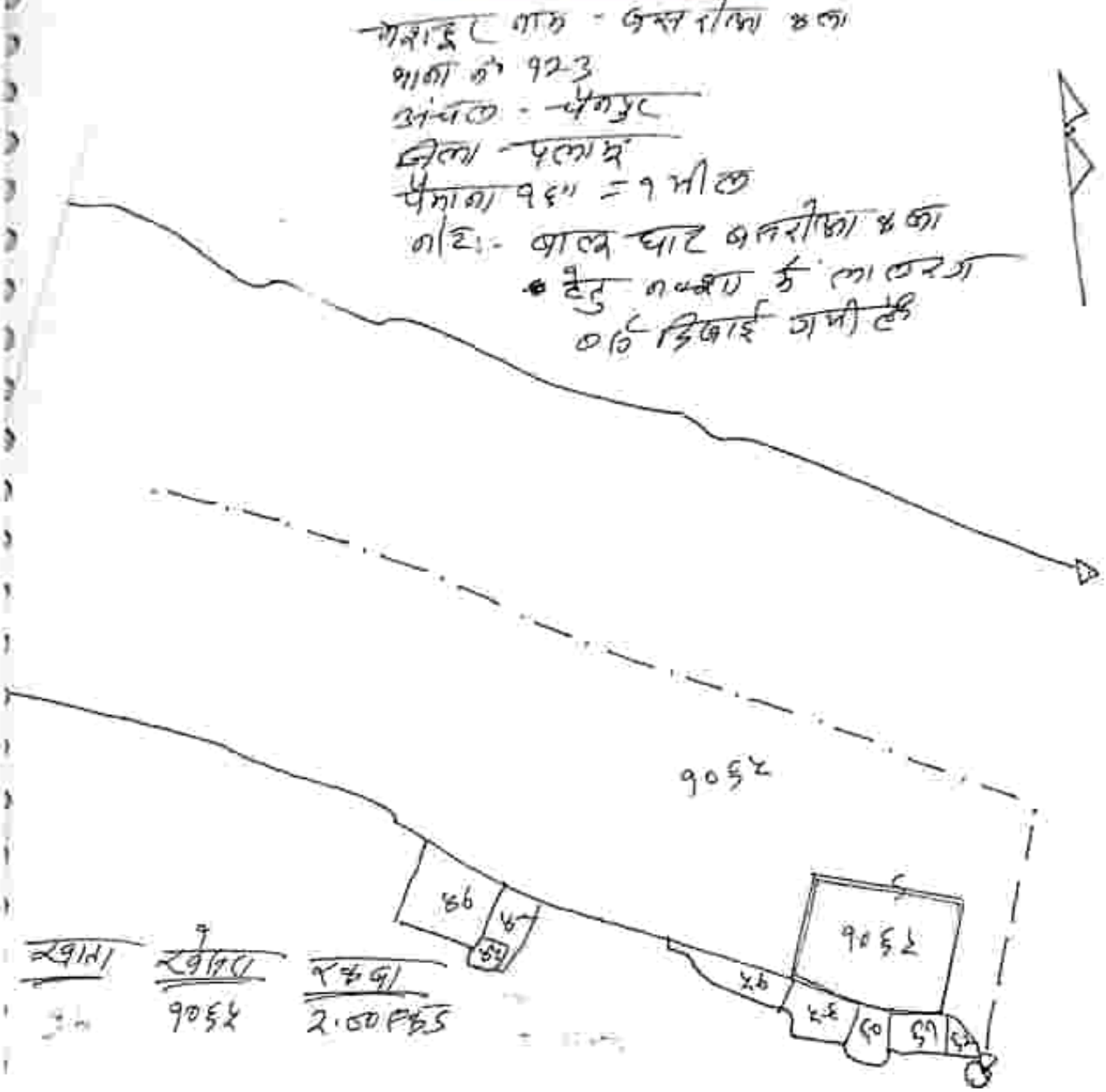
हल्का कर्मचारी
चैनपुर पलामू।

20.12.23

अवर निरीक्षक
चैनपुर पलामू।

Approved

अंचल अधिकारी
चैनपुर पलामू।



दिनांक, जमीन
04/12/2023

Approved

कार्यालय अंचल अधिकारी, चैनपुर, पलामू।

बालू घाट का जिला खनन पदाधिकारी के पत्रांक – 3392 /एम0, दिनांक – 23.12.2022 के आलोक में बालू घाट श्रेणी – 2 का जाँच प्रतिवेदन :–

(क) बालू घाट का नाम :– कोरका नदी बालू घाट होलहा

(ख) भूमि का विवरण :–

मौजा	खाता	प्लॉट	रकबा	किस्म	नदी का नाम
होलहा	40	1	2.00 Ha	नदी	उत्तरी कोयल

क्र0स0	जाँच की विंदु	जाँच का रिपोर्ट
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है ।	नहीं
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाइट (Habitation) स्थित है।	नहीं
3	क्या 500 मीटर की दूरी के अंदर कोई जलीय निकाय (Dam/Rescrvoir) स्थित है।	नहीं
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है।	हाँ नदी
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Education Instute) स्थित है।	नहीं
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है।	नहीं
7	क्या 10 कि0मी0 की परिधि में कोई अंतर्राज्यीय (Interstate) सीमा है।	नहीं
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर /पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है।	नहीं

अंचल अमीन,
चैनपुर पलामू।

तत्या कर्मचारी
चैनपुर पलामू।

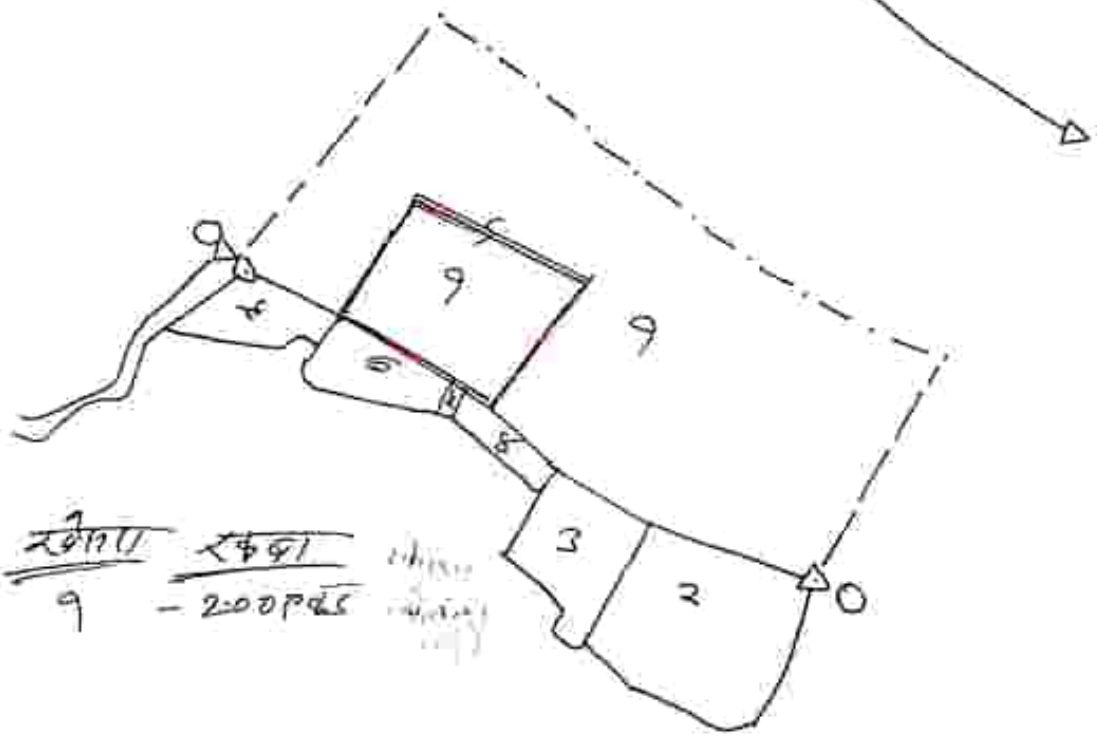
अंचल निरीक्षक
चैनपुर पलामू।

अंचल अधिकारी
चैनपुर पलामू।

Approved

मझाडूर ग्राम - दोकरा
आका नं- 966
अंचल - चैनपुर
जिला - पलामू
पैमाना 16" = 1 मील

नोट:- कालूछार दोकरा हेतु
प्रस्तावित भूमि लगभग 5
लाख रुपये में तय हुई
थी।



खाता	खेसरा	रकबा
40	7	- 2.00 एकड़

दिनांक, जमीन
20/12/2023

कार्यालय अंचल अधिकारी, चैनपुर, पलामू।

बालू घाट का जिला खनन पदाधिकारी के पत्रांक – 3392 /एम0, दिनांक – 23.12.2022 के आलोक में बालू घाट श्रेणी – 2 का जाँच प्रतिवेदन :–

(क) बालू घाट का नाम :– [illegible]

(ख) भूमि का विवरण :–

मौजा	खाता	प्लॉट	रकबा	किस्म	नदी का नाम
[illegible]	X	I	2.00 Ha	नदी	[illegible]

क0स0	जाँच की बिंदु	जाँच का रिपोर्ट
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है ।	नहीं
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाइट (Habitation) स्थित है।	नहीं
3	क्या 500 मीटर की दूरी के अंदर कोई जलीय निकाय (Dam/Reservoir) स्थित है।	नहीं
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है।	हाँ
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Education Instute) स्थित है।	नहीं
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है।	नहीं
7	क्या 10 किमी0 की परिधि में कोई अंतर्राज्यीय (Interstate) सीमा है।	नहीं
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर /पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है।	नहीं

अंचल अमीन,
चैनपुर पलामू।

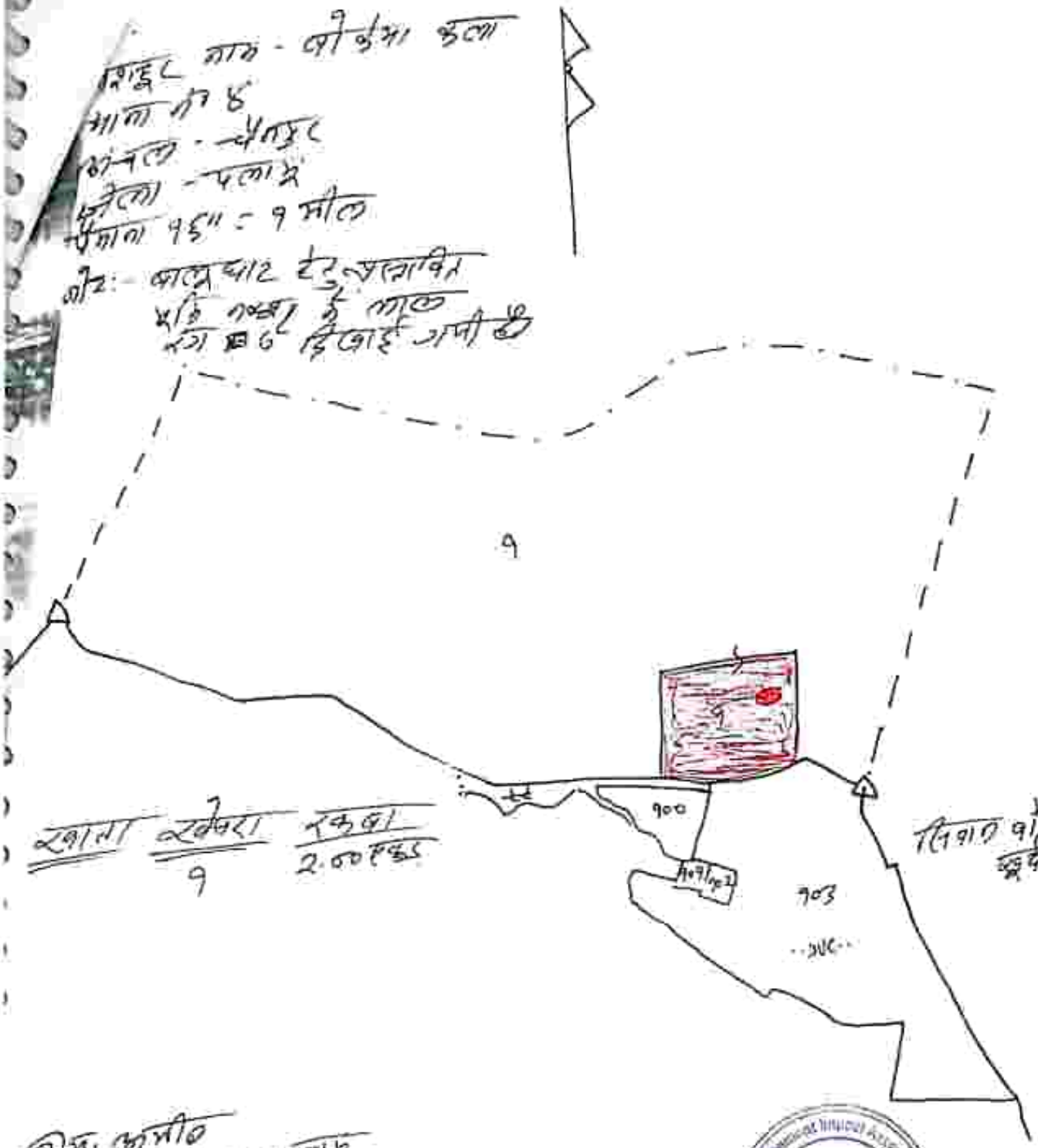
हल्का कर्मचारी
चैनपुर पलामू।

अंचल निरीक्षक
चैनपुर पलामू।

अंचल अधिकारी
चैनपुर पलामू।

Approved
Jharkhand, Ranchi

मौजा - पोंड़मा कला
हल्का नं 6
अंचल - चैनपुर
जिला - पलामू
पैमाना 15" = 1 मील
नोट:- कालू घाट टेढ़ा-सलाखित
यह नक्शा है लाल
रंग से 6 दिखाई गयी है



खाता खसरा रकबा
9 2.00 एकड़

दक्षिण पोंड़मा खुर्द

उक्त जमीन
अंचल - चैनपुर, पलामू
9812723

Approved

Jharkhand, Ranchi

कार्यालय अंचल अधिकारी, चैनपुर, पलामू।

बालू घाट का जिला खनन पदाधिकारी के पत्रांक – 3392 /एम0, दिनांक – 23.12.2022 के आलोक में बालू घाट श्रेणी – 2 का जाँच प्रतिवेदन :–

(क) बालू घाट का नाम :– कोकटुआ।

(ख) भूमि का विवरण :–

मौजा	खाता	प्लॉट	रकबा	किस्म	नदी का नाम
कोकटुआ।	X	366	2.60 Vo	नदी	कैमरी कोयल

क0स0	जाँच की बिंदु	जाँच का रिपोर्ट
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है ।	नहीं
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाइट (Habitation) स्थित है।	नहीं
3	क्या 500 मीटर की दूरी के अंदर कोई जलीय निकाय (Dam/Rescrvoir) स्थित है।	नहीं
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है।	हाँ
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Education Instute) स्थित है।	नहीं
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है।	नहीं
7	क्या 10 कि0मी0 की परिधि में कोई अंतर्राज्यीय (Interstate) सीमा है।	नहीं
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर /पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है।	नहीं

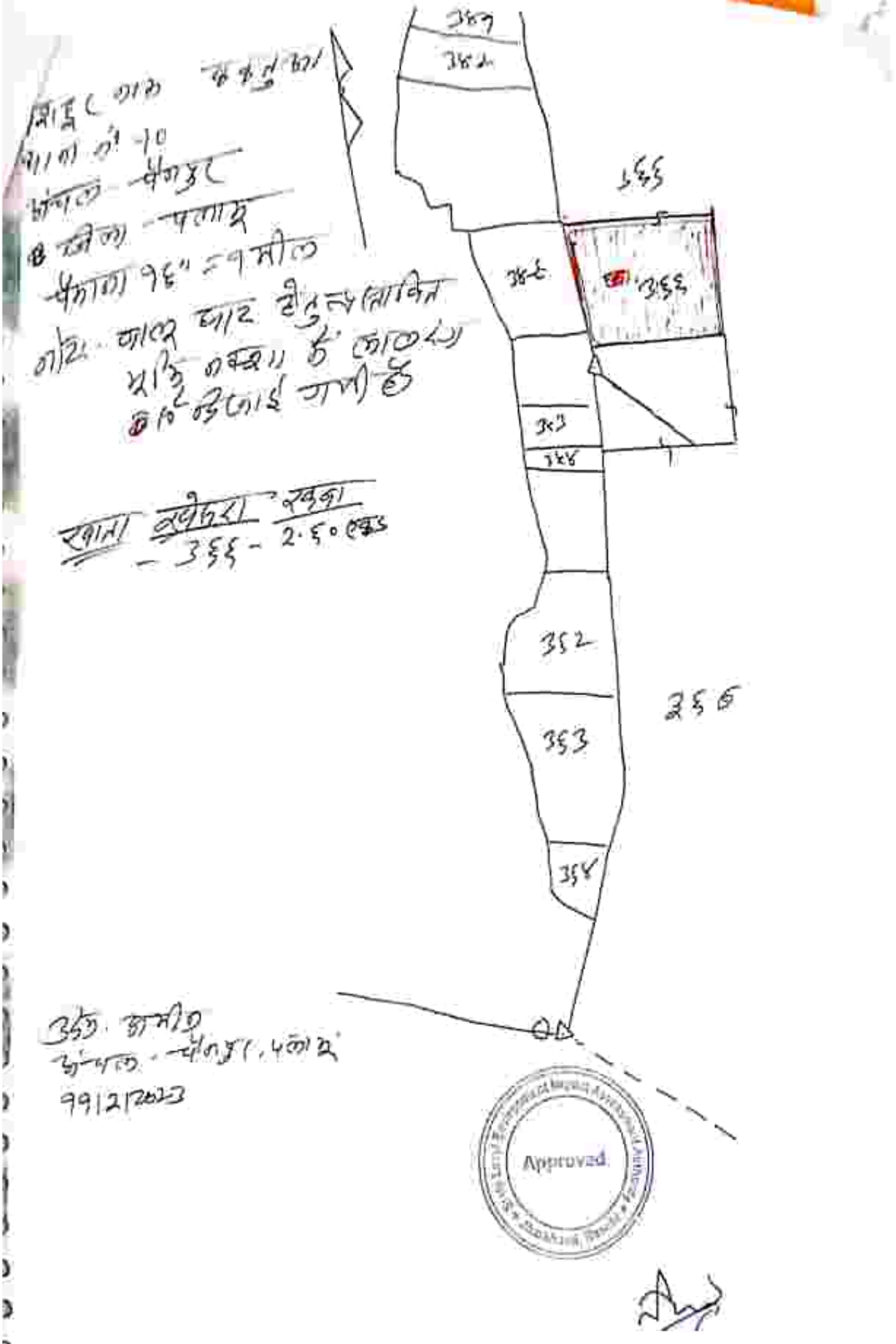
अंचल अमीन,
चैनपुर पलामू।

हल्का कर्मचारी
चैनपुर पलामू।

अंचल निरीक्षक
चैनपुर पलामू।

अंचल अधिकारी
चैनपुर पलामू।

Approved



सिटी थाना
थाना नं -10
जिला - चंगुर
B जिला - पलाश
पैमाना 16" = 1 मील

खाता खसरा रकबा
- 355 - 2.50 एकड़

उप. तहसील
जिला - चंगुर, पलाश
9912/2023

कार्यालय अंचल अधिकारी, चैनपुर, पलामू।

बालू घाट का जिला खनन पदाधिकारी के पत्रांक – 3392 /एम0, दिनांक – 23.12.2022 के आलोक में बालू घाट श्रेणी – 2 का जाँच प्रतिवेदन :–

(क) बालू घाट का नाम :– कंकारी

(ख) भूमि का विवरण :–

मौजा	खाता	प्लॉट	रकबा	किस्म	नदी का नाम
कंकारी	X	1992	2.50 ए०	नदी	कुमरी कोयल

क्र0स0	जाँच की बिंदु	जाँच का रिपोर्ट
1.	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है ।	नहीं
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाइट (Habitation) स्थित है।	नहीं
3	क्या 500 मीटर की दूरी के अंदर कोई जलीय निकाय (Dam/Reservoir) स्थित है।	नहीं
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है।	हाँ
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Education Instute) स्थित है।	नहीं
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है।	नहीं
7	क्या 10 कि0मी0 की परिधि में कोई अंतर्राज्यीय (Interstate) सीमा है।	नहीं
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर /पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है।	नहीं

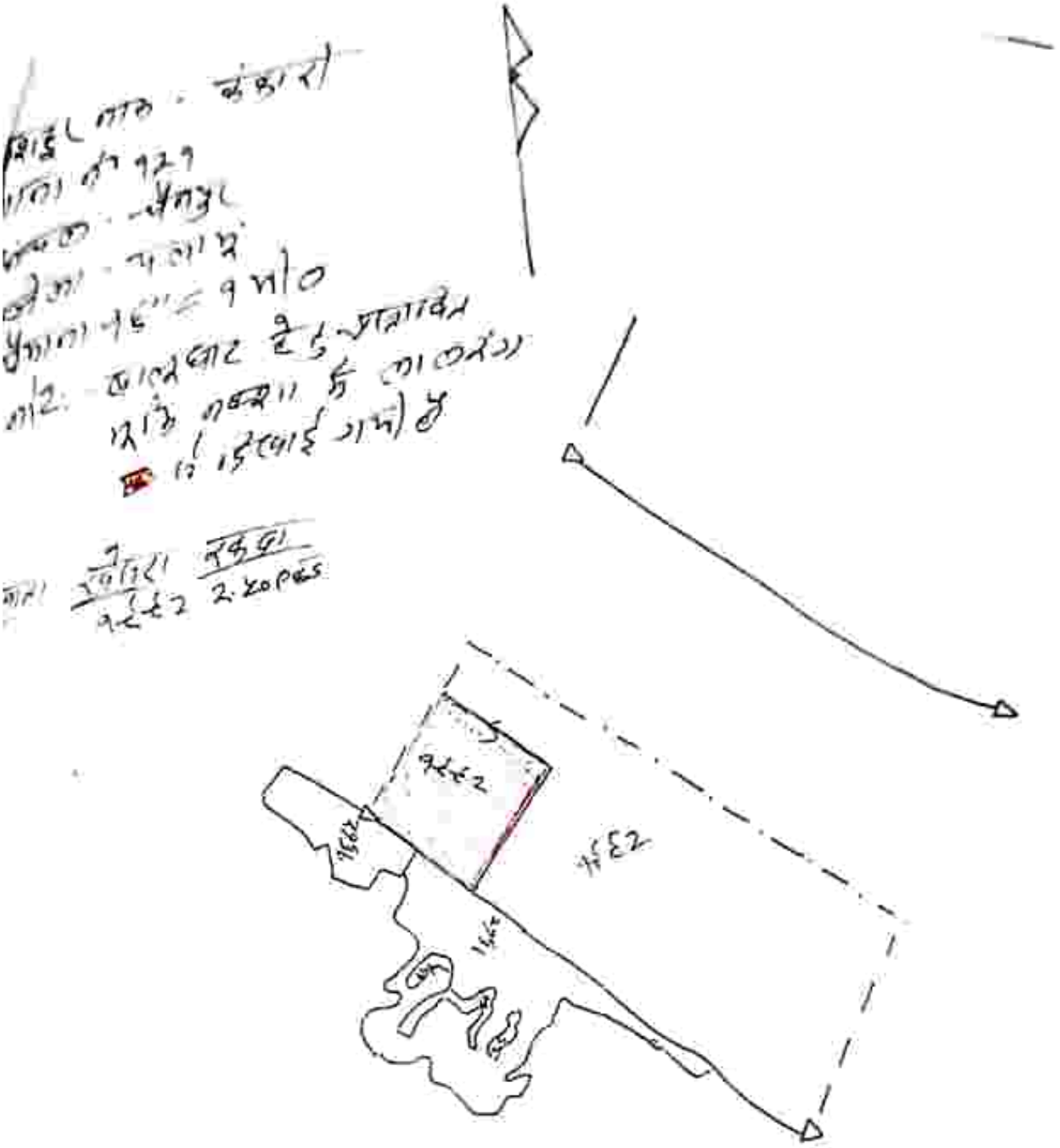
अंचल अमीन,
चैनपुर पलामू।

डेल्को कर्मचारी
चैनपुर पलामू।

अंचल निरीक्षक
चैनपुर पलामू।

अंचल अधिकारी
चैनपुर पलामू।

Approved



Approved

कार्यालय अंचल अधिकारी, चैनपुर, पलामू।

बालू घाट का जिला खनन पदाधिकारी के पत्रांक – 3392 /एम0, दिनांक – 23.12.2022 के आलोक में बालू घाट श्रेणी – 2 का जाँच प्रतिवेदन :–

(क) बालू घाट का नाम :– कल्याणपुर

(ख) भूमि का विवरण :–

मौजा	खाता	प्लॉट	रकबा	किस्म	नदी का नाम
कल्याणपुर	X	324	3.00	नदी	अमी कोयल

क0स0	जाँच की बिंदु	जाँच का रिपोर्ट
1	क्या आवेदित भूमि की कोटि सर्वे खतियान क्या रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है ।	नहीं
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाइट (Habitation) स्थित है।	नहीं
3	क्या 500 मीटर की दूरी के अंदर कोई जलीय निकाय (Dam/Rescrvoir) स्थित है।	नहीं
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है।	हाँ
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Education Instute) स्थित है।	नहीं
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है।	नहीं
7	क्या 10 कि0मी0 की परिधि में कोई अंतर्राज्यीय (Interstate) सीमा है।	नहीं
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर /पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है।	नहीं

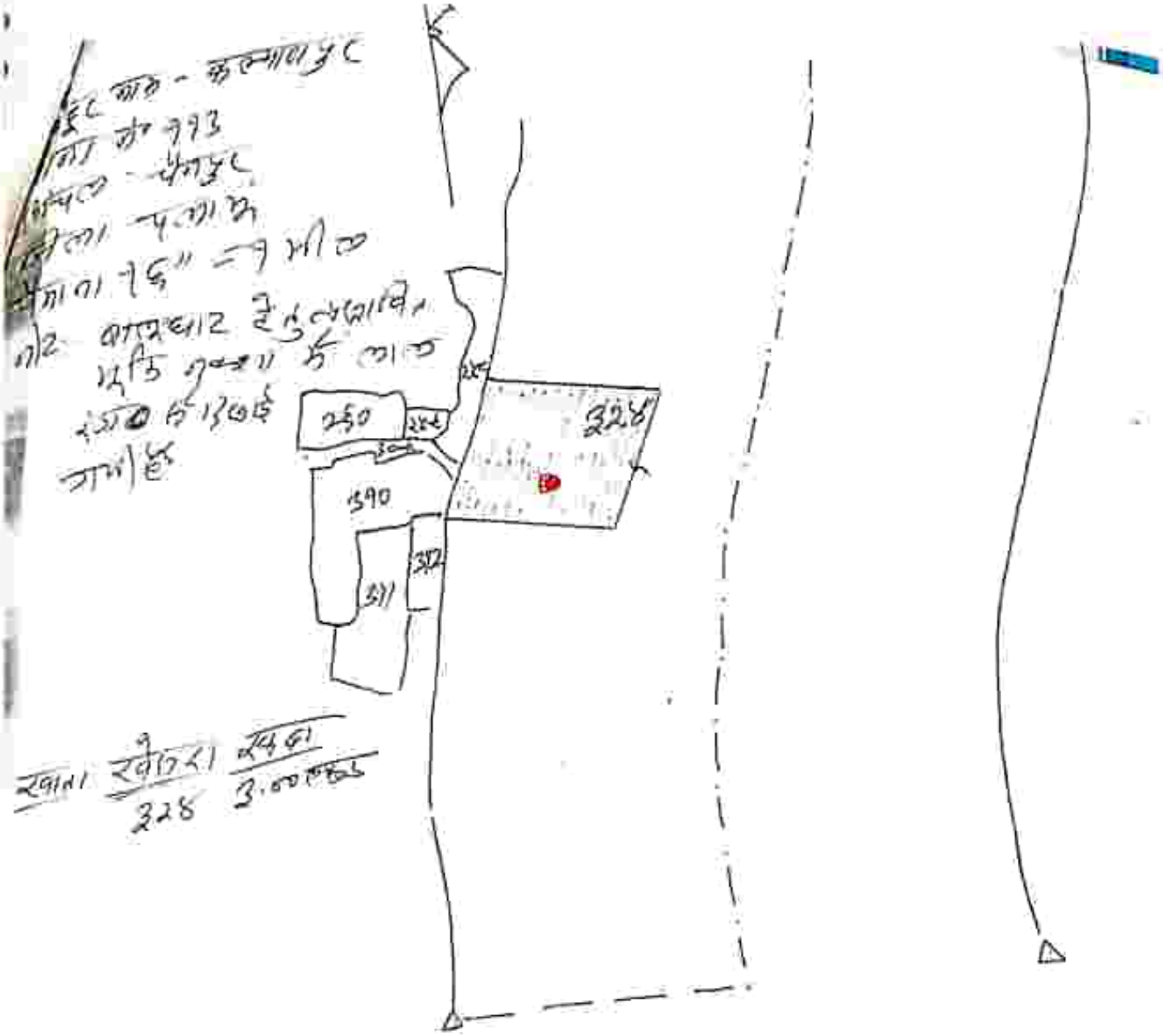
अंचल अमीन
चैनपुर पलामू।

हल्का कर्मचारी
चैनपुर पलामू।

अंचल निरीक्षक
चैनपुर पलामू।

अंचल अधिकारी
चैनपुर पलामू।

Approved



Approved

कार्यालय अंचल अधिकारी, चैनपुर, पलामू।

बालू घाट का जिला खनन पदाधिकारी के पत्रांक – 3392 /एम0, दिनांक – 23.12.2022 के आलोक में बालू घाट श्रेणी – 2 का जाँच प्रतिवेदन :–

(क) बालू घाट का नाम :– चेड़ा।का।र

(ख) भूमि का विवरण :–

मौजा	खाता	प्लॉट	रकबा	किस्म	नदी का नाम
चेड़ा।का।र	X	715	2.00 ए०	नदी	उत्तरी कोयल

क0सं0	जाँच की बिंदु	जाँच का रिपोर्ट
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है ।	नहीं
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाइट (Habitation) स्थित है।	नहीं
3	क्या 500 मीटर की दूरी के अंदर कोई जलीय निकाय (Dam/Rescrvoir) स्थित है।	नहीं
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है।	है।
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Education Instute) स्थित है।	नहीं
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है।	नहीं
7	क्या 10 कि0मी0 की परिधि में कोई अंतर्राज्यीय (Interstate) सीमा है।	नहीं
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर /पुरातत्वीय (Monuments/Archaeological) महत्त्व के स्थल स्थित है।	नहीं

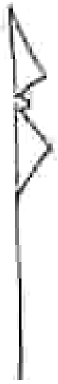
अंचल अमीन
चैनपुर पलामू।

हल्का कर्मचारी
चैनपुर पलामू।

अंचल निरीक्षक
चैनपुर पलामू।

Approved

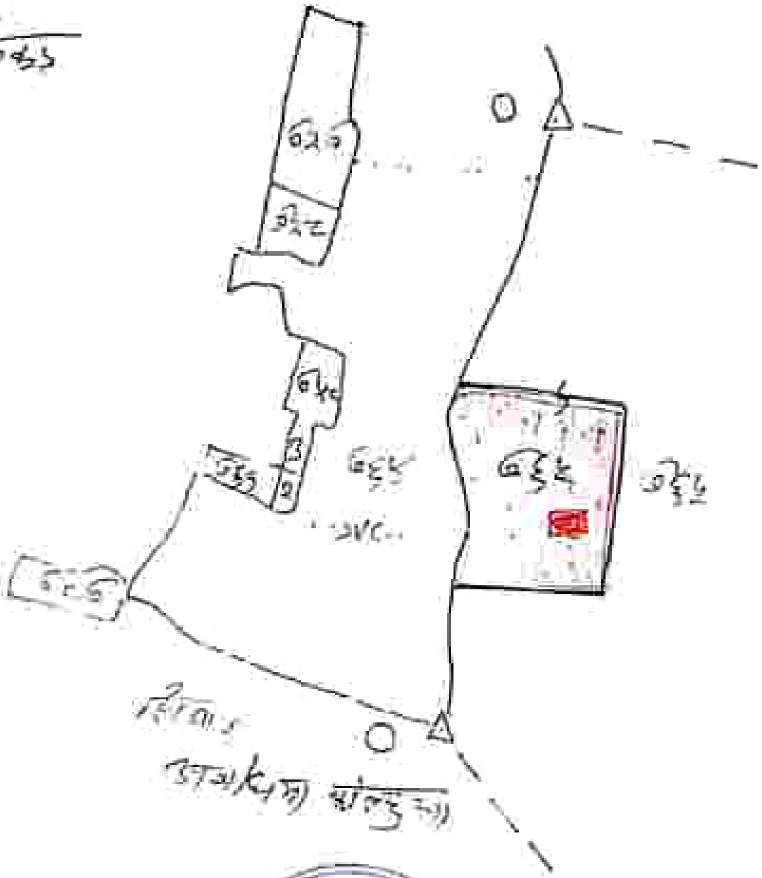
अंचल अधिकारी
चैनपुर पलामू।



मौजा (ग्राम) — चौड़ा घाट
थाना नं 24
अंचल - चैनपुर
जिला - पलामू
पैमाना 16" = 1 मील

नोट: - मौजा चौड़ा घाट हेतु प्रस्तावित भूमि नक्शा के लाल रंग से दिखाई गयी है।

खाता	खेसरा	रकबा
	६५५	2.00 एकड़



Approved
State Level Environment Impact Assessment Authority, Jharkhand, Ranchi

प्रवीण राजमोहन
3/2/2023

कार्यालय अंचल अधिकारी, चैनपुर, पलामू।

बालू घाट का जिला खनन पदाधिकारी के पत्रांक – 3392 /एम0. दिनांक – 23.12.2022 के आलोक में बालू घाट श्रेणी – 2 का जाँच प्रतिवेदन :–

(क) बालू घाट का नाम :– अयोध्या कोल्हुआ

(ख) भूमि का विवरण :–

मौजा	खाता	प्लॉट	रकबा	किस्म	नदी का नाम
अयोध्या कोल्हुआ	X	504	2.00 ए0	नदी	कोयल

क0स0	जाँच की विंदु	जाँच का रिपोर्ट
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है ।	नहीं
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाइट (Habitation) स्थित है।	नहीं
3	क्या 500 मीटर की दूरी के अंदर कोई जलीय निकाय (Dam/Rescrvoir) स्थित है।	नहीं
4	क्या 500 मीटर की दूरी के अदर कोई नदी (River) स्थित है।	हाँ
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Education Instute) स्थित है।	नहीं
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है।	नहीं
7	क्या 10 कि0मी0 की परिधि में कोई अंतर्राज्यीय (Interstate) सीमा है।	नहीं
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर /पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है।	नहीं

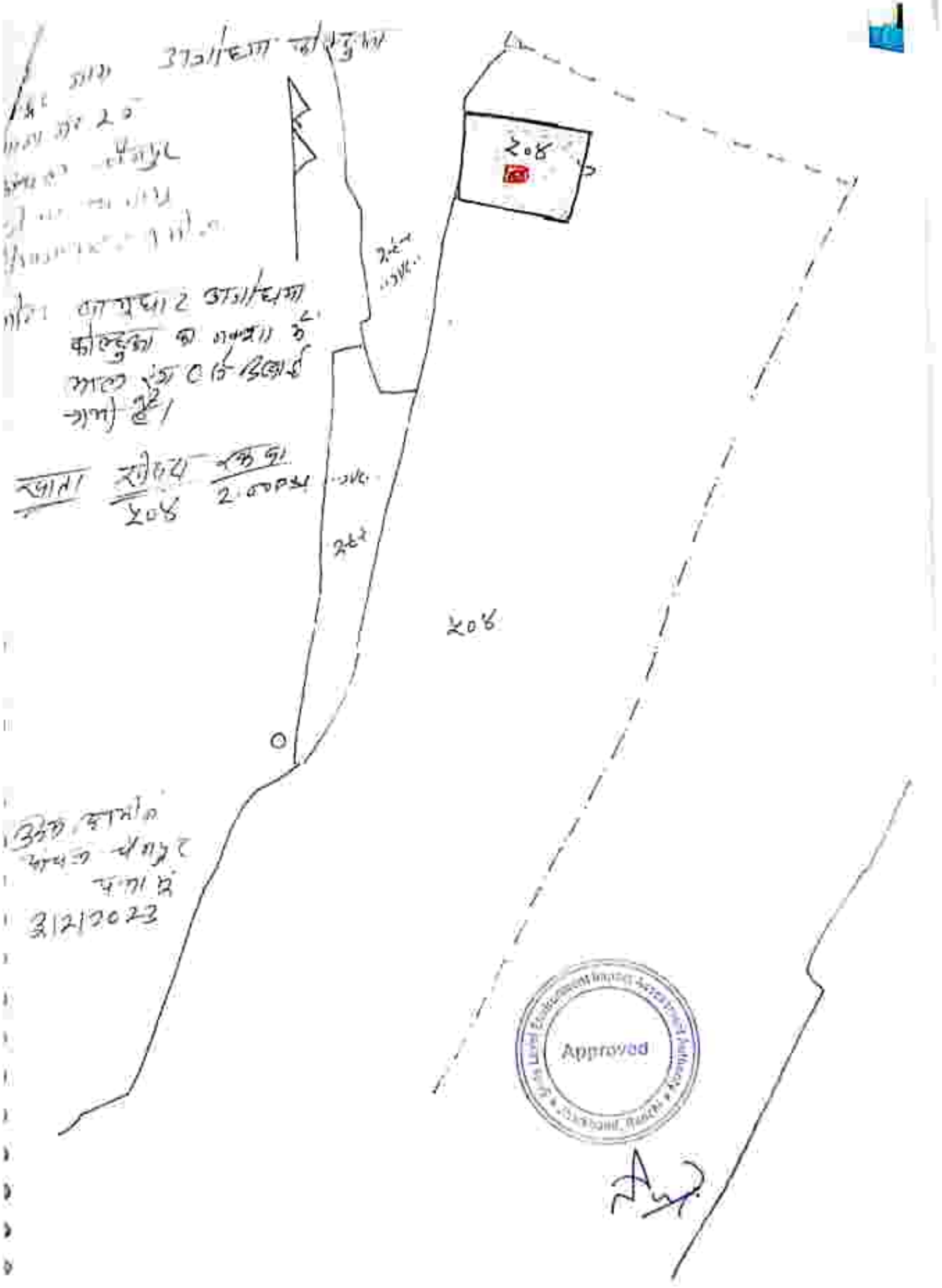
अंचल अमीन,
चैनपुर पलामू।

हल्का कर्मचारी
चैनपुर पलामू।

Approved

अंचल निरीक्षक
चैनपुर पलामू।

अंचल अधिकारी
चैनपुर पलामू।


Approved

कार्यालय अंचल अधिकारी, चैनपुर, पलामू।

बालू घाट का जिला खनन पदाधिकारी के पत्रांक – 3392 /एम0, दिनांक – 23.12.2022 के आलोक में बालू घाट श्रेणी – 2 का जाँच प्रतिवेदन :–

(क) बालू घाट का नाम :– [illegible]

(ख) भूमि का विवरण :–

मौजा	खाता	प्लॉट	रकबा	किस्म	नदी का नाम
[illegible]	×	1054	2.00 ए०	नदी	[illegible]

क्र०सं०	जाँच की विंदु	जाँच का रिपोर्ट
1	[illegible] आवेदित भूमि की कोटि सर्वे खतियान तथा रजिस्टर–II में जंगल [illegible]ाड़ी के रूप में दर्ज है ।	नहीं
2	[illegible]या 500 मीटर की दूरी के अंदर कोई मानव बसाइट (Habitation) [illegible]थित है।	नहीं
3	[illegible]या 500 मीटर की दूरी के अंदर कोई जलीय निकाय [illegible]am/Rescrvoir) स्थित है।	नहीं
4	[illegible]ा 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है।	हाँ
5	[illegible]ा 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Education [illegible]stute) स्थित है।	नहीं
6	[illegible]ा 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित [illegible]।	नहीं
7	[illegible]त 10 कि०मी० की परिधि में कोई अंतर्राज्यीय (Interstate) सीमा है।	नहीं
8	[illegible]र 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर / पुरातत्वीय [illegible]onuments/Archaeological) महत्व के स्थल स्थित है।	नहीं

[illegible]
[illegible]न,
चैनपुर [illegible]मू।

हल्का कर्मचारी
चैनपुर पलामू।

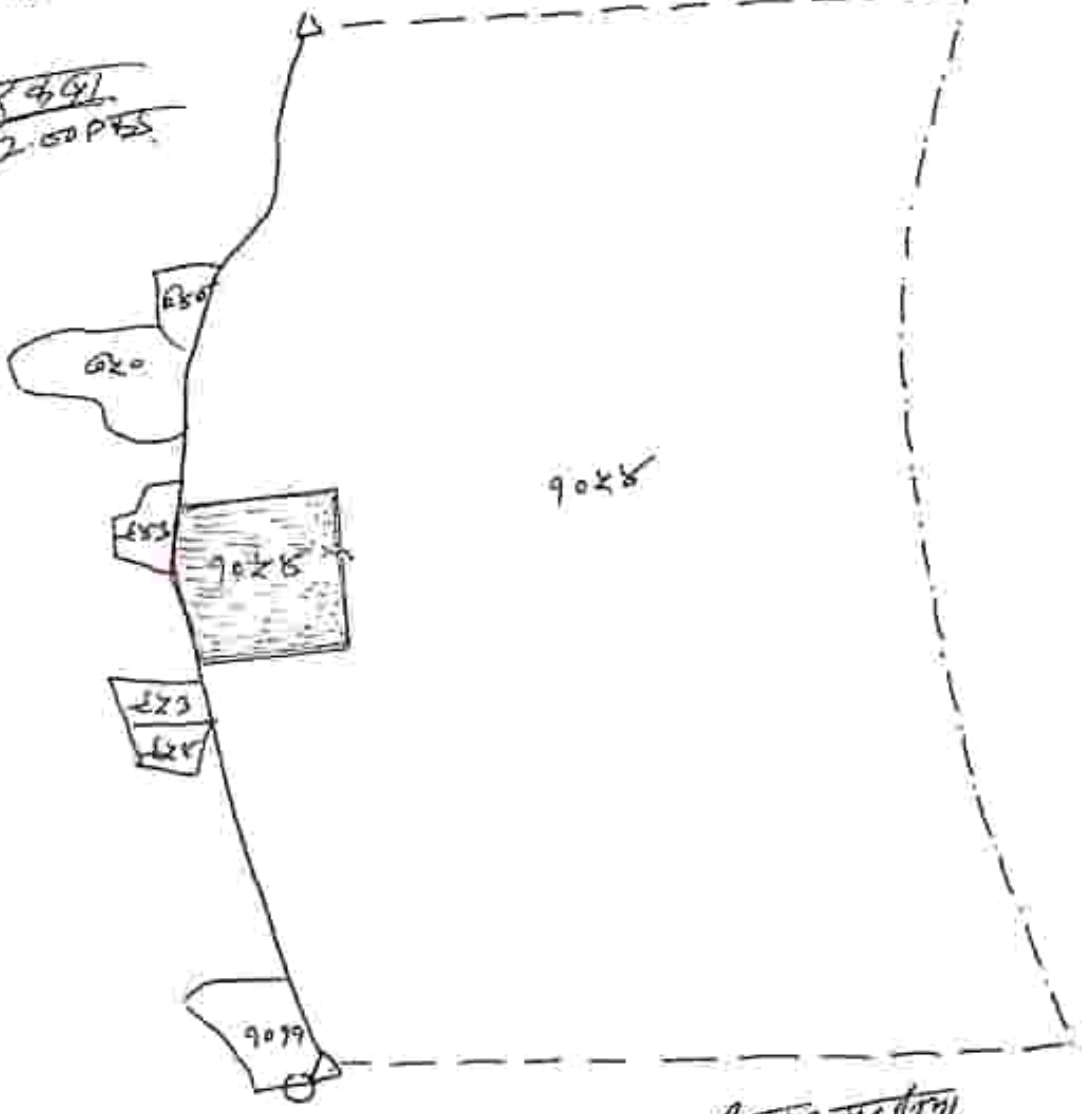
अंचल निरीक्षक
चैनपुर पलामू।

Approved

अंचल अधिकारी
चैनपुर पलामू।

ग्रामीण नाम - रिंगरोड
थाना नं० 20
मंडल - चंपुर
जिला - पलामू
पैमाना 25" = 1 मील
नोट:- खाद्यधार हेतु प्रस्तावित
भूमि नक्शा में लाल रंग
से दिखाई गयी है

खाता खेसरा रकबा
9028 - 2.00 एक



सिवान परतीला

ग्रामीण अमीन
मंडल - चंपुर, पलामू
2/12/2023

Approved

कार्यालय अंचल अधिकारी, चैनपुर, पलामू।

बालू घाट का जिला खनन पदाधिकारी के पत्रांक – 3392 /एम0, दिनांक – 23.12.2022 के आलोक में बालू घाट श्रेणी – 2 का जाँच प्रतिवेदन :–

(क) बालू घाट का नाम :– कौवेमा चुर्द

(ख) भूमि का विवरण :–

मौजा	खाता	प्लॉट	रकबा	किस्म	नदी का नाम
कौवेमाचुर्द	X	345	2.10 Ro	नदी	उत्री कोयल

क0स0	जाँच की बिंदु	जाँच का रिपोर्ट
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है ।	नहीं
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बस्ताइट (Habitation) स्थित है।	नहीं
3	क्या 500 मीटर की दूरी के अंदर कोई जलीय निकाय (Dam/Reservoir) स्थित है।	नहीं
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है।	हाँ
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Education Instute) स्थित है।	नहीं
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है।	नहीं
7	क्या 10 कि0मी0 की परिधि में कोई अंतर्राज्यीय (Interstate) सीमा है।	नहीं
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर /पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है।	नहीं

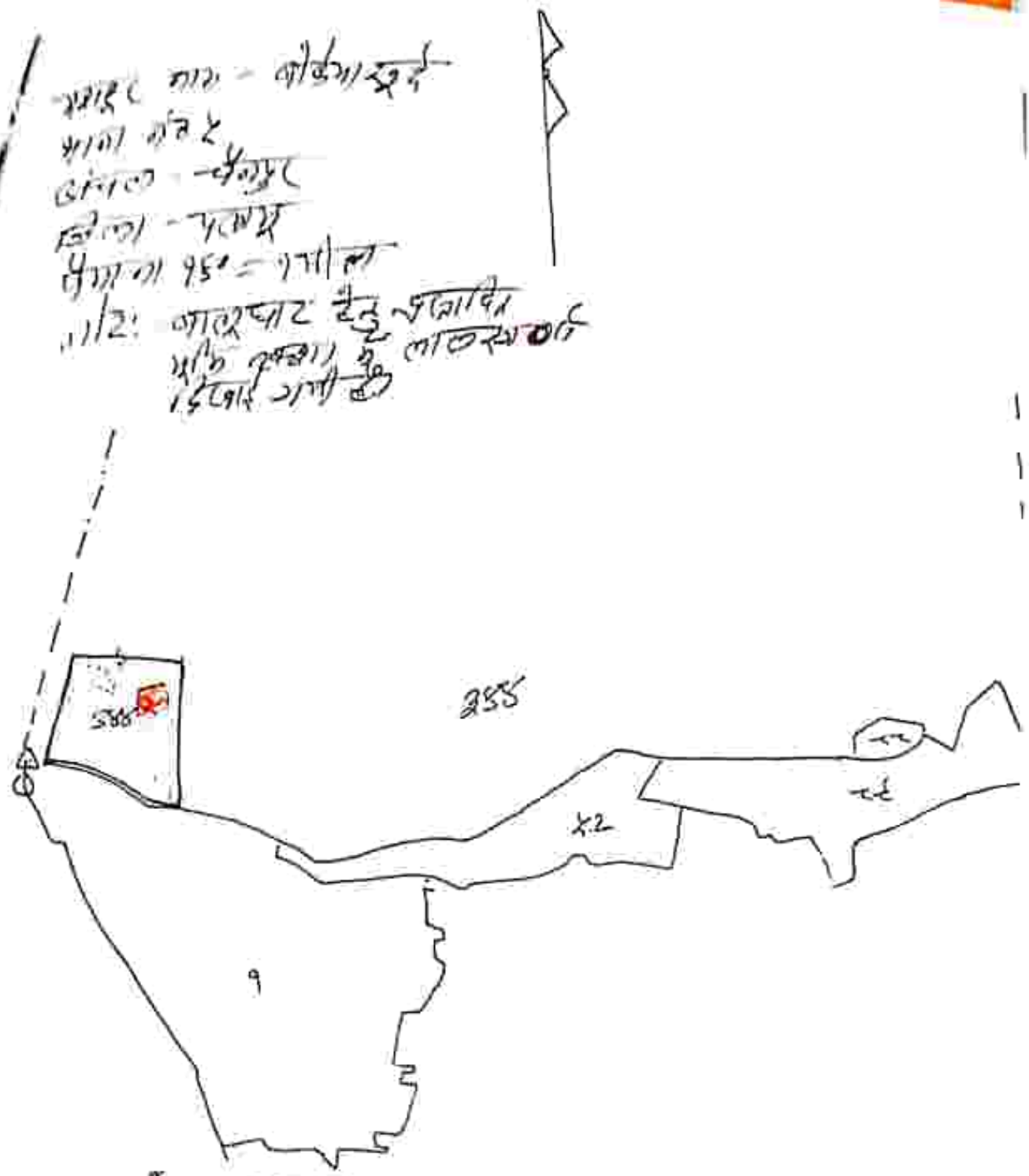
अंचल अमीन,
चैनपुर पलामू।

हल्का कर्मचारी
चैनपुर पलामू।

अंचल निरीक्षक
चैनपुर पलामू।

अंचल अधिकारी
चैनपुर पलामू।

Approved



খতিয়ান	দাগ নং	পরিমাণ
386	2	2.10 Ha

Approved

টুইন. কমার্শিয়াল
কাঁচা - ধানবাদ, ঝাড়খণ্ড
9812/2023

कार्यालय अंचल अधिकारी, चैनपुर, पलामू।

बालू घाट का जिला खनन पदाधिकारी के पत्रांक – 3302 /एम0, दिनांक – 23.12.2022 के आलोक में बालू घाट श्रेणी – 2 का जाँच प्रतिवेदन :–

(क) बालू घाट का नाम :– [illegible]

(ख) भूमि का विवरण :–

मौजा	खाता	प्लॉट	रकबा	किस्म	नदी का नाम
[illegible]	×	436	2.25 एकड़	नदी	[illegible]

क0स0	जांच की बिंदु	जांच का रिपोर्ट
1	क्या आवेदित भूमि की कोटि सर्वे खतियान यथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है ।	नहीं
2	क्या 500 मीटर की दूरी के अंदर कोई मानव बसाइट (Habitation) स्थित है।	नहीं
3	क्या 500 मीटर की दूरी के अंदर कोई जलीय निकाय (Dam/Reservoir) स्थित है।	नहीं
4	क्या 500 मीटर की दूरी के अंदर कोई नदी (River) स्थित है।	हाँ
5	क्या 500 मीटर की दूरी के अंदर कोई शैक्षणिक संस्थान (Education Instute) स्थित है।	नहीं
6	क्या 500 मीटर की दूरी के अंदर कोई चिकित्सालय (Hospital) स्थित है।	नहीं
7	क्या 10 कि0मी0 की परिधि में कोई अंतर्राज्यीय (Interstate) सीमा है।	नहीं
8	क्या 500 मीटर की दूरी के अंदर कोई राष्ट्रीय धरोहर /पुरातत्वीय (Monuments/Archaeological) महत्व के स्थल स्थित है।	नहीं

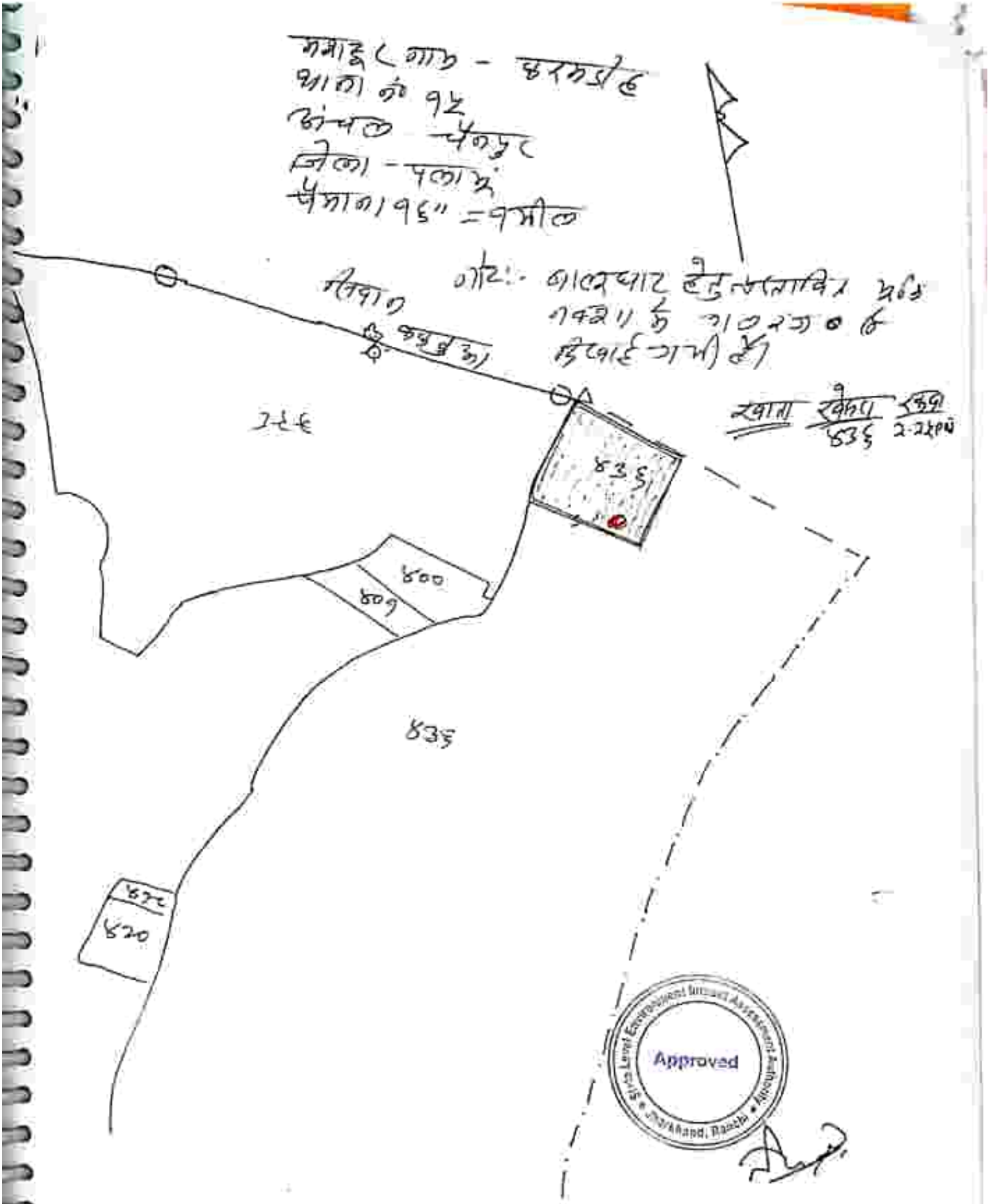
अचल अमीन,
चैनपुर पलामू।

एल्का कर्मचारी
चैनपुर पलामू।

अंचल निरीक्षक
चैनपुर पलामू।

अंचल अधिकारी
चैनपुर पलामू।

Approved



उप. जमीन
अंचल - चैनपुर, पलामू
9/2/2023

कार्यालय, अंचल अधिकारी, हैदरनगर।

Email cohaidernagar@gmail.com

पत्रांक-<38 /दिनांक- 17-1-2023

प्रेषक,

अंचल अधिकारी,
हैदरनगर।

सेवा मे,

जिला खनन पदाधिकारी,
पलामू।

विषय :- अंचल हैदरनगर अन्तर्गत बालूघाटों का निम्नलिखित बिन्दुओं का जाँच प्रतिवेदन प्रेषित करने के संबंध में।

प्रसंग :- भवदीय पत्रांक–3392/एम0, दिनांक–03.12.2022

महाशय,

उपर्युक्त विषयक एवं प्रासंगिक पत्र के संबंध मे कहना है कि अंचल हैदरनगर अन्तर्गत बालूघाटों का निम्नलिखित बिन्दुओं पर जाँच प्रतिवेदन की मांग कि गई है।

उक्त के आलोक मे इस कार्यालय के राजस्व उपनिरीक्षक, प्रभारी अंचल निरीक्षक एवं अंचल अमीन द्वारा जाँच कराई गई। जाँच प्रतिवेदन इस पत्र के साथ संलग्न कर अग्रेतर कार्रवाई हेतू भेजी जा रही है।

कृप्या प्राप्ति स्वीकार कि जाए।

विश्वासभाजन

अनु0–यथोक्त।

अंचल अधिकारी,
हैदरनगर।
17-1-2023

Approved

अंचल हैदरनगर अन्तर्गत बालूघाटों [illegible] पर जाँच प्रति[illegible]

बालूघाट का नाम– कुतरकिला (खेवटा दर J)

बिन्दु	
1. क्या आवेदित भूमि की कोटि सर्वे खतियान तथा रजिस्टर–II मे जंगल झाडी के रूप मे दर्ज है ?	नहीं
2. क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है।	नहीं
3. क्या 500 मीटर की दुरी के अंदर कोई जलीय निकाय (Dam/Rescrvoir) स्थित है।	नहीं
4. क्या 500 मीटर के दुरी के अंदर कोई नदी (River) स्थित है।	हाँ
5. क्या 500 मीटर के दुरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है।	नहीं
6. क्या 500 मीटर के दुरी के अंदर कोई चिकित्सालय (Hospital) स्थित है।	नहीं
7. क्या 10 कि0मी0 के परिधि मे कोई अंतर्राज्जीय (Interstate) सीमा है।	हाँ
8. क्या 500 मीटर के दुरी के अंदर कोई राष्ट्रीय धरोहर/पुरातत्वीय (Monuments/Archaeological) महत्व के स्थान स्थित है।	नहीं

[illegible]

Approved

16/11/23

16/11/23

16/11/23

अंचल अधिकारी
हैदरनगर पलामू झारखंड

खसरा/सर्वेक्षण नक्शा का 2cL भाग है।

अंचलाः हैदरनगर जिलाः पलामू

पैमानाः 16" = 1 मील

रकबा	क्वार्टर	खाता	किस्म
178	1	193-25	नहीं

जिलाः पलामू

2

Approved

Prince
11/01/23
Alam

Deepak Ranjan Das
11/01/23

11/01/23

अंचल अधिकारी
हैदरनगर, पलामू (झारखण्ड)

अंचल हैदरनगर अन्तर्गत बालूघाटों का निम्नलिखित बिन्दुओं पर जाँच प्रतिवेदन

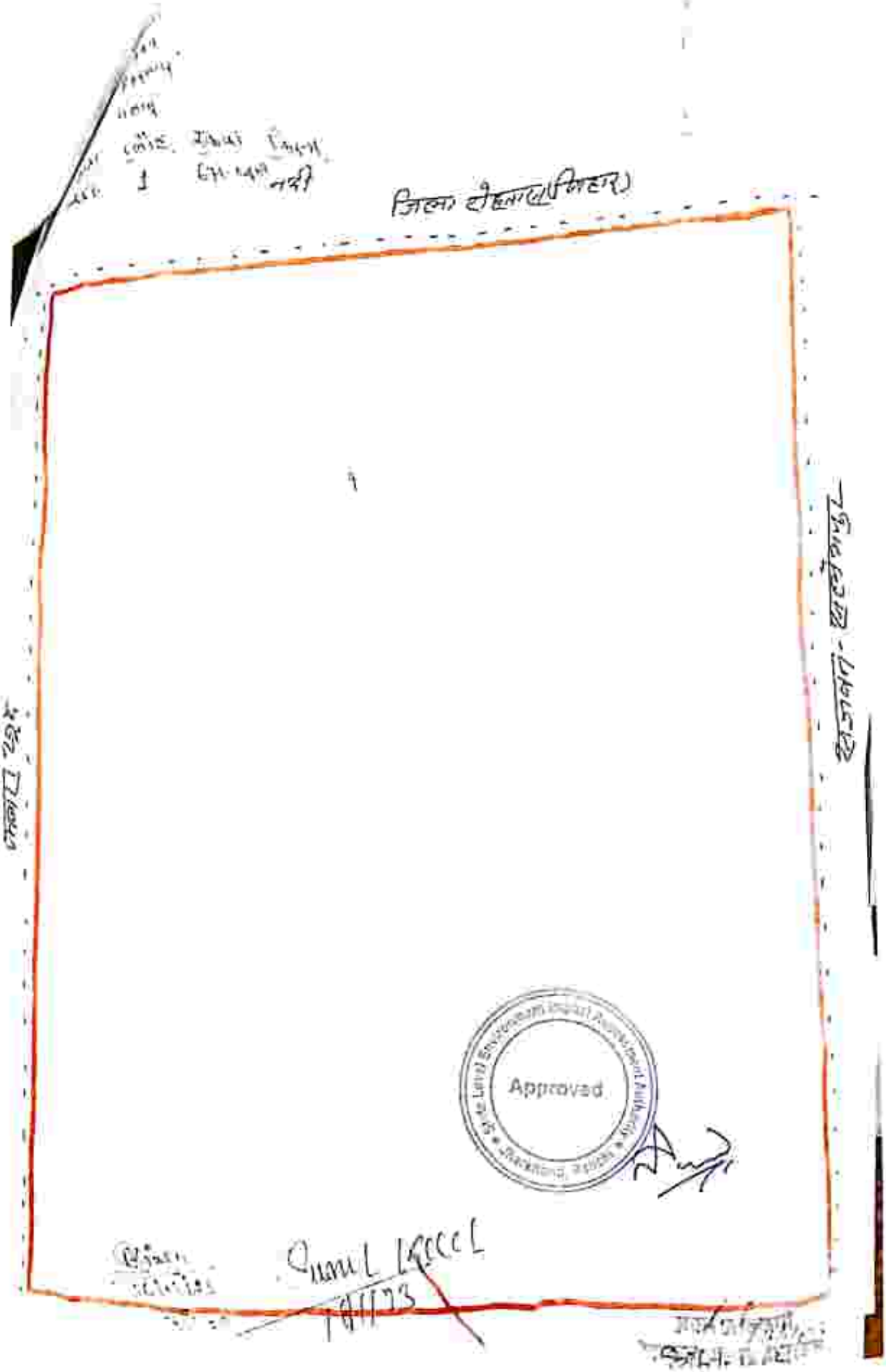
बालूघाट का नाम- परता - 1

बिन्दु	जाँच प्रतिवेदन
1. क्या आवेदित भूमि की कोटि सर्वे खतियान तथा रजिस्टर-II मे जंगल झाड़ी के रूप मे दर्ज है ?	नही
2. क्या 500 मीटर की दूरी के अंदर कोई मानव बसाहट (Habitation) स्थित है।	नही
3. क्या 500 मीटर की दुरी के अंदर कोई जलीय निकाय (Dam/Rescrvoir) स्थित है।	नही
4. क्या 500 मीटर के दुरी के अंदर कोई नदी (River) स्थित है।	हाँ (सोन)
5. क्या 500 मीटर के दुरी के अंदर कोई शैक्षणिक संस्थान (Educational Institute) स्थित है।	नही
6. क्या 500 मीटर के दुरी के अंदर कोई चिकित्सालय (Hospital) स्थित है।	नही
7. क्या 10 कि०मी० के परिधि मे कोई अंतर्राज्जीय (Interstate) सीमा है।	हाँ (बिहार)
8. क्या 500 मीटर के दुरी के अंदर कोई राष्ट्रीय धरोहर / पुरातत्वीय (Monuments/Archaeological) महत्व के स्थान स्थित है।	नही

Approved

अंचल अधिकारी
हैदरनगर, पलामू झारखण्ड

16/1/23


Approved

कार्यालय अंचल अधिकारी, पांकी, पलामू

पत्रांक 24 दिनांक 10:01:2023

प्रेषक,

अंचल अधिकारी,

पांकी।

श्री मनोज 16/01/2023

सेवा में,

जिला खनन पदाधिकारी,

मेदिनीनगर, पलामू।

Received 16/01/23 4:13 PM

विषयः— बालूघाटों के स्थल से संबंधित जांच प्रतिवेदन का प्रेषण।

प्रसंगः— आपका पत्रांक 3392 / एम0, दिनांक 23.12.2022

महाशय,

उपर्युक्त विषयक प्रसांगिक पत्र के संदर्भ में सादर सूचित करना है, कि पांकी अंचल अर्न्तगत बालूघाटों से संबंधित प्रतिवेदन विहित प्रपत्र में तैयार कर आवश्यक कार्रवाई हेतु भेजा जा रहा है।

कृप्या पावती स्वीकार किया जाय।

विश्वासभाजन

10/01/23

अंचल अधिकारी,

पांकी।

10/1/23

Approved

PANKI BLOCK

Block Name	Mauza with Plot Number	Plot Number	Area_Ha_	Sandbar Block Code	Label	Latitude	Longitude
Panki	Haldiminbal	1	55.98	PA_23_AMA_27	C	24°4'38.941"N	84°29'35.110"E

*	क्या आवेदित भूमि की कोटि सर्वे खतियान तथा रजिस्टर–II में जंगल झाड़ी के रूप में वर्णित है।	नहीं
2	क्या 500 मीटर की दूरी के अन्दर कोई मानव बसावट (Habitation) स्थित है।	नहीं
3	क्या 500 मीटर की दूरी के अन्दर कोई जलीय निकाय (Dam/Rescrvoit) स्थित है।	नहीं
4	क्या 500 मीटर की दूरी के अन्दर कोई नदी (River) स्थित है।	अमनत नदी
5	क्या 500 मीटर की दूरी के अन्दर शैक्षनिक संस्थान (Education Institute) स्थित है।	हाँ,एक
6	क्या 500 मीटर की दूरी के अन्दर कोई चिकित्सालय (Hospital) है।	नहीं
7	क्या 10 कि0मी0 की परिधि मे कोई अंतर्राज्यीय (Interstate) सीमा है।	नहीं
8	क्या 500 मीटर की दूरी के अन्दर कोई राष्ट्रीय धरोहर/पुरातत्वीय (Monument/Archaeological) महत्व के स्थल स्थित है।	नहीं

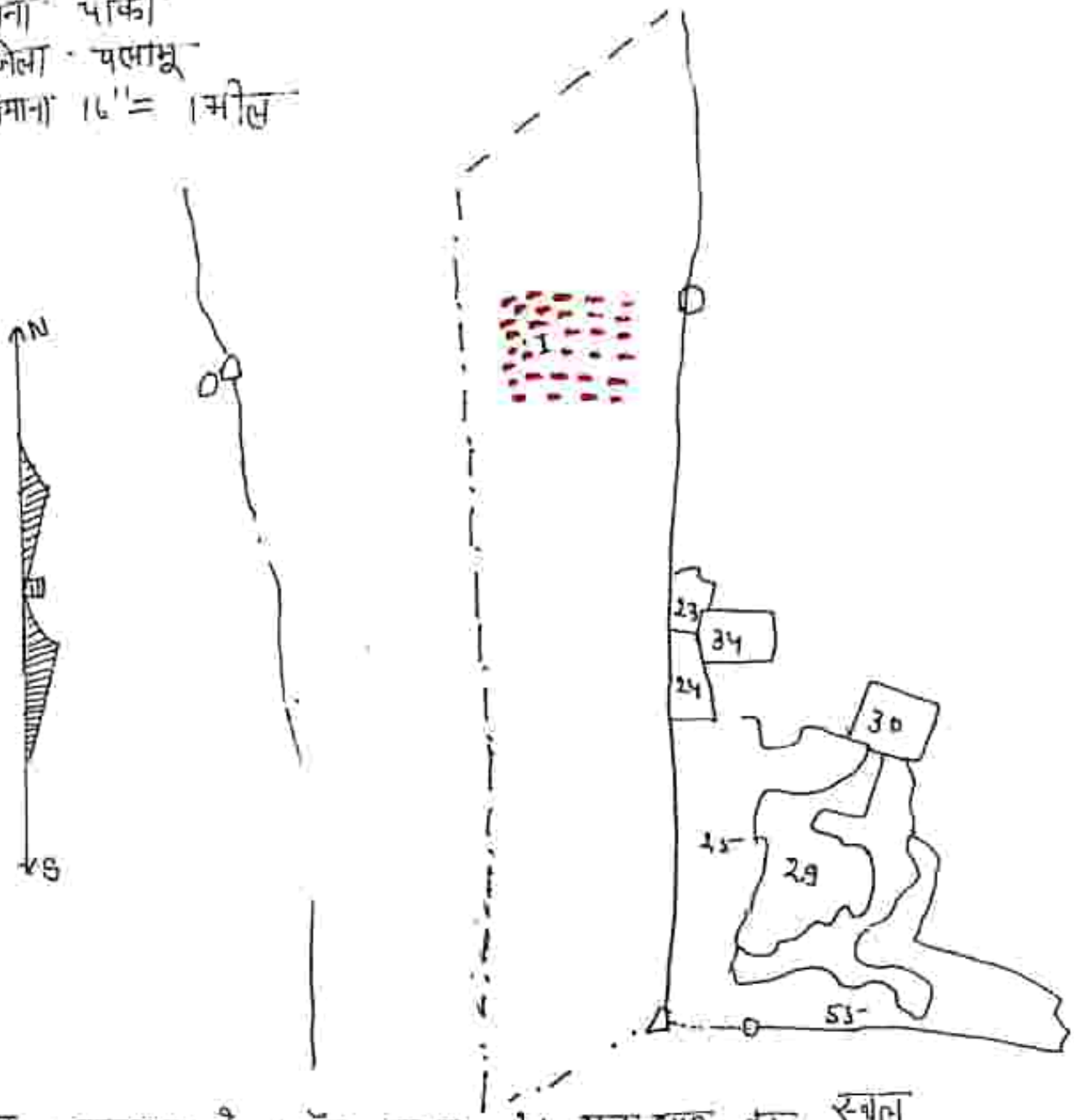
वरि0 उप निरीक्षक
पांकी।

अंचल निरीक्षक
पांकी।

अंचल अधिकारी,
पांकी।

Approved

अंचल - नाम - हल्दी मि-हाई
थाना नं० 538
थाना - पंकी
जिला - पलामू
पैमाना 16" = 1 मील



मध्यभाग - बालूघाट के प्लॉट नं० 1 में बालू घाट का स्थल
रेम नम्बर में लाल रंग से रंगा हुआ है

PANKI BLOCK

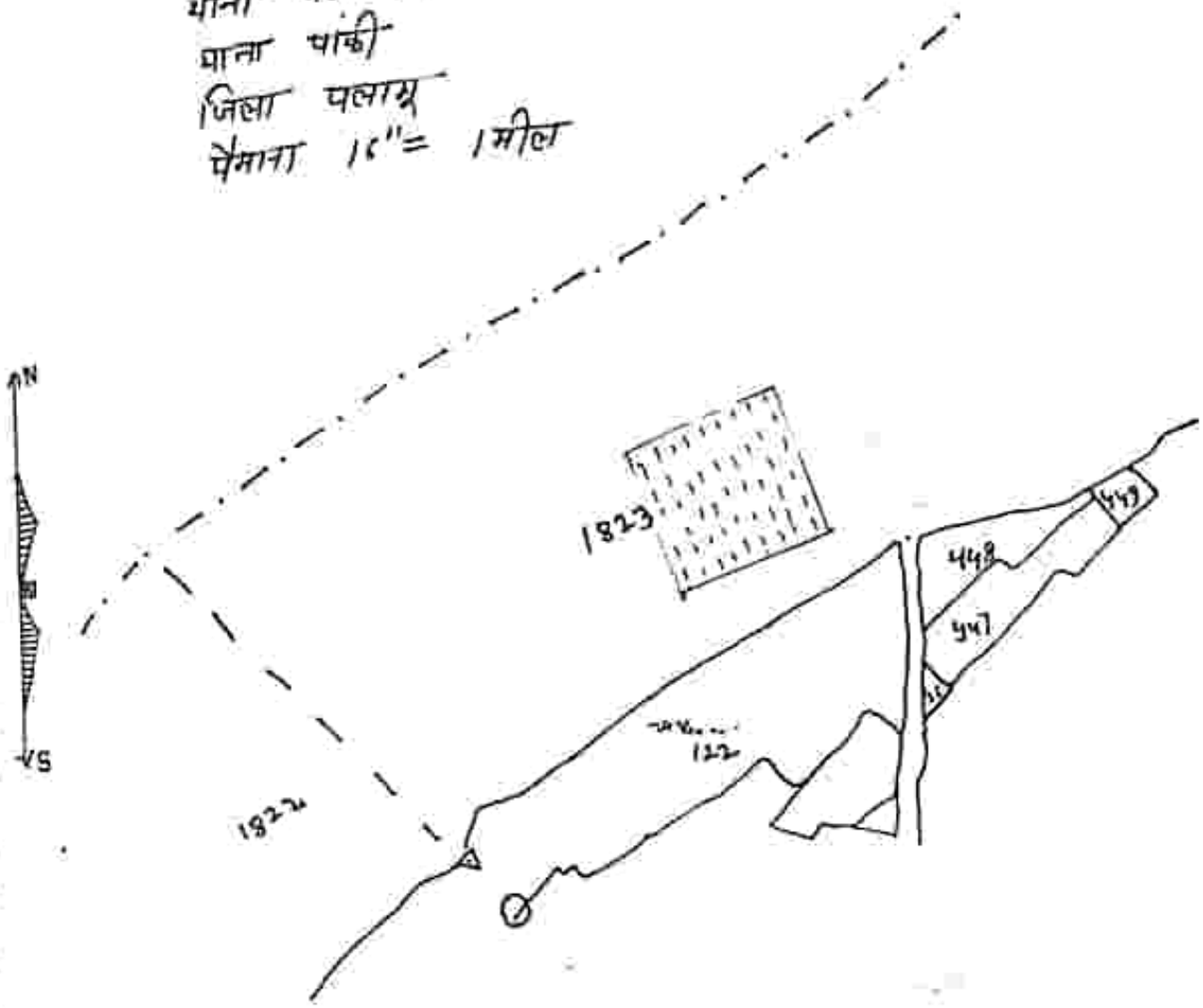
Block Name	Mouza with Plot Number	Plot Number	Area_Ha_	Sandhan Block Code	Label	Latitude	Longitude
Panki	Sagahm	1822,1823, 1824	149.76	PA_ZS_AMA_22	L	24°5'0.530"N	84°19'55.592"E
					M	24°4'57.819"N	84°20'11.656"E
					N	24°4'52.197"N	84°20'20.515"E
					O	24°4'49.305"N	84°20'29.668"E
					P	24° 4' 48.160" N	84° 20' 39.503" E
					Q	24° 4' 47.126" N	84° 20' 47.951" E
					R	24° 4' 40.951" N	84° 20' 44.909" E
					S	24° 4' 44.968" N	84° 20' 29.004" E
					T	24° 4' 46.661" N	84° 20' 18.447" E
					U	24° 4' 52.124" N	84° 20' 5.876" E
					V	24° 4' 57.177" N	84° 19' 52.218" E
					W	24° 5' 3.031" N	84° 19' 36.088" E
					X	24° 5' 10.671" N	84° 19' 22.499" E
					Y	24° 5' 12.920" N	84° 19' 14.628" E
					Z	24° 5' 14.642" N	84° 19' 7.050" E
					[	24° 5' 14.224" N	84° 18' 58.925" E
					\	24° 5' 4.802" N	84° 18' 45.275" E
					]	24° 4' 52.036" N	84° 18' 26.434" E

1	क्या आवेदित भूमि की जोटि सर्वे खतियान तथा रजिस्टर–II में जंगल झाड़ी के रूप मे दर्ज है।	नही
2	क्या 500 मीटर की दूरी के अन्दर कोई मानव बसाहट (Habitation) स्थित है।	नहीं
3	क्या 500 मीटर की दूरी के अन्दर कोई जलीय निकाय (Dam/Rescrvoit) स्थित है।	नहीं
4	क्या 500 मीटर की दूरी के अन्दर कोई नदी (River) स्थित है।	अमानत नदी
5	क्या 500 मीटर की दूरी के अन्दर शैक्षनिक संस्थान (Education Institute) स्थित है।	हाँ एक
6	क्या 500 मीटर की दूरी के अन्दर कोई चिकित्सालय (Hospital) है।	नही
7	क्या 10 कि0मी0 की परिधि मे कोई अंतर्राज्यीय (Interstate) सीमा है।	नही
8	क्या 500 मीटर की दूरी के अन्दर कोई राष्ट्रीय धरोहर / पुरातत्वीय (Monument/Archaeological) महत्व के स्थल स्थित है।	नही

अंचल निरीक्षक
पांकी।

अंचल अधिकारी,
पांकी।

मानचित्र नाम सगातिम
थाना नं० 406
थाना चांकी
जिला पलामू
पैमाना 16" = 1 मील



महामिम - बालूघाट के स्थल प्लॉट नं० 1823 में ईंट भट्ठा में लाल रंग से रंगा हुआ हो।

Sunil.
Tehsildar Rampur.

PANKI BLOCK

Block Name	Mouza with Plot Number	Plot Number	Area_Ha_	Sandbar Block Code	Label	Latitude	Longitude
Panki	Birlya Dandar	736,327, 2460	30.29	PA_Z3_AMA_24	D	24°5'16.233"N	84°22'28.491"E
1	क्या आवेदित भूमि की कोटि सर्वे खतियान तथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है।						नहीं
2	क्या 500 मीटर की दूरी के अन्दर कोई मानव बसाहट (Habitation) स्थित है।						नहीं
3	क्या 500 मीटर की दूरी के अन्दर कोई जलीय निकाय (Dam/Rescrvoit) स्थित है।						नहीं
4	क्या 500 मीटर की दूरी के अन्दर कोई नदी (River) स्थित है।						अमानत नदी
5	क्या 500 मीटर की दूरी के अन्दर शैक्षनिक संस्थान (Education Institute) स्थित है।						हाँ,एक
6	क्या 500 मीटर की दूरी के अन्दर कोई चिकित्सालय (Hospital) है।						नहीं
7	क्या 10 कि0मी0 की परिधि मे कोई अंतर्राज्यीय (Interstate) सीमा है।						नहीं
8	क्या 500 मीटर की दूरी के अन्दर कोई राष्ट्रीय धरोहर/पुरातत्वीय (Monument/Archaeological) महत्व के स्थल स्थित है।						नहीं

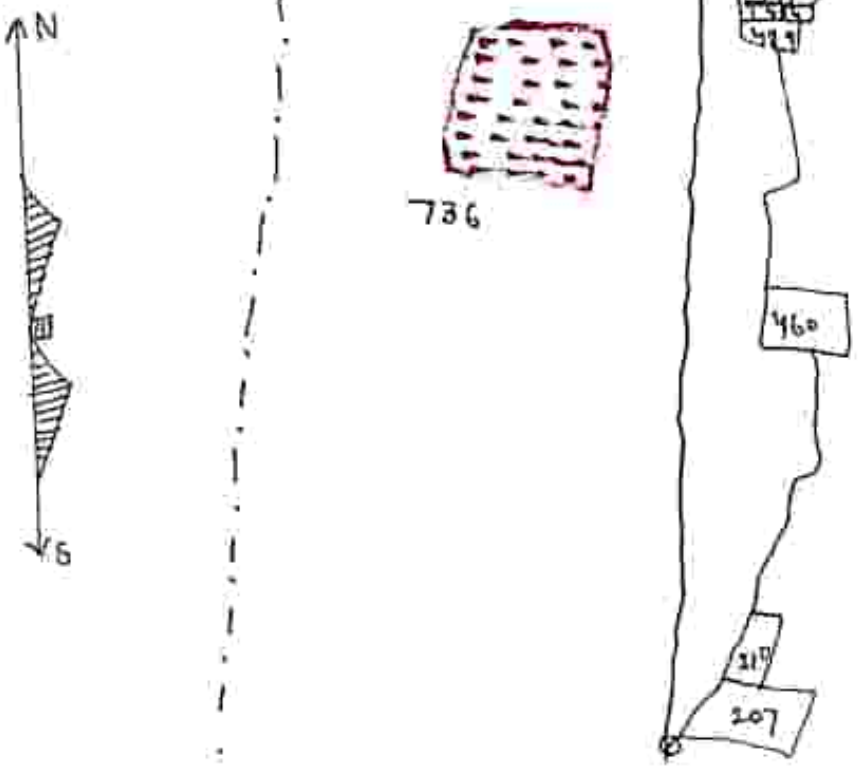
रा0 उप निरीक्षक
पांकी।

अंचल निरीक्षक
पांकी।
12/1/23

अंचल अधिकारी,
पांकी।
12/1/23

Approved

मजदूर नाम : बिरसीका उरांव
थाना नं
गांव : पांको
जिला : पलामू
पैमाना : 16" = 1 मील



महाभव : बालूघाट के स्थल प्लॉट नं 736 में रेत नम्मा में लाल रंग से रंग हुआ है।

Thakur Tirkey Pathalgarhi

PANKI BLOCK

Block Name	Mouza with Plot Number	Plot Number	Area_Ha_	Sandhar Block Code	Label	Latitude	Longitude
panki	Barwadih	2561,2561, 827	55.98	PA_23_AMA_27	E	24°4'15.819"N	84°29'42.085"E

1	क्या आवेदित भूमि की कोटि सर्वे खतियान तथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है।	नहीं
2	क्या 500 मीटर की दूरी के अन्दर कोई मानव बसाहट (Habitation) स्थित है।	नहीं
3	क्या 500 मीटर की दूरी के अन्दर कोई जलीय निकाय (Dam/Rescrvoit) स्थित है।	नहीं
4	क्या 500 मीटर की दूरी के अन्दर कोई नदी (River) स्थित है।	नहीं
5	क्या 500 मीटर की दूरी के अन्दर शैक्षनिक संस्थान (Education Institute) स्थित है।	नहीं
6	क्या 500 मीटर की दूरी के अन्दर कोई चिकित्सालय (Hospital) है।	नहीं
7	क्या 10 कि0मी0 की परिधि मे कोई अंतर्राज्यीय (Interstate) सीमा है।	नहीं
8	क्या 500 मीटर की दूरी के अन्दर कोई राष्ट्रीय धरोहर/पुरातत्वीय (Monument/Archaeological) महत्व के स्थल स्थित है।	नहीं

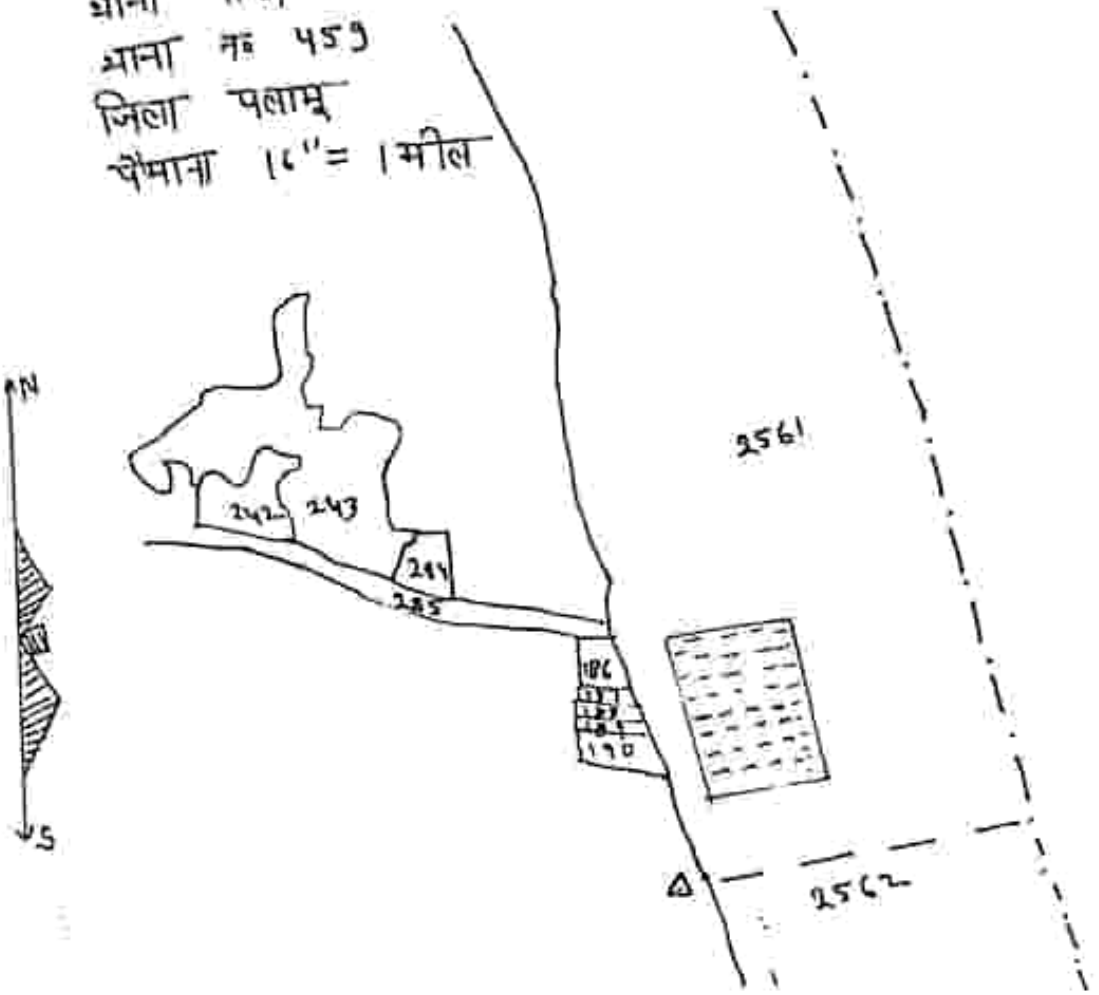
सह उप निरीक्षक
पांकी।

अवर निरीक्षण
पांकी।
10/1/23

अवर अधिकारी
पांकी।
10/1/23

Approved

मौजा का नाम बरवाडीह
खाता नं० I
थाना पांकी
थाना नं० 459
जिला पलामू
पैमाना 16" = 1 मील



महाभग - बालूघाट के सामने रेखा नक्शा में लाल रंग से रंगा हुआ है प्लॉट नं० 256/

Approved

Tirathed Ram. Pandey

PANKI BLOCK

Block Name	Mouza with Plot Number	Plot Number	Area_Ha_	Sundhar Block Code	Label	Latitude	Longitude
Panki	Gongo	123,1214	55.98	PA_Z3_AMA_27	F	24°4'5.814"N	84°29'40.234"E

1	क्या आवेदित भूमि की कोटि सर्वे खतियान तथा रजिस्टर–II में जंगल झाड़ी के रूप में दर्ज है।	नहीं
2	क्या 500 मीटर की दूरी के अन्दर कोई मानव बसाहट (Habitation) स्थित है।	नहीं
3	क्या 500 मीटर की दूरी के अन्दर कोई जलीय निकाय (Dam/Rescrvoil) स्थित है।	नहीं
4	क्या 500 मीटर की दूरी के अन्दर कोई नदी (River) स्थित है।	नहीं
5	क्या 500 मीटर की दूरी के अन्दर शैक्षनिक संस्थान (Education Institute) स्थित है।	नहीं
6	क्या 500 मीटर की दूरी के अन्दर कोई चिकित्सालय (Hospital) है।	नहीं
7	क्या 10 कि०मी० की परिधि में कोई अंतर्राज्यीय (Interstate) सीमा है।	नहीं
8	क्या 500 मीटर की दूरी के अन्दर कोई राष्ट्रीय धरोहर/पुरातत्वीय (Monument/Archaeological) महत्व के स्थल स्थित है।	नहीं

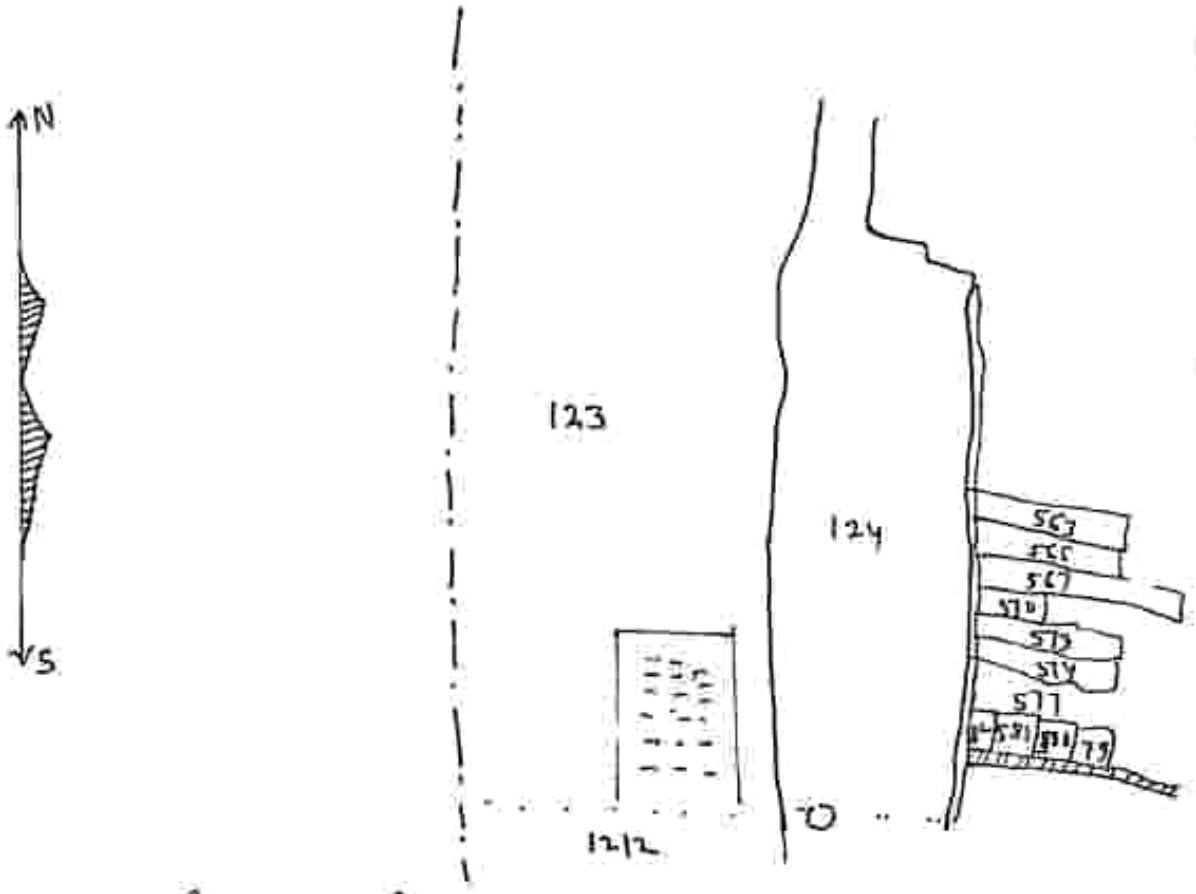
वरि० उप निरीक्षक
पांकी।
10/1/23

अंचल निरीक्षक
पांकी।
10/1/23

अंचल अधिकारी
पांकी।
10/1/23

Approved

मानचित्र नाम - गोगो
थाना नं 536
थाना - पांकी
जिला पलामू
पैमाना 16" = 1 मील



मानचित्र - बालूघाट के स्थल क्षेत्र नम्बर में लाल रंग से रंगा हुआ है।
प्लॉट नं 123

Approved

Amitabh Mukherjee

PANKI BLOCK

Block Name	Mouza with Plot Number	Plot Number	Area_Ha_	Sandbar Block Code	Label	Latitude	Longitude
Panki	Khaira	749	55.98	PA_Z3_AMA_27	A	24°4'23.501"N	84°29'39.421"E

खैरा में कोई बालू घाट नही है।

राo उ० निरीक्षक
पांकी।

अंचल निरीक्षक
पांकी।

अंचल अधिकारी,
पांकी।

Approved

PANKI BLOCK

Block Name	Mouza with Plot Number	Plot Number	Area_Ha_	Sandbar Block Code	Label	Latitude	Longitude
Panki	Kaparphuta	12	55.98	PA_23_AMA_27	B	24°4'36.663"N	84°29'25.235"E

कपरफुटा में कोई बालू घाट नहीं है।

राज उप निरीक्षक
पांकी।

अंचल निरीक्षक
पांकी।
10/1/23

अंचल अधिकारी
पांकी।
10/1/23

Approved

PANKI BLOCK

Block Name	Mouza with Plot Number	Plot Number	Area_Ha_	Sandbar Block Code	Label	Latitude	Longitude
Panki	Bharri	974,1825	149.76	PA_23_AMA_22	k	24°5'10.349"N	84°19'46.114"E

भरी में कोई बालू घाट नहीं है।

उप उप निदेशक
पांकी।

अंचल निरीक्षक
पांकी।

अंचल अधिकारी,
पांकी।

Approved

PANKI BLOCK

Block Name	Mouza with Plot Number	Plot Number	Area_Ha_	Sandbar Block Code	Label	Latitude	Longitude
Panki	Uksu	817,818	55.98	PA_Z3_AMA_27	G	24°3'56.227"N	84°29'40.796"E

उक्सू में कोई बालू घाट नहीं है।

राज्य उप निरीक्षक
पांकी।

अंचल निरीक्षक
पांकी।

अंचल अधिकारी,
पांकी।

Approved

कार्यालय – अंचल अधिकारी, पाटन, (पलामू)

Email: copatan125@gmail.com

पत्रांक 408

प्रेषक,

अंचल अधिकारी,
पाटन।

सेवा में,

जिला खनन पदाधिकारी,
पलामू।

दिनांक 26.04.023

विषयः– **DSR** से संबंधित जांच प्रतिवेदन के संबंध में।

प्रसंगः– भवदीय पत्रांक–3391/एम0, दिनांक–23.12.2022

महाशय,

उपर्युक्त विषयक एवं प्रासंगिक पत्र के संबंध में इस अंचल अंतर्गत श्रेणी–2 के बालूघाटो के District Survey Report (DSR) Of Sand Prepared से संबंधित जांच कर जांच प्रतिवेदन राजस्व उपनिरीक्षक एवं प्रभारी अंचल निरीक्षक द्वारा समर्पित किया गया है। जिस इस पत्र के साथ संलग्न कर अग्रेतर कार्रवाई हेतु भेजी जा रही है।

कृप्या प्राप्ति स्वीकार किया जाय।

विश्वासभाजन,

26.04.23

अंचल अधिकारी,
पाटन।

Approved

सेवा में

उपजिला अधिकारी,
पाकुड़।

विषय :- पाकुड़ अंचलान्तर्गत निर्मित श्रेणी - 2 के लघु - नहरों की स्थल की सक्षमतित जांच प्रतिवेदन।

प्रसंग :- जिला अवस्थापन पदाधिकारी पलामू मेदिनीनगर के पत्रांक 3392/ दिनांक 23.12.22

महोदय, उपरोक्त विषयक प्रसंगाधीन पत्र के क्रमांक में पाकुड़ अंचलान्तर्गत निर्मित श्रेणी 2 के लघु नहरों की निम्नांकित तिथियों को स्थल पर जाकर जांच की। जांच उपरांत जो त्रुटि पाई गई सक्षमतित जांच प्रतिवेदन निम्नांकित है।

ग्रामों का विवरण

क्रम सं०	ग्राम का नाम	खाता नं०	प्लॉट नं०	रकबा	किस्म
1.	टूटी डुंगरी जरवा	78	1	12.79	नहरी मुनासिब पटवन
		78	2340	65.80	नहरी मध्यम पटवन
		78	2308	3.98	नहरी बालू "
		78	1882	2.38	बालू "
2.	बनवेरहुर्रे	29	617	22.80	नहरी मुनासिब पटवन
3.	नावाडीह मुरहना	-	1085	-	नहरी बांध के अनुपयुक्त
4.	कांकेजला	72	1569	47.50	नहरी मुनासिब पटवन
5.	ओरो	208	1	4.15	नहरी बांध के अनुपयुक्त
		1283		26.60	नहरी
		1281		6.80	नहरी
		1331		116.75	नहरी

1. उपरोक्त भूमि की सभी ओरो के आवेदक द्वारा सभी बन कार्यालय उपलब्ध नहीं मुनासिब पटवन एवं स्थापना के अनुपयुक्त (बालुवा बहुतायत) के रूप में दर्ज नहीं है।

2. 5.00 मीटर की दूरी में अन्य कोई भवन संरचना नहीं है।

Approved

कनीय अभियंता

CamScanner

2. 500 मीटर की दूरी के अन्दर कोई जलाशय नहीं स्थित नहीं है

4. 500 मीटर की दूरी के अन्दर नाली स्थित नहीं है

5. 500 मीटर की दूरी के अन्दर कोई औद्योगिक शैक्षणिक स्थान नहीं है

6. 500 मीटर की दूरी के अन्दर कोई चिकित्सालय स्थित नहीं है

7. 10 किमी की परिधि में कोई राष्ट्रीय संरक्षित क्षेत्र नहीं है

8. 500 मीटर की दूरी के अन्दर कोई सार्वजनिक धरोहर पुरातत्वीय महत्व के स्थल नहीं है

कृपया जाँच उपरान्त आदेश प्रदान करें।

10-04-2022

10.04.22

Approved

CamScanner

कार्यालय अंचल अधिकारी, हुसैनाबाद, पलामू

पत्रांक -.....483.....

प्रेषक,

अंचल अधिकारी
हुसैनाबाद।

सेवा में,

जिला खनन पदाधिकारी,
पलामू

दिनांक 24/05/2023

विषय :- जाँच प्रतिवेदन उपलब्ध कराने के संबंध में।

महाशय,

उपर्युक्त विषय के संबंध में कहना है कि पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार के अधिसूचना संख्या 2827, दिनांक- 25.07.2018 के आलोक में पलामू जिलान्तर्गत थेर्णी- 2 के बालूघाटों का District Survey Report (DSR) Of Sand Prepared किया जाना है। जिसके बावत हुसैनाबाद अंचल अन्तर्गत थेर्णी- 2 के बालूघाट दंगवार की स्थल संबंधित बिन्दुवार विवरणी इस पत्र के साथ संलग्न कर भेजी जा रही है।

कृपया प्राप्ति स्वीकार की जाय।

विश्वासभाजन

अंचल अधिकारी
हुसैनाबाद।

Approved

Sl. No.	Zone	River Name	Block	Sand Qlet ID	Label	Latitude	Longitude	CADASTRAL MAP Mouza	Plot Nos.	Area (ha. Ha.)	क्या आवेदित भूमि की कोई अन्य खदान/क्षेत्र से सटा हुआ है ?	क्या 500 मीटर की दूरी के भीतर कोई रेलवे लाइन (Railway line) स्थित है ?	क्या 500 मीटर की दूरी के भीतर कोई आवेदित क्षेत्र (Sand Mining) स्थित है ?	क्या 1000 मीटर की दूरी के भीतर कोई राष्ट्रीय राजमार्ग (National Highway) स्थित है ?	क्या 1000 मीटर की दूरी के भीतर कोई पर्यावरणीय संवेदनशील क्षेत्र (Environmental Sensitive Area) स्थित है ?	क्या 1000 मीटर की दूरी के भीतर कोई पेरिफेरल (Peripheral) स्थित है ?	क्या 10 कि.मी. की त्रिज्या में कोई अंतर्राज्यीय (Interstate) सीमा है ?	क्या 1000 मीटर की दूरी के भीतर कोई राष्ट्रीय स्मारक / पुरातात्विक (Monument/Archaeological) स्थित है ?
1	Zone-13	Sone River	Hunaspur Tal	PR_212_SD_1	A	24° 27' 58.668" N	84° 8' 55.335" E	Dangwar	331	40	NO	NO	NO	YES	NO	NO	YES	NO
					B	24° 27' 43.949" N	84° 9' 46.784" E				NO	NO	NO	YES	NO	NO	YES	NO
					C	24° 27' 43.574" N	84° 9' 49.163" E				NO	NO	NO	YES	NO	NO	YES	NO
					D	24° 28' 4.262" N	84° 9' 48.438" E				NO	NO	NO	YES	NO	NO	YES	NO
					E	24° 28' 17.253" N	84° 9' 49.560" E				NO	NO	NO	YES	NO	NO	YES	NO
					F	24° 28' 18.154" N	84° 9' 59.121" E				NO	NO	NO	YES	NO	NO	YES	NO
					G	24° 28' 17.617" N	84° 9' 57.248" E				NO	NO	NO	YES	NO	NO	YES	NO
					H	24° 28' 47.033" N	84° 9' 0.920" E				NO	NO	NO	YES	NO	NO	YES	NO
					I	24° 28' 7.234" N	84° 9' 0.385" E				NO	NO	NO	YES	NO	NO	YES	NO
					J	24° 28' 5.990" N	84° 8' 7.511" E				NO	NO	NO	YES	NO	NO	YES	NO
					K	24° 28' 3.930" N	84° 7' 4.886" E				NO	NO	NO	YES	NO	NO	YES	NO

Approved

REPORT FROM DIVISIONAL FOREST OFFICER

कार्यालयः– वन प्रमंडल पदाधिकारी, मेदिनीनगर वन प्रमंडल, मेदिनीनगर ।

पत्रांक– 1303 मेदिनीनगर, दिनांक– 13 - 4 - 23

प्रेषक

वन प्रमंडल पदाधिकारी,
मेदिनीनगर वन प्रमंडल।

सेवा में

जिला खनन पदाधिकारी,
पलामू, मेदिनीनगर।

विषय– पलामू जिलान्तर्गत बालू लघु खनिज के जिला सर्वेक्षण रिपोर्ट (DSR) के संबंध जांच प्रतिवेदन उपलब्ध कराने के संबंध में।

संदर्भ– आपका पत्रांक 673 / एम0 दिनांक 03.04.2023

महाशय,

उपर्युक्त विषयक संदर्भित पत्र के संदर्भ में सूचित करना है कि पलामू जिलान्तर्गत बालू लघु खनिज के जिला सर्वेक्षण रिपोर्ट (DSR) के संबंध जांच प्रतिवेदन उपलब्ध कराने हेतु संबंधित किया गया है। उक्त बालू लघु खनिज के जिला सर्वेक्षण रिपोर्ट (DSR) के संबंध जांच प्रतिवेदन निम्नवत है –

क्रमांक	Sand Block	वनभूमि से दूरी
1	PA_213_SD_1	सर्वेक्षण रिपोर्ट में मानचित्र उपलब्ध नहीं कराया गया है।
2	PA_213_SD_2	सर्वेक्षण रिपोर्ट में मानचित्र उपलब्ध नहीं कराया गया है।
3	PA_213_SD_3	सर्वेक्षण रिपोर्ट में मानचित्र उपलब्ध नहीं कराया गया है।
4	PA_213_SD_4	सर्वेक्षण रिपोर्ट में मानचित्र उपलब्ध नहीं कराया गया है।
5	PA_213_SD_5	सर्वेक्षण रिपोर्ट में मानचित्र उपलब्ध नहीं कराया गया है।
6	PA_213_NK_6	सर्वेक्षण रिपोर्ट में मानचित्र उपलब्ध नहीं कराया गया है।
7	PA_212_NK_7	वनभूमि की दूरी 250 मी0 से अधिक है। (गढ़वा जिला से भी प्रतिवेदन की मांग किया जाए)
8	PA_212_NK_8	वनभूमि की दूरी 250 मी0 से अधिक है। (गढ़वा जिला से भी प्रतिवेदन की मांग किया जाए)
9	PA_211_NK_9	वनभूमि की दूरी 250 मी0 से अधिक है। (गढ़वा जिला से भी प्रतिवेदन की मांग किया जाए)
10	PA_211_NK_10	वनभूमि की दूरी 250 मी0 से अधिक है।
11	PA_211_NK_11	वनभूमि की दूरी 250 मी0 से अधिक है।
12	PA_214_NK_12	वनभूमि की दूरी 250 मी0 से कम है।
13	PA_216_NK-13	वनभूमि की दूरी 250 मी0 से अधिक है।
14	PA_28_AMA_14	वनभूमि की दूरी 250 मी0 से अधिक है।

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15	PA_Z7_AMA_15	वनभूमि की दूरी 250 मी0 से अधिक है।
16	PA_Z7_AMA_16	वनभूमि की दूरी 250 मी0 से अधिक है।
17	PA_Z7_AMA_17	वनभूमि की दूरी 250 मी0 से कम है।
18	PA_Z6_AMA_18	वनभूमि की दूरी 250 मी0 से कम है।
19	PA_Z6_AMA_19	वनभूमि की दूरी 250 मी0 से कम है।
20	PA_Z6_AMA_20	वनभूमि की दूरी 250 मी0 से अधिक है।
21	PA_Z6_AMA_21	वनभूमि की दूरी 250 मी0 से अधिक है।
22	PA_Z5_AMA_22	वनभूमि की दूरी 250 मी0 से कम है।
23	PA_Z4_AMA_23	संबंधित चिन्हित मानचित्र उपलब्ध नहीं कराया गया है।
24	PA_Z4_AMA_24	संबंधित चिन्हित मानचित्र उपलब्ध नहीं कराया गया है।
25	PA_Z4_AMA_25	संबंधित चिन्हित मानचित्र उपलब्ध नहीं कराया गया है।
26	PA_Z4_AMA_26	संबंधित चिन्हित मानचित्र उपलब्ध नहीं कराया गया है।
27	PA_Z3_AMA_27	वनभूमि की दूरी 250 मी0 से अधिक है।

Consultant Sathi Planners Pvt. Ltd., Ranchi द्वारा सभी मानचित्र उपलब्ध कराए जाने पर पूर्ण जॉच प्रतिवेदन समर्पित कर दिया जाएगा।

विश्वासभाजन,

19/04/23

वन प्रमंडल पदाधिकारी,
मेदिनीनगर वन प्रमंडल,मेदिनीनगर ।

Approved

कार्यालयः— वन प्रमंडल पदाधिकारी, मेदिनीनगर वन प्रमंडल, मेदिनीनगर ।

पत्रांकः— मेदिनीनगर, दिनांकः—

प्रेषक,

वन प्रमंडल पदाधिकारी,
मेदिनीनगर वन प्रमंडल।

सेवा में,

जिला खनन पदाधिकारी,
पलामू, मेदिनीनगर।

विषय— पलामू जिलान्तर्गत बालू, लघु खनिज के जिला सर्वेक्षण रिपोर्ट (DSR) के बाबत जांच प्रतिवेदन उपलब्ध कराने के संबंध में।

प्रसंगः— आपका पत्रांक 673 / एम0 दिनांक 03.04.2023

महाशय,

उपर्युक्त विषयक प्रसंगाधीन पत्र के संदर्भ में सूचित करना है कि पलामू जिलान्तर्गत बालू, लघु खनिज के जिला सर्वेक्षण रिपोर्ट (DSR) के बाबत जांच प्रतिवेदन उपलब्ध कराने हेतु पत्राचार किया गया है। उक्त बालू, लघु खनिज की जिला सर्वेक्षण रिपोर्ट (DSR) के बाबत जांच प्रतिवेदन निम्नवत है

क्र0सं0	Sand Block	वनभूमि से दूरी
1	PA_Z13_SO_1	वन भूमि की दूरी 250 मी0 से अधिक है।
2	PA_Z13_SO_2	वन भूमि की दूरी 250 मी0 से अधिक है।
3	PA_Z13_SO_3	वन भूमि की दूरी 250 मी0 से अधिक है।
4	PA_Z13_SO_4	वन भूमि की दूरी 250 मी0 से अधिक है।
5	PA_Z13_SO_5	वन भूमि की दूरी 250 मी0 से अधिक है।
6	PA_Z13_NK_6	वन भूमि की दूरी 250 मी0 से अधिक है।
7	PA_Z4_AMA_23	वन भूमि की दूरी 250 मी0 से अधिक है।
8	PA_Z4_AMA_24	वन भूमि की दूरी 250 मी0 से अधिक है।
9	PA_Z4_AMA_25	संबंधित ब्लॉक का सभी चिन्हित मानचित्र उपलब्ध नहीं कराया गया है।
10	PA_Z4_AMA_26	वन भूमि की दूरी 250 मी0 से अधिक है।

1.Consultant Sathi Planners Pvt. Ltd., Ranchi द्वारा सभी मानचित्र उपलब्ध कराए जाने पर पूर्ण जांच प्रतिवेदन समर्पित कर दिया जायगा।

2. Sand Block PA_Z13_SO_1, SO_2, SO_3, SO_4, SO_5 कौमूर वन प्राणी आश्रय के निकट है अतः उक्त [illegible] की मांग की जा सकती है।

3. अनुरोध है कि सभी Sand Block हेतु Single Window पर भी आवेदन करें।

विश्वासभाजन,

वन प्रमंडल पदाधिकारी,
मेदिनीनगर वन प्रमंडल,मेदिनीनगर ।

कार्यालय:- वन प्रमंडल पदाधिकारी, मेदिनीनगर वन प्रमंडल, मेदिनीनगर ।

पत्रांक:- मेदिनीनगर, दिनांक:-

प्रेषक,

वन प्रमंडल पदाधिकारी,
मेदिनीनगर वन प्रमंडल।

सेवा में,

जिला खनन पदाधिकारी,
पलामू, मेदिनीनगर।

विषय:- पलामू जिलान्तर्गत बालू एवं गिट्टी खनिज के जिला सर्वेक्षण रिपोर्ट (DSR) के बाबत जांच प्रतिवेदन उपलब्ध कराने के संबंध में।

प्रसंग:- आपका पत्रांक 873/एम0 दिनांक 03.04.2023

महाशय,

उपर्युक्त विषयक प्रसंगाधीन पत्र के संदर्भ में सूचित करना है कि पलामू जिलान्तर्गत बालू एवं गिट्टी खनिज के जिला सर्वेक्षण रिपोर्ट (DSR) के बाबत जांच प्रतिवेदन उपलब्ध कराने हेतु पत्राचार किया गया है। उक्त बालू एवं गिट्टी खनिज के जिला सर्वेक्षण रिपोर्ट (DSR) के बाबत जांच प्रतिवेदन निम्नवत है

क्र०सं०	Sand Block	वनभूमि से दूरी
1	PA_Z13_SO_1	वन भूमि की दूरी 250 मी० से अधिक है।
2	PA_Z13_SO_2	वन भूमि की दूरी 250 मी० से अधिक है।
3	PA_Z13_SO_3	वन भूमि की दूरी 250 मी० से अधिक है।
4	PA_Z13_SO_4	वन भूमि की दूरी 250 मी० से अधिक है।
5	PA_Z13_SO_5	वन भूमि की दूरी 250 मी० से अधिक है।
6	PA_Z13_NR_6	वन भूमि की दूरी 250 मी० से अधिक है।
7	PA_Z4_AMA_23	वन भूमि की दूरी 250 मी० से अधिक है।
8	PA_Z4_AMA_24	वन भूमि की दूरी 250 मी० से अधिक है।
9	PA_Z4_AMA_25	सम्बोधित ब्लॉक के सभी चिन्हित मानचित्र उपलब्ध नहीं कराया गया है।
10	PA_Z4_AMA_26	वन भूमि की दूरी 250 मी० से अधिक है।

1 Consultant Sathi Planners Pvt. Ltd., Ranchi द्वारा सभी मानचित्र उपलब्ध कराए जाने पर पूर्ण जाँच प्रतिवेदन समर्पित कर दिया जाएगा।

2. Sand Block PA_Z13_SO_1, SO_2, SO_3, SO_4, SO_5 कैमूर वन प्राणी आश्रय के निकट है अतः उक्त प्रमण्डल से भी दूरी की माप की जा सकती है।

3. अनुरोध है कि सभी Sand Block हेतु Single Window पर भी आवेदन करें।

विश्वासभाजन,

ह0/-

वन प्रमंडल पदाधिकारी,
मेदिनीनगर वन प्रमंडल,मेदिनीनगर ।

ज्ञापांक _____ / दिनांक _____ /

प्रतिलिपि :- उपायुक्त, पलामू को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह0/-

वन प्रमंडल पदाधिकारी,
मेदिनीनगर वन प्रमंडल,मेदिनीनगर ।

ज्ञापांक 1549 / दिनांक 10-5-23 /

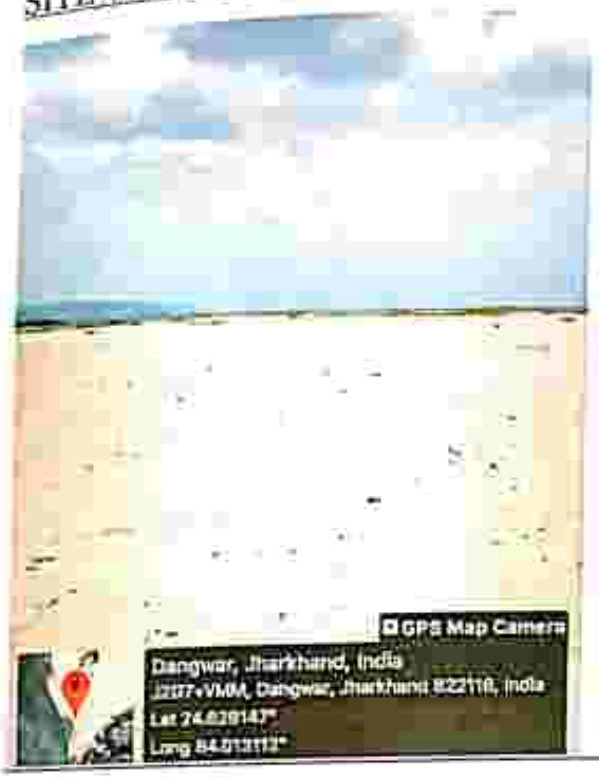
प्रतिलिपि :- वन संरक्षक, प्रादेशिक अंचल, मेदिनीनगर को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

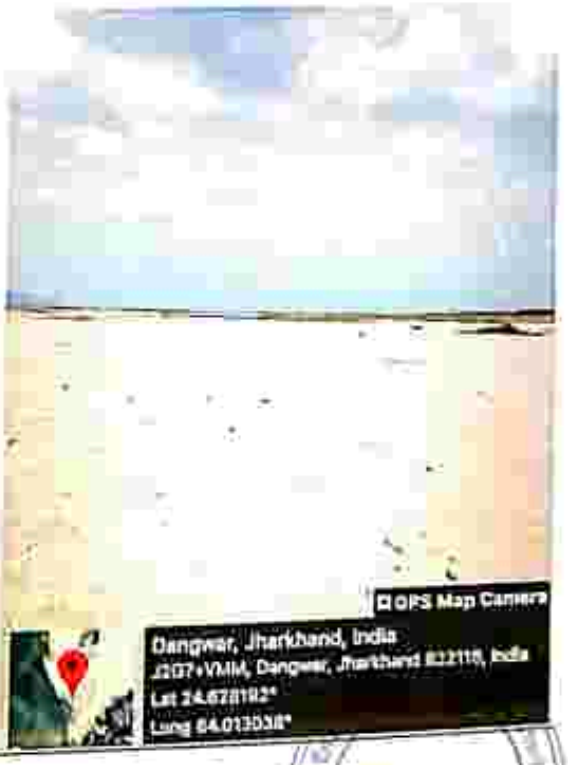
10/05/23

वन प्रमंडल पदाधिकारी,
मेदिनीनगर वन प्रमंडल,मेदिनीनगर ।

Approved

SITE VISIT PHOTOGRAPHS OF SAND GHATS IN PALAMAU DISTRICT





Approved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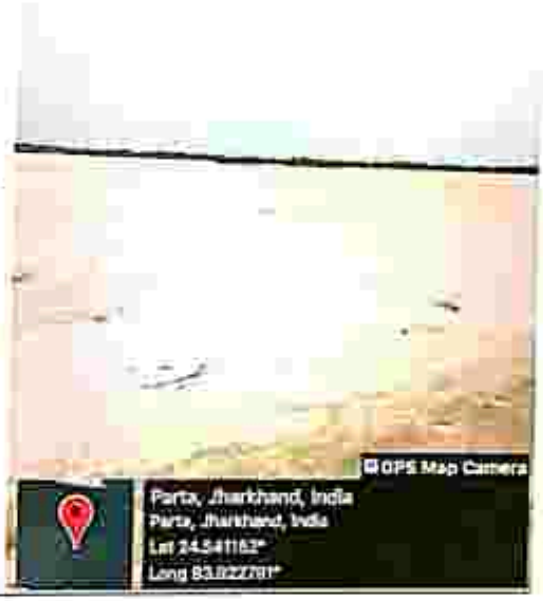
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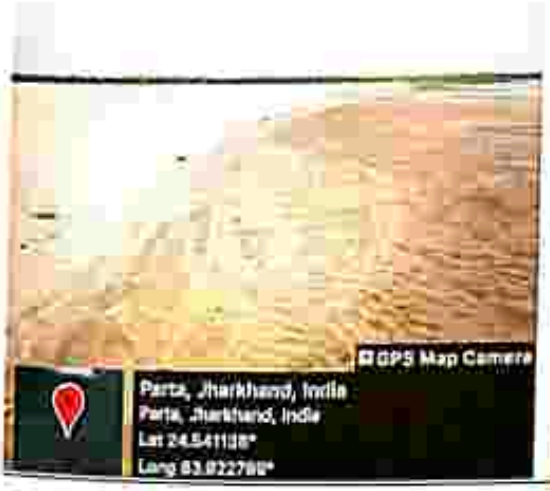
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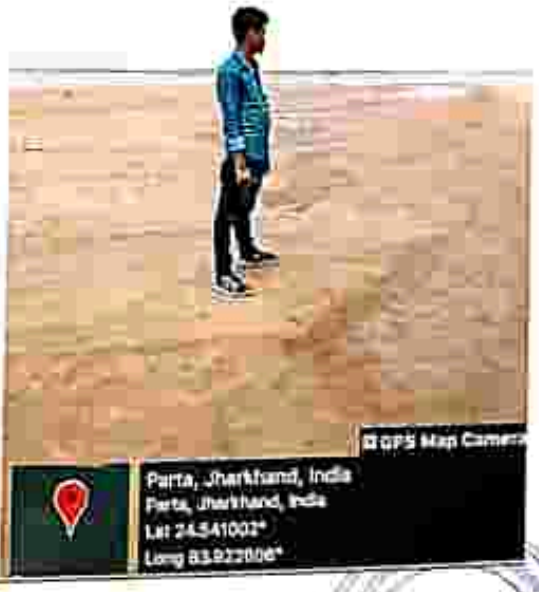
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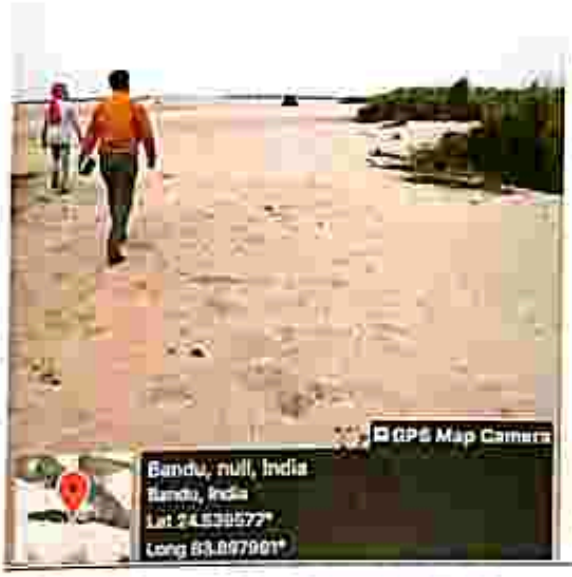
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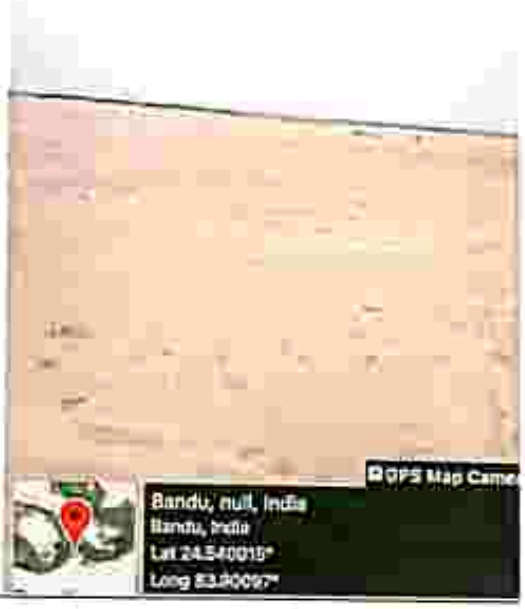
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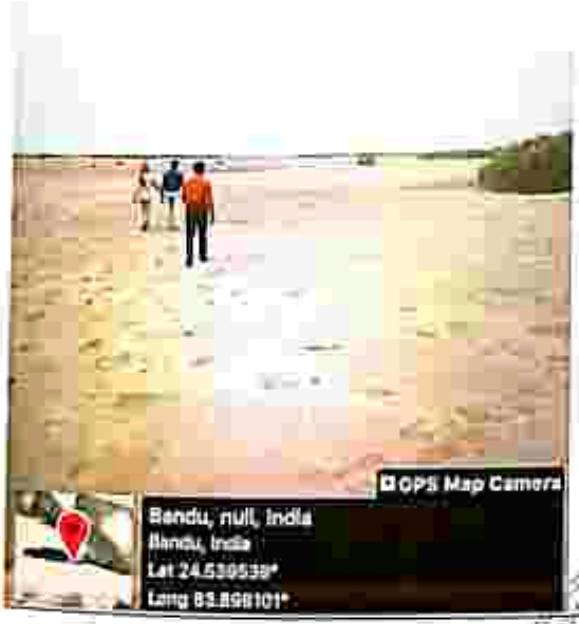
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Approved


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Long 83.859339°
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Unnamed Road, Tolra, Jharkhand 822124, India
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GPS Map Camera
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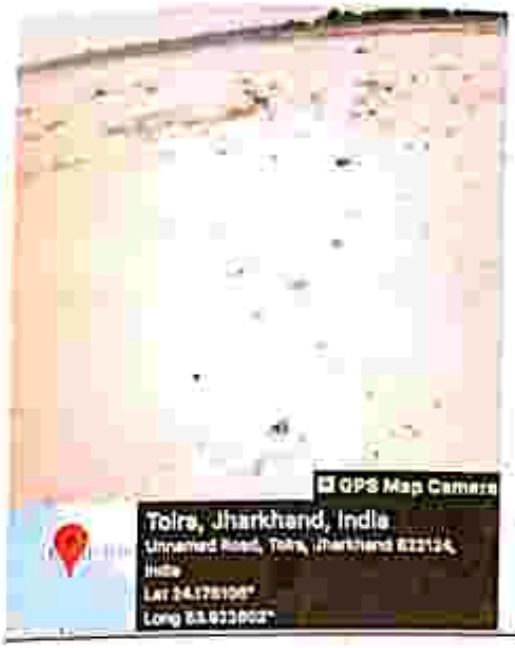
Approved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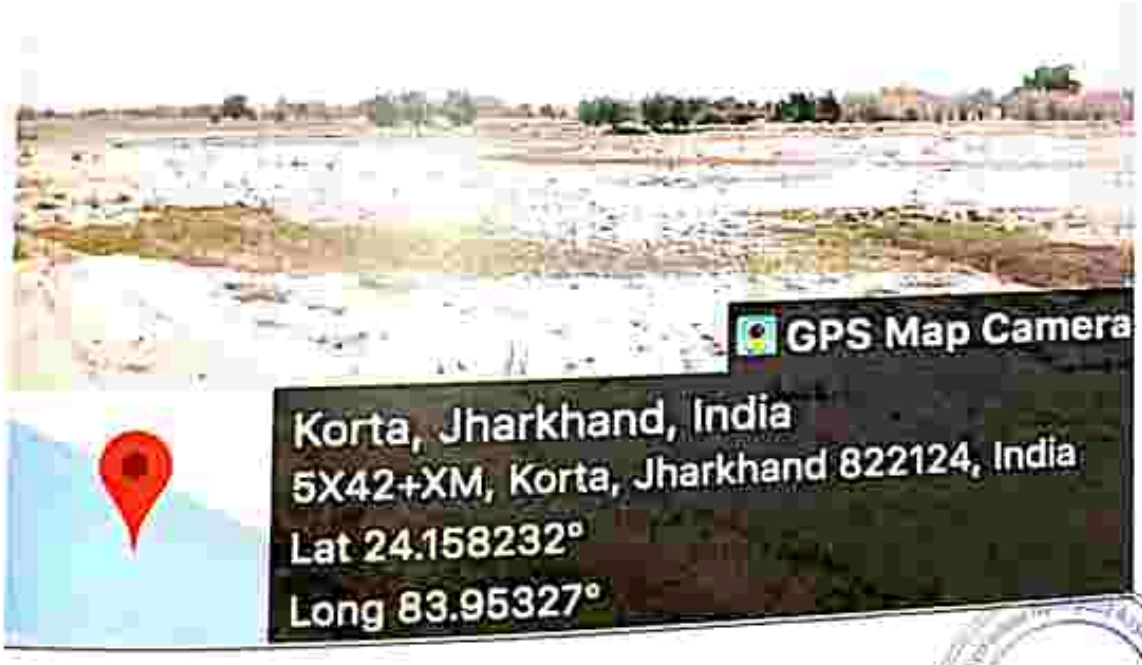
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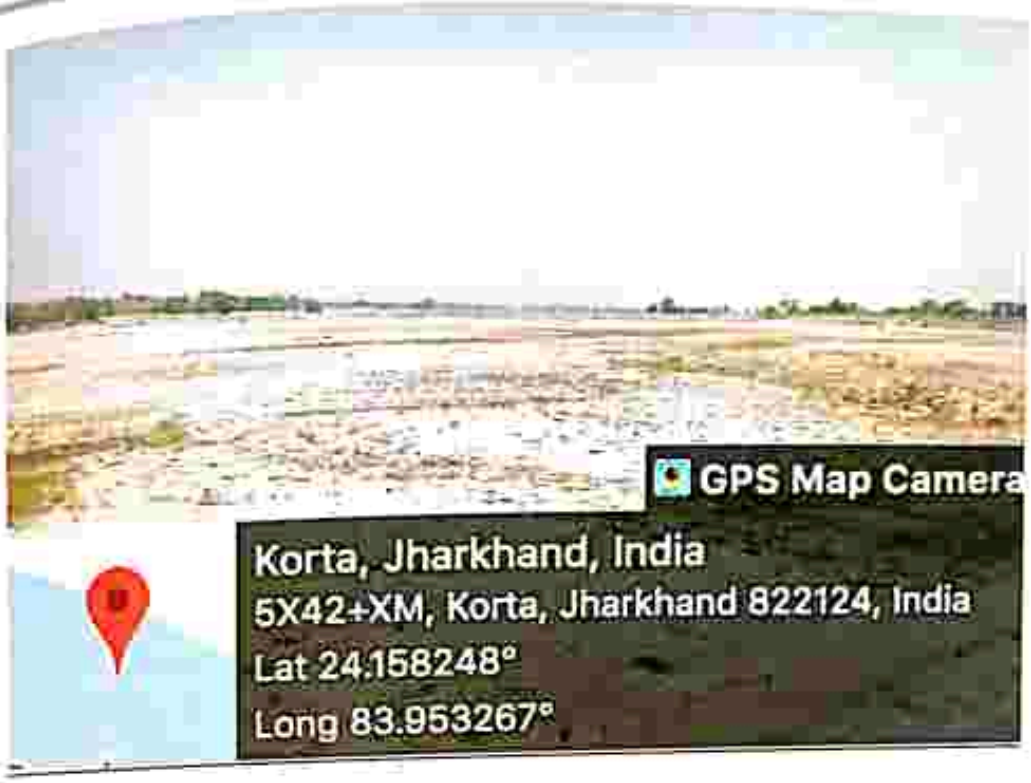
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Approved


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GPS Map Camera
Chechanha, Jharkhand, India
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Approved


GPS Map Camera
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GPS Map Camera
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GPS Map Camera
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Approved


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GPS Map Camera
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GPS Map Camera
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Approved


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Approved


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GPS Map Camera
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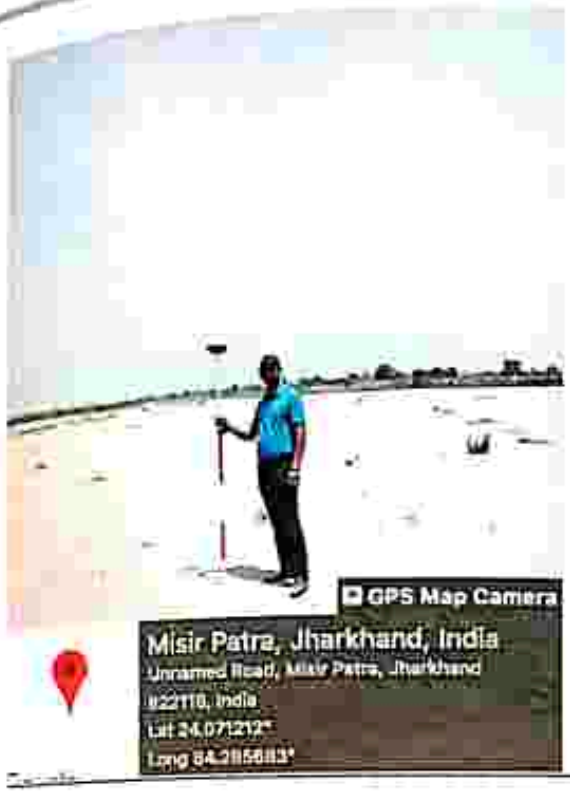
Approved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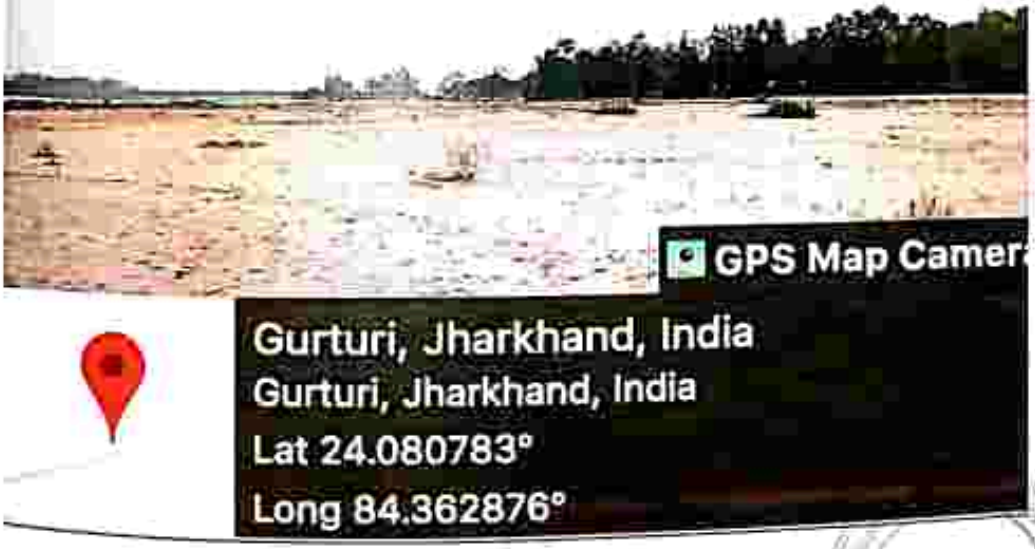
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Approved


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Approved


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GPS Map Camera
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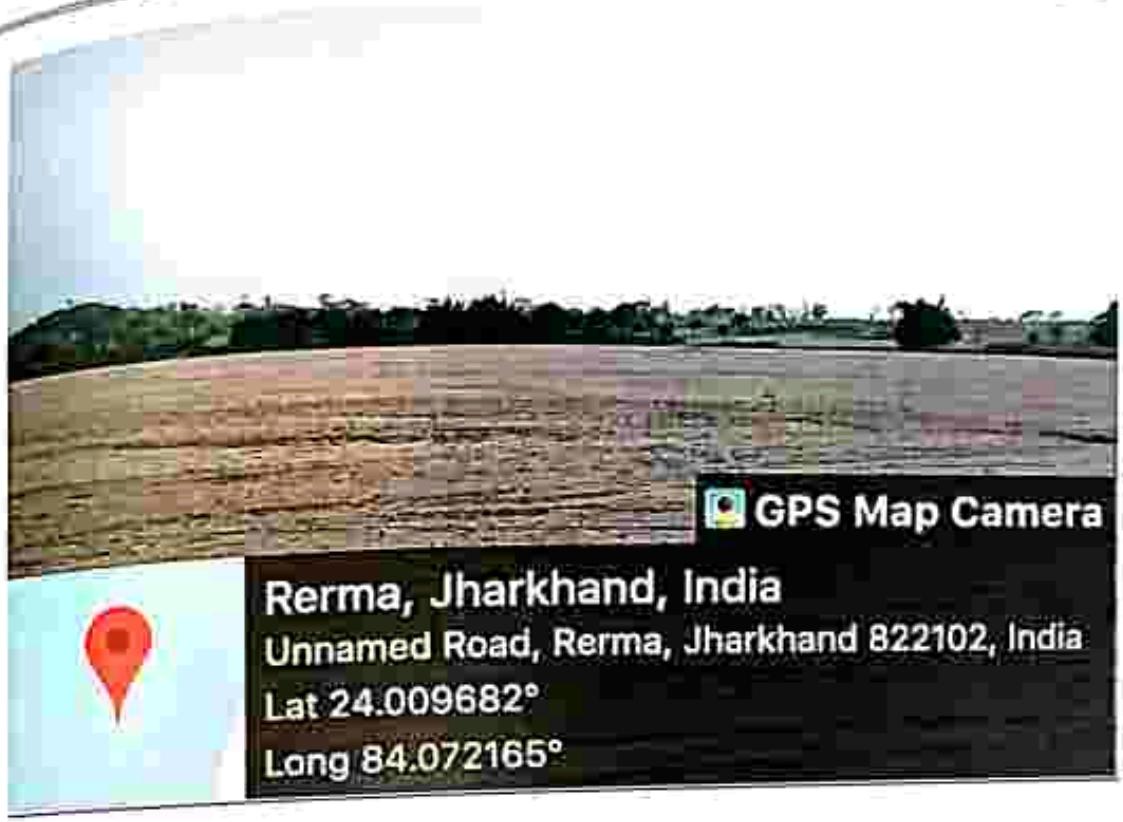
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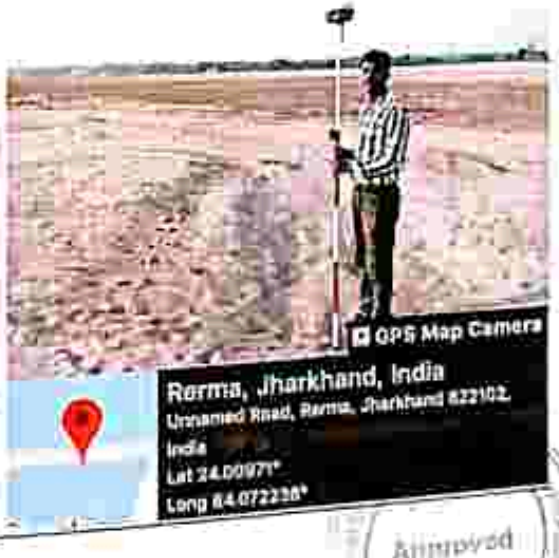
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Approved


GPS Map Camera
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Unnamed Road, Rerma, Jharkhand 822102, India
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Long 84.07221°

Approved

CERTIFICATE FROM DISTRICT FISHERY DEPARTMENT, PALAMAU

झारखण्ड सरकार

कार्यालय जिला मत्स्य पदाधिकारी–सह मुख्य कार्यपालक पदाधिकारी, पलामू।

E-mail: fisheriespltw@gmail.com

ज्ञापांक 236 मत्स्य, पलामू / दिनांक 12/03/23

प्रेषक,

जिला मत्स्य पदाधिकारी–सह
मुख्य कार्यपालक पदाधिकारी,
पलामू।

सेवा में,

जिला खनन पदाधिकारी,
पलामू।

विषय – जलीय जीवों से संबंधित सूचना प्रेषित करने के संबंध में।

प्रसंग – आवेदीय पत्रांक 268 / दिनांक 03 / 02 / 2023.

महाशय,

उपरोक्त विषयक प्रसंगाधीन पत्र के संदर्भ में सूचित करते हुए कहना है कि पलामू जिलान्तर्गत बहने वाली नदियों यथा– सोन, भलय, कोयल, अमानत, तहले, सदामह, दुर्गावती, पटाने एवं जिलोंहं में पायी जाने वाले जलीय जीवों की सूची इस पत्र के साथ संलग्न कर आवश्यक कार्रवाई हेतु भेजी जा रही है।

सादर सूचनार्थ प्रेषित।

अनु:– यथोक्त।

विश्वासभाजन
जिला मत्स्य पदाधिकारी–सह
मुख्य कार्यपालक पदाधिकारी
पलामू।

Approved

पलामू जिलान्तर्गत बहने वाली विभिन्न नदियों में पायी जाने वाले जलीय जीवों की सूची।

S.I No.	Scientific Name	Local Name
1	*Labeo rohita*	Rohu, Ruee
2	*Catla Catla*	Katla
3	*Cirrihinus mrigala*	Mrigal
4	*Pangasius Pangasius*	Pangas
5	*Calarias Batrachus*	Magur
6	*Heteropeustes Fossils*	Gingee, Singhi
7	*Monopterus Cuchia*	Kuchia
8	*Anabas testudineus*	Koi
9	*Notopterus notopterus*	Pholui, Patola
10	*Notopters Chitala*	Chithal, Moya
11	*Anguilla bengalensis*	Bao, Bami
12	*Salmostoma bacaila*	Chela, Chalhawa
13	*Barilius bendelisis*	Calha
14	*Garra lamta*	Chnoksi
15	*Labeo Calbasu*	Kalbasu
16	*Puntius stigma*	Puthi
17	*Lepidocephalichthys guntea*	Gutum, Nukati
18	*Mystus seenghala*	Tengara
19	*Mystus Vittatus*	Tengara
20	*Mystus aor*	Tengara
21	*Wallago attu*	Koyali, Boal
22	*Glyptothorax telchitta*	Telchitta
23	*Macrognathus albus*	Bomboie
24	*Glossogobius giuris*	Batia
25	*Channa Marulius*	Sol
26	*Channa Puntatus*	Garai
27	*Channa Striatus*	Shol
28	*Macrobrachium choprai*	Jhinga

जिला पर्यावरण पदाधिकारी-सह
मुख्य कार्यपालक पदाधिकारी
पलामू।

Annexure – I

Details of Sand Sources:

Sl. No.	River Name	Total Stretch of River (in Km)	Type of River (Perennial/Non-Perennial)
1	Amanat	64.1	Non-Perennial
2	Auranga	8.37	Non-Perennial
3	Batane Nadi	41.4	Non-Perennial
4	Jinjoi Nadi	45.8	Non-Perennial
5	North Koel	104.0	Non-Perennial

a) 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

b) 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

c) 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.

Approved

Annexure – II

List of Potential Mining Leases (existing & proposed):

Sl. No.	River	Lease Details	Area	Distance from PA/BR/WC	Distance from Forest Area	Mining Leases within 500m (If yes, Cluster area)	Total excavation (Mine depth max 60 m)	Bulk Density	Total excavation	Mineral to be mined	Existing /Proposed
		Sand Ghat ID	(in Ha.)	(in KM)	(in KM)		in (m³/Yr.)	Tonne/m³	(Tonne/Yr.)	(Sand/Bajri/RBM etc.)	
1		PA_Z13_SO_1	36.43	>0.25 Km	>0.25 Km	No	1092900.0	1.61	1759569.0	Sand	Proposed
2		PA_Z13_SO_4	30.45	>0.25 Km	>0.25 Km	No	761250.0	1.61	1225612.5	Sand	Proposed
3		PA_Z13_SO_5	10.51	>0.25 Km	>0.25 Km	No	263000.0	1.62	426060.0	Sand	Proposed
4		PA_Z13_NK_6	55.22	>0.25 Km	>0.25 Km	No	1380500.0	1.62	2236410.0	Sand	Proposed
5		PA_Z12_NK_7	82.45	>0.25 Km	>0.25 Km	No	2479500.0	1.61	3991995.0	Sand	Proposed
6		PA_Z12_NK_8	26.27	>0.25 Km	>0.25 Km	No	656750.0	1.62	1063935.0	Sand	Proposed
7		PA_Z11_NK_9	178.08	>0.25 Km	>0.25 Km	No	4452000.0	1.61	7167720.0	Sand	Proposed
8		PA_Z11_NK_10	103.18	>0.25 Km	>0.25 Km	No	2579500.0	1.62	4176790.0	Sand	Proposed
9		PA_Z11_NK_11	205.02	>0.25 Km	>0.25 Km	No	5125750.0	1.61	8252457.5	Sand	Proposed
10		PA_Z16_NK_13	55.28	>0.25 Km	>0.25 Km	No	1382250.0	1.62	2239245.0	Sand	Proposed
11		PA_Z8_AMA_14	86.75	>0.25 Km	>0.25 Km	No	2169000.0	1.62	3513780.0	Sand	Proposed
12		PA_Z7_AMA_15	18.21	>0.25 Km	>0.25 Km	No	546300.0	1.62	885006.0	Sand	Proposed
13		PA_Z7_AMA_16	4.08	>0.25 Km	>0.25 Km	No	81600.0	1.61	131376.0	Sand	Proposed
14		PA_Z6_AMA_20	91.90	>0.25 Km	>0.25 Km	No	2363000.0	1.62	3831300.0	Sand	Proposed
15		PA_Z6_AMA_21	29.63	>0.25 Km	>0.25 Km	No	741000.0	1.61	1193010.0	Sand	Proposed
16		PA_Z4_AMA_23	16.88	>0.25 Km	>0.25 Km	No	422250.0	1.62	684045.0	Sand	Proposed
17		PA_Z4_AMA_24	30.28	>0.25 Km	>0.25 Km	No	757250.0	1.61	1219172.5	Sand	Proposed
18		PA_Z4_AMA_26	4.87	>0.25 Km	>0.25 Km	No	97800.0	1.61	157139.0	Sand	Proposed
19		PA_Z1_AMA_27	35.97	>0.25 Km	>0.25 Km	No	1369500.0	1.62	2267100.0	Sand	Proposed

a) 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

b) 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

c) 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

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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.

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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.)	3.8	Unpaved	Black Topped	Lease Owner	Attached as Map No. D1
2	2	2			3.8	Unpaved	Black Topped	Lease Owner	D2
3	3	3			3.8	Unpaved	Black Topped	Lease Owner	D3
4	4	4			3.8	Unpaved	Black Topped	Lease Owner	D4
5	5	5			3.35	Unpaved	Black Topped	Lease Owner	D5
6	6	6			3.35	Unpaved	Black Topped	Lease Owner	D6
7	7	7			0.49	Unpaved	Black Topped	Lease Owner	D7
8	8	8			0.49	Unpaved	Black Topped	Lease Owner	D8
9	9	9			0.49	Unpaved	Black Topped	Lease Owner	D9
10	10	10			1.76	Unpaved	Black Topped	Lease Owner	D10
11	11	11			0.49	Unpaved	Black Topped	Lease Owner	D11
12	12	12			2.89	Unpaved	Black Topped	Lease Owner	D12
13	13	13			2.89	Unpaved	Black Topped	Lease Owner	D13
14	14	14			5.29	Unpaved	Black Topped	Lease Owner	D14
15	15	15			5.29	Unpaved	Black Topped	Lease Owner	D15
16	16	16			3.23	Unpaved	Black Topped	Lease Owner	D16
17	17	17			3.23	Unpaved	Black Topped	Lease Owner	D17

18	18	18			2.64	Unpaved	Black Topped	Lease Owner	Dry
19	19	19			2.64	Unpaved	Black Topped	Lease Owner	Dry

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.

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Annexure – V

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

Sl. No.	River	Lease Details	Area	Distance from PA/BR/WC	Distance from Forest Area	Mining Leases within 50km (if yes, Cluster area)	Total excavation (Mine depth max as 3 m)	Bulk Density	Total excavation	Mineral to be mined	Existing /Proposed
		Sand Ghat ID	(in Ha.)	(in KM)	(in KM)		in (m³/Yr.)	Tonne/m³	(Tonne/Yr.)	(Sand/Bajri/RBM etc.)	
1		PA_Z13_SO_1	36.43	>0.25 Km	>0.25 Km	No	1092900.0	1.61	1759569.0	Sand	Proposed
2		PA_Z13_SO_4	30.45	>0.25 Km	>0.25 Km	No	761250.0	1.61	1225912.5	Sand	Proposed
3		PA_Z23_SO_5	19.51	>0.25 Km	>0.25 Km	No	263000.0	1.62	426060.0	Sand	Proposed
4		PA_Z13_NK_6	55.22	>0.25 Km	>0.25 Km	No	1380500.0	1.62	2236410.0	Sand	Proposed
5		PA_Z12_NK_7	80.65	>0.25 Km	>0.25 Km	No	2079500.0	1.61	3391095.0	Sand	Proposed
6		PA_Z19_NK_8	26.27	>0.25 Km	>0.25 Km	No	656750.0	1.62	1063935.0	Sand	Proposed
7		PA_Z11_NK_9	178.08	>0.25 Km	>0.25 Km	No	4452000.0	1.61	7162720.0	Sand	Proposed
8		PA_Z11_NK_10	103.18	>0.25 Km	>0.25 Km	No	2579500.0	1.62	4178790.0	Sand	Proposed
9		PA_Z11_NK_11	005.02	>0.25 Km	>0.25 Km	No	5125750.0	1.61	8252457.5	Sand	Proposed
10		PA_Z16_NK_13	35.28	>0.25 Km	>0.25 Km	No	1382250.0	1.62	2239245.0	Sand	Proposed
11		PA_Z8_AMA_14	86.75	>0.25 Km	>0.25 Km	No	2169000.0	1.62	3513780.0	Sand	Proposed
12		PA_Z7_AMA_15	18.21	>0.25 Km	>0.25 Km	No	546300.0	1.62	885006.0	Sand	Proposed
13		PA_Z5_AMA_16	4.08	>0.25 Km	>0.25 Km	No	81600.0	1.61	131376.0	Sand	Proposed
14		PA_Z6_AMA_20	91.90	>0.25 Km	>0.25 Km	No	2363000.0	1.62	3831300.0	Sand	Proposed
15		PA_Z6_AMA_21	29.63	>0.25 Km	>0.25 Km	No	741000.0	1.61	1193010.0	Sand	Proposed
16		PA_Z4_AMA_23	16.88	>0.25 Km	>0.25 Km	No	422250.0	1.62	683945.0	Sand	Proposed
17		PA_Z4_AMA_24	30.28	>0.25 Km	>0.25 Km	No	757250.0	1.61	1219172.5	Sand	Proposed
18		PA_Z3_AMA_26	4.87	>0.25 Km	>0.25 Km	No	97600.0	1.61	157136.0	Sand	Proposed
19		PA_Z3_AMA_27	38.97	>0.25 Km	>0.25 Km	No	1299500.0	1.62	2097690.0	Sand	Proposed

a) 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

b) 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

c) 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

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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.

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.)	3.8	Unpaved	Black Topped	Lease Owner	Attached as Map No. D1
2	2	2			3.8	Unpaved	Black Topped	Lease Owner	D2
3	3	3			3.8	Unpaved	Black Topped	Lease Owner	D3
4	4	4			3.8	Unpaved	Black Topped	Lease Owner	D4
5	5	5			3.35	Unpaved	Black Topped	Lease Owner	D5
6	6	6			3.35	Unpaved	Black Topped	Lease Owner	D6
7	7	7			0.49	Unpaved	Black Topped	Lease Owner	D7
8	8	8			0.49	Unpaved	Black Topped	Lease Owner	D8
9	9	9			0.49	Unpaved	Black Topped	Lease Owner	D9
10	10	10			1.76	Unpaved	Black Topped	Lease Owner	D10
11	11	11			0.49	Unpaved	Black Topped	Lease Owner	D11
12	12	12			2.89	Unpaved	Black Topped	Lease Owner	D12
13	13	13			2.89	Unpaved	Black Topped	Lease Owner	D13
14	14	14			5.29	Unpaved	Black Topped	Lease Owner	D14
15	15	15			5.29	Unpaved	Black Topped	Lease Owner	D15
16	16	16			3.23	Unpaved	Black Topped	Lease Owner	D16

17	17	17			3.23	Unpaved	Black Topped	Lease Owner	D17
18	18	18			2.64	Unpaved	Black Topped	Lease Owner	D18
19	19	19			2.64	Unpaved	Black Topped	Lease Owner	D19

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.

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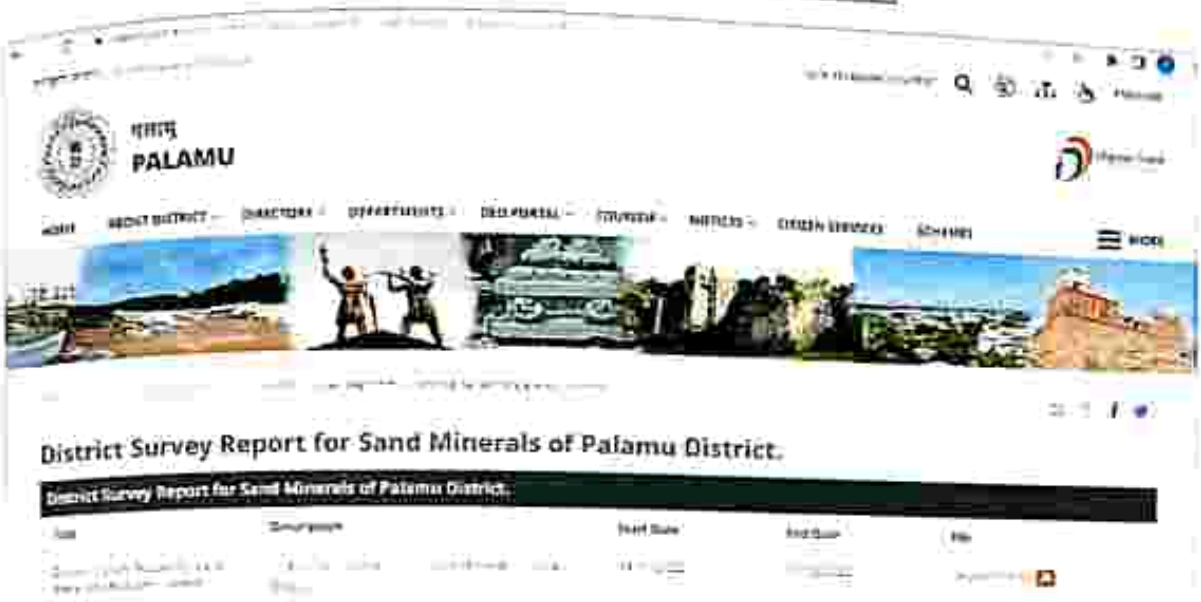
ADVERTISEMENT IN NEWSPAPER FOR OBTAINING COMMENTS OF THE GENERAL PUBLIC & EVIDENCE OF PROOF REGARDING ADVERTISEMENT IN NIC PORTAL



- Compliance against Objections/Observations obtained after Advertisement for Public Consultation by Person 1: Shri Pramod Prasad, Palamau, Person 2: Shri Himalaya Kumar, Ranchi, Person 3: Shri B. D. Prasad, Garhwa.

Sl. No.	Objections/Observations	Compliance
1	Public response to District Survey Report of Sand of Palamau district has been invited on or about 14.11.2022 which does not contain replenishment study of Sand and is devoid of post-monsoon data.	Keeping in view the 'Generic Structure of Replenishment Study' (as per EMGSM 2020); Third Survey after the monsoon has been carried out by DGPS to estimate the quantum of material deposited/replenished in the mining lease. Post-monsoon Data is given in Page No. - **70**
2	In absence of actual physical visit of Sand Ghat post-monsoon, the area, reserve of Sand is not based on primary field visit data and is an exercise of copy paste, hence fit to be rejected.	Detailed Survey for capturing OGL has been done using UAV Drone/DGPS. Area of deposition has been identified accordingly. District Survey Report has been prepared based on the Primary data obtained through UAV Drone/DGPS for generation of post-monsoon contour profile so as to assess the actual area and reserve of Sand available. Geotagged images of field survey attached in the maps.
3	The draft DSR has not complied Para 9.3 of Enforcement & Monitoring Guidelines for Sand Mining 2020 as it has not	The monitoring of conditions suggested in 'para 9.3 of EMGSM 2020' shall be implemented while commencement of

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	consulted with adjoining district where Sand Ghat/River becomes the inter-district/inter-state boundary. Such consultation of draft DSR is mandatory through district administration of adjoining district/State.	mining operations. The District Task Force Committee shall monitor and practice the suggestive standard given in 'EMGSM 2020' in area where inter-district/inter-state boundary falls within Sand Mining Zone. Also, NOC from the concerned DFO & CO has been obtained for the potential area as per statutory norms. The same has been enclosed as Annexure.
4	DSR is not in compliance of NGT order dated 05.09.2022 passed in O.A. No. 54/2022/EZ and also not in compliance of 4.1.1 of Enforcement & Monitoring Guidelines for Sand Mining 2020 read with Sustainable Sand Mining Management Guidelines 2016.	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 as well as necessary statutory barrier from physical structures such as bridges, intake-wells etc. Tonnage factor of Sand has been calculated by analysing Sand samples from NABL accredited Laboratory. Keeping in view the 'Generic Structure of Replenishment Study' (as per EMGSM 2020); Third Survey after the monsoon has been carried out by DGPS to estimate the quantum of material deposited/replenished in the mining lease. This report has been prepared with the holistic approach and data provided by District Mining Office and study of Satellite imageries. The field data collection has been carried out in post-monsoon season and a DSR with all updated data has been prepared.
5	Similar DSR of Sand of East Singhbhum and other districts has not been accepted by SEIAA vide meeting dated 17.09.2022 etc. which should be an eye opener.	This DSR has been prepared by complying to all guidelines of EMGSM 2020 and Sustainable Sand Mining Management Guidelines 2016.
6	You are requested to withdraw this DSR and prepare once again in compliance to NGT Order dated 05.09.2022 and thereafter upload the same for public consultation.	Agreed. The Final District Survey Report for 'Sand Mining or River-bed Mining' has been prepared by keeping in view the suggestions, statutory norms and submitted accordingly.

SAND SAMPLE ANALYSIS REPORT FROM NABL RECOGNIZED LABORATORY

Eco Care

Specialist House of Environment Monitoring, Analysis, Consultancy & Management
ISO 9001:2015 Certified, OHSAS 45001:2018 Certified

Phone : (0341) 2252011
Fax : (0341) 2252011
Email : [illegible]
Mahaj Talkas Bakreswar, Kankalitala
Asansol - 713304
Paschim Bardhaman (W.B.)

ULR No. TC510922000000572P

Date of Print: 14.12.2022

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: 30.11.2022 to 08.12.2022
Sampling Density: Two per Hectare

Source: Multiple Rivers in Palamu District
Period of Analysis: 09.12.2022 to 13.12.2022
Sample Condition: Sealed

Ghat ID	Area (Ha)	Length (m)	No. of Samples	Sand Sample Collected for texture analysis						Bulk Density
				4.75mm to 2.00 mm		2.00mm to 425 micron		425 to 75 micron		
				Nos.	%	Nos.	%	Nos.	%	
PA_Z13_SO_1	36.43	1000	73	16	21.96	43	59.02	14	19.02	1.61
PA_Z13_SO_4	30.45	1122	61	11	18.06	32	52.55	18	29.38	1.61
PA_Z13_SO_5	10.52	732	21	3	14.26	12	57.03	6	28.71	1.62
PA_Z13_NK_6	55.33	1953	110	20	18.11	59	53.42	31	28.47	1.62
PA_Z12_NK_7	82.65	4361	165	34	20.57	98	58.24	43	26.19	1.61
PA_Z12_NK_8	26.27	1687	53	8	15.23	29	55.2	16	29.58	1.62
PA_Z11_NK_9	176.06	6154	356	78	20.78	207	58.12	75	21.1	1.61
PA_Z11_NK_10	103.18	2852	206	35	16.96	117	54.37	59	28.77	1.62
PA_Z11_NK_11	205.03	3579	410	77	18.78	226	55.11	107	26.11	1.61
PA_Z13_NK_13	55.29	2276	111	22	19.9	59	54.36	30	26.75	1.62
PA_Z8_AMA_14	86.76	1507	174	29	16.71	105	60.52	40	22.78	1.62
PA_Z7_AMA_15	18.21	829	36	7	19.22	20	54.91	9	25.86	1.62
PA_Z7_AMA_16	4.08	461	8	1	12.25	5	61.27	2	26.47	1.61
PA_Z8_AMA_20	91.90	2270	184	34	18.5	100	54.51	50	27.09	1.62
PA_Z6_AMA_21	29.64	1012	59	12	20.34	35	59.04	12	20.72	1.61
PA_Z4_AMA_33	16.89	1201	34	5	14.8	20	59.71	9	25.99	1.62
PA_Z4_AMA_34	30.29	1048	61	10	16.51	31	51.37	20	32.32	1.61
PA_Z5_AMA_26	4.86	384	10	1	10.25	6	61.48	3	28.28	1.61
PA_Z3_AMA_27	55.98	2070	112	20	17.96	59	52.7	33	29.44	1.62

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.

Authorised Signatory

Dr. Mousumi Pal
Ph.D. (P[illegible]), Scientist
Au[illegible]

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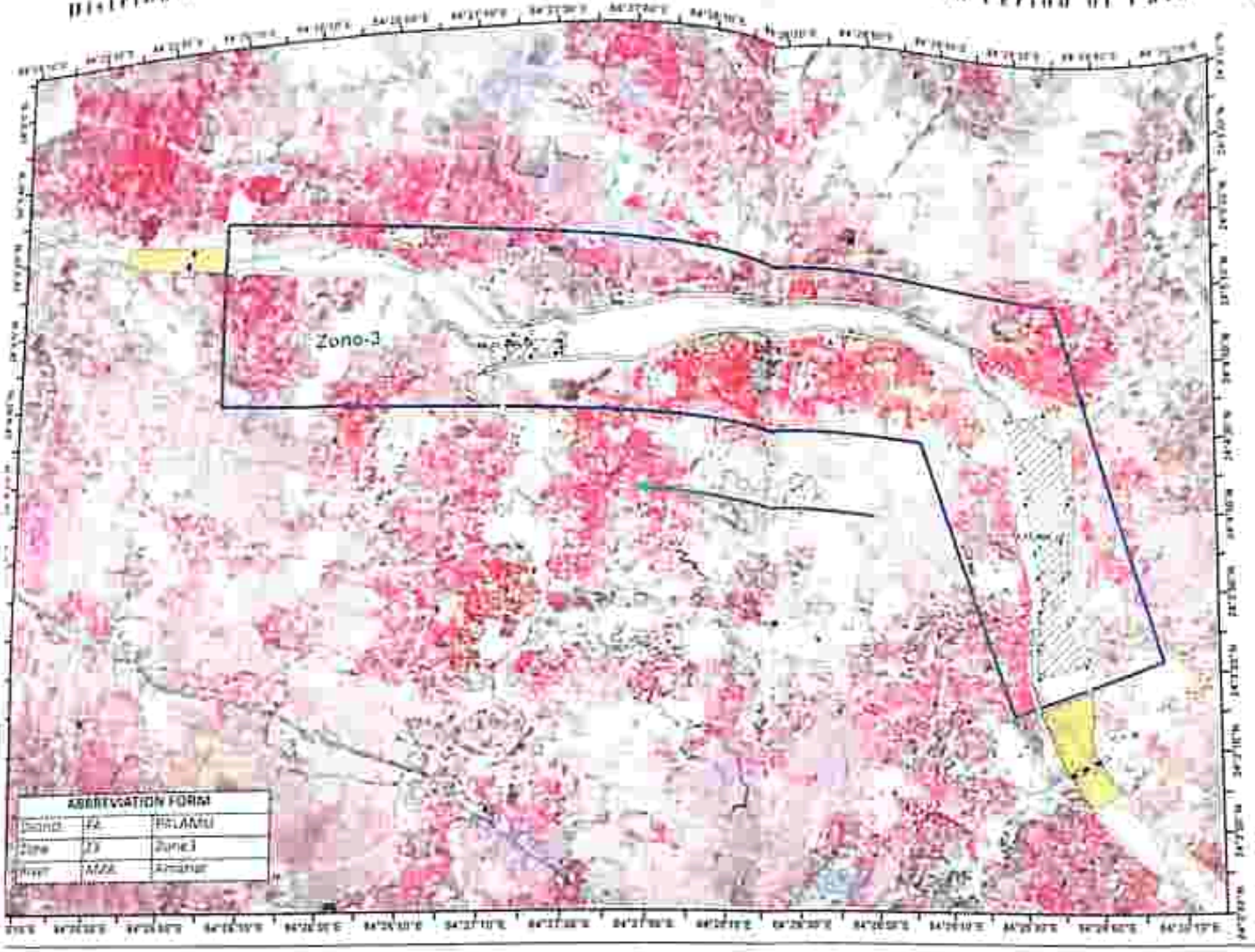
Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Palamu District, Jharkhand



Geo-Tagged Site Photographs

Legend

- Palamu District Boundary
- Railway
- River Flow Direction
- Bridge
- No Mining Zone
- Sand Bar
- Safety Barrier
- Sand Deposit Zone

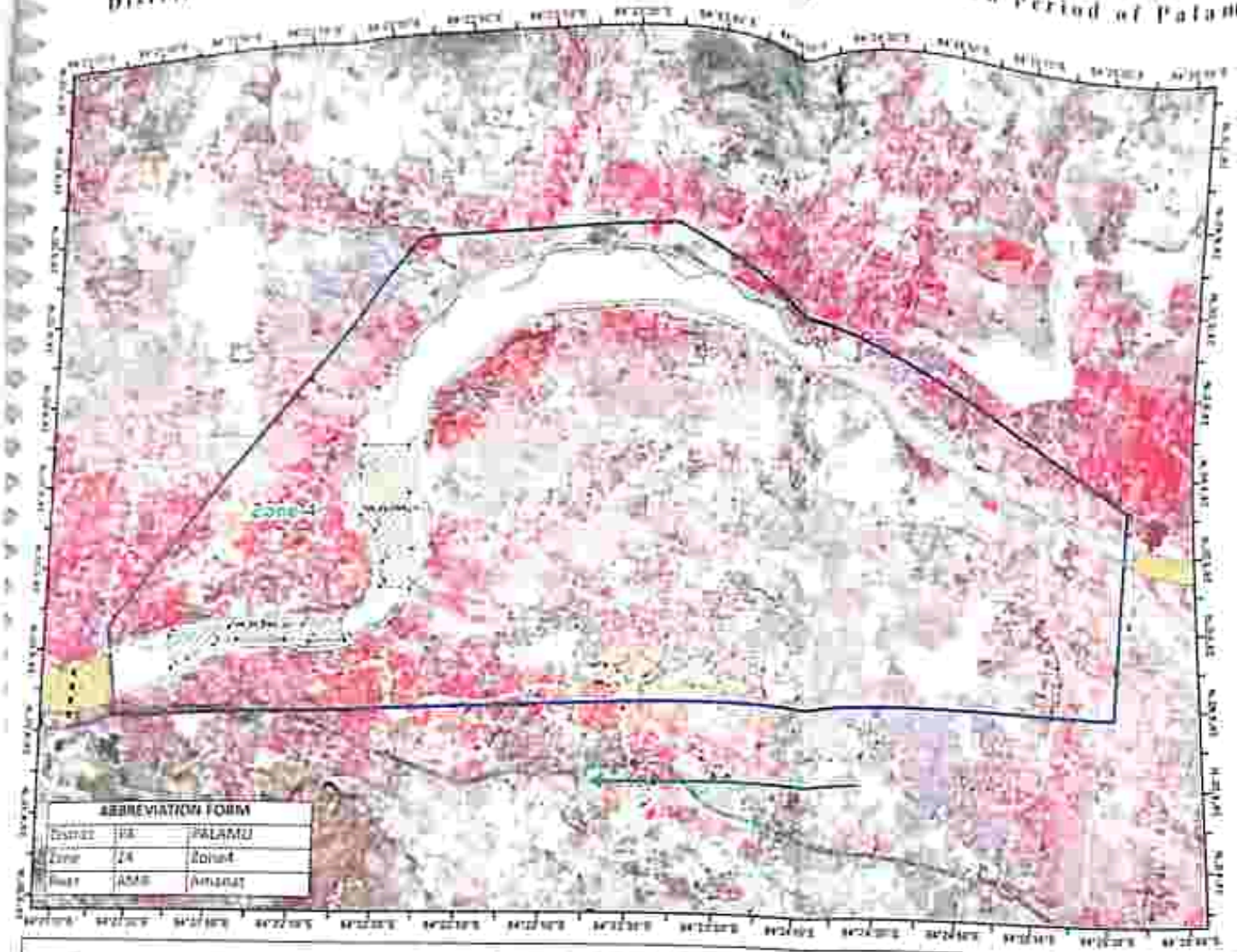
Sand Ghat Code	Area (in Ha)
PA_23_AMA_26	4.87
PA_23_AMA_27	55.97

Limiting Coordinates of Zone 3	
Starting Point	84°26'5.11"E 24°5'3.978"N
Ending point	84°26'46.911"E 24°5'27.142"N

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

0 470 940 1,880 2,820 3,760
Meters

Distribution Map of Sand Bars on Rivers During post-Monsoon Period of Palamu District, Jharkhand



Geo-Tagged Site Photographs

ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z4	Zone4
River	AMA	Amanat

Legend

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

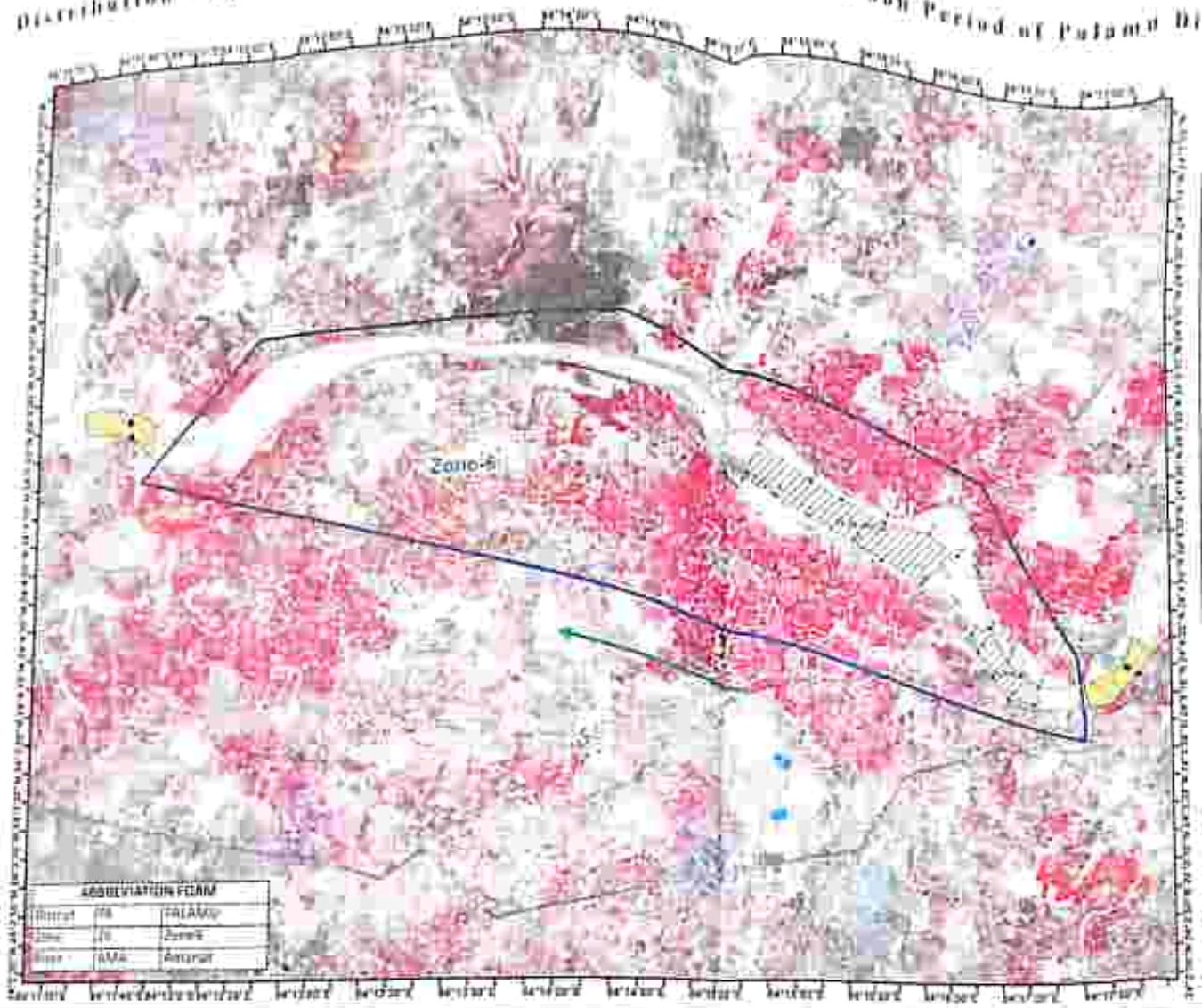
Sand Ghat Code	Area (in Ha)
PA_Z4_AMA_23	16.88
PA_Z4_AMA_24	30.29

Limiting Coordinates of Zone 4	
Starting Point	84°21'23.305"E 24°4'45.726"N
Ending point	84°25'30.233"E 24°5'20.522"N

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

0 440 880 1,760 2,640 5,520
Meters

Distribution Map of Sand Bars on Rivers During post-Monsoon Period of Palamu District, Jharkhand



Geo-tagged Site Photograph

ABBREVIATION FORM		
District	PA	PALAMU
Zone	ZO	Zone-5
River	AMA	Amanat

Legend

- Palamu District Boundary
- Railway
- River Flow Direction
- Bridge
- No Mining Zone
- Sand Ghat
- Safety Buffer
- Sand Deposit Zone

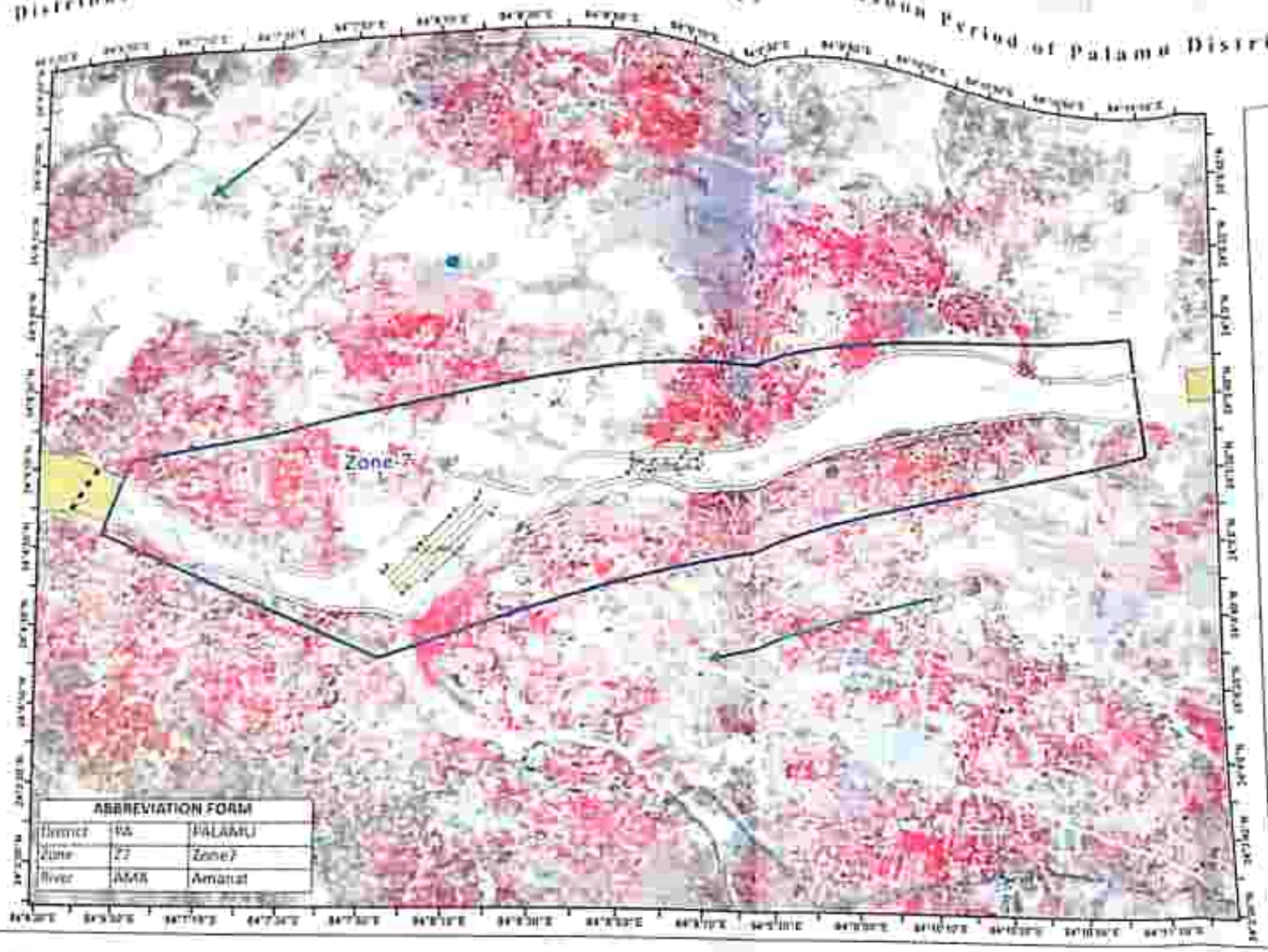
Sand Ghat Code	Area (in Ha)
PA_ZO_AMA_20	61.2
PA_ZO_AMA_21	29.83

Limiting Coordinates of Zone 5	
Starting Point	84°21'23.300"E 24°4'45.726"N
Ending point	84°21'48.139"E 24°5'28.537"N

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

0 500 1,000 2,000 3,000 4,000
Meters

Distribution Map of Sand Bars on Rivers During post-Monsoon Period of Palamu District, Jharkhand



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z7	Zone7
River	AMA	Amanat

Geo-Tagged Site Photographs

Legend

- Palamu District Boundary
- Railway
- River Flow Direction
- Bridge
- Not Mining Zone
- Sand Ghat
- Safety Barrier
- Sand Deposit Zone

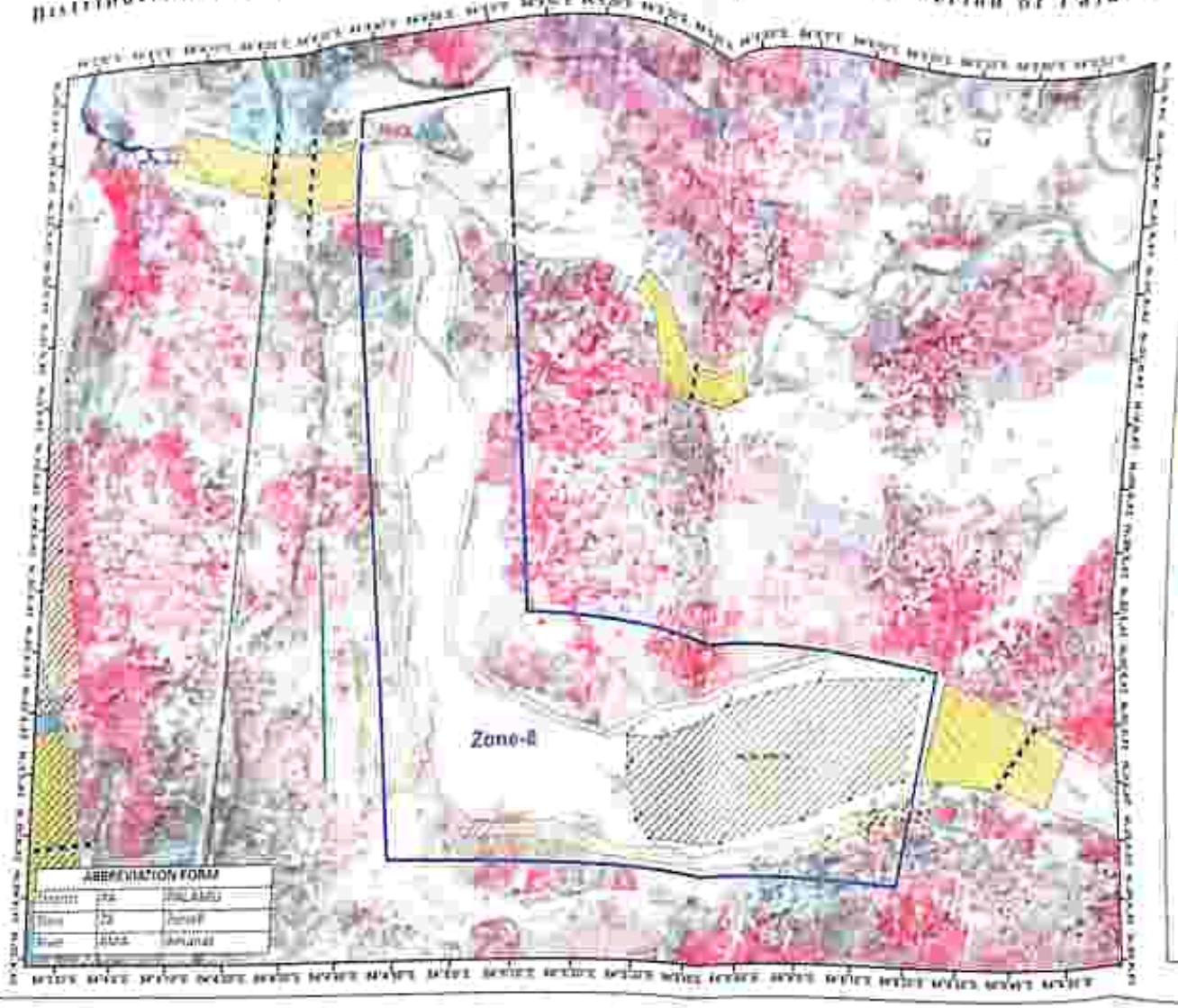
Sand Ghat Code	Area (in Ha)
PA_Z7_AMA_1A	16.21
PA_Z7_AMA_1B	4.08

Limiting Coordinates of Zone 7	
Starting Point	84°0'50.838"E, 24°5'4.918"N
Ending point	84°11'9.193"E, 24°5'30.827"N

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

0 460 920 1,840 2,760 3,680
Meters

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



Geo-Tagged Site Photographs

ABBREVIATION FORM		
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

Legend

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

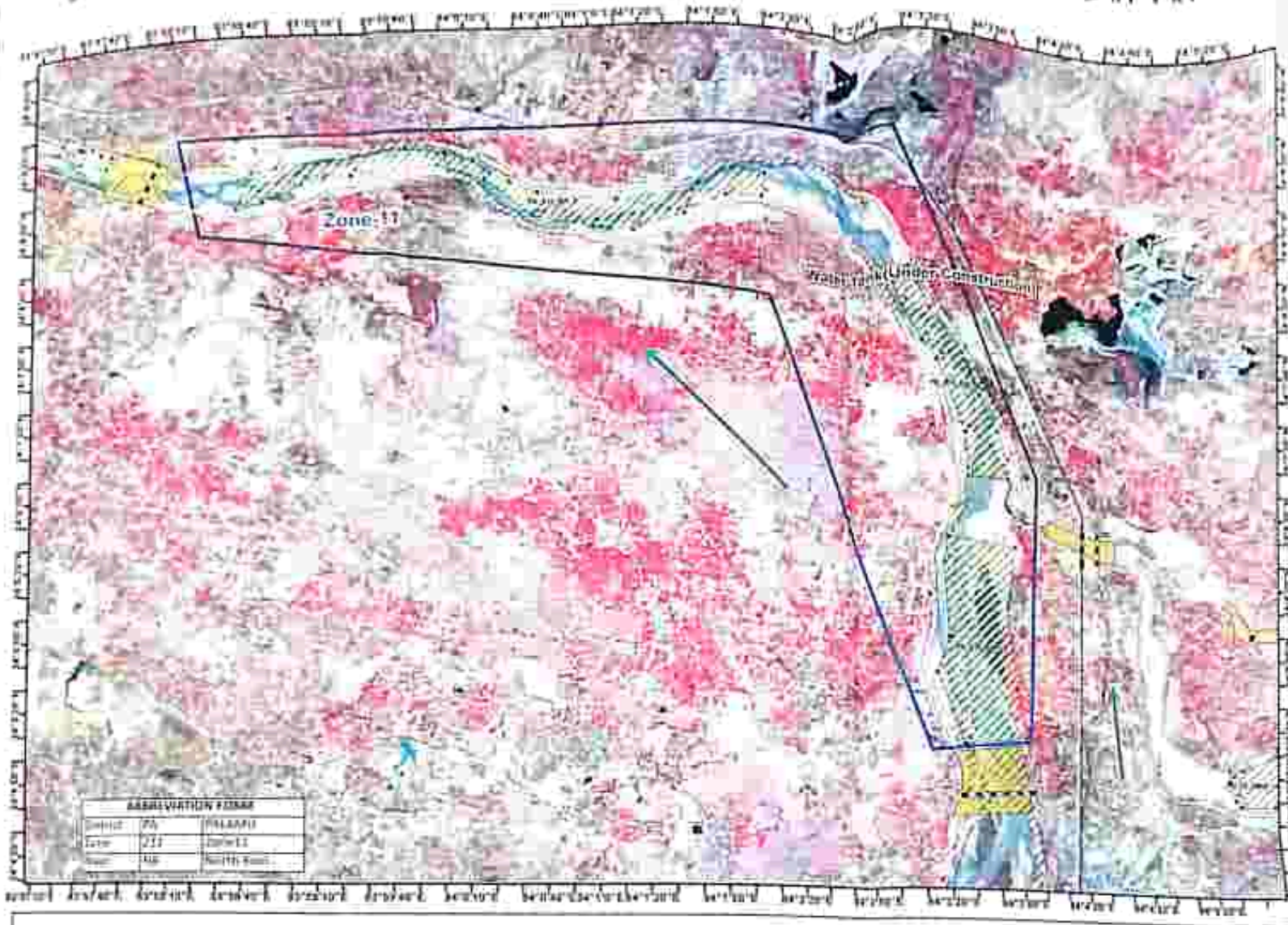
Sand Ghat Code	Area (in Ha)
[illegible]	[illegible]

Mining Coordinates of Zone 8	
Starting Point	[illegible]
Ending point	[illegible]

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

0 310 620 1240 1860 2480 Meters

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



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z11	Zone11
River	NK	North Koel

Geo-Tagged Site Photographs

Legend

- Palamu District Boundary
- Railway
- River Flow Direction
- Bridge
- No Mining Zone
- Sand (Dot)
- Safety Barrier
- Sand Deposit Zone

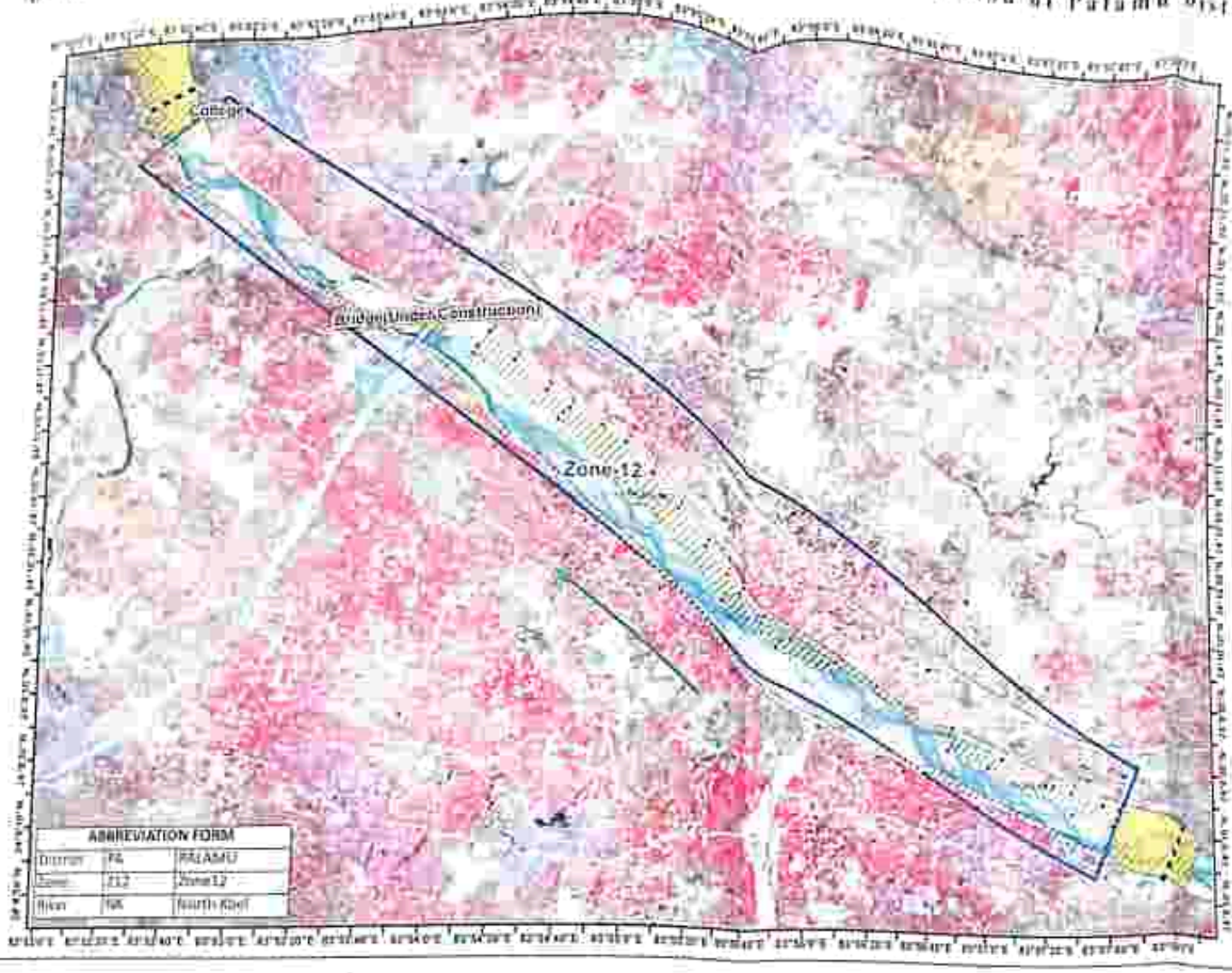
Sand Dot Code	Area (in Ha)
PA_Z11_NK_9	178.07
PA_Z11_NK_10	68.88
PA_Z11_NK_11	205.02

Limiting Coordinates of Zone-11	
Starting Point	83°58'18.93"E, 24°15'0.63"N
Ending point	84°2'47.94"E, 24°5'8.22"N

River - North Koel
Sentinel 2 Satellite Imagery
Date of Capture: November 2022 (Post-Monsoon)
Spatial Resolution: 10

0 500 1,000 2,000 3,000 4,000
Meters

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



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z12	Zone 12
River	NK	North Koel

Geo-Tagged Site Photographs

Legend

- Palamu District Boundary
- Railway
- River Flow Direction
- Bridge
- No Mining Zone
- Sand Ghat
- Sailing Ramp
- Sand Deposit Zone

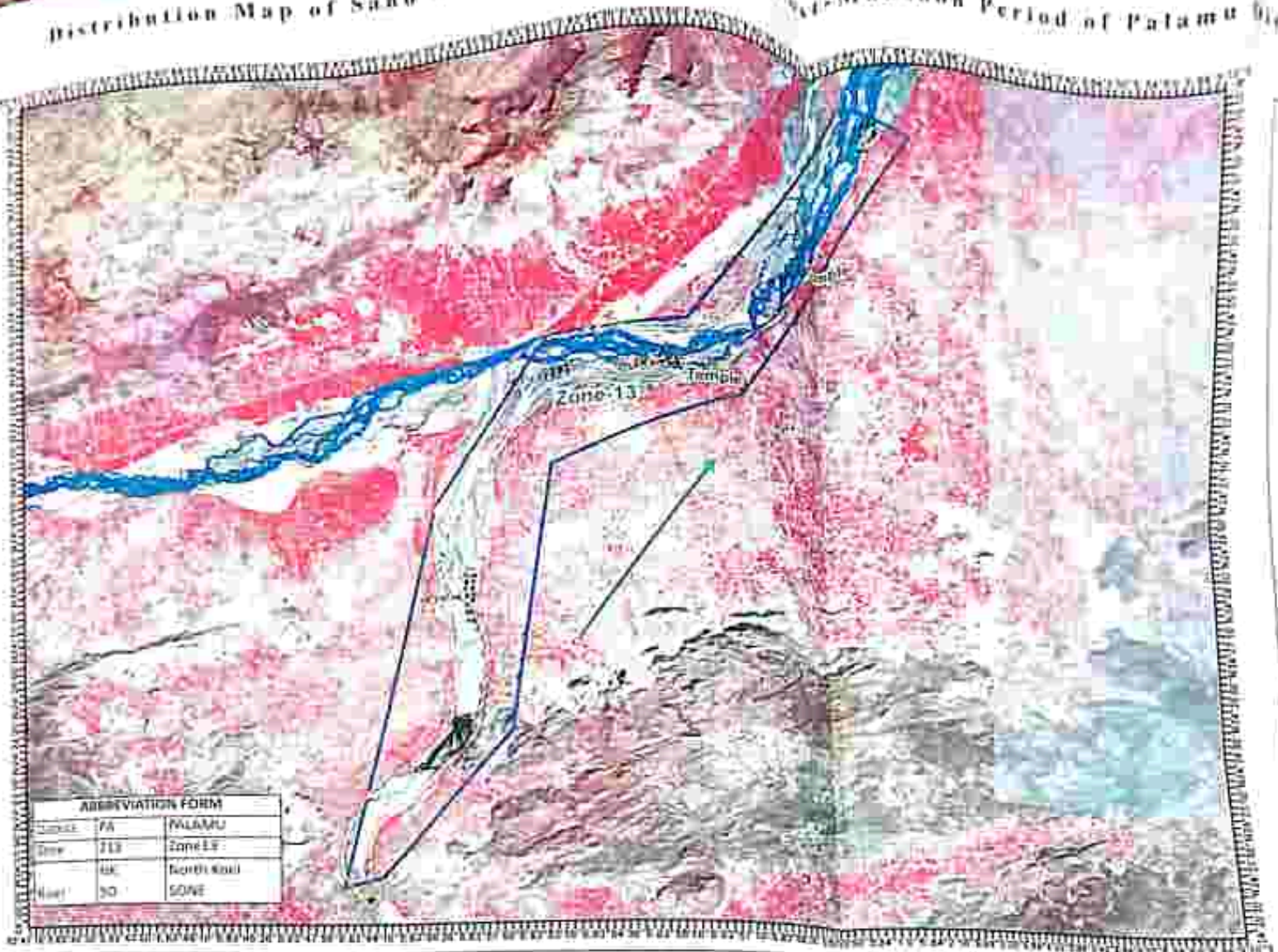
Sand Ghat Code	Area (in Ha)
PA_Z12_NK_7	82.65
PA_Z12_NK_8	20.27

Limiting Coordinates of Zone 12	
Starting Point	84°5'52.68"E 24°12'40.370"N
Ending point	84°5'42.508"E 24°9'15.311"N

River - North Koel
Sentinel 2 Satellite Imagery
Date of Capture: November 2021 Post Monsoon
Spatial Resolution: 10

0 500 1,000 2,000 3,000 4,000
Meters

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



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z13	Zone 13
River	NK	North Koel
	SO	SONE

Geo-Tagged Site Photographs

Legend

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

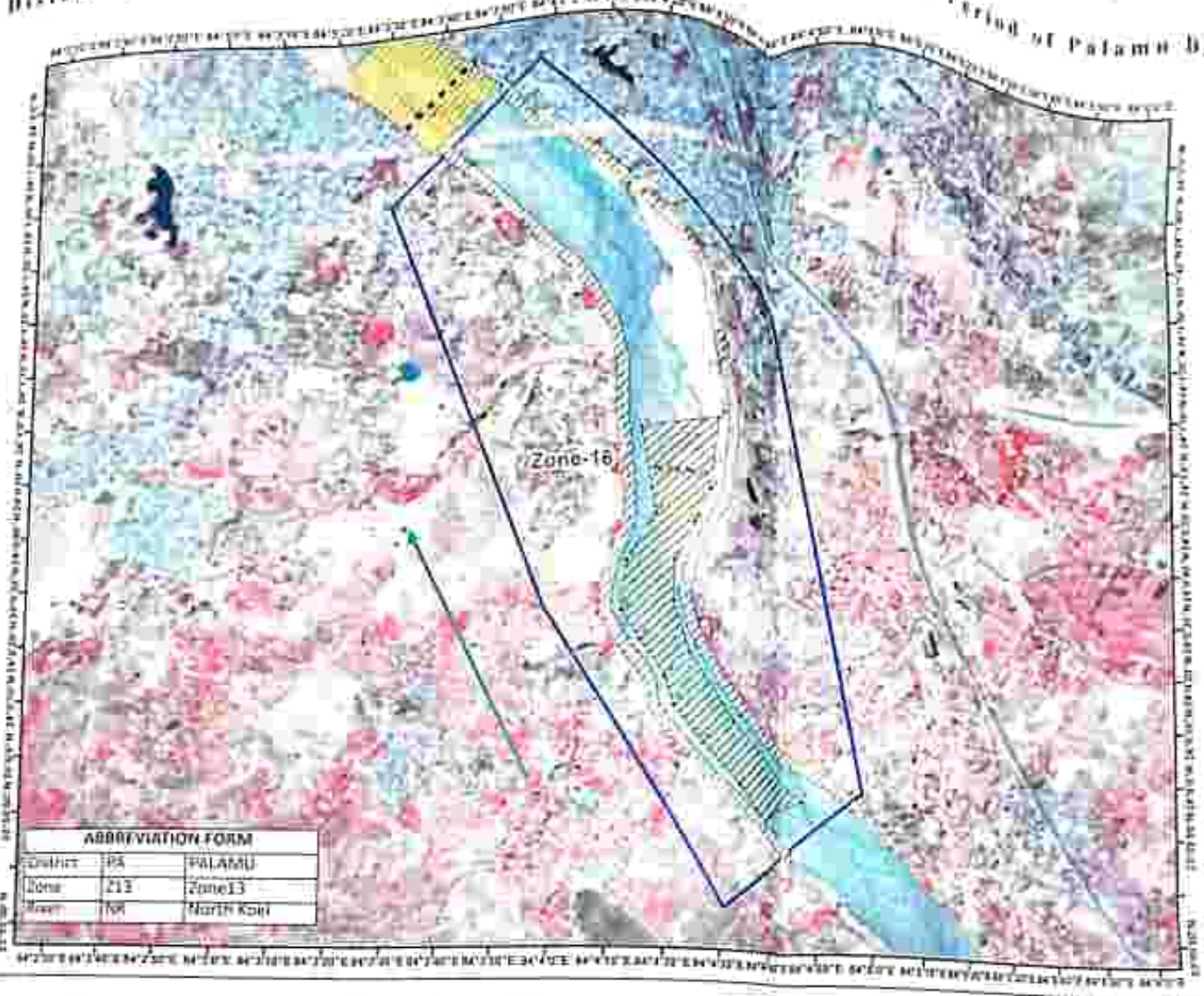
Sand Ghat Code	Area (in Ha)
PA_Z13_NK_6	55.23
PA_Z13_SO_5	10.528
PA_Z13_SO_3	30.48
PA_Z13_SO_4	30.45

Limiting Coordinates of Zone 13	
Starting Point	83°48'47.097"E, 24°20'57.743"N
Ending Point	84°1'7.344"E, 24°18'23.551"N

River - Sone, North Koel
Sentinel 2 Satellite Imagery
Date of Capture: November 2023 (Post Monsoon)
Spatial Resolution: 10

0 2,000 4,000 8,000 12,000 16,000
Meters

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



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z13	Zone13
River	NK	North Koel

Geo-Tagged Site Photographs

Legend

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

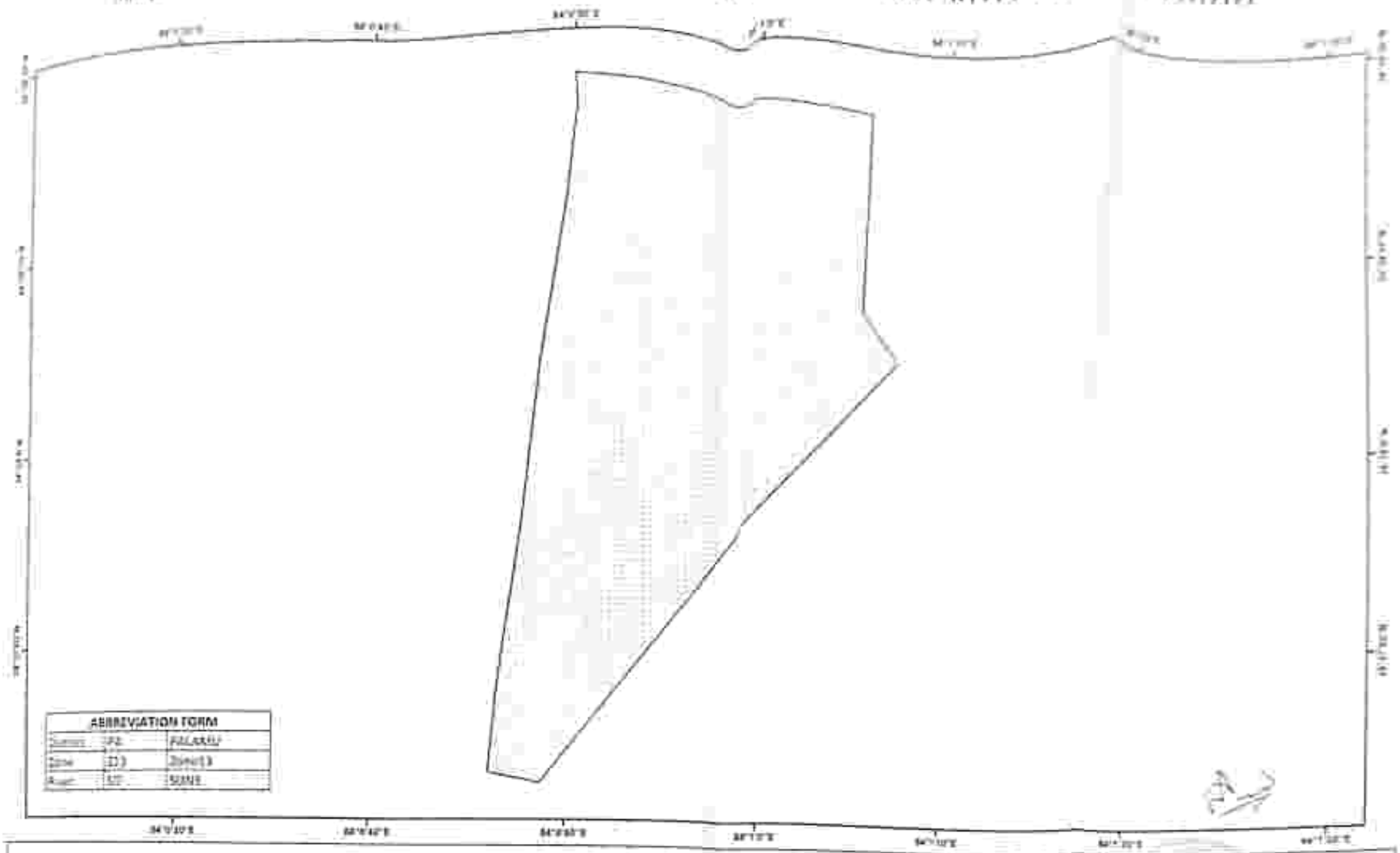
Sand Ghat Code	Area (in Ha)
PA_Z16_NK_13	55.28

Limiting Coordinates of Zone 16	
Starting Point	84°3'47.059"E 24°1'54.642"N
Ending point	84°4'46.179"E 23°59'47.502"N

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

0 345 690 1,380 2,070 2,760
Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat in Sone River in Palamu District



ABBREVIATION FORM		
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

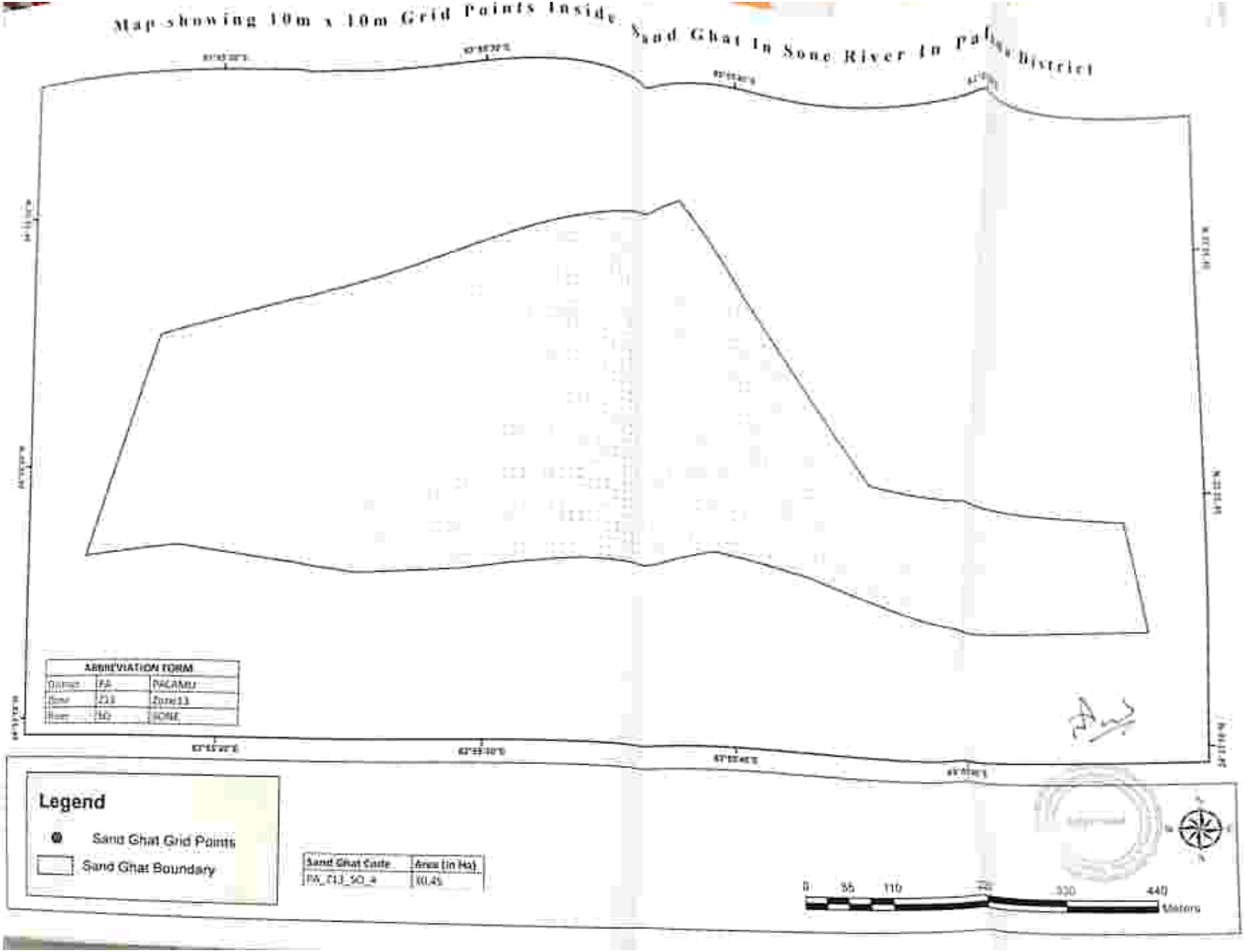
Legend

- Sand Ghat Grid Points
- Sand Ghat Boundary

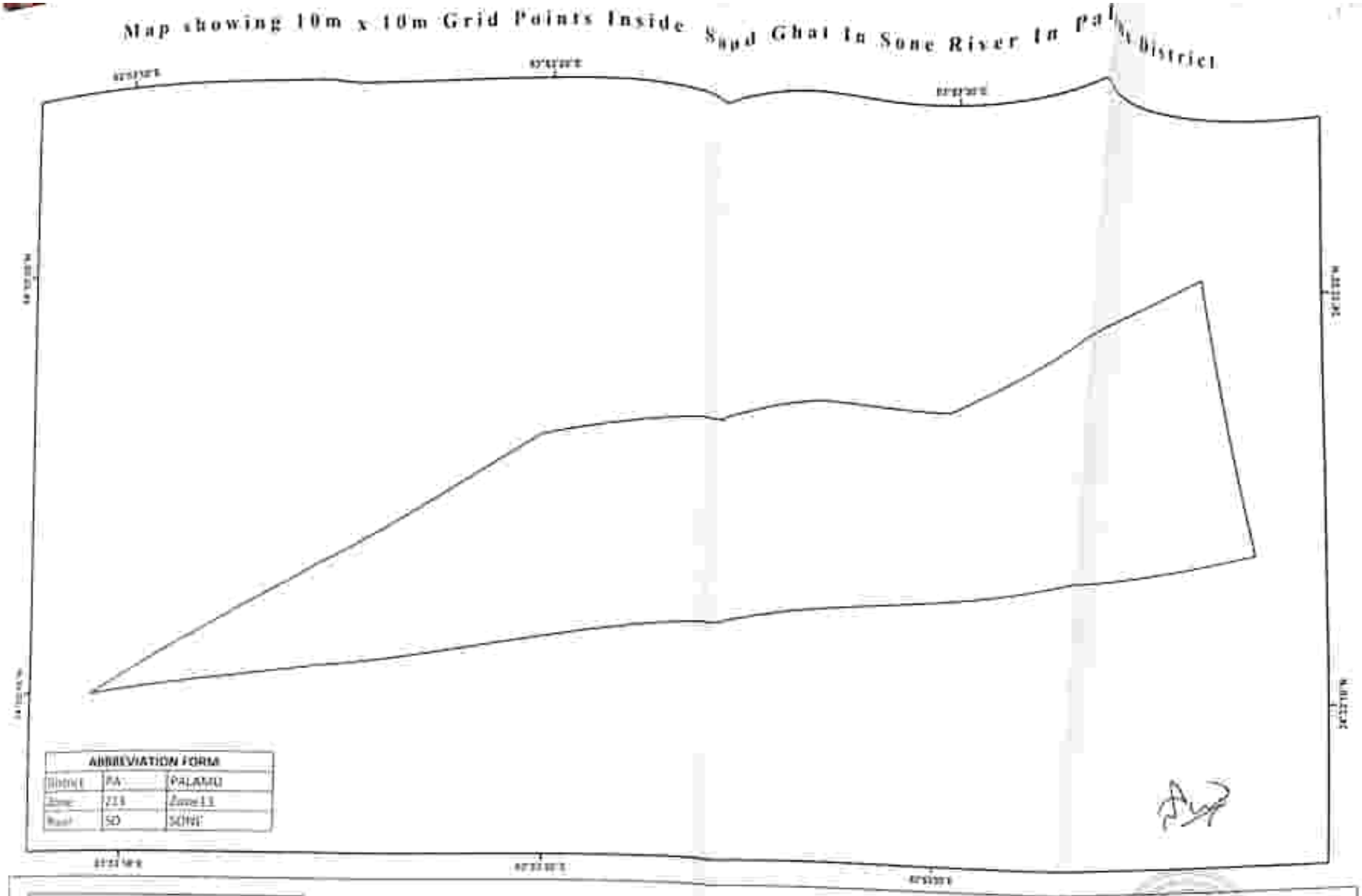
Sand Ghat Code	Area (in Ha)
PA_213_SO_1	36.43

0 80 160 [illegible] 480 640 Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In Sone River In Palamu District



Map showing 10m x 10m Grid Points Inside Sand Ghat in Sone River in Palamu District



ABBREVIATION FORM		
District	PA	PALAMU
Zone	213	Zone 13
River	SO	SONE

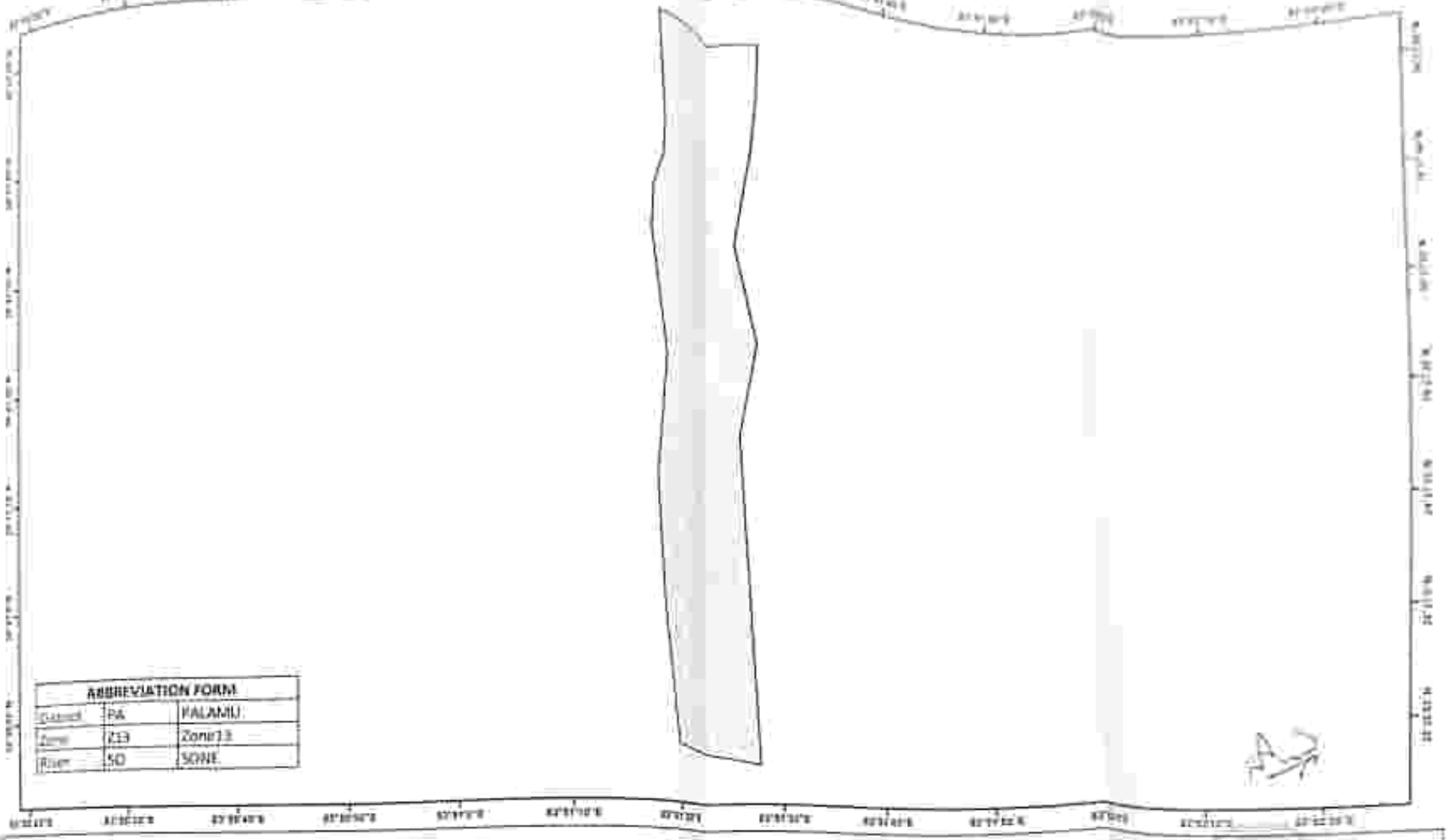
Legend

- Sand Ghat Grid Points
- Sand Ghat Boundary

Sand Ghat Code	Area (in Ha)
PA_213_SO_5	10.51

0 37.5 75 150 225 300 Meters

Map showing 10m x 10m Grid Points Insig[illegible] Sand Ghat In North Koel River In Palamu District



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z13	Zone13
River	SO	SONE

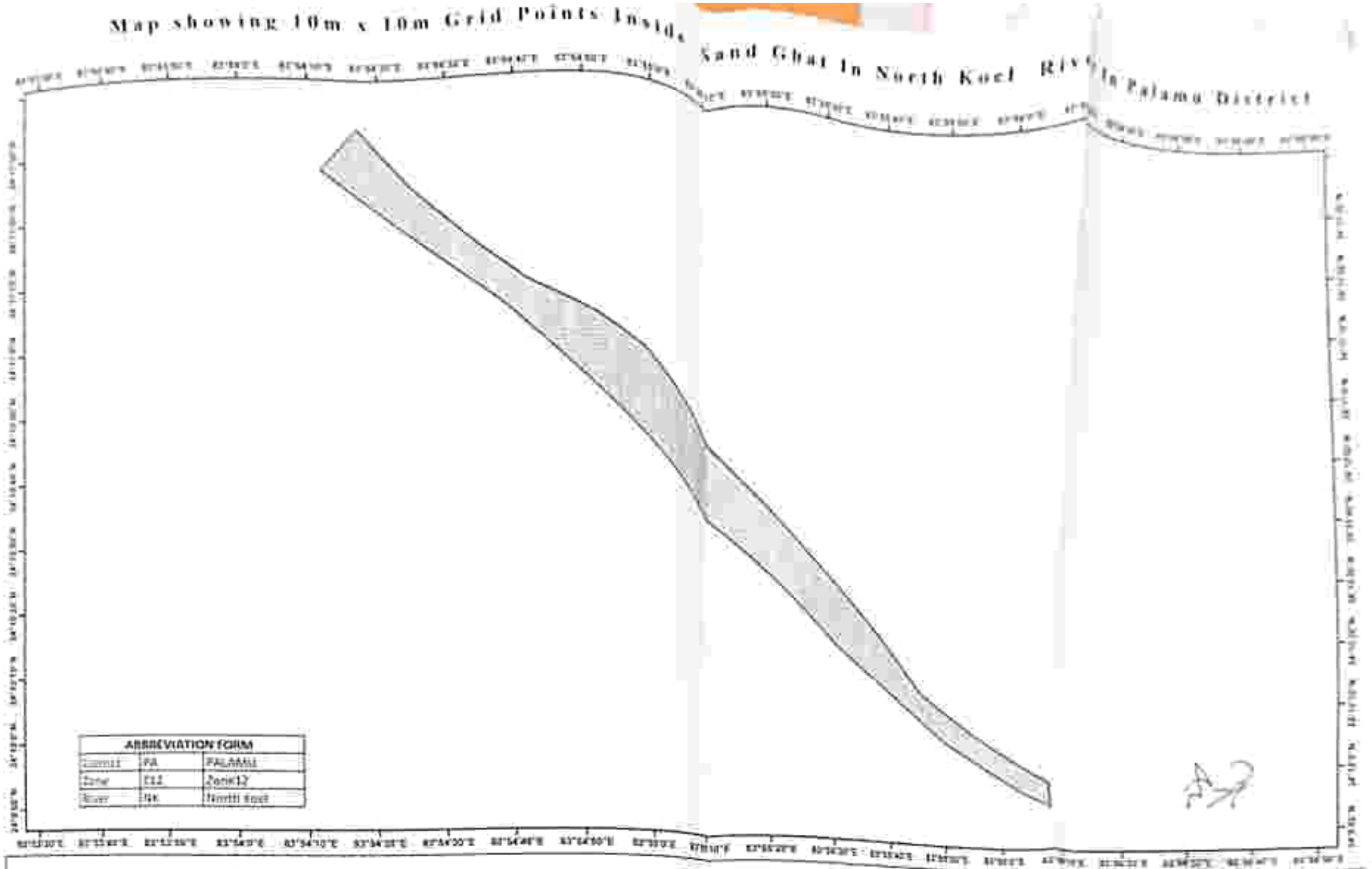
Legend

- Sand Ghat Grid Points
- Sand Ghat Boundary

Sand Ghat Code	Area (in Ha)
PA_Z13_NK_6	55.22

0 150 300 600 900 1,200
Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In North Koel River In Palamu District



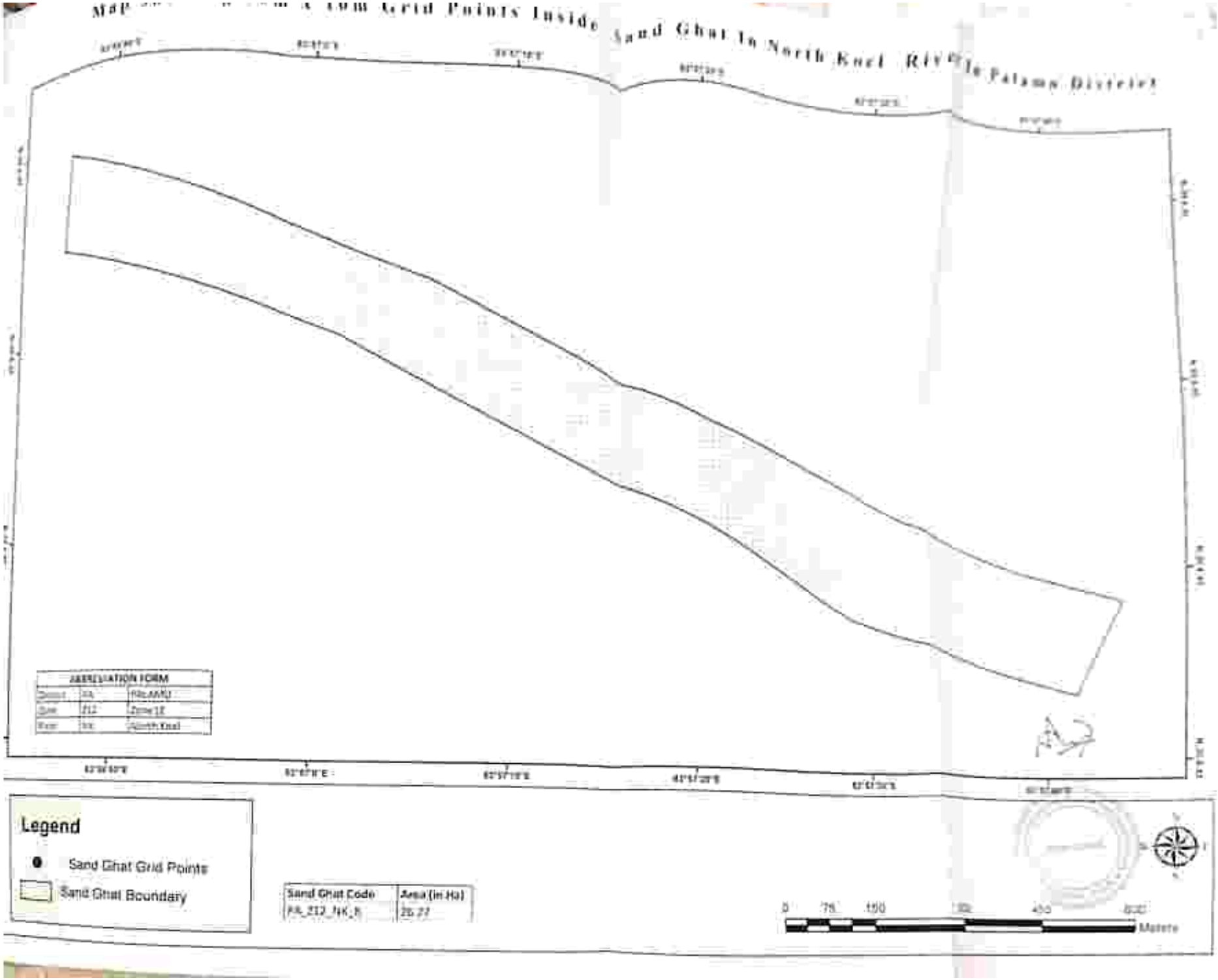
ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z12	Zone12
River	NK	North Koel

Legend

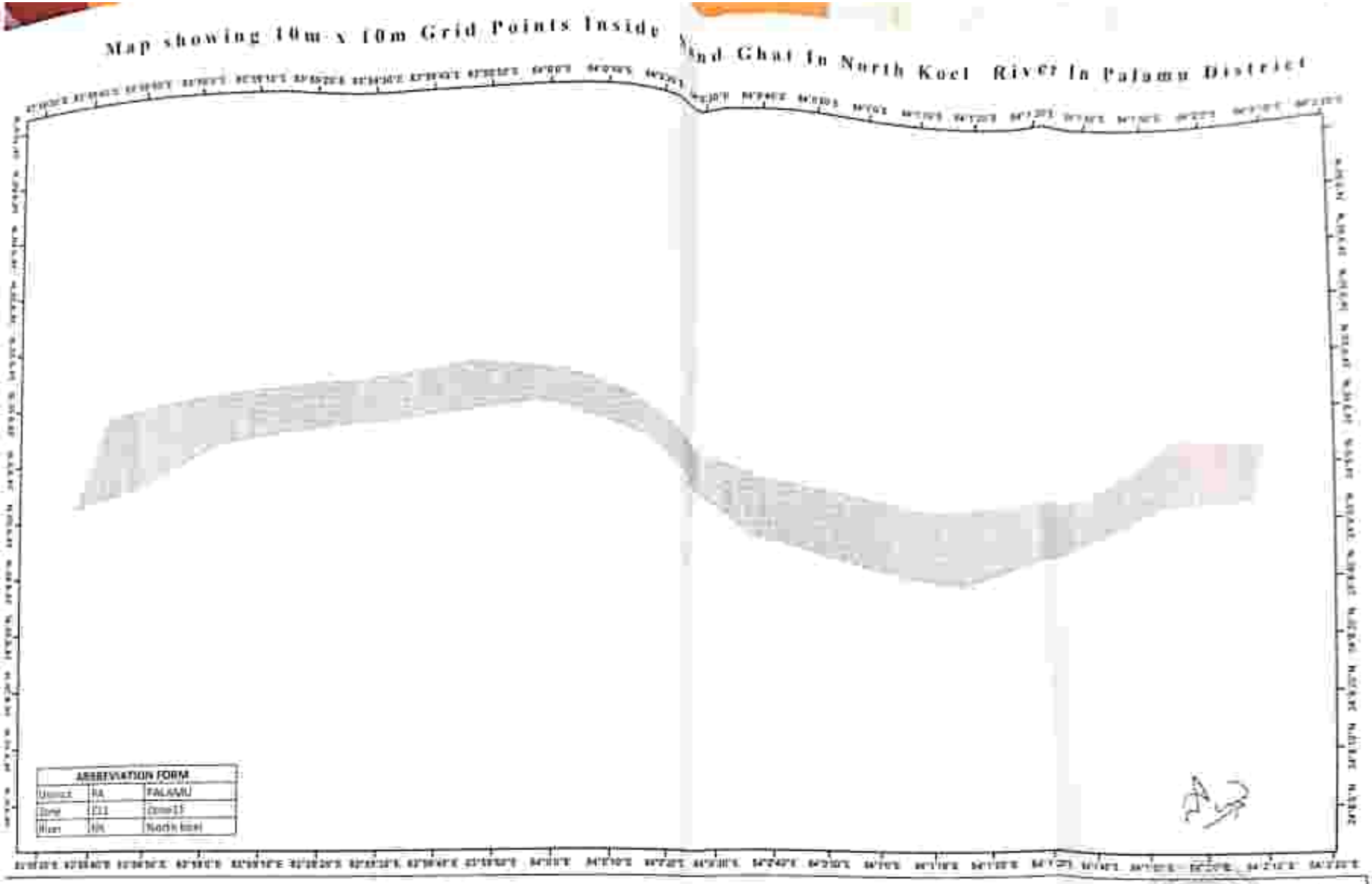
- Sand Ghat Grid Points
- Sand Ghat Boundary

Sand Ghat Code	Area (in Ha)
PA_Z12_NK_7	82.65

0 245 490 980 1,470 1,960 Meters


Map ... Sand Ghat In North Kael River In Palamu District
ABBREVIATION FORM
Legend
Sand Ghat Grid Points
Sand Ghat Boundary
Sand Ghat Code
Area (in Ha)
0 75 150 300 450 600
Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In North Koel River In Palamu District



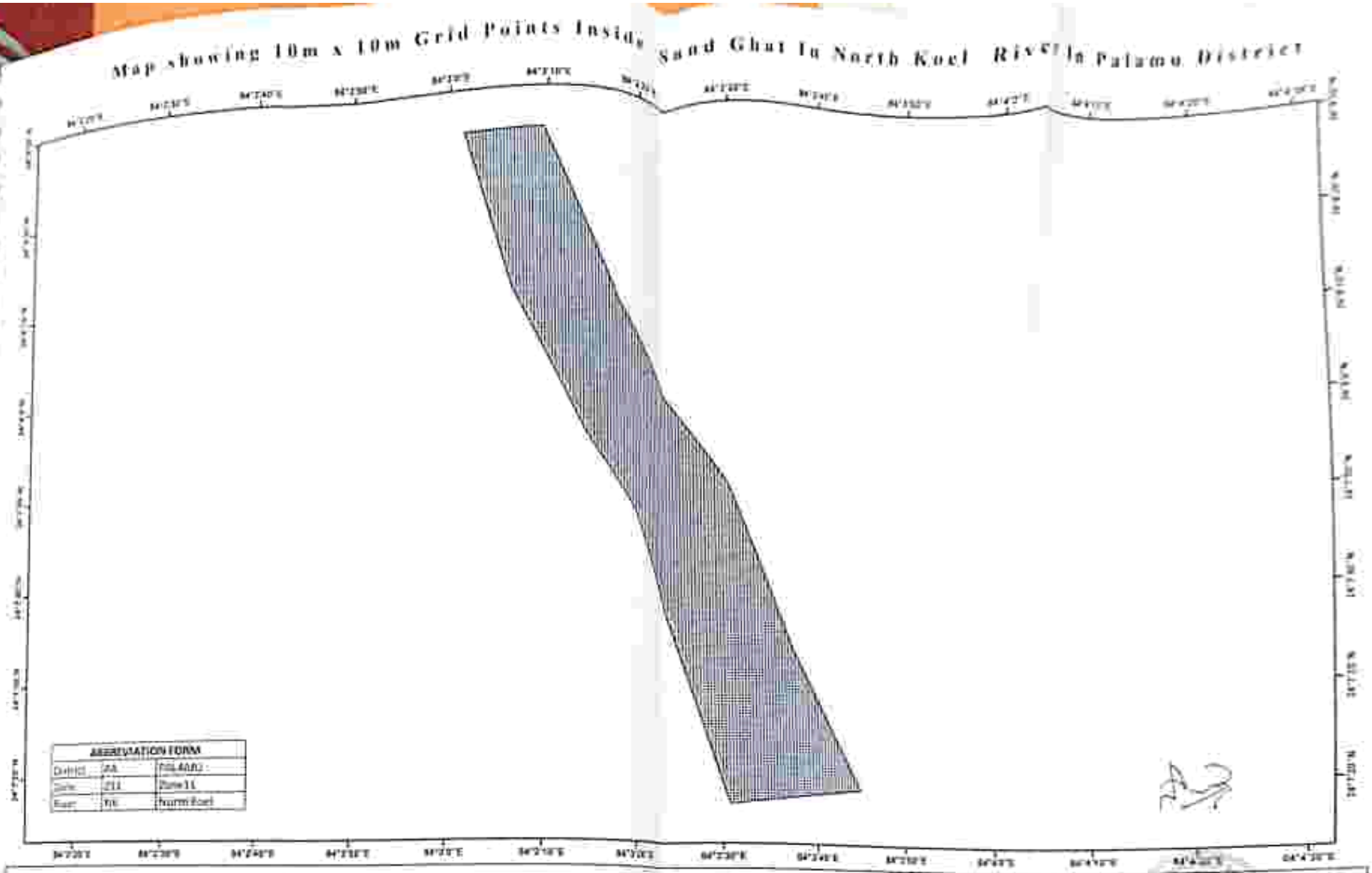
Legend

- Sand Ghat Grid Points
- Sand Ghat Boundary

Sand Ghat Code	Area (In Ha)
PA_Z11_NK_9	[illegible]

0 280 560 1,120 1,680 2,240 Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In North Koel River In Palamu District



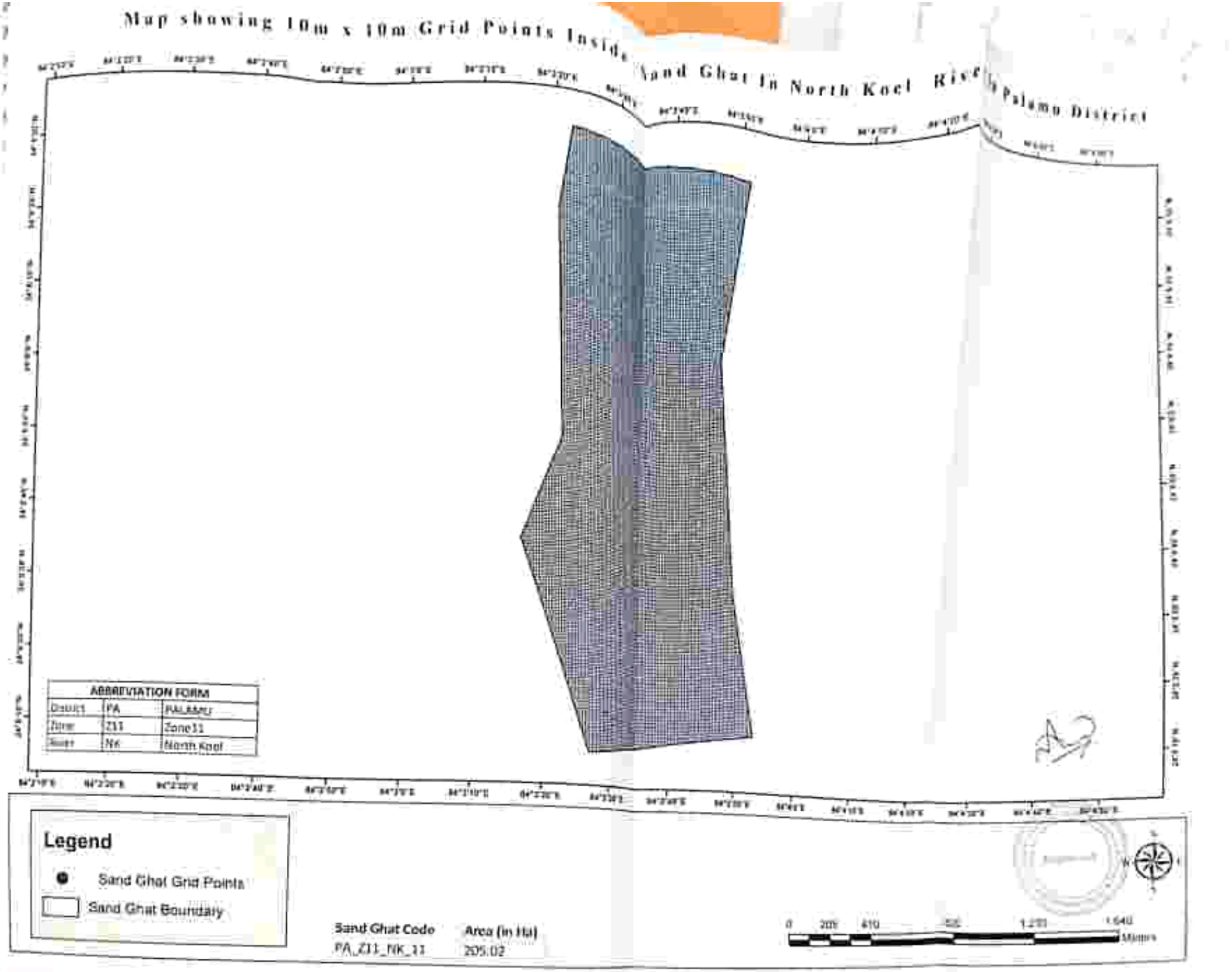
Legend

- Sand Ghat Grid Points
- Sand Ghat Boundary

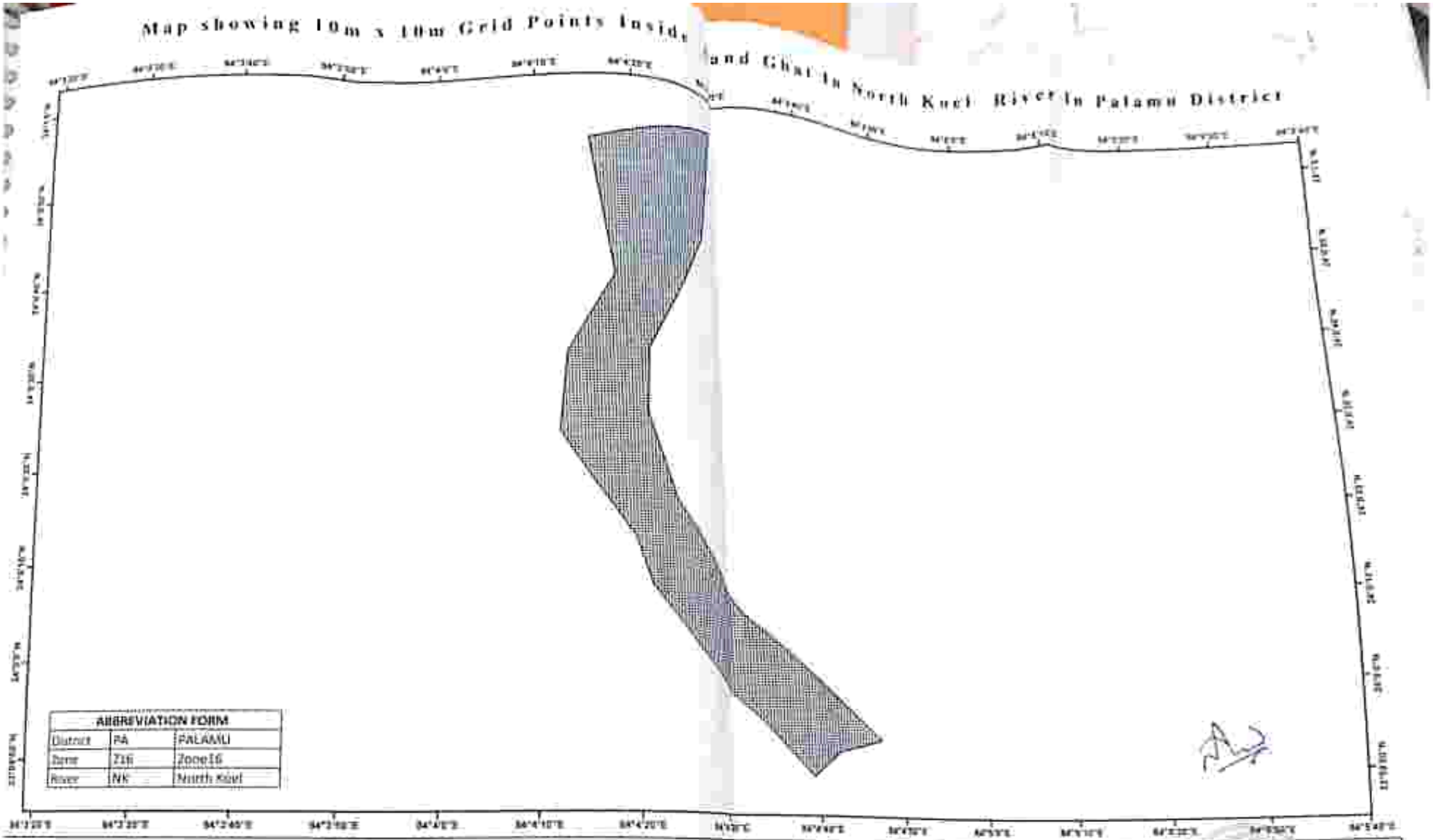
Sand Ghat Code	Area (in Ha)
PA_Z11_NK_10	68.86

0 165 330 660 990 1,320
Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In North Koel River, Palamu District



Map showing 10m x 10m Grid Points Inside Sand Ghat in North Kuel River in Palamu District



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z16	Zone16
River	NK	North Kuel

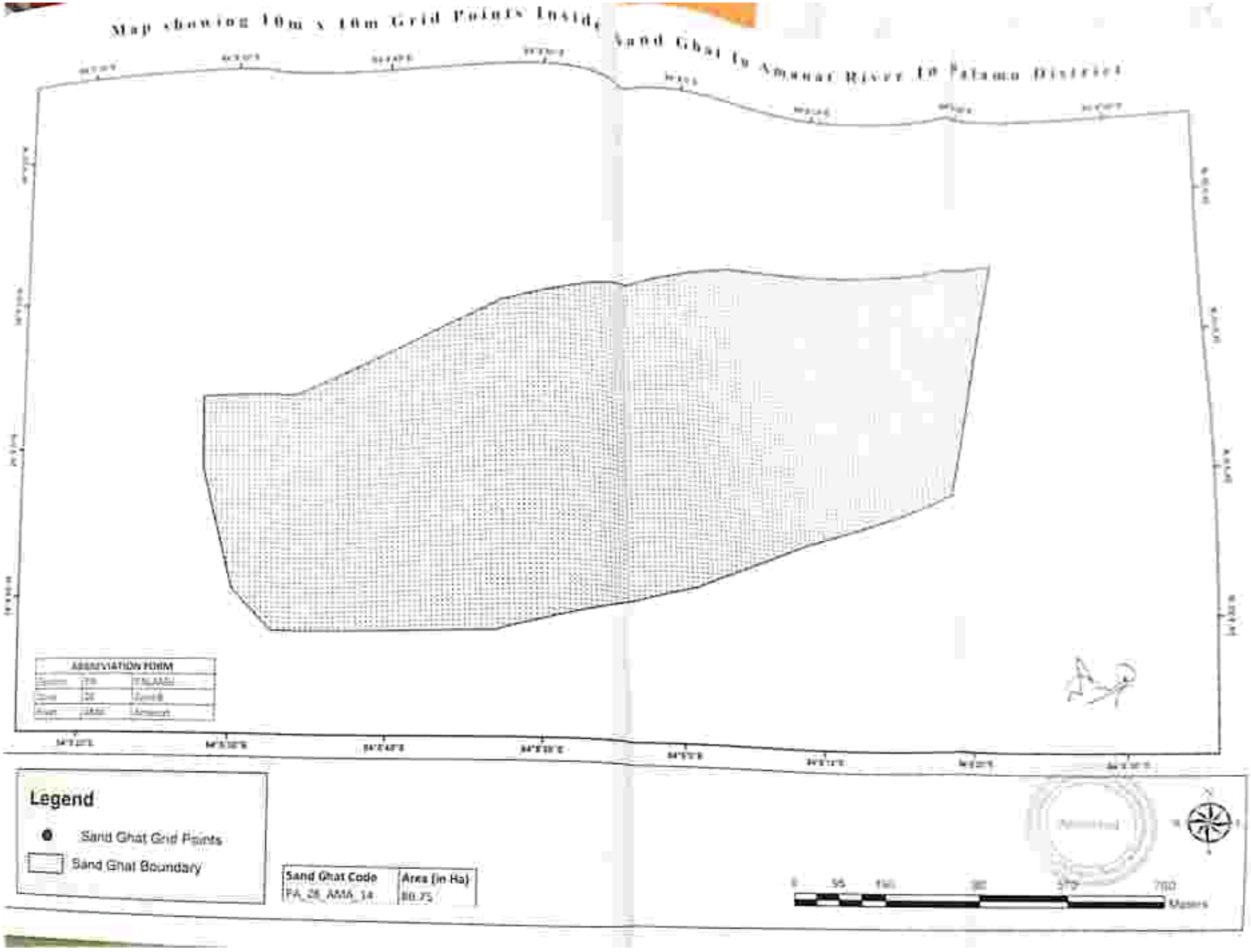
Legend

- Sand Ghat Grid Points
- Sand Ghat Boundary

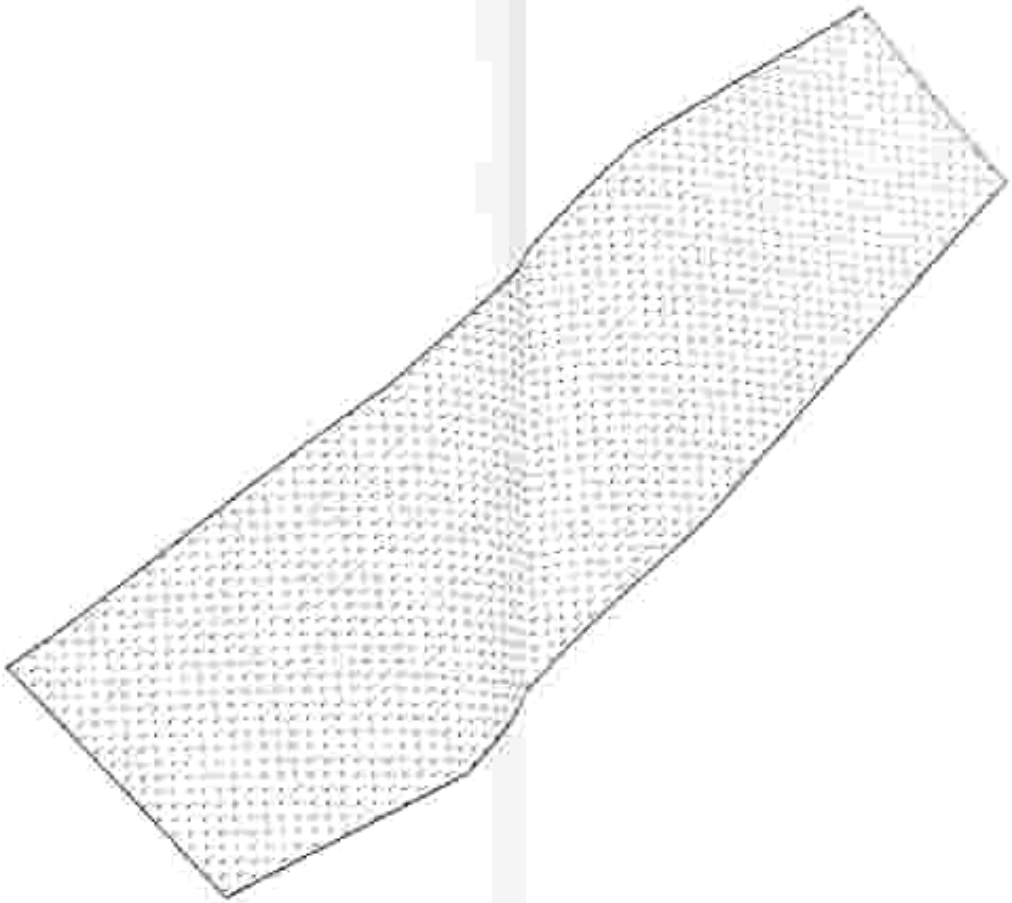
Sand Ghat Code	Area (in Ha)
PA_Z16_NK_13	55.28

0 165 330 660 990 1,320 Metres

Map showing 10m x 10m Grid Points Inside Sand Ghat in Amanat River in Patamo District



Map showing 10m x 10m ... nd Ghat In Amanat River In Palamu District



ABBREVIATION FORM		
District	PA	PALAMU
Taluk	TT	Tehsil
River	AMA	Amanat

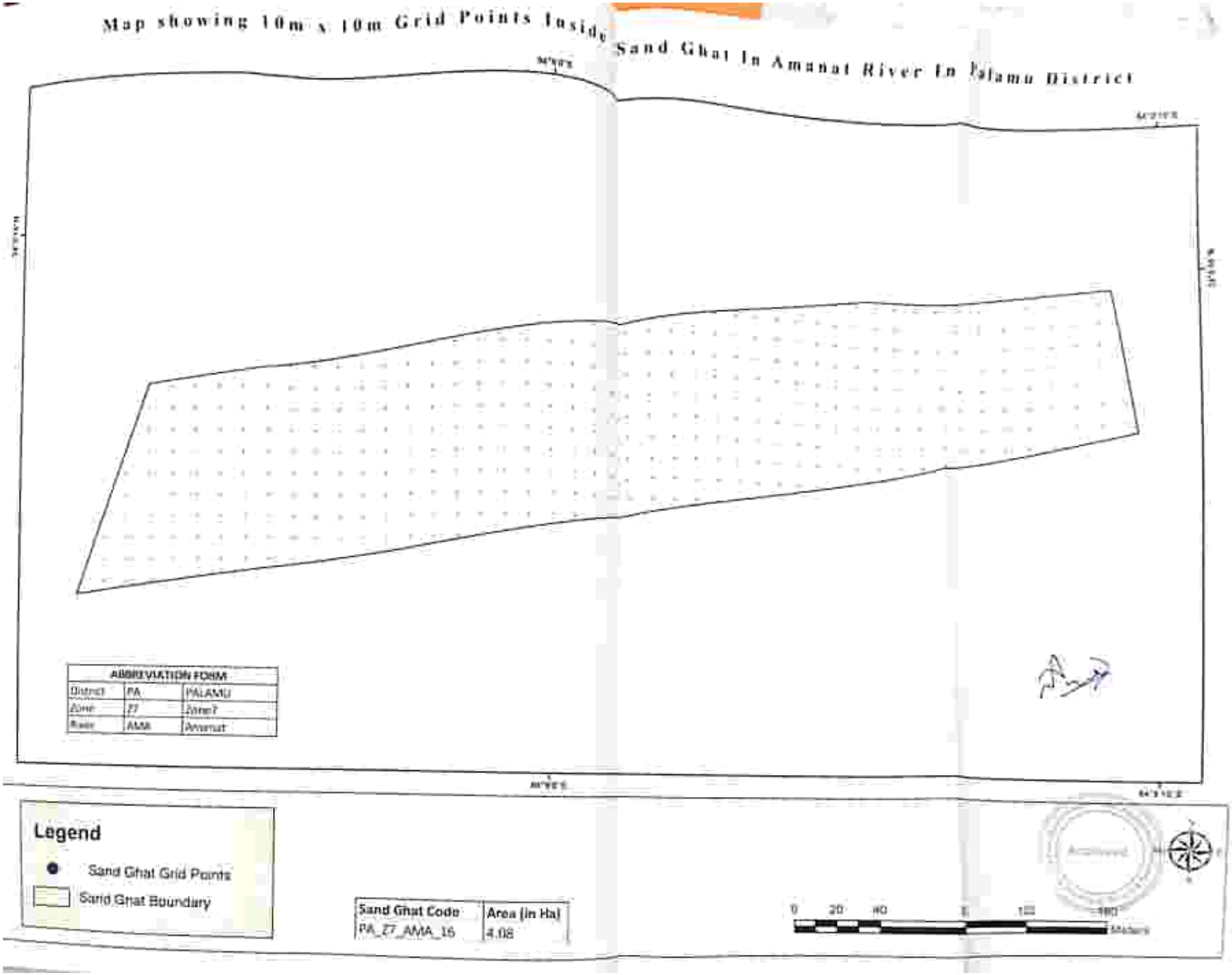
Legend

- Sand Ghat Grid Points
- Sand Ghat Boundary

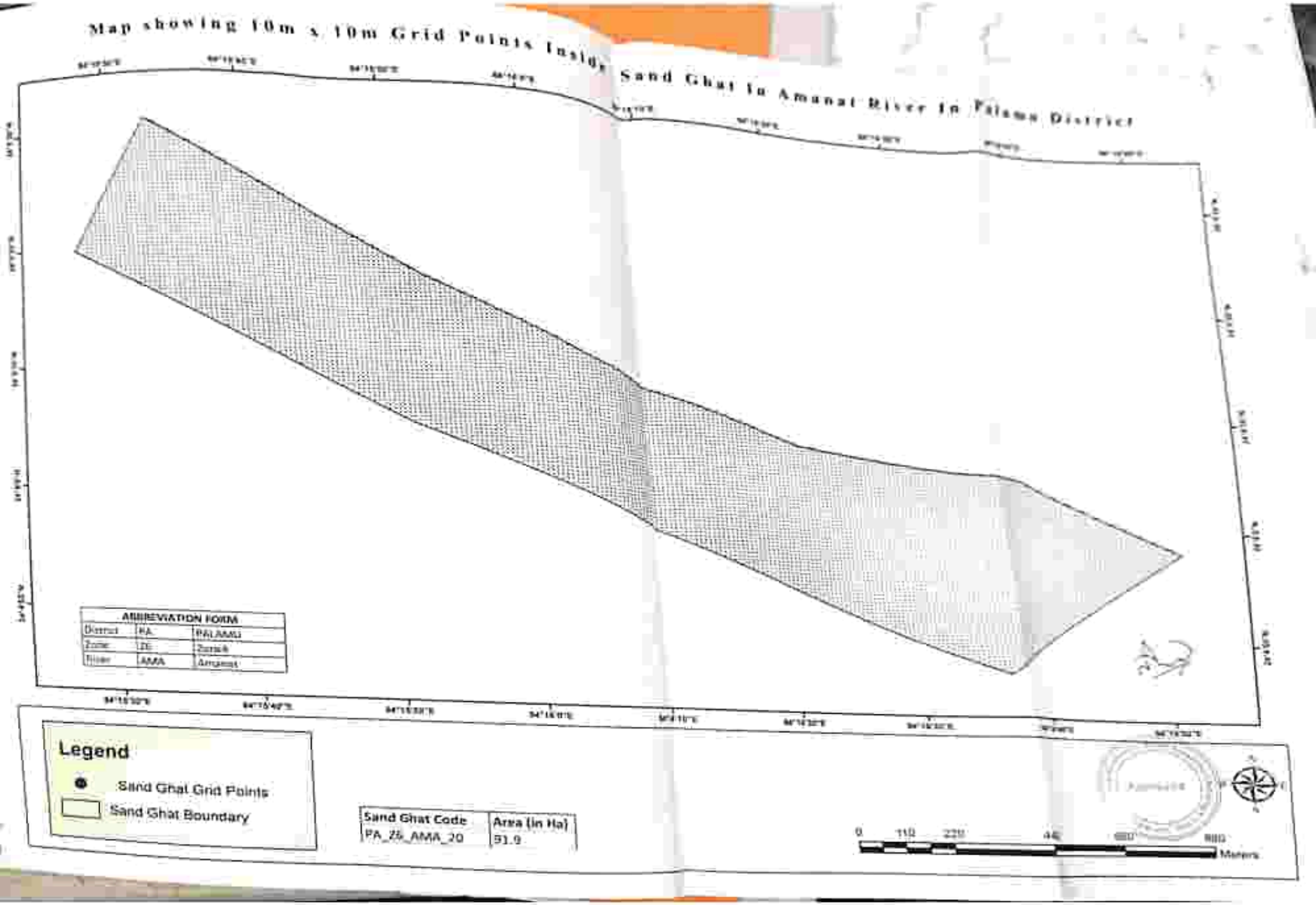
Sand Ghat Code	Area (in Ha)
PA_TT_AMA_11	38.21

0 50 100 200 300 400 Meters

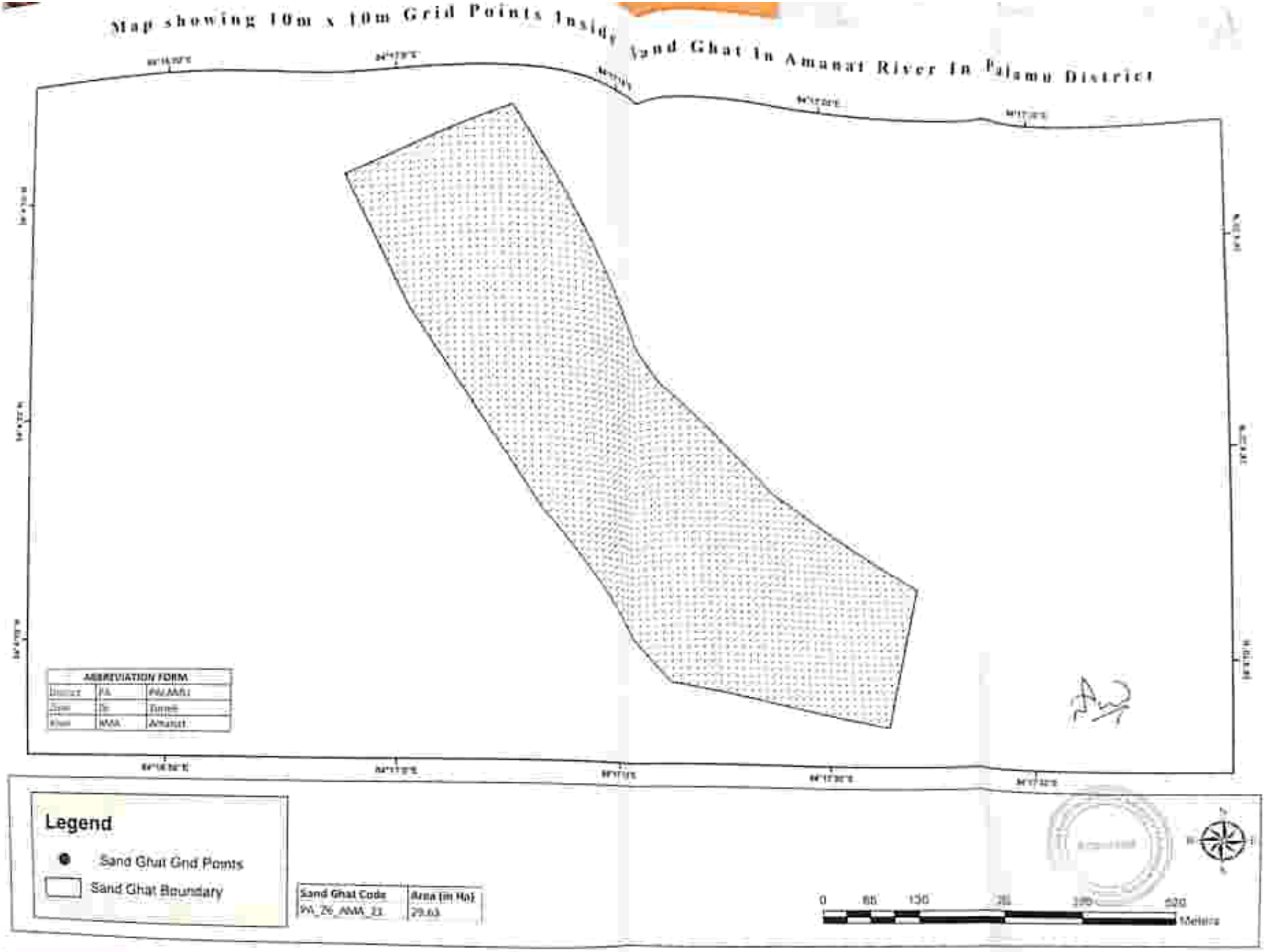
Map showing 10m x 10m Grid Points Inside Sand Ghat In Amanat River In Palamu District



Map showing 10m x 10m Grid Points Insig Sand Ghat in Amanat River in Palamu District



Map showing 10m x 10m Grid Points Insid[illegible] Sand Ghat In Amanat River In Palamu District



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Ty	Tyrnit
River	AMA	Amanat

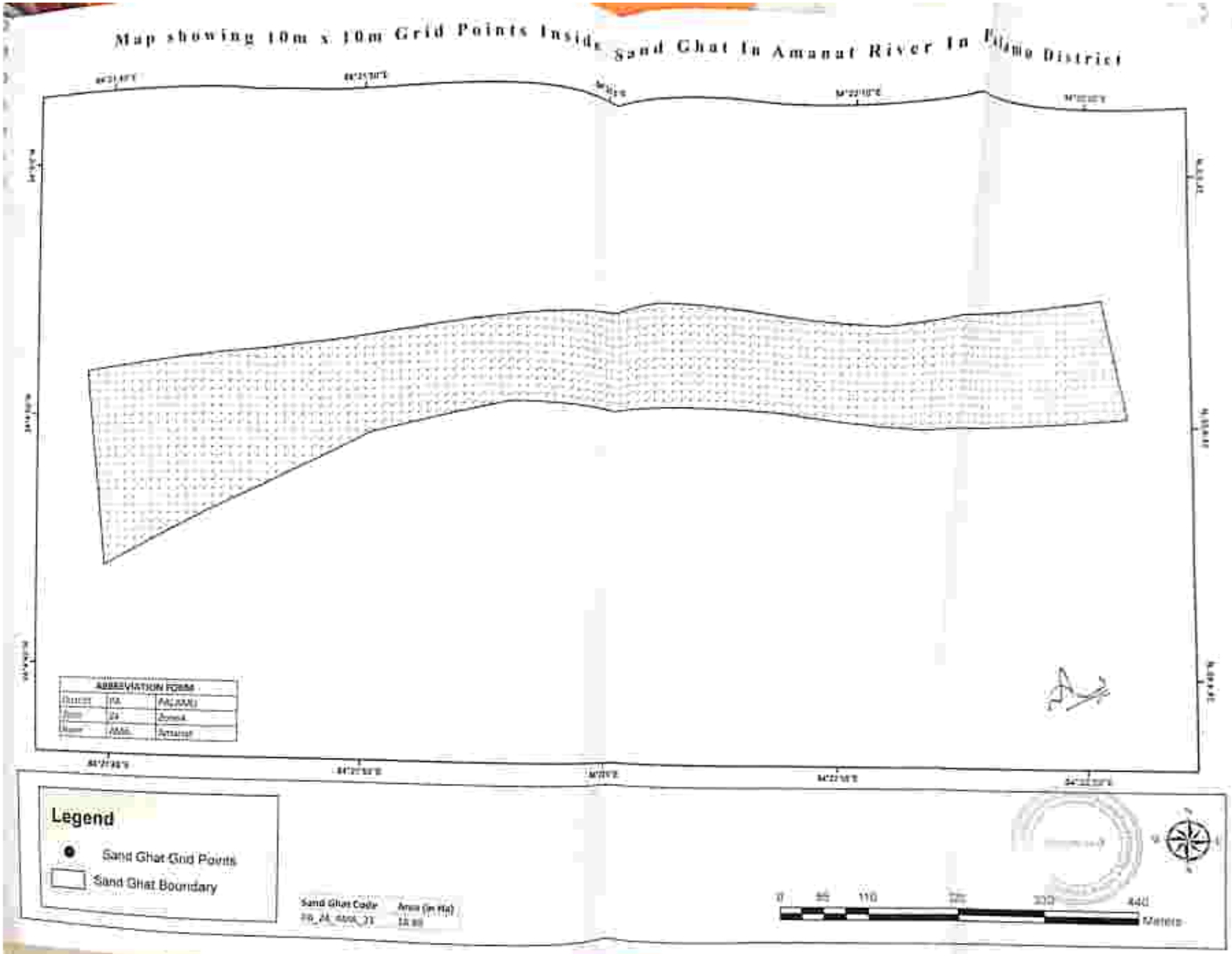
Legend

- Sand Ghat Grid Points
- Sand Ghat Boundary

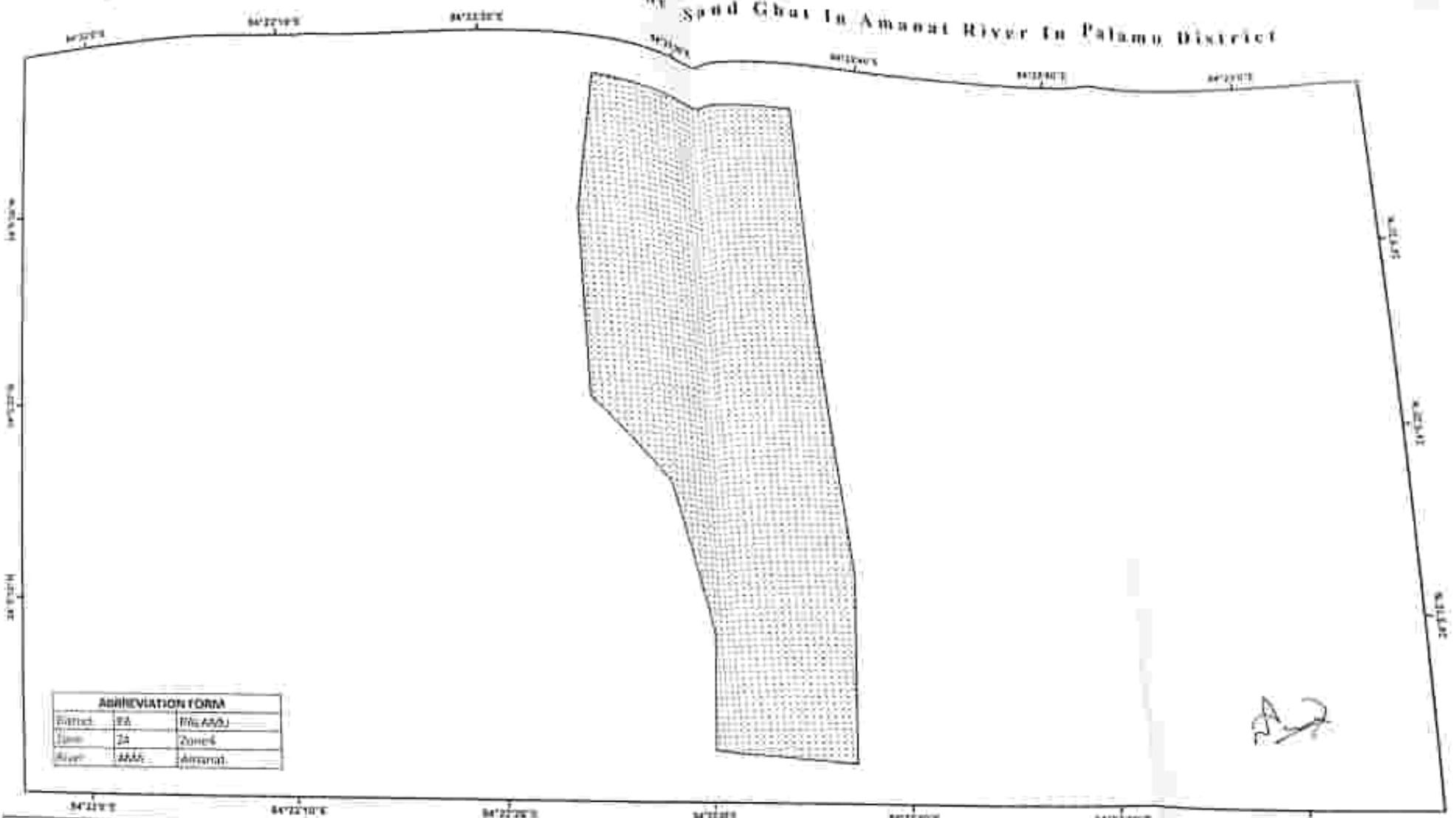
Sand Ghat Code	Area (in Ha)
PA_TY_AMA_23	29.63

0 65 130 260 390 520 Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat In Amanat River In Falame District



Map showing 10m x 10m Grid Points Inside Sand Ghat in Amanat River in Palamu District



ABBREVIATION FORMA		
District	PA	PALAMU
Zone	24	Zone4
River	AMA	Amanat

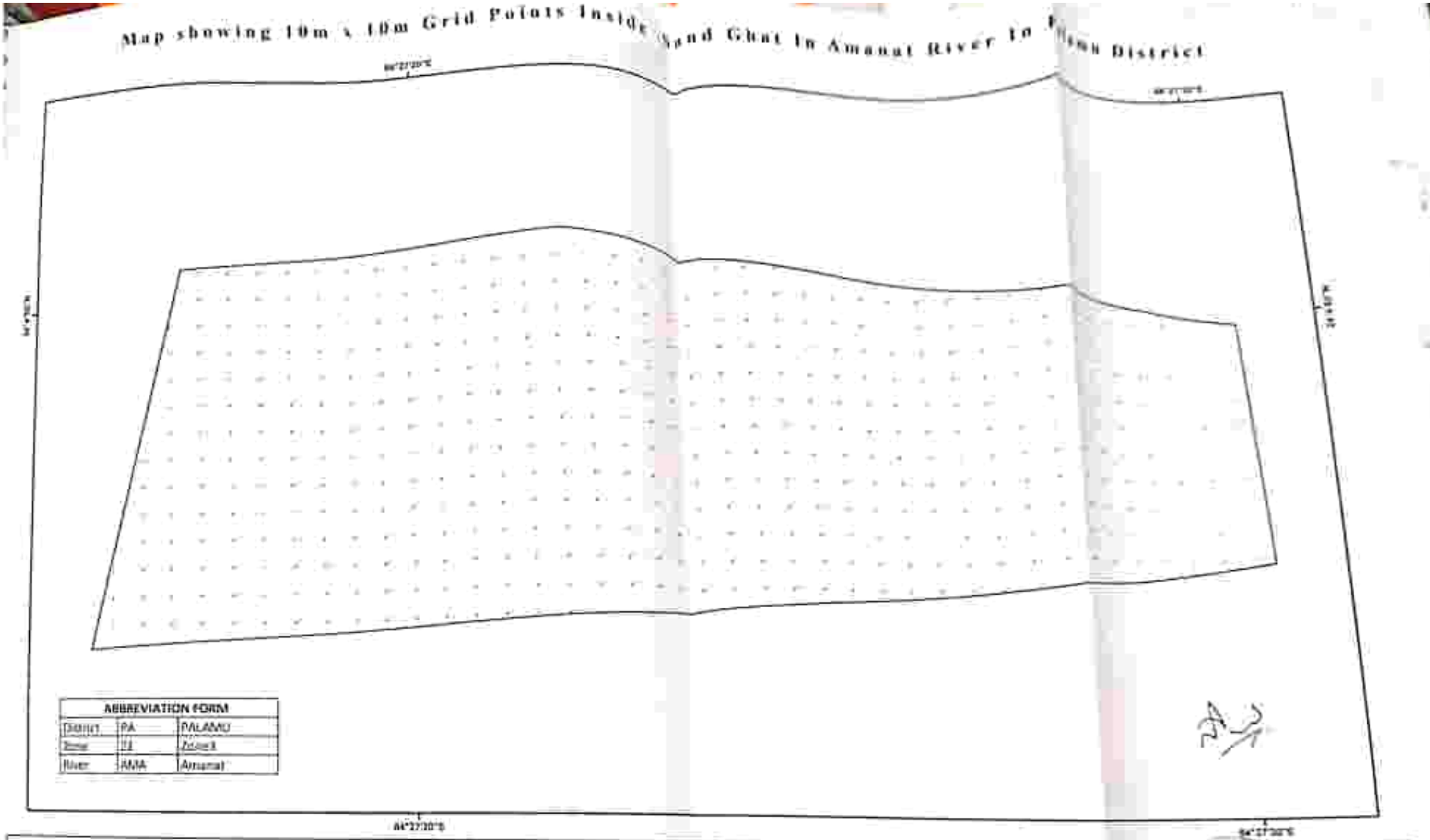
Legend

- Sand Ghat Grid Points
- Sand Ghat Boundary

Sand Ghat Code	Area (in Ha)
PA_24_AMA_24	30.28

0 80 160 320 480 640 Meters

Map showing 10m x 10m Grid Points Inside Sand Ghat in Amanat River in Palamu District



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z3	Zone3
River	AMA	Amanat

Legend

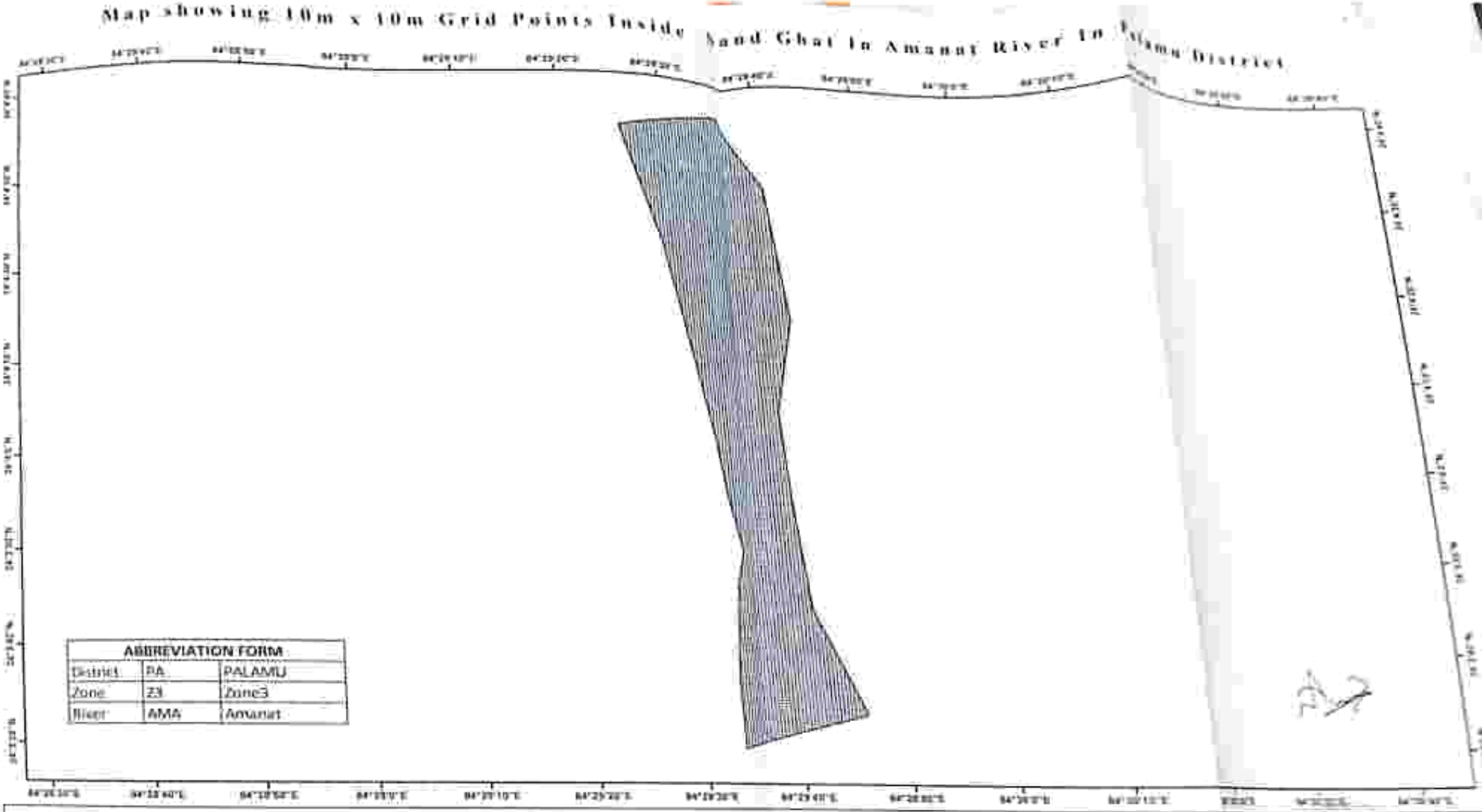
- Sand Ghat Grid Points
- Sand Ghat Boundary

Sand Ghat Code	Area (in Ha)
PA_Z3_AMA_26	4.87

0 15 30 60 90 120 Meters

Approved

Map showing 10m x 10m Grid Points Inside Sand Ghat in Amanat River in Palamu District



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z3	Zone3
River	AMA	Amanat

Legend

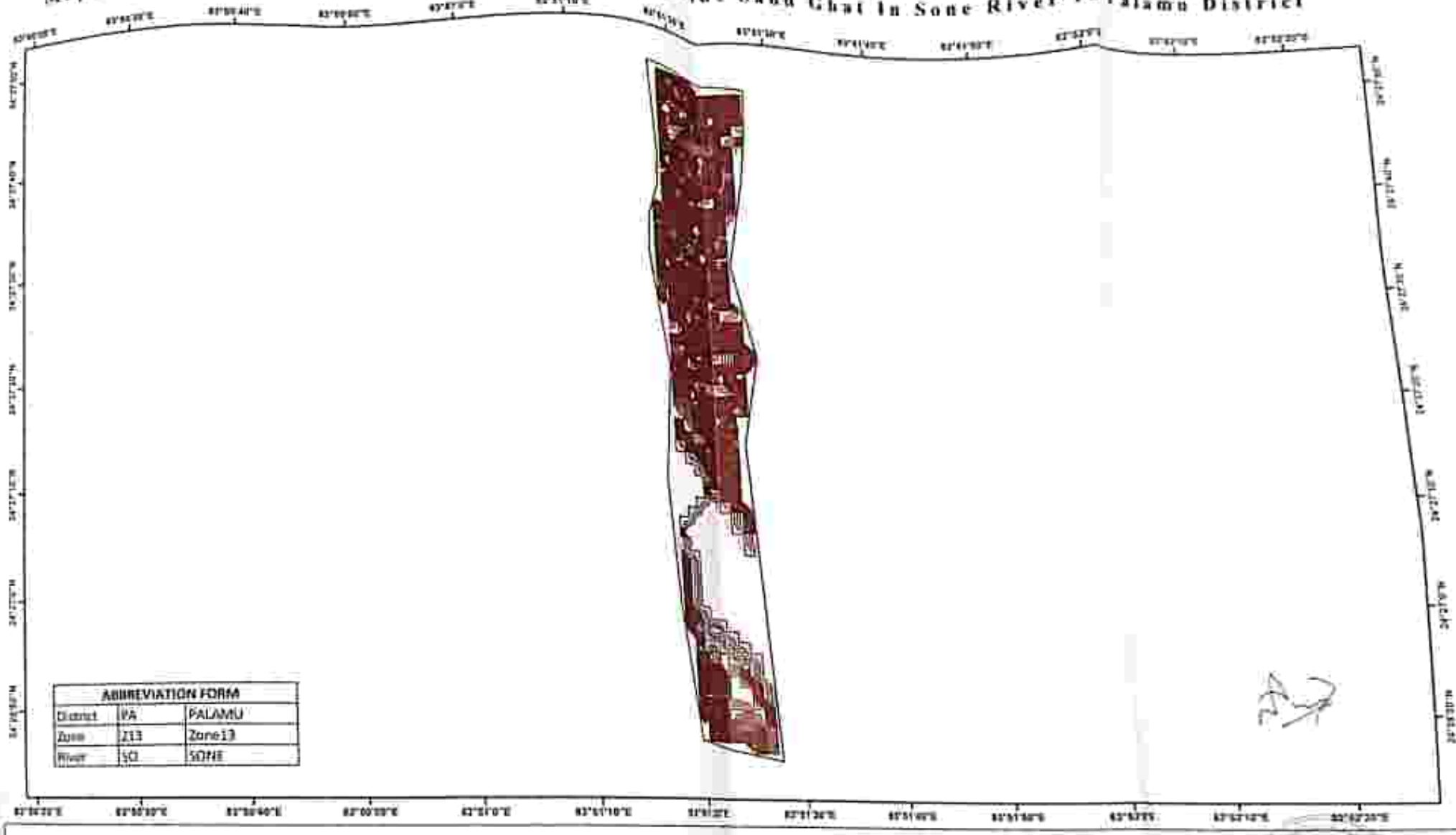
- Sand Ghat Grid Points
- Sand Ghat Boundary

Sand Ghat Code	Area (in Ha)
PA_Z3_AMA_Z7	55.97

0 165 330 660 990 1,320

Meters

Map showing Contours of 0.25 Meters interval Inside Sand Ghat In Sone River In Palamu District



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z13	Zone13
River	SO	SONE

Legend

- Contour Lines
- Sand Ghat Boundary

Sand Ghat Code	Area (in Ha)
PA_Z13_SO_1	36.43

0 150 300 600 900 1,200 Meters

Map showing Contours of 0.25 Meters Interval Inside Sand Ghat In Sone River In Palamu District

ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z13	Zone13
River	SO	SONE

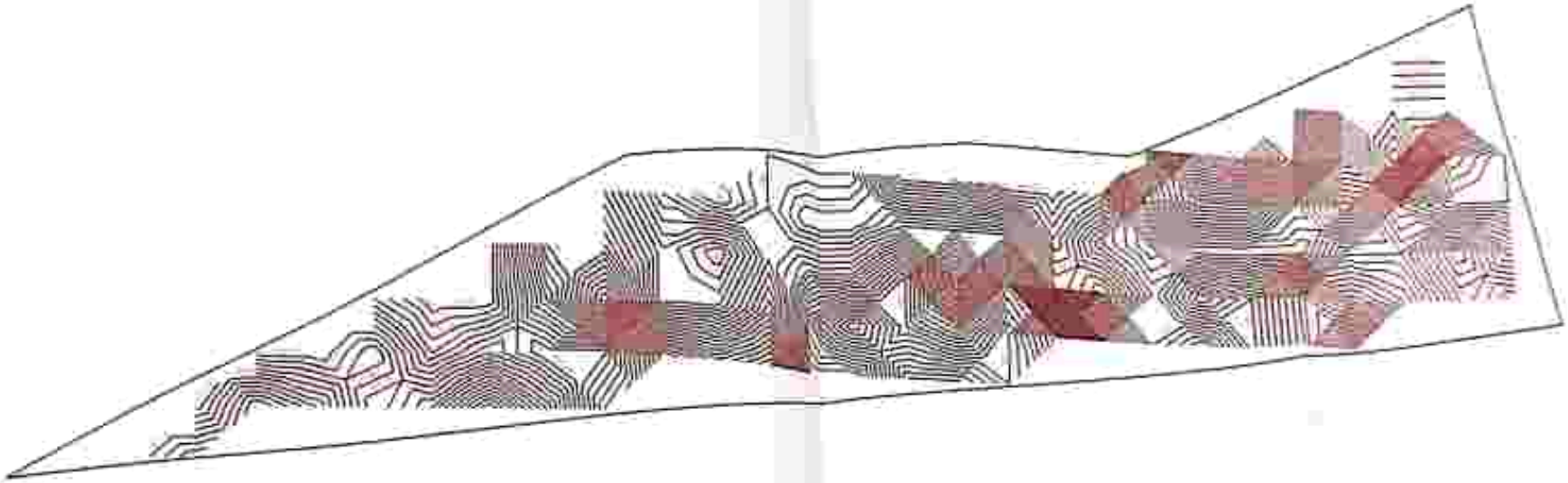
Legend

- Contour Lines
- Sand Ghat Boundary

Sand Ghat Code	Area (In Ha)
PA_Z13_SD_4	30.45

0 55 110 220 330 440 Meters

Map showing Contours of 0.25 Meters Interval Inside Sand Ghat In Sone River In Palamu District



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z13	Zone13
River	SO	SONE

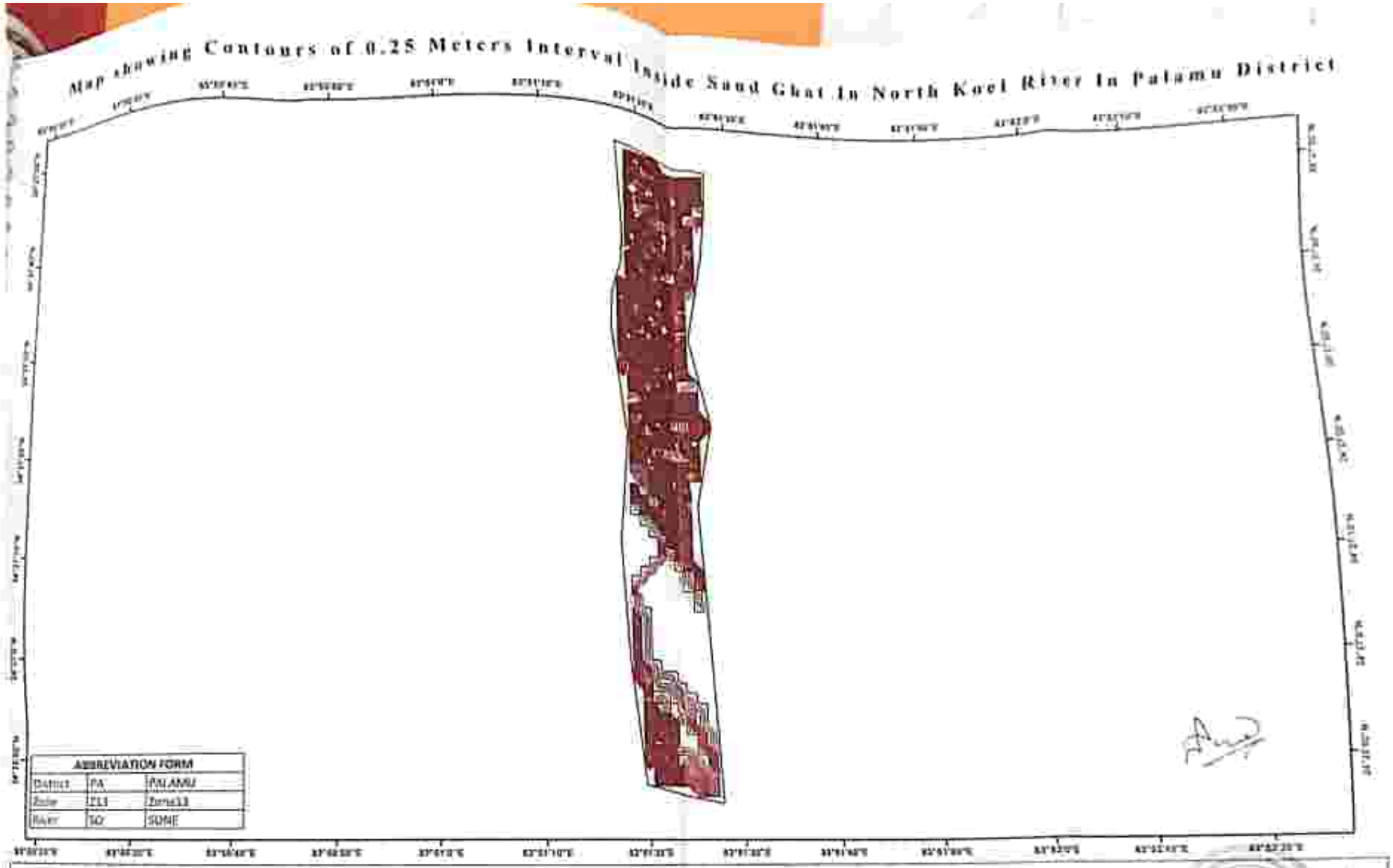
Legend

- Contour Lines
- Sand Ghat Boundary

Sand Ghat Code	Area (in Ha)
PA_Z13_SO_5	10.51

0 37.5 75 150 225 300 Meters

Map showing Contours of 0.25 Meters Interval Inside Sand Ghat In North Koel River In Palamu District



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z13	Zone13
Rivers	SO	SONE

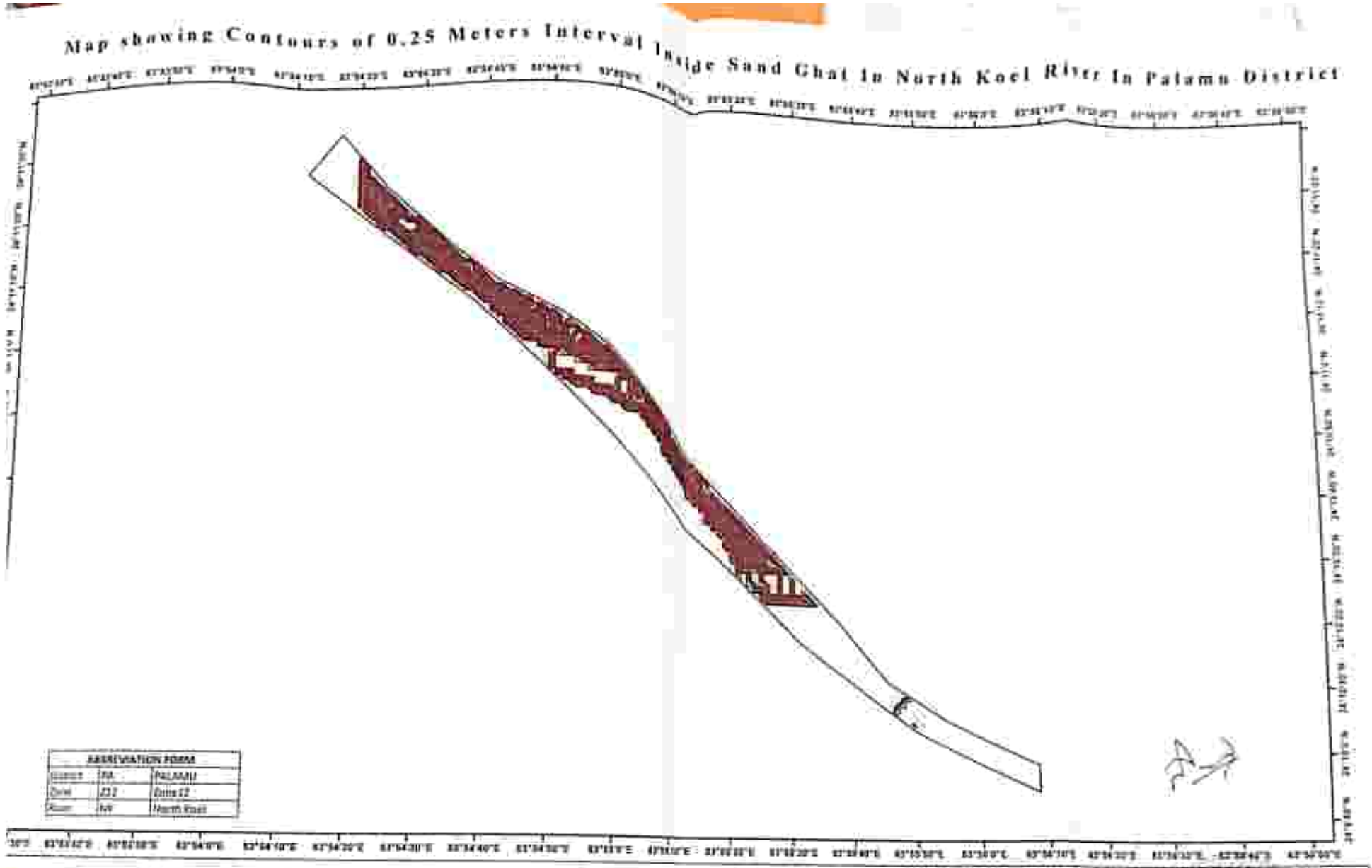
Legend

- Contour Lines
- Sand Ghat Boundary

Sand Ghat Code	Area (in Ha)
PA_Z13_NR_6	55.22

0 150 300 600 900 1,200 Meters

Map showing Contours of 0.25 Meters Interval Inside Sand Ghat In North Kool River In Palamu District



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z12	Zone 12
River	NK	North Kool

Legend

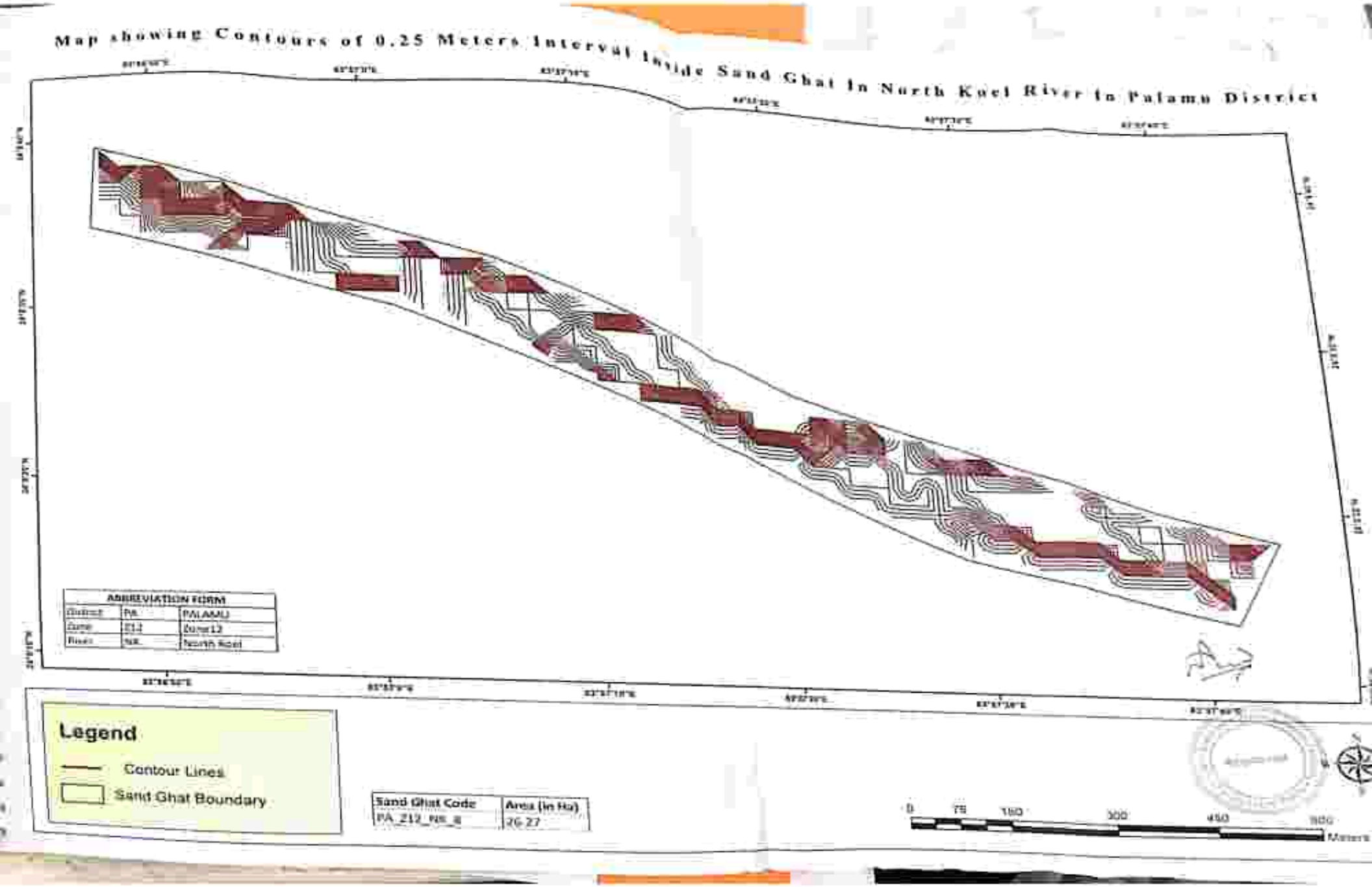
- Contour Lines
- Sand Ghat Boundary

Sand Ghat Code	Area (in Ha)
PA_Z12_NK_7	82.65

0 245 490 980 1,470 1,960

Meters

Map showing Contours of 0.25 Meters Interval Inside Sand Ghat In North Koel River In Palamu District



Map showing Contours of 0.25 Meters Interval Inside Sand Ghat in North Koel River in Palamu District

ABBREVIATION FORM		
District	PA	PALAMU
Block	211	Block 11
River	NK	North Koel

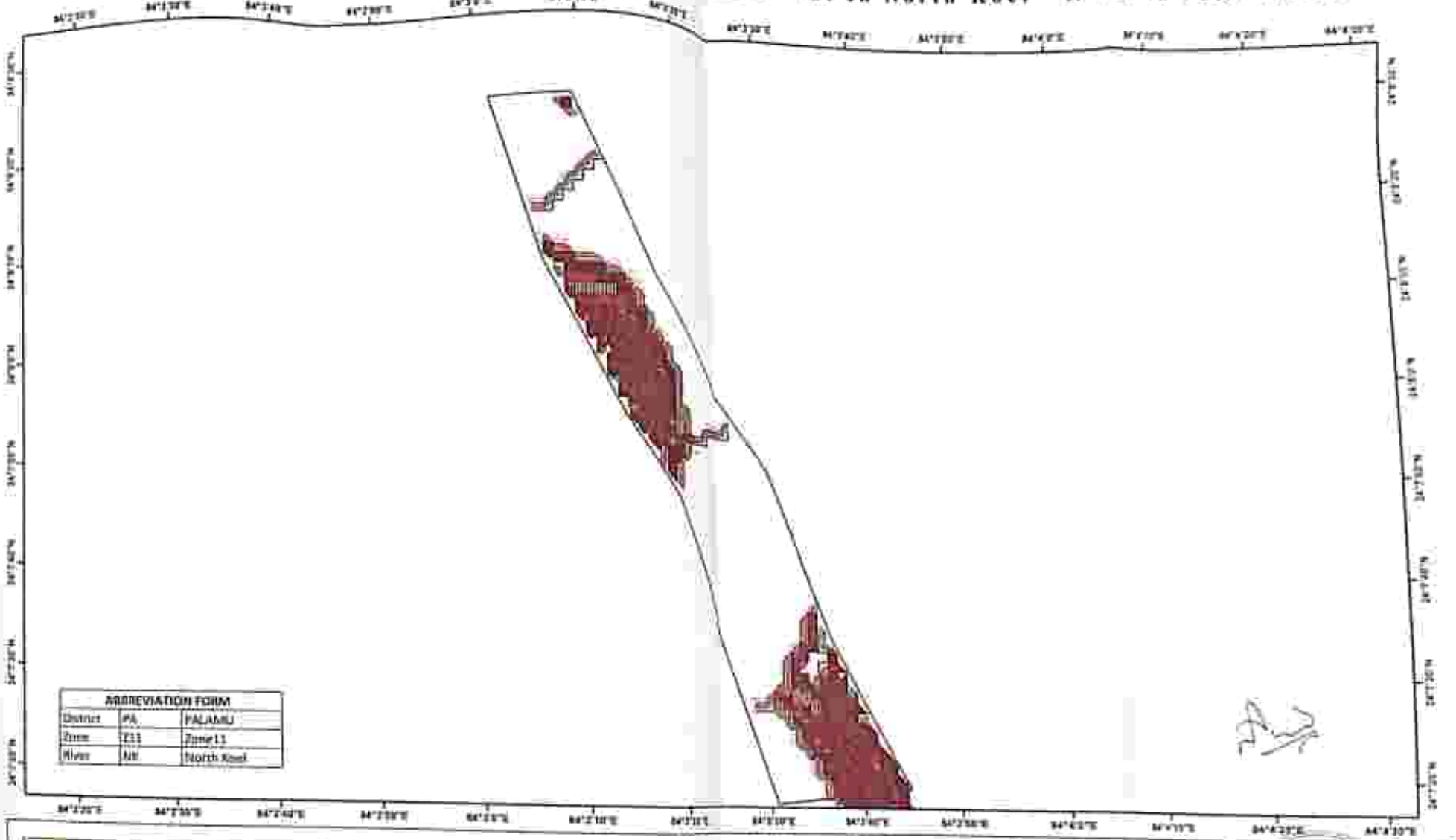
Legend

- Contour Lines
- Sand Ghat Boundary

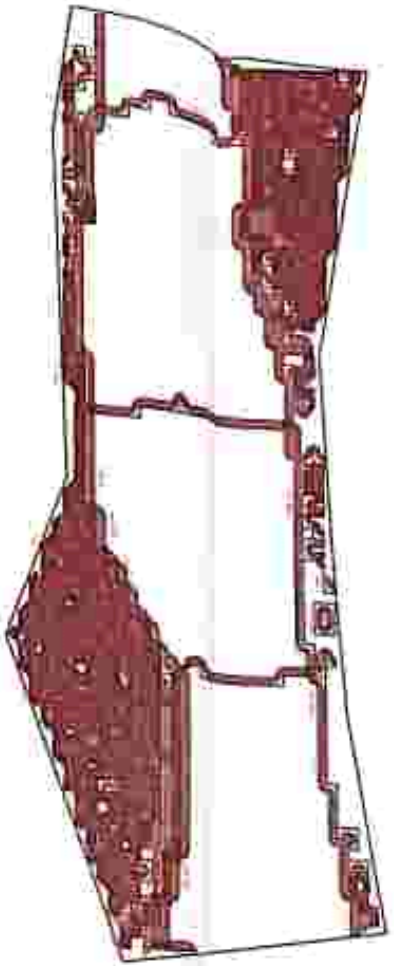
Sand Ghat Code	Area (In Ha)
PA_211_NK_3	578.07

0 280 560 1,120 1,680 2,240 Meters

Map showing Contours of 0.25 Meters Interval Inside Sand Ghat in North Koel River in Palamu District



Map showing Contours of 0.25 Meters Interval Inside Sand Ghat In North Kool River In Palamu District



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z11	Zone11
River	NK	North Kool

Legend

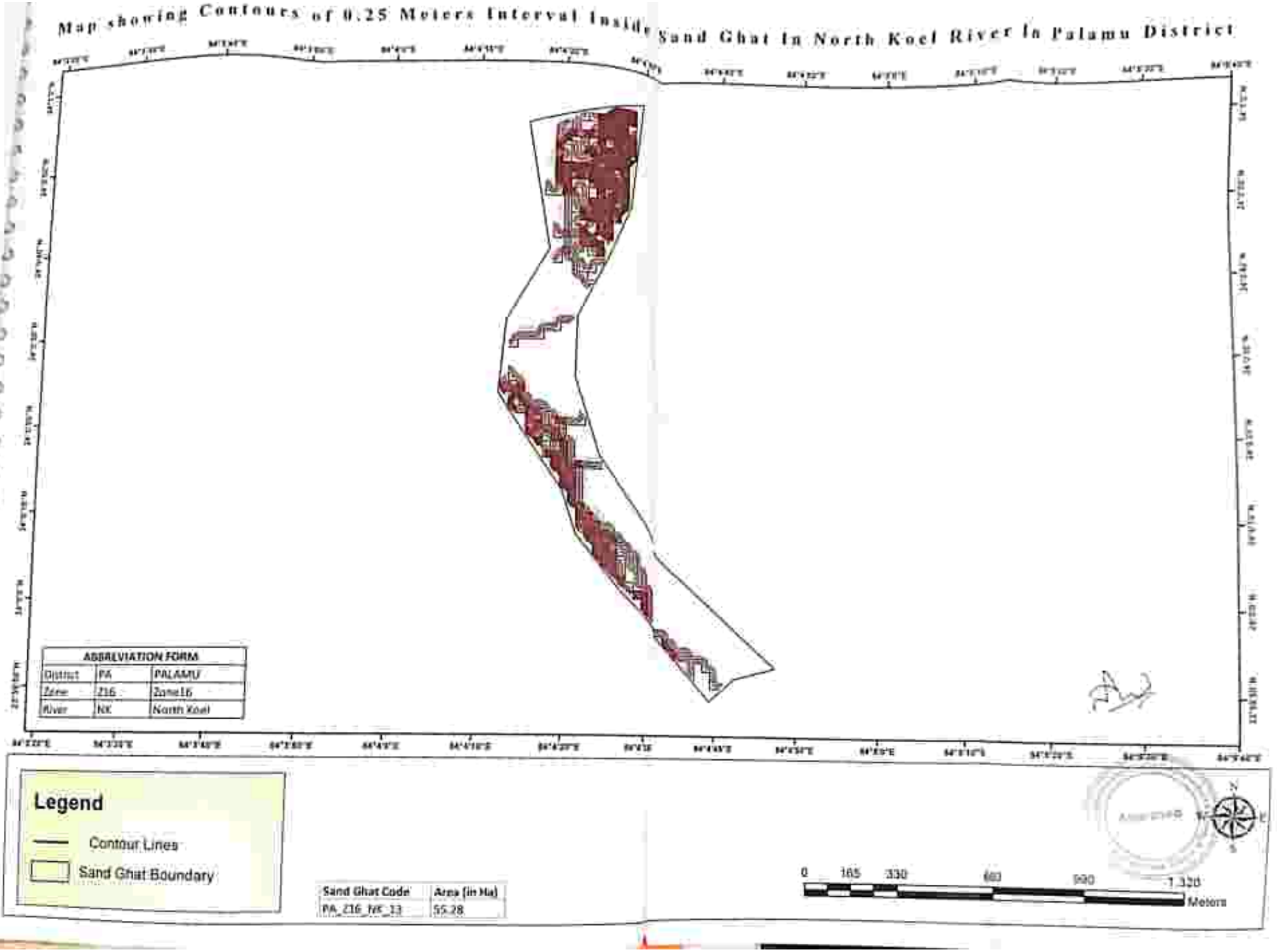
- Contour Lines
- Sand Ghat Boundary

Sand Ghat Code	Area (in Ha)
PA_Z11_NK_11	205.02

Approved

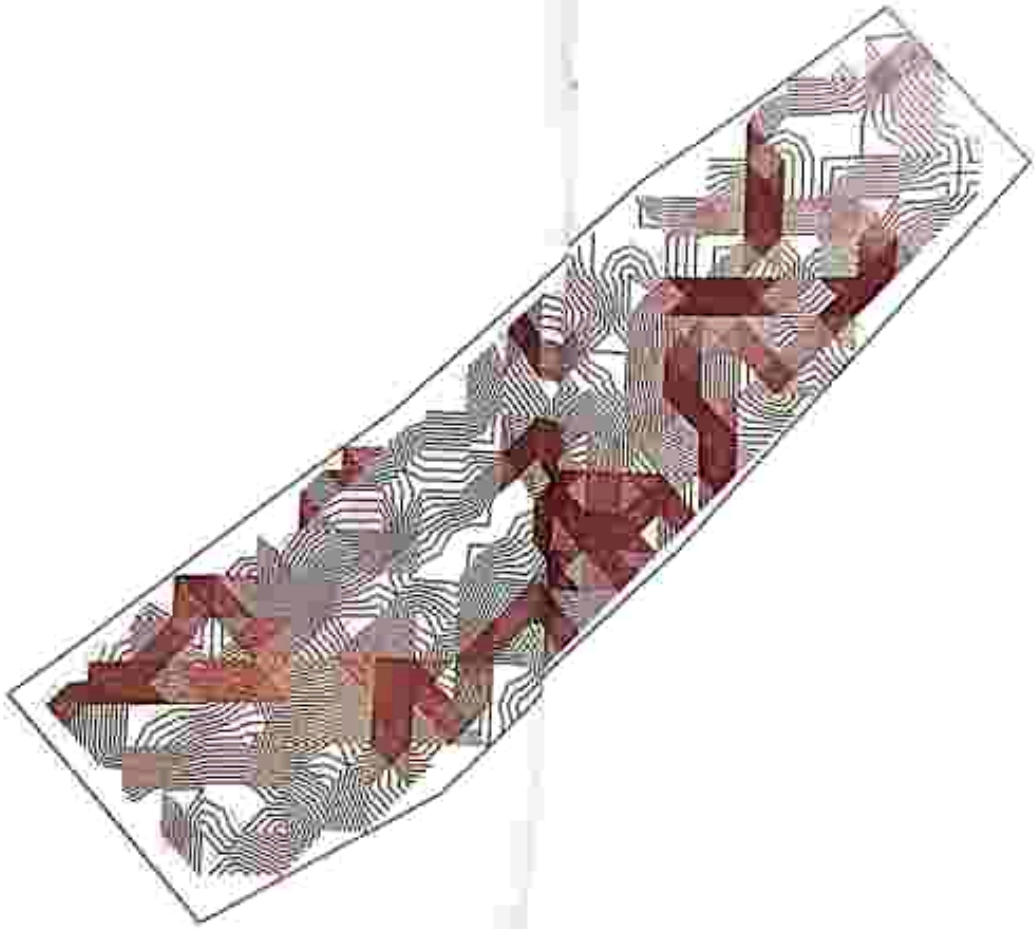
0 205 410 820 1,230 1,640 Meters

Map showing Contours of 0.25 Meters Interval Inside Sand Ghat In North Koel River In Palamu District




Legend
Contour Lines
Sand Ghat Boundary
Sand Ghat Code
Area (in Ha)
0
70
140
280
420
560
Meters

Map showing Contours of 0.25 Meters Interval Inside Sand Ghat In Amanat River In Palamu District



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z7	Zone7
River	AMA	Amanat

Legend

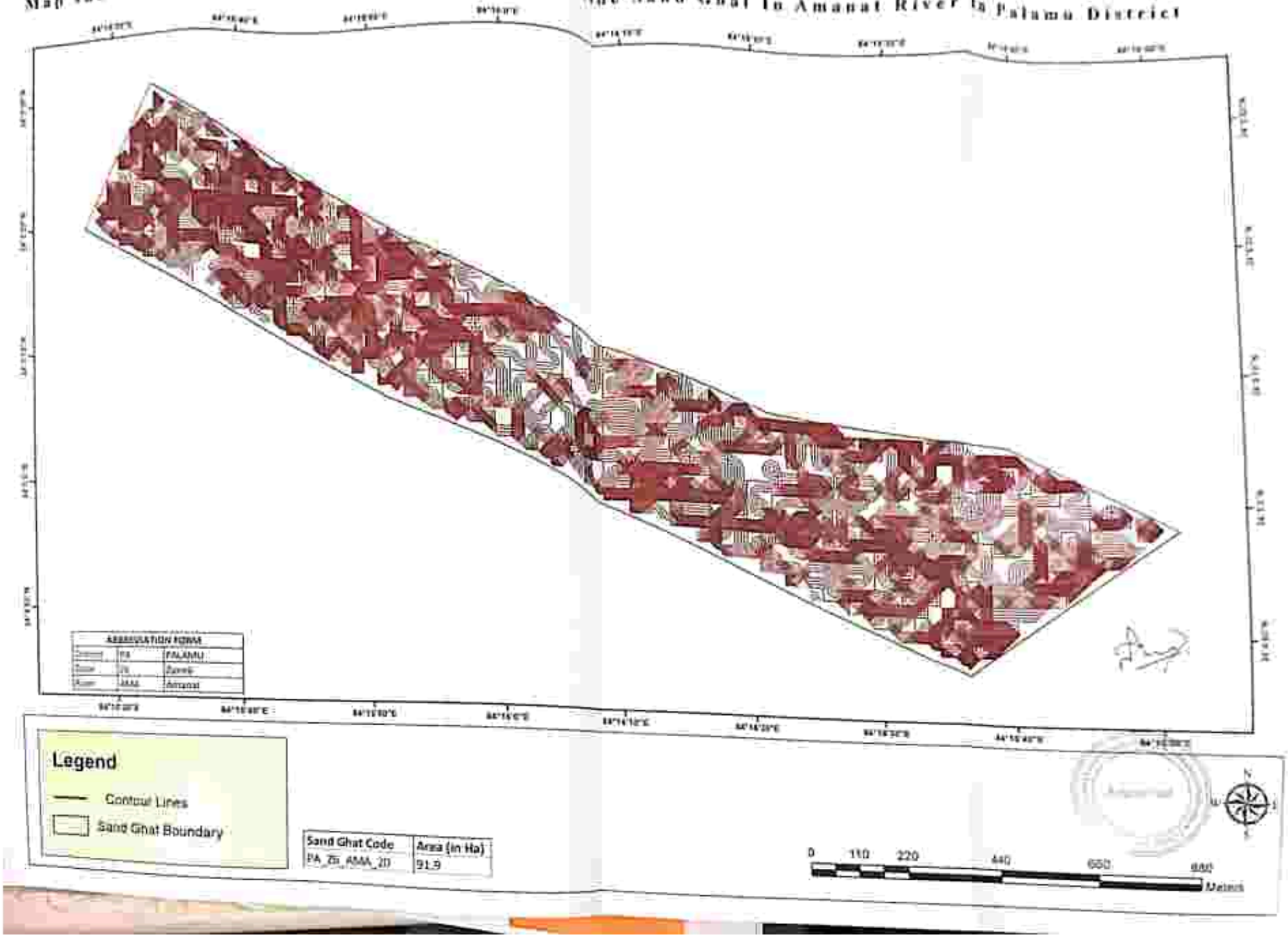
- Contour Lines
- Sand Ghat Boundary

Sand Ghat Code	Area (in Ha)
PA_Z7_AMA_15	18.21

0 50 100 200 300 400 Meters

Map showing Contours of 0.25 Meters Interval Inside Sand Ghat In Amanat River In Palamu District

Map showing Contours of 0.25 Meters interval Inside Sand Ghat in Amanat River in Palamu District



Map showing Contours of 0.25 Meters Interval Inside Sand Ghat in Amanat River in Palamu District

ABBREVIATION FORM		
District	PA	PALAMU
Area	AR	Amanat
River	AMA	Amanat

Legend

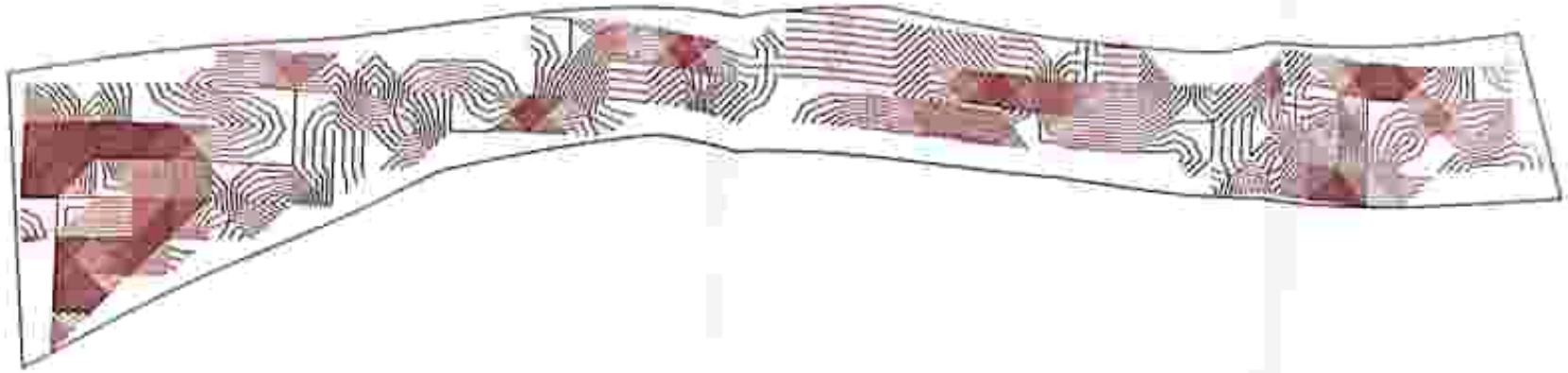
- Contour Lines
- Sand Ghat Boundary

Sand Ghat Code	Area (In Ha)
PA_25_AMA_21	21.03

Approved

0 65 130 260 390 520 Meters

Map showing Contours of 0.25 Meters Interval Inside Sand Ghat In Amanat River In Palamu District



ABBREVIATION FORM		
District	PA	PALAMU
Zone	ZI	Zone4
River	AMA	Amanat

Legend

- Contour Lines
- Sand Ghat Boundary

Sand Ghat Code	Area (in Ha)
PA_ZI_AMA_23	16.80

0 55 110 220 330 440 Meters

Map showing Contours of 0.25 Meters Interval Inside Sand Ghat In Amanat River In Palamu District

ABBREVIATION FORM		
District	PA	PALAMU
Zone	24	Zone-II
River	AMA	Amanat

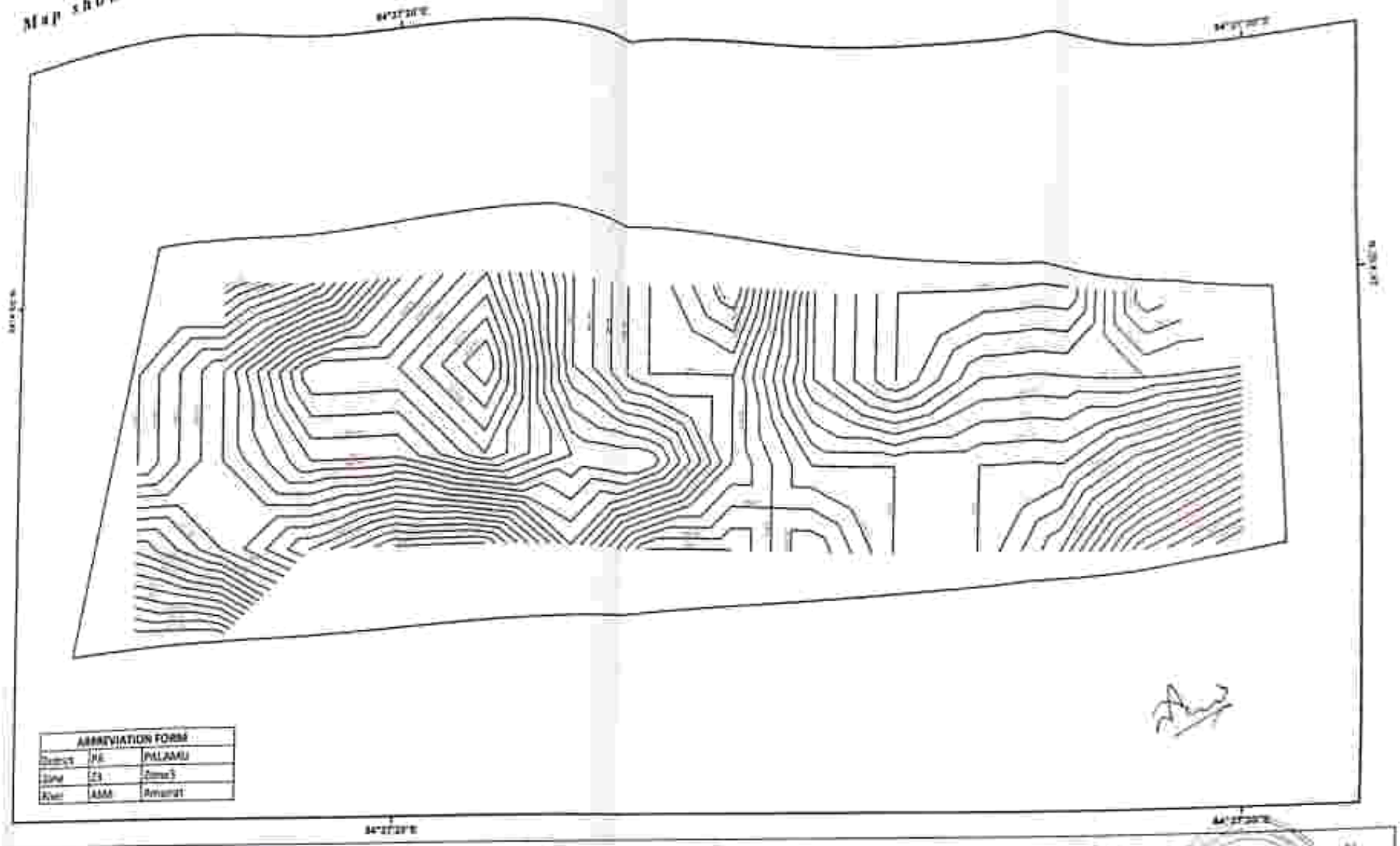
Legend

- Contour Lines
- Sand Ghat Boundary

Sand Ghat Code	Area (in Ha)
PA_24_AMA_24	10.26

0 80 160 320 480 640 Meters

Map showing Contours of 0.25 Meters Interval Inside Sand Ghat In Amanat River In Palamu District



ABBREVIATION FORM		
District	PA	PALAMU
ZONE	Z3	Zone3
River	AMA	Amanat

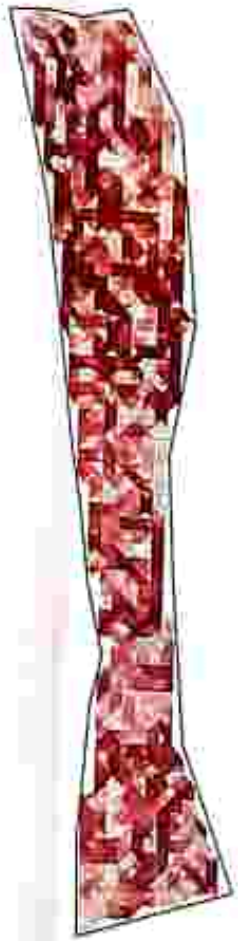
Legend

- Contour Lines
- Sand Ghat Boundary

Sand Ghat Code	Area (in Ha)
PA_Z3_AMA_26	4.87

0 15 30 60 90 120 Meters

Map showing Contours of 0.25 Meters Interval Inside Sand Ghat to Amanat River in Palamu District



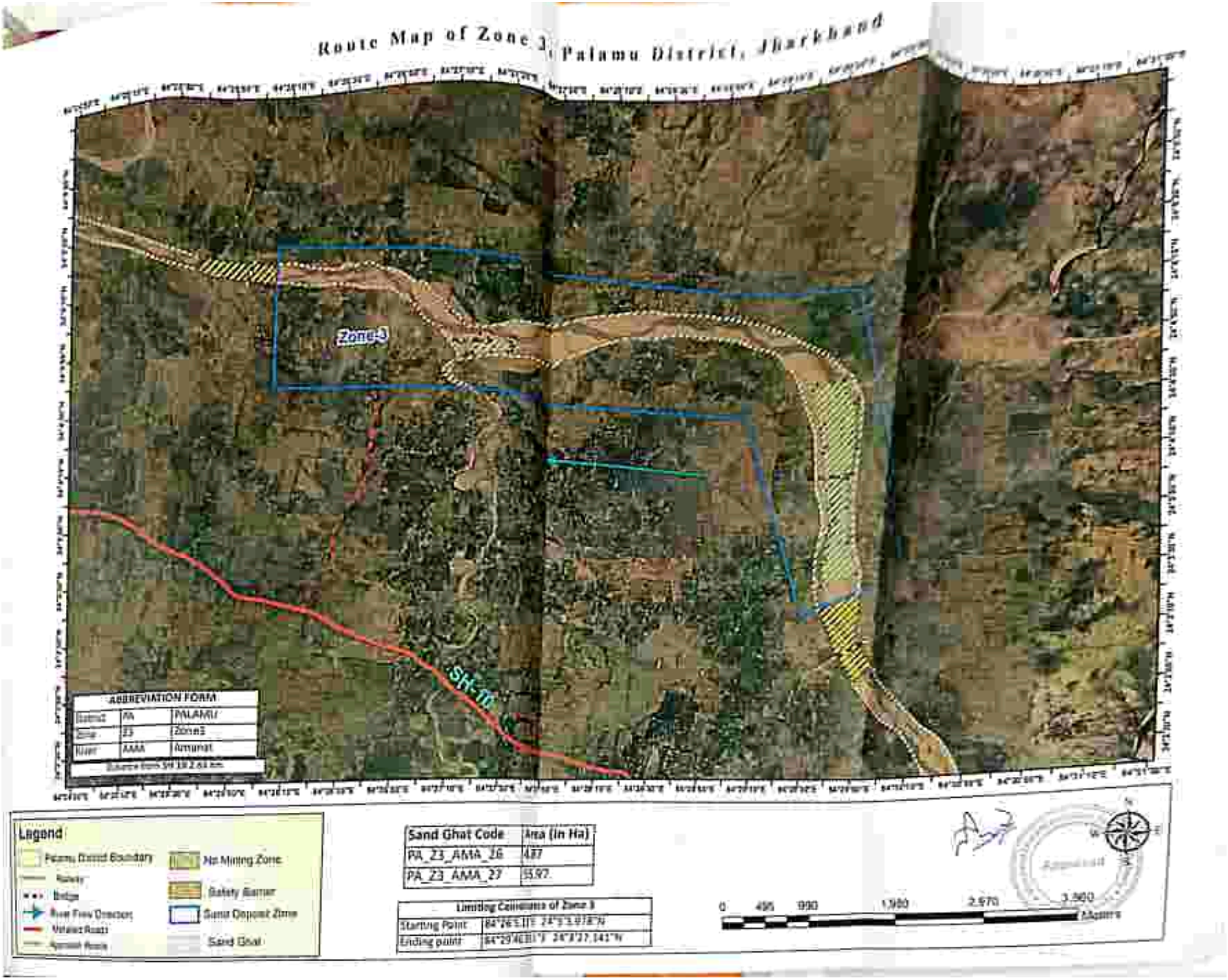
ABBREVIATION FORM		
District	PA	PALAMU
Zone	ZS	Zone 3
River	AMA	Amanat

Legend

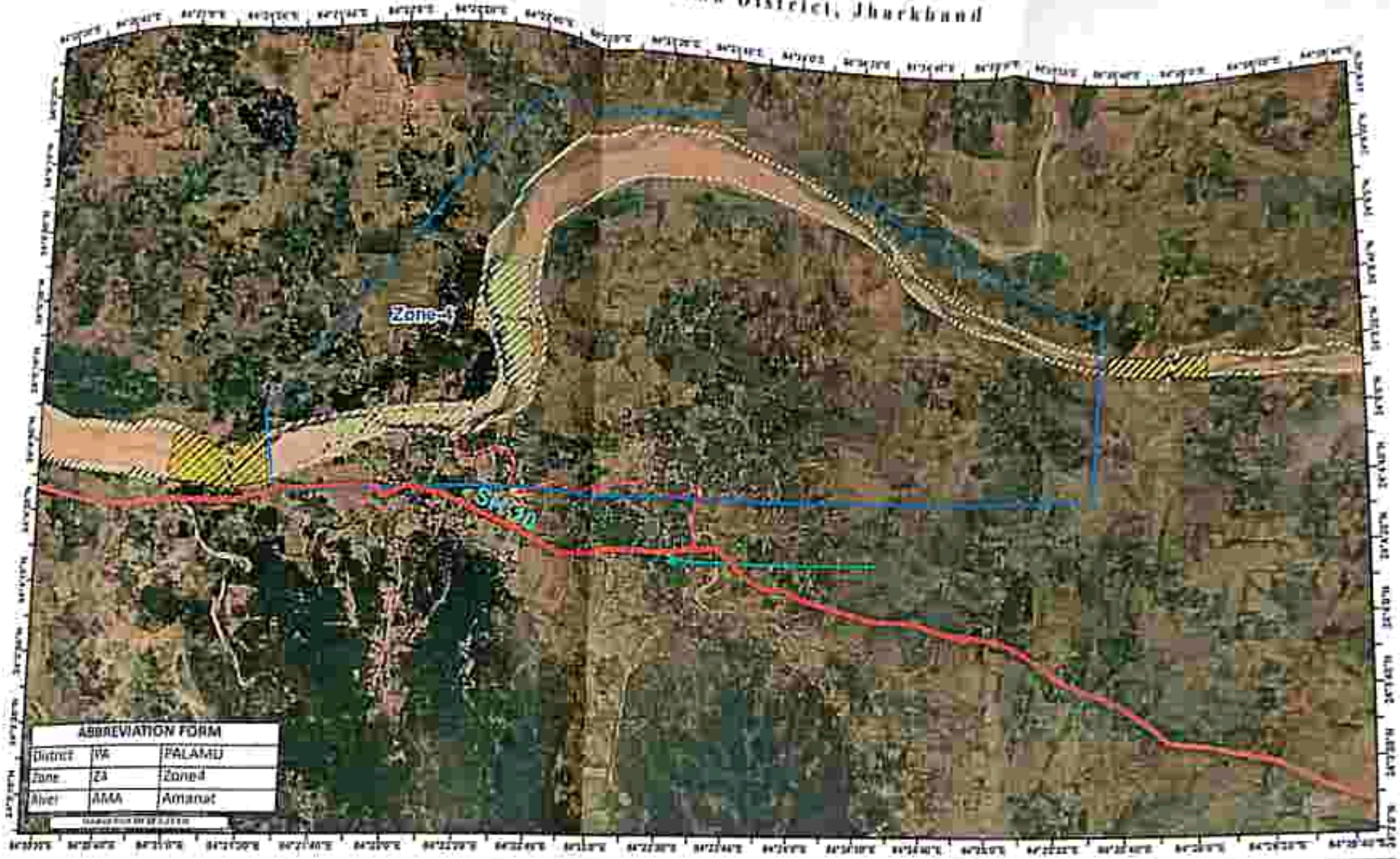
- Contour Lines
- Sand Ghat Boundary

Sand Ghat Code	Area (in Ha)
PA_ZS_AMA_27	55.97

0 162.5 325 650 975 1,300 Meters


Route Map of Zone 3, Palamu District, Jharkhand
Zone-3
SH-70
ABBREVIATION FORM
District PA PALAMU
Zone Z3 Zone3
River AMA Amanat
Legend
Palamu District Boundary
Railway
Bridge
River Flow Direction
Village Roads
Approach Roads
No Mining Zone
Safety Barrier
Sand Deposit Zone
Sand Ghat
Sand Ghat Code | Area (in Ha)
PA_Z3_AMA_26 | 4.87
PA_Z3_AMA_27 | 15.97
Limiting Coordinates of Zone 3
Starting Point 84°26'5.11"E 24°5'5.978"N
Ending point 84°29'46.81"E 24°8'27.141"N
0 495 990 1,980 2,970 3,960
Meters

Route Map of Zone 4, Palamu District, Jharkhand



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z4	Zone4
River	AMA	Amanat

Legend

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

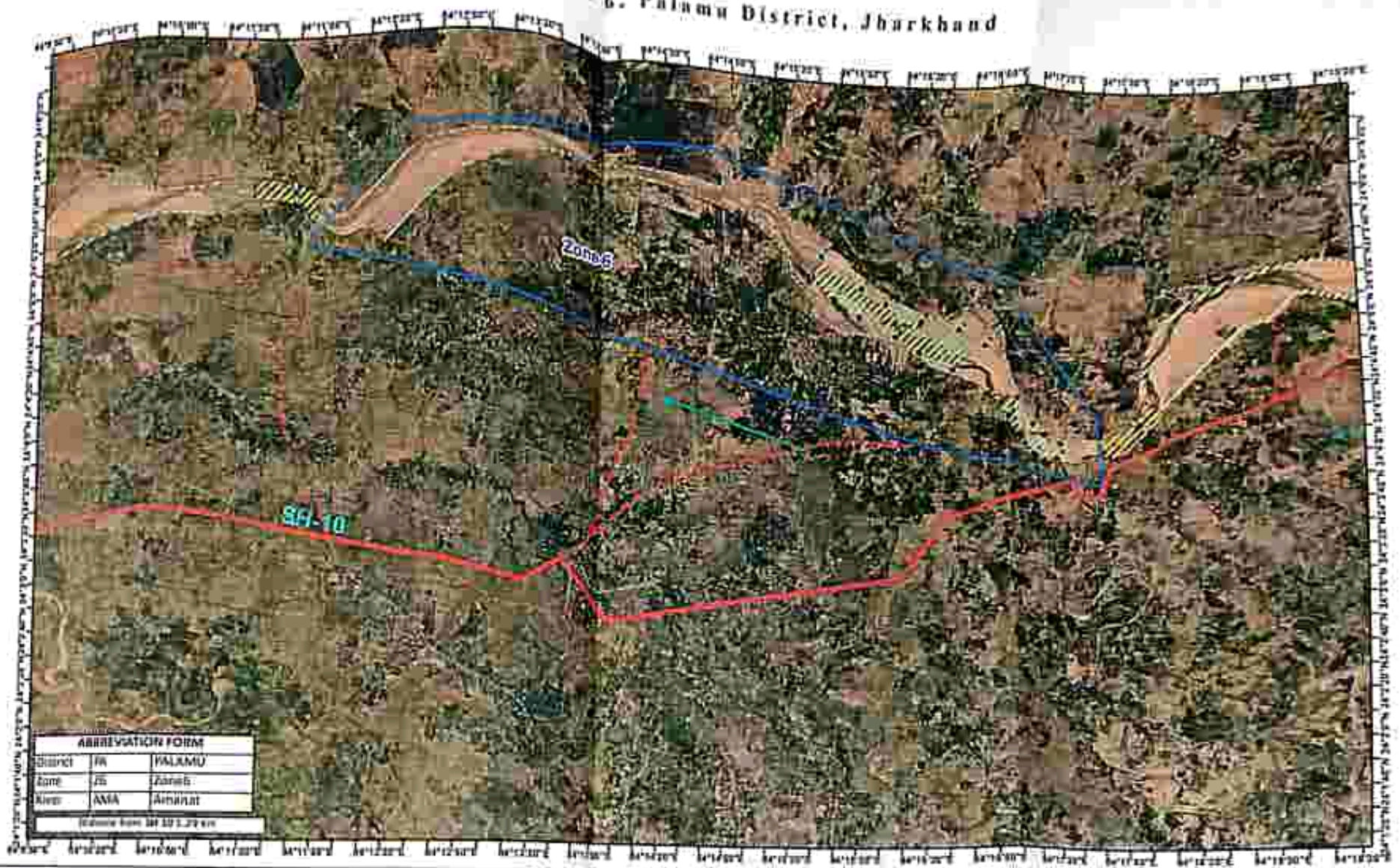
Sand Ghat Code	Area (in Ha)
PA_Z4_AMA_23	16.88
PA_Z4_AMA_24	30.28

Limiting Coordinates of Zone 4	
Starting Point	84°21'23.305"E 24°4'45.726"N
Ending point	84°25'46.133"E 24°5'20.527"N

0 475 950 1,900 2,850 3,800 Meters

Approved

Route Map of Zone 6, Palamu District, Jharkhand



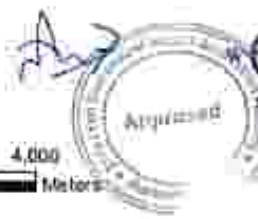
ABBREVIATION FORM		
District	PA	PALAMU
Zone	Zo	Zone6
River	AMA	Amanat

Legend

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

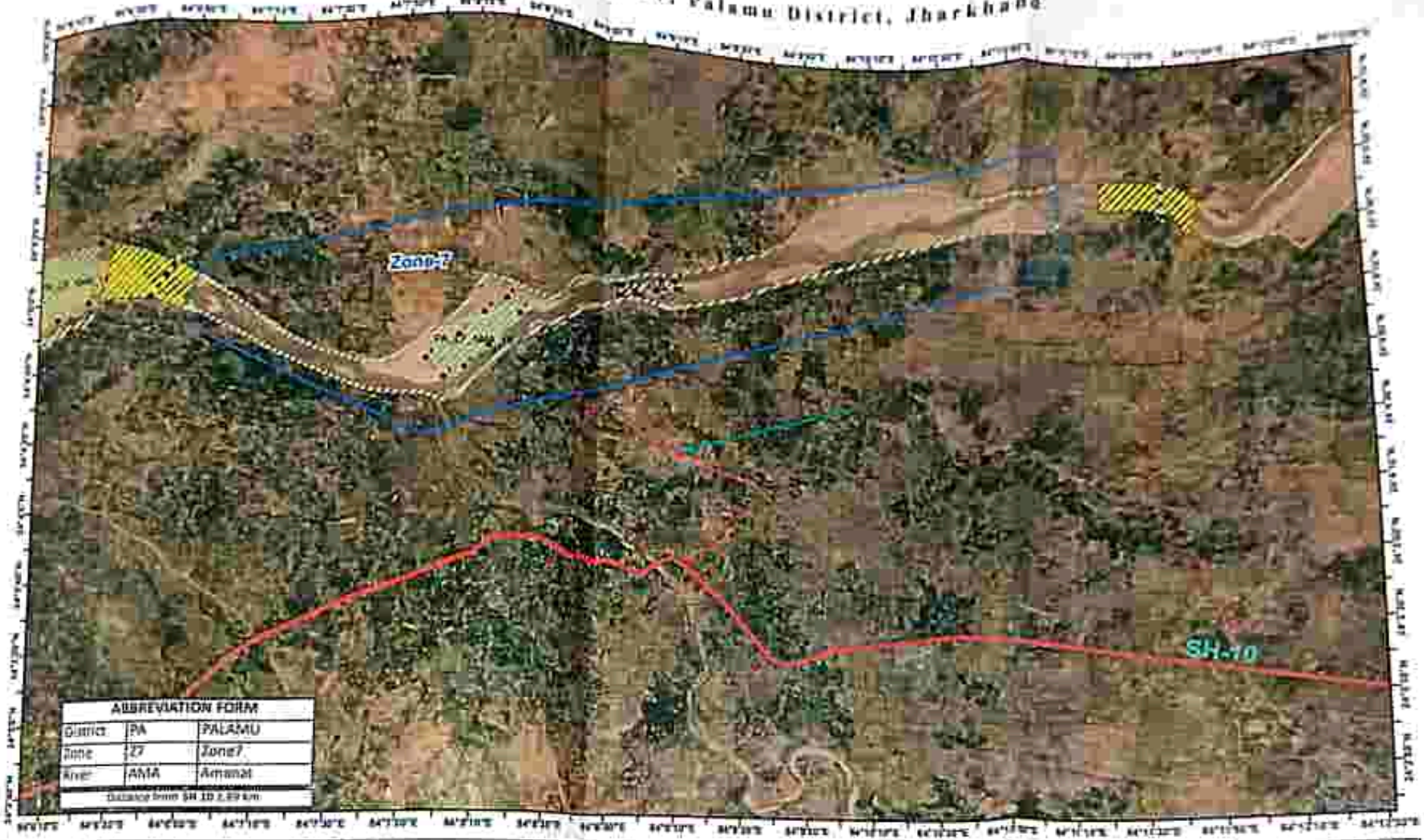
Sand Ghat Code	Area (in Ha)
PA_ZO_AMA_20	51.5
PA_ZO_AMA_21	29.53

Limiting Coordinates of Zone 6	
Starting Point	84°31'23.305"E, 24°44'3.726"N
Ending point	84°25'36.133"E, 24°5'0.527"N



0 500 1,000 2,000 3,000 4,000 Meters

Route Map of Zone 7, Palamu District, Jharkhand



ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z7	Zone7
River	AMA	Amanat

Distance from SH-70 2.89 km

Legend

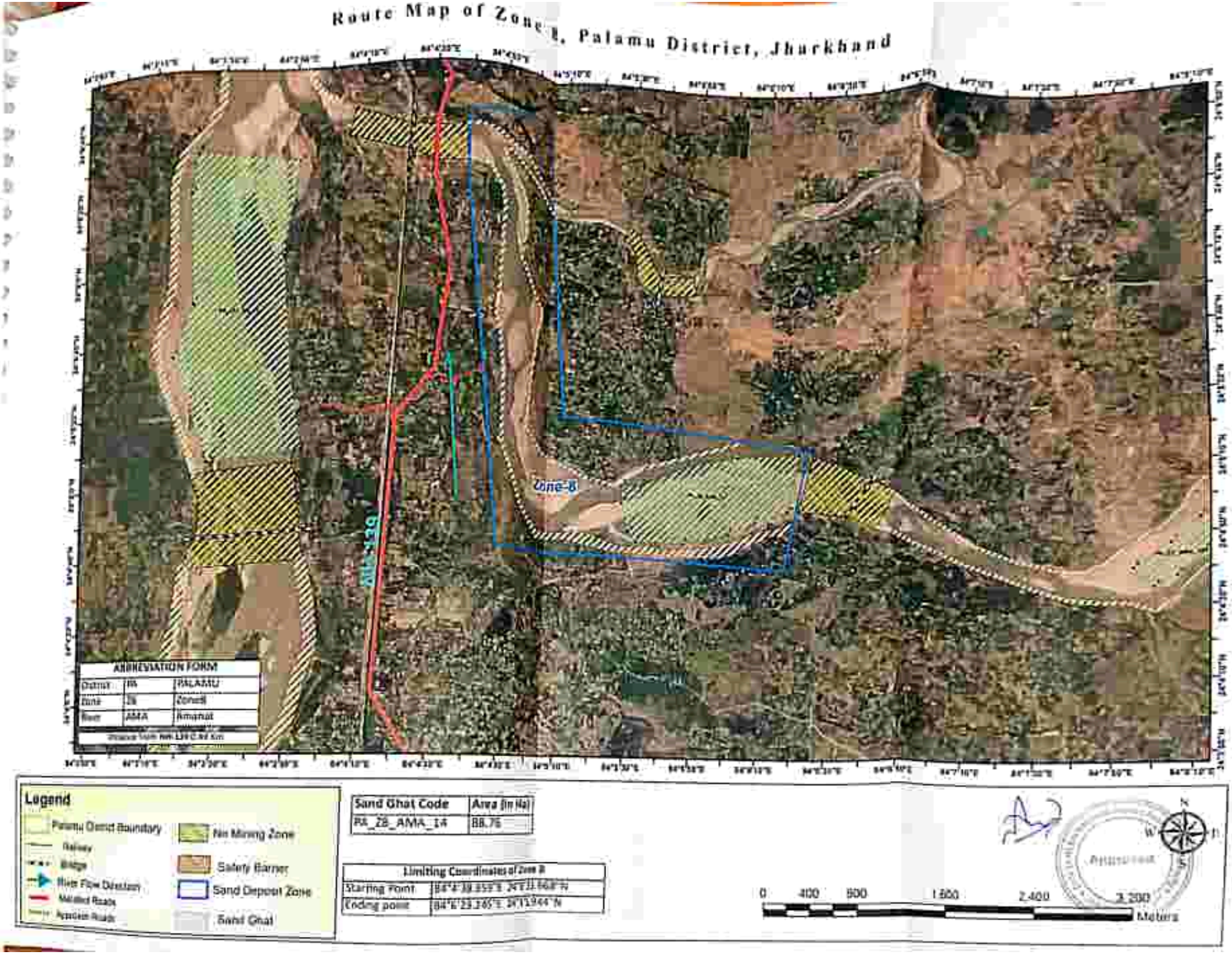
- Palamu District Boundary
- Railway
- Bridge
- River Flow Direction
- Metalled Roads
- Approach Roads
- No Mining Zone
- Safety Barrier
- Sand Deposit Zone
- Sand Ghat

Sand Ghat Code	Area (in Ha)
PA_Z7_AMA_15	18.21
PA_Z7_AMA_16	4.08

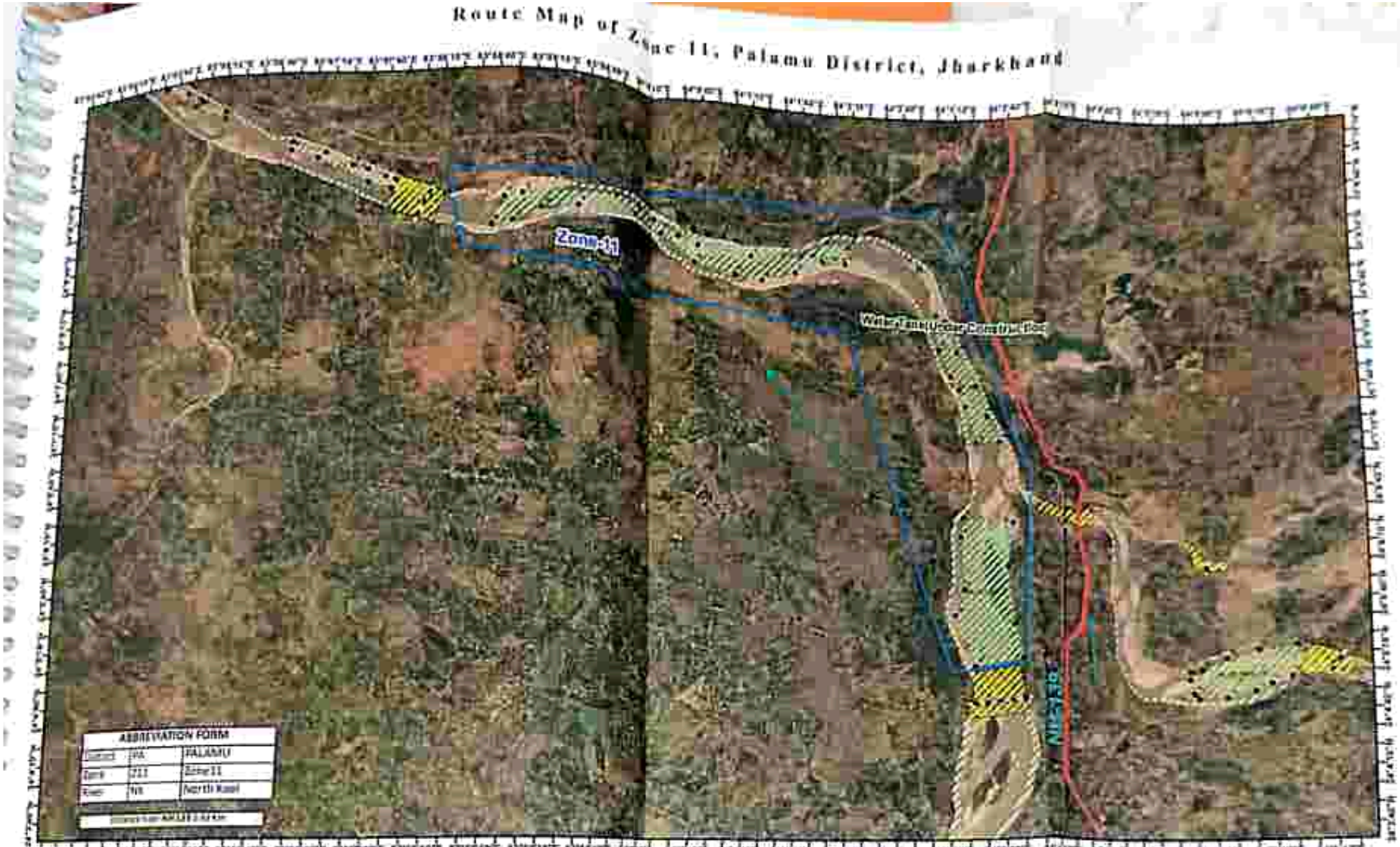
Limiting Coordinates of Zone 7	
Starting Point	84°6'50.828"E 24°3'3.918"N
Ending point	84°11'6.093"E 24°0'49.622"N

0 475 950 1,900 2,850 3,800 Meters

Route Map of Zone-B, Palamu District, Jharkhand



Route Map of Zone 11, Palamu District, Jharkhand



ABBREVIATION FORM		
District	PA	PALAMU
Block	Z11	Zone 11
River	NR	North Road

Legend

- Palamu District Boundary
- Railway
- Bridge
- River Flow Direction
- Metaled Roads
- Kaccha Roads
- No Mining Zone
- Safety Barrier
- Sand Deposit Zone
- Sand Ghat

Sand Ghat Code	Area (in Ha)
PA_Z11_NR_9	178.07
PA_Z11_NR_10	68.86
PA_Z11_NR_11	205.02

Limiting Coordinates of Zone 11	
Starting Point	83°58'16.363"E, 24°9'0.38"N
Ending point	84°3'33.368"E, 24°3'4.43"N

0 500 1,000 2,000 3,000 4,000 Meters

Route Map of Zone 12, Palamu District, Jharkhand

ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z12	Zone12
River	NK	North Koel

Distance from Rajhara Gowa Road: 2.35 Km

Legend

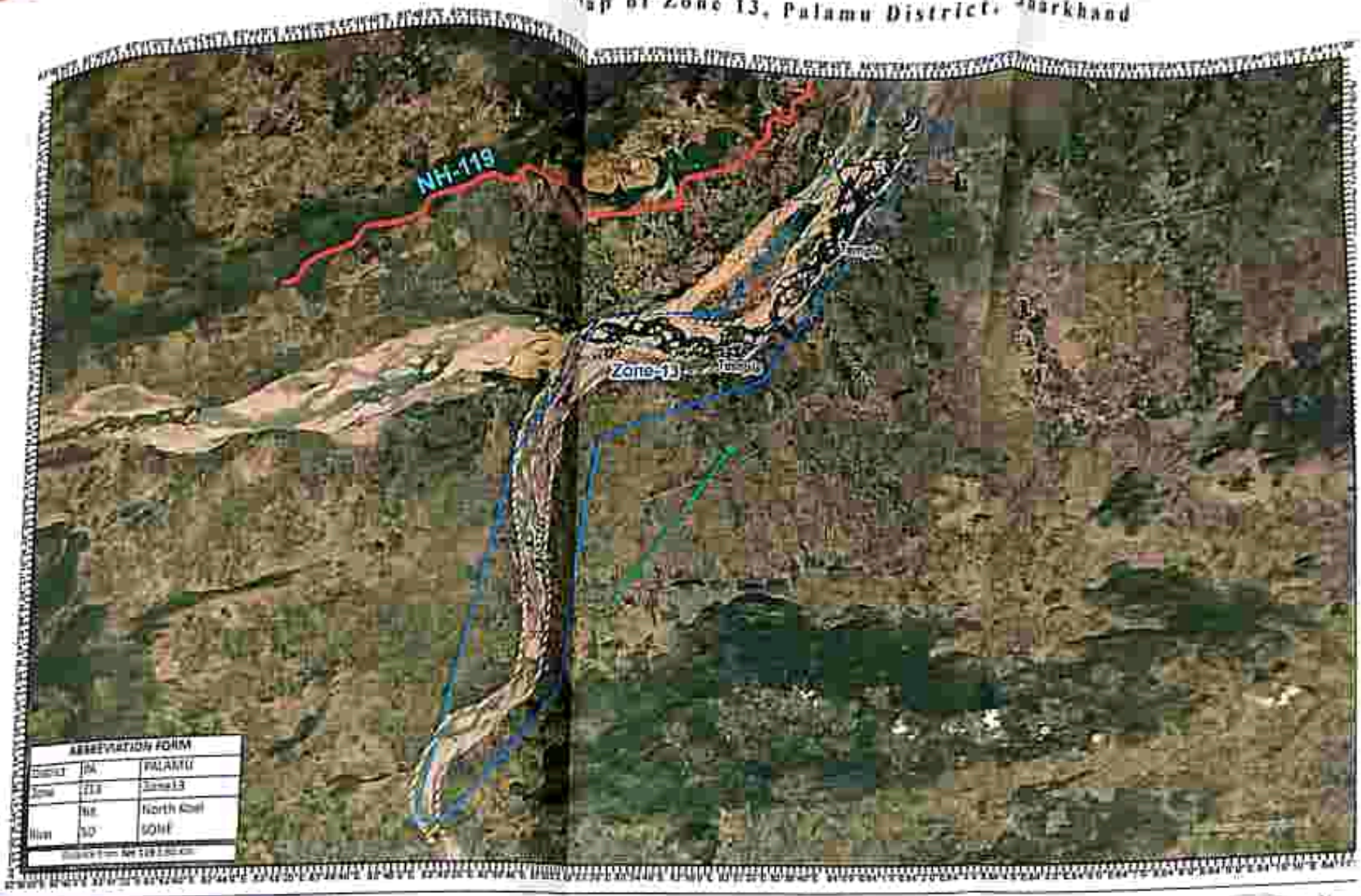
- Palamu District Boundary
- Railway
- Bridge
- River Flow Direction
- Metalled Roads
- Approach Roads
- No Mining Zone
- Safety Barrier
- Sand Deposit Zone
- Sand Ghat

Sand Ghat Code	Area (in Ha)
PA_Z12_NK_7	82.65
PA_Z12_NK_8	26.22

Limiting Coordinates of Zone 12	
Starting Point	83°52'38.948"E 24°12'40.376"N
Ending point	83°57'42.509"E 24°15.311"N

0 500 1,000 2,000 3,000 4,000 Meters

Route Map of Zone 13, Palamu District, Jharkhand



Legend

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

Sand Ghat Code	Area in Ha
PA_Z13_NE_6	15.22
PA_Z13_SO_5	10.116
PA_Z13_SO_3	16.43
PA_Z12_SO_4	30.43

Limiting Coordinates of Zone 13	
Starting Point	83°48'47.821"E 24°20'57.745"N
Ending point	83°51'28.01"E 24°18'23.551"N

0 2,000 4,000 8,000 12,000 16,000 Meters

Route Map of Zone 16, Palamu District, Jharkhand

ABBREVIATION FORM		
District	PA	PALAMU
Zone	Z13	Zone 13
Road	NK	North Koel
Distance from NH 39 1.76 KM		

Legend

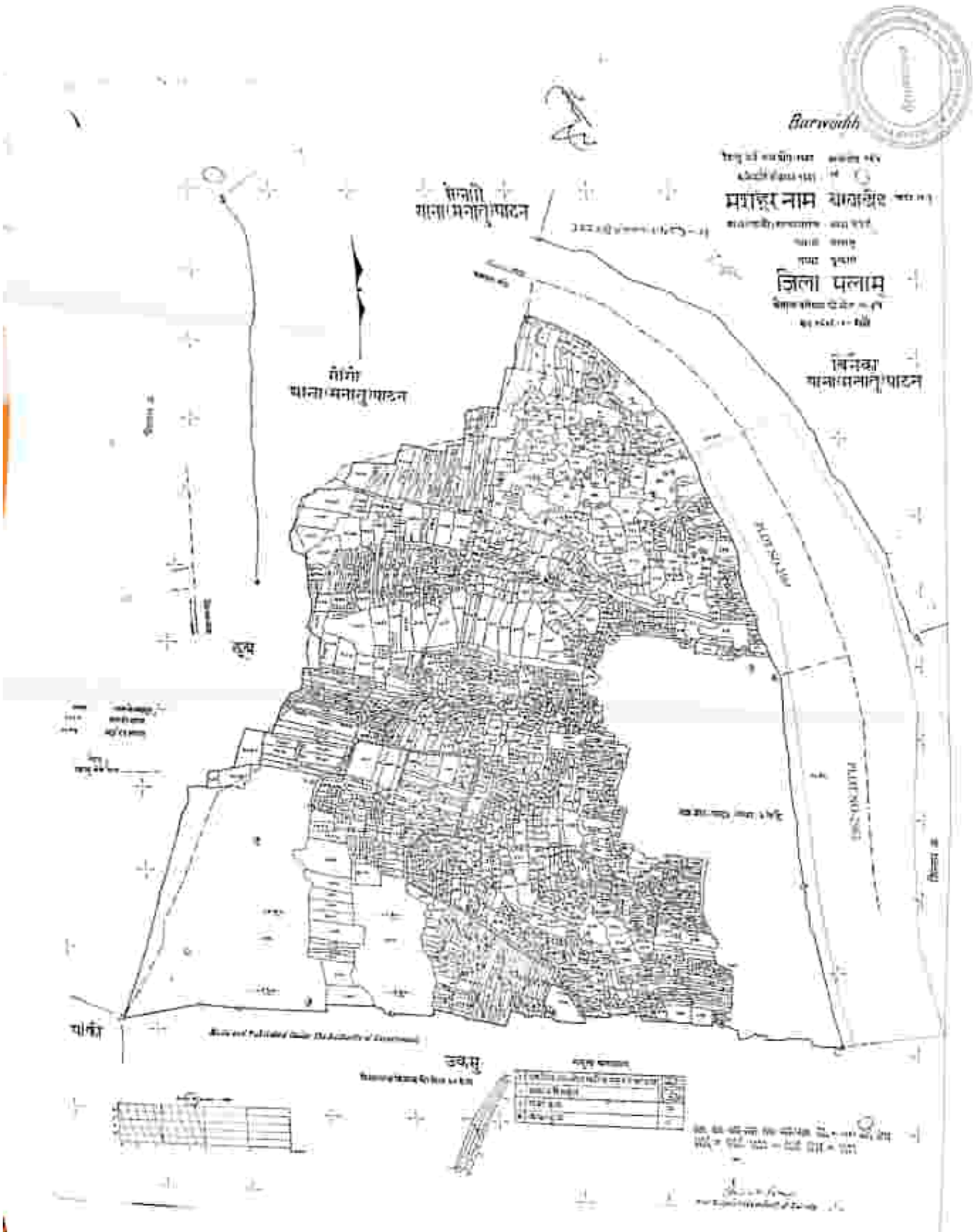
- Palamu District Boundary
- Railway
- Bridge
- River Flow Direction
- Nearest Roads
- Approach Roads
- No Mining Zone
- Safety Barrier
- Sand Deposit Zone
- Sand Ghat

Sand Ghat Code	Area (in Ha)
PA_Z16_NK_13	55.28

Limiting Coordinates of Zone 16	
Starting Point	84°3'47.055"E, 24°1'54.542"N
Ending point	84°4'49.179"E, 23°59'47.502"N

0 440 880 1,760 2,640 3,520 Meters

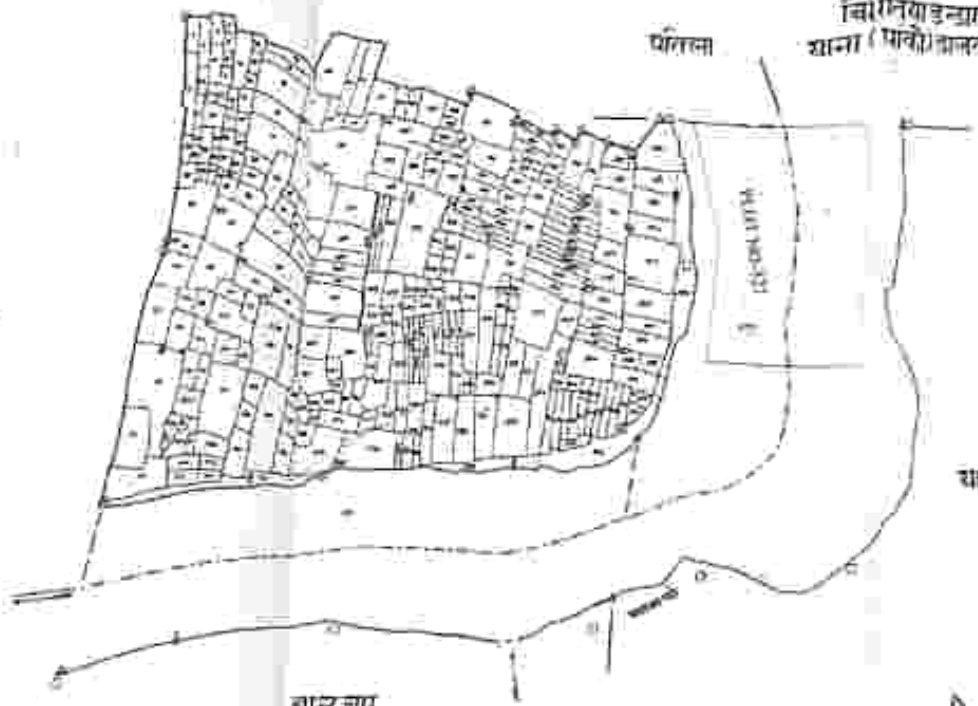
N W E S


Barwadih
मजहूर नाम बरवाडीह
जिला पलामू
सेनारी
थाना मनातू पाटन
सेनारी
थाना मनातू पाटन
बिनवा
थाना मनातू पाटन
PLATEAU LINE
PLATEAU LINE
चोरी
उपसु

Kumhridih

मौजा का नाम कुम्हारडीह

जिला पलामू



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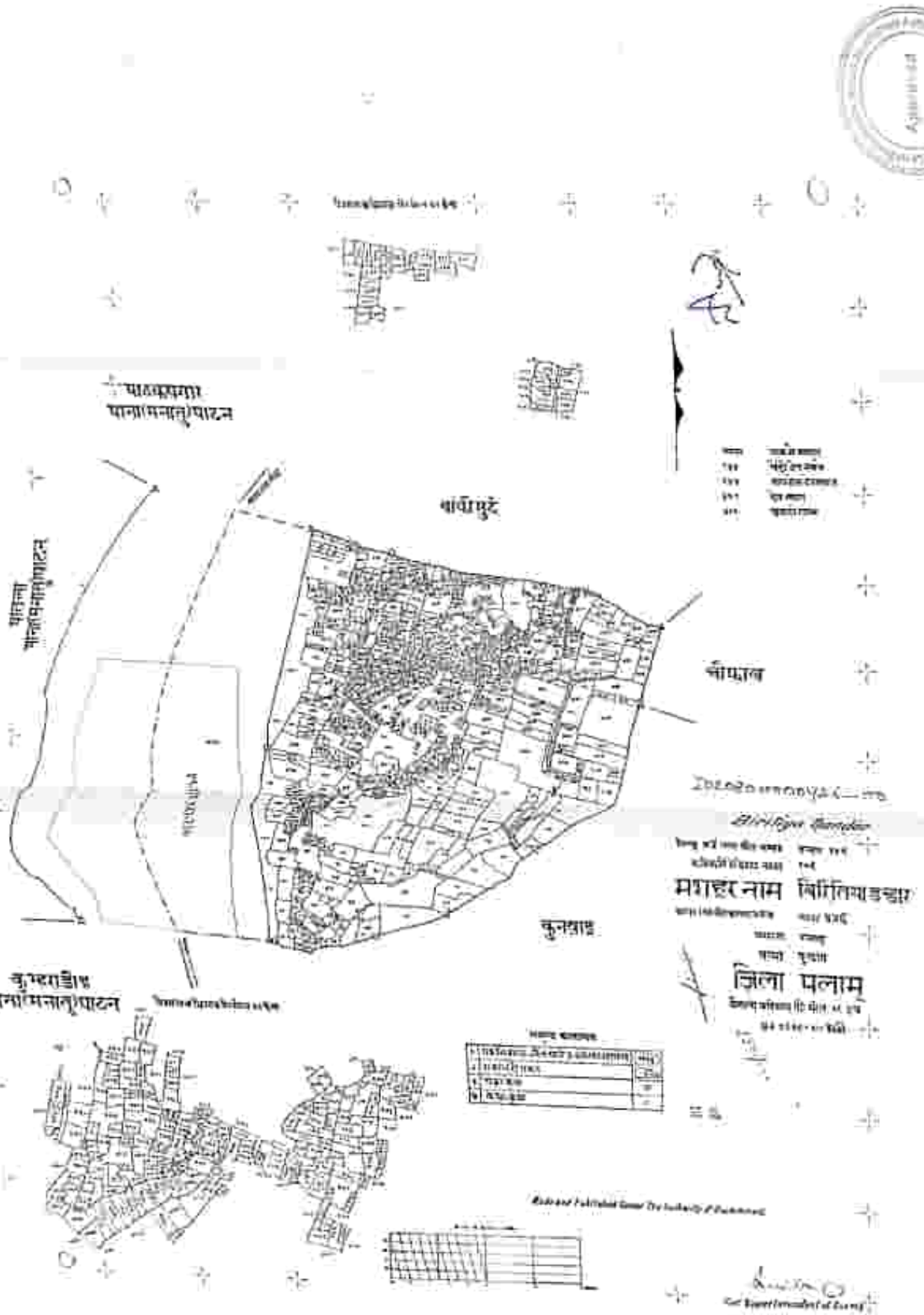
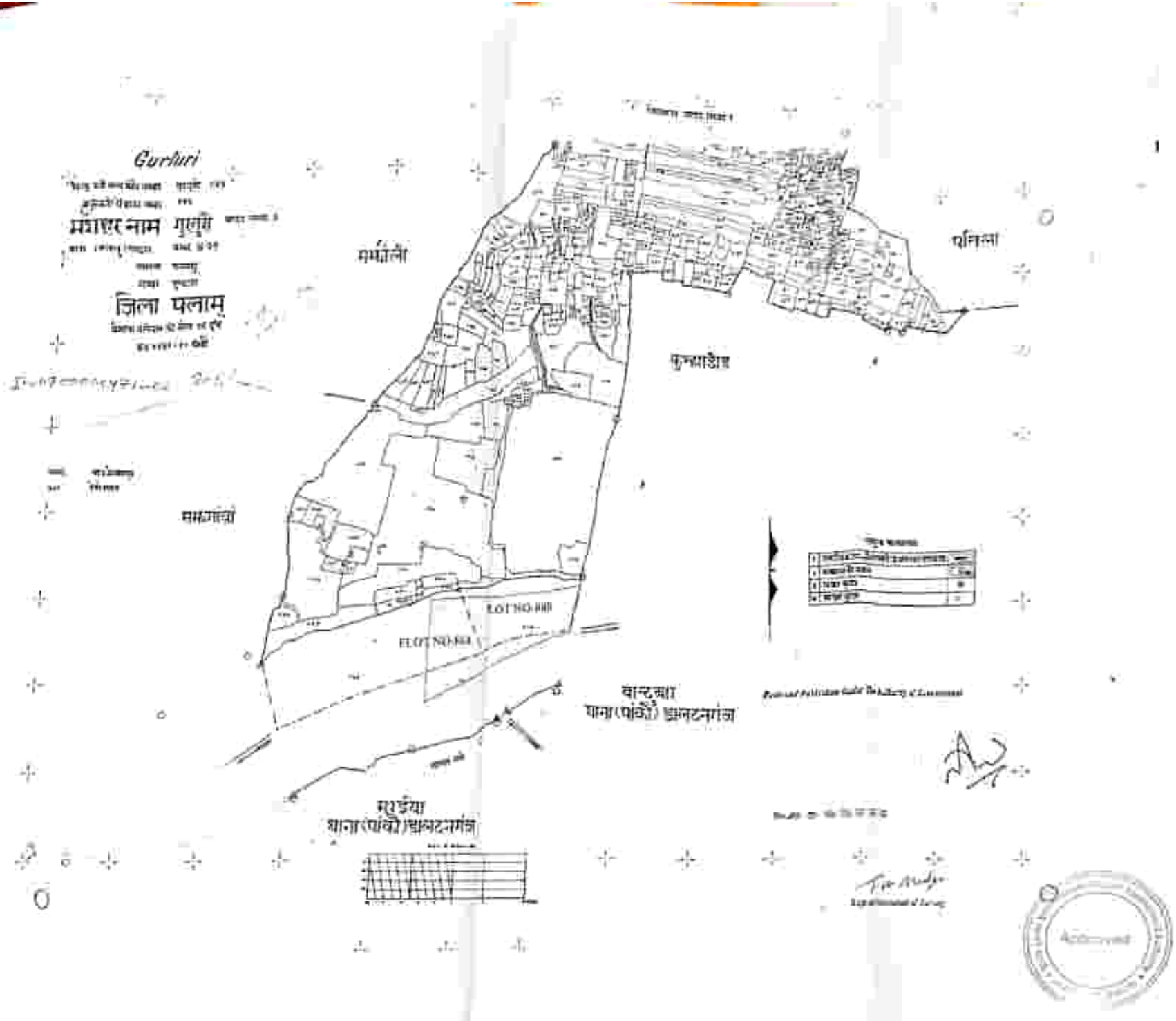
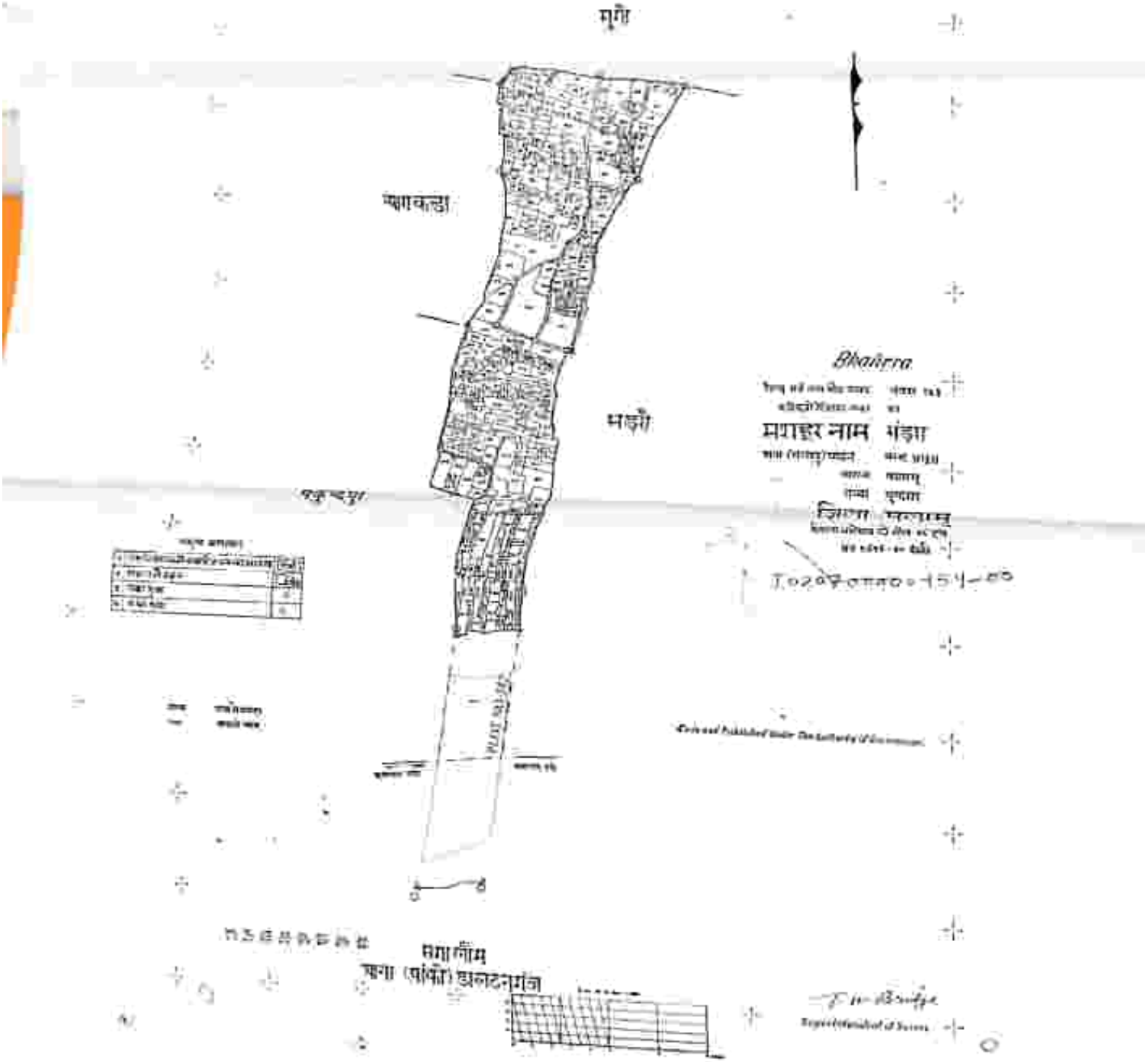

पालक्कयम्
पानामनत्तुपाटम
पानामनत्तुपाटम
कुन्दाडी
पानामनत्तुपाटम
जिला मलाम


Gurhuri
मौजा का नाम गुरहुरी
जिला पलामू
सर्मलोली
पतिला
फुलवाडीह
समतोली
LOT NO-888
LOT NO-884
बालूआ
थाना (पांकी) झलटनगंज
मरुईया
थाना (पांकी) झलटनगंज
Approved


मुंगेर
भागलपुर
मधेपुरा
Bhabua
मधहर नाम भंडारा
जिला भागलपुर
T.020°0'0"-15'-0"
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Engineer-in-Chief of Survey

Parsdiwan

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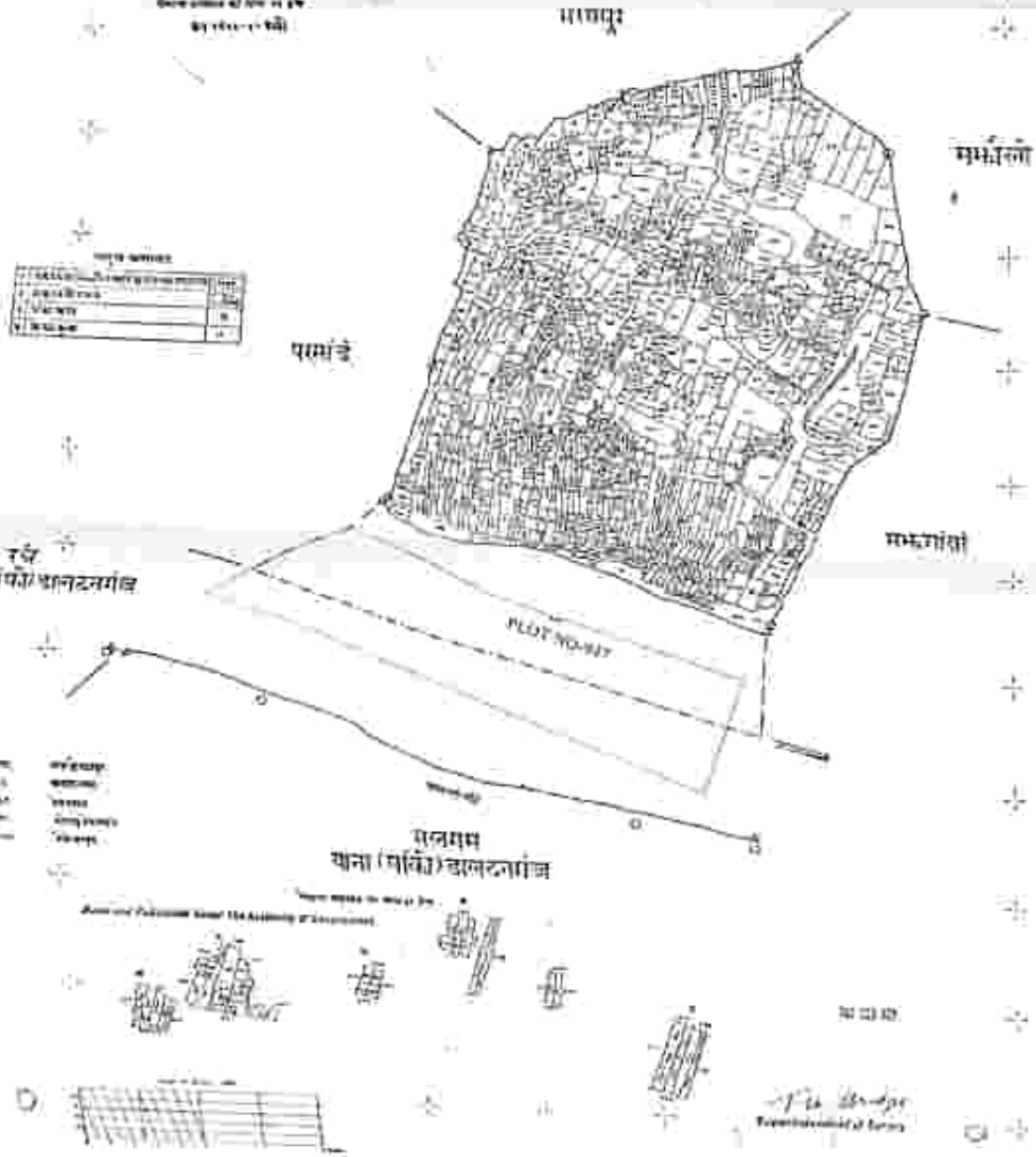
जिला पलामु



पलामु

Parsauli

मशहूर नाम परसौली

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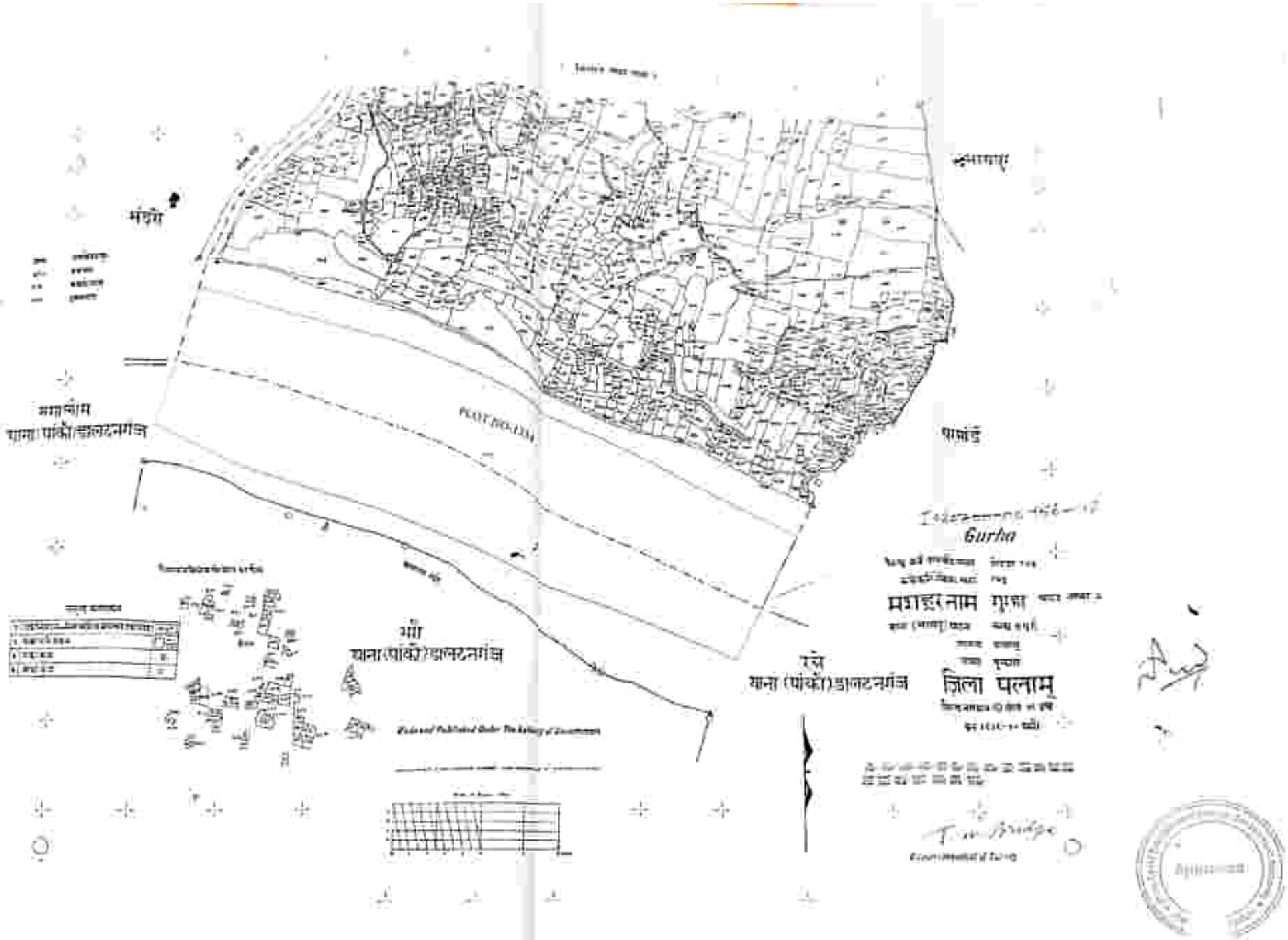
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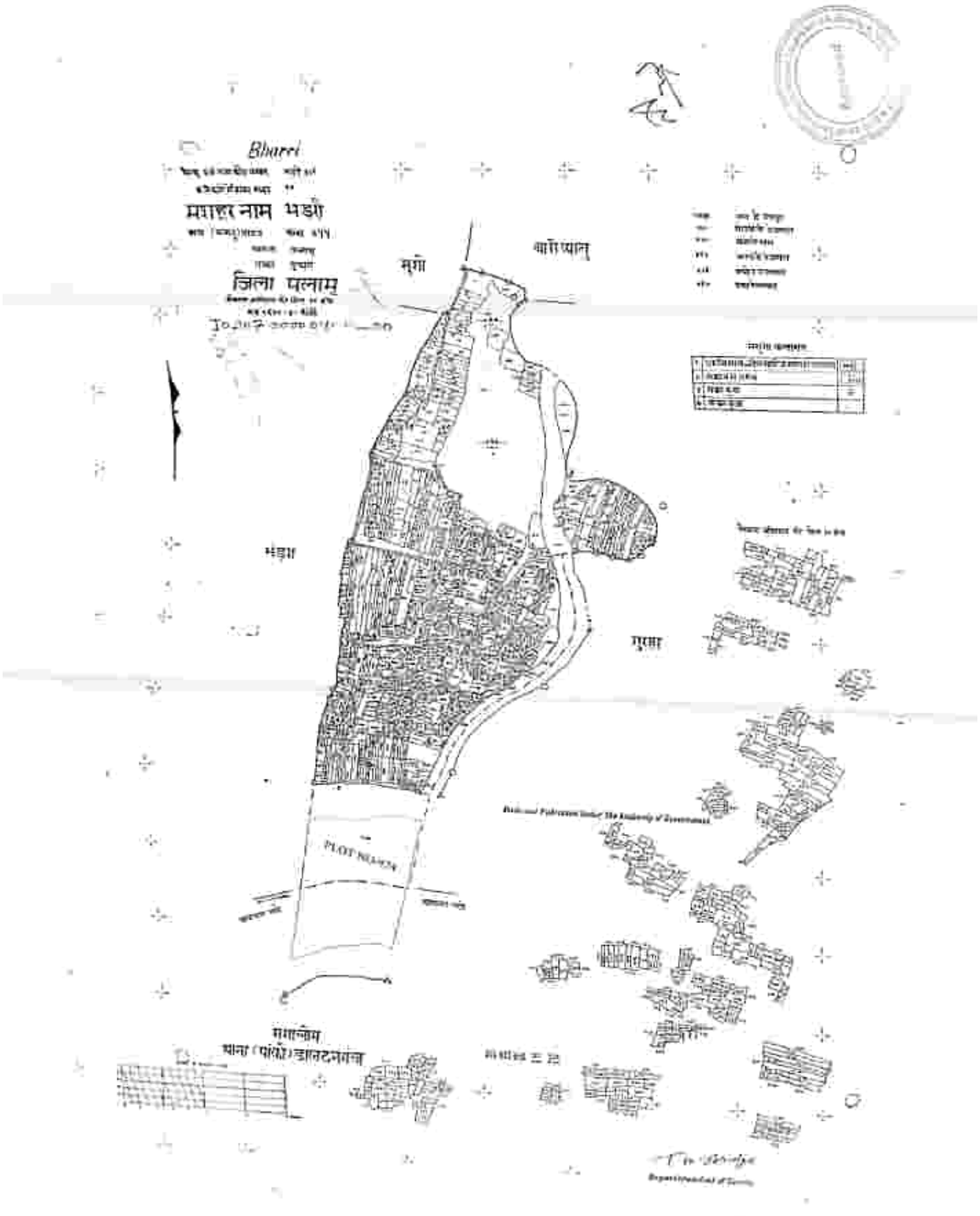
जिला पलामू

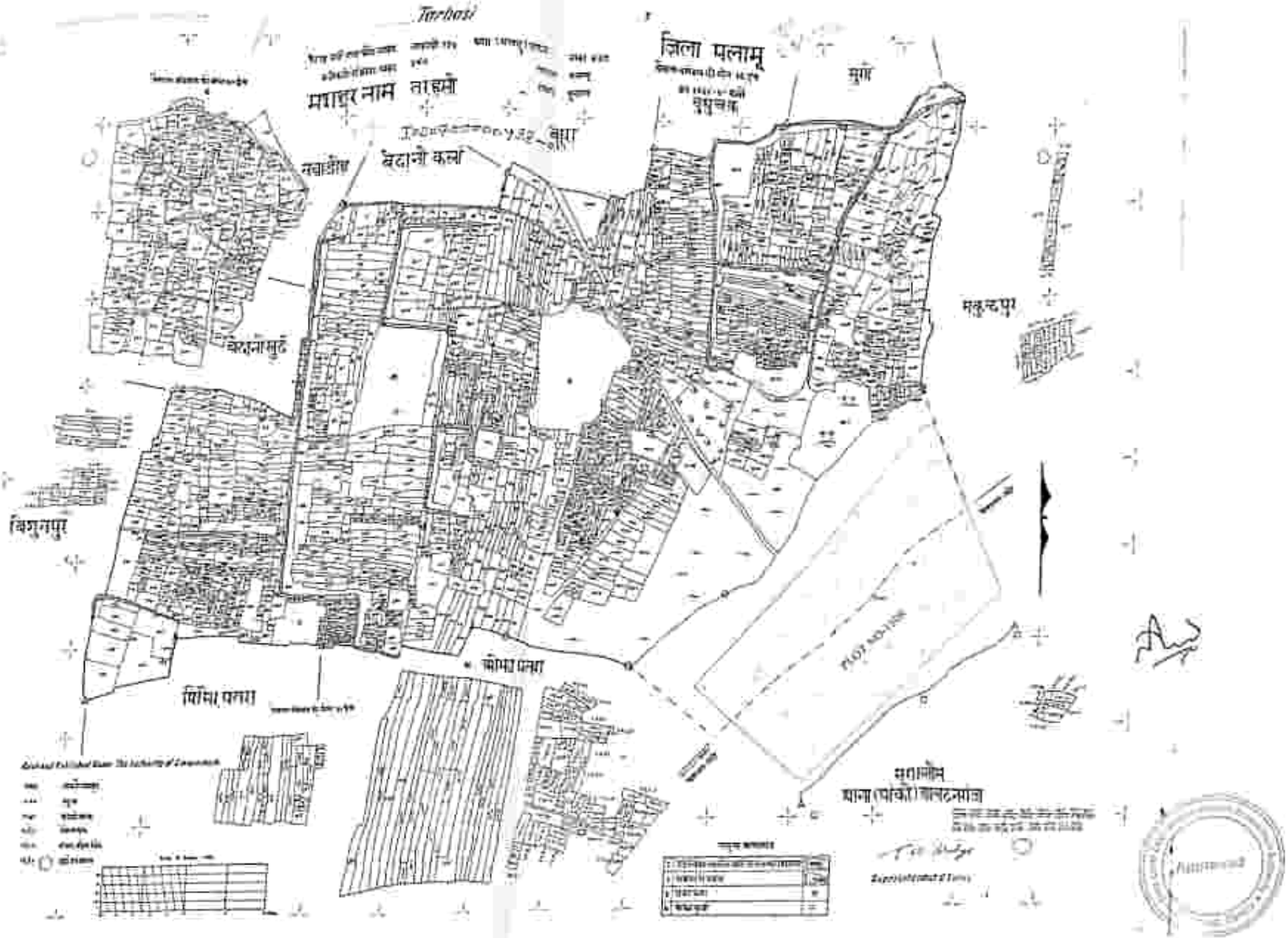

Bharri
जिला पलामू
PLOT NUMBER

Makundpur

मौजा नाम मकुन्दपुर

जिला पलामू

सर्वेक्षण
अंचल (सर्कल) अमलदार


Tarbasi
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जिला पलामू
मुरो
बेदानो कला
बेरमा मुंडे
मकुन्दपुर
बिशुनपुर
PLOT NO-1306
चिमा पलरा
कोमा पलरा
थाना (पांकी) बावटनमात्र

Misirpatra

मशहूर नाम मिसिर पलरा

जिला पलामू

तरहसी

चिगुनपुर

गोमध्य पलरा

PLOT NO-191

भरहा
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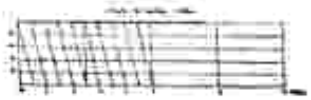

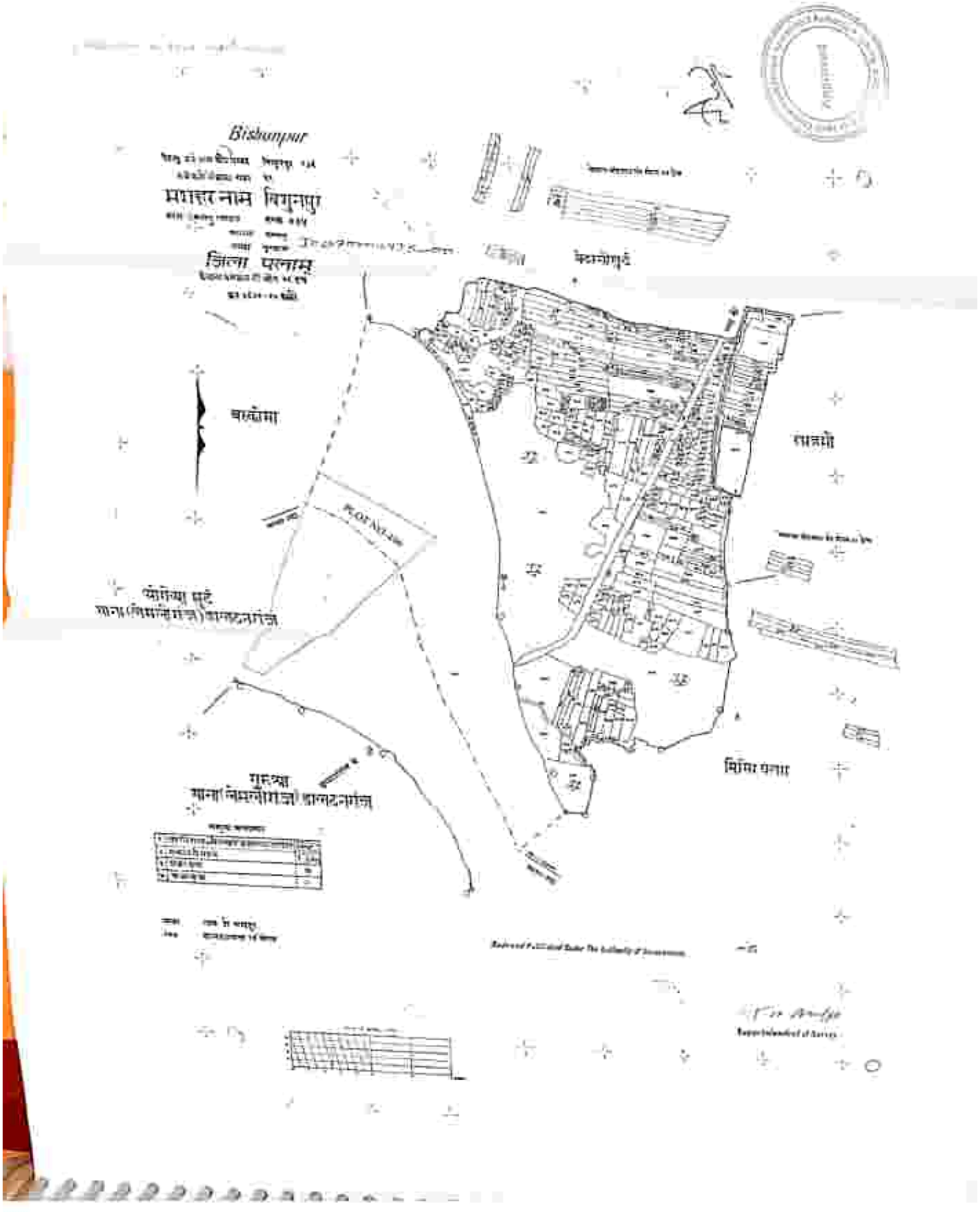
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बालोमा
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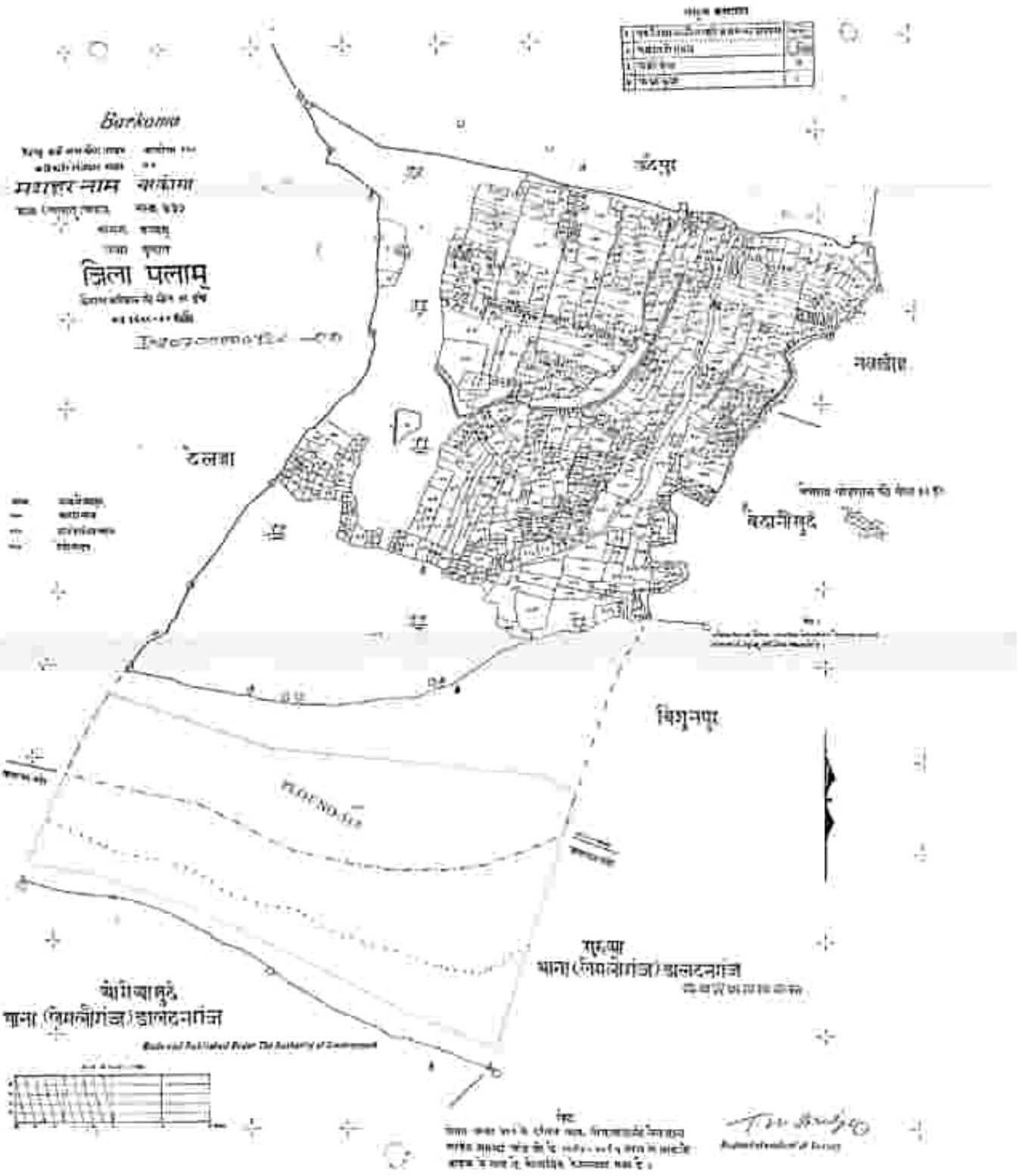
मिसिर पलासा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दलजा
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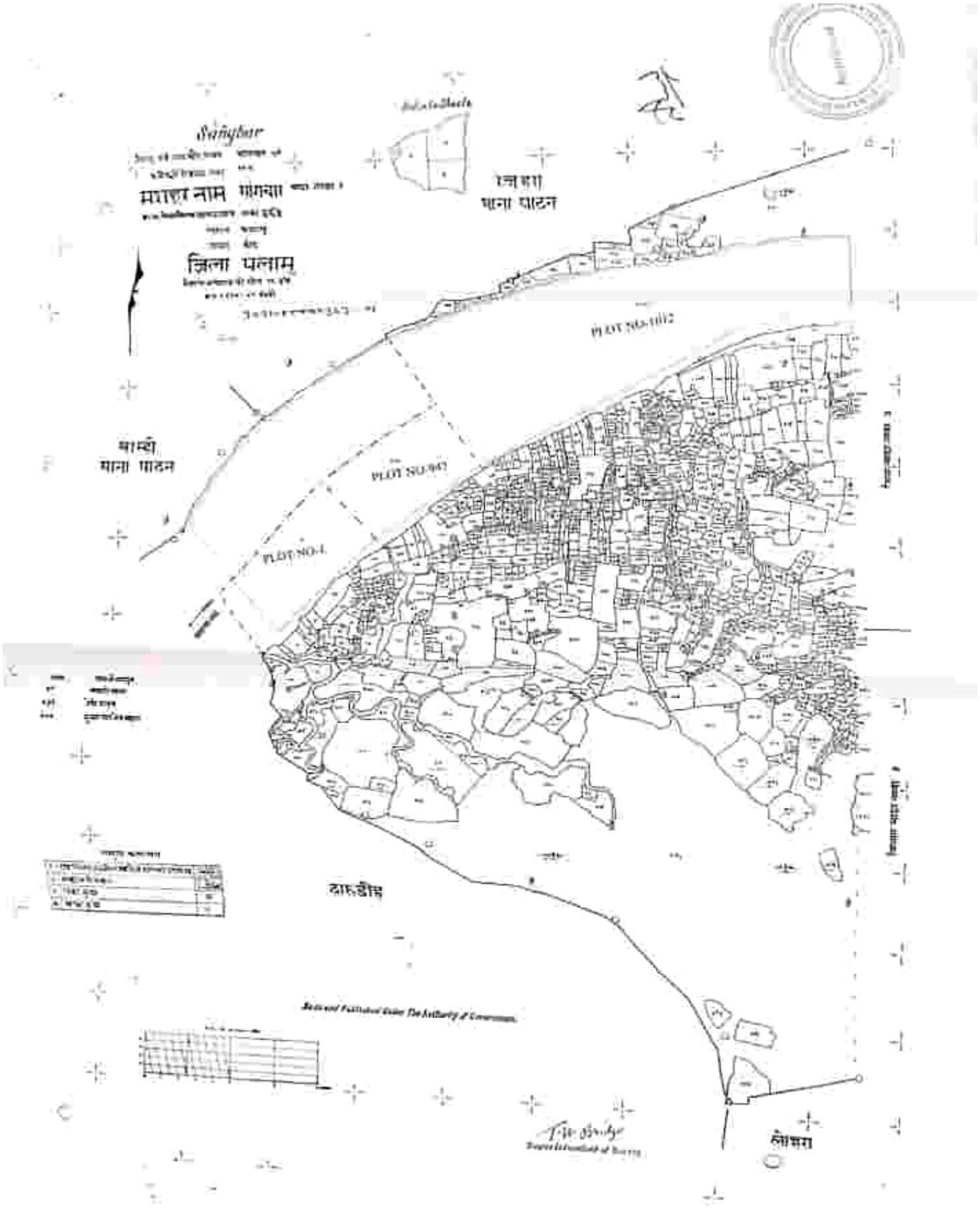
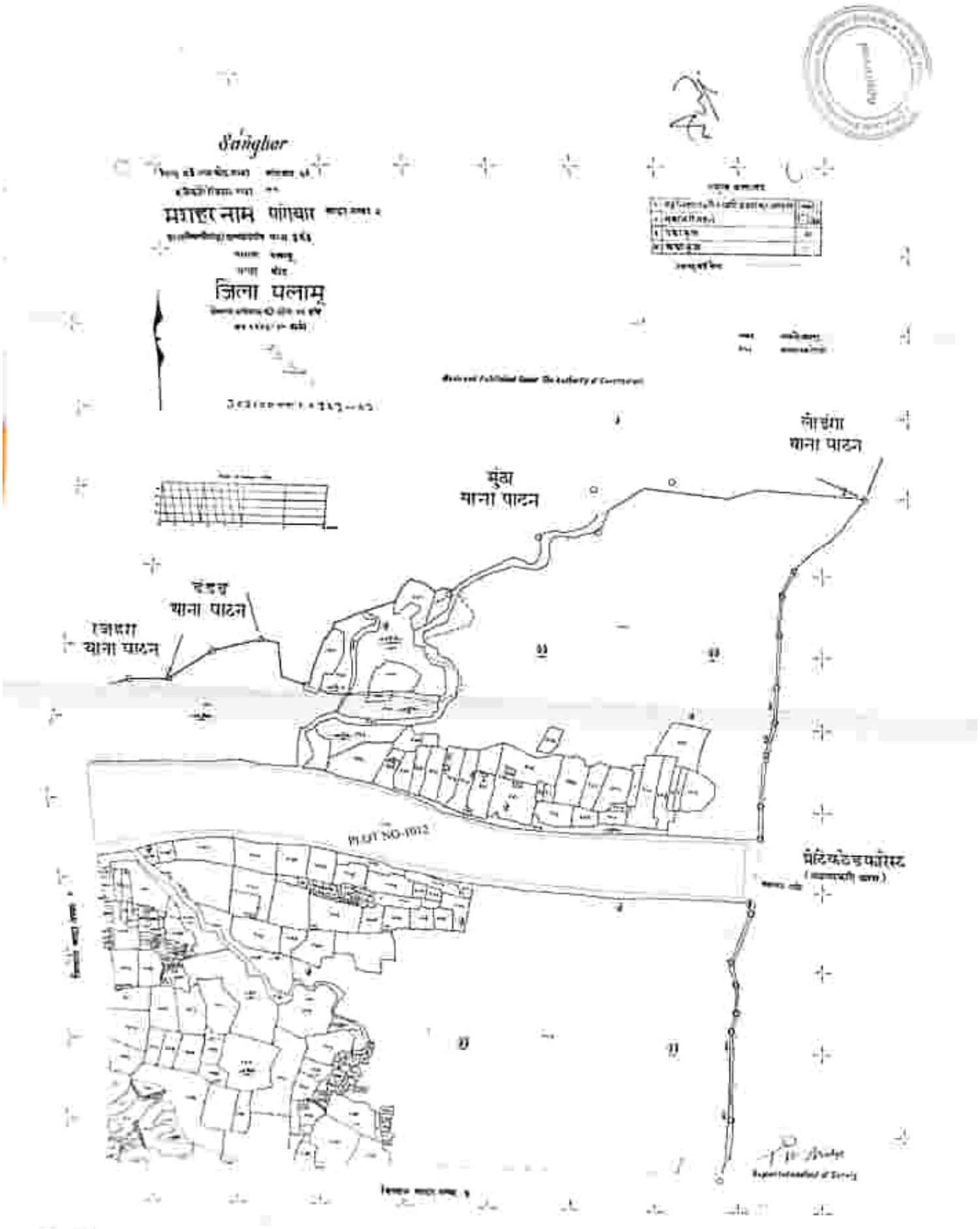
विशुनपुर
PLOUGHED
बेलवानीसुदे
थाना लिमतोगंज डालटनगंज
रहस्या
थाना लिमतोगंज डालटनगंज


Sanghar
मोहल्ला नाम मांगवा
जिला पलाम
रजवा
माना पाटन
PLOT NO-1012
PLOT NO-947
PLOT NO-1
बार्वी
माना पाटन
दाहडीह
लोमरा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मुंडा
थाना पाटन
रजहरा
थाना पाटन
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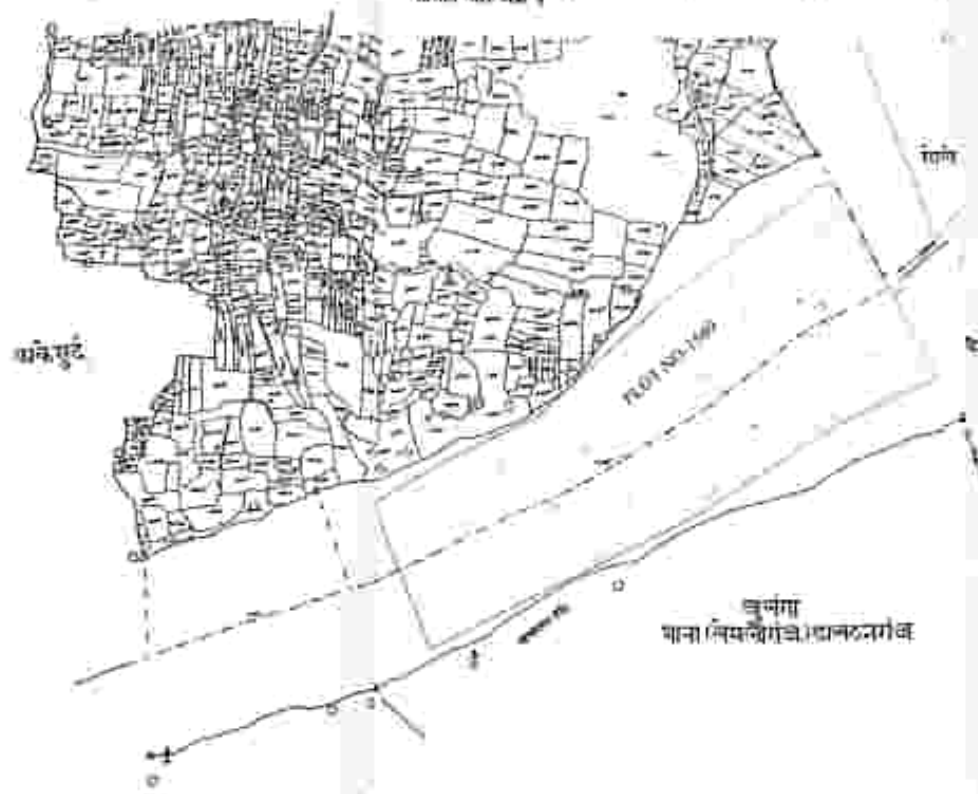
पेटिफेडफोरेस्ट



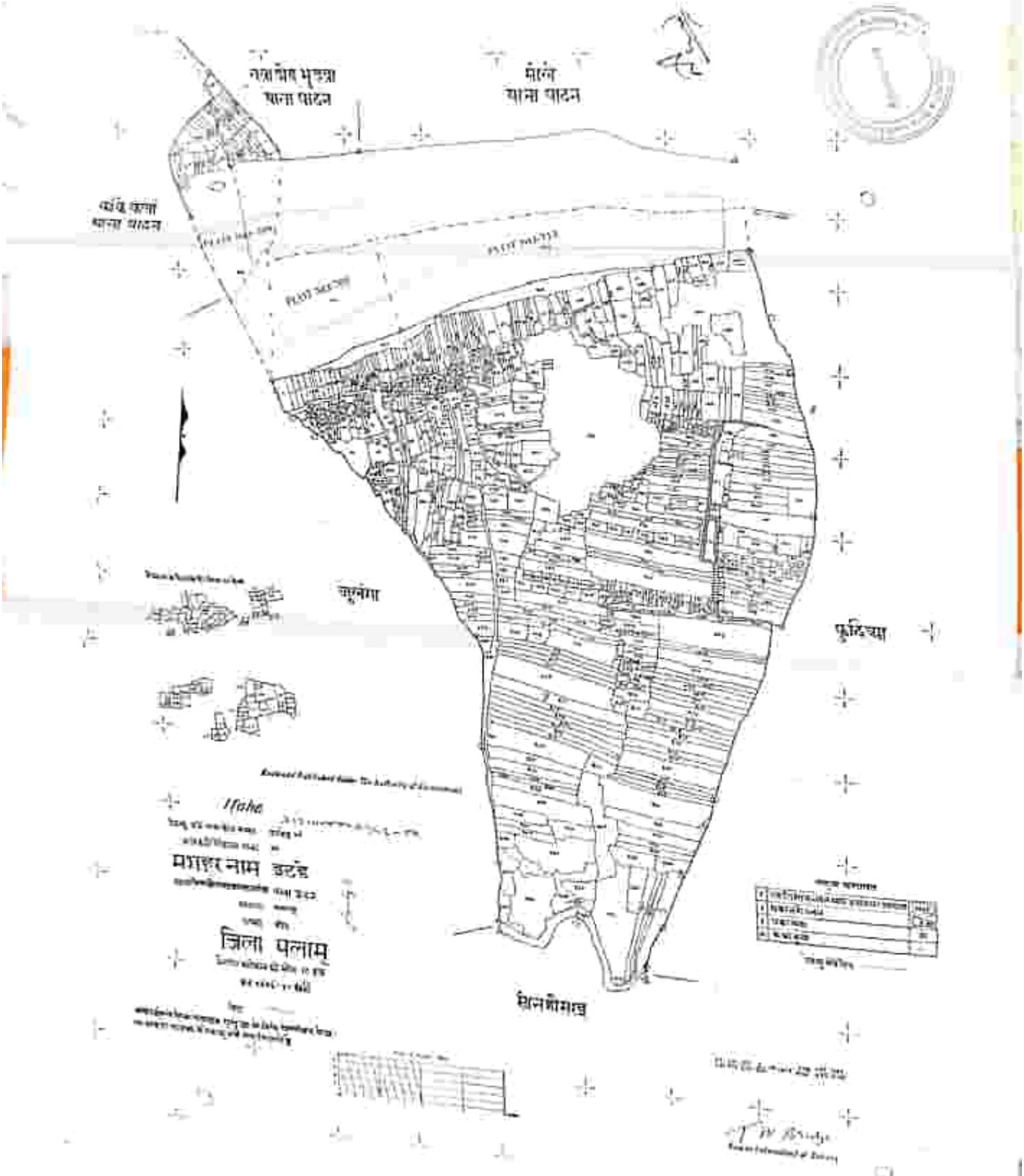
Kakka Kalan

महाल नाम ककैकला

जिला पलामू

जैतुमांड
थाना (नेमरीगंज) डालटनगंज

चुरमुंगा
थाना (नेमरीगंज) डालटनगंज


मोरंग
थाना पाटन
पूर्व दिशा
थाना पाटन
जुनेगा
पूर्वेचा
जिल्हा पलाम

Kanka Khurd


Home
507
507
PLOT NO.-1
PLOT NO.-1
1
1
117
494
499
485
483
482
470
465
460
454
373
382
383
A04
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A08
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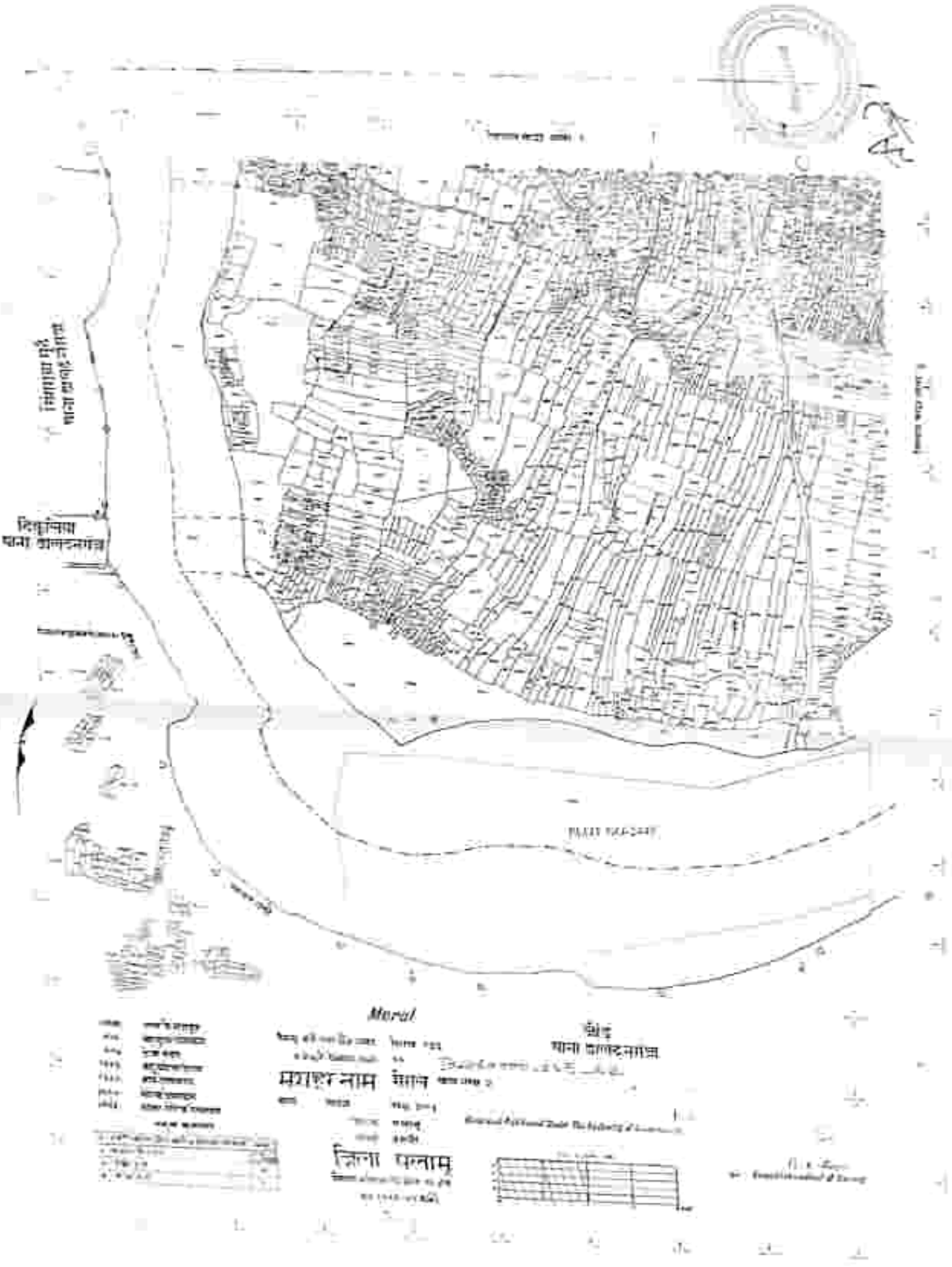
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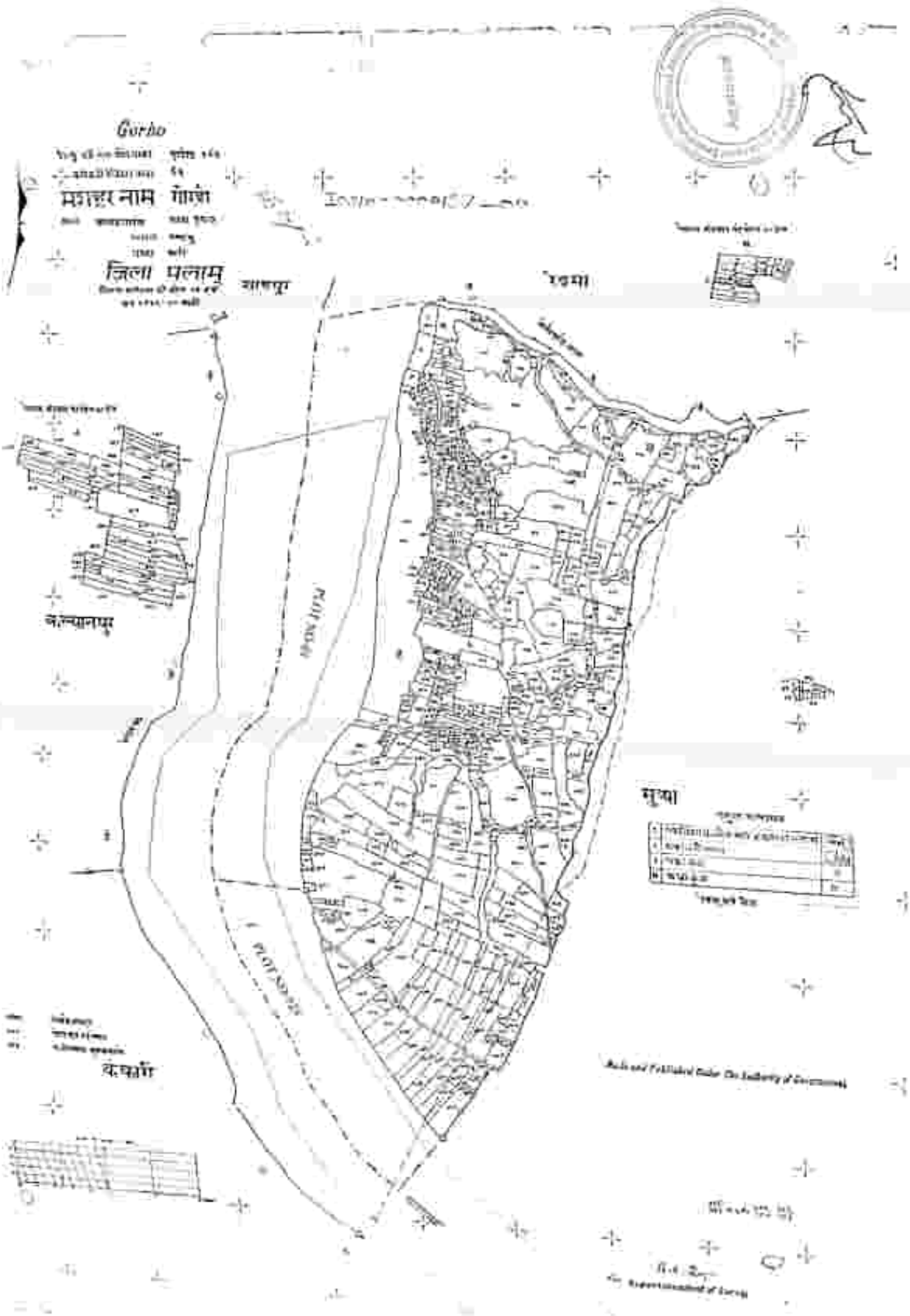
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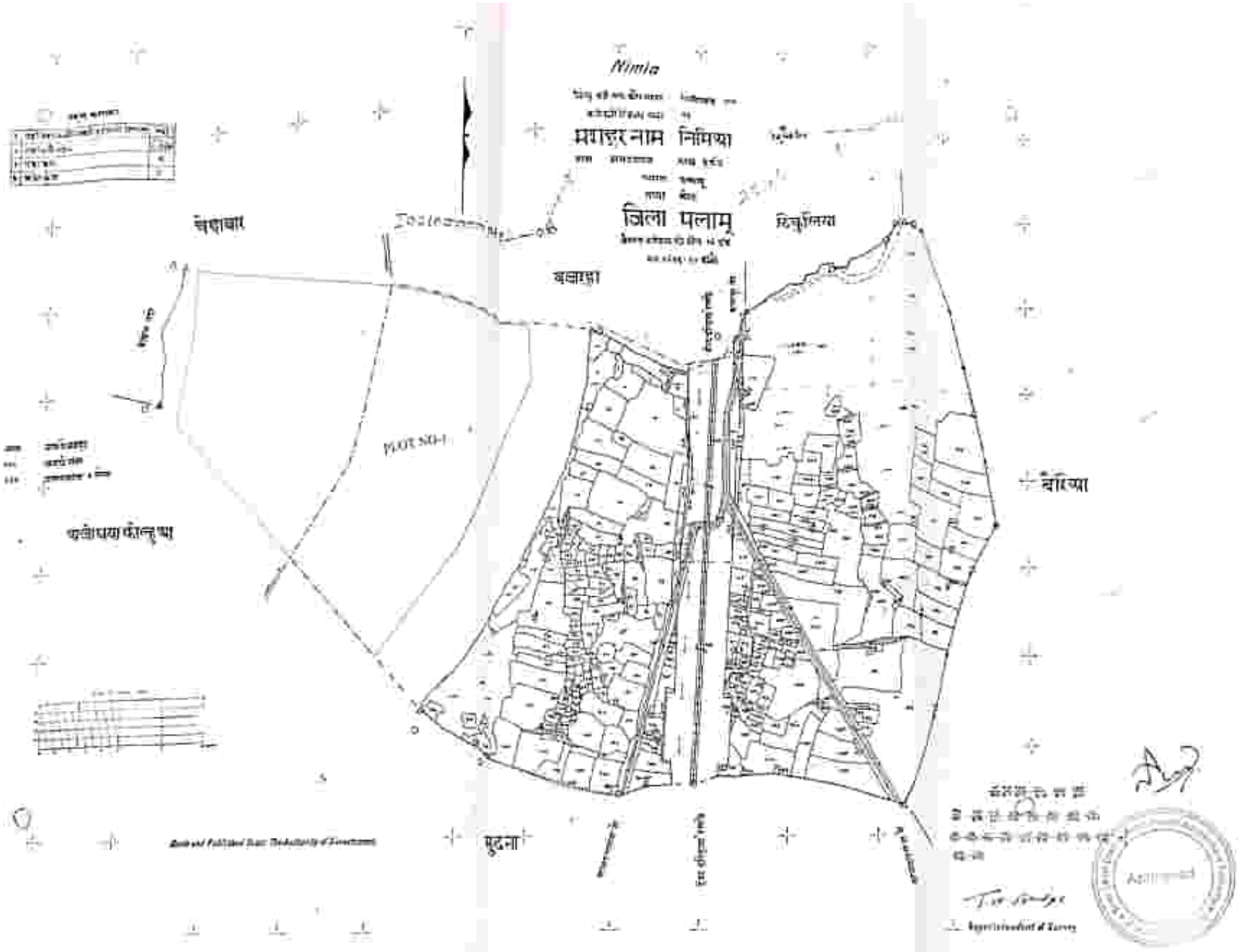
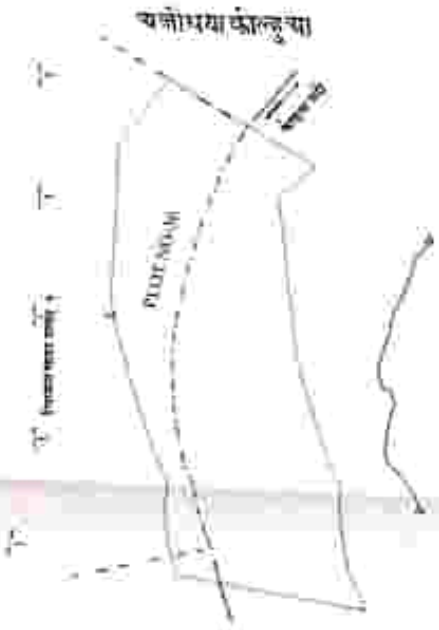
कल्याणपुर
मुरमा
बरवाडीह

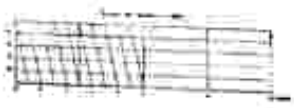

Nimia
मगहर नाम निमिया
जिला पलामू
चेचाचार
बलाहा
PLOT NO-1
घोरोधया कोल्हुआ
बरिया
मुदना
Surveyed and Published Under the Authority of Government
Superintendent of Survey
Authorised

Chak Harbhonga

मशतूर नाम चकहरभोंगा

जिला पलामू





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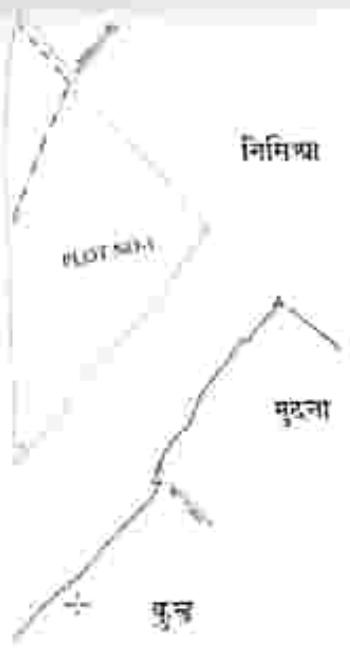
Ayodhya Kothua

प्रगट नाम अयोध्या कोठुआ

जिला पलामू



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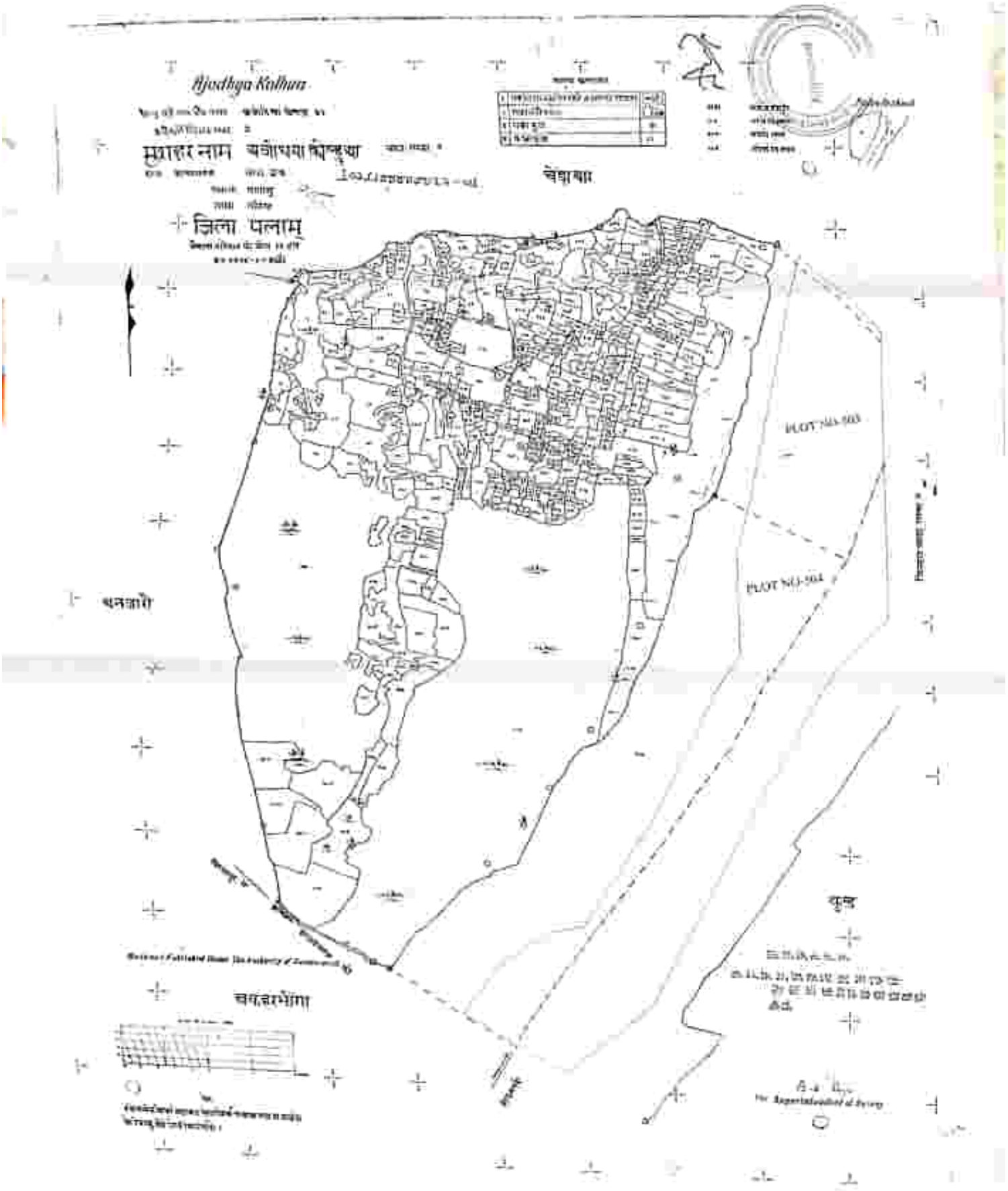
Superintendent of Survey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मुख्तर नाम
जिला पलामू
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चतरा
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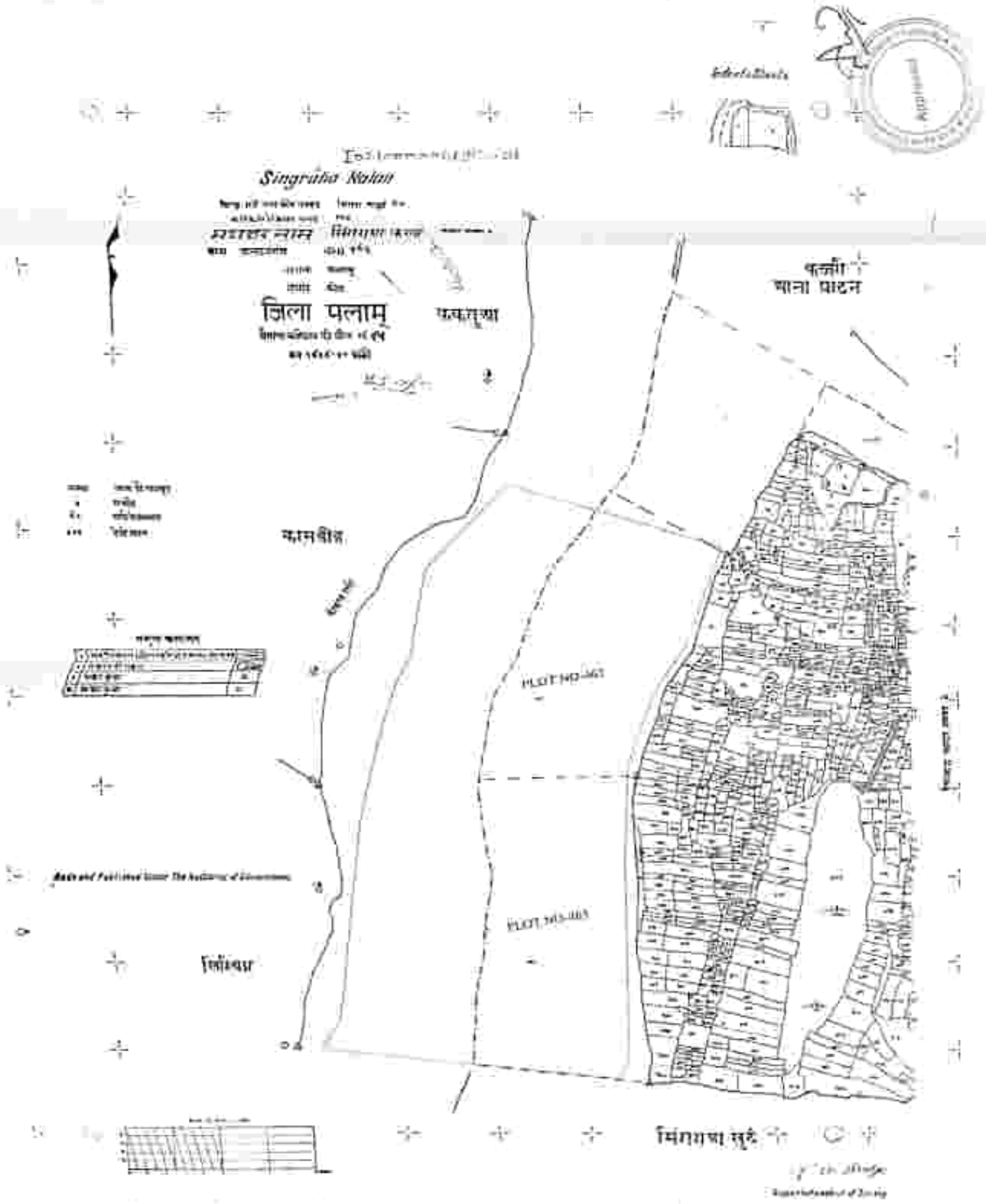
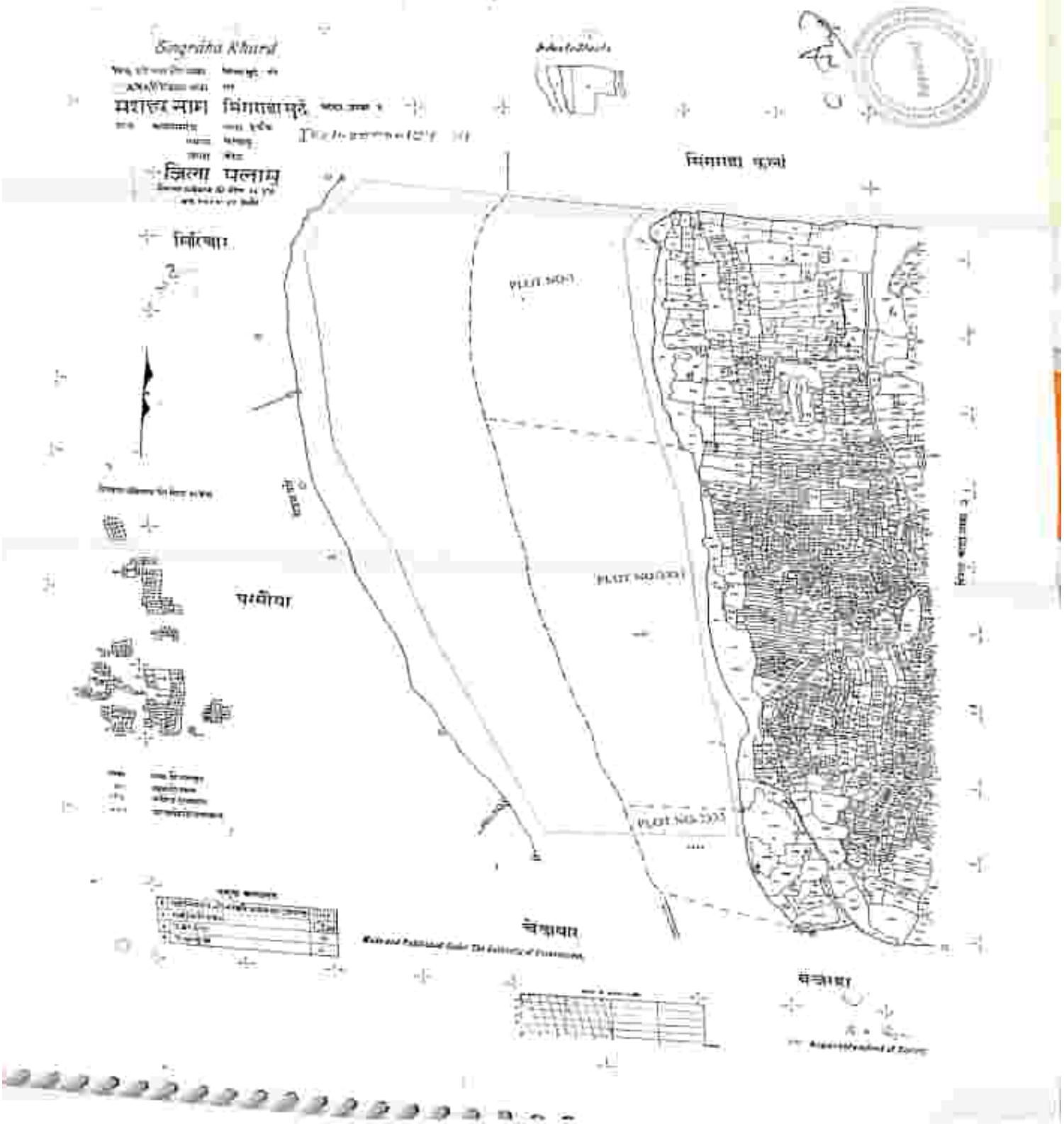
PLOT NO-504
चतरभोगा
कुण्ड


Singrahe Nalah
जिला पलामू
फकरासा
कलीं
माता पाटन
PLOT NO-365
PLOT NO-365
सिंगराहा सुई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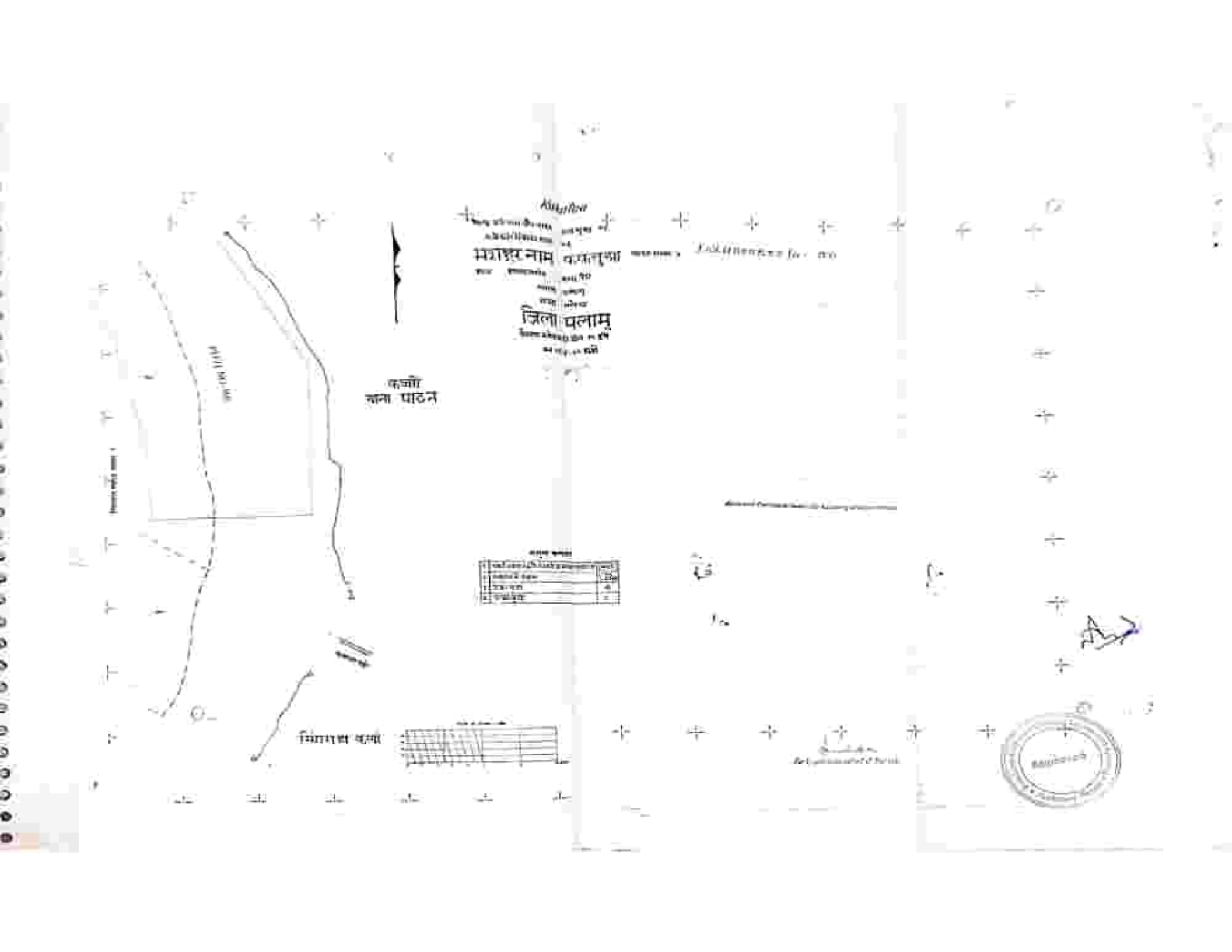
जिला पलामू
सिंगाराबाद खुर्द
PLOT NO-1
PLOT NO-2
PLOT NO-3
चेरोआपर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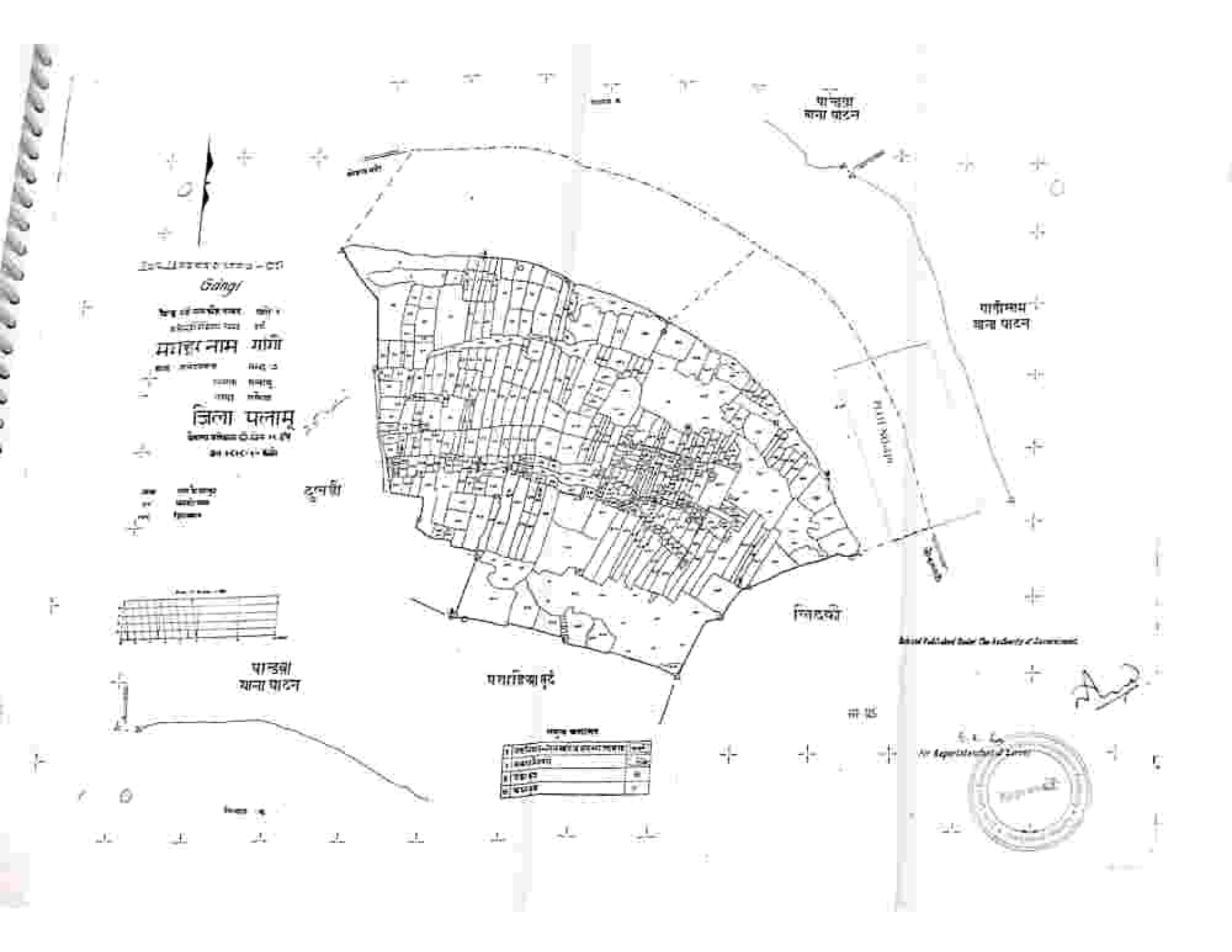
कच्चा
खना पाटन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जिला पलामू
पाण्डवा
थाना पाटन
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थाना पाटन
गांगीमम
थाना पाटन
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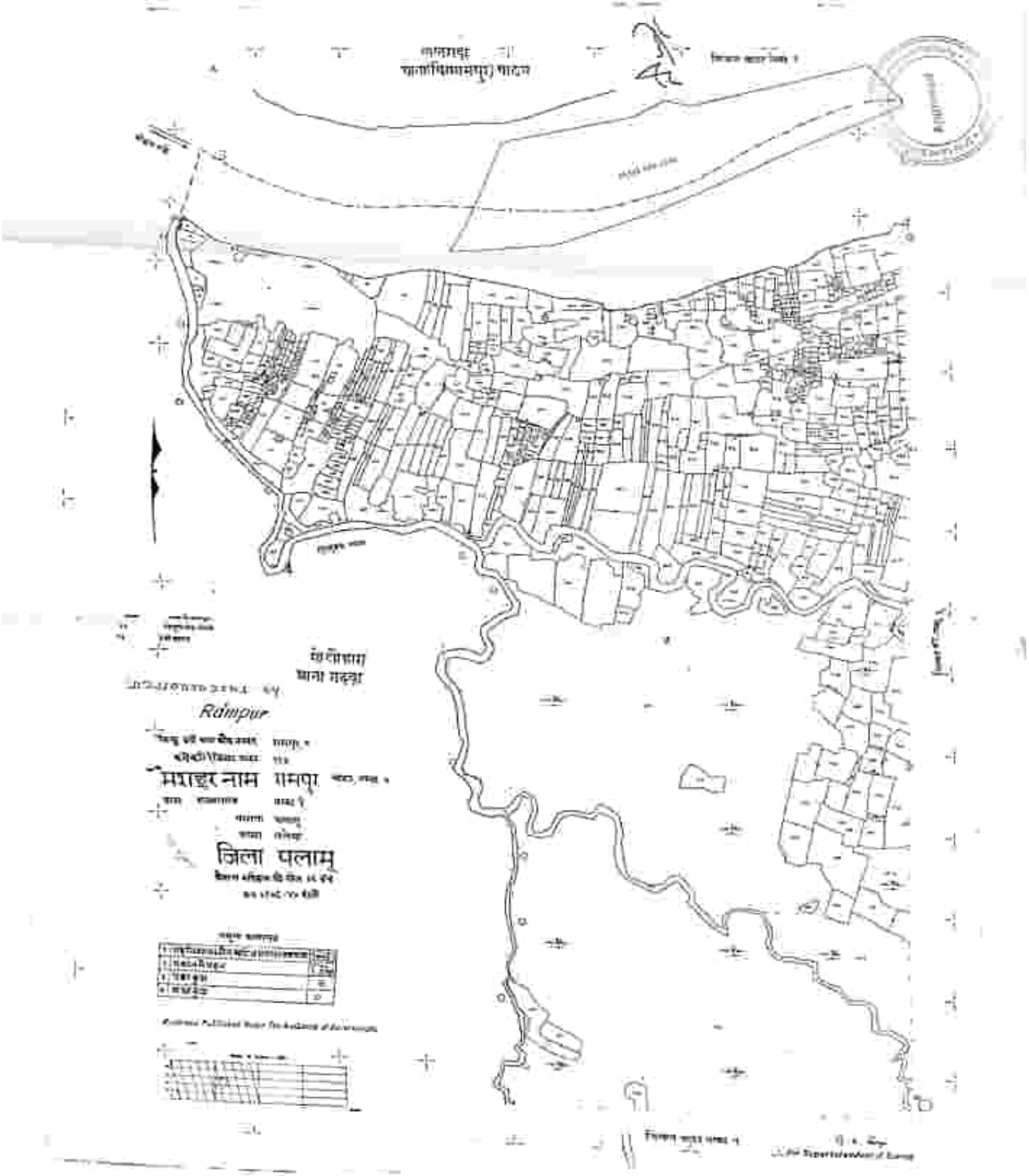
सिलदमी
पलाशिया बुर्द


Rampur
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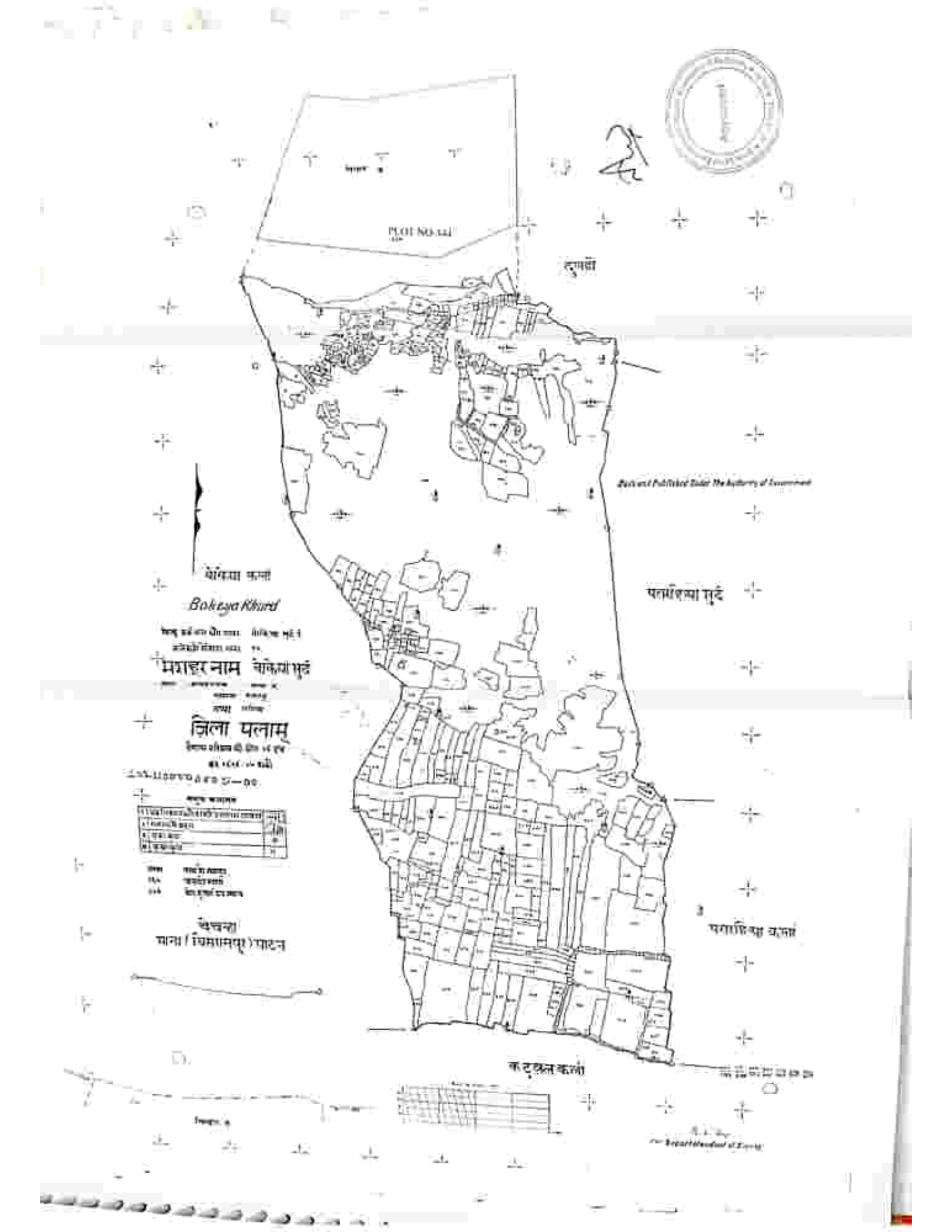
Rampur

मशहूर नाम रामपुर

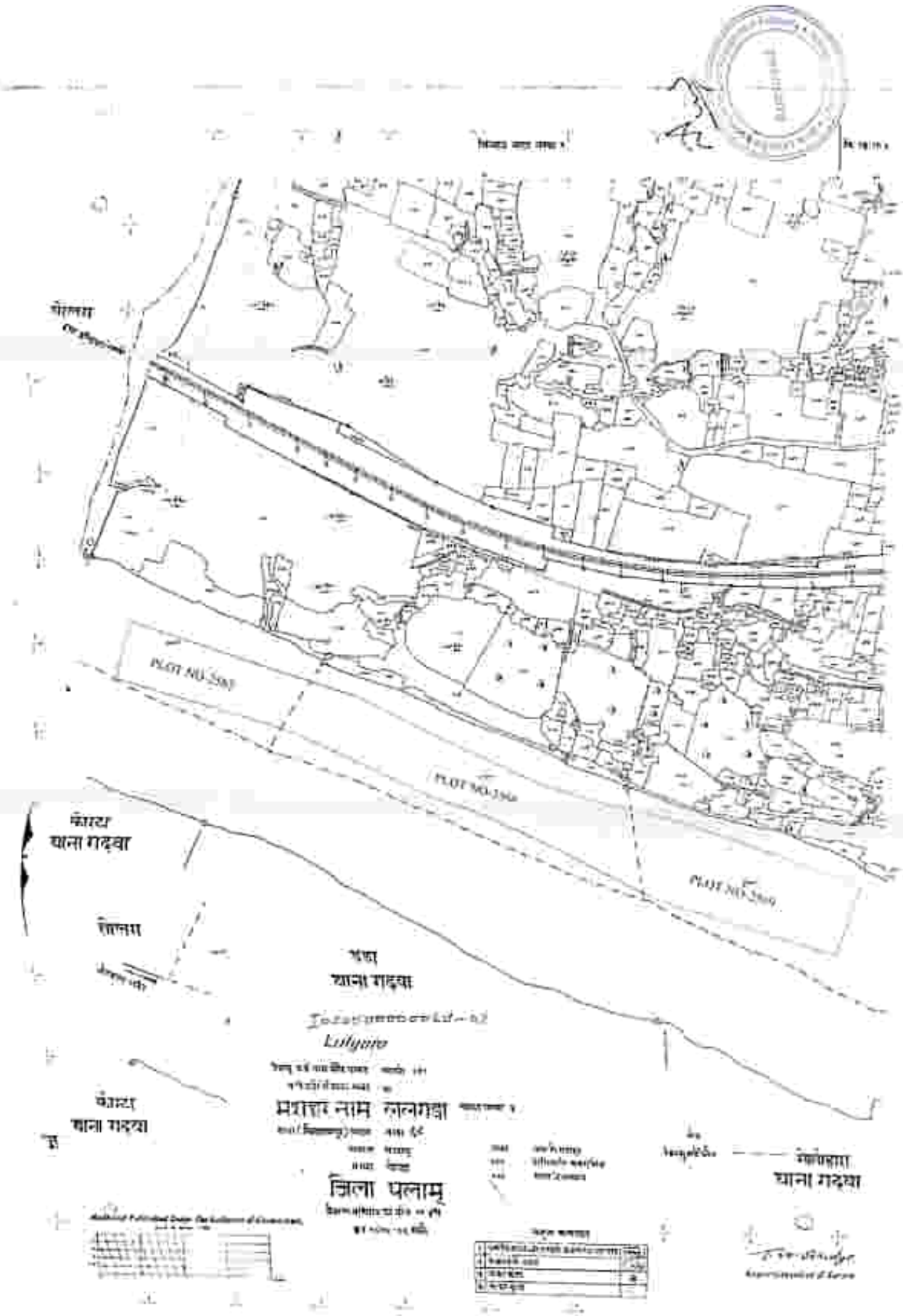
ज़िला पलामू


PLOT NO 122
दुगवां
Bokaya Khurd
बोकया खुर्द
पलासिया खुर्द
बोकया कलां
पलासिया कलां
ज़िला पलाम्
Published Under the Authority of Government

Bokaya Kalan

मशहूर नाम बोकेया कलां

जिला पलामू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PLOT NO.3980
PLOT NO.3979
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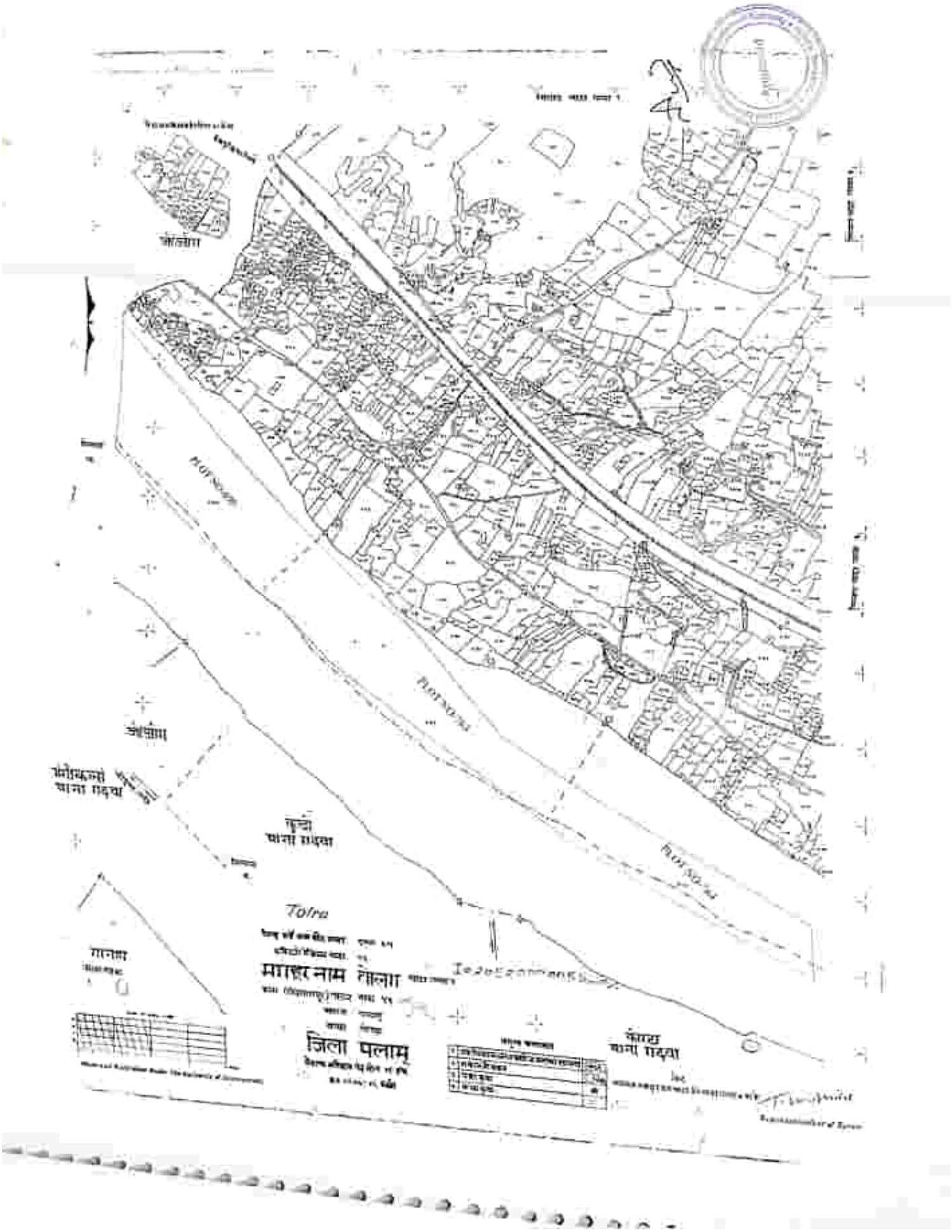
थाना गढ़वा
पोलसरा
थाना गढ़वा
कोटरा
थाना गढ़वा
Lohiyara
जिला पलामू
पोलसरा
थाना गढ़वा


Tofra
जिला पलामू

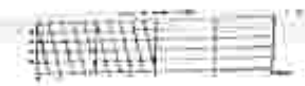
Kathauzambersa

महाल नाम घोलढ्यामानबामा

जिला पलामू

कोरमाडू
परगना चेलौंजा
थाना मोनाथपुर

मुखापी
परगना चेलौंजा
थाना मोनाथपुर



धनाडीह
परगना चेलौंजा
थाना मोनाथपुर

बोरधा

PLOT NO - 1284

PLOT NO - 1285

भलनीया