DISTRICT SURVEY REPORT
OF
JALPAIGURI DISTRICT

(For Mining of Minor Minerals)
As per Notification No.S.O.141 (E) New Delhi Dated 15th of January 2016, S.O.3611 (E) New Delhi Dated 25th of July 2018 and Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) January 2020, Issued by Ministry of Environment, Forest and Climate Change (MoEF & CC)



SEIAA Approval Date:

2nd September 2022

(As published in the Minutes of 72nd Meeting of SEIAA under Miscellaneous Section, Point No.1)

August, 2022

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No. 1333 MD

Kolkata, 6th January, 2022.

TO WHOM IT MAY CONCERN

This is to certify that DSRs of concerned districts of West Bengal have been duly validated by respective district authorities and their suggestions/inputs, if any, have been duly incorporated in the DSRs. The DSRs have been finally scrutinised and accepted by the scrutiny committee of DMM, WB and the same have been forwarded to the Dept. of Industry, Commerce and Enterprises along with respective scrutiny reports for onward transmission to SEAC for necessary action.

Director of Mines and Minerals

Govt. of West Bengal

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Abbreviations

% DEP – Departures

° C – Degree Centigrade

BGL – Below Ground Level

CD - Community Development

Cft- Cubic Feet

CGWB - Central Ground water Board

CRIS - Customized Rainfall Information System

Cum - Cubic meter

DGMS - Directorate General of Mines Safety

DGPS - Differential Global Positioning system.

DL&LRO - District Land & Land Reform officer

DSR - District Survey Report

EC – Environmental Clearance

EIA- Environment Impact Assessment

EMGSM - Enforcement and Monitoring Guideline for Sand Mining

ENVIS - Environmental Information System

ft – Feet

GIS - Geographical Information System

GMEC - Global Management and Engineering Consultant

GSI - Geological Survey of India

Ha – Hectare

hr - Hour

IMD – Indian Meteorological Department

ISRO - The Indian Space Research Organization

KM - Kilometre

LISS - Linear Imaging Self-Scanning Sensor

LOI - Letter of Intent

LULC - Land Use Land Cover

m^2 - Square meter

MBT - Main Boundary Thrust

MCT - Main Central Thrust

MFT - Main Frontal Thrust

Mcum – Million Cubic Meter

MMDR - Mines & Minerals (Development and Regulation) Act

MMR - Metalliferous Mines Regulation

MOEF & CC - Ministry of Environment, forest & Climate Change

Mph- miles per hour

M-Sand - Mineral Sand

MSME - Micro, Small & Medium Enterprises

Mt - Metric Ton

MT – Million Tons

NGT - National Green Tribunal

NH – National Highway

NIC - National Informatics Centre

OC - Officer In Charge

OGL - Original Ground level

PSU - Public Sector Unit

R/F – Rain Fall

SSMG - Sustainable Sand Mining Guidelines

WBMDTCL- West Bengal Mineral Development and Trading Corporation Limited

The WBMMCR 2016 – The West Bengal Minor Mineral Concession Rules, 2016

Definitions

Riverbed: A riverbed is the area between two banks of river where sediment deposited. During the normal flow period, river water is contained in and flows along the riverbed. However, during a flood, the river overflows the riverbed and flows onto the floodplain.

Sandbars: The sandbar is the ridge of sand or coarse sediment that is built over a period of time.

Pre monsoon Sandbars: Sandbars which are identified from satellite imagery of pre monsoon period.

Post monsoon Sandbars: Sandbars which are identified from satellite imagery of post monsoon period.

Restricted Area: Sandbars or part of sandbars which are falling within restricted area. As per the Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) 2020 the restricted zone for mining is a distance from the bank is ¼th of river width and not be less than 7.5 meters. Also, there is a no mining zone 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. No mining zone has been marked for an area up to a width of 100 meters from the active edge of embankments.

Potential Zone: Sandbars which are falling within the central $3/4^{th}$ part of the riverbed and which are not falling within the restricted area.

Potential Block: Each individual sand bars of potential zone is Potential Block.

River bed occurrence: River bed occurrence means sand, stone, boulder, pebbles, gravel accumulated in the river bed by natural phenomenon.

Replenishment: Quantum of sand deposited in a mined out void during monsoon period.

Aggradations: Aggradation (or alluviation) is the term used in geology for the increase in land elevation, typically in a river system, due to the deposition of sediment. Aggradation occurs in areas in which the supply of sediment is greater than the amount of material that the system is able to transport.

Act: It means the Mines and Minerals (Development and Regulation) Act, 1957(67 of 1957), as subsequently amended.

Mineral: It means minor minerals as defined in clause (e) of section 3 of the Act.

Sand: A natural resource, is a minor mineral as defined under S 3(e) of the Mines and Minerals (Development and Regulation) Act, 1957 (" MMDR Act").

Lease: It means a mining lease granted under West Bengal Minor Mineral Concession Rules, 2016.

Mining: Excavation of mineral by manual method or using machineries.

EXECUTIVE SUMMARY

Jalpaiguri district is situated between 26°16' and 27°0' N latitudes and 88°4' and 89°53' E longitudes in the state of West Bengal. The district was established in 1869 in British India. The headquarters of the district are in the Indian city of Jalpaiguri, which is also the divisional headquarters of North Bengal. Jalpaiguri district earlier had three sub-divisions – Jalpaiguri Sadarsubdivision, Mal subdivision and Alipurduar subdivision. Alipurduar district was created in June 2014 and Jalpaiguri district was left with two subdivisions – Jalpaiguri Sadar and Mal. The district is divided into seven assembly constituencies: Dhupguri, Maynaguri, Rajganj, Jalpaiguri, Matiali, Mal and Nagrakata.

The District Survey Report for Jalpaiguri district has been prepared as per Ministry of Environment, Forests & Climate Change (MoEF& CC) guidelines. This report will guide the systematic and scientific mining of major and minor mineral of the district. Report highlighted the district profile with respect to its geographical position, its area of extent, soil characteristic, land use patter, physiography of the district and mineral potentiality.

The Jalpaiguri district is holding mineral potentiality with respect to minor mineral deposits. Minor minerals which are mining actively in the district are sand and gravel from river beds.

Jailpaiguri district forms a part of the Sub-Himalayan Zone. This foot hill zone rises from the alluvial plain on the south, gradually gains elevation and ruggedness northwards to a steep range with altitudes 1700m and above at the Bhutan border. The maximum relief in the area is about 1550 m. The drainage is controlled by the general slope of the terrain, as a number of southerly flowing nalas with steep gradients drain the area.The major sand producing river of the Jalpaiguri district is Teesta, Mahananda, Jaldhaka and Angabarsha Rivers. These rivers and its tributary rivers are forming the main catchment area.

The district is currently generating revenue from mining of minor minerals such as sand, Gravel and gravels from the riverbed. Total revenue generated in the district from minor minerals during the period of April 2017 to March 2021 is Rs. 20.66 crores.

The occurrence of riverbed sand and gravel in the district has been established by Directorate of Mines and Minerals, Government of West Bengal and others in previous instances. It requires further systematic and scientific approach to quantify the resource along with their grade assessment. This report recommend to undertake detail exploration (G2 level) 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.

1. Preface

The need for District Survey Report (DSR) have been necessitated by Ministry of Environment, Forest and Climate Change(MoEF&CC) vide there Notification No. 125 (Extraordinary, Part II Section 3, Sub-section ii), S.O. 141 (E), dated 15th January 2016. The notification was addressed to bring certain amendments with respect to the EIA notification 2006 and in order to have a better control over the legislation. District level committee's have been introduced in the system. As a part of this notification, preparation of District Survey Reports has been introduced. Subsequently, MOEF& CC has published Notification No. 3611 (E), dt. 25th July, 2018 regarding inclusion of the "Minerals Other than Sand" and format for preparation of the DSR has been specified. Monitoring Guidelines for Sand Mining (EMGSM) January 2020, Issued by MoEF& CCis 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 141 (E), S O 3611 (E) and other sand mining guidelines published by MOEF& CC time to time as well as the requirement specified in WBMMCR, 2016.

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, areas of environmental sensitivities etc. The DSR would also help to estimate the annual rate of replenishment wherever applicable.

Preparation of this DSR involved both primary and secondary data generation. The primary data generation involved the site inspection, survey, ground truthing etc. while secondary data has been acquired through various authenticated sources and satellite imagery studies. The secondary data related to district profile, local geology, mineralization and other activities are available in rather a piecemeal fashion.

The district survey report of Jalpaiguri district also describes the general geographical profile of the district, distribution of natural resources, livelihood, climatic condition, inventory of minor minerals and revenue generation.

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2. Introduction

The District Survey Report of Jalpaiguri District has been prepared as per the guide line of Ministry of Environment, Forests & Climate Change (MoEF& CC), Government of India vide Notification S.O.-1533(E) dated 14th Sept, 2006 and subsequent MoEF& CC Notification S.O. 141(E) dated 15th Jan, 2016. This report shall guide systematic and scientific utilization of natural resources, so that present and future generation may be benefitted at large. Further, MoEF& CC published a notification S.O. 3611(E) Dated 25th July, 2018 and recommended the format for District Survey Report.

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 estimation 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.Beside the sand mining, the DSR also include the potential development scope of in-situ minor minerals.

The objectives of the District Survey Report are as follows:

1. To identify and quantify minor mineral resources for its optimal utilization.
2. To regulate sand and gravel mining, identification of site specific end-use consumers and reduction in demand and supply gaps.
3. To facilitate use information technology (IT) for surveillance of the sand mining at each step.
4. To enable environmental clearance for cluster of sand and gravel mines.
5. To restrict illegal mining.
6. To reduce occurrences of flood in the area.
7. To maintain the aquatic habitats.
8. To protect ground water in the area by limiting extraction of material in riverbeds to an elevation above the base flow.
9. To maintain data records viz. details of mineral resource, potential area, lease, approved mining plan, co-ordinates of lease hold areas, and revenue generation.
10. To design a scientific mining plan and estimate ultimate pit limit.
11. To frame a comprehensive guideline for mining of sand and other minor minerals.

The District Survey Report (DSR) comprises secondary data on geology, mineral resources, climate, topography, land form, forest, rivers, soil, agriculture, road, transportation, irrigation etc of the district collected from various published and un-published literatures and reports as well as various websites. Data on lease and mining activities in the district, revenue etc. have been collected from the DL&LRO office of the district and from West Bengal Mineral Development Corporation Limited.

2.1 Statutory Framework

Ministry of Environment, Forest and Climate Change (MoEF& CC) has published several notifications time to time to formulate and implement the District Survey Report (DSR) for every district. Statutory Frameworkandits legal aspect with respect to DSR is tabulated in Table 2.1.

Table No. 2.1: Statutory Framework and guidelines on DSR with time scale

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 purview of EIA, the MoEF&CC issued EIA Notification SO 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"; and Hon'ble National Green Tribunal, order dated the 13th January, 2015 in the matter regarding sand mining has directed for making a policy on environmental clearance for mining leases in cluster for minor Minerals.
2016	The MoEF&CC in compliance of above Hon'ble Supreme Court's and NGT'S order has prepared "Sustainable Sand Mining Guidelines (SSMG), 2016" in consultation with State governments, detailing the provisions on environmental clearance (EC) for cluster, creation of District Environment Impact Assessment Authority, preparation of District survey report and proper monitoring of minor mineral. There by issued Notification dated 15.01.2016 for making certain amendments in the EIA Notification, 2006, and made mandatory to obtain EC for all minor minerals. Provisions have been made for the preparation of District survey report (DSR) of River bed mining and other minor minerals.
2016	West Bengal Minor Minerals Concession Rules,2016 amended the Mines and Minerals (Developmentand Regulation) Act, 1957 (Act 67 of 1957), to make the rules regulating the grant of mining licenses, prospecting license-cum-mining leases and mining leases in respect of minor minerals by auction process.The rule also incorporates EIA 2016 also includes SSMG 2016 for minor mineral mining.

Year	Particulars
2018	MoEF& CC published a notification S.O. 3611(E) Dated 25th July, 2018 and recommended the format for District Survey Report .The notification stated about the objective of DSRi.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 and Monitoring Guidelines for Sand Mining (EMGSM) 2020 has been published 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.

Important statutory Guidelines for sand or gravel mining:

i. The West Bengal Minor Minerals Concession Rules (WBMMCR), 2016:

1) (a) No person shall undertake mining operation in any area prohibited by the 'Stale Government in the public interest by notification in the *Official Gazette*.

Provided that nothing in the sub-rule shall affect any mining operation undertaken in any area in accordance with the terms and conditions of a mining lease or mineral concession already granted.

(b) No person shall transport or store or cause to be transported or stored any mineral otherwise than in accordance with the provisions of these rules and the West Bengal Minerals (Prevention of Illegal Mining, Transportation and Storage) Rules, 2002.

(2) No minor mineral coming out in course of digging of wells or excavation of tanks shall be disposed of by the person digging or excavating without informing the District Authority as well as the Executive Officer of the *Panchayat Samiti* or the Executive Officer of the Municipality concerned, as the case may be, about such occurrence.

Provided that disposal of such minor mineral may be allowed on pre-payment of prices of such minor mineral at the prevailing market rate as determined on the basis of the rates published by the Public Works Department / concerned department of the State Government for the concerned area from time to time.

(3) No mining of river bed occurrences shall be allowed within 300 meters, upstream and downstream, measured from the centre line of any bridge, regulator or similar hydraulic structure and from the end point of bank protection works.

(4) No river bed mining shall be allowed beneath 3 meters of the river bed or ground water Ievel, whichever is less.

(S) No mining operation in case of river bed occurrence shall be done within a distance of three (3) kilometers of a barrage axis or dam on a river unless otherwise permitted by the concerned Executive Engineer or Revenue Officer or authorized officer and such distance shall be reckoned across an imaginary line parallel to the 'barrage, or dam axis, as the case maybe.

(6) No extraction of river bed occurrence shall 'be allowed beyond the central one third of the river bed, or keeping a distance of 100 meter from the existing bank line whichever is less, unless otherwise permitted by the concerned Executive Engineer or Revenue Officer.

(7) No extraction of minerals other than river bed occurrence shall be allowed within fifty (50) meters from any road, public structure, embankment, railway line, bridge canal, road and other public works or buildings.

(8) No mining lease shall be granted without proof of existence of mineral contents in the area for which the application for a mining lease has been made in accordance with such parameters as may be prescribed by the Government from time to time.

N.B- The aforesaid application for mining lease shall succeed the competitive bidding for mining lease for a specified mineral(s).

ii. Sustainable Sand Mining Management Guidelines, 2016 (MoEF& CC)

a) Parts of the river reach that experience deposition or aggradation 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 aggradation problem.

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

c) Sand and gravel may be extracted across the entire active channel during the dry season.

d) Abandoned stream channels on terrace and inactive flood plains be preferred rather than active channels and their deltas and flood plains. Stream should not be diverted to form inactive channel.

e) Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.

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

g) Segments of braided river system should be used preferably falling within the lateral migration area of the river regime that enhances the feasibility of sediment replenishment.

h) Sand and gravel shall not be extracted within 200 to 500 meter from any crucial hydraulic structure such as pumping station, water intakes, and bridges. The exact distance should be ascertained by the local authorities based on local situation. The cross-section survey should cover a minimum distance of 1.0 km upstream and 1.0 km downstream of the potential reach for extraction. The sediment sampling should include the bed material and bed material load before, during and after 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.

i) 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.

Flood discharge capacity of the river could be maintained in areas where there are 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.

k) Alternatively, off-channel or floodplain extraction is recommended to allow rivers to replenish the quantity taken out during mining.

l) The Piedmont Zone (Bhabhar area) particularly in the Himalayan foothills, where riverbed material is mined, this sandy-gravelly track constitutes excellent conduits and holds the greater potential for ground water recharge. Mining in such areas should be preferred in locations selected away from the channel bank stretches.

m) Mining depth should be restricted to 3 meter and distance from the bank should be 3 meter or 10 percent of the river width whichever less.

The borrow area should preferably be located on the river side of the proposed embankment, because they get silted up in course of time. For low embankment less than 6 m in height, borrow area should not be selected within 25 m from the toe/heel of the embankment. In case of higher embankment the distance should not be less than 50 m. In order to obviate development of flow parallel to embankment, cross bars of width eight times the depth of borrow pits spaced 50 to 60 meters centre-to-centre should be left in the borrow pits.

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

iii. Enforcement & monitoring guidelines for sand mining, 2020 (MoEF& CC)

The ministry of environment forest & climate change formulated the sustainable sand management guidelines 2016 which focuses on the management of sand mining in the country.

but in the recent past, it has been observed that apart from management and systematic mining practices there is an urgent need to have a guideline for effective enforcement of regulatory provision and their monitoring. section 23 c of mmdr, act 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.

a) Parts of the river reach that experience deposition or aggradation shall be identified. the leaseholder/ environmental clearance holder may be allowed to extract the sand and gravel deposit in these locations to manage aggradation problem.

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

c) Sand and gravel may be extracted across the entire active channel during the dry season.

d) Abandoned stream channels on the terrace and inactive floodplains be preferred rather than active channels and their deltas and flood plains. the stream should not be diverted to form the inactive channel.

e) Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.

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

g) Segments of the braided river system should be used preferably falling within the lateral migration area of the river regime that enhances the feasibility of sediment replenishment.

h) Sand and gravel shall not be extracted up to a distance of 1 kilometre (1 km) from major bridges and highways on both sides, or five times (5x) of the span (x) of a bridge/public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side.

i) The sediment sampling should include the bed material and bed material load before, during and after the extraction period. develop a sediment rating curve at the upstream end of the potential reach using the surveyed cross-section. using the historical or gauged flow rating curve, determine the suitable period of high flow that can replenish the extracted volume. Calculate the extraction volume based on the sediment rating curve and high flow period after determining the allowable mining depth.

j) Sand and gravel could be extracted from the downstream of the sand bar at river bends. Retaining the upstream one to two-thirds of the bar and riparian vegetation is accepted as a method to promote channel stability.

k) The flood discharge capacity of the river could be maintained in areas where there is a significant flood hazard to existing structures or infrastructure. sand and gravel mining may be allowed to maintain the natural flow capacity based on surveyed cross-section history. Alternatively, off-channel or floodplain extraction is recommended to allow rivers to replenish the quantity taken out during mining.

l) The piedmont zone (bhabhar area) particularly in the himalayan foothills, where riverbed material is mined, this sandy-gravelly track constitutes excellent conduits and holds the greater potential for groundwater recharge. mining in such areas should be preferred in locations selected away from the channel bank stretches.
m) Mining depth should be restricted to 3 meters and distance from the bank should be ¼th or river width and should not be less than 7.5 meters.
n) The borrow area should preferably be located on the riverside of the proposed embankment because they get silted in the course of time. for low embankment, less than 6 m 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 50 m. in order to obviate the development of flow parallels to the embankment, crossbars of width eight times the depth of borrow pits spaced 50 to 60 meter center-to-center should be left in the borrow pits.
o) Demarcation of mining area with pillars and geo-referencing should be done prior to the start of mining.
p) A buffer distance /un-mined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed/prescribed by the regulatory authority shall be maintained.
q) A buffer distance /unmined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed/prescribed by the regulatory authority shall be maintained.
r) River bed sand mining shall be restricted within the central 3/4th width of the river/rivulet or 7.5 meters (inward) from river banks but up to 10% of the width of the river, as the case may be and decided by regulatory authority while granting environmental clearance in consultation with irrigation department. regulating authority while regulating the zone of river bed mining shall ensure that the objective to minimize the effects of riverbank erosion and consequential channel migration are achieved to the extent possible. in general, the area for removal of minerals shall not exceed 60% of the mine lease area, and any deviation or relaxation in this regard shall be adequately supported by the scientific report.
s) Mining plan for the mining leases (non-government) on agricultural fields/patta land shall only be approved if there is a possibility of replenishment of the mineral or when there is no riverbed mining possibility within 5 km of the patta land/khatedari land. for government projects mining could be allowed on patta land/khatedari land but the mining should only be done by the government agency and material should not be used for sale in the open market.

The minerals reserve for riverbed 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 riverbed, mineable material per hectare area available for actual mining shall not exceed the maximum quantity of 60,000 MT per annum.

Demand and Utilisation of Sand

Sand is a multi-purpose topographical 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 beds and brick earth mining for making raw bricks are the main mining activities in the district. With a spurt in construction of real estate sectors and various govt. sponsored projects, the demand for both sand and bricks has increased manifold. The extraction of sand is carried out either manually or through semi- mechanized system. The depth of mining for both river bed sand and brick earth is restricted due to statutory provision in the regulations pertaining to conservation and development of minor minerals.

River sand mining is a common practice as habitation concentrates along the rivers and the mining locations are preferred near the markets or along the transportation route, for reducing the transportation cost.

In the real world, there are a lot of situations where we can find uses of sand. Followings are the common sand uses.

1. While bunging metal, we can mix sand with clay binder for frameworks used in the foundries.
2. Sand can be used for cleaning up oil leak or any spill by dredging sand on that spill. The material will form clumps by soaking up, and we can quickly clean the mess.
3. Sand can be used as a road base which is a protective layer underneath all roads
4. Industrial sand is used to make glass, as foundry sand and as abrasive sand.
5. One creative usage of sand is serving as a candle holder. We can try putting some sand before pouring tea light or any candle in a glass. It holds the candle still and refrain the candle from rolling by giving it an excellent decoration.
6. Adds texture and aesthetic appeal to space.
7. Sand is mostly pure to handle, promptly available and economically wise.
8. We use sand in aquariums, fabricating artificial fringing reefs, and in human-made beaches
9. Sandy soils are ideal for growing crops, fruits and vegetables like watermelon, peaches, peanuts, etc.
10. Sand can light a path by filling mason jars with sand and tea light which is another inexpensive 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 are way weaker and lesser in weight than blocks made of clay mixed with sand.

2.2. Methodology of DSR Preparation

The steps followed during the preparation of District Survey Report are given in Figure 2.1. The individual steps are discussed in following paragraphs.

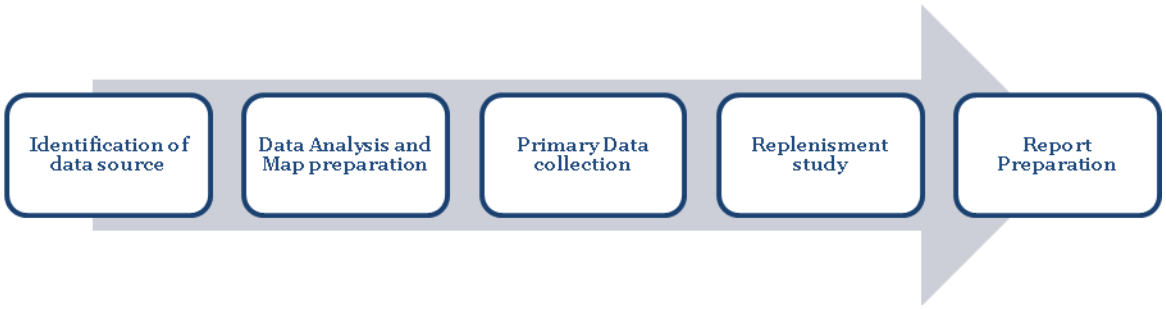


Figure 2.1: Steps followed in preparation of DSR

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

2.2.2 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 Composite) 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. Pictorial descriptions of Land Use classification are explained in Figure 2.2.

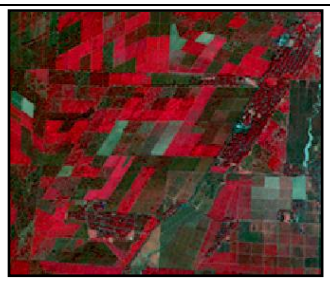
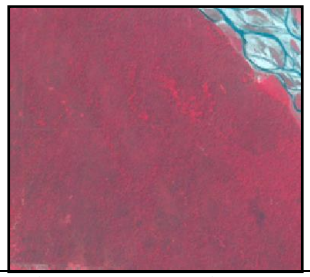
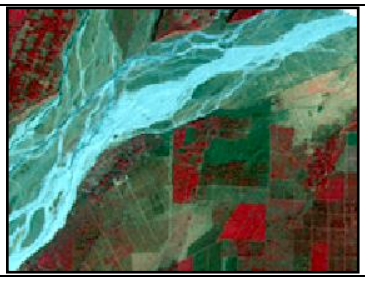
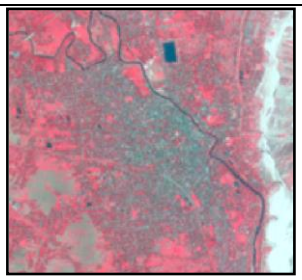
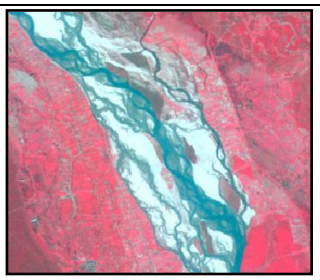
	
Agricultural Land - Based on their Geometrical shape, Red and Pink color tone, Agricultural Land has been identified.	**Vegetation Covered Area** - Area with continuous Dark Red color tone, Vegetation Covered Area has been classified.
	
Agricultural Fallow Land - Based on their Geometrical shape, Yellowish green color toned area has been identified as Agricultural Fallow Land.	**Badland Topography**- Area with Non geometrical shape and Yellowish green color tone has been identified as Bad Land Topography.
	
Settlement – Area with some geometrical shape in a Nucleated Pattern including Light Cyan Color tone has been recognized as Settlement Area.	**Water Bodies –** Area with Blue color has been categorized as Water Bodies.

Figure No.2.2: Pictorial description of Land Use Classification methods

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 Composite) via Visual Image Interpretationand then digitisation has been taken into the consideration to prepare map including all the Geomorphological features

according to their location. Pictorial descriptions of Geomorphological unit's classification are explained in Figure 2.3.

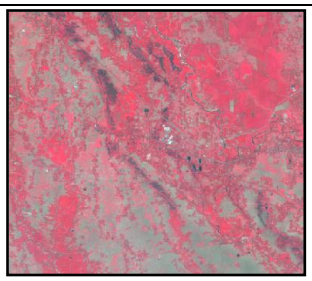
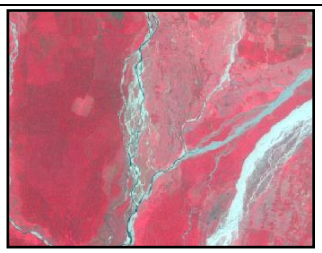
		
Hilly Region – Hilly Region has been identified based on their elevation and sharp edges of the elevated land.	**Alluvial Plain**- Alluvial plain is a largely flat landform created by the deposition of sediment over a long period. In satellite Imagery the flat land just below the Alluvial Fan has been identified as Alluvial Plain.	**Alluvial Fan** – A fan-based deposition formed by stream where the velocity is abruptly decreased. In Satellite Imagery the flat area has been identified as Alluvial Fan just below the hilly region.

Figure No.2.3: Pictorial description of Geomorphological Units Classification methods

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/Transportation Map/Drainage Map:

- Raw Data collected from **National Informatics Centre (NIC Website) during Sept 2020.**
- 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 during Sept 2020.**
- 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 during August 2020.**
- 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.

2.2.3 Primary Data Collection: To prepare DSR, capturing primary data or field data has also been carried out in the district. Field study involves assessment of the mineral resources of the district by means of pitting / trenching in specific interval. This provides clear picture of mineral matters characterization and their distribution over the area.

2.2.4 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. Therefore, there is a need for replenishment study for river bed sand in order to nullify the adverse impacts arising due to excess 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 GPS/DGPS/ Total Station to define the topography, contours and offsets of the riverbed. 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.

3.5 Report Preparation: The district survey report portrays general profile, geomorphology, land use pattern and geology of the district. The report then describes the availability and distribution of riverbed sands and other minor minerals in the district. Apart from delineation the potential mining blocks, the report also includes inventorization of the minerals, recent trends of production of minor minerals and revenue generation there from. Annual replenishment of the riverbed sand has been estimated using field observation, satellite imagery and empirical formula. The road network connecting arterial road to potential mining blocks has been identified. Potential environmental impacts of mining of these minerals, their mitigation measures along with risk assessment and disaster management plan have also been discussed. Finally, the reclamation strategy for already mined out areas is also chalked out.

3. General Profile of the district

a) General Information

Jalpaiguri district is a district of the Indian state of West Bengal. It is situated between 26° 16' and 27° 0' North latitudes and 88° 4' and 89° 53' East longitudes. The district was established in 1869 in British India. The headquarters of the district are in the Indian city of Jalpaiguri, which is also the divisional headquarters of North Bengal. Jalpaiguri district earlier had three sub-divisions – Jalpaiguri Sadarsubdivision, Mal subdivision and Alipurduar subdivision. Alipurduar district was created in June 2014 and Jalpaiguri district was left with two subdivisions – Jalpaiguri Sadar and Mal. The district is divided into seven assembly onstituencies: Dhupguri, Maynaguri, Rajganj, Jalpaiguri, Matiali, Mal and Nagrakata (http://jalpaiguri.gov.in/Home/welcomeText).

A location map of Jalpaiguri District is furnished as Figure No. 3.1.

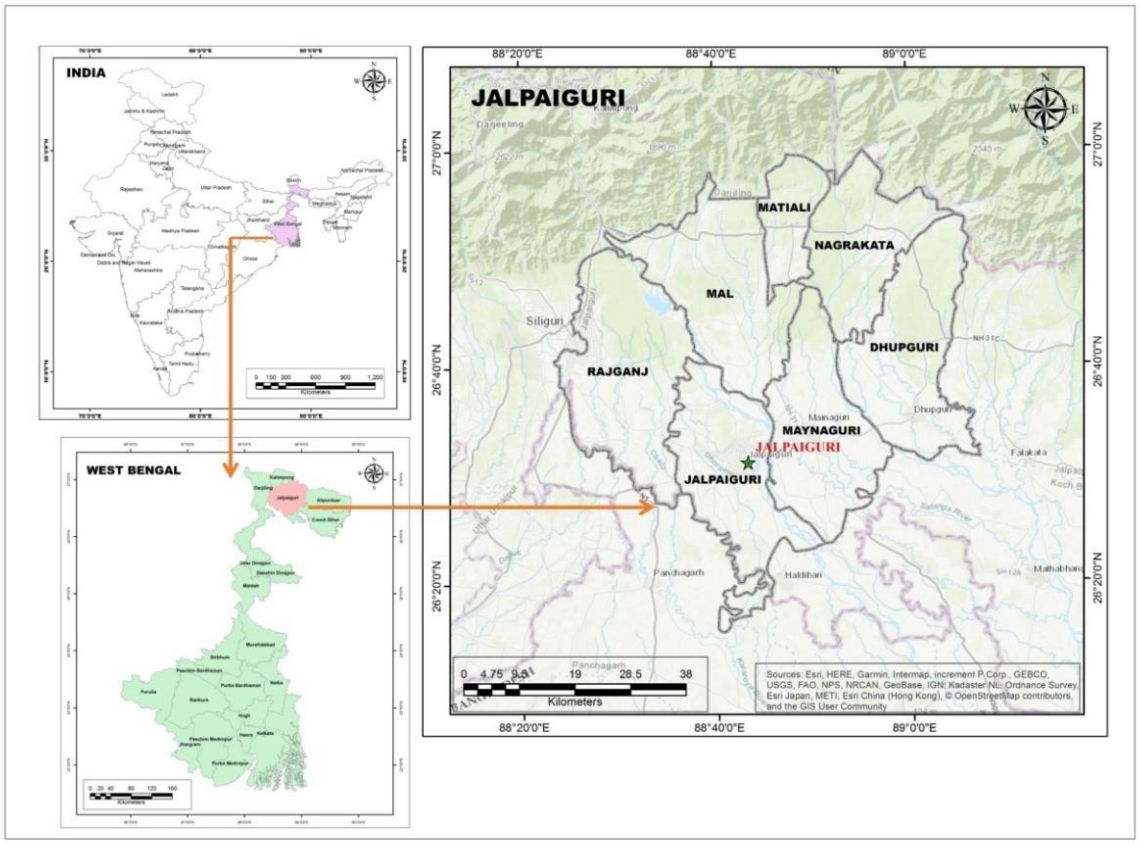


Figure No. 3.1: Location map of Jalpaiguri district *(Source: National Informatics Center and ESRI Base Map)*

Jalpaiguri is a district of North Bengal. The district situated in the northern part of West Bengal has international borders with Bhutan and Bangladesh in the north and south respectively and district borders with Darjeeling hills in the west and northwest and Alipurduar district and Cooch Behar district on the east. (https://en.wikipedia.org/wiki/Cooch_Behar_district).

A Block map of Jalpaiguri District is furnished as Figure No.3.2.

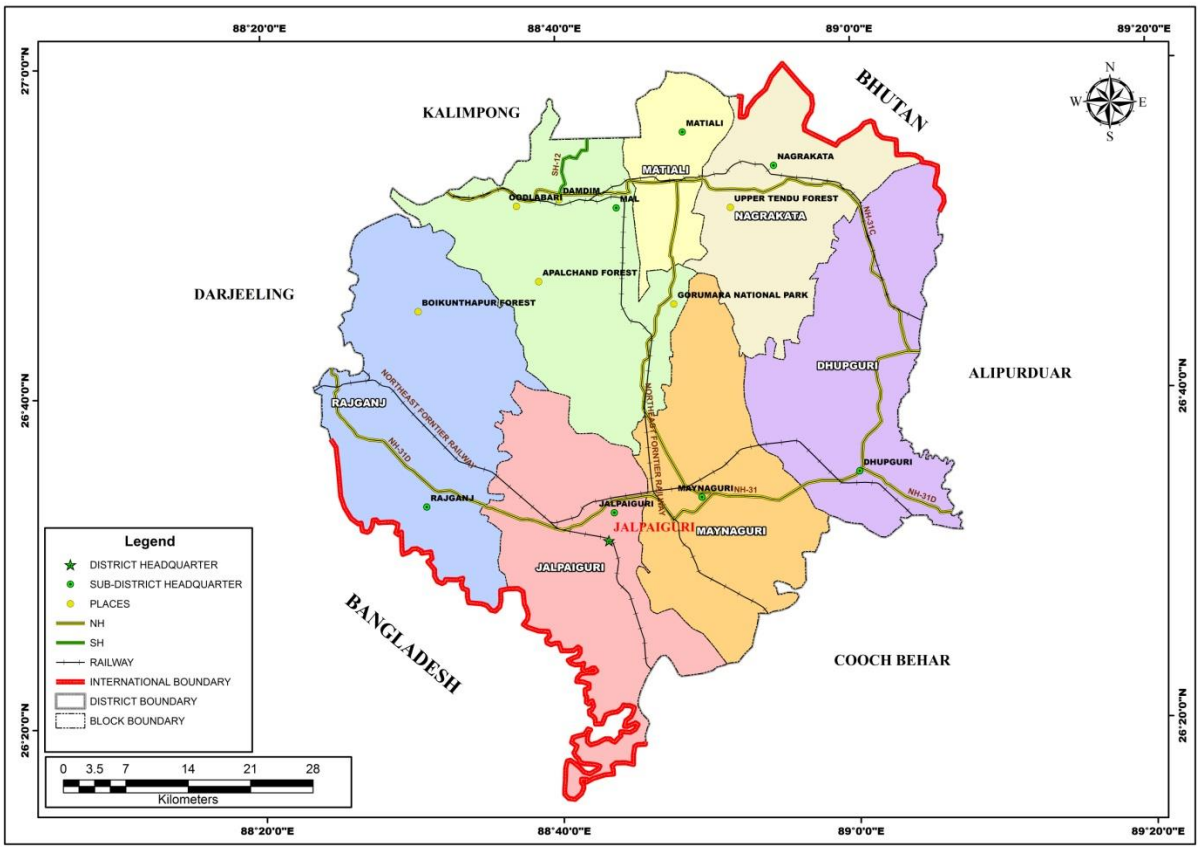


Figure No. 3.2: Block map of Jalpaiguri District *(Source: National Informatics Center)*

Total geographical area of the district is 3044 Sq km. The district is divided into seven assembly constituencies. Names of these are Dhupguri, Maynaguri, Rajganj, Jalpaiguri, Matiali, Mal and Nagrakata. There are 16 police stations in the district. Names are Banarhat, Bhaktinagar, Binnaguri (Phari), Chalsa, Dhupguri, Domohani (Phari), Gairkata, Jalpaiguri (Kotwali), Kranti Hat (Phari), Malbazar, Matelli (Phari), Mainaguri, Nagrakata, New Jalpaiguri, Patkata (Phari), Rajganj (https://en.wikipedia.org/wiki/Jalpaiguri_district).

Detail of Block of Jalpaiguri Details is furnished in Table No.3.1.



Table No. 3.1: Details of Block of Jalpaiguri District

Sub-Division	Assembly	Area (sq km.)	Police Station	C.D. Block / M / M.C.	Panchayat			In habited Villages	House-holds
					Samity	Gram	Gram Sansad	(2011)	(2011)
Jalpaiguri Sadar Sub-Div.			**6**	**4/2/1(P)**	**4**	**58**	**977**	**231**	**410305**
	Rajganj		Rajganj Bhaktinagar (P)	Rajganj	1	12	220	26	82038
	Jalpaiguri		Jalpaiguri	Jalpaiguri	1	14	227	28	73981
				Jalpaiguri (M)	-	-	-	-	26205
	Maynaguri		Maynaguri	Maynaguri	1	16	234	79	76492
	Dhupguri		Dhupguri (P) Banarhat (P)	Dhupguri	1	16	296	98	91329
			Dhupguri (P)	Dhupguri (M)	-	-	-	-	10365
			Bhaktinagar(P)	Siliguri (M.C.) (Part)	-	-	-	-	49895
Mal Sub-Div.			**3**	**3/1/0**	**3**	**22**	**368**	**160**	**122768**
	Mal		Mal	Mal	1	12	196	100	64310
			Nagrakata (P)	Mal (M)	-	-	-	-	5933
	Metiali		Metiali	Metiali	1	5	81	27	25251
	Nagrakata		Nagrakata (P) Banarhat (P)	Nagrakata	1	5	91	33	27274

*(Source: **Census, 2011**)*

b) Climate Condition

Jalpaiguri is part of monsoon climate zone of South-Eastern Asia. July (sometimes August) is the hottest month of this region with average maximum temperature of about 29 °C whereas January is coldest with 14 °C. Highest ever recorded maximum and minimum temperature are 41.3 °C and 2.1 °C in Jalpaiguri city. The average annual humidity in the district is of 82%. The annual average rainfall is 3360 mm. January is the driest month with average rainfall 9 mm and July is wettest with 818 mm. Number of rainy days are 2 to 5 during November to February and 26 to 30 days during June to September. Thunderstorms are common weather phenomenon during May. (https://www.imdpune.gov.in/library/public/Climate%20of%20WestBengal.pdf).

c) Rainfall

Details of rainfall data of five years (from 2016 to 2020) is furnished in Table No.3.2.
(https://hydro.imd.gov.in/hydrometweb/(S(1rhmye45uh1xvxryplj3fiiz5))/DistrictRaifall.aspx)

Table No. 3.2: Details of rainfall data of five years (from 2016 to 2020)

YEAR	JAN		FEB		MAR		APR		MAY		JUN	
	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP
2016	7.3	-21	2	-89	100.1	152	125	5	273.1	-20	1022	53
2017	1.9	-79	0.8	-95	83.8	111	101.3	-15	287.4	-15	631	-5
2018	0.1	-99	1	-94	47.2	19	140	17	448.5	32	672.9	1
2019	0.7	-92	21.3	-4	50.6	5	136.8	-14	270.3	-20	639.6	-11
2020	4.8	-44	31.2	41	54.6	13	159.9	1	363.7	7	971.7	35
YEAR	**JUL**		**AUG**		**SEPT**		**OCT**		**NOV**		**DEC**	
	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP
2016	1202	29	224.7	-67	679.2	39	238.7	49	0	-100	0.3	-96
2017	569.7	-39	1167	74	596.1	22	204.4	28	2.8	-84	1.2	-83
2018	745.2	-20	571.7	-15	799.9	64	90.9	-43	2.6	-86	4.7	-35
2019	1253.5	31	306.3	-54	628.3	28	128.8	-27	3.1	-81	2.7	-62
2020	1516.8	58	605	-9	1145.1	133	112.4	-36	8.6	-49	1.7	-76

(Source: Customized Rainfall Information System (CRIS), Hydromet Division, India Meteorological Department)

Note: (1) The District Rainfall in millimeters (R/F) shown below are the arithmetic averages of Rainfall of Stations under the District.
(2) % Dep. are the Departures of rainfall from the long period averages of rainfall for the District.
(3) Blank Spaces show non-availability of Data.

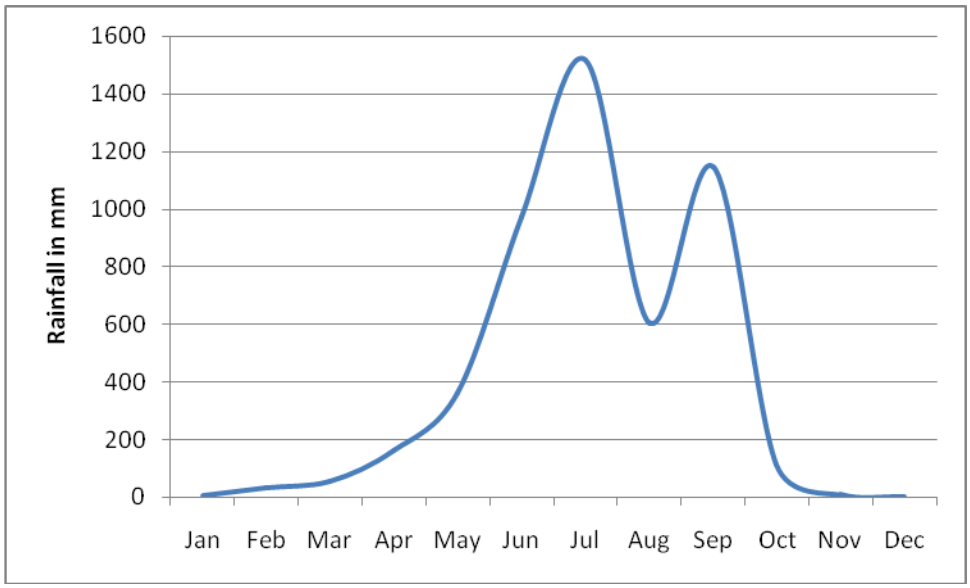


Figure No. 3.3: Graphical representation of Rainfall distribution of year 2018 of Jalpaiguri district

i. Temperature

Monthly average temperature distribution of Jalpaiguri District is furnished in Table No. 3.3. (*https://en.climate-data.org/*)

Table No. 3.3: Monthly average temperature distribution of Jalpaiguri District

	January	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
Avg. Temperature (°C)	16.6	18.9	22.8	26.2	27.3	27.6	27.8	28	27.6	25.6	21.6	18.2
Min. Temperature (°C)	9.7	11.8	15.8	19.9	22.8	24.1	24.7	24.7	24	20.9	15	10.9
Max. Temperature (°C)	23.6	26	29.9	32.5	31.8	31.2	31	31.4	31.3	30.4	28.3	25.5

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature (°F)	61.9	66	73	79.2	81.1	81.7	82	82.4	81.7	78.1	70.9	64.8
Min. Temperature (°F)	49.5	53.2	60.4	67.8	73	75.4	76.5	76.5	75.2	69.6	59	51.6
Max. Temperature (°F)	74.5	78.8	85.8	90.5	89.2	88.2	87.8	88.5	88.3	86.7	82.9	77.9

ii. Humidity, Wind speed & Wind direction

The entire district experiences a high relative humidity. The relative humidity is ranging from 76 - 82% during the monsoons. The drier months from December to February are less humid with therelative humidity ranging between 47% - 57%.

Surface winds of Jalpaiguri District are generally from the NW during the winter months. But during summer the wind direction is from the S. During the monsoon, the prevailing direction is from SE. At Jalpaiguri, the average wind speed does not generally exceed 11 Km/hour.

d) Topography & Terrain

The topography of the land is cut across by rivers, streams and hills, and covered with tea gardens and forests. Topography of the district wears a mixed look- consisting both of hilly areas and undulating vast plain.

The western part is slightly undulating and covered by paddy fields and bushy jungles, while the eastern part of the district presents a flat strip of land. The whole region is full of tea gardens and scatter forests. The entire topography is crisscrossed with streams, rivers and hills. The district topography wears a mixed look consisting both of hilly areas and undulating plains coupled with vast flat plains. Three district physiographic units can be identified in the district (a) the northern hilly terrain which is a part of the sub-Himalayan Ranges, (b) the central tract, locally called Bhaber and (c) the gently sloping alluvial plain in the south locally called Terai *(Census, 2011)*.

A Physiographic map of Jalpaiguri District is furnished as Figure No.3.4.

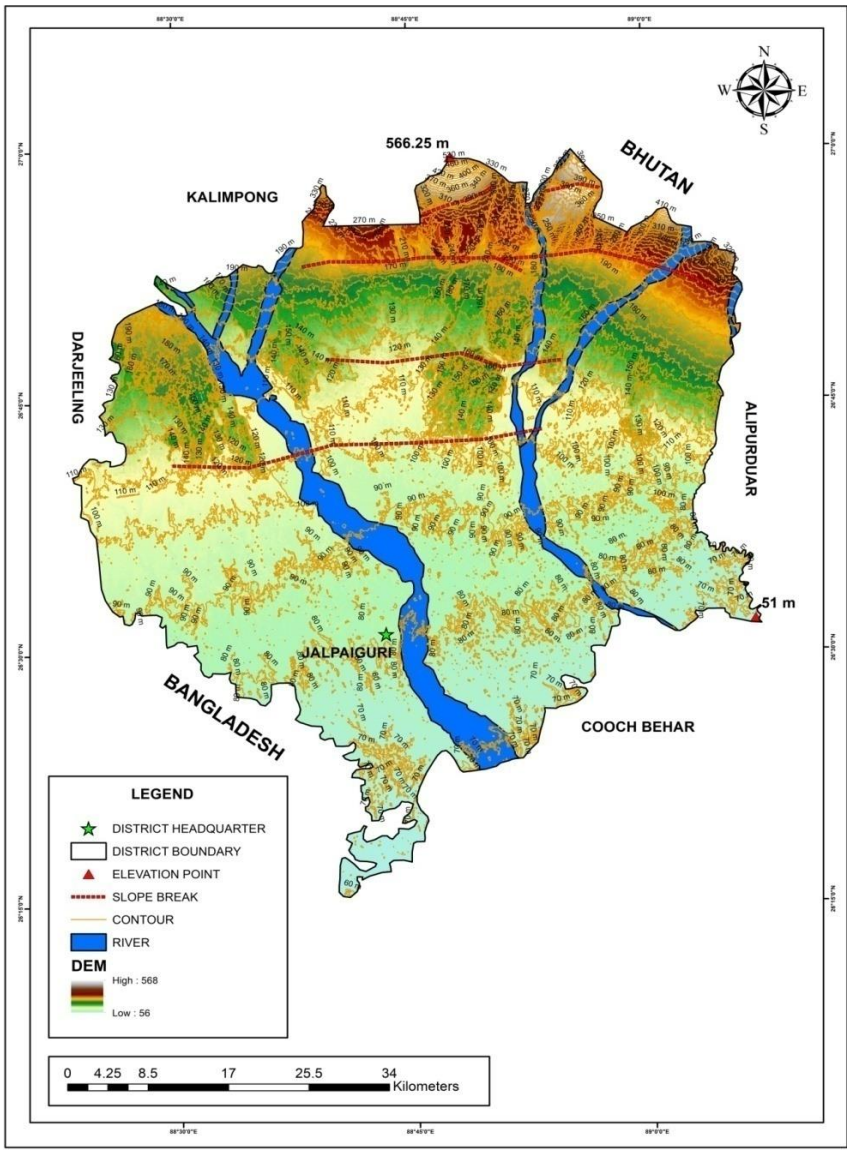


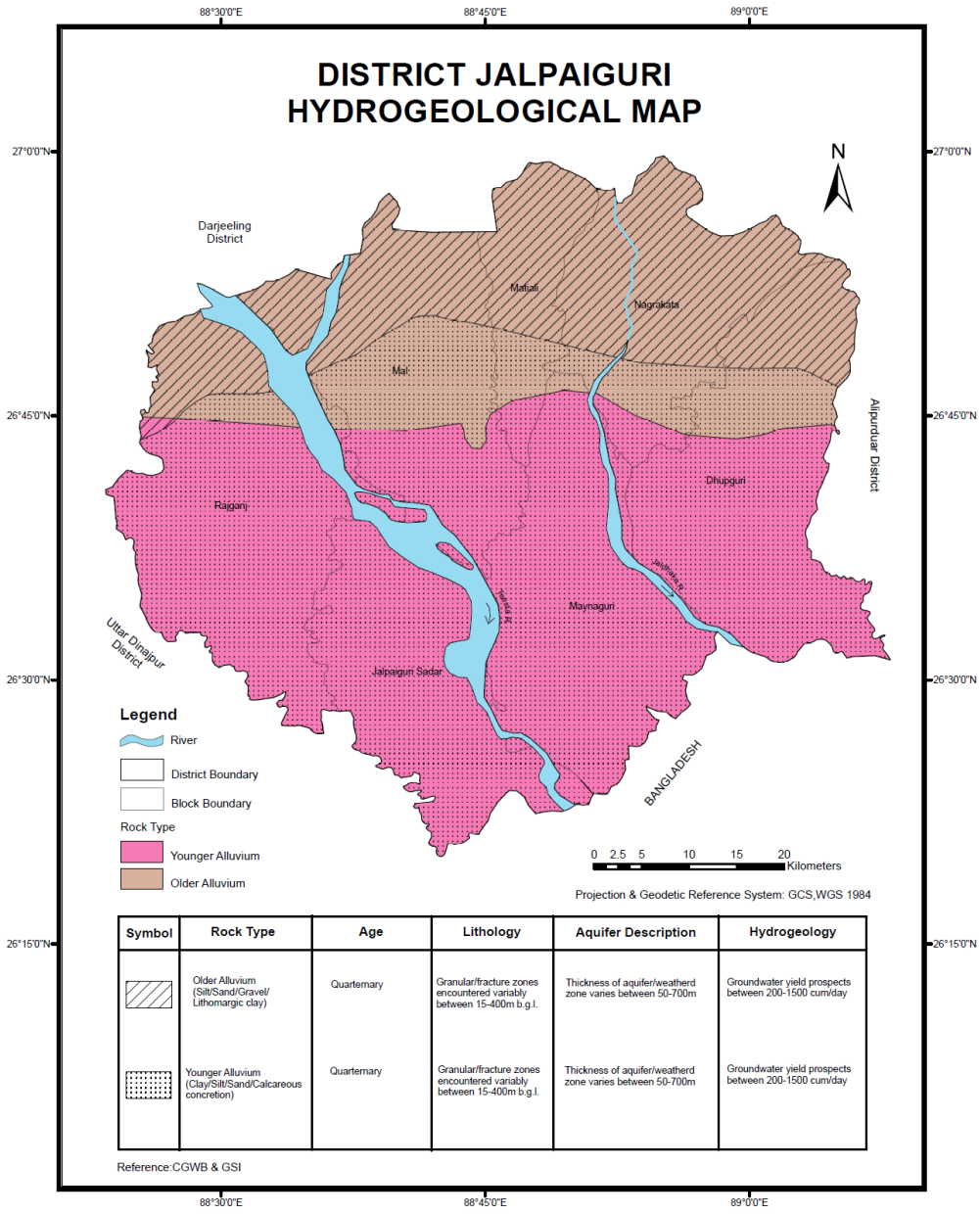
Figure No. 3.4: Physiographic map of Jalpaiguri district *(Source: Cartosat Dem)*

The above physiographic map of the Jalpaiguri District depicts a huge elevation variation from North to South. Northern part of the district shows highest elevation, which is about 530m and southern part shows elevationsbetween60 m to 80 m.

e) Water Course & Hydrology

Hydrological condition at a particular point is guided by topography, geology, and rainfall of the region. Hydrological characteristics also have changed from last decade in this region.

A hydrogeological map of Jalpaiguri district is furnished as Figure no 3.5.



Symbol	Rock Type	Age	Lithology	Aquifer Description	Hydrogeology
	Older Alluvium (Silt/Sand/Gravel/ Lithomargic clay)	Quarternary	Granular/fracture zones encountered variably between 15-400m b.g.l.	Thickness of aquifer/weatherd zone varies between 50-700m	Groundwater yield prospects between 200-1500 cum/day
	Younger Alluvium (Clay/Silt/Sand/Calcareous concretion)	Quarternary	Granular/fracture zones encountered variably between 15-400m b.g.l.	Thickness of aquifer/weatherd zone varies between 50-700m	Groundwater yield prospects between 200-1500 cum/day

Figure No. 3.5: Hydrogeological map of Jalpaiguri district

Rock types of the upper part of this region are Older Alluvium which includes Silt/sand/Gravel/Lithomargic clay and Lower part of this region are of Younger Alluvium type which includes Clay/silt/sand/ Calcareous concretion. Upper part and lower part of the district is of Quarternary age. Granular/fracture zones are encountered within 15-400 m b.g.l. in the Northern part and 15-400m b.g.l. in the southern part. Thickness of aquifer zone varies between 50-700m in North whereas in South it varies between 50-700m. Prospect of groundwater yields varies between 200-1500 cum/day. (http://wbwridd.gov.in/swid/mapimages/JALPAIGURI.pdf)

f) Ground Water Development

Under uniformly excellent water aquifer condition groundwater simulates topography. Most of the aquifer is semi-confined and unconfined in this belt. The region is spanning form east to west where as to the North to South depth to water level increase gradually. The groundwater table coincides with the surface water, so many rivers originate from the groundwater in this region. In monsoon period ground water level upper than surface water, this causes more danger for contamination.

Ground water level and water quality of the region varies from pre to post monsoon period due to recharge of rainfall.

Depth of water in wells measured by CGWB at 36 locations in district varied from 1.10 to 10.72 m bgl during pre-monsoon period and 1.00 to 7.90 m bgl during post-monsoon period (https://indiawris.gov.in/wris/#/groundWater%20(CGWB%20website%20for%20Ground%20water%20data).

Graphical representation of two wells data for pre-monsoon and post-monsoon period is furnished below.

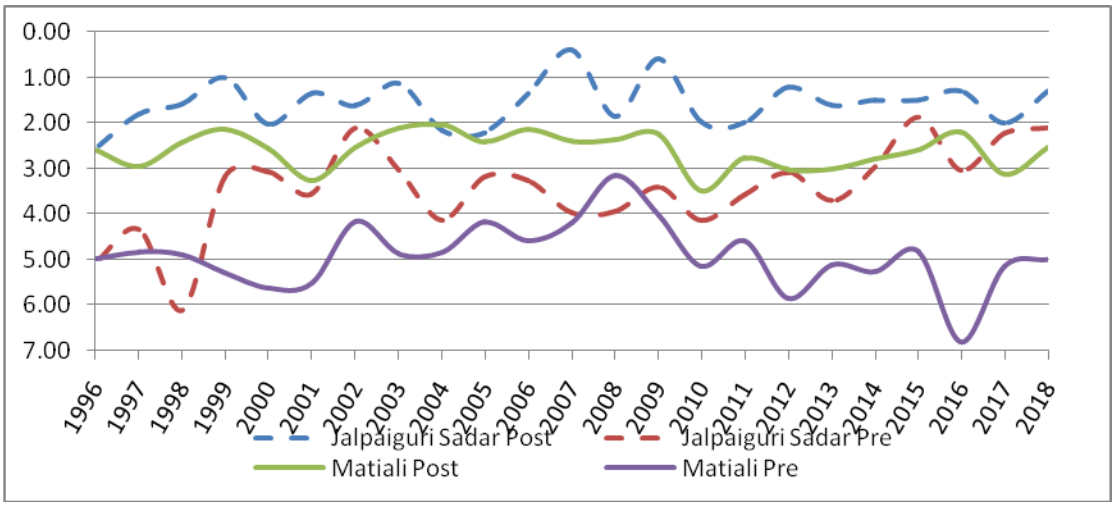
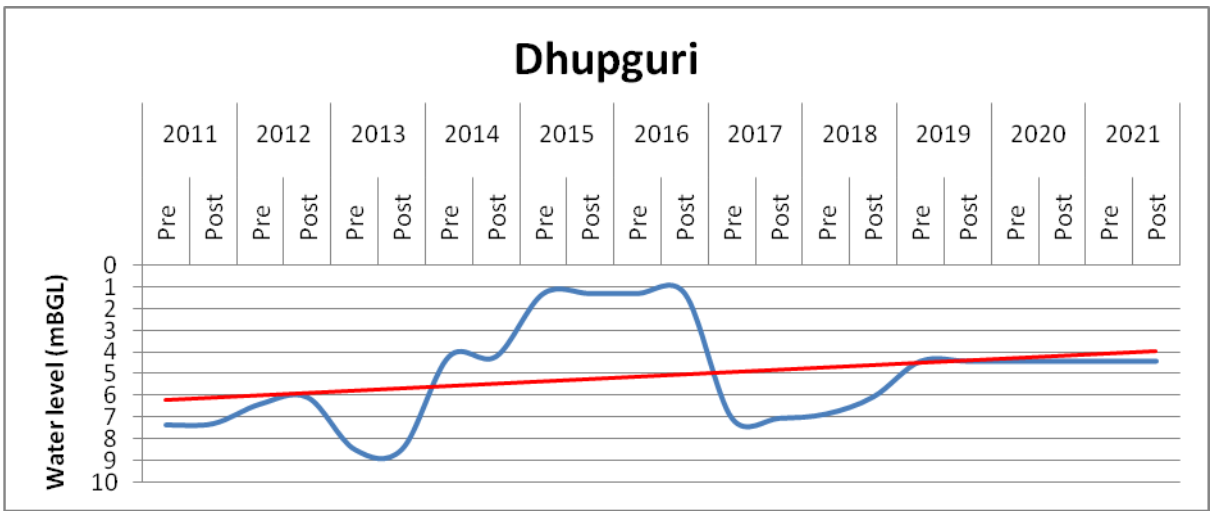
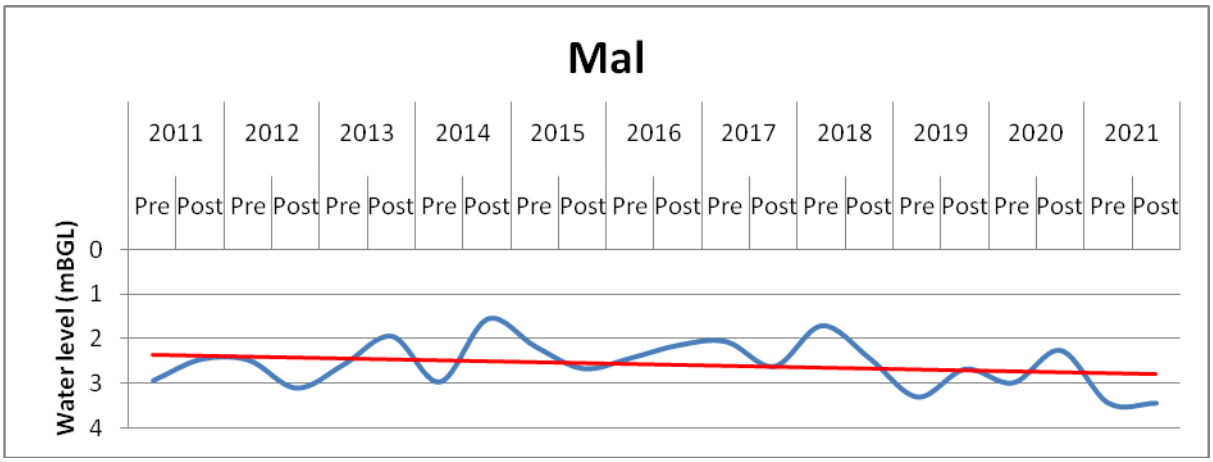
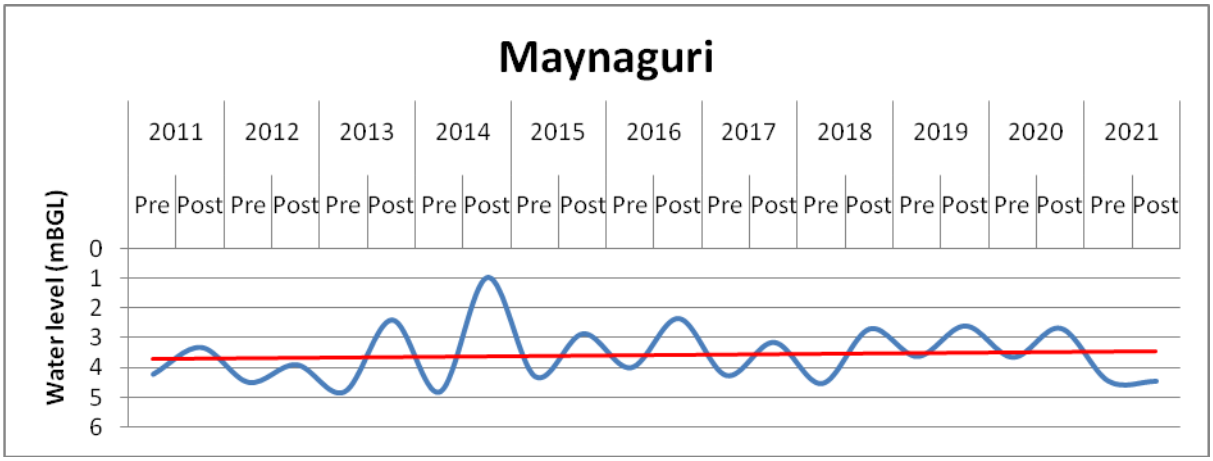


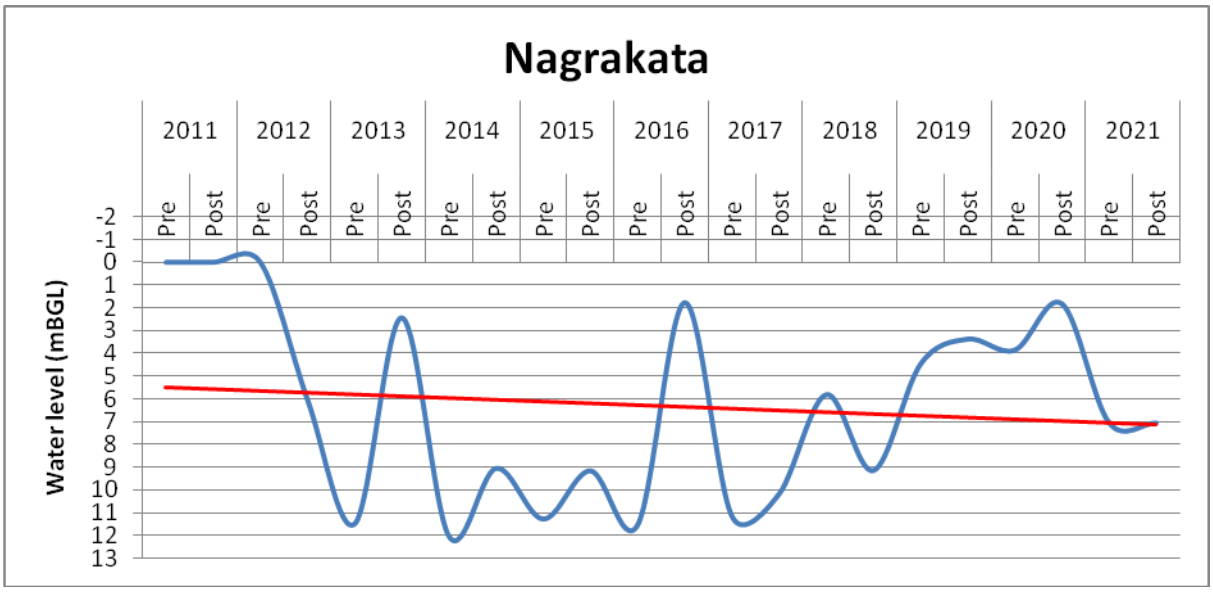
Figure No. 3.6: Graphical representation of two wells data for pre-monsoon and post-monsoon period

Hydrographs showing variation in water level observed in between 2011 to 2021 in the district is given below.








Nagrakata
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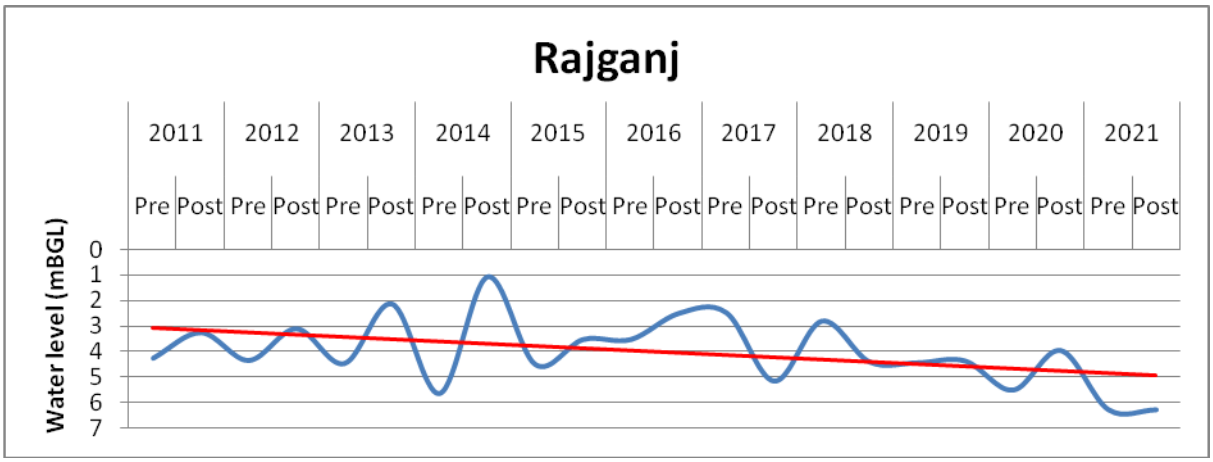
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Water level (mBGL)
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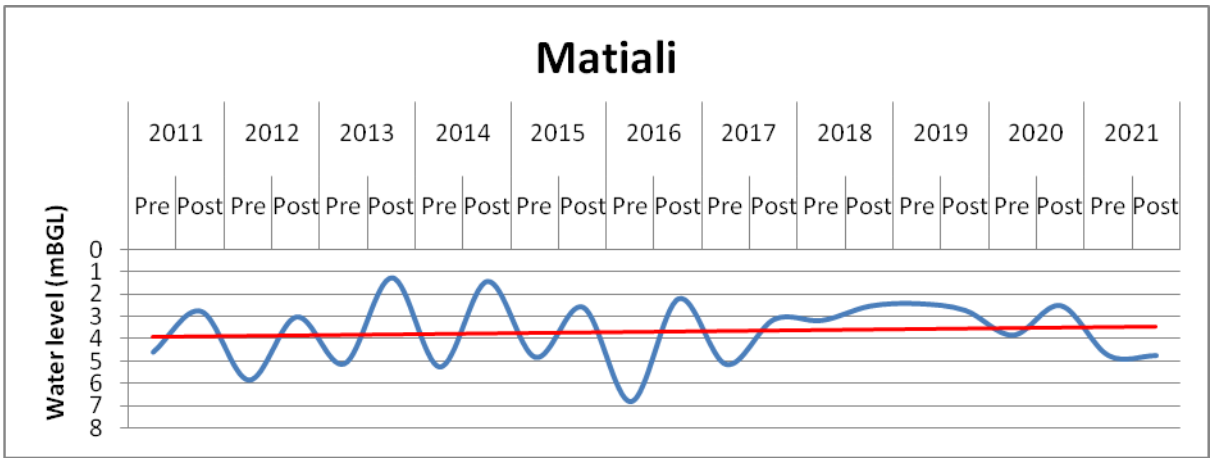
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Water level (mBGL)
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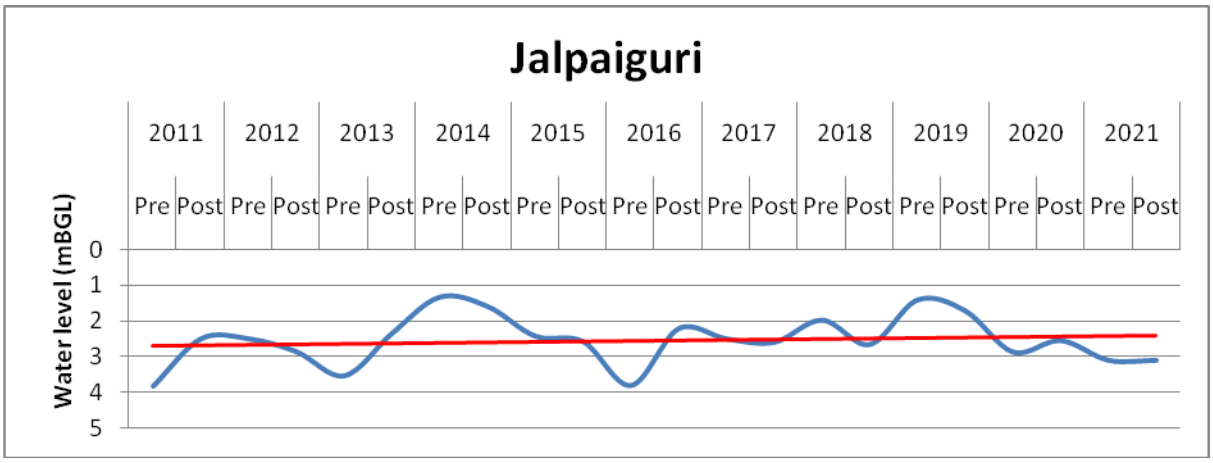

Figure 3.6.1: Block wise Hydrograph showing variation of waterlevel during 2011 to 2021

g) Drainage System

A large of number of rivers and rivulets originate from the hilly areas of adjacent Bhutan and there is a network of rivers cross-crossing the entire region. The major rivers are Teesta, Jaldhaka and Angabarsha. The rivers often overflow their banks depositing layers of fertile soil on the banks on either side.

A Drainage map of Jalpaiguri District is furnished as Figure No.3.7 and as Plate 1.

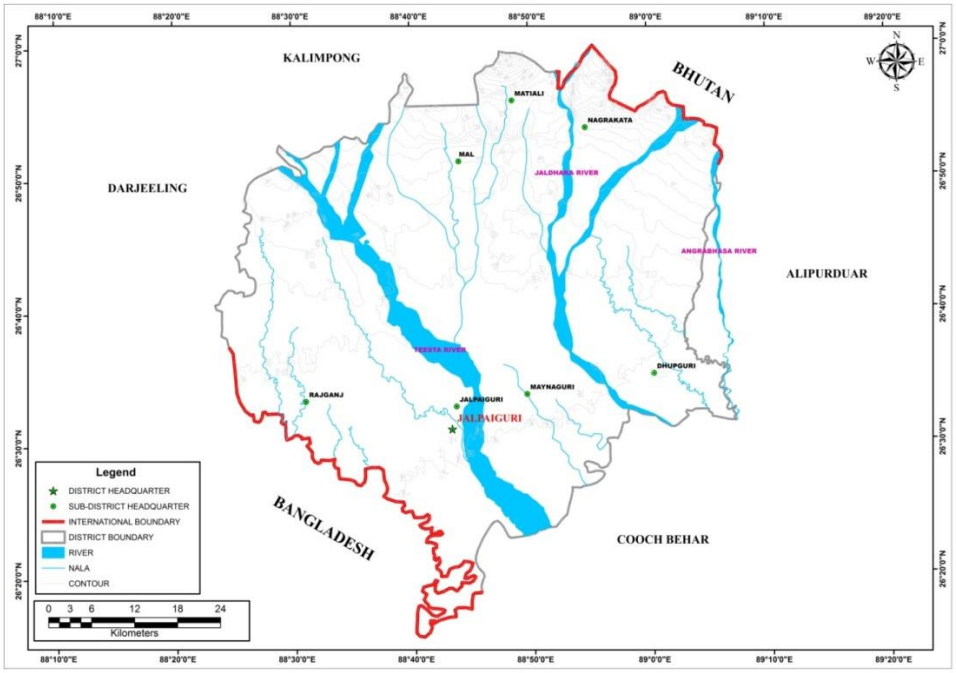

Figure No. 3.7: Drainage map of Jalpaiguri district *(Source: National Informatics Center)*

Table No. 3.4: Details of major rivers of Jalpaiguri District

Name of the River	Length with in district (km)	Width (Km)	Colour of Sand	Regime
TEESTA RIVER	66	2-3	Whitish	Upper & Middle regime
JALDHAKA RIVER	64	1-2.5	Whitish	Middle & Lower regime
ANGRABHASA RIVER	43	1-2	Whitish	Middle & Lower regime
MAHANANDA RIVER	29	2-3	Whitish	Upper & Middle regime

Floods in Alipurduar& Jalpaiguri district:

Special mention must be made about the occurring of floods in the Jalpaiguri district. This districtsare flood-prone and three main reasons for floods in this district are excessive rainfall of small duration on small catchments, continuous rainfall for several days on bigger catchments and the district being situated in the Himalayan foothills and being crisscrossed by the Himalayan rivers. It is observed that the melted snow of the high mountains also causes overflowing the perennial rivers which adds to the worry of common people. History reveals that the district hasn't escaped from the floods in any single decade. All the riverbeds in the district have risen to the height of 1 to 2.5 metres in between 1985 and 1999. Ruthless river bank erosion has caused diversion of the course of almost all the rivers between 1993 and 1999.The riverbeds of the district have expanded by 2 to 4 times in the last 100 years and if the destruction of the environment continues at the present rate, probably by the year 2050, creation of a coalescing mega valley consisting of some rivers within the radius of 3 to 15 km. at the Himalayan foothills is obvious. This would mean forever destruction of two-third of the tea gardens and forestry of these districts (Census, 2011).

h) Demography

The district encompasses a geographical area of 3044 sq km and has a population of 1985600 (persons) including 1015890 males and 969710 females. Sex ratio of Jalpaiguri district is about 954/1000. Population density of the district is about 1300/sq.km. The major religions in the district are Hindu and Buddhist of the total population. The literacy rate in the district is 61.62% (persons), 56.55% males and 43.45% females. Official languages of the district are Bengali and English. Regional lamguages are Bengali, Hindi, Bodo &Nepali. Main livelihood is agriculture in Jalpaiguri District. Boro, Mech, Toto and Santhal are main tribes of this district.

In Table No. 3.5 representingJalpaiguri district demographic profile modified based on 2011 census. Figure No 3.8 and 3.9 representing block wise population distribution and literacy rate respectively for Jalpaiguri district.

Table No. 3.5: Demographic statistics of Jalpaiguri District

Block	Area (Sq. Km.)	Number of Household	Population	Male	Female	Literate	Illiterate	Percent of population to district population
Rajganj	606	82038	373776	193185	180591	234799	138977	18.82
Mal	520	64310	299556	151826	147730	172753	126803	15.09
Matiali	131	25251	117540	60109	57431	69264	48276	5.92
Nagrakata	326	27274	127397	64133	63264	67646	59751	6.42
Dhupguri	475	91329	414854	210571	204283	251875	162979	20.89
Maynaguri	485	76492	329032	170030	159002	217359	111673	16.57
Jalpaiguri	501	73981	323445	166036	157409	209966	113479	16.29

(Source: Census, 2011)

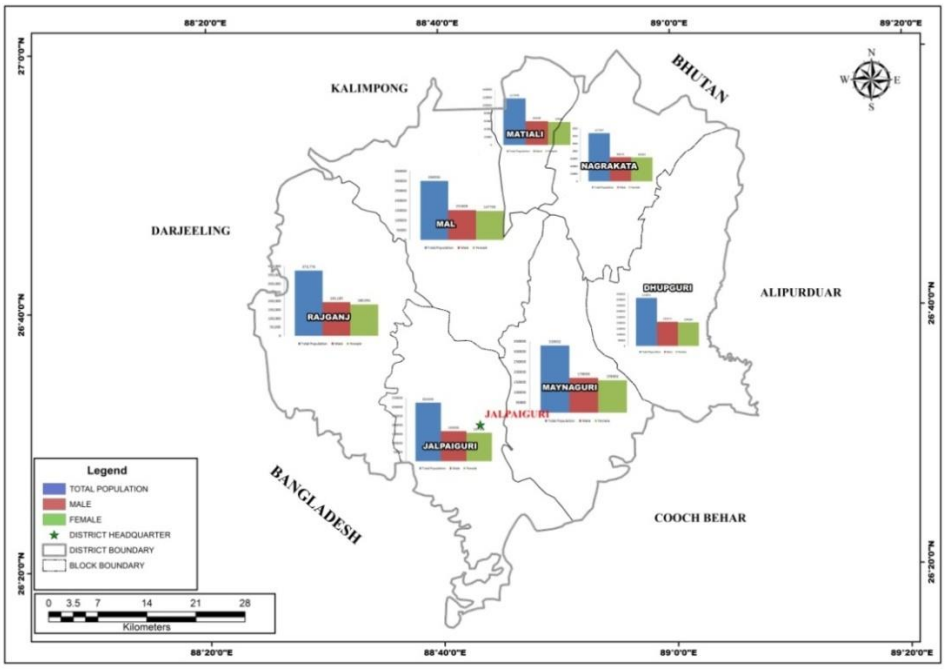

Figure No. 3.8: Block-wise population distribution in Jalpaiguri District

(Source: Census, 2011)

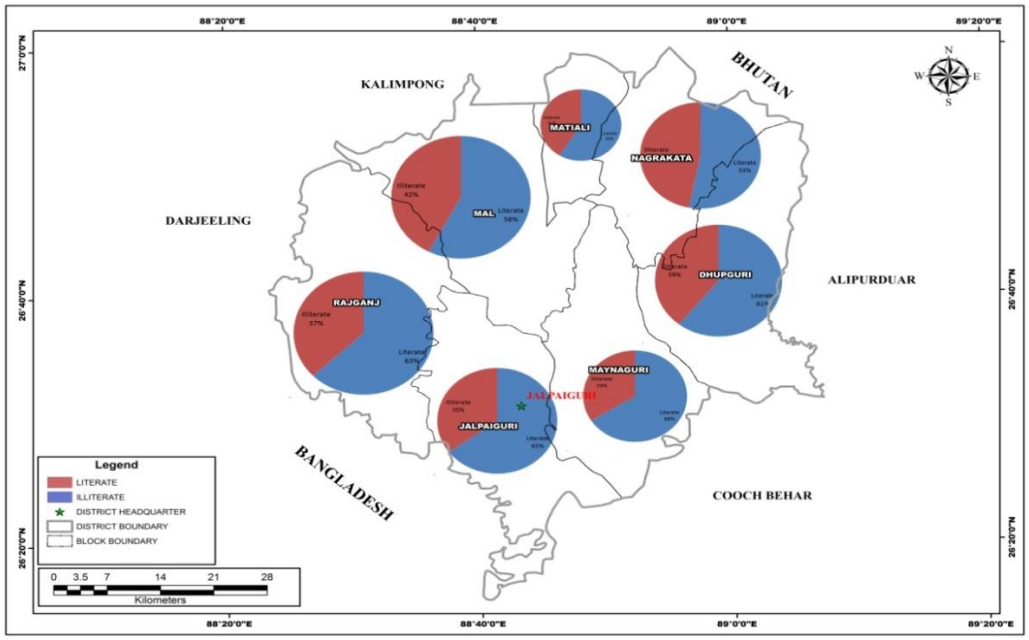

Figure No. 3.9: Demographic map showing Block-wise Literacy rate of Jalpaiguri District
(Source: Census, 2011)

i) Cropping pattern

The majority of the people of the district are engaged in agriculture. The economy of the district is mainly dependent on agriculture and plantation activity. Rice is the principal crop of the district. Other important crops are paddy, jute, tobacco, mustard seeds, sugarcane and wheat. Three varieties of rice viz. *aus*, *aman*and*boro*are grown. Gradually more and more areas are coming under wheat production in the district. Pulses like *musur*, *mug*, gram, *maskalai*, *khesari*and*arhar*are also grown. Jalpaiguri is famous for its tea and timber. Tea stands as the most valuable crop of the district.

j) Land Form and Seismicity

Northern part of the district is little hilly in nature. The entire district falls under the Seismic Zone IV (in a scale of I to V in ascending order of propensity of Seismic Activity), making it very prone to the earthquakes (Census, 2011). Figure 3.10 shows the district position on the earthquake map of West Bengal.

On 25th April and 12th May 2015, Nepal and its surrounding area were hit by earthquakes which are considered to be the most devastating in the living memory of the inhabitants of these affected areas. The 7.9 magnitude quake was the strongest to hit Nepal for 81 years. It was the most horrible natural disaster to hit Nepal since the 1934 Nepal–Bihar border earthquake. Earthquakes are often followed by landslides and rock avalanches and glacier avalanches in Himalayan hilly areas. Landslides also blocked the river channels, sewage and other communication system in Darjeeling district. Mud wall, buildings and boundary walls in different locations of Siliguri, Alipurduarand Jalpaiguri had collapsed because of the tremors (**Dey, 2015**).

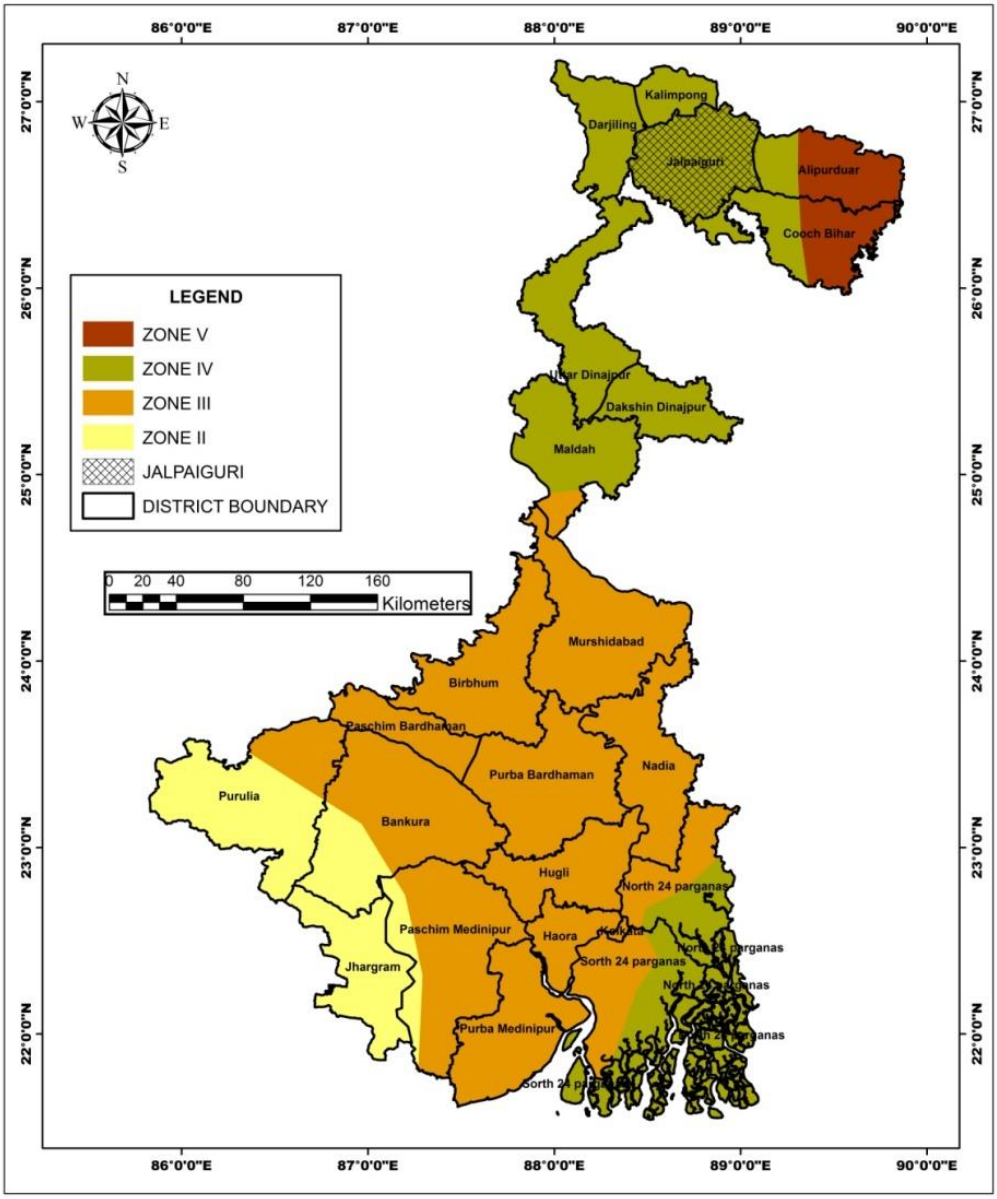

Figure No. 3.10: Earthquake zonation map of West Bengal highliting the Jalpaiguri district position

(Source: https://pib.gov.in/PressReleasePage.aspx?PRID=1740656)

k) Flora

The district Jalpaiguri is blessed with rich reserves of forest resources. The presence of vast hilly tracts covered with dense forests with sparkling streams flowing through them has attracted the attention of all over the world. It is the home of a fascinating variety of flora and fauna. There are 352 species of trees, 108 species of climbers, 6 species of canes, 133 species of shrubs, 144 species of bamboos and 25 varieties of rare plants.

Timber and fuel are the major forest produce. The timber produce in this region is of very good quality and is used for building, furniture, doors, windows, and other wooden fixtures. Wood based industries like plywood manufacturing and wooden furniture making are in plenty in this region. Cane and bamboo furniture and fixtures also manufactured both in the rural and urban areas.

Names of some of the well-heard trees and shrubs are Angur (Grapevine), Bahera (Beleric Myrobalan), Badam (Nut), But (Banyan), Champ, Gab (Mangosteen), Gamhari (White Teak), Ghorabadam, Pitali (L. Mudilflora), Jhau (She-oak), Khair (Cutch), Madar (the coral tree), Mahua (Mohwa, Butter), Nim (Margosa), Pakur (L. Ficus infectoria), Palas (L.ButeaFrondosa), Pipal (Long Pepper), Panisaj, Sal (L. Shorearobusta), Simul (Silk Cotton), Siris (Silk Flower), Sajna (Horse-Reddish, Kitchen plant), Sissu (Sisso), Tal (Palmyra-palm), Tentool (Tamarind), Toon (Toon) etc. Amongst these the Sal, Sissu and Khair are used in the manufacture of agricultural implements, house buildings and wooden furniture. Vernacular names of some of the well-heard fruit trees are Aam (Mango), Anaras (Pine Apple), Alu (Potato), Ata (Custard Apple), Bel (Wood Apple), Chalta (an idible acid fruit tree), Dalim (Pomegranate), Golapjam (Rose Apple), Jambura (Shaddock), Jalpai (Olive), Kadam (L. AuthocephalusKadambo), Kamranga (Carambola), Kharmuj (Melon), Kela (Banana), Kalojam (Black Plum), Kathal (Jack Fruit), Lichu (Lichchi), Tut (Mulberry) etc. and vernacular names of some of the well-heard jungle grasses of the Duars are Bamboo, Hogla (Bulrush), KhusKhus, Nalkhagra (a type of river-Reed) etc. *(Census, 2011)*.

l) Fauna

The forests of this district is the abode of a spectacular range of faunal variety with mammal 69 species, reptiles 41 species, birds 249 species, amphibians 45 species, fishes 33 species and entomic fauna 353 species. Social forestry is becoming popular now-a–days andtrees like Eucalyptus, Simul, Krishnachura etc. are being widely cultivated. The forested hilly ranges have given birth to two major Wild Life Reserves viz. Gorumara Wild Life sanctuary and Chapramari Wild Life sanctuary.

The **GorumaraWild Life Sanctuary** is the oldest sanctuary in the district. The sanctuary is famous for its varied collection of wild life. At the initial stage this sanctuary was designated to preserve the famous Indian one-horned Rhinoceros. Later, apart from the one-horned Rhinoceros, the sanctuary was also made the home of elephant, tiger, leopard, sambar, hog deer, barking deer, spotted deer, swamp deer, pig, sloth bear etc. Many mammals belonging to the cat species origin like civet cat, jungle cat, leopard cat, fishing cat etc. are also found here. Birds like peacock, jungle fowl, wood cock, owl, kingfisher, hornbill, pigeon, dove, parrot, blue bird, twitter and many others are also found in huge numbers. Various kinds of snakes and lizards inhabit the sanctuary. Commonly found snakes are the huge fangless python, the cobra, the king cobra, kraits, vipers, cat snakes, Indian rat snakes etc. The park so far has recorded fifty species of mammals, 193 species of birds, 22 species of reptiles, 7 species of turtles, 27 species of fish, and other macro and micro faunas (https://en.wikipedia.org/wiki/Gorumara_National_Park).

The **Chapramari Wild Life Sanctuary** covers an area of 2,373 acres. The Chapramari was declared a sanctuary in 1941 and it spreads over part of Upper Tandu forest range. Same types of wild life are found in Chapramari. The Chapramari sanctuary is especially famous for birds. The Jaldhaka, Torsa and Raidhak rivers of the district abound in fish of various kinds, mahseer and rohu leading the list. The smaller streams abound in fish of several species like rohu, chital, boal, tor, koorsha, baos or kalbaos, sal, soul, airh, magur, singi, tengra, koi etc *(Census 2011 and https://en.wikipedia.org/wiki/Chapramari_Wildlife_Sanctuary).*

A map showing location of the district with respect to Wild Life Sanctuary of West Bengal is furnished below.

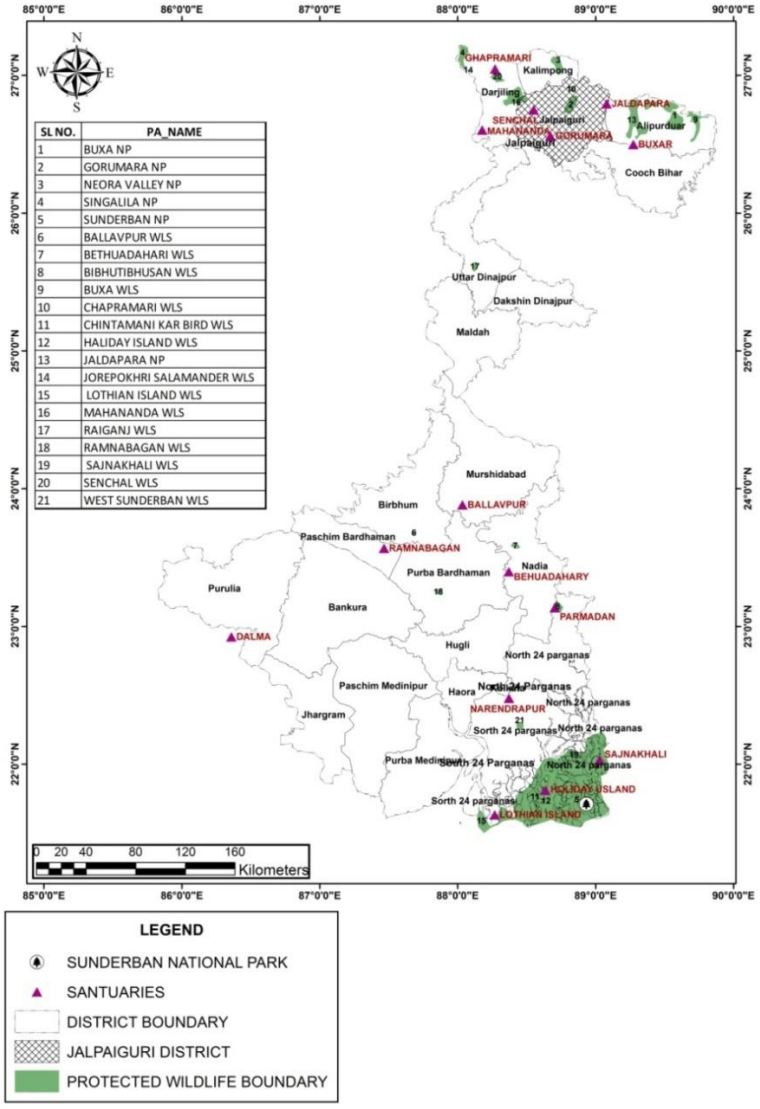

Figure No. 3.11: District location with respect to Wild Life Sanctuary of West Bengal
(Source: http://wiienvis.nic.in/)

4.0 Physiography of the district

a) General Landforms

The western part of Alipurduar-Jalpaiguri region is slightly undulating and covered by paddy fields and bushy jungles, while the eastern part of the district presents a flat strip of land. There are numerous rivers in the district and except the Torsa, which originates from Tibet, all others originate from Sikkim, Bhutan and Darjeeling hills and drain north-southern part of the district. The whole region is full of tea gardens and scatter forests. The entire topography is crisscrossed with streams, rivers and hills. The district topography wears a mixed look consisting both of hilly areas and undulating plains coupled with vast flat plains. Three district physiographic units can be identified in the district (a) the northern hilly terrain which is a part of the sub-Himalayan Ranges, (b) the central tract, locally called Bhaber and (c) the gently sloping alluvial plain in the south locally called Terai*(Census, 2011)*.

A few hills occur in the Terai or Dooars region at the foot of the Himalayas. Some remnants of the Siwaliks can be seen in the region.

The "Terai" ("moist land") is a belt of marshy grasslands, savannas, and forests at the base of the Himalaya range stretching southwards to about 38 km. Above the Terai belt lies the Bhabar, a forested belt of rock, gravel, and soil eroded from the Himalayas. The Terai zone is composed of alternate layers of clay and sand, with a high water table that creates many springs and wetlands. The Terai zone is inundated yearly by the monsoon-swollen rivers of the Himalaya. The Terai-Duar savanna and grasslands is an eco-region that stretches across the middle of the Terai belt. The Terai-Duar savanna and wetlands are a mosaic of tall grasslands, savannas and evergreen and deciduous forests. The Terai and Dooars region politically constitute the plains of Darjeeling District, whole of Jalpaiguri and Alipurduar district and upper region of Cooch Behar District in West Bengal. The slope of the land is gentle, from north to south. The general height of the land is 80 to 100 m. The entire region is made up of sand, gravel and pebbles laid down by the Himalayan rivers like the Teesta, Torsa, Raidak, Jaldhaka, Sankosh and several other small rivulets. The Teesta has divided the area into two parts- the western part is known as the Terai whereas the eastern part is known as the Dooars or Duars. The Dooars region can be further subdivided into the Siliguri or Western Dooars, the middle or Jalpaiguri Dooars and the eastern or AlipurDooars.

North Bengal plains start from the south of Terai region and continue up to the left bank of the Ganges. The southern parts of the district Jalpaiguri, North Dinajpur baring some extreme northern regions, South Dinajpur, Malda and Cooch Behar districts constitute this geographical region. The narrow land mass in the North Dinajpur district is known as Mahananda corridor. This corridor runs north to south joining Malda with the plains of Jalpaiguri, Alipurduar and Cooch Behar. The entire part of North and South Dinajpur is silt laden plain.

The plain in the south of Jalpaiguri, Alipurduar and Cooch Behar district is also made of new alluvium deposited by numerous rivers like the Teesta, Torsa, Raidak, Jaldhaka, Sankosh and several other small rivulets.

b) Soil and rock pattern

The soil types are mostly clayey-loam, loam, sandy loam, acidic pH ranges from 4.5 to 6.6 and deficient in micronutrients. The soil in this region varies from alluvial soil to sandy and hard black clayey. The upper region in the north of Dooars, the soil is mainly black and clayey. This soil is suitable for growing tea, which is a major cash crop of this district. In the lower plain, the soil consists of a mixture of both clay and sand. The alluvial soil is fertile enough for crops like paddy, wheat, jute, potato, pulses, oilseeds, sugarcane etc. to be grown.

Rock types of the upper part of this region are Limestone with shale, sandstone with shale/coal beds, sandstone with shale, older Alluvium (Ailt/Sand/Gravel/Lithomargic Clay) and schist and Younger Alluvium (Clay/Silt/Sand/Calcareous concretion), Sandstone with shale and older Alluvium (Silt/Sand/Gravel/Lithomargic Clay) in the middle and lower part.

Rock type of the district may be divided into three tracts, the hard rock area in the north, the Bhabar belt in the middle, the Terai belt and the alluvial plains in the south. The Bhabar belt comprises rock fragments, big boulders and fine grained clastics derived from the hard- rock area is characterized by gentle slope, boulder surface and forest of tall trees. These are the coarse alluvial zone below the Hills (outermost foothills of the Himalayas) where streams disappear into permeable sediments.TheTerai belt is the zone of rejected recharge and, as such has developed swampy conditionand is composed mostly of coarse granular materials alternating with finer clastics. Thealluvium consists of succession of layers of sand, silt and clay with occasional gravel beds and lenses of peaty organic matter (Source: Mili, 2012).

Figure 4.1 is showing soil pattern of the district Jalpaiguri. Soil type of the district is explained below (Table 4.1).

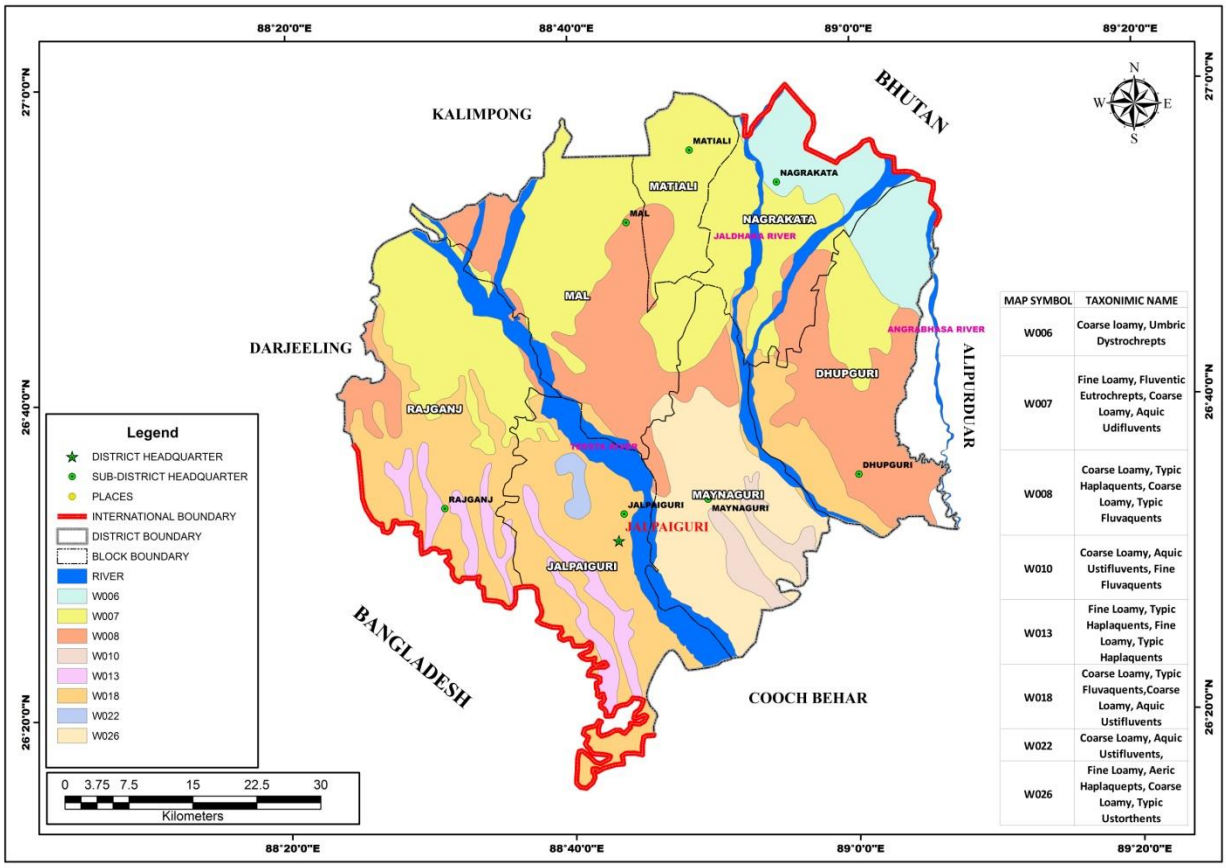

Figure No. 4.1: Soil Map of Jalpaiguri district

(Source: https://esdac.jrc.ec.europa.eu/content/west-bengal-soils-sheet-2*)*

Table No. 4.1: Description of District soil type as per soil map

MAP SYMBOL	DESCRIPTION
Soil of Indo-Gangetic Alluvial Plain	
W006	Very deep, imperfectly drained, coarse loamy soils occurring on very gently sloping upper piedmont plains with loamy surface and moderate erosion associated with very deep, imperfectly drained, fine loamy soils.
W007	Very deep, imperfectly drained, fine loamy soils occurring on very gently sloping lower piedmont plain with loamy surface and moderate erosion associated with very deep, imperfectly drained, coarse loamy soils.
W008	Very deep, poor drained, coarse loamy soils occurring on the level to nearly level lower piedmont plain with loamy surface associated with very deep poorly drained, coarse loamy soils.

MAP SYMBOL	DESCRIPTION
Active Alluvial plain	
W0010	Very deep, moderately well drained, coarse loamy soils, occurring on level to nearly level active alluvial plain with loamy surface and moderate flooding associated with very deep poorly drained, fine loamy soils
W0013	Very deep, poorly drained, fine loamy soils occurring on level to nearly level active alluvial plain with loamy surface associated with very deep, poorly drained, fine loamy soils
Recent Alluvial Plain	
W0018	Very deep, poorly drained, coarse loamy soil occurring on level to nearly level recent alluvial plain with loamy surface associated with very deep, imperfectly drained, coarse loamy soil
W0022	Very deep, moderately well drained, coarse loamy soils occurring on level to nearly level recent alluvial plain with loamy surface and moderate flooding
W0026	Very deep, poorly drained, fine loamy soils on level to nearly level recent alluvial plain with loamy surface associated with very deep, moderately well drained, coarse loamy soils

c) Different geomorphologic units

The Jalpaiguri district of West Bengal represents a zone between the Himalayan Mountain and Brahmaputra-Gangetic Plain. It displays the typical characteristics of the piedmont alluvial fans of the Himalayan foothills. This part of the foothill located east of Teesta River is known as the duars.

Geo-morphologically the area can be divided into three classes. Northern part of the district shows alluvial fan and the whole southern part shows a broad alluvial plain from west to east. Alluvial Fan is a type of terrain where river off load sediments from narrow canyon to plain land. Badland topography is characteristic of thisregion in the northern part in a very small portion near Jaldhaka River. Badland topography is a type of topography with deep vertical ravines due to vertical erosion caused by river. In some part of the north of the district shows hilly region.

A Geomorphological map is furnished below as Figure No. 4.2.

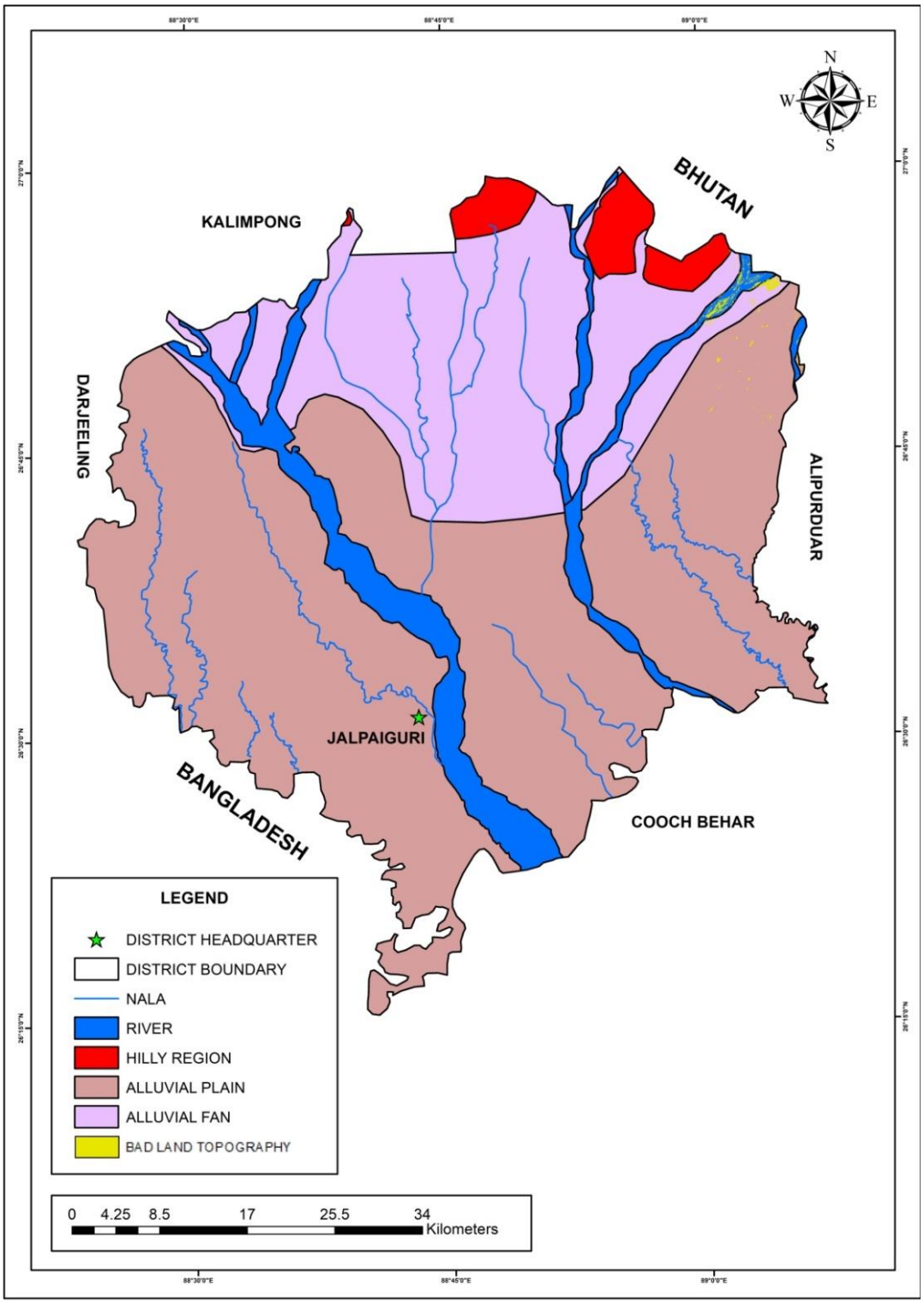

Figure No. 4.2: Geomorphological Map of Jalpaiguri District

(Source: Resourcesat-1&2 – Liss-3, Bhuvan India)

5. Land use pattern of the district:

The land share of district Jalpaiguri is modest in comparison to other districts in the state. Large proportion (56%) of land is covered by agricultural land. Table 5.1 gives land utilization static of Jalpaiguri district. Figure 5.1 is pie diagram representing broad land use pattern of the district and Figure 5.2 is Land Use Land Cover map of the district.

Table No. 5.1: Classification of Land Utilisation Statistics in the district

ClassName	AREA IN SQKM
BAD LAND TOPOGRAPHY	5.73
AGRICULTURAL FALLOW LAND	1691.19
SETTLEMENT	135.12
AGRICULTURAL LAND	551.64
VEGETATION COVERED AREA	477.32
WATER BODIES	183.00
TOTAL	**3044.00**

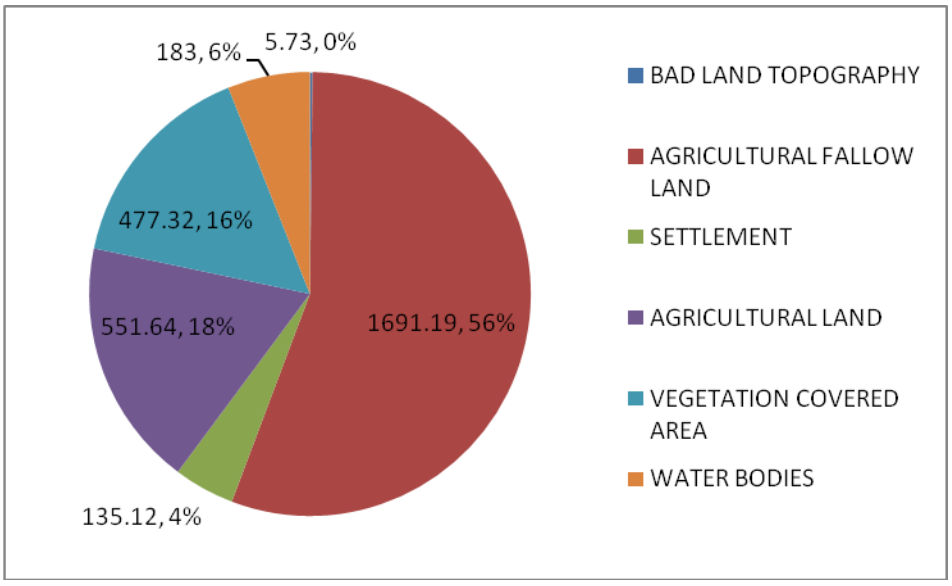

Figure No. 5.1: Classification of Land Utilisation Statistics in the district

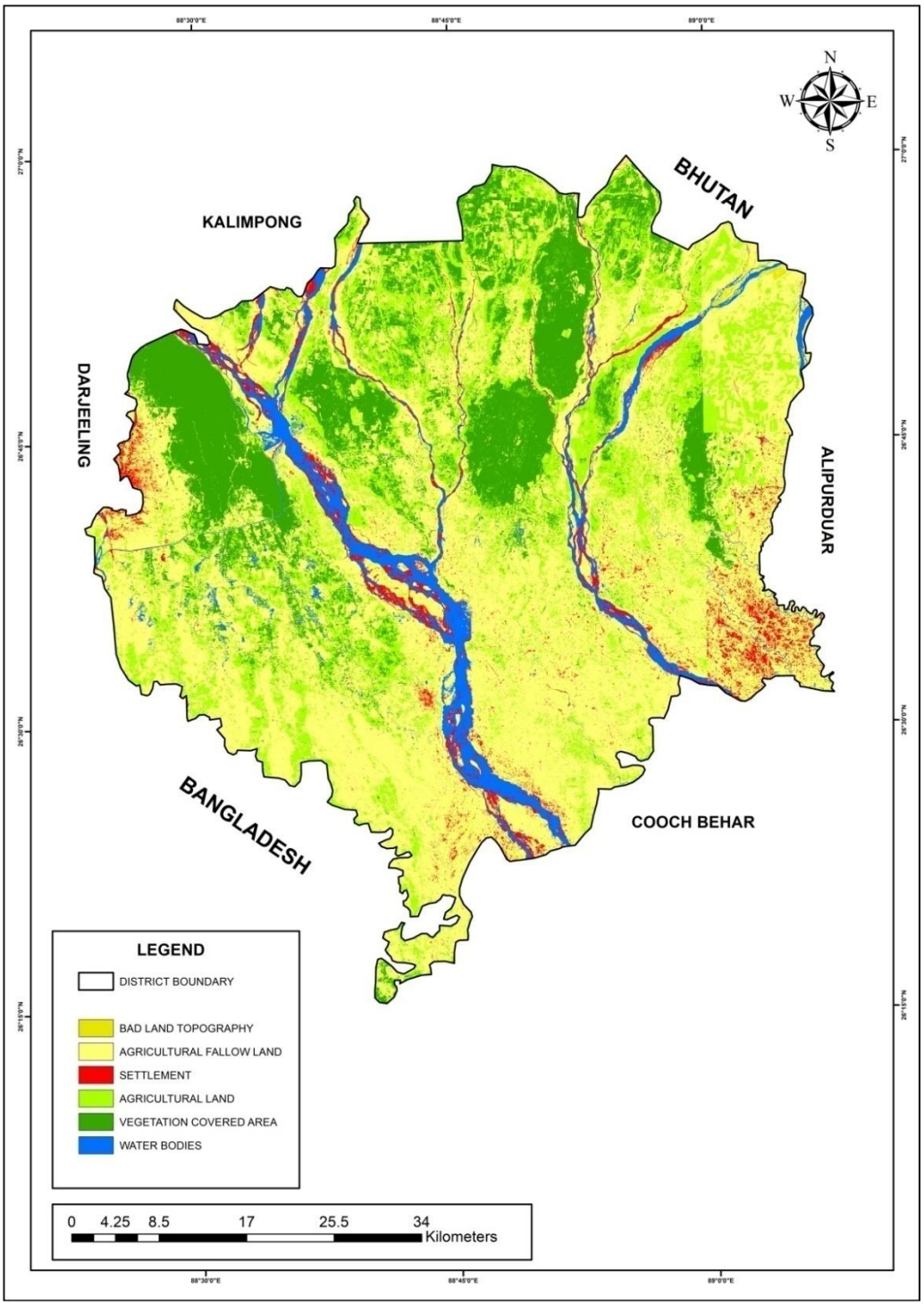

Figure No. 5.2: Land Use Land Cover map of Jalpaiguri District

(Source: Resourcesat-1&2 – Liss-3, Bhuvan India)

It is observed from the above figure that maximum land of Jalpaiguri district is covered by agricultural land. Percentages of vegetations are also high. Bad land topography is an

important landuse type of Jalpaiguri District. Eastern part of the district is densely populated compared to the other part of the district. Concentration of settlement is higher in this part. The district is also marked by the occurrence of several water bodies.

a. Forest -detail of the area

The district is blessed with rich reserves of forest resources. The presence of vast hilly tracts covered with dense forests with sparkling streams flowing through them attracts tourists from all over the world. The forests, covering about 1,79,000 hectares of land which is 27.8 per cent of the total geographical areas, are home to a fascinating variety of flora and fauna. The vegetation is mostly deciduous semi-evergreen with sal as the dominant species. The timber produced in these forests is very valuable and is used for building furniture, doors, windows and other wooden equipment. Social forestry is also becoming popular now-a-days with trees like Eucalyptus, Simul, Krishnachura etc. being widely cultivated or planted. The forested hilly ranges have also augmented growth of several major Wild LifeReserves – namely Jaldapara, Buxa Tiger Reserve, Chilapata, ChapramariandHollong.The rich bio-diversity in the sanctuaries of Jaldapara and Chapramari is a striking treatfor the eyes. Trekking routes along the Sinchula Range provide magnificent scenic viewsof nature in its pristine form. Chotashinchula peak (5,695 feet) is the highest point of thedistrict. These ecologically fragile zones are required to be preserved and protected fromenvironmental degradation. Minor forest produce like bamboo, cane, honey, wax etc. arealso found in the forest areas. Bamboo and cane furniture is manufactured both in therural and urban areas. Timber and fuel are the major forest produce. They serve aspopular tourist resorts. If we go through the following table, we will get a clear picture about the forestarea, forest produce and revenue & expenditure of the district for the last five years is furnished in Table No 5.2 (Census, 2011).

Table No. 5.2: Details of forest area, forest produce and revenue & expenditure of the district for the last five years

Item	Unit	2009-10	2010-11	2011-12	2012-13	2013-14
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Area by Class of Forest	-	-	-	-	-	-
Reserved forest	hectare	144300	144300	144300	144300	144300
Protected forest	"	16600	16600	16600	16600	16600
Unclassed state forest	"	6411	6411	6411	6411	6411
Khas forest	"	1421	1421	1421	1421	1421
Vested waste land	"	-	-	-	-	-
Forest owned by	"	-	-	-	-	-

Item	Unit	2009-10	2010-11	2011-12	2012-13	2013-14
(1)	(2)	(3)	(4)	(5)	(6)	(7)
corporate bodies						
Forest owned by private individuals	"	10268	10268	10268	10268	10268
Forest owned by civil authorities	"	-	-	-	-	-
Total		**179000**	**179000**	**179000**	**179000**	**179000**
2. Forest Produce	-		-	-	-	-
Timber	' 000 cu. metre	20.86	11.77	12.56	25.93	21.68
Fuel	Stack	7967	6014	6232	6381	6645
Pole	Number	333	474	436	639	624
3. Revenue & Expenditure	-	-	-	-	-	-
Revenue	Rs. in ' 000	243450	247745	253798	279897	280159
Expenditure	"	392726	434170	455480	452751	450138

(Source: census, 2011)

b. Agriculture& Irrigation

The majority of the people of the district are engaged in agriculture. The economy of the district is mainly dependent on agriculture and plantation activity. Rice is the principal crop of the district. Other important crops are paddy, jute, tobacco, mustard seeds, sugarcane and wheat. Three varieties of rice viz. *aus*, *aman*and*boro*are grown. Gradually more and more areas are coming under wheat production inthe district. Pulses like *musur*, *mug*, gram, *maskalai*, *khesari*and*arhar* are also grown. Jalpaiguri is famous for its tea and timber. Tea stands as the most valuablecrop of the district. Hereunder year wise (from 2006-07 to 2010-11) area under principalcrops in the district is shown in Table 5.3.

Table No. 5.3: Area under principal crops in the district

(Thousand hectares)

Crops		2009-10	2010-11	2011-12	2012-13	2013-14
(1)		(2)	(3)	(4)	(5)	(6)
Food grains:						
1.	**Rice**	**227.5**	**224.1**	**224.6**	**228.1**	**229.6**
	Aus	34.6	30.8	29.9	29.1	29.4
	Aman	174.7	176.0	177.8	180.0	180.1
	Boro	18.2	17.3	16.9	19.0	20.1
2.	Wheat	16.0	18.0	17.1	17.4	17.2
3.	Barley	(a)	(a)	(a)	(a)	(a)
4.	Maize	11.8	12.8	13.5	12.7	12.7
5.	Other Cereals	0.3	0.3	0.3	0.3	0.4
	Total Cereals	**255.6**	**255.2**	**255.5**	**258.5**	**259.9**
6.	Gram	0.1	(a)	0.1	0.1	(a)
7.	Tur	(a)	(a)	(a)	0.1	-
8.	Other Pulses	4.4	4.3	4.2	4.6	4.7
	Total Pulses	**4.5**	**4.3**	**4.3**	**4.8**	**4.7**
	Total Foodgrains	**260.1**	**259.5**	**259.8**	**263.3**	**264.6**
Oil Seeds :						
1.	Rapeseed & Mustard	10.7	10.3	10.0	9.8	9.2
2.	Linseed	0.8	1.0	0.8	0.7	0.7
3.	Other Oil seeds	4.2	8.4	7.4	7.1	6.8
	Total Oil seeds	**15.7**	**19.7**	**18.2**	**17.6**	**16.7**
Fibres :						
1.	Jute	39.3	40.0	35.7	35.1	35.2
2.	Mesta	0.2	0.2	0.3	0.3	0.2

(Thousand hectares)

Crops		2009-10	2010-11	2011-12	2012-13	2013-14
(1)		(2)	(3)	(4)	(5)	(6)
3.	Other Fibres	-	-	-	-	-
	Total Fibres	**39.5**	**40.2**	**36.0**	**35.4**	**35.4**
Miscellaneous crops :						
1.	Sugarcane	0.1	0.2	0.2	0.1	0.2
2.	Potato	32.3	31.7	31.9	33.6	40.1
3.	Tobacco	0.7	0.6	0.5	0.7	0.6
4.	Tea	77.3	77.3	77.3 (P)	94.4(E)	94.4(E)
5.	Chillies (dry)	5.5	5.5	5.5	5.5	5.5
6.	Ginger	1.5	1.5	1.5	1.5	1.6
Total Miscellaneous crops		**117.4**	**116.8**	**116.9**	**135.8**	**142.4**

Paddy jute and tobacco are the main crops produced in the district. Tobacco is grown abundantly mainly in the land lying near the river. Wheat, gram, jute, rapeseed and potato are also cultivated in the district though the figure is well below the state average production (Table 5.4) (Census, 2011).

Table No. 5.4: Details of crops in different period

	Kharif			Rabi				
Major field crops cultivated	**Irrigated**	**Rain fed**	**Total**	**Irrigated**	**Rain fed**	**Total**	**summer**	**Grand Total**
Paddy	41.30	7.50	48.80	36.20		36.20	17.40	102.40
Jute	4.10	33.30	37.50					37.50
Wheat				19.90		19.90		19.90
maize							8.20	8.20
rape & Mustard				10.40		10.40		10.40
Potato					39.60		39.60	39.60

Table No. 5.5: Details of area used for crops

	Kharif		Rabi		Summer		Total	
Major field crops cultivated	**Production ('000 t)**	**Productivity (kg/ha)**	**Production ('000 t)**	**Productivity (kg/ha)**	**Production ('000 t)**	**Productivity (kg/ha)**	**Production ('000 t)**	**Productivity (kg/ha)**
Paddy	94.80	3320.00	335.90	3391.00	49.00	2815.00	470.80	9526.00
Potato				27864.00			348.60	27864.00
Wheat			31.80	255.00			31.80	2550.00
rape & Mustard			4.80	768.00			4.80	768.00
Jute			505.10	2114.00			505.10	2114.00
maize					18.90	2315.00	22.50	2315.00

During the monsoon season, the sky remains heavily cloudy or overcast as usual. During March to May winds are stronger when thunderstorms occur though in general the winds are light. The thunderstorms occur all the year round except in winter. The average annual rainfall is 3,440 mm. It may be mentioned here again that the average annual rainfall of the district is almost double the average annual rainfall of Kolkata and its surroundings. But heavy rainfall occurs only from June to early October. During these months the rivers are full and heavy volumes of water overflows causing huge damage and devastation. The rivers in the district have the tendency to change their course which leads to destruction of vast area under cultivation. Over flowing river deposits huge quantities of sands on the green fields also.

c. Horticulture

A large variety of fruits such as mango, Banana, Oranges, Papaya, jackfruit etc. is grown under moderate rainfall. The Oranges are of excellent quality. The production of Mandarin Oranges and other variety of Citrus fruits are very famous (Table No 5.6 and 5.7) (Source: Census, 2011).

Table No. 5.6: Details of fruits

Name of Fruits	Area (Thousand hectares)					Production (Thousand tonnes)				
	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**

(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A.	Fruits										
	Mango	1.54	1.54	1.55	1.55	1.55	4.99	5.39	5.46	6.47	3.80
	Banana	2.33	2.43	2.53	2.54	2.55	52.09	54.09	56.00	56.85	57.00
	Pineapple	1.65	1.71	1.75	1.79	1.81	55.66	57.66	58.38	59.00	60.68
	Papaya	0.59	0.59	0.60	0.59	0.60	30.81	31.03	31.29	30.00	31.10
	Guava	0.54	0.54	0.54	0.55	0.57	8.27	8.27	8.21	8.34	8.62
	Jackfruit	1.56	1.56	1.56	1.57	1.57	38.78	38.98	39.00	40.00	39.86
	Litchi	0.28	0.28	0.28	0.28	0.28	2.96	2.96	2.95	2.94	2.98
	Mandarin Orange	0.06	0.07	0.07	0.07	0.07	0.48	0.48	0.49	0.49	0.50
	Other Citrus	0.62	0.62	0.62	0.63	0.63	5.64	5.64	5.63	5.71	5.74
	Sapota	0.19	0.19	0.19	0.19	0.19	2.53	2.53	2.53	2.53	2.53
	Others	0.15	0.15	0.13	0.15	0.15	1.76	1.78	1.78	1.81	1.81

Table No. 5.7: Details of flowers

Name of Flowers	Area						Production					
	Unit	2009-10	2010-11	2011-12	2012-13	2013-14	Unit	2009-10	2010-11	2011-12	2012-13	2013-14
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Rose	'000 hectares	..	..	..	-	-	Crore Cut Flower	..	..	..	-	-
Chrysanthemum	"	0.002	0.002	0.002	0.002	0.002	"	0.031	0.031	0.031	0.032	0.033

Name of Flowers	Area						Production					
	Unit	2009-10	2010-11	2011-12	2012-13	2013-14	Unit	2009-10	2010-11	2011-12	2012-13	2013-14
Gladiolus	"	0.062	0.112	0.115	0.121	0.128	"	0.917	1.660	1.710	1.802	1.899
Tuberose	"	..	..	..	-	-	"	..	..	..	-	-
Marigold	"	0.020	0.020	0.030	0.035	0.036	'000 MT	0.149	0.149	0.249	0.285	0.291
Jasmine	"	0.045	0.045	0.045	0.045	0.044	"	0.042	0.042	0.042	0.043	0.042
Seasonal Flower	"	0.076	0.076	0.078	0.079	0.079	"	0.082	0.083	0.083	0.084	0.086
Misc. Flower	"	0.010	0.010	0.010	0.011	0.012	"	0.015	0.015	0.015	0.015	0.016

Source: http://wbpspm.gov.in/publications/District%20Statistical%20Handbook

d. Mining

The district is not very rich in mineral resources and there are no large mines in the district. However, collection of sand and gravels from the river-bed of the hilly torrents are the minor mineral sources. These materials are primarily utilized for construction purpose.

6. Geology:

Inconformity with the general geological setting in the Himalayan tract of North Bengal, the foothill belt comprises the Siwalikes in the south, separated from the impersistent Gondwanas rocks attain maximum thickness here, and is best developed in the whole NorthBengal. It follows the Gondwanas in the north, forming the southern flank of the Dalings, which becomes the prominent rock unit in Bhutan. Among the Quaternary Geological formations of Eastern India, this study area has involved polycyclic landscape and peculiar drainage system, being reconstructed from time to time.

The stratigraphic succession is furnished in Table No. 6.1.

Table No. 6.1: Geological succession of Jalpaiguri

Group Name	Lithology Type
Older Alluvium (Pleistocene to Recent)	Loose sandy soil with boulders and pebbles of older rocks.
Siwalik Group (Mio-Pliocene)	Coarse grained, micaceous, sub-greywacke with pallets of clay and lenses of lignite. Stratigraphically upper members are usually pebbly and relatively more felspathic.
----------Main Boundary Fault----------	
Gondwana Group	Lamprophyres and quartz veins. Tectonically mixed, boudinaged quartzite sandstone with crushed carbonaceous material. Original bedding form usually obliterated.
----------Thrust contact----------	
Epidiorites	Mostly occurring as sills.
Buxa Series (Precambrian)	Dolomite and orthoquartzite with variagated phyllites.
----------Thrust contact----------	
Daling Series (Archaean)	Thick pure quartzite beds interblended with thick grey phyllite, bluish grey phyllite and schist.

- **Description of the different litho-groups:**

Daling Series:

These are represented by thick succession of quartzite inter-bedded with bluish gray, gray and green phyllites and chlorite Sericite schist. The rocks of Daling affinity occur near the Bhutan Border, north of Buxa.

Buxa Series:

The rocks of the series are characterized by the presence of calcareous sediments in addition to argillaceous and thus differ from the Dalings which are purely argillaceous. The occurrence of hematite schists and banded hematite jasper in the rocks of this series is also very distinctive. The main rock types of this series are the phyllite, quartzite and the dolomite.

The phyllites are brown to greenish brown in colour and trace of faint colour banding indicates the trace of the bedding. A few bands of phyllites are noticed in the quartzite and the dolomite which is profusely pyrite with deep chemical weathering causing sulphurous effervescence.

The quartzite forms an important member of Buxa Series. The quartzite consists of well bedded, cross stratified and schistose units. The quartzite is texturally nature and belongs to the orthoquartzite group.

The dolomite is the most important member of the Buxa series. This normally overlies the quartzite but at places where the quartzite is absent, it directly overlies the Gondwanas (structurally). It is in general dark to light grey in colour, massive and highly jointed.

Gondwanas:

Lithologically, the Gondwanas in this area consist of carbonaceous material (rendered flaky at places) and quartzite sandstone. The quartzitic sandstone mostly occurs as spheroidal with carbonaceous coating. The maximum size of the boundins is 10 m across. The Gondwanas assemblage which occurs as a distinct marker horizon is sandwiched between the Siwaliks and the Buxas, and has a width from 2 metres to 90 metres.

Siwaliks:

The Siwaliks consist of a lower horizon of fine-grained sandstone with siltstones and an upper pebbly member. The sandstone is composed of sub-angular quartz, relatively unweathered grains of feldspar and mica; lenses of lignite the fossil wood are common. The Siwaliks occur fringing the foothills and their northern extent is limited to the Main Boundary Fault. At the contact with the Gondwanas they show evidence of shearing, in duration and gentle warping.

Older Alluvium:

This forms a fringe all along bordering the hills, though occasionally their presence is noticed within the hills also. Older Alluvium comprises gravel and boulders in a sandy and clayey matrix. The formations is semi consolidated, stratified. The area further south of the older alluvium is covered by alluvium of recent age, exposed outside the area under review.

- **Structure:**

There a number of major thrusts in the Jainti area, causing reversal in the sequence of formations here. The younger rocks are progressively overlain (structurally) by older rocks. Thus, from south to north, the successive rock formations belong to the Siwaliks, Gondwanas,

Buxas and Dalings. Towards the south, the Main boundary fault brings the Siwaliks in contact with the Gondwanas. The Buxasara brought close to the Gondwanas by the Buxa thrust. In the northern part of the area, a thrust separates the Dalings from the underlying Buxas. The beds in general show dips varying from 35° to 80° in the northeasterly or east-northeasterly direction.

In the area investigated, no major structural features were observed. Beds show dip varying from 25° to 45° in the northerly direction.

7. Mineral wealth

7.1 Overview of mineral resources

Geologically Jalpaiguri district does not hold any potential major mineral deposits. The district indicates the presence of rivebed minor minerals such as Quartz, Sand, Gravel and Brick Earth.

7.2 Details of Resources

A) Sand and other riverbed minerals:

i) Drainage System

The area forms a part of the Sub-Himalayan Zone. This foot hill zone rises from the alluvial plain on the south, gradually gains elevation and ruggedness northwards to a steep range with altitudes 1700m and above at the Bhutan border. The maximum relief in the area is about 1550 m. The drainage is controlled by the general slope of the terrain, as a number of southerly flowing nalas with steep gradients drain the area. The rivers formed by these nalas are perennial in the upper reaches, but mostly influent down in the plains. Description of some major rivers of the district is described below.

River Teesta:

Teesta River, is a 315 km (196 mi) long river that rises in the eastern Himalayas, flows through the Indian states of Sikkim and West Bengal through Bangladesh and enters the Bay of Bengal. It drains an area of 12,540 km2 (4,840 sq mi). In India, it flows through Darjeeling district and the cities of Rangpo, Jalpaiguri and Mekhliganj. It joins the Jamuna River at Fulchhari in Bangladesh.

The Teesta River originates from the Pahunri (or Teesta Kangse) glacier above 7,068 metres (23,189 ft), and flows southward through gorges and rapids in the Sikkim Himalaya.

It is fed by rivulets arising in the Thangu, Yumthang and Donkha mountain ranges. The river then flows past the town of Rangpo where the Rangpo River joins, and where it forms the border between Sikkim and West Bengal up to Teesta Bazaar. Just before the Teesta Bridge, where the roads from Kalimpong and Darjeeling join, the river is met by its main tributary, the Rangeet River.

During the monsoons, Teesta River distends its banks; both in size and turbulence. Landslides in this region often dam up parts of the river in this season.

River Jaldhaka:

The Jaldhaka River, also known as Dichu River in earlier times, is a trans-boundary river with a length of 192 kilometers that originates from the Kupup or Bitang Lake in southeastern Sikkim in the eastern Himalayas and flows through Bhutan and the Kalimpong, Jalpaiguri and Cooch Behar districts of West Bengal, India. At that point the river enters Bangladesh through the Lalmonirhat District and then joins with the Dharla River until the Dharla debouches into the Brahmaputra River near the Kurigram District. Due to

the river's wandering over several international borders, only a small length of the river lies within Bangladesh.

Mahananda:

The Mahananda River is a trans-boundary river that flows through the Indian states of Bihar and West Bengal, and Bangladesh. It is an important tributary of River Ganga.

The Mahananda originates in the Himalayas: Paglajhora Falls on Mahaldiram Hill near Chimli, east of Kurseong in Darjeeling district at an elevation of 2,100 metres (6,900 ft). It flows through Mahananda Wildlife Sanctuary and descends to the plains near Siliguri. It touches Jalpaiguri district.

Other than these three major rivers there are many small rivers or streams are present in the Jalpaiguri District.

a) Drainage System with description of main rivers

Table No 7.1: Drainage system with description of main rivers

Sl.No.	Name of the River	Area drained (Sq.km)	% Area drained in the district
1	Teesta	215.90	7.09%
2	Jaldhaka	93.55	3.07%
3	Angabarsha	5.01	0.16%
4	Mahananda	3.87	0.12%

b)Salient Features of important rivers and streams

Table No 7.2: Salient Features of important rivers and streams

Sl.No.	Name of the River or Stream	Total Length in the District (in Km)	Place of origin	Altitude at Origin
1	Teesta	66	Pahunri (or Teesta Kangse) glacier	7068 mtrs
2	Jaldhaka	64	Kupup or Bitang Lake in south eastern Sikkim in the eastern Himalayas	3962 mtrs
3	Angabarsha	43	South Bhutan Hills	305 mtrs
4	Mahananda	29	Paglajhora Falls on Mahaldiram Hill near Chimli, east of Kurseong in Darjeeling district	2100mtrs

ii) Annual deposition of riverbed minerals

Annual deposition of riverbed minerals is dependent on various factors which are explained below.

A. Geomorphological studies

Geomorphological characteristic of a river is foremost factor for annual deposition of sedimentary load. The study includes following parameter:

i) Place of Origin

Details of origin of rivers of Jalpaiguri district is furnished below.

Table No. 7.3: Place of Origin of important rivers and streams

Name of the River or Stream	Place of origin
Teesta	Pahunri (or Teesta Kangse) glacier
Jaldhaka	Kupup or Bitang Lake in south eastern Sikkim in the eastern Himalayas
Angabarsha	South Bhutan Hills
Mahananda	Paglajhora Falls on Mahaldiram Hill near Chimli, east of Kurseong in Darjeeling district

ii) Catchment Area

The Jalpaiguri district is mainly drained by the Teesta, Jaldhaka, Angabarsha and Mahananda River. These rivers and its tributary rivers are forming the main catchment area.

iii) General profile of river stream

River profile has been studied along the cross-section lines which was chosen based on the drastic variation of the river widths, proximity of the operating sand ghats and the position of the sand bars.

Relative disposition of rivers in Jalpaiguri district along with the distribution of the section lines are shown in figure 7.1.

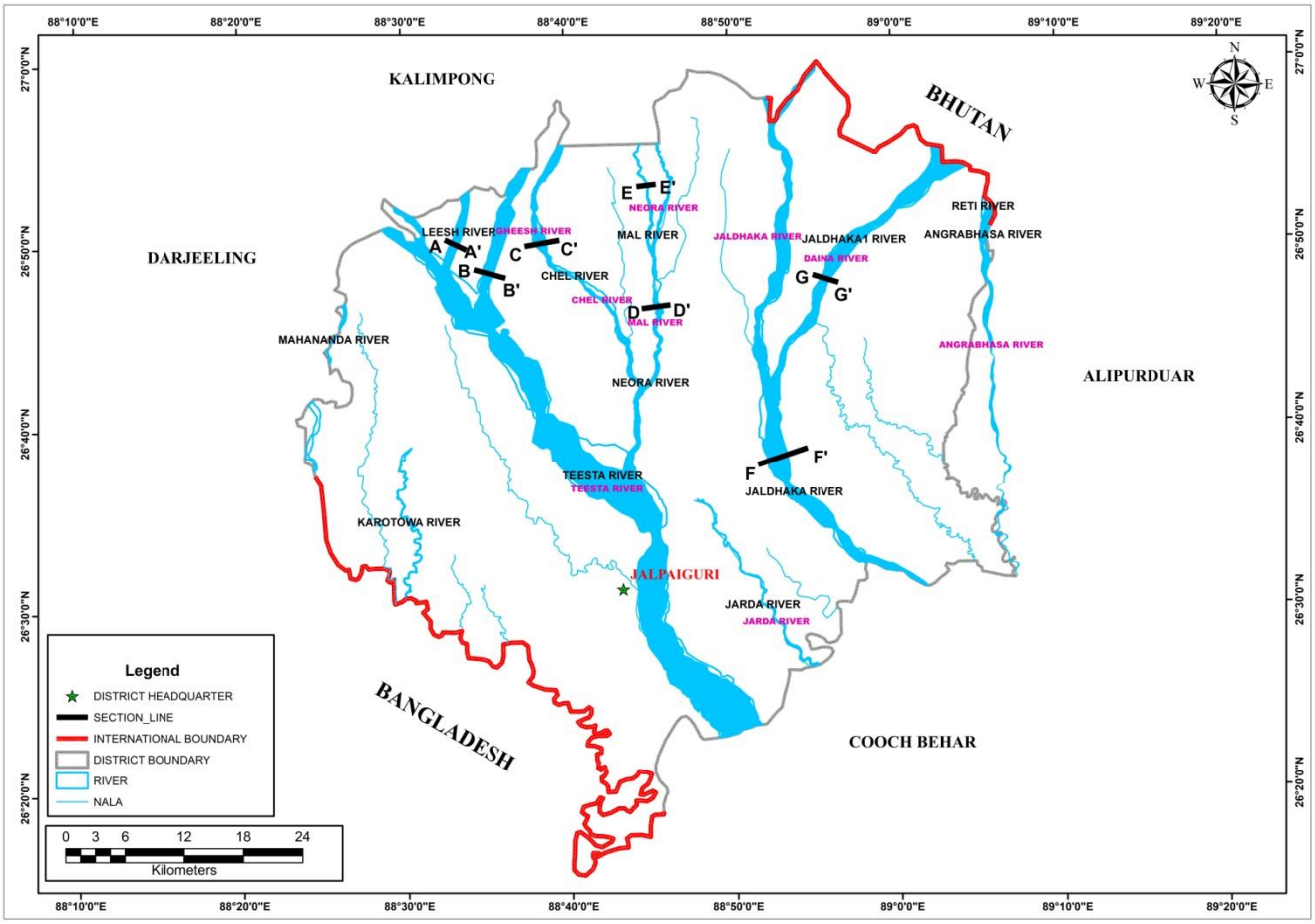

Figure No. 7.1: Plan showing the major rivers along with the distribution of Section Lines, Jalpaiguri district, West Bengal.

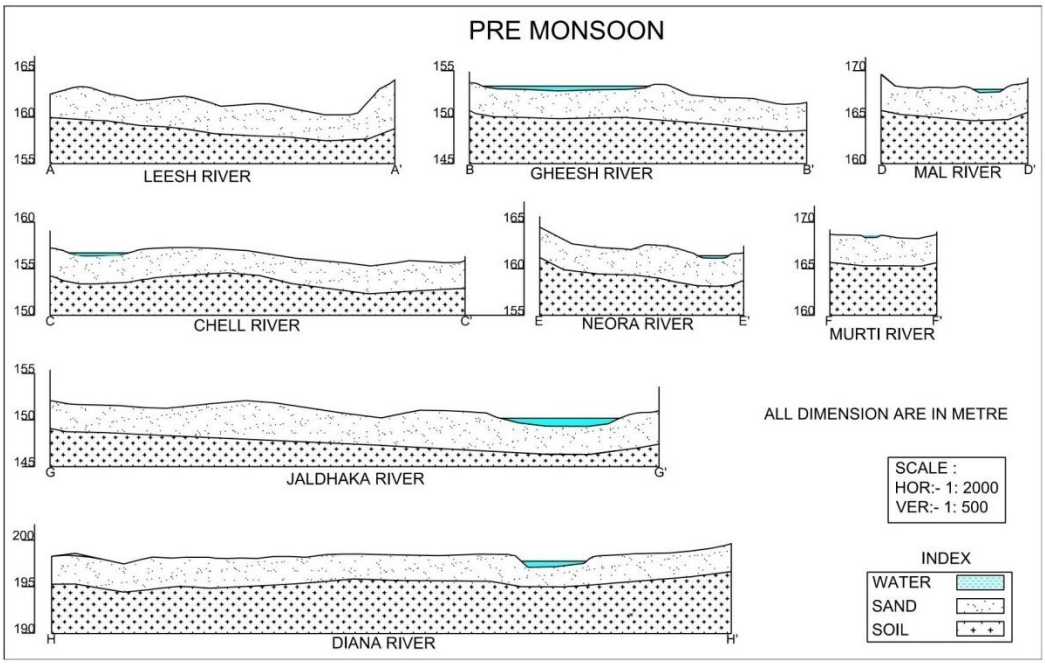

Figure No.7.2: River cross section during pre monsoon period

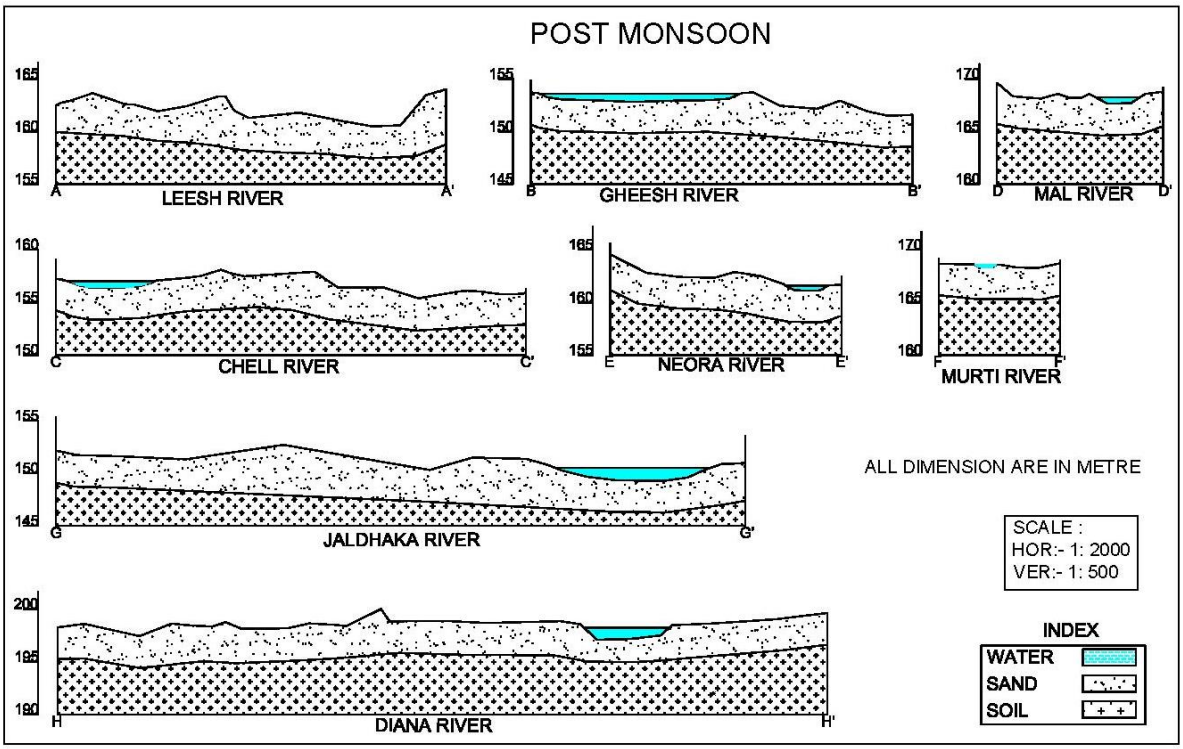

Figure No.7.3: River cross section during post monsoon period

iv) Annual deposition factor

Annual deposition of riverbed materials depends on various factors, such as process of deposition, mode of sediment transport, sediment transport rate, and sediment yield of the river.

1. Process of deposition

Deposition is the processes where material being transported by a river is deposited. Deposition occurs when the forces responsible for sediment transportation are no longer sufficient to overcome the forces of gravity and friction, creating a resistance to motion; this is known as the null-point hypothesis. This can be when a river enters a shallow area or towards its mouth where it meets another body of water.

The principle underlying the null point theory is due to the gravitational force; finer sediments remain in the water column for longer durations allowing transportation outside the surf zone to deposit under calmer conditions. The gravitational effect or settling velocity determines the location of deposition for finer sediments, whereas a grain's internal angle of friction determines the deposition of larger grains on a shore profile.

Deposition of non-cohesive sediments: Large-grain sediments transported by either bedload or suspended load. In case of bedload, when there is insufficient bed shear stress and fluid turbulence are insufficient to keep the sediment moving, the grain cease horizontal movement and rapidly come to rest. In case of suspended load the grain settle longer distance vertically through the fluid before coming to rest.

Deposition of cohesive sediments: The cohesion of sediment occurs with the small grain sizes associated with silts and clays, or particles smaller than 4Φ or 62.5 μm. If these fine particles remain dispersed in the water column, Stokes law applies to the settling velocity of the individual grains. The face of a clay platelet has a slight negative charge where the edge has a slight positive charge when two platelets come into close proximity with each other the face of one particle and the edge of the other are electrostatically attracted, and then have a higher combined mass which leads to quicker deposition through a higher fall velocity.

2. Mode of sediment transport in rivers

Sediment transport in rivers provides a dynamic linkage between flow and channel form. Mainly there are three processes by which sediment load is transported and these are (i) rolling or traction, in which the particle moves along a sedimentary bed but is too heavy to be lifted from it; (ii) saltation; and (iii) suspension, in which particles remain permanently above the bed, sustained there by the turbulent flow of the water.

Another name for sediment transport is sediment load. The total load includes all particles moving as bedload, suspended load, and wash load.

Bed load: Bedload is the portion of sediment transport that rolls, slides or bounces along the bottom of a waterway. This sediment is not truly suspended, as it sustains intermittent contact with the streambed, and the movement is neither uniform nor continuous. Bedload occurs when the force of the water flow is strong enough to overcome the weight and cohesion of the sediment. While the particles are pushed along, they typically do not move as fast as the water around them, as the flow rate is not great enough to fully suspend them. Bedload transport can occur during low flows (smaller particles) or at high flows (for larger particles). Approximately 5-20% of total sediment transport is bedload. In situations where the flow rate is strong enough, some of the smaller bedload particles can be pushed up into the water column and become suspended.

Suspended load: While there is often overlap, the suspended load and suspended sediment are not the same thing. Suspended sediment are any particles found in the water column, whether the water is flowing or not. The suspended load, on the other hand, is the amount of sediment carried downstream within the water column by the water flow. Suspended loads require moving water, as the water flow creates small upward currents (turbulence) that keep the particles above the bed. The size of the particles that can be carried as suspended load is dependent on the flow rate. Larger particles are more likely to fall through the upward currents to the bottom, unless the flow rate increases, increasing the turbulence at the streambed. In addition, suspended sediment will not necessarily remain suspended if the flow rate slows.

Wash load: The wash load is a subset of the suspended load. This load is comprised of the finest suspended sediment (typically less than 0.00195 mm in diameter). The wash load is differentiated from the suspended load because it will not settle to the bottom of a waterway during a low or no flow period. Instead, these particles remain in permanent suspension as they are small enough to bounce off water molecules and stay afloat. However, during flow periods, the wash load and suspended load are indistinguishable.

3. Sediment Transport Rate

The rate at which sediment is moved past a cross section of the flow is called either the sediment transport rate or the sediment discharge. It‘s related to the sediment load, but it‘s different, just because different fractions of the sediment load are transported at different rates. It can be measured in mass per unit time, or in weight per unit time, or in volume per unit time. The sediment transport rate is commonly denoted by Qs.

4. Estimation of Sedimentation

There are two approaches to obtaining values describing sediment loads in streams. One is based on direct measurement of the quantities of interest, and the other on relations developed between hydraulic parameters and sediment transport potential.

The total bed material load is equal to the sum of the bedload and the bed material part of the suspended load; in terms of volume transport per unit width, qt = qb + qs. Here wash load, i.e. that part of the suspended load that is too fine to be contained in measurable quantities in the river bed, is excluded from qs.

There are number of equations to compute the total sediment load. Most of these equations have some theoretical and empirical bases.

In 1973, Ackers and White developed a general theory for sediment transport which was calibrated against the flume-transport data then available. Their functions have been widely accepted as one of the best available procedures for estimating the total bed over the full width of the flow section.

Dendy 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. Computed sediment yields normally would be low for highly erosive areas and high for well stabilized drainage basins with high plant density because the equations are derived from average values. The equations express the general relationships between sediment yield, runoff, and drainage area.

5. Sediment Yield

The water that reaches a stream and its tributaries carries sediment eroded from the entire area drained by it. The total amount of erosional debris exported from such a drainage basin is its sediment load or sediment discharge and the sediment yield is the sediment discharge divided by the total drainage area of the river upstream of the cross section at which the sediment discharge is measured or estimated. Sediment yield is generally expressed as a volume or weight per unit area of drainage basin—e.g., as tons per square kilometre. Further, sediment yield is usually measured during a period of years, and the results are thus expressed as an annual average.

v) Replenishment Study (As per EMGSM guidelines, 2020):

Replenishment study for a river solely depends on estimation of sediment load for any river system and the estimation is a time consuming and should be done over a period. The process in general is very slow and hardly measurable on season to season basis except otherwise the effect of flood is induced which is again a cyclic phenomenon. Usually,

replenishment or sediment deposition quantities can be estimated in the following ways as given below:

A. Replenishment study based on satellite imagery involves demarcation of sand bars potential for riverbed mining. Both pre and post monsoon images need to be analysed to established potential sand bars. Volume estimation of sand is done by multiplying Depth and Area of the sand bar. The sand bars are interpreted with the help of satellite imagery. Ground truthing has been done for 100% of the total identified sand bars. During ground truthing, width and length of each segment were physically measured. It has also been observed that in few cases, sand bars have attained more than 3 meters height from the average top level of the river beds. Considerations of sand resources have been restricted within 3 meters from the average top surface of the river bed.
B. Direct field measurement of the existing leases involving estimation of the volume difference of sand during pre and post-monsoon period. With systematic data acquisition, a model has developed for calculation of sediment yield and annual replenishment with variable components.
C. The replenishment estimation based on a theoretical empirical formula with the estimation of bed-load transport comprising of analytical models to calculate the replenishment estimation.

V(A). Replenishment Study based on field investigation:

Sedimentation in any river is dependent on sediment yield which depends on soil erosion in river's catchment area. Catchment yield is computed using Strange's Monsoon runoff tables for runoff coefficient against rainfall return period. Peak flood discharge calculated by using Dickens, Jarvis and Rational formula at 25, 50 and 100 years return period. The estimation of bed load transport is done using Ackers and White Equation.

Methodology Adopted: To delineate replenishment percentage in the river bed of the district, below mentioned steps have been followed.

- **Field data collation:**

  Field data collations were done during June 2020 for pre monsoon period and during December 2020 for post monsoon period for the river ghats on continuous basis. However, the nonoperational areas were covered through traverses. In both the cases, relative elevation levels were captured through GPS/DGPS/ Electronic Total Station. Thickness of the sand bars was measured through sectional profiles. In few instances, sieve analysis of the sands was carried out to assess their particle size distribution.



Figure No.7.4: Site View of LeeshRiver



Figure No.7.5: Site View of River Chel

- **Selection of Study profiles:**

  Study profiles are selected based on the occurrence of the sand bars in the channel profiles. Aerial extents of each of the profiles are mapped from satellite imagery.

- **Data Compilation:**

Following data were compiled for generation of this annual replenishment report:

- Elevation levels of the different sand ghats and sand bars as measured at site.
- Extents of the sand bars are measured from the pre monsoon satellite imagery.
- Sand production data of the district.

- **Assessment of sediment load in the river:**

Assessment of sediment load in a river is subjective to study of the whole catchment area, weathering index of the various rock types which acts as a source of sediments in the specific river bed, rainfall data over a period not less than 20 years, and finally the detail monitoring of the river bed upliftment with time axis. Again, the sediment load estimation is not a dependent variable of the district boundary, but it largely depends upon the aerial extents of the catchment areas, which crossed the district and state boundaries.

- **Estimation of annual sand deposition**

The major sand producing river of the Jalpaiguri district is Teesta, Mahananda, Jaldhaka and Angabarsha rivers. Planning has been done for systematic sand mining in the rivers.

From the satellite imagery as well as ground survey during pre monsoon period, altogether 230 sand bars are identified in Jalpaiguri district. Whereas, during post monsoon period total 201 sand bars has been identified in Jalpaiguri district.

While calculation of the areas of sand bar, a classification system has been adopted with three categories of land identified within the channel areas which is as follows:

a. The untapped Sand Bars.
b. The Sand bars worked in the pre-monsoon period.
c. Main channel course within the channel.

A summary of sediment load comparison between pre- and post-monsoon period for different rivers of Jalpaiguri district is given in Table 7.4 and details of each sand bars along with their sand resources in pre monsoon and post monsoon periods are provided in Annexure 2. Maps showing distribution of sand bars on rivers of the Jalpaiguri district during pre- and post-monsoon period are depicted in Plate 2A and Plate 2B respectively.

Table No. 7.4: Sediment Load comparison between Pre & Post Monsoon periods for different rivers of Jalpaiguri district

River Name	Pre-Monsoon no of ghats	Post-Monsoon no of ghats	Pre-Monsoon Sediment Load (Mcum)	Post Monsoon Sediment Load (Mcum)	Difference (Mcum)	Difference (%)
Mahananda	7	6	2.92	2.93	0.01	0.39
Leesh	3	2	7.39	7.54	0.15	2.03
Teesta	113	93	173.96	179.17	5.21	2.99
Chel	17	17	6.87	7.29	0.42	6.11
Mal	2	2	1.34	0.91	-0.43	-32.14
Neora	22	22	6.35	5.30	-1.05	-16.48
Jaldhaka	56	50	34.12	37.14	3.02	8.86
Jaldhaka 1	8	7	37.80	38.23	0.43	1.13
Reti	1	1	1.10	1.04	-0.06	-5.43
Angabarsha	1	1	8.88	6.73	-2.15	-24.17
Total =	**230**	**201**	**280.73**	**286.28**	**5.55**	**1.97**

Thus, in Jalpaiguri district, about 5.55 Mcum of sand has been found as an incremental volume when compared between pre and post monsoon sand reserve data. The average replenishment and aggradation rate for the year 2020 comes to about 101.97%.

Long-term satellite imagery study has also been carried out for sand producing rivers of Jalpaiguri district to analyse the changes in river course. A representative map, showing long-term (from 2010 to 2022) erosion-accretion areas on both the banks of Chel River, Jalpaiguri has been prepared and furnished as Plate No. 5. 5B Map shows changes in river channel through erosion and accretion of river bank and it shows accretion of river channel as compare between 2010 and 2022.

V(B). Replenishment estimation based on field investigation

The study was carried out on existing mining leases. In order to assess the annual replenishment rate, an approach of direct measurement methodology has been adopted. The depth and area of the mining leases are measured through DGPS/Total station just before the closure of the mines in pre-monsoon period and the same areas are resurveyed in the post-monsoon period. The difference between the depth of the surveyed areas is accounted for the volumetric measurement of the replenished sand.

Table 7.5 represents field measurement of replenishment rate estimated for major rivers.

Table No. 7.5: Replenishment rate of the district

Location	River Name	Area	Surface RL	Thickness	Volume	After mining floor RL	Surface RL	Thickness	Volume	Difference in RL	Replenishment Rate
		m2	m	m	cum	m	m	m	cum	m	%
Turibari	Chel	47500.00	150.00	2.80	133000.00	147.20	149.91	2.71	128744.00	0.09	96.80%
Odlabari	Chel	48000.00	133.00	3.00	144000.00	130.00	132.89	2.89	138672.00	0.11	96.30%
Dhupguri	Jaldhaka	45000.00	85.00	2.90	130500.00	82.10	84.90	2.80	126193.50	0.10	96.70%
NeoraMajhiali	Neora	35200.00	159.00	2.95	103840.00	156.05	158.91	2.86	100724.80	0.09	97.00%
Kalagaity	Leesh	45000.00	155.00	2.90	130500.00	152.10	154.89	2.79	125541.00	0.11	96.20%
Manabari TG	Gheesh	44100.00	170.00	2.85	125685.00	167.15	169.89	2.74	120908.97	0.11	96.20%
Dakshin Phulbari	Gheesh	50000.00	130.00	3.00	150000.00	127.00	129.90	2.90	145050.00	0.10	96.70%

The average replenishment rate for the year comes to about 96.56%.

V(C). Replenishment estimation based on an empirical formula:

The river reaches with sand provide the resource and thus it is necessary to ascertain the rate of replenishment of the mineral. Regular replenishment study needs to be carried out to keep a balance between deposition and extraction.

Sediment load deposition in a river depends on catchment area, weathering index of the various rock types of the catchment area, land-use pattern of the area, rainfall data and grain size distribution of the sediments. Again, the sediment load estimation is not a dependent variable of the district boundary, but it largely depends upon the aerial extents of the catchment areas, which crosses the district and state boundaries.

i. Methodology of the study:

The replenishment estimation is based on a theoretical empirical formula with the estimation of bedload transport comprising of analytical models to calculate the replenishment estimation. Sedimentation in riverbed depends on catchment yield, peak flood discharge due to rainfall, bed load transport rates and sediment yield characteristic of the river. Some of the common methods used for replenishment study are explained below.

a. Catchment Yield Calculation:

The total quantity of surface water that can be expected in a given period from a stream at the outlet of its catchment is known as yield of the catchment in that period. The annual yield from a catchment is the end product of various processes such as precipitation, infiltration and evapotranspiration operating on the catchment.

Catchment Yield can be estimated using following formula:

Catchment Yield (m^3) =Catchment area (m^2) × Runoff coefficient (%) × Rainfall (m)

The runoff generated from the watershed is analyzed using Strange's Tables to get the reliable yield results. Runoff from a catchment is dependent upon annual rainfall as well as catchment characteristics such as soil types and the type of groundcover / land usage. Remote sensing was used for demarcation of catchment area relevant to the drainage system. Runoff coefficient of the catchment has been established based on Stange's Table.

Strange (1892) studied the available rainfall and runoff and obtained yield ratios as functions of indicators representing catchment characteristics. Catchments are classified as good, average and bad according to the relative magnitudes of yield of sediment. For example, catchment with good forest cover and having soils of high permeability would be classified as bad, while catchment having soils of low permeability and having little or no vegetal cover is termed good. Based on the study Stange established runoff coefficient table as given below:

Table No. 7.6: Runoff coefficient of the catchment based on Strange's Table

Total monsoon rainfall (mm)	Runoff coefficient (%)			Total monsoon rainfall (mm)	Runoff coefficient (%)		
	Good catchment	Average catchment	Bad catchment		Good catchment	Average catchment	Bad catchment
25.4	0.1	0.1	0.1	787.4	27.4	20.5	13.7
50.8	0.2	0.2	0.1	812.8	28.5	21.3	14.2
76.2	0.4	0.3	0.2	838.2	29.6	22.2	14.8
101.6	0.7	0.5	0.3	863.6	30.8	23.1	15.4
127	1	0.7	0.5	889	31.9	23.9	15.9
152.4	1.5	1.1	0.7	914.4	33	24.7	16.5
177.8	2.1	1.5	1	939.8	34.1	25.5	17
203.2	2.8	2.1	1.4	965.2	35.3	26.4	17.6
228.6	3.5	2.6	1.7	990.6	36.4	27.3	18.2
254	4.3	3.2	2.1	1016	37.5	28.1	18.7
279.4	5.2	3.9	2.6	1041.4	38.6	28.9	19.3
304.8	6.2	4.6	3.1	1066.8	39.8	29.8	19.9
330.2	7.2	5.4	3.6	1092.2	40.9	30.6	20.4
355.6	8.3	6.2	4.1	1117.6	42	31.5	21
381	9.4	7	4.7	1143	43.1	32.3	21.5
406.4	10.5	7.8	5.2	1168.4	44.3	33.2	22.1
431.8	11.6	8.7	5.8	1193.8	45.4	34	22.7
457.2	12.8	9.6	6.4	1219.2	46.5	34.8	23.2
482.6	13.9	10.4	6.9	1244.6	47.6	35.7	23.8
508	15	11.3	7.5	1270	48.8	36.6	24.4



Total monsoon rainfall (mm)	Runoff coefficient (%)			Total monsoon rainfall (mm)	Runoff coefficient (%)		
	Good catchment	Average catchment	Bad catchment		Good catchment	Average catchment	Bad catchment
533.4	16.1	12	8	1295.4	49.9	37.4	24.9
558.8	17.3	12.9	8.6	1320.8	51	38.2	25.5
584.2	18.4	13.8	9.2	1346.2	52.1	39	26
609.6	19.5	14.6	9.7	1371.6	53.3	39.9	26.6
635	20.6	15.4	10.3	1397	54.4	40.8	27.2
660.4	21.8	16.3	10.9	1422.4	55.5	41.6	27.7
685.8	22.9	17.1	11.4	1447.8	56.6	42.4	28.3
711.2	24	18	12	1473.2	57.8	43.3	28.9
736.6	25.1	18.8	12.5	1498.6	58.9	44.4	29.4
762	26.3	19.7	13.1	1524	60	45	30

Rainfall returns period for 25, 50 and 100 years calculated as below:

As per Weibull's Formula (Subramanya, 2008),

Return period/Recurrence interval = (n+1)/m

Where: n number of years on record;

m is the rank of observed occurrences when arranged in descending order.

b. Peak Flood Discharge Calculation:

The term "peak discharge" stands for the highest concentration of runoff from the basin area. The accurate estimation of flood discharge remains one of the major challenges as it depends upon physical characteristic of the catchment area and the flood intensity, duration and distribution pattern. There have been many different approaches for determining the peak runoff from an area. As a result many different models (equations) for peak discharge estimation have been developed. Formulas used for Peak Discharge calculation areas below:

As per Dicken's formula (Subramanya, 2008),

$$Q = CA^{3/4}$$

Where: Q is Maximum flood discharge (m^3/sec) in a river

A is Area of catchment in Sq. Km

C is Constant whose value varies widely between 2.8 to 5.6 for catchments in plains and 14 to 28 for catchments in hills

As per Jarvis formula (Subramanya, 2008),

$$Q = CA^{1/2}$$



Where: Q is Maximum flood discharge (m^3/sec) in a river
A is Area of catchment in Sq. Km

C is Constant whose value varies between 1.77 as minimum and 177 as maximum. Limiting or 100 percent chance floods are given by the value of C of 177

As per Rational formula (Subramanya, 2008),

Q = CIA

Where: Q is Maximum flood discharge (m^3/sec) in a river
A is Area of catchment in Sq. Km

C is Runoff coefficient which depends on the characteristics of the catchment area. It is a ratio of runoff: rainfall

I is Intensity of rainfall (in m/sec)

c. Bed Load Transport Calculation:

The most important problems in river engineering areto predict bed load transport rates in torrential floods flowingfrom mountainous streams. Three modes of transport namely; rolling, sliding and saltationmay occur simultaneously in bed load transport. The differentmodes of transportation are closely related and it is difficult, if not impossible, to separate them completely. There are number of equations to compute the total sediment load. Most of these equations have some theoretical and empirical bases.

Ackers and White Equation:

Ackers and White (1973) used dimensional analysis based on flow power concept and their proposedformula is as follows.

$$C_t = C_s G_s \left(d_{50}/h\right) \left(V/U_*\right)^{n'} \left[\left(F_{gr}/A_1\right) - 1\right]^{m}$$

The dimensionless particle d_{gr} is calculated by:

$$d_{gr} = d_{50} \left(g(G_s-1)/v^2\right)^{1/3}$$

The particle mobility factor $F_{gr}$is calculated by:

$$F_{gr} = \left(U \times n'/(G_s-1) g\, d_{50}\right)^{1/2} \times \left(V/(5.66 \log(10h/d_{50}))\right)^{1-n'}$$

Where,

A_1 = Critical particle mobilityfactor

C_s = Concentration coefficient in the sediment transportfunction

C_t = Total sediment concentration

d_{50} = Median grainsize

d_{gr} = Dimensionless particle diameter

F_{gr} = Particle mobilityparameter

g = Acceleration ofgravity

D_s, S_g = Specific gravity

h = Waterdepth

m = Exponent in the sediment transportfunction

n' = Manning roughnesscoefficient

U_* = Shear velocity

V = Mean flowvelocity

ν = Kinematic viscosity

Meyer – Peter's equation:

Meyer-Peter's equation (Ponce, 1989) is based on experimental work carried out at Federal Institute ofTechnology, Zurich. Mayer-Peter gave a dimensionless equation based, for the first time, onrational laws. Mayer- Peter equations giving an empiricalcorrelation of bed load transport rates in flumes and natural rivers. The simplified Meyer-Peter's equation is given below:

$$g_b = 0.417[\tau 0\ (\eta'/\ \eta)^{1.5} - \tau c]^{1.5}$$

Where,

gb = Rate of bed load transport (by weight) in N per m width of channel per second.

η' = Manning's coefficient pertaining to grain size on an unrippled bed and Strickler formula i.e. η' = (1/24) x d1/6 where d is the median size (d_{50}) of the bed sediment in m.

η = The actual observed value of the rugosity coefficient on rippled channels. Its value is generally taken as 0.020 for discharges of more than 11cumecs, and 0.0225 for lower discharges.

τc = Critical shear stress required to move the grain in N/m2 and given by equation τc = 0.687da, where da is mean or average size of the sediment in mm. This arithmetic average size is usually found to vary between d_{50} and d_{60}.

τ0= Unit tractive force produced by flowing water i.e.γwRS. Truly speaking, its value should be taken as the unit tractive force produced by the flowing water on bed = 0.97γwRS. R is the hydraulic mean depth of the channel (depth of flow for wider channel) and S is the bed slope.

d. Sediment Yield Estimation:

Sedimentation occurs as the velocity decreases along with its ability to carry sediment. Coarse sediments deposit first, then interfere with the channel conveyance, and may cause

additional river meanders and distributaries. The area of the flowing waterexpands, the depth decreases, the velocity is reduced, and eventually even fine sediments beginto deposit. As a result, deltas may be formed in the upper portion of reservoirs. The depositedmaterial may later be moved to deeper portions of the reservoir by hyraulic processes withinthe water body.

There are many sediment transport equations which are suitable for use in the prediction of the rate of replenishment of river. Some of the famous sediment transport equations are:

1. Dendy – Bolton Equation
2. Yang Equations
3. Engelund-Hansen Equation
4. Modified Universal Soil Loss Equation (MUSLE) developed by Williams and Berndt (1977)

Dendy – Bolton Equation (Source: Hydrologic Engineering Center):

Dendy – Bolton formula is often used to calculate the sedimentation yield because:-

- The formula uses catchment area and mean annual runoff as key determinants.
- It does not differentiate in basin wide smaller streams and their characteristics.
- Dendy and Bolton equation calculates all types of sediment yield i.e. sheet and rill erosion sediments, gully erosion sediments, channel bed and bank erosion sediments and mass movement etc.

Dendy- 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:

For run off less than 2 inch:

(Q<2in) $S=1289\times (Q)^{0.46}\times [1.43-0.26 \text{ Log } (A)]$

For run off more than 2 inches:

(Q > 2 in): $S= 1958\times (e^{-0.055\times Q}) \times [1.43-0.26 \text{ Log } (A)]$

Where: S = Sediment yield (tons/sq miles/yr)

Q = Mean Annual runoff (inch)

A = Net drainage are in sq mile

Dendy-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 ofthe wide variability caused by local factors not considered in the equations development. However, they may provide a quick, rough approximation of mean sediment yields ona regional basis for preliminary watershed planning. Computed sediment yieldsnormally would be low for highly erosive areas and high for well stabilized drainage basins with high vegetation density because

the equations are derived from average values. The equations express the general relationships between sediment yield, runoff, and drainage area. Many variables influence sediment yield from a drainage basin. They include climate, drainage area, soils, geology, topography, vegetation and land use. The effect of any of these variables may vary greatly from one geographic location toanother, and the relative importance of controlling factors often varies within a given land resource area. 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.

Modified Universal Soil Loss Equation (MUSLE):

Modified universal soil loss equation (MUSLE) for estimation of sediment yield is also widely used. MUSLE is a modification of the Universal Soil Loss Equation (USLE). USLE is anestimate of sheet and rill soil movement down a uniform slope using rainfall energyas 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 rainfall.

MUSLE is similar to USLE except for the energy component. USLE depends strictly uponrainfall 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 ofrunoff variables rather than rainfall erosivity as the driving force enables MUSLE to estimate sediment yields for individual storm events. The generalized formula of MUSLE is as below:

$$\mathbf{Y=11.8 \times (Q \times qP).56 \times K \times Ls \times C \times P}$$

Where,

Y = sediment yield of stream (t/yr/km2),

Q = average annual runoff (m3),

K = soil erodibility factor,

qP = Highest discharge recorded (m3/s),

Ls = gradient/slope length,

C = cover management factor,

P = erosion control practice

ii. Estimation of Replenishment:

Jailpaiguri district forms a part of the Sub-Himalayan Zone. This foot hill zone rises from the alluvial plain on the south, gradually gains elevation and ruggedness northwards to a steep range with altitudes 1700m and above at the Bhutan border. The maximum relief in the area is about 1550 m. The drainage is controlled by the general slope of the terrain, as a number of southerly flowing nalas with steep gradients drain the area. The major sand producing river of

the Jalpaiguri district is Teesta, Mahananda, Jaldhaka and Angabarsha Rivers. These rivers and its tributary rivers are forming the main catchment area.

For replenishment study, following assumption/calculation are taken in to consideration:

- Catchment area (Watershed area) against each river has been calculated based on remote sensing data.
- Rainfall runoff coefficient as per Strange's table for the catchment area is consider 45%, as the rainfall in the district is more than 1524mm and the characteristic of the catchment of the district is average in nature.
- Peak flood discharge of the river of the district calculated based on Dicken's formula which is more applicable to north Indian and central Indian catchment. Here Dicken constant C is taken as 12 in present study as per published literature by Saha (2002).
- Bed load transport has not been computed in the regional aspect of the district, as the values are highly dependent on local factors such as particle mobility factor, roughness coefficient, Shear velocity, Mean flow velocity, Kinematic viscosity etc.
- Sedimentation yield calculated as per Dendy Bolton formula as the equations express the general relationships between sediment yield, runoff, and drainage area.
- Computed sediment yields by Dendy Bolton formula normally would be low for highly erosive areas and high for well stabilized drainage basins with high plant density because the equations are derived from average values.
- Dendy -Boltan formula also says that actual sediments yield from individual drainage basins may vary 10-fold or even 100 fold from computed yields. Since the district river basin comprises of sedimentary rocks with good average rainfall therefore the estimated replenishment considered as 50 fold of computed results sediment yield

The data estimated for each river in the district are tabulated below.

Table No. 7.7: Replenishment parameter estimated for each river in the district

Estimation parameter	Mahananda	Teesta	Jaldhaka	Angabarsha
Catchment Area (m^2)	413480000	1762720000	903300000	338260000
Annual Rainfall (m) (in 2020)	4.975	4.975	4.975	4.975
Strange Runoff coefficient (%)	45%	45%	45%	45%
Annual Run-off (m) (in 2020)	1.0945	1.0945	1.0945	1.0945
Catchment Yield (m^3)	925678350	3946289400	2022262875	757279575
Peak Flood Discharge (m^3/sec)	34795423.50	103233046.78	62525223.63	29930862.34
Flow depth d (m)	0.5	0.8	0.5	0.4
Channel width b (m)	130.26	410.13	181.83	347.4
Mean velocity v (m/s)	0.1	0.09	0.08	0.08

Estimation parameter	Mahananda	Teesta	Jaldhaka	Angabarsha
Channel slope S_0 (m/m)	0.06	0.04	0.05	0.01
Sediment Yield (MT/year)	5.11	17.63	10.02	4.29
Estimated Annual Replenishment (in million m3)	1.91	6.60	3.75	1.61

Sedimentation rate of a river is dependent on the annual rainfall of the district. Year-wise sedimentation rate for the period 2016-2020 each river has been calculated as below.

Table No. 7.8: Year-wise sedimentation rate for last 5 years of each river

Year	Mahananda	Teesta	Jaldhaka	Angabarsha
2016	55.51	191.43	108.78	46.61
2017	90.61	312.48	177.56	76.08
2018	118.26	407.84	231.75	99.3
2019	141.45	487.82	277.2	118.78
2020	5.11	17.63	10.02	4.29

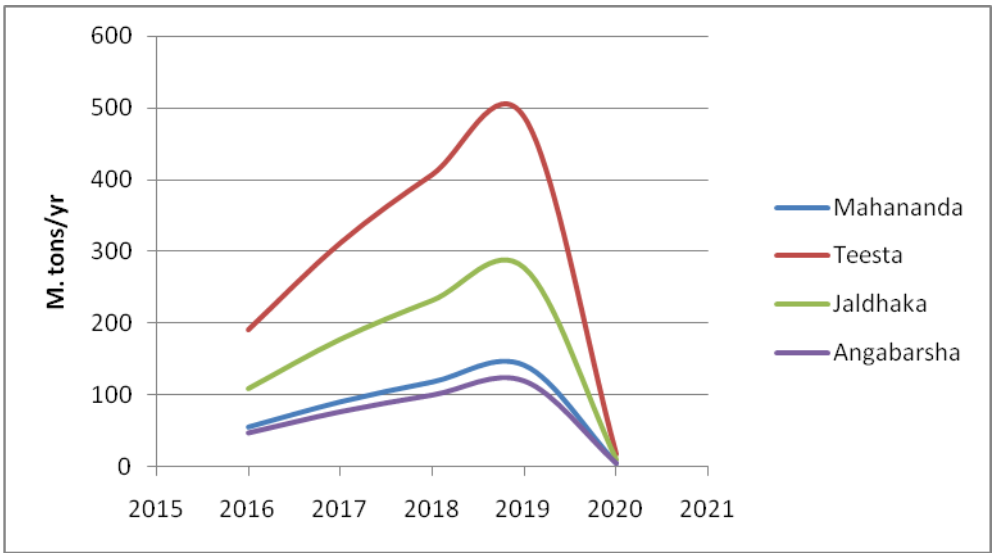

Figure No.7.6: Graphical representation of year-wise sedimentation rate

The estimation of sedimentation rate based on empirical formula need critical analysis of different factors related to the LULC property of the catchment area, slope geometry, sediment erosion factor of catchment litho-type. This will help to assess replenishment rate more precisely.

Replenishment studies based on empirical formula for existing mining leases have also been conducted and are given in Table 7.9.

Table No.7.9: River wise replenishment rate estimation based on empirical formula

Location	River Name	Lease Area	Surface RL Before mining	Mine out Thickness	Mine out Volume	Drainage area for lease block	Monsoon Rainfall-2020	Estimated Volume as per Dendy-Bolton	Replenishment Rate
		m2	m	m	cum	Km2	m	cum	%
Turibari	Chel	47500.00	150.00	2.80	133000.00	0.441	3.46	103740.00	78.00%
Odlabari	Chel	48000.00	133.00	3.00	144000.00	0.505		118080.00	82.00%
Dhupguri	Jaldhaka	45000.00	85.00	2.90	130500.00	0.448		104400.00	80.00%
NeoraMajhiali	Neora	35200.00	159.00	2.95	103840.00	0.341		82033.60	79.00%
Kalagaity	Leesh	45000.00	155.00	2.90	130500.00	0.438		105705.00	81.00%
Manabari TG	Gheesh	44100.00	170.00	2.85	125685.00	0.401		96777.45	77.00%
Dakshin Phulbari	Gheesh	50000.00	130.00	3.00	150000.00	0.515		121500.00	81.00%

Theoretical Replenishment study based on mining lease shows variations from 77% to 82% with an average of 80% of replenishment rate in the district.

Illustration of Replenishment Estimation is given in Table 7.10.

Table 7.10: Illustration of replenishment rate calculation based on 3 methods

Based on Satellite imageries		Based on field investigation		Based on empirical formula	
Particulars	Estimation	Particulars	Estimation	Particulars	Estimation
		River Name	Jaldhaka	River Name	Jaldhaka
River	Jaldhaka	Location	Dhupguri	Location	Dhupguri
Total Pre-monsoon Sand Bar Area	11860085 (sq.m)	Mining Area	45000 (Sq.m)	Lease Area	45000 (Sq.m)
Average Pre monsoon Thickness	2 (m)	Pre monsoon RL	85 (m)	Surface RL Before mining	85 (m)
Total Sand Volume	37.8 (Mcum)	Sand Thickness	2.9 (m)	Mine out Thickness	2.9 (m)
Total Post-monsoon Sand Bar Area	13787647 (sq.m)	Volume excavated (Cum)	130500.00 (cum)	Mine out Volume (Cum)	130500.00 (cum)
Average Post-monsoon Thickness	2 (m)	Post monsoon RL	84.90 (m)	Drainage area for lease block	0.448 (Sq.km)
Total Sand Volume	38.24 (M.cum)	Thickness	2.8 (m)	Monsoon Rainfall-2020	3.46 (m)

Pre and Post monsoon Volume Difference	0.44 (M.cum)	Volume deposited (Cum)	126193.50 (cum)	Estimated Volume as per Dendy- Bolton (S = 1280 Q0.46[1.43 - 0.26 log(A)]) Where, Q is runoff, A is drainage area)	104400.00 (Cum)
Replenishment and Agrredation %	101.13%	Replenishment Rate	96.70%	Replenishment Rate	80%

Replenishment studies have been carried out in the district based on three different methodologies as illustrated in Table 7.10. Table 7.11 explained comparison of the outcome of these three methodologies adopted for the district.

Table No.7.11: Comparison of replenishment study

Replenishment Study Method	Chel	Neora	Jaldhaka	Leesh	Gheesh
Estimated Annual Replenishment based on Sattelite imegaries **(*)**	106.11%	84%	101.13%	102.3%	102.99%
Estimated Annual Replenishment based on field investigation	96.55%	97%	96.7%	96.2%	96.45%
Estimated Annual Replenishment based on empirical formula	80%	79%	80%	81%	79%

(*) Replenishment study based on satellite imagery involves estimation of replenish volume along with aggredation volume.

vi) Total potential of minor mineral in the river bed

The major sand producing rivers of the Jalpaiguri district are Jaldhaka, Angabarsha, Mahananda & Teesta etc. Rivers.

B. Geological studies

i) Lithology of the catchment area

Rock type of the district may be divided into three tracts, the hard rock area in the north, the Bhabar belt in the middle, the Terai belt and the alluvial plains in

the south. The Bhabar belt comprises rock fragments, big boulders and fine grained clastics derived from the hard- rock area is characterized by gentle slope, boulder surface and forest of tall trees. These are the coarse alluvial zone below the Hills (outermost foothills of the Himalayas) where streams disappear into permeable sediments. The Terai belt is the zone of rejected recharge and, as such has developed swampy condition and is composed mostly of coarse granular materials alternating with finer clastics. The alluvium consists of succession of layers of sand, silt and clay with occasional gravel beds and lenses of peaty organic matter.

ii) Tectonics and structural behavior of rocks

There a number of major thrusts in the Jainti area, causing reversal in the sequence of formations here. The younger rocks are progressively overlain (structurally) by older rocks. Thus from south to north, the successive rock formations belong to the Siwaliks, Gondwanas, Buxas and Dalings. Towards the south, the Main boundary fault brings the Siwaliks in contact with the Gondwanas. The Buxasara brought close to the Gondwanas by the Buxa thrust. In the northern part of the area, a thrust separates the Dalings from the underlying Buxas. The beds in general show dips varying from 35° to 80° in the northeasterly or east-northeasterly direction.

In the area investigated, no major structural features were observed. Beds show dip varying from 25° to 45° in the northerly direction.

C. Climate Factors

i) Intensity of rainfall

The annual average rainfall is 3360mm. January is the driest month with average rainfall 9 mm and July is wettest with 818 mm. Number of rainy days are 2 to 5 during November to February and 26 to 30 days during June to September. Thunderstorms are common weather phenomenon during May.

ii) Climate zone

Jalpaiguri is part of monsoon climate zone of South-Eastern Asia. July (sometimes August) is the hottest month of this region with average maximum temperature of about 29°C whereas January is coldest with 14°C. Highest ever recorded maximum and minimum temperature are 41.3°C and 2.1°C in Jalpaiguri city. The average annual humidity in the district is of 82%. The annual average rainfall is 3360 mm. January is the driest month with average rainfall 9 mm and July is wettest with 818 mm. Number of rainy days are 2 to 5 during November to February and 26 to 30 days during June to September. Thunderstorms are common weather phenomenon during May.

iii) Temperature variation

Jalpaiguri is part of monsoon climate zone of South-Eastern Asia. July (sometimes August) is the hottest month of this region with average maximum temperature of about 29°C whereas January is coldest with 14°C. Highest ever

recorded maximum and minimum temperature are 41.3°C and 2.1°C in Jalpaiguri city.

Annual Deposition:

Annual deposition of riverbed minerals has been calculated on post-monsoon sand volume. The pre-monsoon sand volume of the river is the depleted resources and is replenished by the monsoon rainfall.

Sand bar area recommended for mineral concession in the table is calculated as per the Enforcement and Monitoring Guidelines for Sand Mining (EMGSM) 2020. As per guidelines, mining depth restricted to 3 meters depth and distance from the bank is ¼th of river width and not less than 7.5 meters. Also mining is prohibitated 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.

For the purpose of estimating mineable mineral potential, the thickness of the sand bar considered extractable based on base flow level. The annual minable mineral potential is given in Table 7.12.

Table No. 7.12: Annual deposition of Riverbed minerals

Sl. No.	River or Stream	Portion of the river stream recommended for mineral concession (%)	Length of area recommended for mineral concession (in meter)	Average width of area recommended for mineral concession (in meter)	Area recommended for mineral concession (in Sq.m)	Mineable mineral potential (in Mcum) (60% of total mineral potential)	Considered Thickness (m)
1	Mahananda	13.71	4075.02	130.26	530805.36	0.96	**3.00**
2	Teesta	20.56	108245.20	410.13	44394307.79	42.62	**1.60**
3	Leesh	50.81	6246.14	518.64	3239475.15	5.83	**3.00**
4	Chel	54.30	28134.68	88.74	2513454.91	3.02	**2.00**
5	Mal	42.91	5337.34	74.65	398444.81	0.48	**2.00**
6	Neora	53.43	22193.01	85.16	1889998.06	2.27	**2.00**
7	Jaldhaka	24.42	65684.64	181.83	11943249.35	17.91	**2.50**
8	Jaldhaka 1	23.42	28690.12	374.26	10737633.57	12.89	**2.00**
9	Reti	57.76	2236.46	163.46	365567.01	0.44	**2.00**
10	Angabarsha	52.82	7618.52	347.40	2646676.17	3.18	**2.00**
						89.58	

iii) Riverbed Mineral Potential

Sand: Huge quantity of quality sands are found to occur in part of Teesta, Jaldhaka, Mahananda, Neora, Mal etc. rivers. Smaller patches are also available locally in the other smaller rivers as well. The rivers in the north Bengal are filled by Sand, Gravels and Boulders.

Table No 7.13: Resources of Potential Riverbed Mineral

Boulder (Mcum)	Pebbles/Gravel (Mcum)	Sand/White sand (Mcum)	Total Mineable, Mineral Potential (Mcum)
8.96	17.93	62.69	89.58

Table 7.14 summarizes the potential riverbed mineral deposits of the district. Sand mining can be developed on cluster approach with restricted usage of Machinery's for lifting of sands. The rivers in the north Bengal are filled by Gravels & boulders. Development of river bed material with huge boulders also requires usage of machinery's to increase more production in turn revenue.

Table No 7.14: Potential Zone of Riverbed Mineral

Sl. No.	Rivers or Streams	Location of potential zones						Area within prohibited zone as per rule 3 of WBMMC Rules, 2016 (Sq. m)
		Administrative Block	Mouza	JL Nos	ZONE	Co-ordinates		
						LATITUDE	LONGITUDE	
1	MAHANANDA	RAJGANJ	Dabgram	2	1	26.673211	88.411375	16230.48854
						26.651406	88.401994	
		RAJGANJ	Dabgram	2	2	26.641365	88.404494	1400.776391
						26.631007	88.407322	
2	TEESTA	RAJGANJ	Dabgram	2	1	26.849432	88.479293	506241.5
						26.811092	88.543387	
		RAJGANJ	Dakshin Phulbari Dabgram	2,13	2	26.811092	88.543387	167416.1957
						26.771155	88.577479	
		MAL	Manabari TG	22,21	3	26.903633	88.627221	944408.019

Sl. No.	Rivers or Streams	Location of potential zones						Area within prohibited zone as per rule 3 of WBMMC Rules, 2016 (Sq. m)
		Administrative Block	Mouza	JL Nos	ZONE	Co-ordinates		
						LATITUDE	LONGITUDE	
						26.880127	88.612206	
		MAL	Uttar Phulbari Odlabari Dakshin Phulbari	12,20,13	4	26.870334	88.607767	2377878.969
						26.790038	88.580223	
		RAJGANJ	Dakshin Phulbari	13	5	26.751487	88.59473	1423088.156
						26.672121	88.641479	
		MAL	Dakshin Phulbari	13	6	26.712694	88.630501	291150.7831
						26.685388	88.64412	
		JALPAIGURI	BarapetiaNatun Bus	1	7	26.672121	88.641479	977516.8613
						26.570706	88.755526	
		MAL	BarapetiaNatun Bus	1	8	26.65175	88.683858	197243.9657
						26.60514	88.755882	
		JALPAIGURI	Uttar Bhuskadanga GartaliJalpesh Dakshin Bhuskadanga and GartaliJalpesh	67,68,66	9	26.556403	88.750781	2830132.148
						26.382615	88.816344	
		MAYNAGURI	Uttar Bhuskadanga GartaliJalpesh Dakshin Bhuskadanga and GartaliJalpesh	67,68,66	10	26.553444	88.762209	3752376.827
						26.393414	88.85381	
3	LEESH	MAL	Kalagaity	6	1	26.881095	88.564377	168487
						26.872808	88.565154	
		MAL	Odlabari Dakshin Phulbari	20,13	2	26.860785	88.563817	728379.8547
						26.827931	88.549107	
		RAJGANJ	Dakshin Phulbari	13	3	26.827931	88.549107	107147.0949
						26.816463	88.545444	
4	CHEL	MAL	Turibari Odlabari Manabari	23,21,20	1	26.924021	88.660971	611532.9779
						26.869149	88.63541	
		MAL	Paschim Damdim And	39,20	2	26.859123	88.635	247221.94

Sl. No.	Rivers or Streams	Location of potential zones						Area within prohibited zone as per rule 3 of WBMMC Rules, 2016 (Sq. m)
		Administrative Block	Mouza	JL Nos	ZONE	Co-ordinates		
						LATITUDE	LONGITUDE	
			Odlabari			26.696954	88.738144	52
5	MAL	MAL	NeoraMajhiali-Mal	20,44	1	26.869046	88.752161	34812.11324
						26.82808	88.75183	
		MATIALI	NeoraMajhiali-Mal	20,44	2	26.863502	88.754572	21426.12954
						26.849948	88.753924	
6	NEORA	MATIALI	NeoraMajhiali	20	1	26.870998	88.767807	71615.82262
						26.818393	88.757104	
		MAL	NeoraMajhiali	20	2	26.8286	88.755841	160685.0669
						26.741793	88.759768	
		MATIALI	NeoraMajhiali	20	3	26.799341	88.761083	56953.54116
						26.770102	88.762316	
		MAL	NeoraMajhiali	20	4	26.675132	88.738637	115421.725
						26.638211	88.731868	
7	JALDHAKA	NAGRAKATA	NeoraMajhiali	20	1	26.941286	88.876277	585416.8568
						26.748757	88.863908	
		MAYNAGURI	NeoraMajhiali	20	2	26.742178	88.861831	131387.2581
						26.710196	88.872387	
		MAYNAGURI	Charchurabhandar Jabramali	83,84	3	26.704155	88.876791	575387.4203
						26.620709	88.878403	
		DHUPGURI	Dakshin Altagram Jabramali	78,84	4	26.705893	88.87807	771489.864
						26.618189	88.889809	
		MAYNAGURI	Charchurabhandar Jabramali	83,84	5	26.608802	88.893408	5262.248534
						26.574836	88.932833	
		DHUPGURI	Dakshin Altagram Jabramali	78,84	6	26.591137	88.918	15720.32522

Sl. No.	Rivers or Streams	Location of potential zones						Area within prohibited zone as per rule 3 of WBMMC Rules, 2016 (Sq. m)
		Administrative Block	Mouza	JL Nos	ZONE	Co-ordinates		
						LATITUDE	LONGITUDE	
						26.574723	88.936872	
		MAYNAGURI	Charchurabhandar Jabramali	83,84	7	26.566946	88.942472	31532.95268
						26.543746	88.962845	
		DHUPGURI	Dakshin Altagram Jabramali	78,84	8	26.566816	88.946499	272489.8951
						26.526475	89.01814	
8	JALDHAKA 1	NAGRAKATA	Chunabhatti	5	1	26.902052	89.075645	1407869.068
						26.86465	89.008846	
		NAGRAKATA	Chunabhatti Kathalguri	5,6	2	26.858767	88.997109	956385.6949
						26.706542	88.876756	
9	RETI	DHUPGURI	Chunabhatti	5	1	26.875665	89.094614	152784.6929
						26.855691	89.092678	
10	ANGABHASA	DHUPGURI	Chunabhatti Kathalguri	5,6	1	26.860928	89.103874	718565.0846
						26.795664	89.094082	

NO MINING ZONE:

As per the Enforcement and Monitoring Guidelines for Sand Mining (EMGSM) 2020 the restricted zone for mining is a distance from the bank is ¼th of river width and not be less than 7.5 meters. Also, there is a no mining zone 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.

Also, no mining zone has been marked for an area up to a width of 100 meters from the active edge of embankments. Also, the concave side of the rive is marked as no mining zone, as mining is this area will affect the course of river in future and will erode the river bank. A representative map of no mining zone shown on River Teesta of Jalpaiguri district is is given in Figure 7.7. Table 7.16 summarized the area of no mining zones demarcated for each river of the district.

Table 15: No mining zone in the district

Sl. No.	Rivers or Streams	Administrative Block	ZONE	No mining area (in Sq.m.)
1	MAHANANDA	RAJGANJ	1	16230.48854
		RAJGANJ	2	1400.776391
2	TEESTA	RAJGANJ	1	506241.5
		RAJGANJ	2	167416.1957
		MAL	3	944408.019
		MAL	4	2377878.969
		RAJGANJ	5	1423088.156
		MAL	6	291150.7831
		JALPAIGURI	7	977516.8613
		MAL	8	197243.9657
		JALPAIGURI	9	2830132.148
		MAYNAGURI	10	3752376.827
3	LEESH	MAL	1	168487
		MAL	2	728379.8547
		RAJGANJ	3	107147.0949
4	CHEL	MAL	1	611532.9779
		MAL	2	247221.9452
5	MAL	MAL	1	34812.11324
		MATIALI	2	21426.12954
6	NEORA	MATIALI	1	71615.82262
		MAL	2	160685.0669
		MATIALI	3	56953.54116
		MAL	4	115421.725
7	JALDHAKA	NAGRAKATA	1	585416.8568
		MAYNAGURI	2	131387.2581
		MAYNAGURI	3	575387.4203
		DHUPGURI	4	771489.864
		MAYNAGURI	5	5262.248534
		DHUPGURI	6	15720.32522
		MAYNAGURI	7	31532.95268
		DHUPGURI	8	272489.8951
8	JALDHAKA 1	NAGRAKATA	1	1407869.068
		NAGRAKATA	2	956385.6949
9	RETI	DHUPGURI	1	152784.6929
10	ANGABHASA	DHUPGURI	1	718565.0846

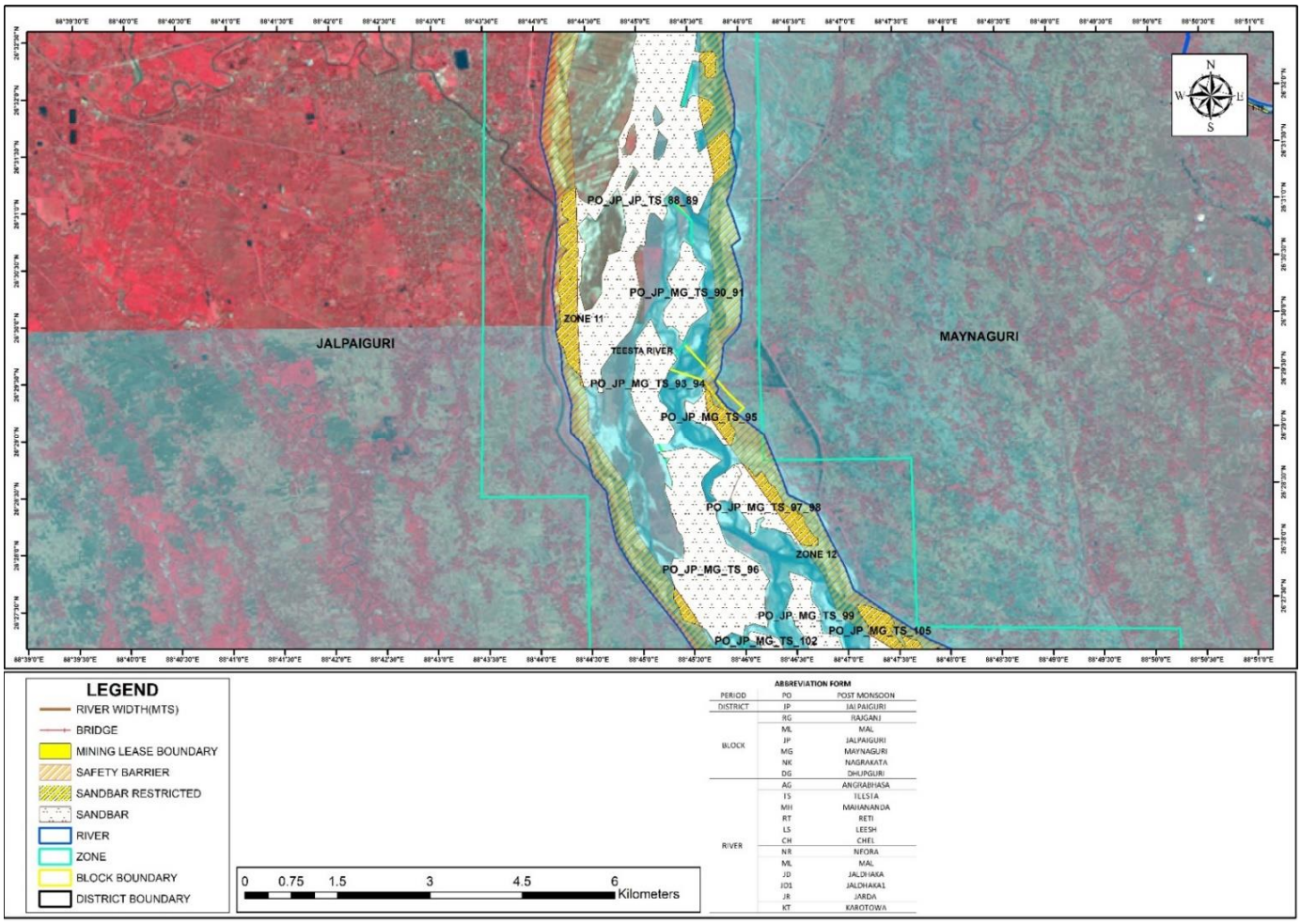

Figure No. 7.7: A representative map showing no-mining zone demarcated on Teesta River

B) In-situ Minerals:

I. Mineral Occurrence:

Quartz: Quartz boulders are well observed in the rivers of North Bengal. Though insitu quartz deposits are not mapped and evaluations of the quartz boulders need G2 level of exploration for detail quantification.

Table No 7.14: In-situ Minerals Occurrences

Name of mineral	Name of associated minerals, if any	Host rock of mineralization	Area of mineralization	Depth of mineralization	Whether virgin or partially excavated	Name of land (whether free for mining/forest/agricultural	Mineral reserve (approximate) mentioning grade	Location of potential mineralized zones				Area within prohibited zone as per rule 3(7) of WBMMC Rules, 2016	Infrastructure available near the mineralized zone
								Administrative Block	Mouza	Plot No.s	Co-ordinates		
1	2	3	4	5	6	7	8	9				10	11
Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil				Nil	Nil

8. Overview of mining activity in the district

a. General overview

The district is not very rich in mineral resources. However, collection of sand, Soil, Brick Earth and gravels from the river-bed are the minor mineral sources. These materials areprimarily utilized for construction purpose.

b. List of existing mining leases of the districts (location, area, period for each minor mineral):

Due to lack of direct information from the district level offices, the Mining Plan related information have been obtained from the concerned District Mining Office at Siliguri and furnished in this Draft DSR. This section will be modified on receipt of the primary information from the district level offices.

List of mining leases are furnished below in Table No. 8.1.

Table No 8.1: Details of mining leases of the districts

ID	Block	Mouza	JL No	River	Road	Plot No	Area in Hectares	Latitude	Longitude	Bidder Name	Date of Issuance of Environmental Clearance (E.C.)	Date of Execution of Lease Deed	Lease Agreement Start Date (date of effect)	Lease Agreement Expiry Date	Quantum of Sand Extraction permissible as per Mining Plan (tonnes)	Reasons for non-execution of lease deed
166/SB2021	RAJGANJ	Dabgram	2	Mahananda	No Approach Road	613P	4	26° 40' 0.54''N	88° 24' 35.19''E	Larsen Toubro Ltd	16-01-2018	22-05-2018	22-05-2018	21-May-23	51863.857	
145/SB2021	MOYNAGURI	Charchura Bhander	83	Jaldhaka	No Approach Road	1345 P, 1346 P, 1372 P, 1966 P, 1967 P	4.9	26° 56' 70.72''N	88° 93' 86.26''E	Subhash Mondal	07-03-2017	07-03-2018	07-03-2018	06-Mar-18	208784.441	
250/SB2021	DHUPGURI	Chunabhatti	5	Khanavarti	No Approach Road	433P, 439P	4	26° 51' 16.40''N	89° 5' 56.00''E	Pradip Arora	07-03-2017	20-06-2018	20-06-2018	19-Jun-23	116693.679	
472/SB2021	MALBAZAR	Uttarphulbari	12	Gheesh	No Approach Road	RS 103 P	4.87	26° 51' 54.25''N	88° 36' 2.43''E	Success Nirayat Pvt Ltd	14-12-2017	21-08-2018	21-08-2018	20-Aug-23	63144.246	
269/SB2021	MALBAZAR	Oodlabari	20	Chel	No Approach Road	RS 1183 P, 1191 P, 1192 P, 1193 P	4.1	26° 50' 57.30''N	88° 38' 3.40''E	Abhishek Arora	29-12-2017	31-08-2018	31-08-2018	30-Aug-23	79740.681	
270/SB2021	MALBAZAR	Oodlabari	20	Chel	No Approach Road	RS 1193 P 1192 P	2.5	26° 50' 50.00''N	88° 38' 10.00''E	Ambey Niwas Pvt Ltd	29-12-2017	23-08-2018	23-08-2018	22-Aug-23	37277.147	
162/SB2021	MALBAZAR	Oodlabari	20	Gheesh	No Approach Road	86, 87	4.97	26° 51' 31.74''N	88° 36' 35.11''E	Tamal Ghosh	03-03-2017	02-08-2018	02-08-2018	01-Aug-23	144991.896	
163/SB2021	MALBAZAR	Manabari	22	Gheesh	No Approach Road	1,2,3,9	4.41	26° 53' 10.03''N	88° 34' 16.32''E	Nabin Sanyal	10-03-2017	27-02-2018	27-02-2018	26-Feb-23	128654.781	
164/SB2021	MALBAZAR	Manabari	22	Gheesh	No Approach Road	503,506,507,508	4.99	26° 52' 55.47''N	88° 37' 1.26''E	Ramesh Rai	10-03-2017	05-03-2019	05-03-2019	04-Mar-24	145575.365	
165/SB2021	MALBAZAR	Uttar Phulbari	12	Gheesh	No Approach Road	103 P	4.87	26° 51' 59.56''N	88° 36' 42.04''E	Shekhar Pradhan	10-03-2017	05-03-2019	05-03-2019	04-Mar-24	142074.554	
167/SB2021	MALBAZAR	Dakshin Phulbari	13	Gheesh	No Approach	141P	5	26° 49' 19.63''N	88° 35' 37.63''E	Premi Arora	14-12-2017	23-08-2018	23-08-2018	22-Aug-23	64829.822	

ID	Block	Mouza	JL No	River	Road	Plot No	Area in Hectares	Latitude	Longitude	Bidder Name	Date of Issuance of Environmental Clearance (E.C.)	Date of Execution of Lease Deed	Lease Agreement Start Date (date of effect)	Lease Agreement Expiry Date	Quantum of Sand Extraction permissible as per Mining Plan (tonnes)	Reasons for non-execution of lease deed
					Road											
168/SB2021	MALBAZAR	Dakshin Phulbari	13	Gheesh	No Approach Road	RS 141P	4.87	26° 49' 9.83''N	88° 35' 47.97''E	Bikalpa Traders Pvt Ltd	14-12-2017	21-08-2018	21-08-2018	20-Aug-23	63144.246	
170/SB2021	DHUPGURI	Dakshin Altagram	78	Jaldhaka	No Approach Road	RS 1441 P, 1465	4.5	26° 34' 12.10''N	88° 56' 31.85''E	Abhishek Arora	14-12-2017	13-09-2018	13-09-2018	12-Sep-23	58346.84	
322/SB2021	MALBAZAR	Turibari	23	Chel	No Approach Road	RS 564 565 all part	4.48	26° 55' 27.29''N	88° 39' 40.35''E	Falcon Abasan Pvt Ltd	29-12-2017	18-09-2018	18-09-2018	17-Sep-23	58087.52	
243/SB2021	METIALI	Neora Majhiali	20	Neora	No Approach Road	430 P, 437 P	3.52	26° 52' 16.24''N	88° 46' 6.92''E	HiTech Rock Products and Aggregates Ltd	09-01-2018	21-08-2018	21-08-2018	20-Aug-23	114100.486	
246/SB2021	DHUPGURI	Chunabhatti	5	Reti	No Approach Road	RS 315	3.3	26° 52' 0.01''N	89° 5' 32.50''E	Mithilesh Kr Jha	14-12-2017	21-02-2018	21-02-2018	20-Feb-23	128363.047	
247/SB2021	DHUPGURI	Chunabhatti	5	Khanavarti	No Approach Road	313P	4	26° 51' 42.70''N	89° 6' 0.60''E	Abinash Kr Gupta	28-02-2017	06-03-2018	06-03-2018	05-Mar-23	31118.314	
248/SB2021	DHUPGURI	Chunabhatti	5	Khanavarti	No Approach Road	433P, 439P	4	26° 51' 24.55''N	88° 6' 7.12''E	Pradip Arora	07-03-2017	20-06-2018	20-06-2018	19-Jun-23	116693.679	
251/SB2021	DHUPGURI	Kathalguri	6	Khanavarti	No Approach Road	RS 402	3.2	26° 51' 0.07''N	89° 52' 28.66''E	Mahesh Kumar Jha	14-12-2017	10-04-2019	10-04-2019	09-Apr-24	124473.258	
253/SB2021	MALBAZAR	Oodlabari	20	Chel	No Approach Road	RS 1183 P, RS 851 P, RS 13 P	2.68	26° 51' 36.20''N	88° 38' 2.80''E	Sarju Lama	16-11-2018	27-02-2018	27-02-2018	26-Feb-23	104246.353	
254/SB2021	MALBAZAR	Odlabari and Paschim	20, 39	Chel	No Approach Road	RS 1183P, RS 13 P	4.5	26° 51' 32.87''N	88° 37' 54.38''E	Sahidul Islam	29-12-2017	27-04-2018	27-04-2018	26-Apr-18	58346.84	

ID	Block	Mouza	JL No	River	Road	Plot No	Area in Hectares	Latitude	Longitude	Bidder Name	Date of Issuance of Environmental Clearance (E.C.)	Date of Execution of Lease Deed	Lease Agreement Start Date (date of effect)	Lease Agreement Expiry Date	Quantum of Sand Extraction permissible as per Mining Plan (tonnes)	Reasons for non-execution of lease deed
		Damdim														
256/SB2021	MALBAZAR	Odlabari and Paschim Damdim	20, 39	Chel	No Approach Road	RS 1182, RS 1183 all part RS 14 P	3.8	26° 51' 26.30''N	88° 37' 59.10''E	Abhishek Arora	16-01-2018	31-08-2018	31-08-2018	30-Aug-23	49270.665	
282/SB2021	MALBAZAR	Oodlabari	20	Chel	No Approach Road	RS 619, 621, 892, 895, 897, 898, 592 all part RS	3.8	26° 52' 14.60''N	88° 37' 59.80''E	Pawan Arora	29-12-2017	23-08-2018	23-08-2018	22-Aug-23	73905.997	
283/SB2021	MALBAZAR	Oodlabari	20	Chel	No Approach Road	RS 621, 622 899 all part	3.8	26° 52' 14.50''N	88° 38' 6.50''E	Ambey Niwas Pvt Ltd	29-12-2017	23-08-2018	23-08-2018	22-Aug-23	73905.997	
266/SB2021	MALBAZAR	Oodlabari	20	Chel	No Approach Road	RS 1183 P	4.4	26° 51' 18.24''N	88° 38' 1.20''E	Abhishek Arora	29-12-2017	31-08-2018	31-08-2018	30-Aug-23	57050.243	
267/SB2021	MALBAZAR	Oodlabari	20	Chel	No Approach Road	RS 1183 1189 all part	4.8	26° 51' 11.44''N	88° 38' 2.44''E	Abhishek Arora	29-12-2017	31-08-2018	31-08-2018	30-Aug-23	62236.629	
279/SB2021	MALBAZAR	Oodlabari	20	Chel	No Approach Road	RS 627,620,899,619,898,650,592,892,621 all part	3.5	26° 52' 4.90''N	88° 38' 0.60''E	Pawan Arora	29-12-2017	23-08-2018	23-08-2018	22-Aug-23	68071.313	
329/SB2021	MALBAZAR	Turibari	23	Chel	No Approach Road	RS 565 566 all part	4.48	26° 54' 55.32''N	88° 39' 37.11''E	Falcon Abasan Pvt Ltd	29-12-2017	14-09-2018	14-09-2018	13-Sep-23	58087.52	
311/SB2021	MALBAZAR	Oodlabari	20	Chel	No Approach Road	RS 894,897,896,895,619,624,625,626,854,622,623,621	4.8	26° 52' 24.30''N	88° 38' 0.86''E	Sarju Lama	16-01-2018	26-06-2018	26-06-2018	25-Jun-23	186709.887	
312/SB2021	MALBAZAR	Oodlabari	20	Chel	No Approach Road	RS 1301 P	4.9	26° 52' 48.60''N	88° 38' 6.10''E	Pradip Arora	29-12-2017	30-08-2018	30-08-2018	29-Aug-23	95299.838	

ID	Block	Mouza	JL No	River	Road	Plot No	Area in Hectares	Latitude	Longitude	Bidder Name	Date of Issuance of Environmental Clearance (E.C.)	Date of Execution of Lease Deed	Lease Agreement Start Date (date of effect)	Lease Agreement Expiry Date	Quantum of Sand Extraction permissible as per Mining Plan (tonnes)	Reasons for non-execution of lease deed
314/SB2021	MALBAZAR	Oodlabari	20	Chel	No Approach Road	RS 1301 P	4.8	26° 52' 55.50''N	88° 38' 5.70''E	Pradip Arora	29-12-2017	30-08-2018	30-08-2018	29-Aug-23	93354.943	
316/SB2021	MALBAZAR	Odlabari Manabari	20, 21	Chel	No Approach Road	RS 1301 P, 152 P 148 P	4.4	26° 53' 3.60''N	88° 38' 7.00''E ,	Pradip Arora	29-12-2017	06-06-2019	06-06-2019	05-Jun-24	85575.365	
320/SB2021	MALBAZAR	Turibari	23	Chel	No Approach Road	RS 485, 564 565 all part	4.8	26° 55' 32.93''N	88° 39' 43.40''E	Pradip Arora	29-12-2017	31-08-2018	31-08-2018	30-Aug-23	61588.331	
319/SB2021	MALBAZAR	Oodlabari	20	Chel	No Approach Road	RS 1301 P	4.4	26° 53' 9.10''N	88° 38' 13.20''E	Pradip Arora	29-12-2017	31-08-2018	31-08-2018	30-Aug-23	85575.365	
325/SB2021	MALBAZAR	Turibari	23	Chel	No Approach Road	RS 564 565 all part	4.48	26° 55' 23.13''N	88° 39' 36.43''E	Falcon Abasan Pvt Ltd	29-12-2017	20-07-2018	20-07-2018	19-Jul-23	58087.52	
336/SB2021	MALBAZAR	Turibari	23	Chel	No Approach Road	RS 565 P	4.75	26° 54' 47.57''N	88° 39' 26.14''E	Falcon Abasan Pvt Ltd	29-12-2017	31-08-2018	31-08-2018	30-Aug-23	61588.331	
346/SB2021	MALBAZAR	Turibari	23	Chel	No Approach Road	RS 565 566 all part	4.75	26° 54' 38.14''N	88° 39' 37.47''E	Jelar Lama	29-12-2017	06-06-2018	06-06-2018	05-Jun-23	61588.331	
352/SB2021	MALBAZAR	Turibari	23	Chel	No Approach Road	RS 601, 602 614 all part	4.29	26° 54' 22.71''N	88° 39' 20.62''E	Triumph Sales and Services	29-12-2017	23-05-2019	23-05-2019	22-May-24	55623.987	
374/SB2021	MALBAZAR	Turibari	23	Chel	No Approach Road	RS 601 614 all part	4.5	26° 54' 17.25''N	88° 39' 9.27''E	Triumph Sales and Services	29-12-2017	23-05-2019	23-05-2019	22-May-24	58346.84	
377/SB2021	MOYNAGURI	Uttar Bhuskadanga	67	Jarda	No Approach Road	RS 1822, 1823, 1824, 2018, 2019, 2021 2022 all p	1	26° 31' 45.30''N	88° 51' 12.42''E	Milan Mitra	14-12-2017	23-02-2018	23-02-2018	22-Feb-23	38897.893	
440/SB2021	MOYNAGURI	Gartali Jalpesh	68	Jarda	No Approach Road	RS 701, 702 838 all part	1	26° 31' 22.20''N	88° 51' 37.60''E	Dhiraj Roy Basunia	14-12-2017	28-02-2018	28-02-2018	27-Feb-23	38897.893	

ID	Block	Mouza	JL No	River	Road	Plot No	Area in Hectares	Latitude	Longitude	Bidder Name	Date of Issuance of Environmental Clearance (E.C.)	Date of Execution of Lease Deed	Lease Agreement Start Date (date of effect)	Lease Agreement Expiry Date	Quantum of Sand Extraction permissible as per Mining Plan (tonnes)	Reasons for non-execution of lease deed
446/SB2021	MOYNAGURI	Gartali Jalpesh	68	Jarda	No Approach Road	RS 701, 836, 837, 843 838 all part	0.85	26° 31' 12.60''N	88° 51' 37.00''E	Gurudev Roy	14-12-2017	28-02-2018	28-02-2018	27-Feb-23	33063.209	
451/SB2021	MOYNAGURI	Dakshin Bhuskadanga Gartali jalpesh	66, 68	Jarda	No Approach Road	RS 1700, 1701, 1702, 1703, 841, 842, 843 1265	1.1	26° 31' 5.70''N	88° 51' 42.80''E	Purna Chandra Roy	14-12-2017	28-02-2018	28-02-2018	27-Feb-23	42787.682	
468/SB2021	MALBAZAR	Manabari TG	21	Gheesh	No Approach Road	RS 1, 2 ,3 9 all part	4.93	26° 53' 2.91''N	88° 37' 14.22''E	Bikalpa Traders Pvt Ltd	16-01-2018	13-09-2018	13-09-2018	12-Sep-23	63922.204	
474/SB2021	MALBAZAR	Dakshinphulbari	13	Gheesh	No Approach Road	RS 15 P	4.98	26° 50' 57.81''N	88° 36' 25.11''E	Success Nirayat Pvt Ltd	14-12-2017	31-08-2018	31-08-2018	30-Aug-23	64570.502	
455/SB2021	RAJGANJ	Dabgram	2	Mahananda	No Approach Road	RS 1, 2 7 all part	3.11	26° 41' 34.79''N	88° 24' 5.96''E	Abhishek Arora	16-01-2018	14-09-2018	14-09-2018	13-Sep-23	40324.149	
466/SB2021	MALBAZAR	Manabari TG	21	Gheesh	No Approach Road	RS 1, 2 ,3 9 all part	4.41	26° 53' 7.63''N	88° 37' 18.72''E	Bikalpa Traders Pvt Ltd	29-12-2017	21-08-2018	21-08-2018	20-Aug-23	57179.903	
465/SB2021	RAJGANJ	Dabgram	2	Mahananda	No Approach Road	RS 2	3.89	26° 41' 7.50''N	88° 24' 32.22''E	Mintu Das	18-01-2018	27-02-2018	27-02-2018	26-Feb-23	151312.804	
184/SB2021	DHUPGURI	Dakshin Altagram	78	Jaldhaka	No Approach Road	RS 1441 P	4.5	26° 34' 3.24''N	88° 56' 42.94''E	Abhishek Arora	14-12-2017	13-09-2018	13-09-2018	12-Sep-23	58346.84	
187/SB2021	DHUPGURI	Dakshin Altagram	78	Jaldhaka	No Approach Road	RS 1441 P	4.5	26° 33' 59.36''N	88° 56' 47.25''E	Abhishek Arora	14-12-2017	06-06-2019	06-06-2019	05-Jun-23	58346.84	
188/SB2021	MOYNAGURI	Jabramali	84	Jaldhaka	No Approach Road	RS 646 P	4.98	26° 33' 2.62''N	88° 56' 58.22''E	Triumph Sales and Services	14-12-2017	06-06-2019	06-06-2019	05-Jun-23	64570.502	
190/SB2021	MOYNAGURI	Jabramali	84	Jaldhaka	No Approach	RS 646 P, 645 P	4.98	26° 32' 41.28''N	88° 57' 17.04''E	Triumph Sales and	14-12-2017	06-06-2019	06-06-2019	05-Jun-23	64570.502	

ID	Block	Mouza	JL No	River	Road	Plot No	Area in Hectares	Latitude	Longitude	Bidder Name	Date of Issuance of Environmental Clearance (E.C.)	Date of Execution of Lease Deed	Lease Agreement Start Date (date of effect)	Lease Agreement Expiry Date	Quantum of Sand Extraction permissible as per Mining Plan (tonnes)	Reasons for non-execution of lease deed
					Road					Services						
196/SB2021	MOYNAGURI	Uttar Bhuskadanga	67	Jarda	No Approach Road	RS 169 412 all part	0.82	26° 31' 52.40''N	88° 50' 45.30''E	Success Nirayat Pvt Ltd	16-01-2018	21-08-2018	21-08-2018	20-Aug-23	10632.091	
199/SB2021	MOYNAGURI	Uttar Bhuskadanga	67	Jarda	No Approach Road	1717,2019,2024,2026,2028,2029,2030,2031,2032,2033	1	26° 31' 50.30''N	88° 50' 58.00''E	Biswajit Roy	14-12-2017	27-06-2018	27-06-2018	26-Jun-23	38897.893	
219/SB2021	MALBAZAR	Odlabari 20, Paschim Damdim 39	20, 39	Chel	No Approach Road	1434 P, 2054 P AND 201 P, 202 P	4.99	26° 51' 32.30''N	88° 38' 3.00''E	HiTech Rock Products and Aggregates Ltd	28-02-2017	21-08-2018	21-08-2018	20-Aug-23	208784.441	
222/SB2021	METIALI	Songachi	4	Mal	No Approach Road	1	4.4	26° 53' 33.59''N	88° 44' 47.98''E	Ganga Prasad	03-03-2017	28-02-2018	28-02-2018	27-Feb-23	154619.125	
226/SB2021	METIALI	Neora Majhiali and Mal	20, 44	Mal	No Approach Road	29, 52, 42, 43, 41 and LR 1748 RS 590	4	26° 51' 79.60''N	88° 45' 23.40''E	Sanjiv Lama	03-03-2017	22-02-2018	22-02-2018	21-Feb-23	86294.976	
486/SB2021	MALBAZAR	Uttarphulbari	13	Gheesh	No Approach Road	Rs 1, 2, 3, 4, 5, 6 10 all part	5	26° 50' 18.23''N	88° 35' 59.48''E	Premi Arora	14-12-2017	23-08-2018	23-08-2018	22-Aug-23	64829.822	
612/SB2021	MALBAZAR	Dakshinphulbari	13	Gheesh	No Approach Road	RS 10, 16 17 all part	5	26° 50' 12.49''N	88° 36' 13.37''E	Premi Arora	14-12-2017	23-08-2018	23-08-2018	22-Aug-23	64829.822	
615/SB2021	MALBAZAR	Dakshinphulbari	13	Gheesh	No Approach Road	RS 141 P	5	26° 49' 36.09''N	88° 35' 40.72''E	Sarju Lama	14-12-2017	14-03-2018	14-03-2018	13-Mar-23	64829.822	
617/SB2021	MALBAZAR	Oodlabari	20	Gheesh	No Approach Road	3,84,85,264,265,266	4.87	26° 51' 49.96''N	88° 36' 36.20''E	Md Afajuddin Sarkar	25-01-2017	13-11-2019	13-11-2019	13-Nov-24	144991.896	
618/SB2021	MALBAZAR	Uttarphulbari	12	Gheesh	No Approach	103P	4.87	26° 51' 59.56''N	88° 36' 42.04''E	Md Rasel Sarkar	03-03-2017	11-11-2019	11-11-2019	10-Nov-24	142074.554	

ID	Block	Mouza	JL No	River	Road	Plot No	Area in Hectares	Latitude	Longitude	Bidder Name	Date of Issuance of Environmental Clearance (E.C.)	Date of Execution of Lease Deed	Lease Agreement Start Date (date of effect)	Lease Agreement Expiry Date	Quantum of Sand Extraction permissible as per Mining Plan (tonnes)	Reasons for non-execution of lease deed
					Road											
622/SB2021	MALBAZAR	Dakshinphulbari	13	Gheesh	No Approach Road	RS 141 p	4.87	26° 49' 0.71''N	88° 35' 27.06''E	Bikalpa Traders Pvt Ltd	14-12-2017	09-12-2019	09-12-2019	08-Dec-24	63144.246	
623/SB2021	MALBAZAR	Uttarphulbari	13	Gheesh	No Approach Road	RS 141 P	4.87	26° 49' 8.91''N	88° 35' 32.88''E	Bikalpa Traders Pvt Ltd	14-12-2017	09-12-2019	09-12-2019	08-Dec-24	63144.246	
625/SB2021	MALBAZAR	Dakshinphulbari	13	Gheesh	No Approach Road	RS 141 P	4.87	26° 48' 50.90''N	88° 35' 25.93''E	Bikalpa Traders Pvt Ltd	14-12-2017	09-12-2019	09-12-2019	08-Dec-24	63144.246	
626/SB2021	MALBAZAR	Dakshinphulbari	13	Gheesh	No Approach Road	RS 141 P	5	26° 49' 16.24''N	88° 35' 30.61''E	Babla Ghosh	29-12-2017	28-07-2021	28-07-2021	27-Jul-26	64829.822	
1332/SB2021	MALBAZAR	PASCHIM DAMDIM AND OODLABARI	39 AND 20	Chel	No Approach Road	LR 201 P, 202P, OF JL NO 39 AND LR 1434 P, 2054 P, OF JL NO 20	4.99	26° 51' 33.77''N	88° 38' 6.80''E	UTTAM PAUL					0	EC Awaiting
1223/SB2021	MALBAZAR	UTTAR PHULBARI	12	Gheesh	No Approach Road	29 RS	4.87	26° 52' 9.03''N	88° 36' 35.64''E	UTTAM PAUL					0	EC Awaiting
1219/SB2021	RAJGANJ	DABGRAM	2	Mahananda	No Approach Road	25,26,27,28	4.9	26° 46' 39.10''N	88° 26' 29.84''E	CHARUKANA PAUL					0	EC Awaiting
1252/SB2021	MALBAZAR	KALAGAITY	6	Leesh	No Approach Road	301P, 302P	4.5	26° 53' 1.10''N	88° 33' 54.70''E	NEETU CHHETRI LAMA					0	EC Awaiting
1258/SB2021	MALBAZAR	KALAGAITY	6	Leesh	No Approach Road	304P	3.2	26° 52' 46.77''N	88° 33' 45.22''E	Suraj Lakhotia					0	EC Awaiting
1261/SB2021	MALBAZAR	OODLABARI, PASCHIM DAMDIM	20, 39	Chel	No Approach Road	1183 P AND 13 , 16, 17 ALL PART	4.8	26° 51' 25.10''N	88° 38' 9.90''E	UTPAL PAUL					0	EC Awaiting

ID	Block	Mouza	JL No	River	Road	Plot No	Area in Hectares	Latitude	Longitude	Bidder Name	Date of Issuance of Environmental Clearance (E.C.)	Date of Execution of Lease Deed	Lease Agreement Start Date (date of effect)	Lease Agreement Expiry Date	Quantum of Sand Extraction permissible as per Mining Plan (tonnes)	Reasons for non-execution of lease deed
1264/SB2021	MALBAZAR	TURIBARI	23	Chel	No Approach Road	500, 563, 564, 565 ALL PART	4.48	26° 54' 52.38''N	88° 39' 28.27''E	HiTech Rock Products and Aggregates Ltd					0	EC Awaiting
1266/SB2021	SADAR	BAROPETIA NUTANBOS	1	Teesta	No Approach Road	10 P	4.98	26° 38' 51.67''N	88° 39' 13.99''E	Larsen Toubro Ltd					0	EC Awaiting
1269/SB2021	SADAR	BAROPETIA NUTANBOS	1	Teesta	No Approach Road	10 P	4.98	26° 38' 45.90''N	88° 39' 25.38''E	Larsen Toubro Ltd					0	EC Awaiting
1270/SB2021	RAJGANJ	MEHENDIGACHH	19	Kartowa	No Approach Road	1516, 1519, 1513 ALL PART	1.9	26° 35' 53.47''N	88° 29' 52.93''E	MANAB ROY					0	EC Awaiting
1282/SB2021	RAJGANJ	DABGRAM	2	Mahananda	No Approach Road	613 PART	4	26° 40' 18.94''N	88° 24' 44.93''E	S S CONSTRUCTION AND CO					0	EC Awaiting
1335/SB2021	MALBAZAR	OODLABARI	20	Gheesh	No Approach Road	87, 149, 150, 152, 267, 268	4.97	26° 51' 14.91''N	88° 36' 32.52''E	Adyamaa Tradelink Pvt Ltd					0	EC Awaiting
1345/SB2021	MALBAZAR	DAKSHIN PHULBARI	13	Gheesh	No Approach Road	15 P, 20 P, 21 P	5	26° 50' 28.26''N	88° 36' 8.31''E	Pawan Arora					0	EC Awaiting
1341/SB2021	MALBAZAR	MANABARI	22	Gheesh	No Approach Road	428,431, 433, 435, 450, 451, 452	4.6	26° 51' 54.64''N	88° 37' 31.02''E	Pradip Arora					0	EC Awaiting
1344/SB2021	MALBAZAR	UTTAR PHULBARI	12	Gheesh	No Approach Road	103 P	4.87	26° 51' 58.23''N	88° 36' 11.45''E	Success Nirayat Pvt Ltd					0	EC Awaiting
1349/SB20	MOYNAGU	CHARCH	83	Jaldhaka	No	RS PLOT 2203 P	4.93	26° 33'	88° 56'	Larsen					0	EC

ID	Block	Mouza	JL No	River	Road	Plot No	Area in Hectares	Latitude	Longitude	Bidder Name	Date of Issuance of Environmental Clearance (E.C.)	Date of Execution of Lease Deed	Lease Agreement Start Date (date of effect)	Lease Agreement Expiry Date	Quantum of Sand Extraction permissible as per Mining Plan (tonnes)	Reasons for non-execution of lease deed
21	RI	URABHANDER			Approach Road			49.83''N	17.78''E	Toubro Ltd						Awaiting
149/SB2021	MOYNAGURI	Charchura Bhander	83	Jaldhaka	No Approach Road	2203P	4.94	26° 33' 46.30''N	88° 58' 29.60''E	Md Rafi	03-03-2017	28-02-2018	28-02-2018	27-Feb-23	140113.452	
169/SB2021	MALBAZAR	Dakshin Phulbari	13	Gheesh	No Approach Road	RS 141	4.87	26° 49' 5.02''N	88° 35' 37.42''E	Sahidul Islam	14-12-2017	26-06-2018	26-06-2018	25-Jun-23	189432.739	
181/SB2021	DHUPGURI	Dakshin Altagram	78	Jaldhaka	No Approach Road	RS 1441 P	4.5	26° 34' 3.79''N	88° 56' 38.14''E	Abhishek Arora	14-12-2017	13-09-2018	13-09-2018	12-Sep-23	58346.84	
189/SB2021	MOYNAGURI	Jabramali	84	Jaldhaka	No Approach Road	RS 646 P, 645 P	4.98	26° 32' 46.10''N	88° 57' 12.14''E	Bikash Chandra Saha	14-12-2017	07-03-2018	07-03-2018	06-Mar-23	64570.502	
192/SB2021	MOYNAGURI	Jabramali	84	Jaldhaka	No Approach Road	RS 646 P	4.98	26° 32' 36.52''N	88° 57' 23.37''E	Triumph Sales and Services	14-12-2017	06-06-2019	06-06-2019	05-Jun-24	64570.502	
195/SB2021	MOYNAGURI	Uttar Bhuskadanga	67	Jarda	No Approach Road	RS 169, 172, 173, 174, 175, 178, 179, 180, 182,269	1.3	26° 32' 8.70''N	88° 50' 51.50''E	Kunalkanti Roy Basunia	14-12-2017	27-02-2018	27-02-2018	26-Feb-23	50567.261	
244/SB2021	DHUPGURI	Chunabhatti	5	Reti	No Approach Road	315P	3.1	26° 52' 7.30''N	88° 5' 32.90''E	Anand Kumar Gupta	28-02-2017	21-02-2018	21-02-2018	20-Feb-23	24116.694	
275/SB2021	MALBAZAR	Oodlabari	20	Chel	No Approach Road	RS 1192, 1193, 1194, 1201, 1202, 1203, 1204 1205	2.6	26° 50' 41.60''N	88° 38' 4.10''E	Sahidul Islam	29-12-2017	28-02-2018	28-02-2018	27-Feb-23	33711.507	
318/SB2021	MALBAZAR	Oodlabari	20	Chel	No Approach Road	RS 1301 P	4.4	26° 53' 10.40''N	88° 38' 11.30''E	Pradip Arora	29-12-2017	30-08-2018	30-08-2018	29-Aug-23	85575.365	
327/SB2021	MALBAZAR	Turibari	23	Chel	No Approach Road	RS 564 565 all part	4.48	26° 55' 17.75''N	88° 39' 35.40''E	Falcon Abasan Pvt Ltd	29-12-2017	14-09-2018	14-09-2018	13-Sep-23	58087.52	

ID	Block	Mouza	JL No	River	Road	Plot No	Area in Hectares	Latitude	Longitude	Bidder Name	Date of Issuance of Environmental Clearance (E.C.)	Date of Execution of Lease Deed	Lease Agreement Start Date (date of effect)	Lease Agreement Expiry Date	Quantum of Sand Extraction permissible as per Mining Plan (tonnes)	Reasons for non-execution of lease deed
335/SB2021	MALBAZAR	Turibari	23	Chel	No Approach Road	RS 564 565 all part	4.48	26° 54' 56.95''N	88° 39' 31.75''E	Falcon Abasan Pvt Ltd	29-12-2017	23-05-2019	23-05-2019	22-May-24	58087.52	
461/SB2021	RAJGANJ	Dabgram	2	Mahananda	No Approach Road	RS 1 2 all part	2.85	26° 41' 30.08''N	88° 24' 14.83''E	Mithun Biswas	18-01-2018	23-02-2018	23-02-2018	22-Feb-23	110858.995	
470/SB2021	MALBAZAR	Manabari TG	21	Gheesh	No Approach Road	RS 1, 2 ,3, 9, 503 509 all part	4.93	26° 53' 0.13''N	88° 37' 13.16''E	Bikalpa Traders Pvt Ltd	14-12-2017	21-08-2018	21-08-2018	20-Aug-23	63922.204	
481/SB2021	MALBAZAR	Dakshinphulbari	13	Gheesh	No Approach Road	Rs 97 P	4.8	26° 49' 47.46''N	88° 35' 57.97''E	Falcon Abasan Pvt Ltd	29-12-2017	21-08-2018	21-08-2018	20-Aug-23	62236.629	
613/SB2021	MALBAZAR	Dakshinphulbari	13	Gheesh	No Approach Road	RS 117, 118, 119, 120, 121, 122 124	5	26° 50' 0.41''N	88° 35' 58.59''E	Ambey Abasan Pvt Ltd	14-12-2017	14-09-2018	14-09-2018	13-Sep-23	64829.822	
1214/SB2021	MALBAZAR	Oodlabari	20	Chel	No Approach Road	1183 P, 1189 P, 1190 P, 1191 P, 1192 P	4.8	26° 51' 0.10''N	88° 38' 6.57''E ,	Ganga Prasad					0	EC Awaiting
1231/SB2021	MOYNAGURI	UTTAR BHUSKADANGA	67	Jarda	No Approach Road	169, 170, 171, 269,272,277,278,412	1.01	26° 31' 54.83''N	88° 50' 37.89''E	Success Nirayat Pvt Ltd					0	EC Awaiting
1234/SB2021	MALBAZAR	UTTAR PHULBARI	12	Gheesh	No Approach Road	6 PART	4.89	26° 52' 40.54''N	88° 36' 46.72''E	Triumph Sales and Services					0	EC Awaiting
1237/SB2021	MALBAZAR	KALAGAITY	06	Leesh	No Approach Road	301P, 304P	4.5	26° 52' 54.81''N	88° 33' 47.44''E	RISHAB LAKHOTIA					0	EC Awaiting
1254/SB2021	MALBAZAR	KALAGAITY	06	Leesh	No Approach Road	303P, 304P	2	26° 52' 53.19''N	88° 33' 54.35''E	BICKY PAUL					0	EC Awaiting
1274/SB2021	RAJGANJ	DABGRAM	2	Mahananda	No Approach Road	613 PART	4	26° 40' 19.06''N	88° 24' 37.57''E	SHER ALI					0	EC Awaiting
1334/SB20	MALBAZAR	OODLAB	20	Gheesh	No	85 P, 87 P, 88 P,	5	26° 51'	88° 36'	CHHATRAD					0	EC

ID	Block	Mouza	JL No	River	Road	Plot No	Area in Hectares	Latitude	Longitude	Bidder Name	Date of Issuance of Environmental Clearance (E.C.)	Date of Execution of Lease Deed	Lease Agreement Start Date (date of effect)	Lease Agreement Expiry Date	Quantum of Sand Extraction permissible as per Mining Plan (tonnes)	Reasons for non-execution of lease deed
21		ARI			Approach Road	89 P		38.80''N	43.28''E	HAR DEY						Awaiting
1337/SB2021	MALBAZAR	OODLABARI	20	Gheesh	No Approach Road	1,2,3,4,5,8	4.97	26° 51' 58.24''N	88° 36' 31.47''E	Adyamaa Tradelink Pvt Ltd					0	EC Awaiting
1343/SB2021	MALBAZAR	DAKSHIN PHULBARI	13	Gheesh	No Approach Road	17 P, 21 P	5	26° 50' 21.43''N	88° 36' 2.62''E	Pawan Arora					0	EC Awaiting



Table No 8.2: Details of production of sand and other minerals

SL. No.	Name of Applicants	Mineral Commodity	Name of River	Mouza	Plot No.	Area (Hector)	Estimated Reserve (Cum)
1	Ganga Prasad	Sand	Mal	Songachhi Tea Garden	1	4.400	400680
2	Sanjiv Lama	Sand	Mal	NeoraMajhiali-Mal	29, 52/255, 42, 43, 41, LR 1748,590	4.000	266220
3	Uttam Paul	Sand	Chel	Paschim Damdim And Odlabari	201(P), 202(P) / 1434(P), 2054(P)	4.990	643500
4	Md. Rashel Sarkar	Sand	Gheesh	Uttar Phulbari	103(P)	4.870	438000
5	Md. Afijuddin Sarkar	Sand	Gheesh	Odlabari	3, 84,85,264, 265, 266	4.970	447300
6	Nabin Sanyal	Sand	Gheesh	Manabari TG	1, 2, 3, 9	4.410	396900
7	Ramesh Rai	Sand	Gheesh	Manabari TG	503, 506, 507, 508	4.990	449100
8	Sekhar Pradhan	Sand	Gheesh	Uttar Phulbari	103(P)	4.870	438000
9	Tamal Ghosh	Sand	Gheesh	Odlabari	86, 87	4.970	447300
10	Smt. Charukana Paul	Sand	Mahananda	Dabgram	25, 26, 27, 28	4.900	588000
11	M/s Hi-Tech Rock Product Aggregates Ltd.	Sand	Chel	Paschim Damdim And Odlabari	201(P), 202(P) / 1434(P), 2054(P)	4.990	644100
12	Subhas Mondal	Sand	Jaldakha	Charchurabhandar	1345(P), 1346(P), 1372(P), 1966(P), 1967(P)	4.900	294000
13	Md. Rafi	Sand	Jaldakha	Charchurabhandar	2203(P)	4.940	291400
14	Abinash Kumar Gupta	Sand	Khanavarti	Chunabhatti	313(P)	4.000	480000
15	Anand Kumar Gupta	Sand	Reti	Chunabhatti	315(P)	3.100	372000
16	Pawan Arora	Sand	Gheesh	Dakshin Phulbari	15(P), 20(P), 21(P0	5.000	600000
17	Pradip Arora	Sand	Gheesh	Manabari TG	428, 431, 433, 435, 450, 451, 452	4.600	552000
18	Pawan Arora	Sand	Gheesh	Dakshin Phulbari	17(P), 21(P)	5.000	600000

SL. No.	Name of Applicants	Mineral Commodity	Name of River	Mouza	Plot No.	Area (Hector)	Estimated Reserve (Cum)
19	Pradip Arora	Sand	Khanavarti	Chunabhatti	433(P), 439(P)	4.000	480000
20	M/s Adyamaa Tradelink Pvt. Ltd.	Sand	Gheesh	Odlabari	1, 2, 3, 4, 5, 8	4.970	588945
21	Pradip Arora	Sand	Khanavarti	Chunabhatti	433(P), 439(P)	4.000	480000
22	Premi Arora	Sand	Gheesh	Dakshin Phulbari	141(P)	5.000	600000
23	M/s Adyamaa Tradelink Pvt. Ltd.	Sand	Gheesh	Odlabari	87, 149, 150, 152, 267, 268	4.970	588000
24	Sarju Lama	Sand	Chel	Odlabari	894(P), 897(P), 896(P), 895(P), 619(P), 624(P),625(P), 626(P), 854(P), 622(P), 623(P), 621(P)	4.800	483840
25	Uttam Paul	Sand	Gheesh	Uttar Phulbari	29	4.870	462096
26	Sarju Lama	Sand	Chel	Odlabari	1183(P), 851(P)	2.680	270144
27	Milan Mishra	Sand	Jarda	Uttar Bhuskadanga	1822(P), 1823(P), 1824(P), 2018(P), 2019(Po, 2021(P), 2022(P)	1.000	100800
28	Purna Ch. Roy	Sand	Jarda	Dakshin Bhuskadanga and GartaliJalpesh	1700 to 1703(all are part) , 841, 842, 843, 1265	1.100	110880
29	Biswajit Roy	Sand	Jarda	Uttar Bhuskadanga	1717, 2019, 2024, 2026, 2028, 2029, 2030, 2031, 2032, 2033(all are part)	1.000	100800
30	Dhiraj Roy Basunia	Sand	Jarda	GartaliJalpesh	(RS) 701, 702, 838(all Part)	1.000	100800
31	Guru Dev Roy	Sand	Jarda	GartaliJalpesh	(RS) 701, 836, 837, 843, 838(all Part)	0.850	85680
32	Kunal Kanti Roy	Sand	Jarda	Uttar Bhuskadanga	(RS) 169, 172, 173, 174, 175, 178, 179, 180, 182, 269(all part)	1.300	131040
33	M/s Hi-Tech Rock Product Aggregates Ltd.	Sand	Neora	NeoraMajhiali	430(P), 437(P)	3.520	352000

SL. No.	Name of Applicants	Mineral Commodity	Name of River	Mouza	Plot No.	Area (Hector)	Estimated Reserve (Cum)
34	M/s Hi-Tech Rock Product Aggregates Ltd.	Sand	Chel	Turibari	500, 563, 564, 565 (all are Part)	4.480	451584
35	Mithun Biswas	Sand	Mahananda	Dabgram	1(P), 2(P)	2.850	287280
36	Utpal Paul	Sand	Chel	Odlabari, Paschim Damdim	(Rs) 1183(P), 13, 16, 17(All Part)	4.800	483840
37	M/s Lorsen Toubro Ltd. (L&T)	Sand	Jaldakha	Charchurabhandar	2203(P)	4.930	496944
38	Sohidul Islam	Sand	Gheesh	Dakshin Phulbari	(RS) 141	4.870	490896
39	Mithu Das	Sand	Mahananda	Dabgram	2	3.890	392032
40	Ganga Prasad, Mahakal Prasad	Sand	Chel	Odlabari	1183(P), 1189(P), 1190(P), 1191(P), 1192(P)	4.800	483840
41	Mahesh Kumar Jha	Sand	Khanavarti	Kathalguri	402 (RS)	3.200	322560
42	Mithilesh Kr. Jha	Sand	Reti	Chunabhatti	(RS) 315	3.300	322640
43	Bikash Chandra Saha	Sand	Jaldakha (Mayana)	Jabramali	RS 646(P), 645(P)	4.980	167328
44	Babla Ghosh	Sand	Gheesh	Dakshin Phulbari	RS 141(P)	5.000	168000
45	Sohidul Islam	Sand	Chel	Odlabari	RS 1192(P), 1193(P), 1194(P), 1201(P), 1202(P), 1203(P), 1204(P), 1205(P)	2.600	87360
46	Sarju Lama	Sand	Gheesh	Dakshin Phulbari	RS 141(P)	5.000	168000
47	Sohidul Islam	Sand	Chel	Odlabari, Paschim Damdim	(Rs) 1183(P), 13(P)	4.500	151200
48	Md. Afijuddin Sarkar	Sand	Gheesh	Odlabari, Uttar Phulbari	1, 2, 3, 4, 79, 80, 103	4.740	159264
49	Chhatradhar Dey	Sand	Gheesh	Odlabari	85(P), 87(P), 88(P), 89(P)	5.000	168000

SL. No.	Name of Applicants	Mineral Commodity	Name of River	Mouza	Plot No.	Area (Hector)	Estimated Reserve (Cum)
50	Abhisekh Arora	Sand	Mahananda	Dabgram	1(P), 2(P), 7(P)	3.110	104496
51	Falcon Abason Pvt. Ltd.	Sand	Chel	Turibari	RS 564(P), 565(P)	4.480	150528
52	Falcon Abason Pvt. Ltd.	Sand	Chel	Turibari	RS 564(P), 565(P)	4.480	150528
53	Falcon Abason Pvt. Ltd.	Sand	Chel	Turibari	RS 564(P), 565(P)	4.480	150528
54	Falcon Abason Pvt. Ltd.	Sand	Chel	Turibari	RS 565(P), 566(P)	4.480	150528
55	Falcon Abason Pvt. Ltd.	Sand	Chel	Turibari	RS 564(P), 565(P)	4.480	150528
56	Falcon Abason Pvt. Ltd.	Sand	Chel	Turibari	RS 565(P)	4.750	159600
57	Success Niryat Pvt. Ltd.	Sand	Jarda	Uttar Bhuskadanga	(RS) 169, 170, 171, 269, 272, 277, 278, 412(All Part)	1.010	33936
58	Pradip Arora	Sand	Chel	Turibari	RS 601, 602, 614 (All Part)	4.800	161280
59	Triumph Sales & Services	Sand	Chel	Turibari	RS 485, 564, 565 (All Part)	4.290	144144
60	Triumph Sales & Services	Sand	Jaldakha (Mayana)	Jabramali	RS 646(P)	4.980	167328
61	Triumph Sales & Services	Sand	Chel	Turibari	RS 601(P), 614(P)	4.500	151200
62	Bikalpa Traders Pvt. Ltd.	Sand	Gheesh	Dakshin Phulbari	RS 141(P)	4.870	163632
63	Bikalpa Traders Pvt. Ltd.	Sand	Gheesh	Dakshin Phulbari	RS 141(P)	4.870	163632
64	Bikalpa Traders Pvt. Ltd.	Sand	Gheesh	Dakshin Phulbari	RS 141(P)	4.870	163632
65	Premi Arora	Sand	Gheesh	Dakshin Phulbari	10, 16, 17 (All Part)	5.000	168000

SL. No.	Name of Applicants	Mineral Commodity	Name of River	Mouza	Plot No.	Area (Hector)	Estimated Reserve (Cum)
66	Abhisekh Arora	Sand	Chel	Odlabari	RS 1183(P), 1189(P)	4.800	161280
67	Abhisekh Arora	Sand	Jaldakha (Dhup)	Dakshin Altagram	RS 1441(P)	4.500	151200
68	Triumph Sales & Services	Sand	Gheesh	Uttar Phulbari	6(P)	4.890	164304
69	Abhisekh Arora	Sand	Chel	Odlabari& Paschim Damdim	RS 1182, 1183 (All Part) & 14(P)	3.800	127680
70	Falcon Abason Pvt. Ltd.	Sand	Gheesh	Dakshin Phulbari	97	4.800	161280
71	Abhisekh Arora	Sand	Chel	Odlabari	RS 1183(P)	4.400	147840
72	Triumph Sales & Services	Sand	Jaldakha (Mayana)	Jabramali	RS 646(P), 645(P)	4.980	167328
73	Abhisekh Arora	Sand	Jaldakha (Dhup)	Dakshin Altagram	RS 1441(P), 1465	4.500	151200
74	Bikalpa Traders Pvt. Ltd.	Sand	Gheesh	Dakshin Phulbari	RS 141(P)	4.870	163632
75	Premi Arora	Sand	Gheesh	Dakshin Phulbari	RS 141(P)	5.000	168000
76	Bikalpa Traders Pvt. Ltd.	Sand	Gheesh	Manabari TG	1(P), 2(P), 3(P), 9(P)	4.410	148176
77	Bikalpa Traders Pvt. Ltd.	Sand	Gheesh	Manabari TG	1(P), 2(P), 3(P), 9(P)	4.930	165648
78	Bikalpa Traders Pvt. Ltd.	Sand	Gheesh	Manabari TG	1(P), 2(P), 3(P), 9(P), 503(P), 509(P)	4.930	165648
79	AmbeyAbasan Pvt. Ltd.	Sand	Gheesh	Dakshin Phulbari	117, 118, 119, 120, 121, 122, 124	5.000	168000
80	Premi Arora	Sand	Gheesh	Dakshin Phulbari	1, 2, 3, 4, 5, 6, 10 (All are Part)	5.000	168000
81	Triumph Sales & Services	Sand	Jaldakha (Mayana)	Jabramali	RS 646(P)	4.980	167328

SL. No.	Name of Applicants	Mineral Commodity	Name of River	Mouza	Plot No.	Area (Hector)	Estimated Reserve (Cum)
82	Jailer Lama	Sand	Chel	Turibari	565(P), 566(P)	4.750	159600
83	Pradip Arora	Sand	Chel	Odlabari	1301(P)	4.900	246960
84	Pradip Arora	Sand	Chel	Odlabari	1301(P)	4.400	221760
85	Pradip Arora	Sand	Chel	Odlabari, Manabari	1301(P), 152, 148(P)	4.400	221760
86	Pawan Arora	Sand	Chel	Odlabari	619(P), 621(P), 892(P), 895(P), 897(P), 898(P)	3.800	191520
87	Pradip Arora	Sand	Chel	Odlabari	1301(P)	4.400	221760
88	Abhisekh Arora	Sand	Chel	Odlabari	1183(P), 1191(P), 1192(P), 1193(P)	4.100	206640
89	Pawan Arora	Sand	Chel	Odlabari	627(P), 899P), 619(P), 898(P), 592(P), 620(P), 650(P), 892(P), 621(P)	3.500	176400
90	Ambey Niwas Pvt. Ltd.	Sand	Chel	Odlabari	621(P), 622(P), 899(P)	3.800	191520
91	Pradip Arora	Sand	Chel	Odlabari	1301(P)	4.800	241920
92	Ambey Niwas Pvt. Ltd.	Sand	Chel	Odlabari	1192(P), 1193(P)	2.500	126000
93	Success Niryat Pvt. Ltd.	Sand	Jarda	Uttar Bhuskadanga	169(P), 412(P)	0.820	27552
94	Success Niryat Pvt. Ltd.	Sand	Gheesh	Uttar Phulbari	103(P)	4.870	163632
95	Success Niryat Pvt. Ltd.	Sand	Gheesh	Uttar Phulbari	103(P)	4.870	163632
96	Success Niryat Pvt. Ltd.	Sand	Gheesh	Dakshin Phulbari	15(P)	4.980	167328
97	Abhisekh Arora	Sand	Jaldakha (Dhup)	Dakshin Altagram	RS 1441(P)	4.500	151200

SL. No.	Name of Applicants	Mineral Commodity	Name of River	Mouza	Plot No.	Area (Hector)	Estimated Reserve (Cum)
98	Abhisekh Arora	Sand	Jaldakha (Dhup)	Dakshin Altagram	RS 1441(P)	4.500	151200
99	Neetu Chetri Lama	Sand	Leesh	Kalagaity	LR 301(P), 302(P)	4.500	151200
100	Suraj Lakhotia	Sand	Leesh	Kalagaity	LR 304(P)	3.200	107520
101	M/s Lorsen Toubro Ltd. (L&T)	Sand	Mahananda	Dabgram	613(P)	4.000	134400
102	RishobLakhotia	Sand	Leesh	Kalagaity	LR 301(P), 304(P)	4.500	151200
103	Manab Roy	Sand	Karotowa	Mehendigachh	LR 1516, 1519, 1513 (All Part)	1.900	63840
104	Sher Ali	Sand	Mahananda	Dabgram	LR 613(P)	4.000	134400
105	S. S. Construction & Co.	Sand	Mahananda	Dabgram	LR 613(P)	4.000	134400
106	Bicky Paul	Sand	Leesh	Kalagaity	LR 302(P), 304(P)	2.000	67200
107	M/s Lorsen Toubro Ltd. (L&T)	Sand	Teesta	BarapetiaNatun Bus	10(P)	4.980	167328
108	M/s Lorsen Toubro Ltd. (L&T)	Sand	Teesta	BarapetiaNatun Bus	10(P)	4.980	167328

c. Detail of production of sand and other minerals during last three years

Details of production of last 3 years are furnished in Table No 8.3.

Table No.8.3: Detail of production of sand and other minerals during last three years

Sl. No.	Year	Name of mineral	Total Production
1	2017-2018	Sand, Gravel & Boulder	33987500
2	2018-2019	Sand, Gravel & Boulder	39015000
3	2019-2020	Sand, Gravel & Boulder	32025000

9. Details of revenue generated from mineral sector during last three years

Revenue generation of last 3 years is furnished below in Table No. 9.1.

Table No.9.1: District revenue generation from mineral sector

Year	Royalty/deed rent in Rs.	Cess in Rs.	Surface rent in Rs.	Total in Rs.
2017-18	50657155	974750	0	51631905
2018-19	58511819	6588746	0	65100565
2019-20	48874969	6378464	0	55253433
2020-21	34642093			34642093

10. Transport (Railway, road)

Jalpaiguri is the newly created District of West Bengal. Erstwhile district of Jalpaiguri was bifurcated to create Alipurduar district. It became the 20th district of West Bengal on 25th June, 2014. The district headquarters at Jalpaiguri situated on the east bank of the Kaljani River on the foot hils of the Himalays. The town is the gateway to Bhutan and North Eastern States of India.

Jalpaiguri has a verywide spread road-network covering almost all areas of the district. The Road network of district Jalpaiguri is well built and several National and State Highways pass through the district. NH-31, NH-31C &NH-31D crosses the district and important locations are connected by SH-12, beside numerous medium, small and minor road networks. All sand ghats are connected by motorable Kutcha roads to the major roads. River bed materials mainly sand, soil, brick earth is mainly transported with the help of trucks or tractors by the kutcha roads which further connect to the major roads.

Distance between Kolkata, capital of West Bengal and Jalpaiguri, District head quarter is about 595 km by road.

The nearest airport is Bagdogra airport (IXB). The nearest international airport is Netaji Subhas Chandra Bose International Airport at Kolkata.

New Jalpaiguri Railway Station is the major railway station in Jalpaiguri District which is operated by Northeast Frontier Railway. Other important railway stations areJalpaigurirailway station, Jalpaiguri Roadrailway station, New Maynaguri railway station, New Mal Junction railway station etc.

A transportation map of Jalpaiguri district is furnished as Figure 10.1. A transportation map demarcating approach road to the potential sand blocks from the nearest National Highway/ Sate Highway has been prepared and presented in Figure 10.2.

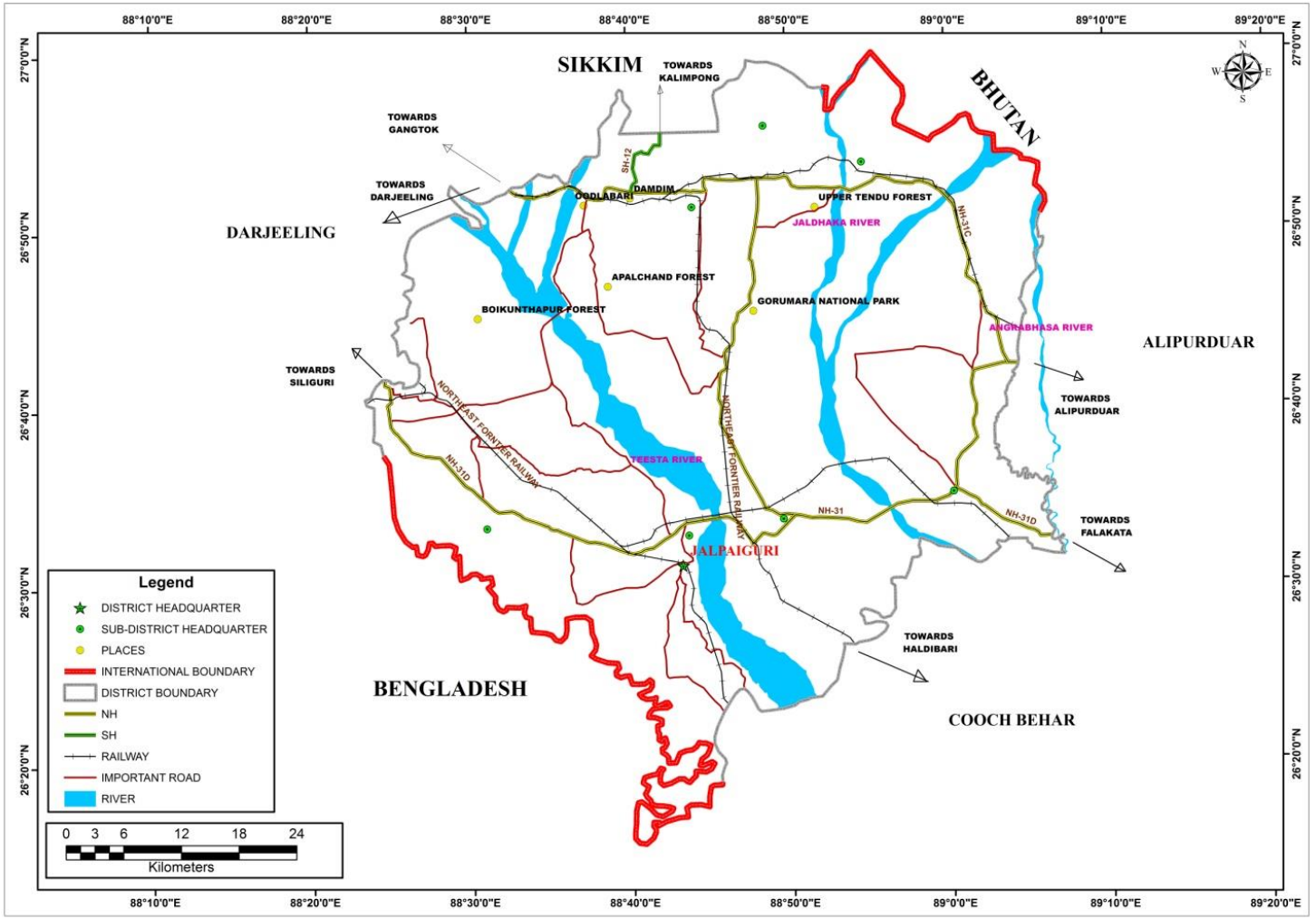

Figure No. 10.1: Transportation map of Jalpaiguri District *(Source: National Informatics Centre)*

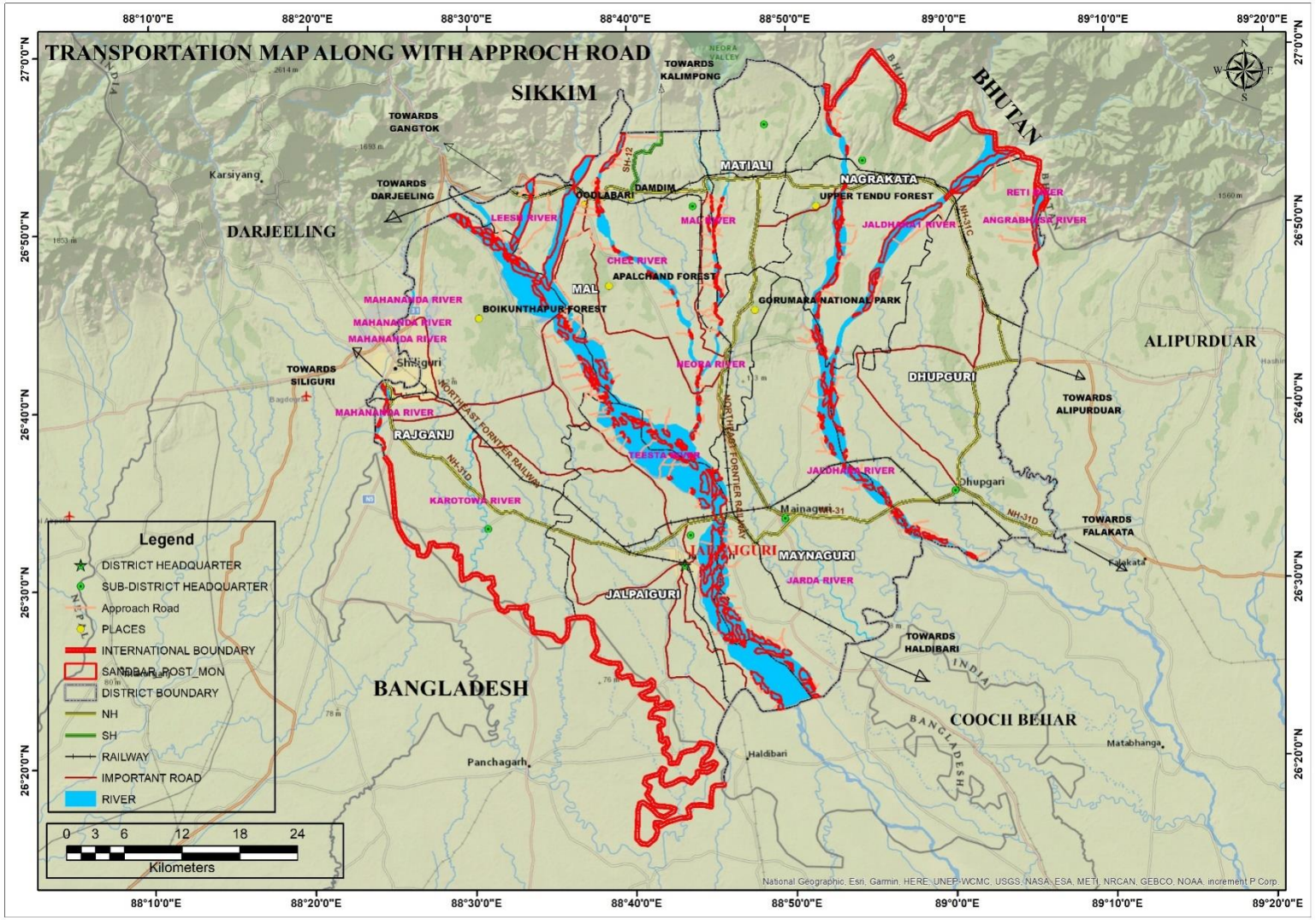

Figure 10.2: Map showing approach road to potential sand bars *(Source: National Informatics Centre)*



11. Remedial measure to mitigate the impact of mining

11.1 Environmental Sensitivity

The Jalpaiguri area represents a unique geo- environmental setup. As the mountains serve as the source of resources for the population residing in the plains, the form of environmental degradation is quite extensive particularly the extraction of forest produces, mining and agriculture are also taken into account. As human population expands, forests are being depleted for the extension of agricultural lands, introduction of new settlements, roadways etc.

Due to unprecedented growth of population during the last few, nature has started reacting sharply to the accumulated human guilt. Soil erosion and its conservation play an important role.

The land use practices play the most important role in determining the stability factors in respect of landslide hazards.

The adverse effect of this unscientific mining is realized in the form of landslide, removal of soil cover, formation of gullies and badlands; siltation of river beds leading to frequent floods, endangering the lives and properties of local inhabitants.

11.2 Sand mining Impact

Another serious environmental problem around the globe in recent years is of sand and gravel mining. Sand mining is a process of extraction of sand from an open pit, river bed, sea beaches, ocean floor, river banks, deltas and island dunes. The extracted sand could be utilised for various types of manufacturing, such as concrete used in the construction of building and other structures. The sand can also be used as an abrasive. The demand for sand will increase with population growth and urbanization. The high demand of sand has led to unsustainable sand mining process resulting in illegal mining.

All though most jurisdictions have legal limit on the location and volume of sand that can be mined, illegal sand extraction is following in many parts of the country due to rapid urbanisation and industrialisation.

Removal or extraction of too much sand from rivers leads to erosion of river banks. Deltas can recede due to sand mining. These destructive effects of sand mining ultimately results in loss of fertile land and property. It also destabilizes the ground and causes failure of engineering structures.

In-stream mining directly alters the channel geometry and bed elevation. Removing sediment from the channel disrupts the pre-existing balance between sediment supply and

transporting capacity, typically inducing incision upstream and downstream of the extraction site. The resultant incision alters the frequency of floodplain inundation along the river courses, lowers valley floor water table and frequently leads to destruction of bridges and channelization structures.

Sand Mining in beaches disturbs the ecosystem of different fauna of the beaches. The sand mining from natural barriers, made up of sand, causes flooding of the natural habitat. The sand mining activity destroys the aesthetic beauty o beaches and river bank and makes the ecosystem unstable. If there are popular tourist destination, tourism potential of such areas will lose.

It can be concluded that there has been little in depth research on the environmental, social and political effects of land use practices and calls for urgent attention by the competent authority.

11.3 Remedial measure

11.3.1 Sustainable Mining Practices:

- The depth of mining in riverbed shall not exceed 3 meter or base flow level whichever is less, provided that where the Joint Inspection Committee certifies about excessive deposit or over accumulation of mineral in certain reaches requiring channelization, it can go above 3 meters.
- Mining shall be done in layers of 1 meter depth to avoid ponding effect and after first layer is excavated, the process will be repeated for the next layers.
- No stream should be diverted for the purpose of sand mining. No natural water course and/ or water resources are obstructed due to mining operations.
- No blasting shall be resorted to in river mining and without permission at any other place.

11.3.2 Monitoring the Mining of Mineral and its Transportation:

- For each mining lease site the access should be controlled in a way that vehicles carrying mineral from that area are tracked and accounted for.
- There should be regular monitoring of the mining activities in the State to ensure effective compliance of stipulated EC conditions and of the provisions under the Minor Mineral Concessions Rules framed by the State Government.

11.3.3 Noise Management:

- Noise arising out of mining and processing shall be abated and controlled at source to keep within permissible limit.



- Restricted sand mining operation has to be carried out between 6 am to 7 pm.

11.3.4 Air Pollution and Dust Management:

- The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly.
- Air pollution due to dust, exhaust emission or fumes during mining and processing phase should be controlled and kept in permissible limits specified under environmental laws.
- The mineral transportation shall be carried out through covered trucks only and the vehicles carrying the mineral shall not be overloaded. Wheel washing facility should be installed and used.

11.3.5 Bio-Diversity Protection:

- Restoration of flora affected by mining should be done immediately. Five times the number of trees destroyed by mining to be planted preferably of indigenous species. Each EC holder shall have to undertake plantation of trees over at least 20% of the total area of lease in the same plot or plots utilised for such working.
- No mining lease shall be granted in the forest area without forest clearance in accordance with the provisions of the Forest Conservation Act, 1980 and the rules made there under.
- Protection of natural home of any wild animal shall have to be ensured.
- No felling of tree near quarry is allowed. For mining lease within 10km of the National Park / Sanctuary or in Eco-Sensitive Zone of the Protected Area, recommendation of Standing Committee of National Board of Wild Life (NBWL) have to be obtained as per the Hon'ble Supreme Court order in I.A. No. 460 of 2004.
- Spring sources should not be affected due to mining activities. Necessary protection measures are to be incorporated.

11.3.6 Management of Instability and Erosion:

- Removal, stacking and utilization of top soil should be ensured during mining. Where top soil cannot be used concurrently, it shall be stored separately for future use keeping in view that the bacterial organism should not die and should be spread nearby area.
- The EC should stipulate conditions for adequate steps to check soil erosion and control debris flow etc. by constructing engineering structures
- Use of oversize material to control erosion and movement of sediments



- No overhangs shall be allowed to be formed due to mining and mining shall not be allowed in area where subsidence of rocks is likely to occur due to steep angle of slope.
- No extraction of boulder / sand in landslide prone areas.
- Controlled clearance of riparian vegetation to be undertaken.

11.3.7 Waste Management:

- Site clearance and tidiness is very much needed to have less visual impact of mining.
- Dumping of waste shall be done in earmarked places as approved in Mining Plan.
- Rubbish burial shall not be done in the rivers.

11.3.8 Pollution Prevention:

- Take all possible precautions for the protection of environment and control of pollution.
- Effluent discharge should be kept to the minimum and it should meet the standards prescribed.

11.3.9 Protection of Infrastructure:

- Mining activities shall not be done for mine lease where mining can cause danger to site of flood protection works, places of cultural, religious, historical, and archeological importance.
- For carrying out mining in proximity to any bridge or embankment, appropriate safety zone should be worked out on case to case basis, taking into account the structural parameters, location aspects and flow rate, and no mining should be carried out in the safety zone so worked out.
- Mining shall not be undertaken in a mining lease located in 300-500 meter of bridge, 300 meter upstream and downstream of water supply / irrigation scheme, 100 meters from the edge of National Highway and railway line, 50 meters from a reservoir, canal or building, 25 meter from the edge of State Highway and 10 meters from the edge of other roads except on special exemption by the Sub-Divisional level Joint Inspection Committee.

12. Suggested reclamation plan for already mined out areas

As per statute all mines/quarries are to be properly reclaimed before final closure of the mine. Reclamation plans should include:

a) A baseline survey of river cross section. The study of cross section is basis for delineating channel form. Cross-sections must be surveyed between two monumented endpoints set on the river banks, and elevations should be referenced based on benchmark set in the area;

b) The proposed mining cross-section data should be plotted over the baseline data to illustrate the vertical extent of the proposed excavation;

c) The cross-section of the replenished bar should be the same as the baseline data. This illustrates that the bar elevation after the bar is replenished will be the same as the bar before extraction;

d) A planimetric map showing the aerial extent of the excavation and extent of the riparian buffers;

e) A planting plan developed by a plant ecologist familiar with the flora of the river for any areas such as roads that need to be restored;

f) Each EC holder shall have to undertake plantation of trees over at least 20% of the total area of the plot or plots of land as subject to such working in accordance with a plan approved by the concerned Divisional Forest Officer holding jurisdiction, provided further the competent authority l.e, The Divisional Forest Officer may fix up norms for plantation of trees in a particular area regarding choice of species, spacing, nos of trees and maintenance etc.;

g) A monitoring plan has to establish.

13. Risk assessment and disaster management plan

Risk analysis is the systematic study of risks encountered during various stages of mining operation. Risk analysis seek to identify the risks involved in mining operations, to understand how and when they arise, and estimate the impact (financial or otherwise) of adverse outcomes. The sand mining operation in the district is mainly done manually.

13.1 Identification of risk due to river sand mining

There is no land degradation due to mining activities as mining is done only on river bed dry surface. There will be no OB or waste generation as the sand is exposed in the river bed and is completely saleable. There will be neither any stacking of soil nor creation of OB dumps. The mining activity will carried out up to a maximum depth of 3m below the surface level. So there is no chance of slope failure, bench failure in the mines. However there are some identified risk in the mining activity which are as follows:

1. Accident during sand loading and transportation
2. Inundation/ Flooding
3. Quick Sand Condition

13.2 Mitigation measures

13.2.1 Measures to prevent accidents during loading and transportation:

- During the loading truck should be brought to a lower level so that the loading operation suits to the ergonomic condition of the workers.
- The workers will be provided with gloves and safety shoes during loading.
- Opening of the side covers of the truck should be done carefully and with warning to prevent injury to the loaders.
- Mining operations will be takes place during daylight only.
- The truck will be covered with tarpaulin and maintained to prevent any spillage.
- To avoid danger while reversing the trackless vehicles especially at the embankment and tipping points, all areas for reversing of lorries should be made man free as far as possible.
- All transportation within the main working will be carried out directly under the supervision and control of the management.
- Overloading should not be permitted and the maximum permissible speed limit should be ensured.
- There will be regular maintenance of the trucks and the drivers will have valid driving license.

13.2.2 Measures to prevent incidents during Inundation/ Flooding:

To minimize the risk of flooding/ inundation following measures should be under taken:

- Mining will be completely closed during the monsoon months.
- Proper weather information particularly on rain should be kept during the operational period of mines so that precautionary measures will be undertaken.

13.2.3 Measures for mitigation to quick sand condition:

- Quick sand zone and deep water zone will be clearly demarcated and all the mines workers will be made aware of the location.
- Mining will be done strictly as per the approved mining plan.

13.3 Disaster management plan

As the depth of mining will be maximum of 3m below the surface level considering local condition, the risk related to mining activity is much less. The mining operation will be carried out under the supervision of experienced and qualified Mines Manager having Certificate of Competency to manage the mines granted by DGMS. All the provisions of Mines Act 1952, MMR 1961 and Mines Rules 1955 and other laws applicable to mine will strictly be complied. During heavy rainfall and during the monsoon season the mining activities will be closed. Proper coordination with Irrigation Department should be maintained so that at the time of releasing water, if any, from the dam suitable warning/information is given in advance. Special attention and requisite precautions shall be taken while working in areas of geological weakness like existence of slip, fault etc. The mining site will be supplied with first aid facilities and the entire mines worker will have access to that.

14. Conclusion and Recomendation:

The District Survey Report for Jalpaiguri district has been prepared as per as per the guidelines issued by Ministry of Environment, Forests and Climate Change (MoEF& CC) time to time. The Guideline of WBMMCR, 2016 is also taken into consideration while preparation of this report.

Potential areas where mining can be allowed are identified and discussed in this DSR. This DSR would also help to estimate the annual rate of replenishment wherever applicable.

Preparation of this DSR involved both primary and secondary data generation. The primary data generation involved the site inspection, survey, ground truthing etc. while secondary data has been acquired through various authenticated sources and satellite imagery studies.

The district survey report also describes the general geographical profile of the district, distribution of natural resources, livelihood, climatic condition and sources of revenue generation.

Three district physiographic units can be identified in the district (a) the northern hilly terrain which is a part of the sub-Himalayan Ranges, (b) the central tract, locally called Bhaber and (c) the gently sloping alluvial plain in the south locally called Terai.

The district is currently generating revenue from mining of minor minerals such as sand and gravels from the riverbed.

14.1 Conclusion:

1. The rivers are enriched with gravels and boulders along with sand where the percentage of larger grains (gravels and boulders) are much more in the uphill region while percentage of sand is found to be more towards the plains.
2. The replenishment study has been carried out during the preparation of this DSR after analysing datasets of consecutive calendar years. Both field-based surveys coupled with satellite imagery study and empirical studies were carried out to determine the rate of replenishment in each river of the district.
3. The determined values of various methods as adopted for replenishment study gives a comparable value and in all cases the values are found to be much more as compared to the capping limit (60%) as suggested in the Enforcement and Monitoring Guidelines for Sand Mining (EMGSM) January 2020, Issued by Ministry of Environment, Forest and Climate Change (MoEF&CC) 2020.
4. Field base study shows variation of replenishment from 96.2 to 97.0% in the district and for theoretical replenishment study based on mining lease shows variations from 77% to 82% with an average of 80% of replenishment rate in the district.

5. The total potential river bed deposit for the district comes to about 89.58 million cubic meters (Mcum).

14.2 Recommendation:

1. The mining lease distribution for the district must be carried out by involving a district level committee constituted with inter-disciplinary members of various departments including irrigation and waterways, DL&LRO, forest, biodiversity, wetland management, SWID or any other relevant department which the district authority may find suitable to include.
2. While recommending for Mining Leases, the District Level Committee should ensure the protection of Biodiversity Zones as recorded by relevant Government Agenesis from time to time.
3. During finalization of mining leases for the district, strict adherence of Supreme Court orders No 1501 dated 03/06/2022 should be followed.
4. Efforts should be given to restrict distribution of mining leases along the confluence zone of the rivers where rich aquatic habitats are reported.
5. Since the state of West Bengal has royalty system in volumetric measurement, specific gravity for sand and gravel has not been determined during this study. However, during the finalization of mining lease if it is found necessary to conduct such test may be initiated by the state government on case-to-case basis.
6. It is recommended to have a periodical review along with primary data collection during pre- and post-monsoon periods to record the seasonal variance of the sedimentation rate on annual basis and update replenishment rate of the district.

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PLATE 1

DRAINAGE MAP OF THE DISTRICT

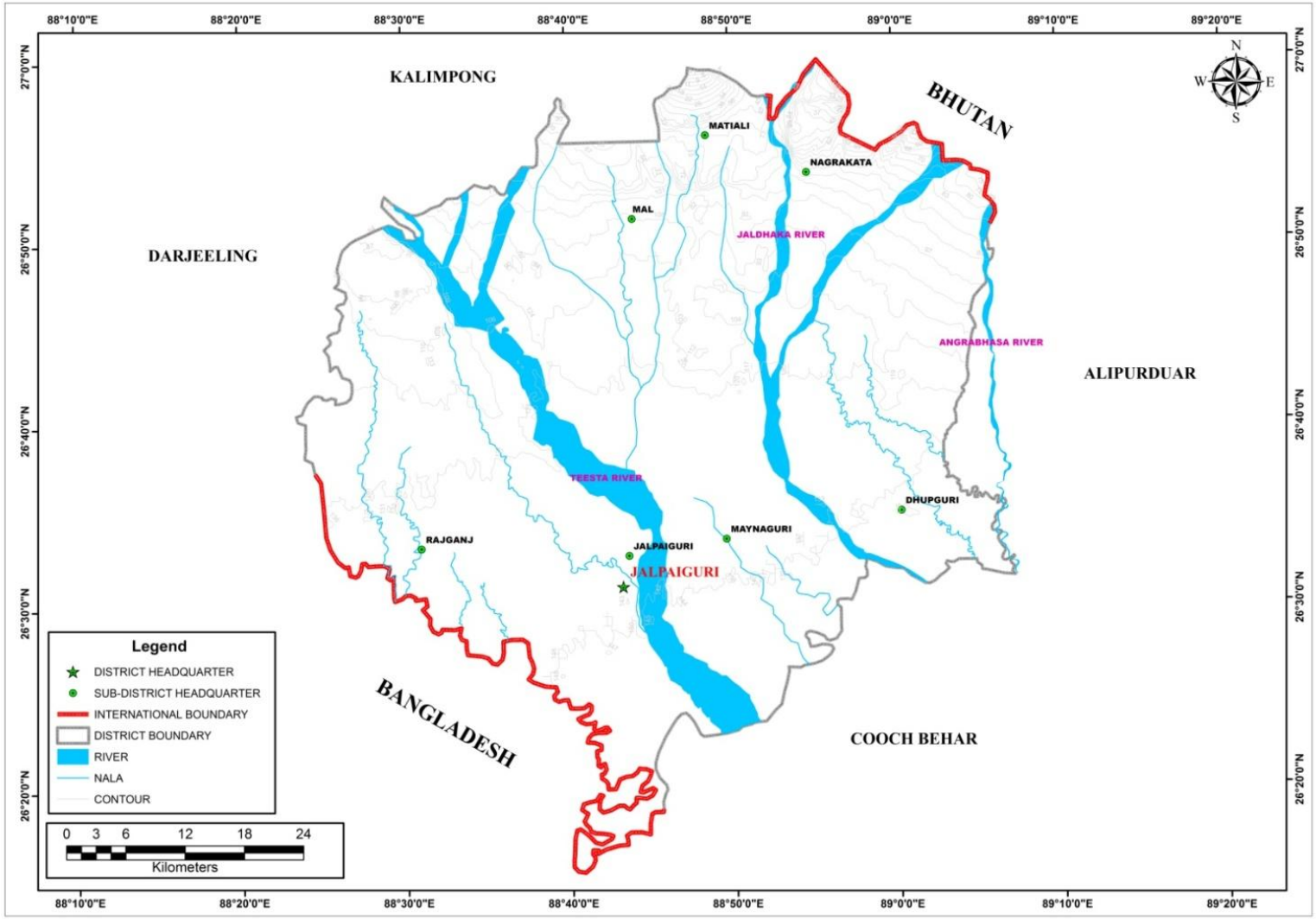


Plate 1A: Drainage Map of the District *(Source: National Informatics Centre -NIC Website, Sept 2020)*

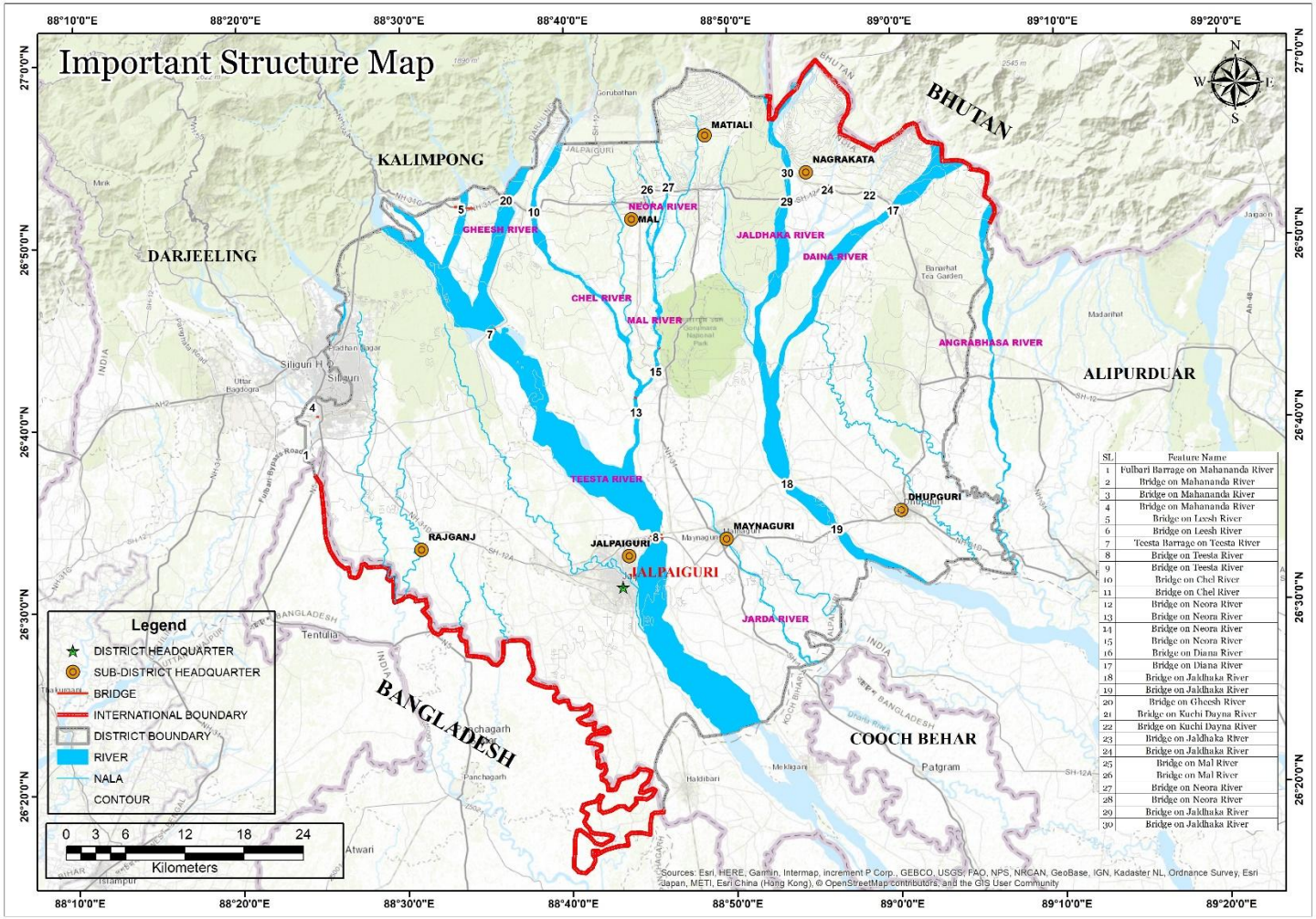


Plate 1B: Location Map of dams, barrages, bridge showing on drainage system of the *(Source: National Informatics Centre -NIC Website, Sept 2020)*

PLATE 2A

DISTRIBUTION MAP OF SAND BARS ON RIVERS DURING PRE-MONSOON PERIOD OF JALPAIGURI DISTRICT

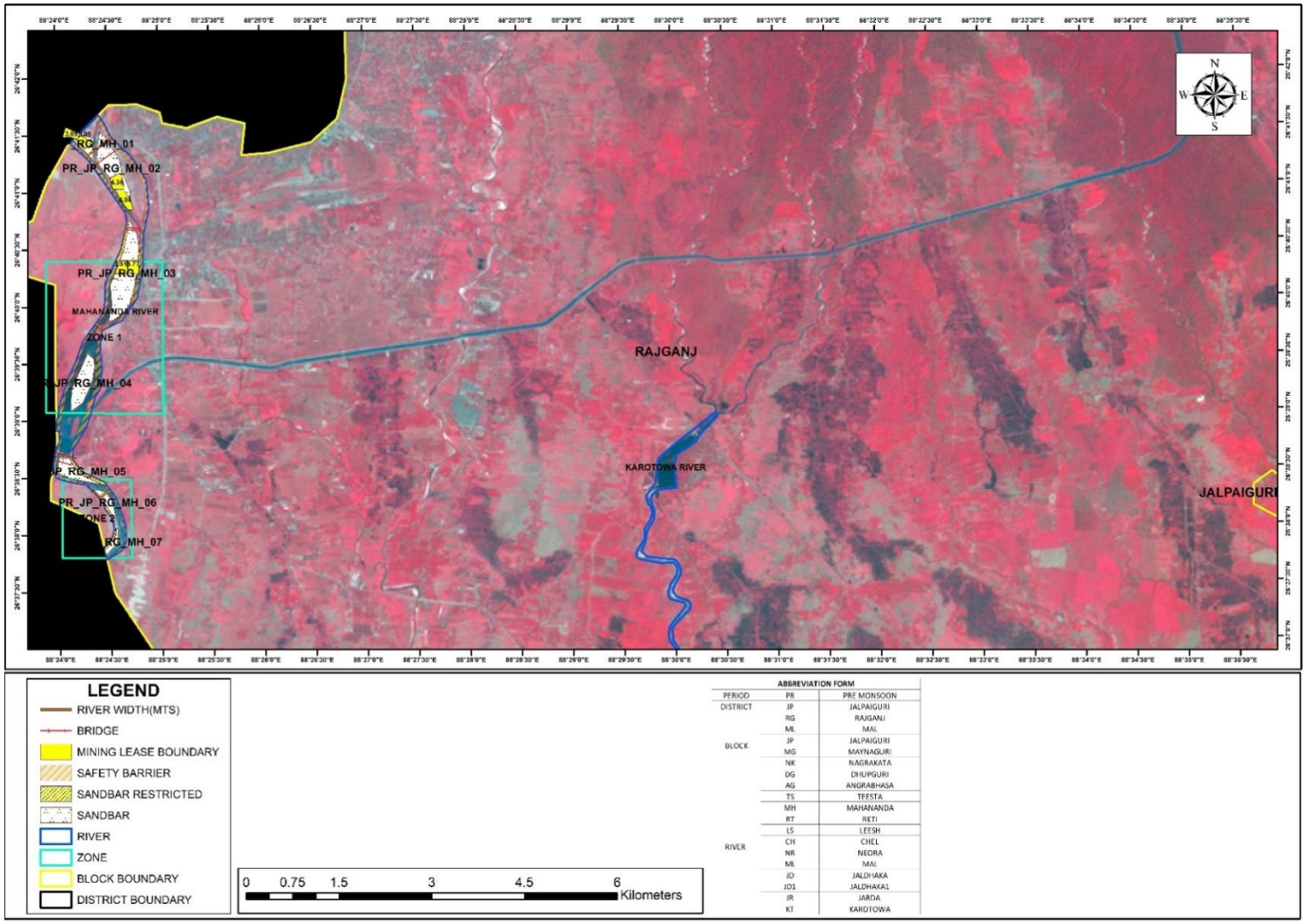


Plate 2A1: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

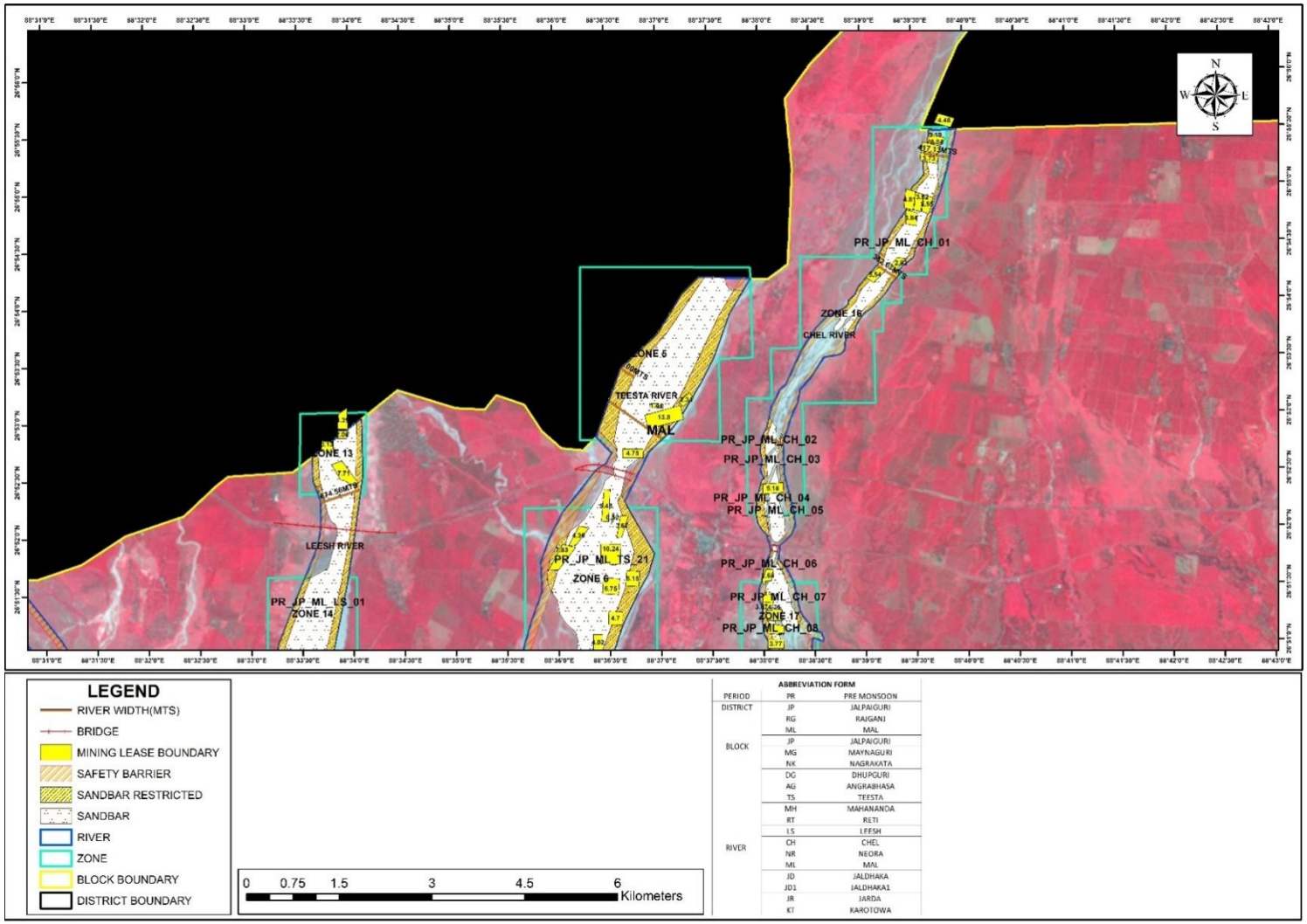


Plate 2A2: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

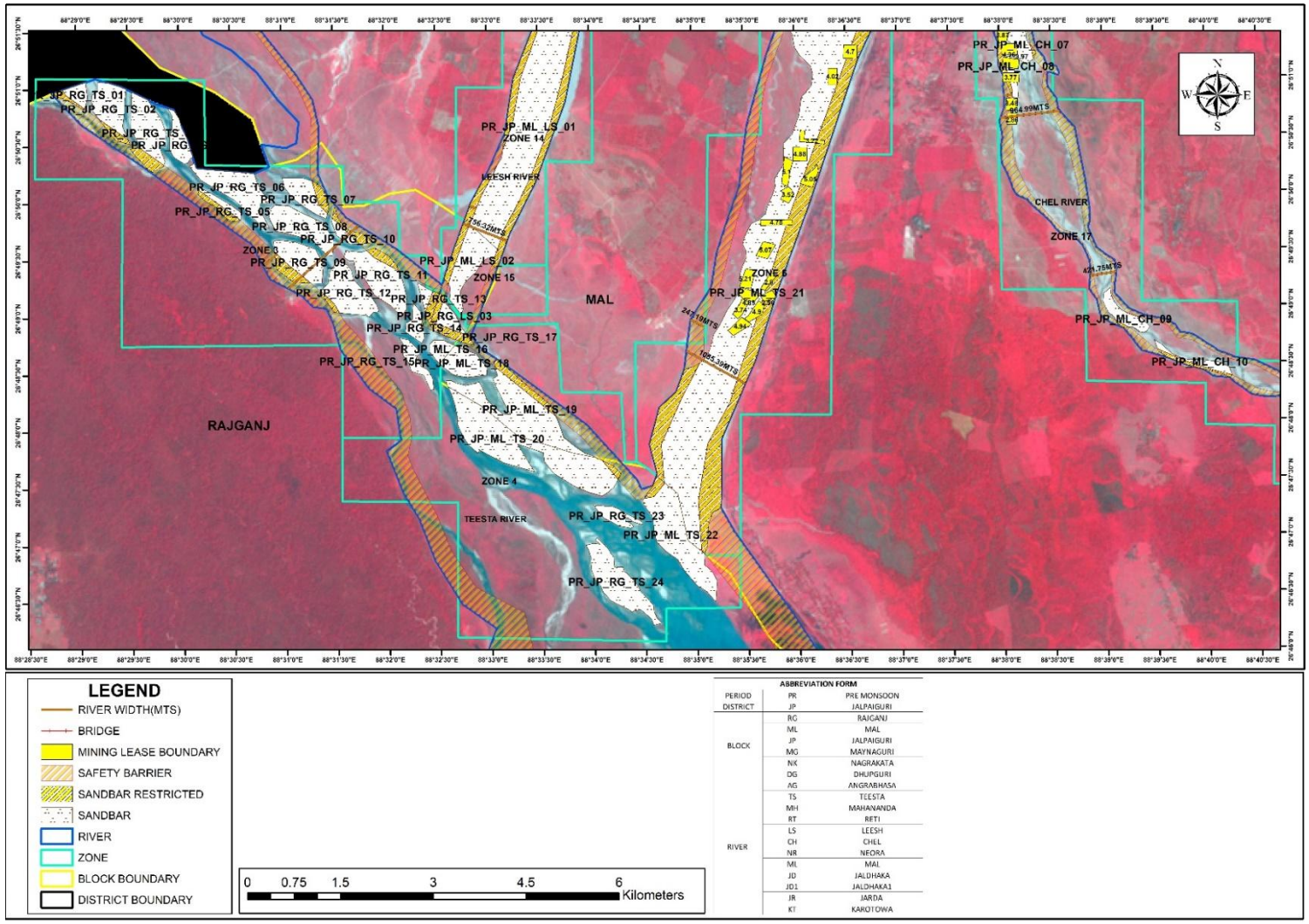


Plate 2A3: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

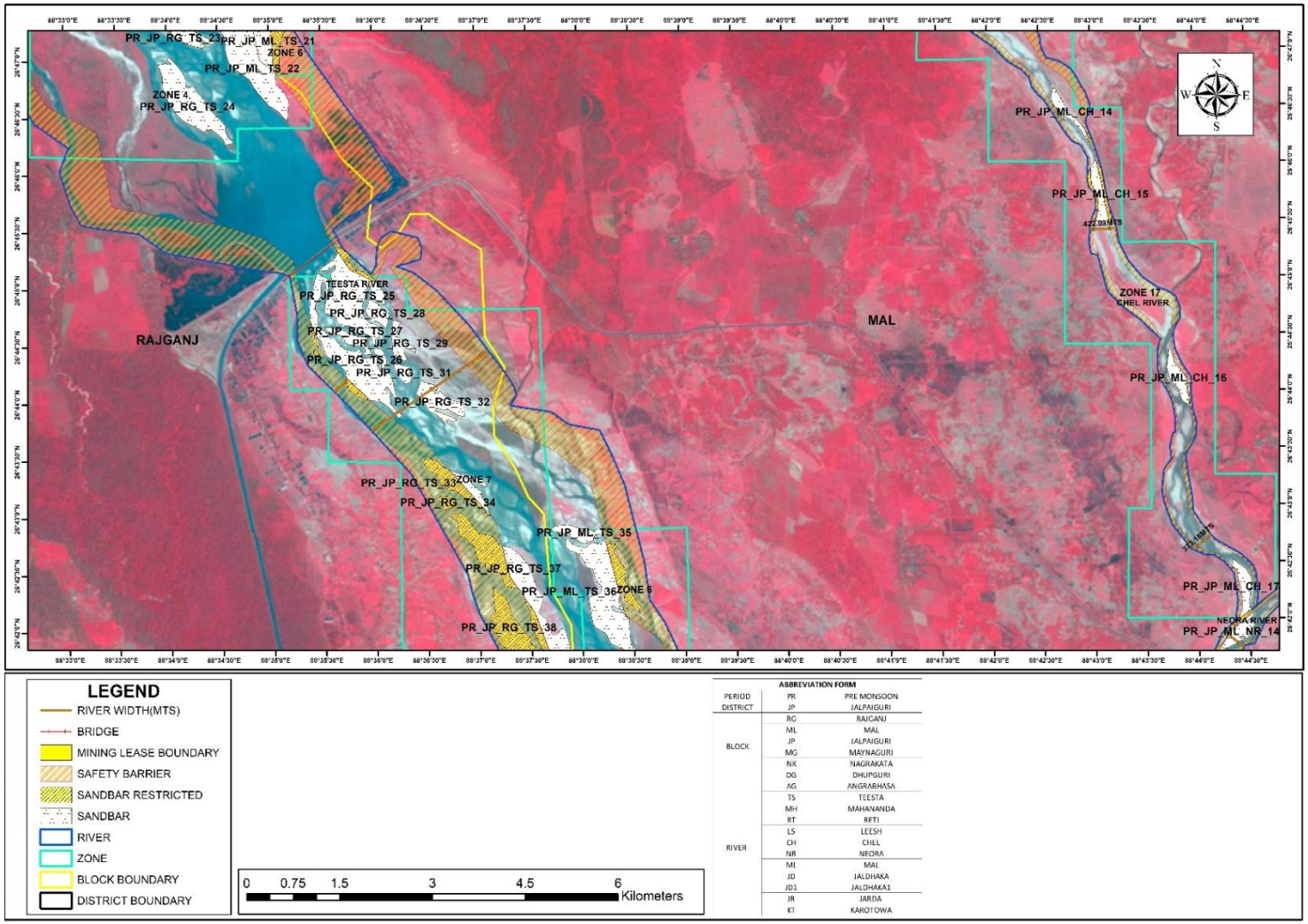


Plate 2A4: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Jalpaiguri District*(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

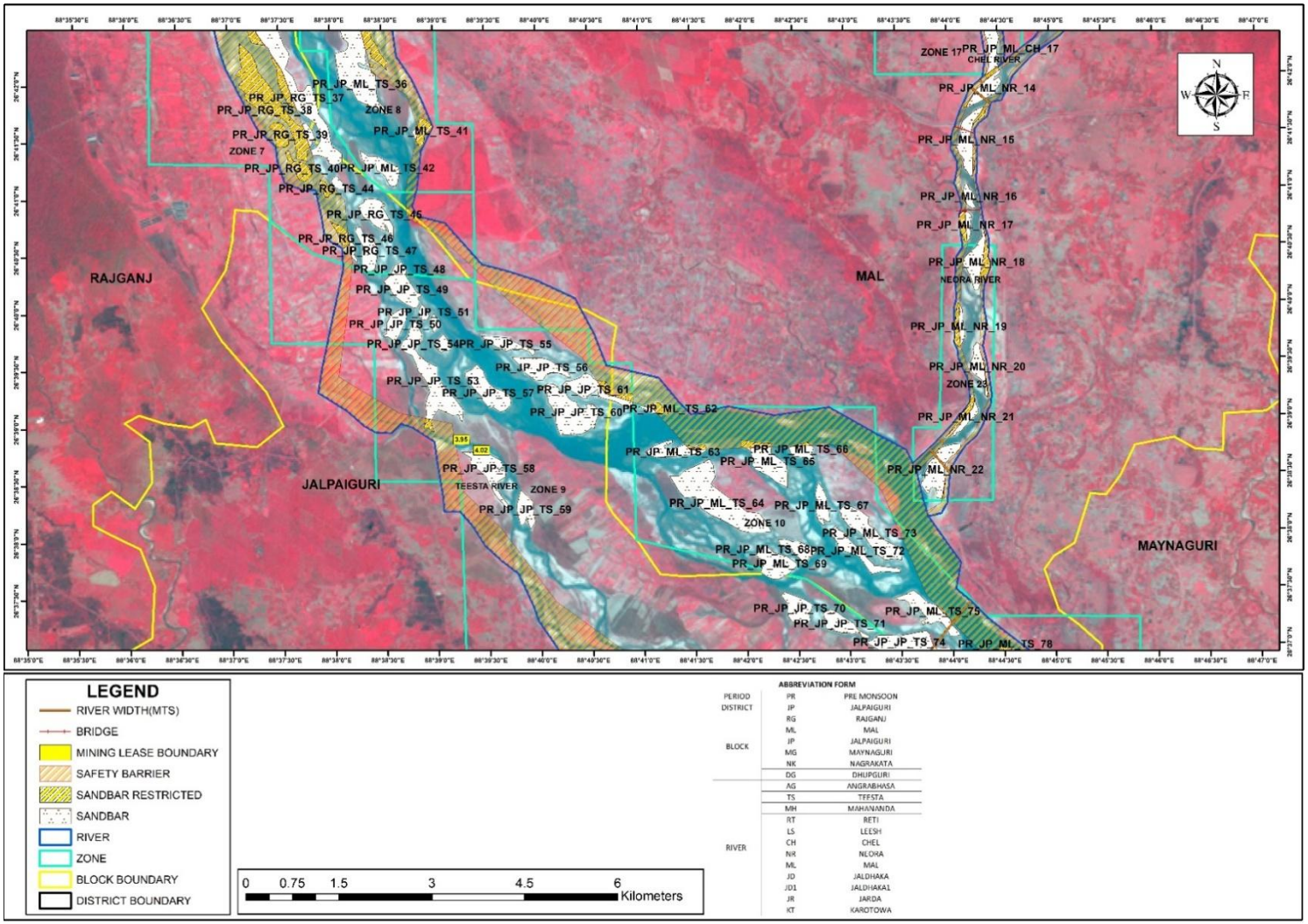


Plate 2A5: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

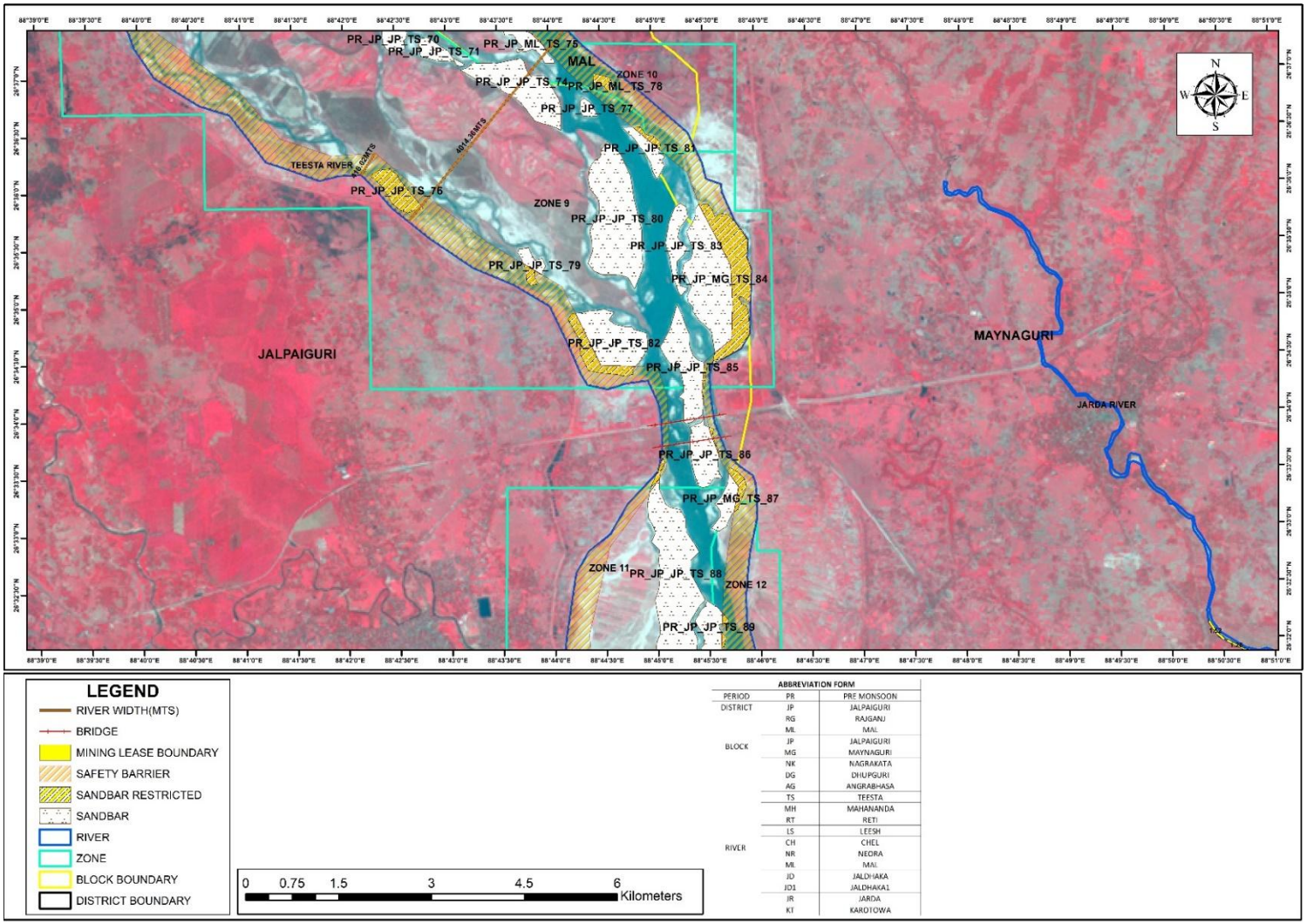


Plate 2A6: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Jalpaiguri District*(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

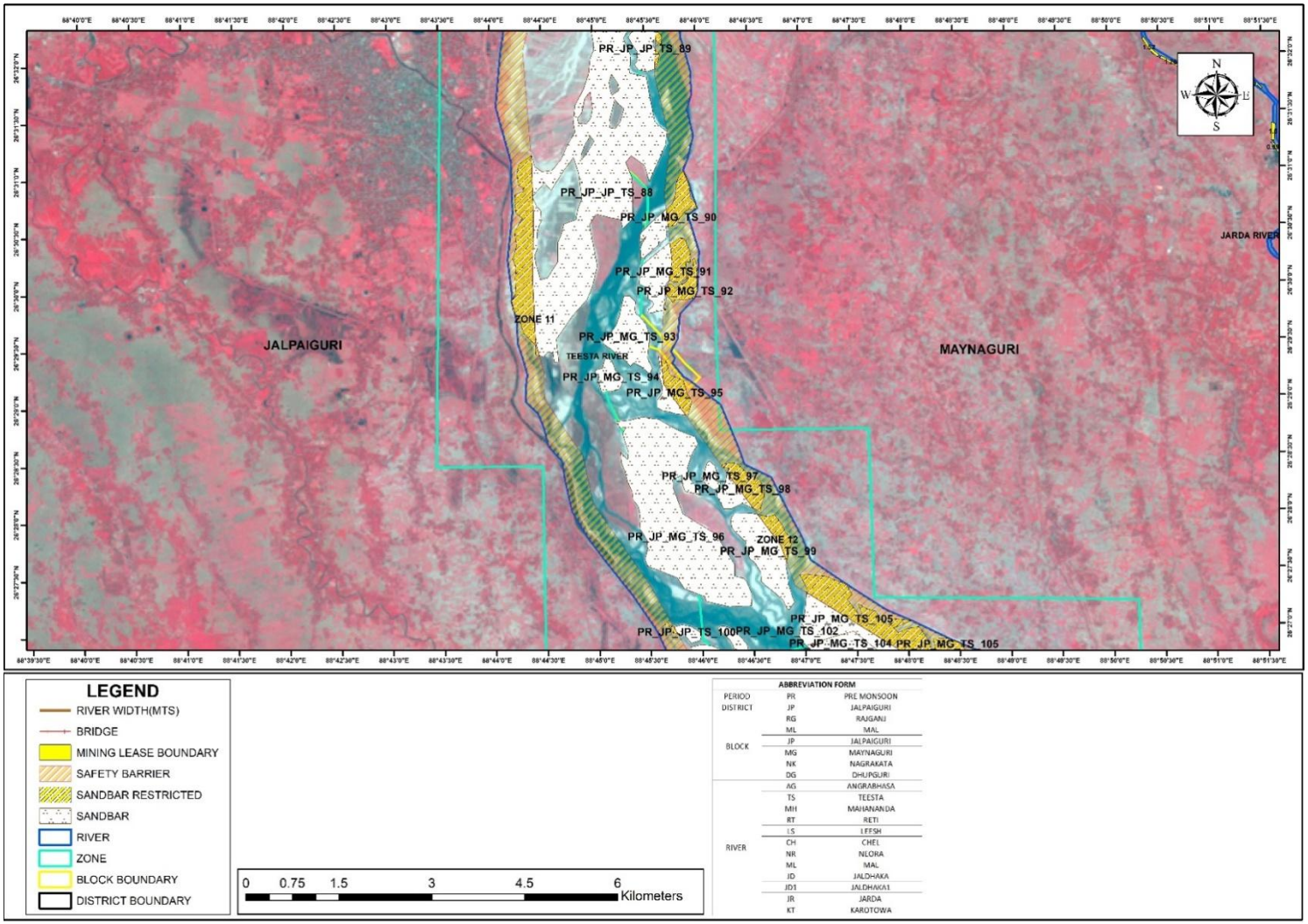


Plate 2A7: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Jalpaiguri District*(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

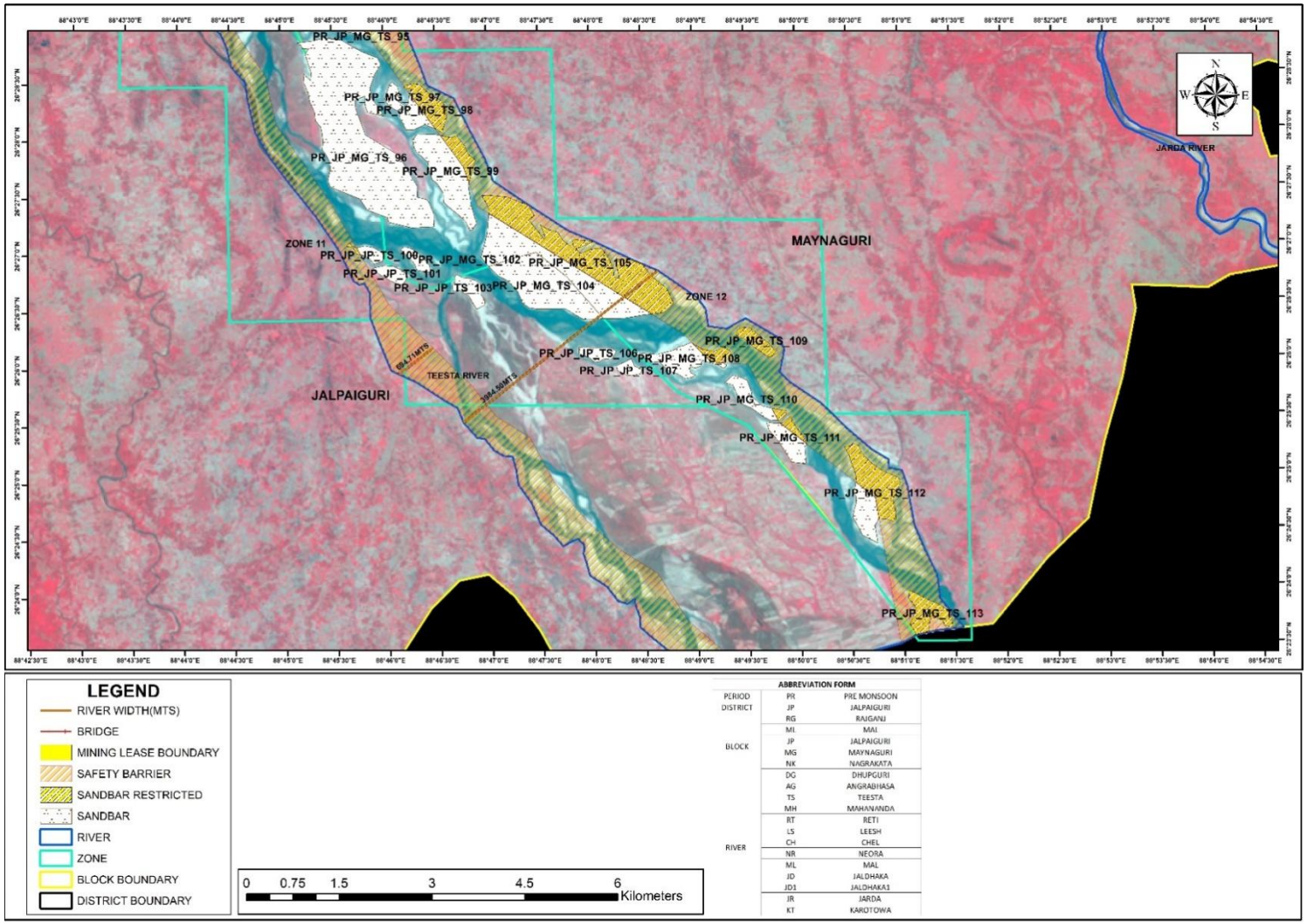


Plate 2A8: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

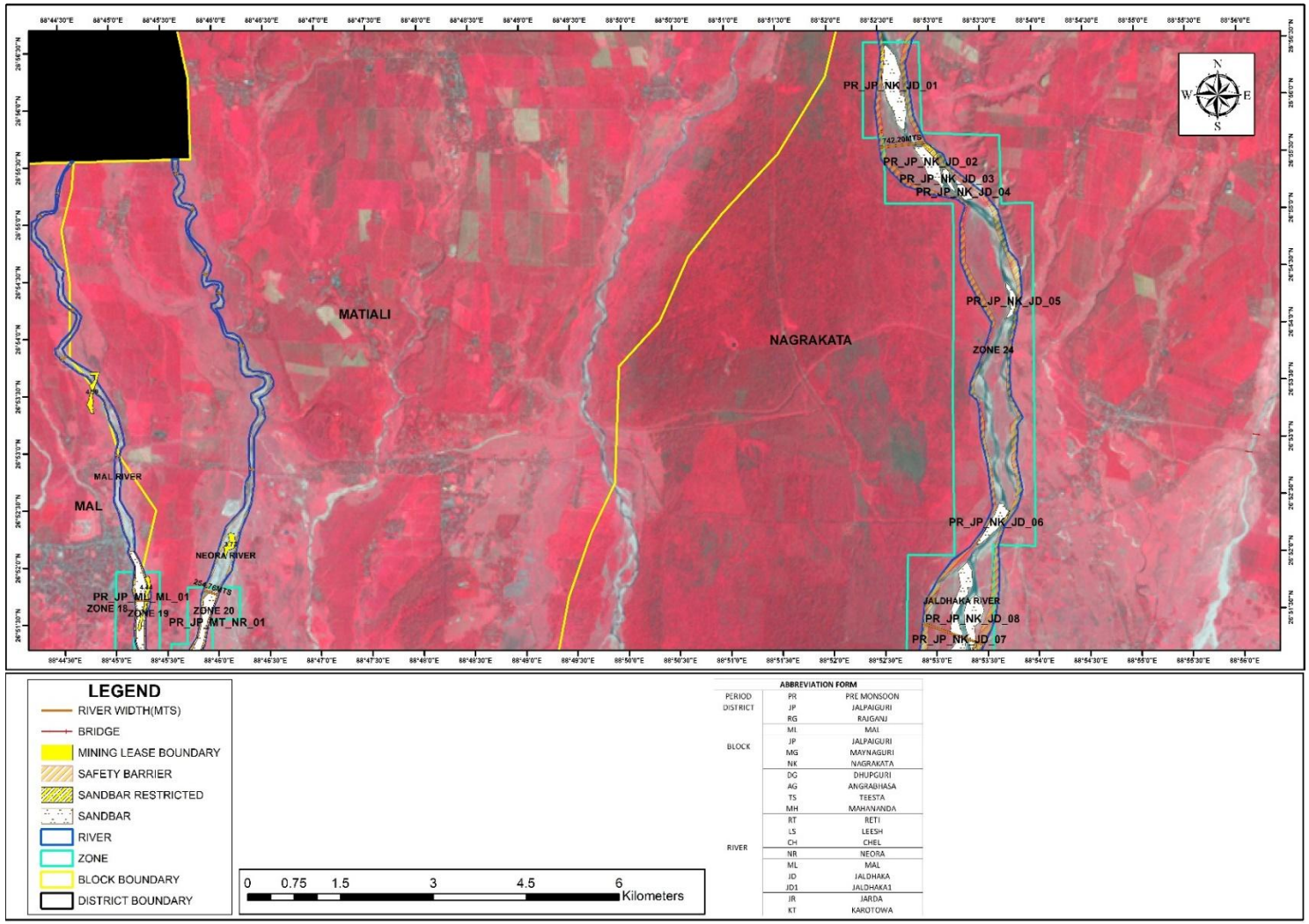


Plate 2A9: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Jalpaiguri District*(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

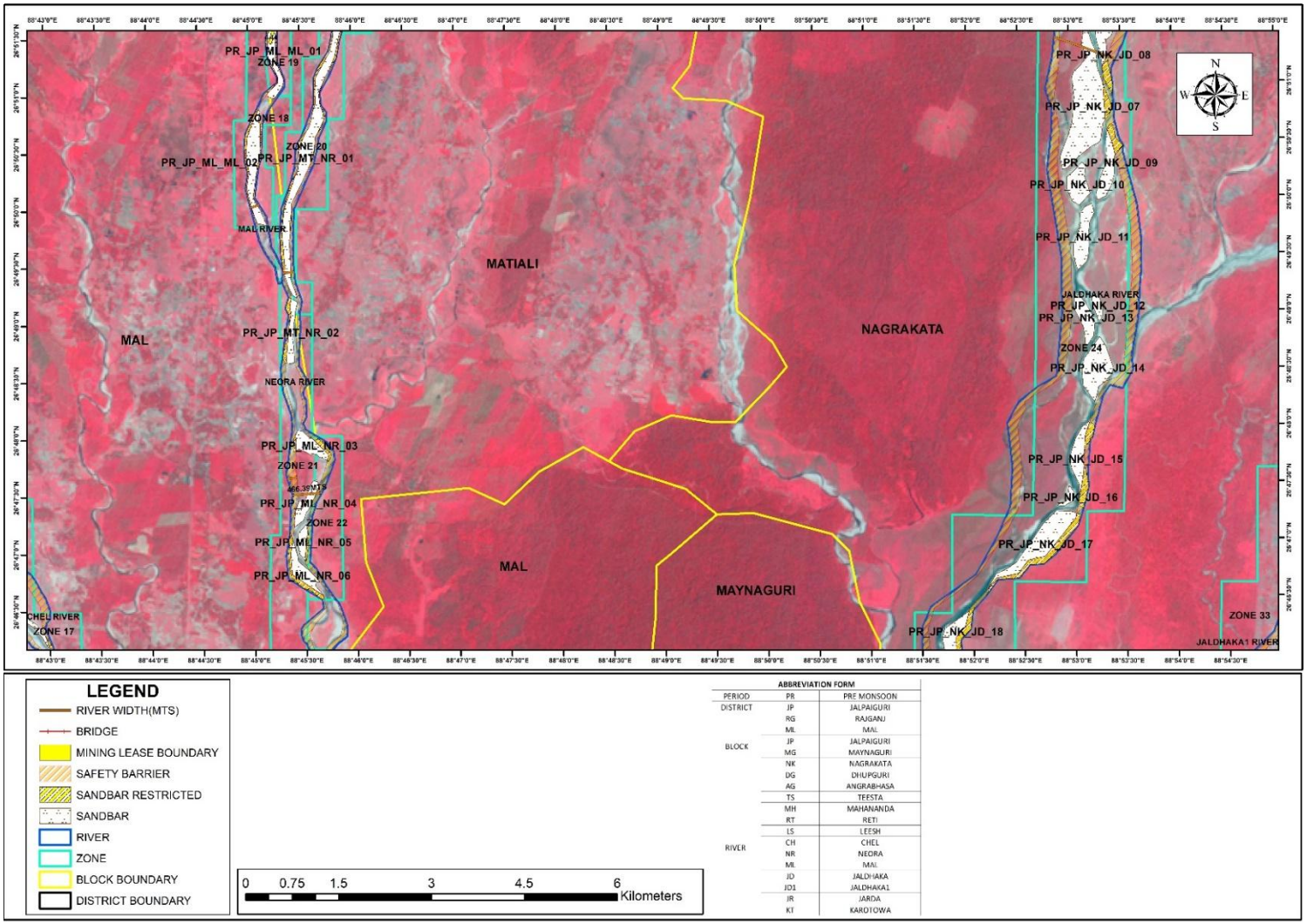


Plate 2A10: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

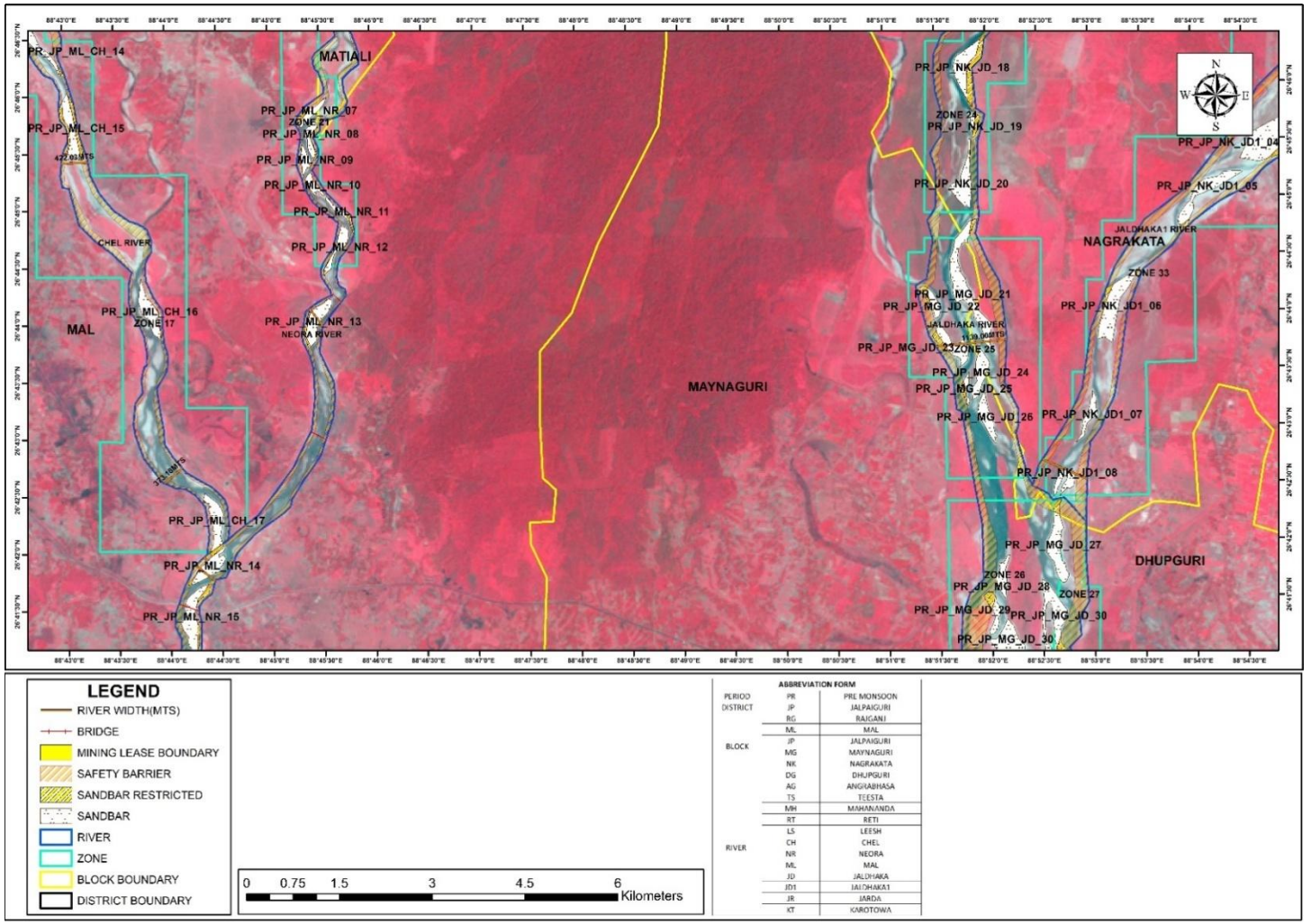


Plate 2A11: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

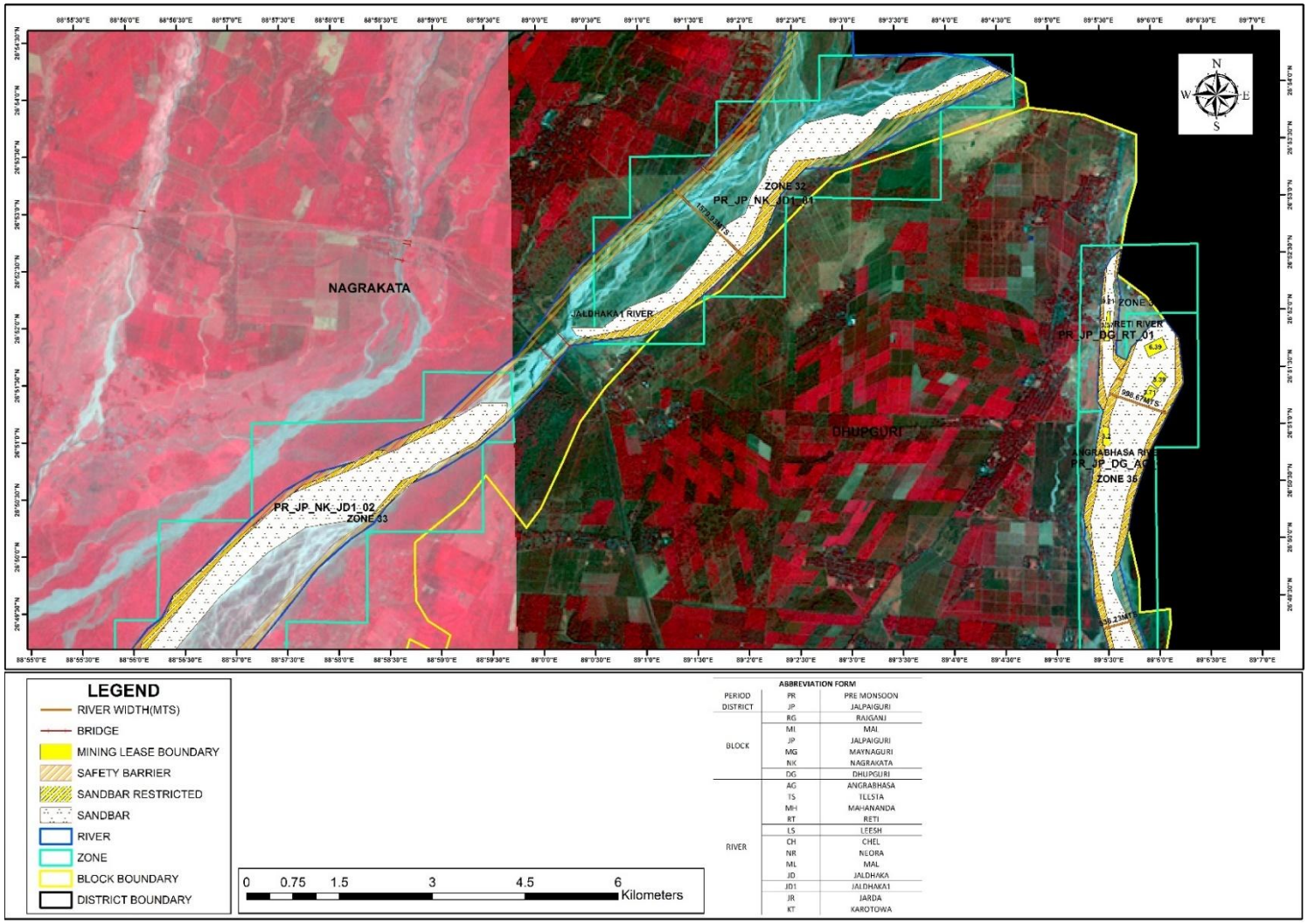


Plate 2A12: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

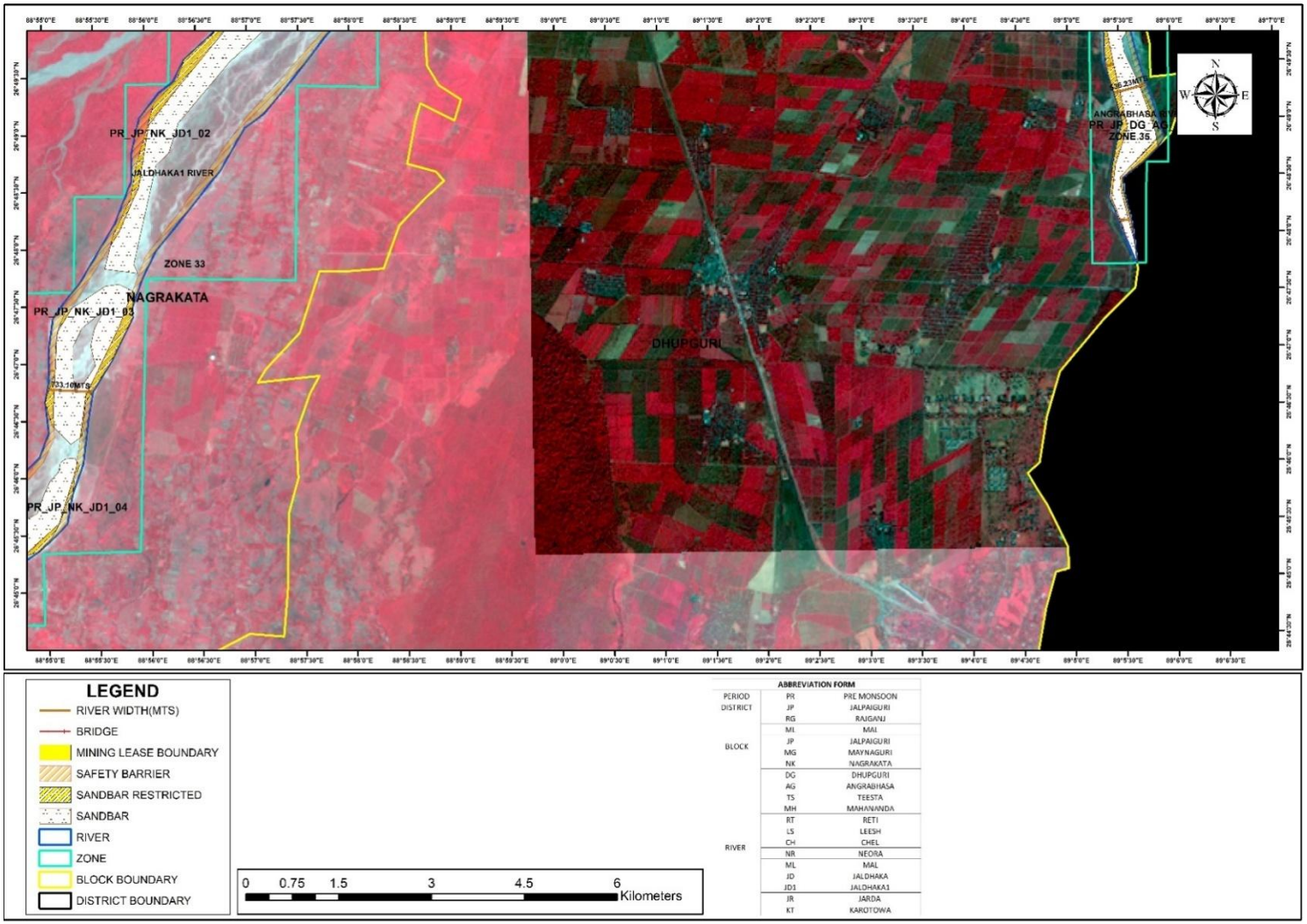


Plate 2A13: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

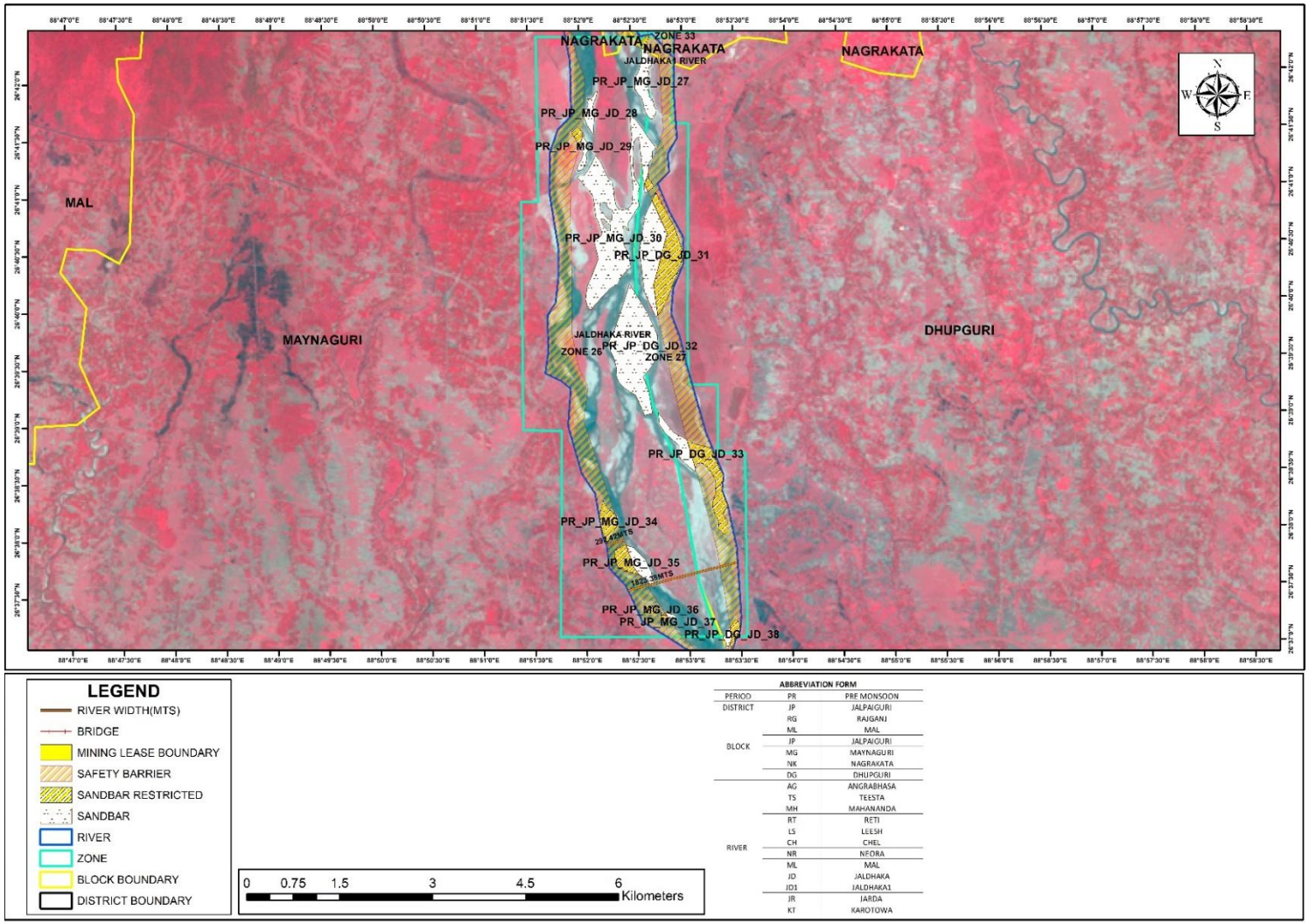


Plate 2A14: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

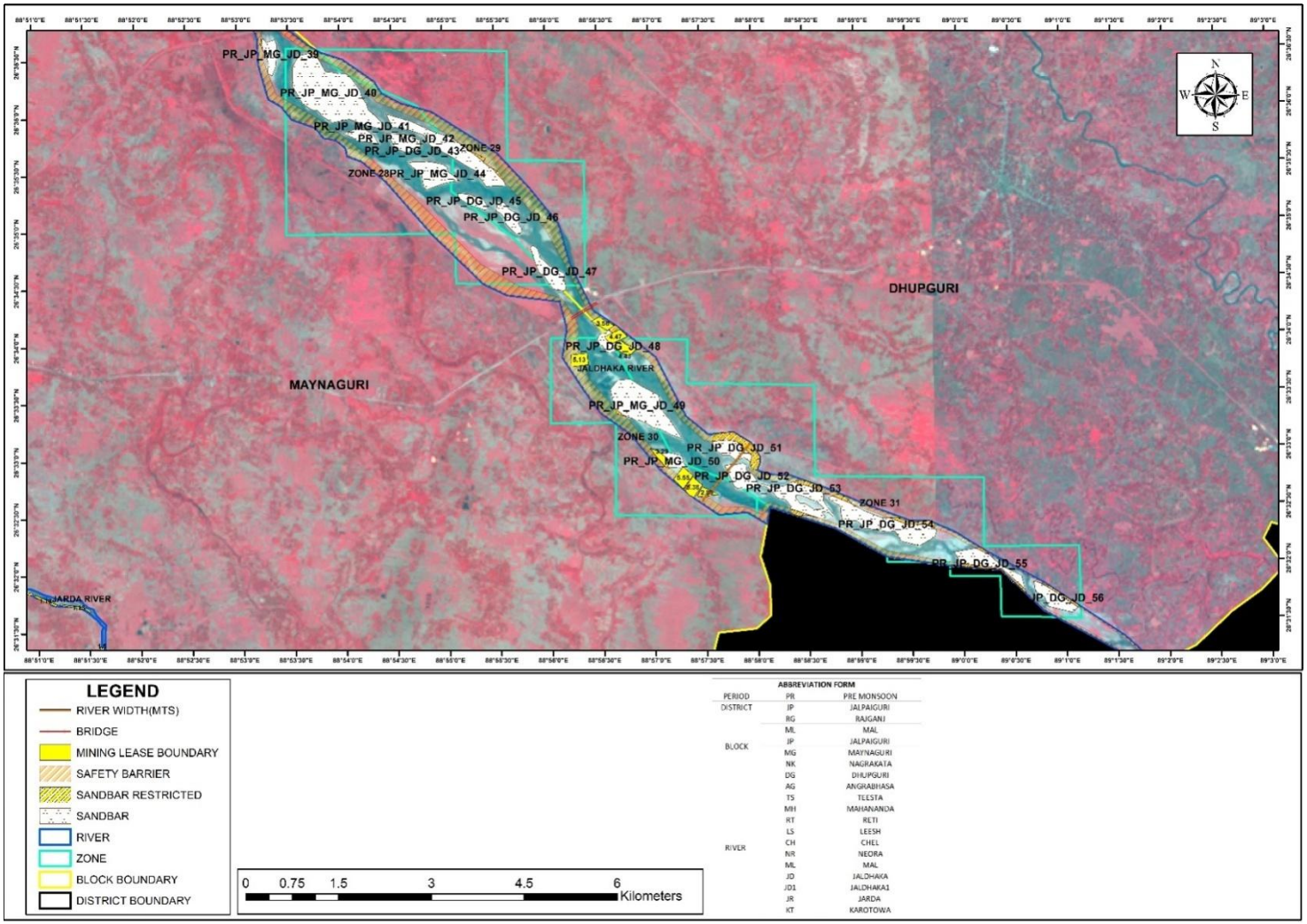


Plate 2A15: Distribution Map of Sand Bars on Rivers During Pre-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, March 2020)*

PLATE 2B

DISTRIBUTION MAP OF SAND BARS ON RIVERS DURING POST-MONSOON PERIOD OF JALPAIGURI DISTRICT

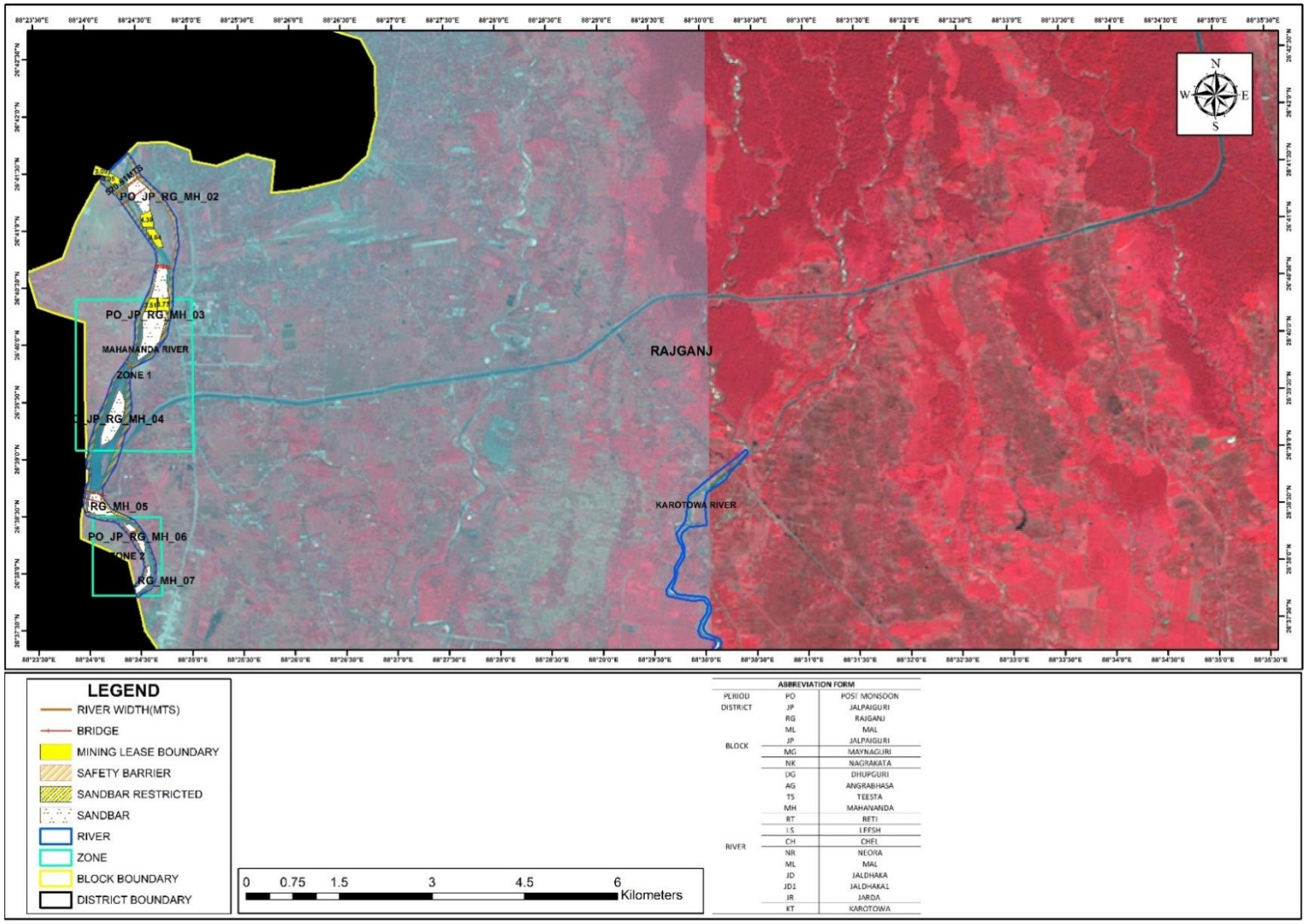


Plate 2B1: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

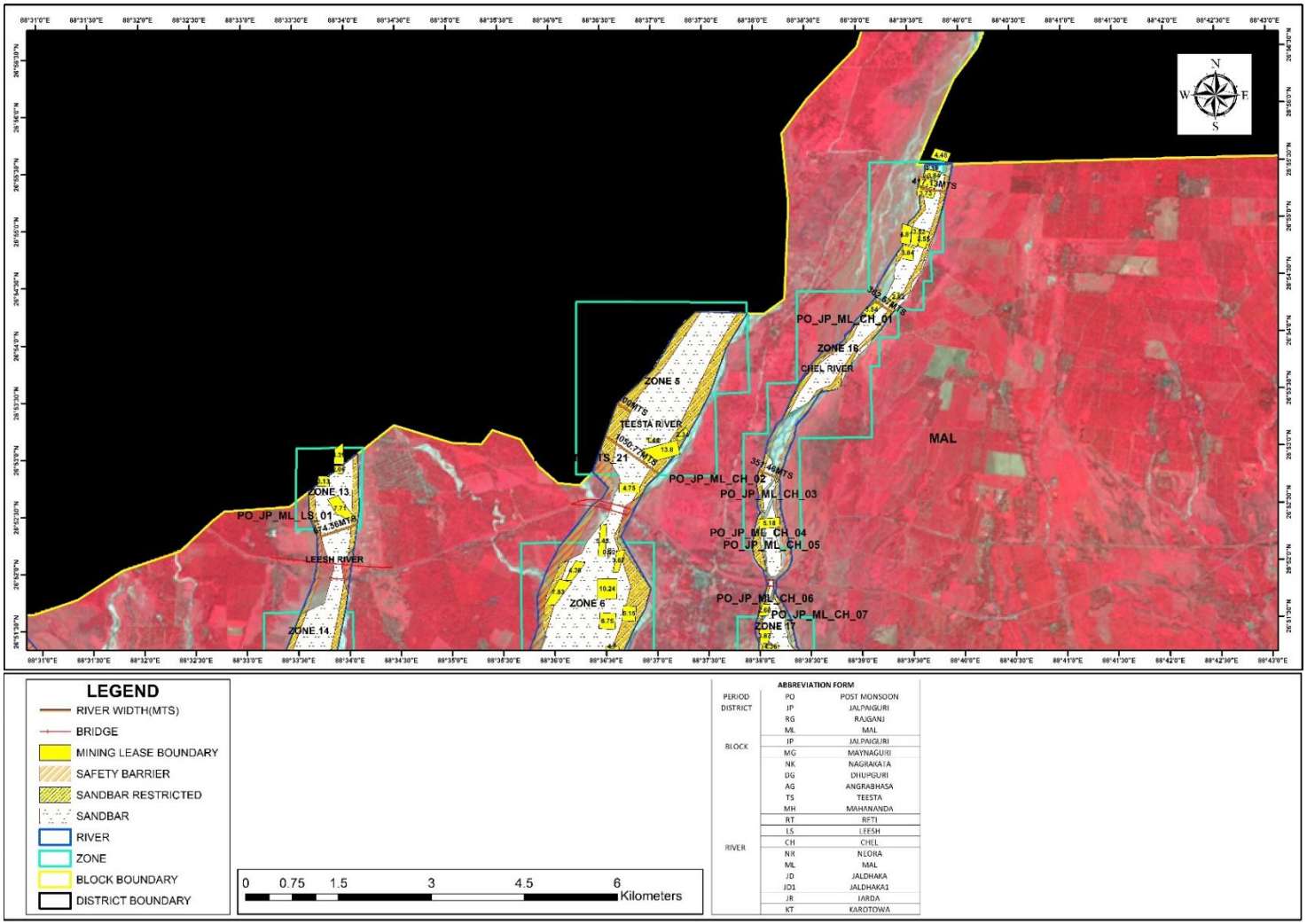


Plate 2B2: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

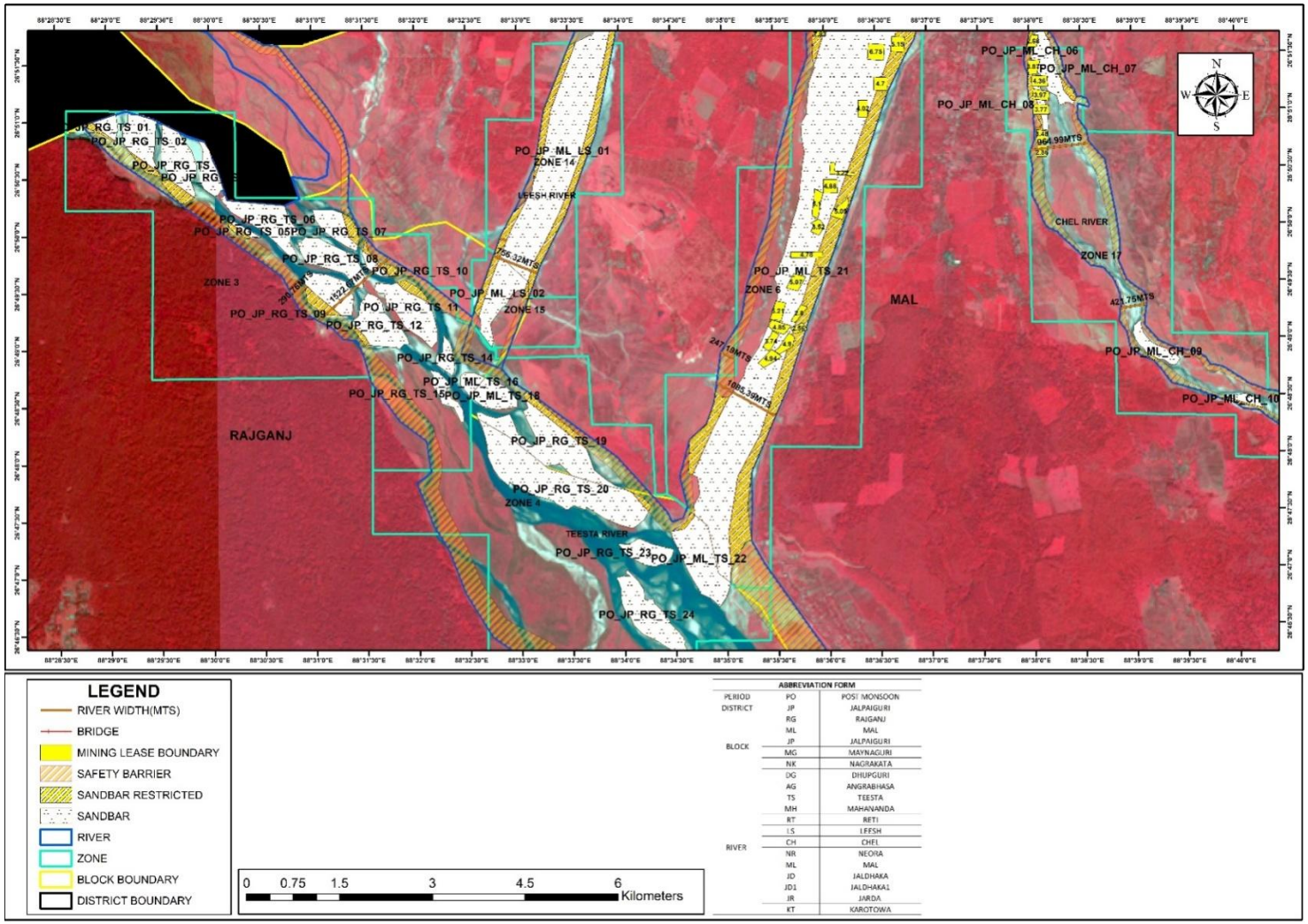


Plate 2B3: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

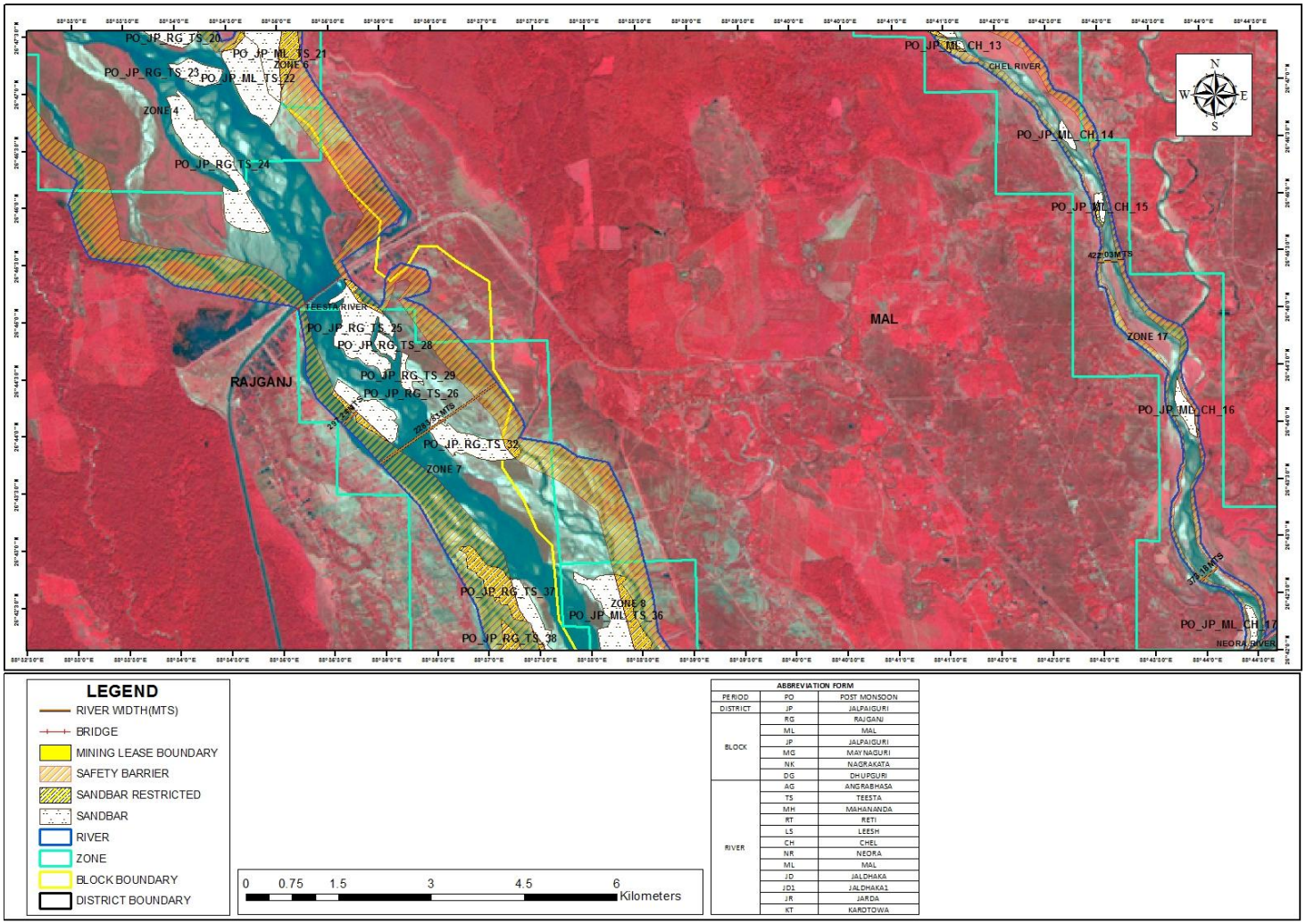


Plate 2B4: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

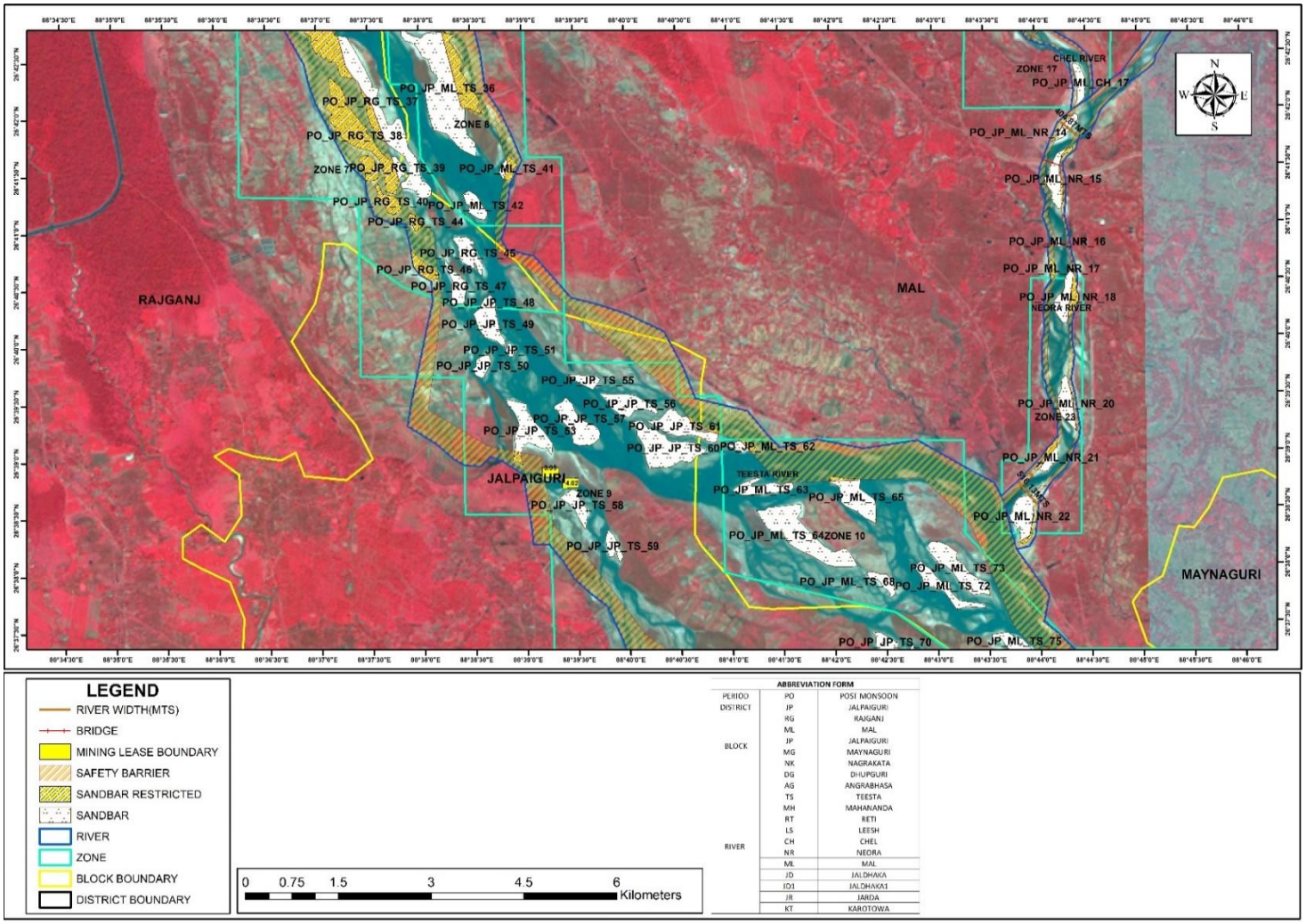


Plate 2B5: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

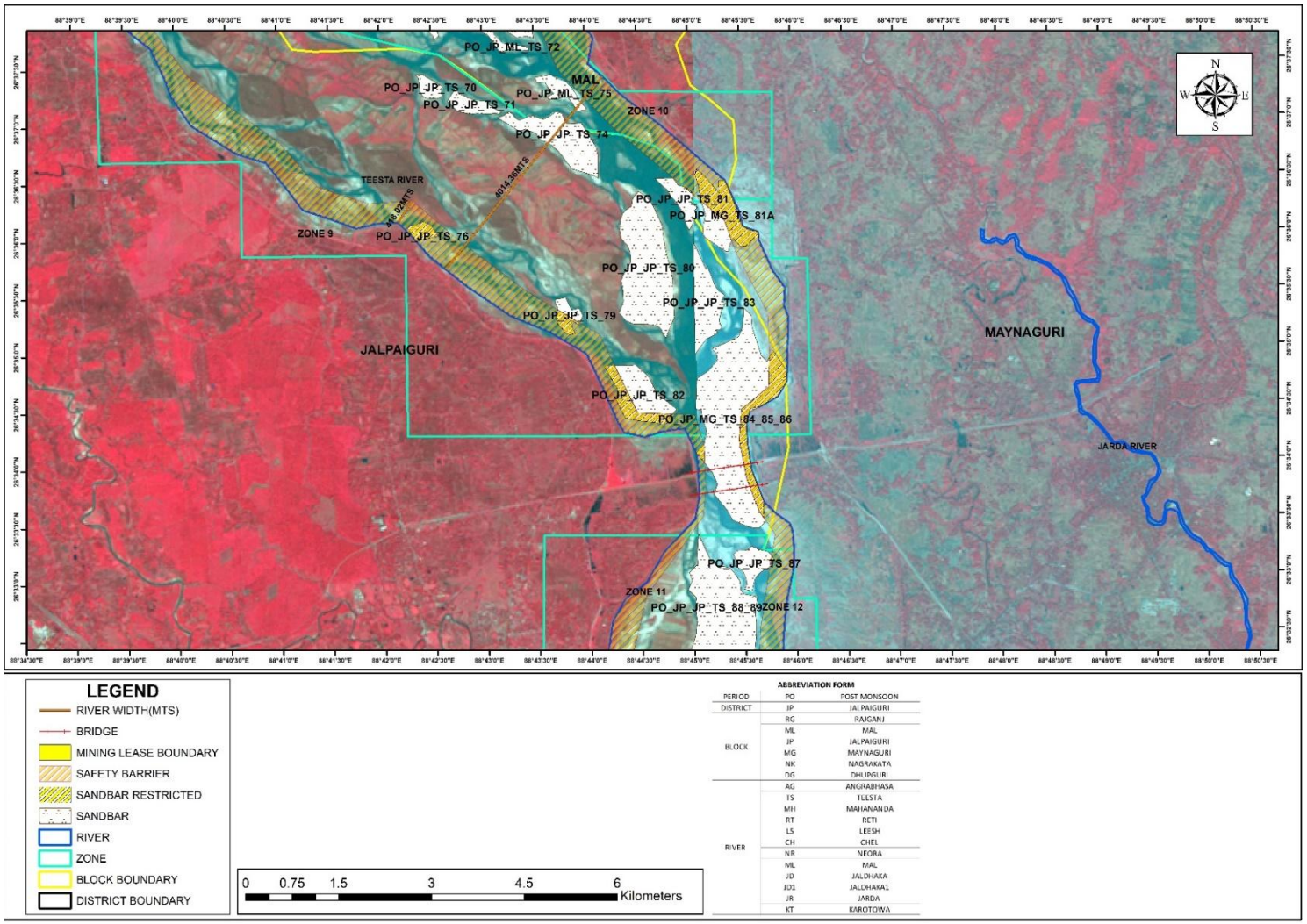


Plate 2B6: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

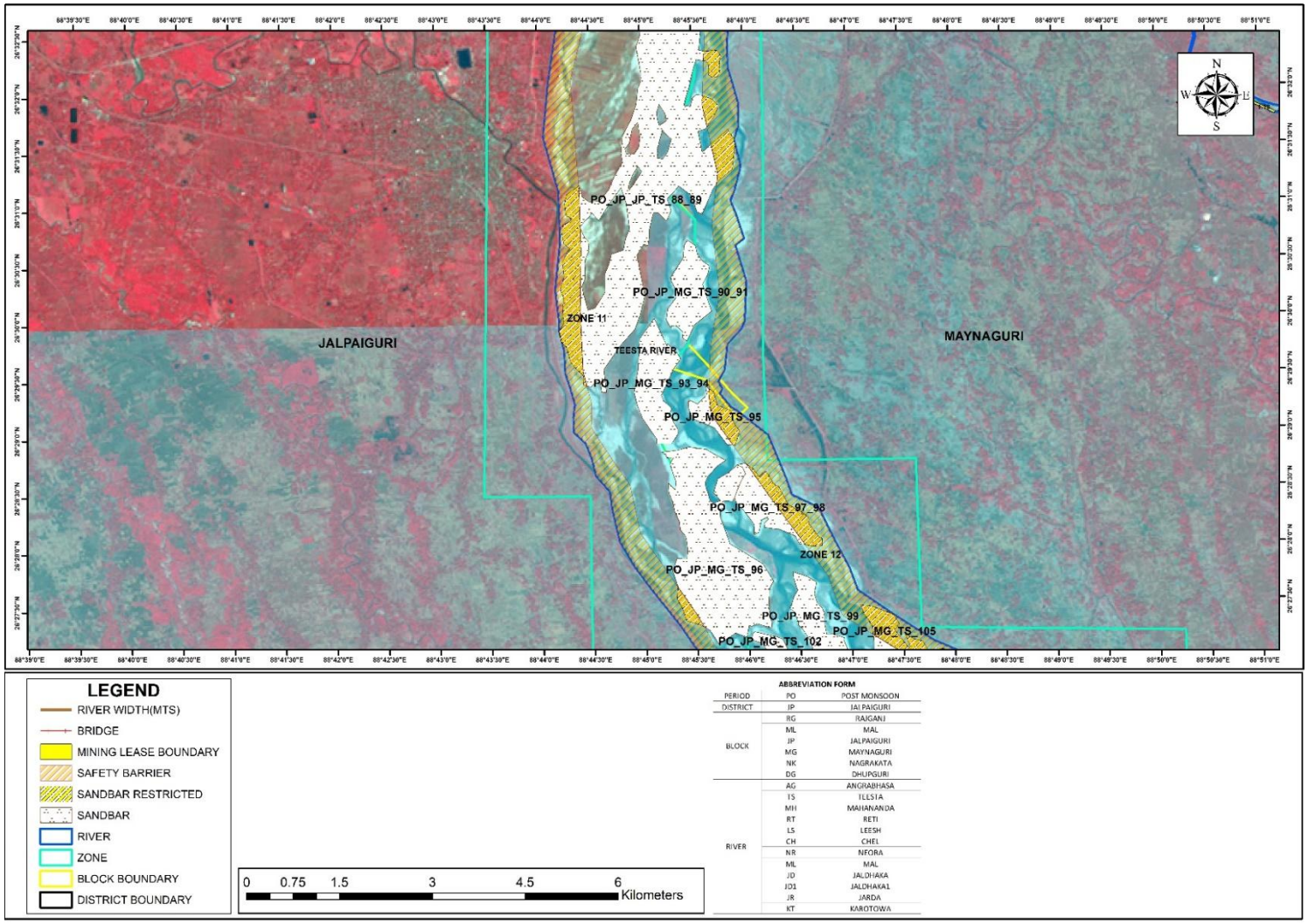


Plate 2B7: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

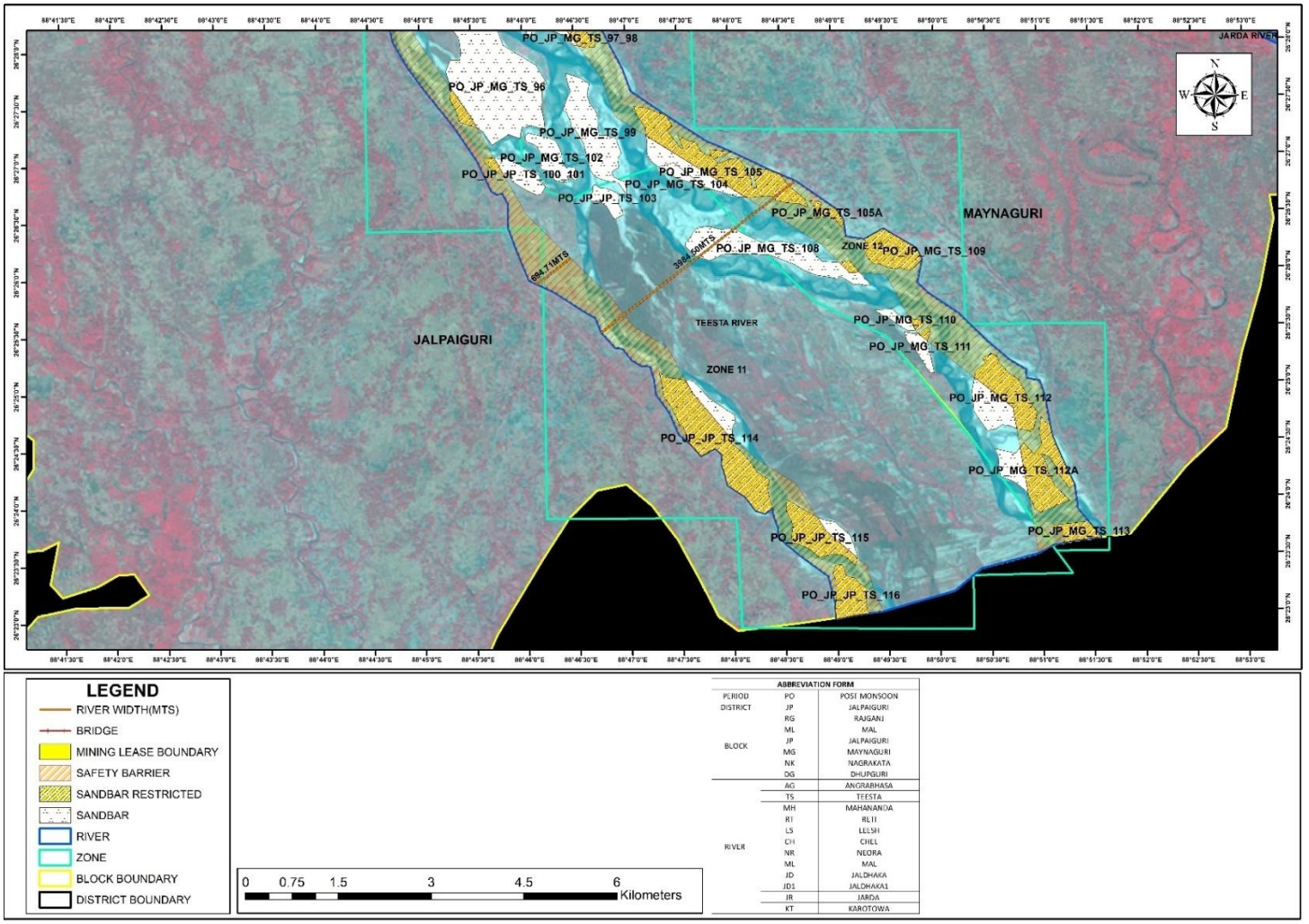


Plate 2B8: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

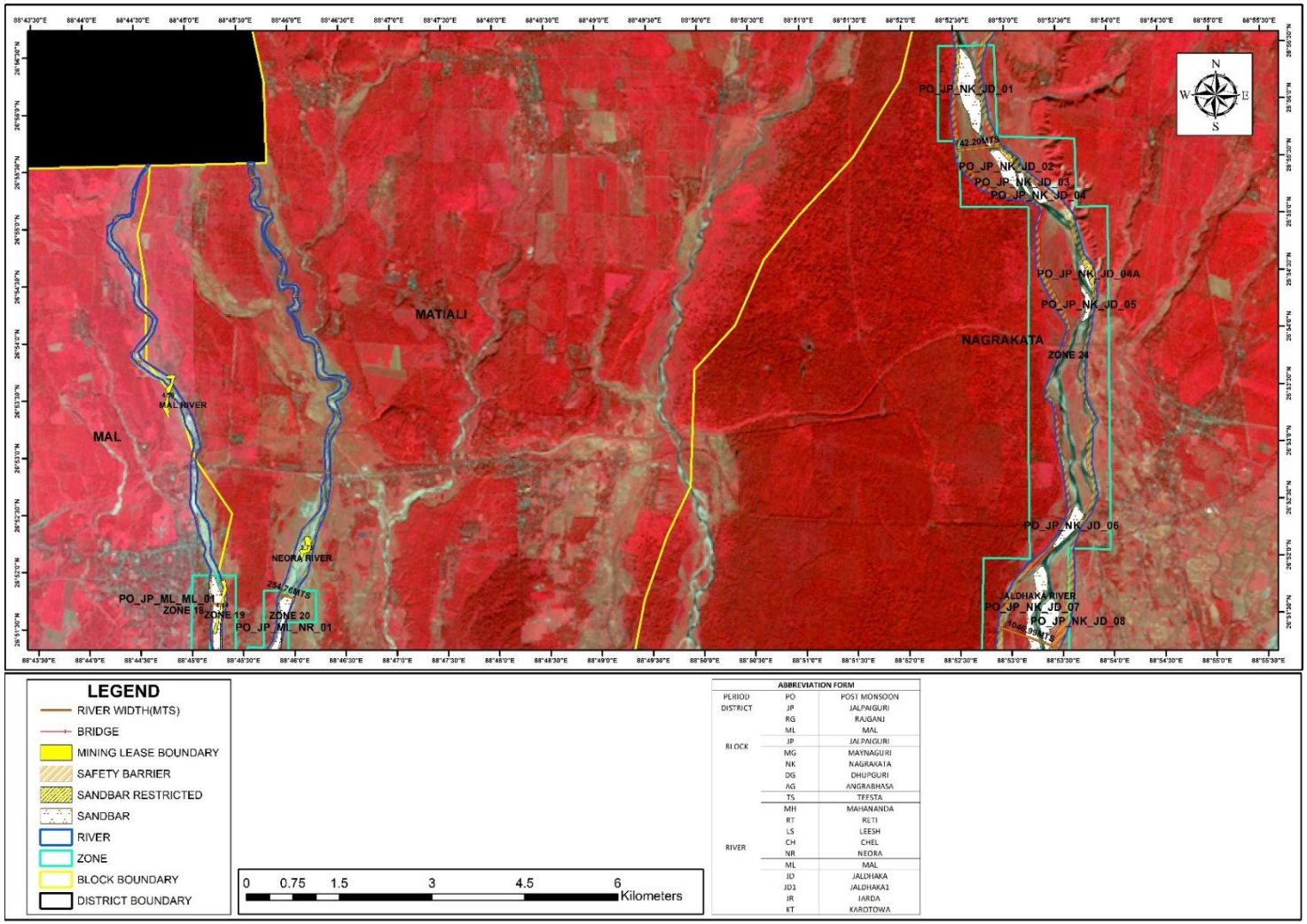


Plate 2B9: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

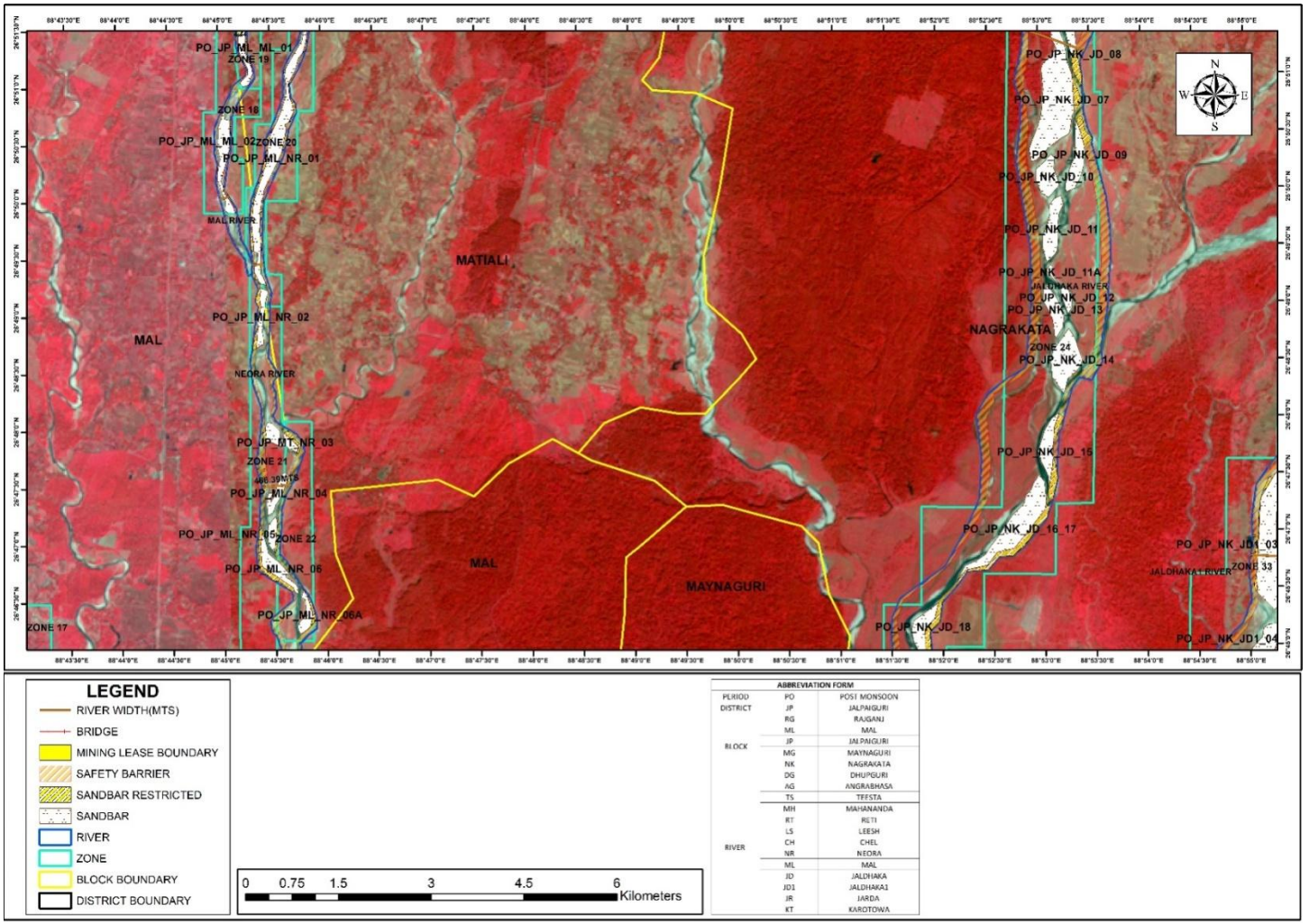


Plate 2B10: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Jalpaiguri District*(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

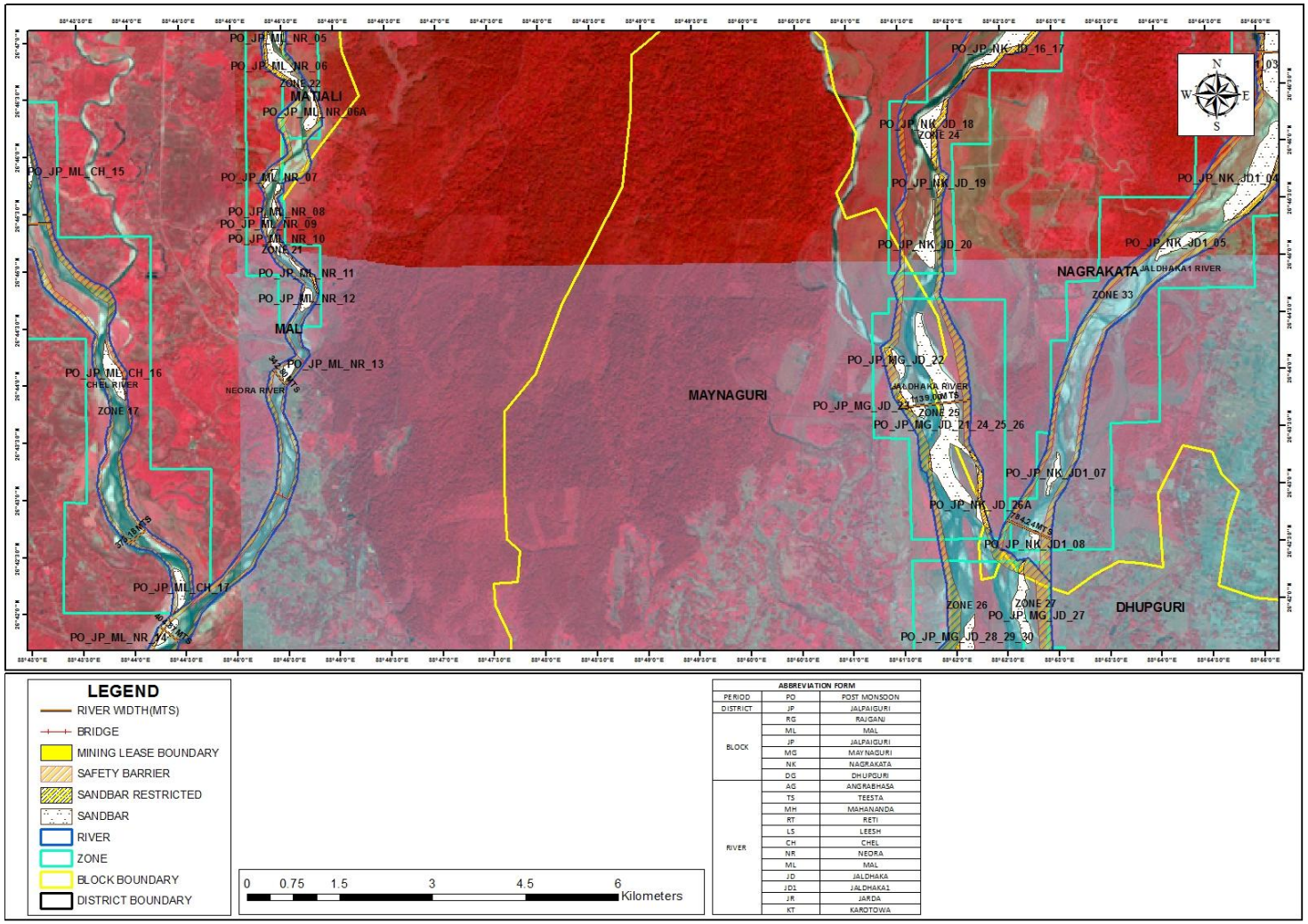


Plate 2B11: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Jalpaiguri District *(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)*

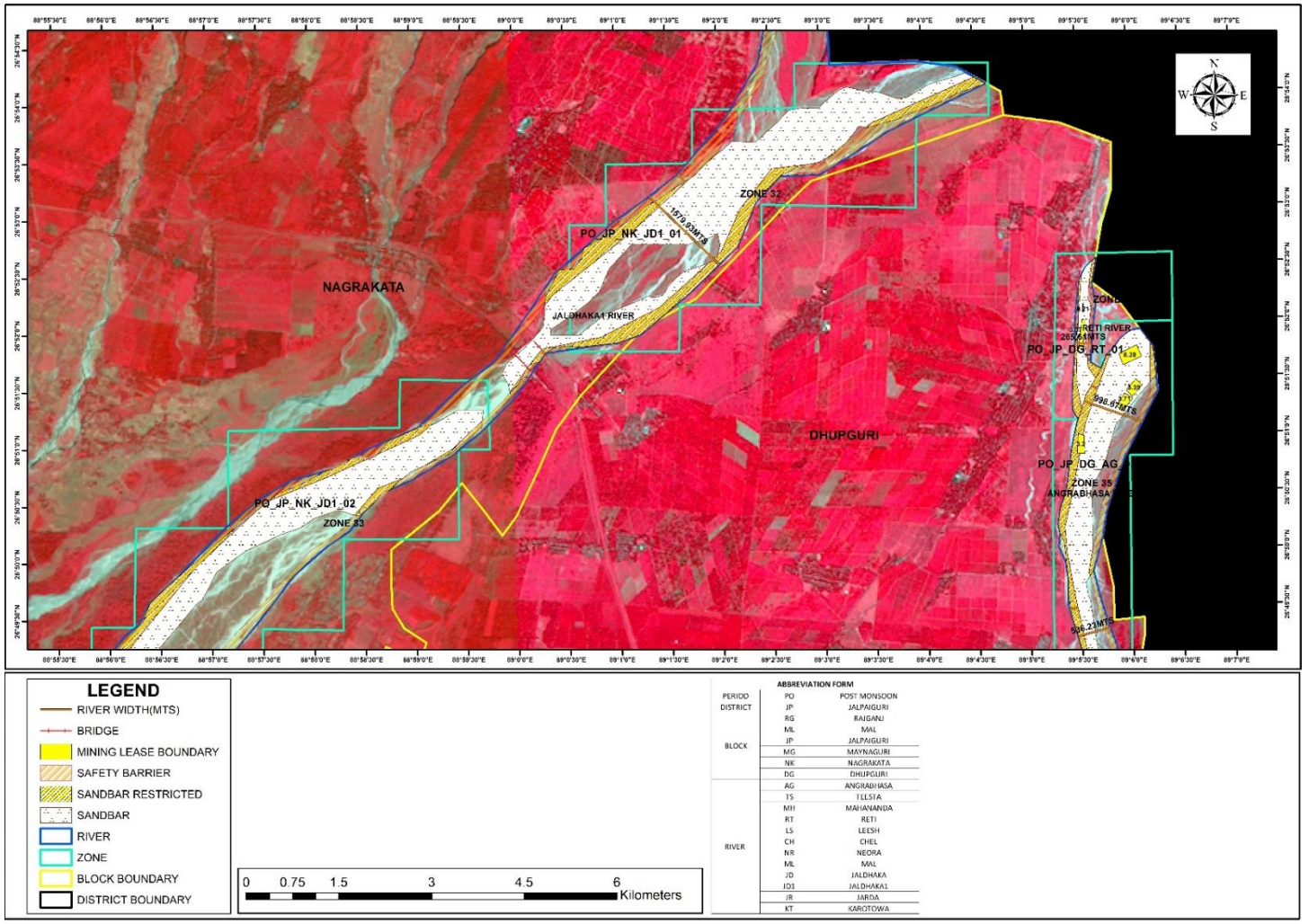


Plate 2B12: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Jalpaiguri District
(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)

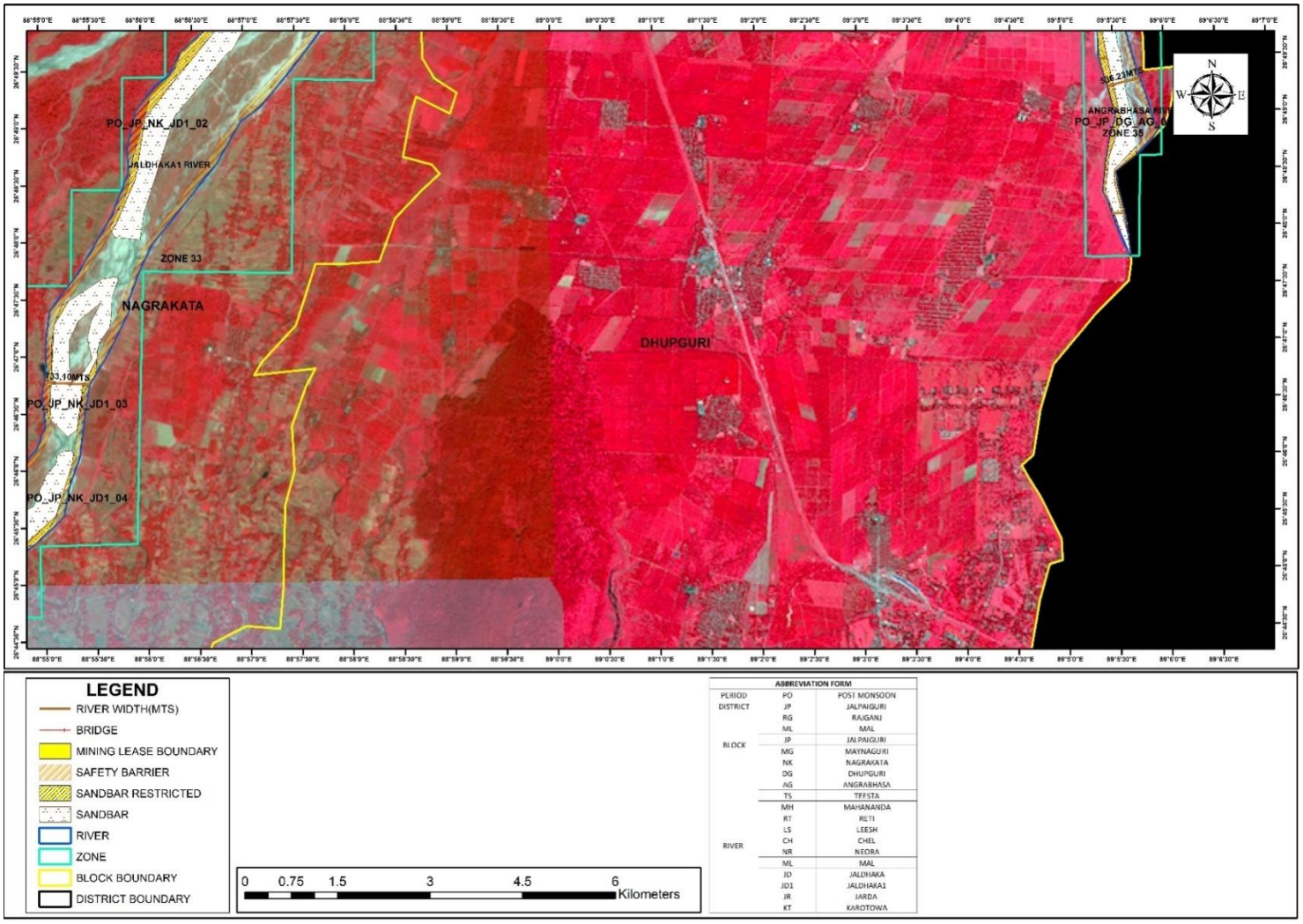


Plate 2B13: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Jalpaiguri District
(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)

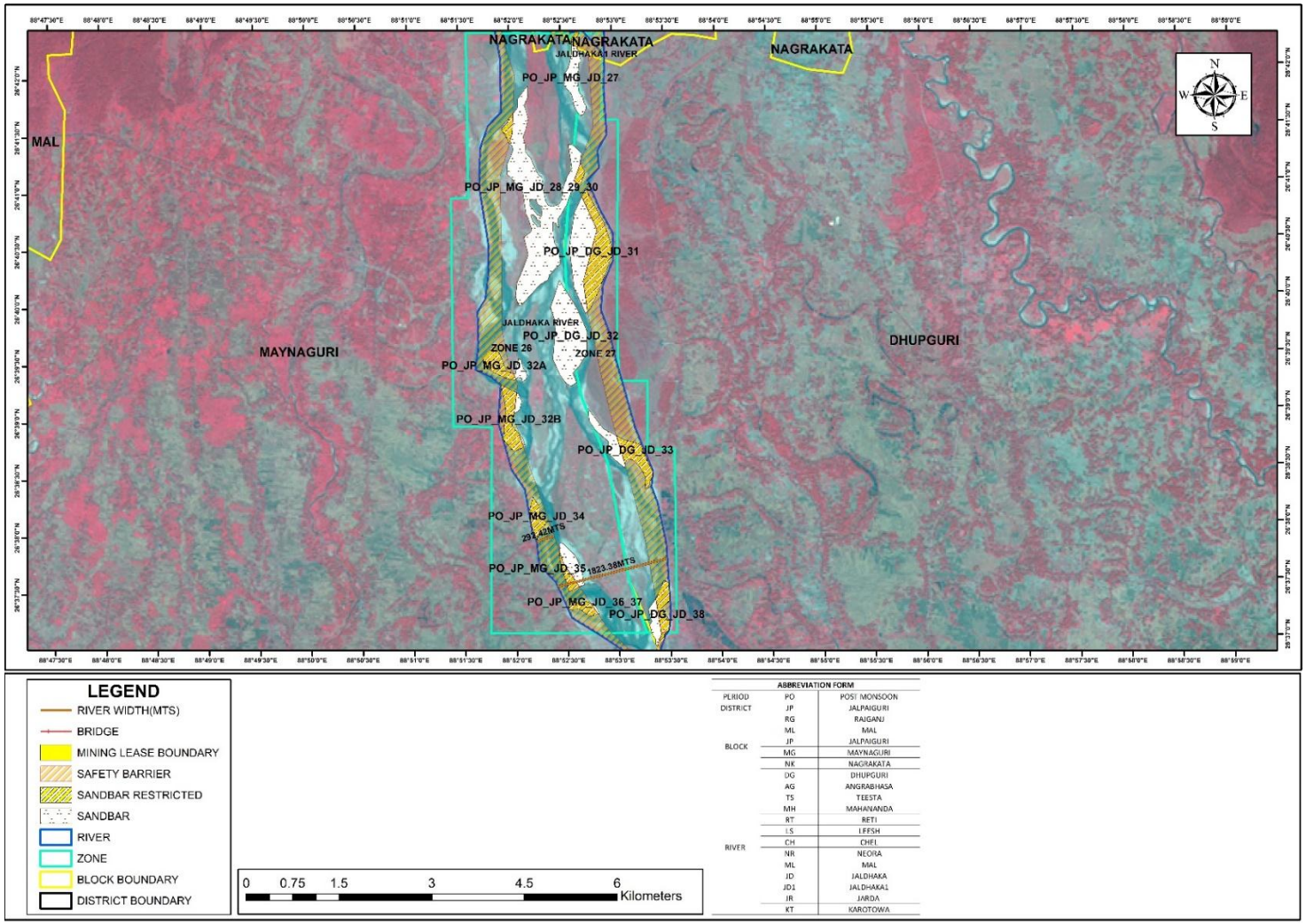


Plate 2B14: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Jalpaiguri District
(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)

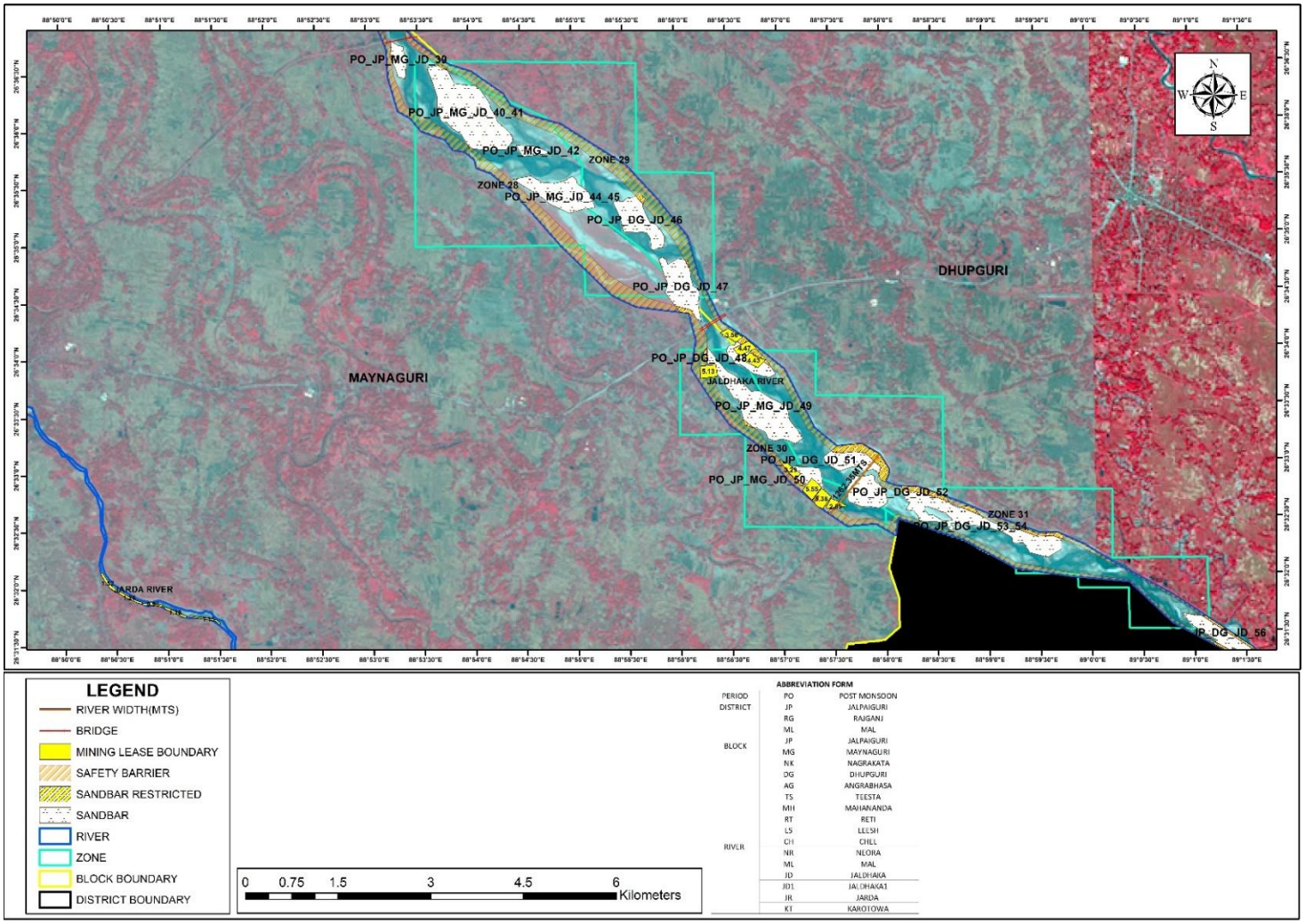


Plate 2B15: Distribution Map of Sand Bars on Rivers During Post-Monsoon Period of Jalpaiguri District
(Source: ISRO RESOURCE Sat 2 LISS III Sensor, November 2020)

PLATE 3

WATERSHED MAP OF THE DISTRICT

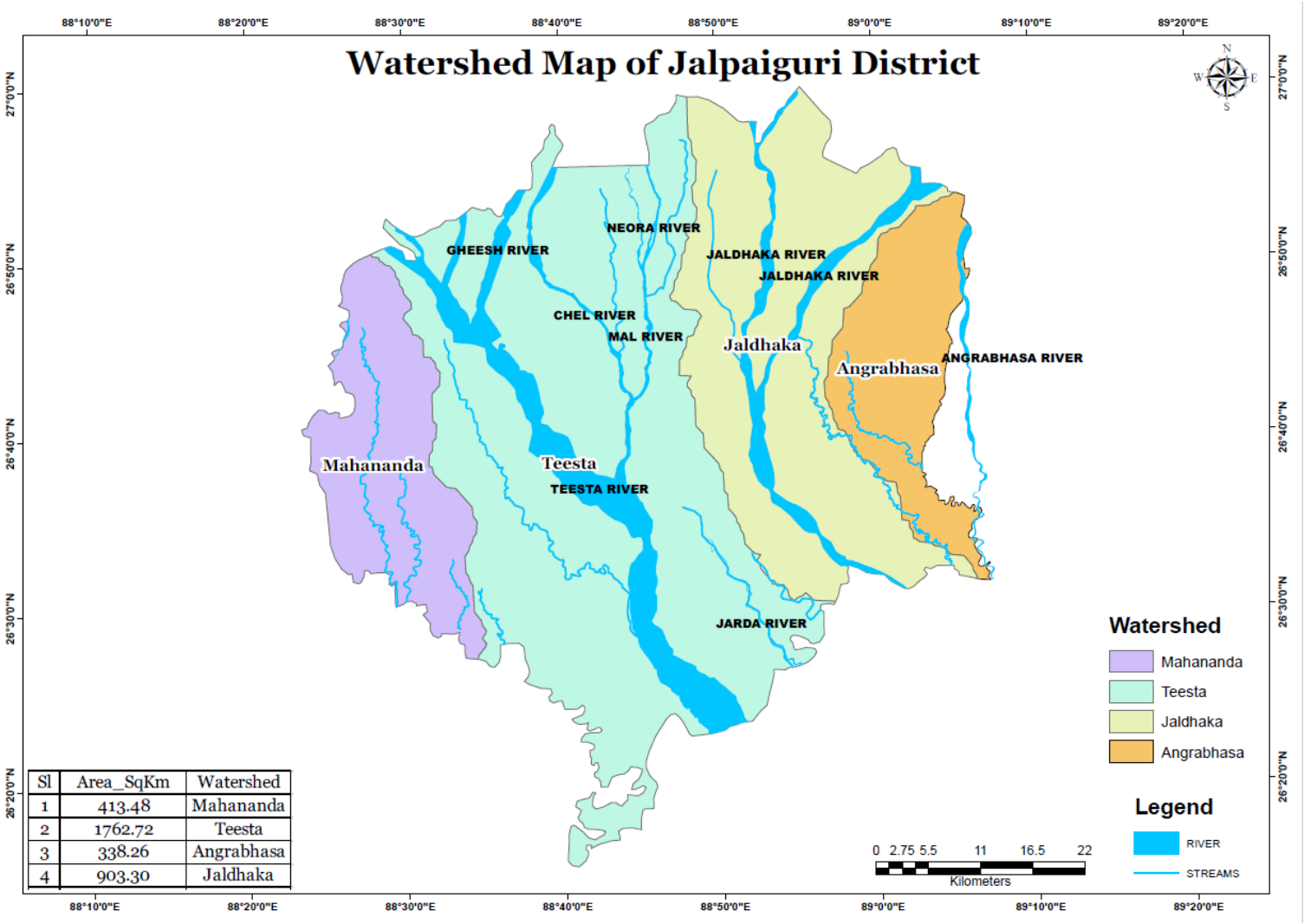
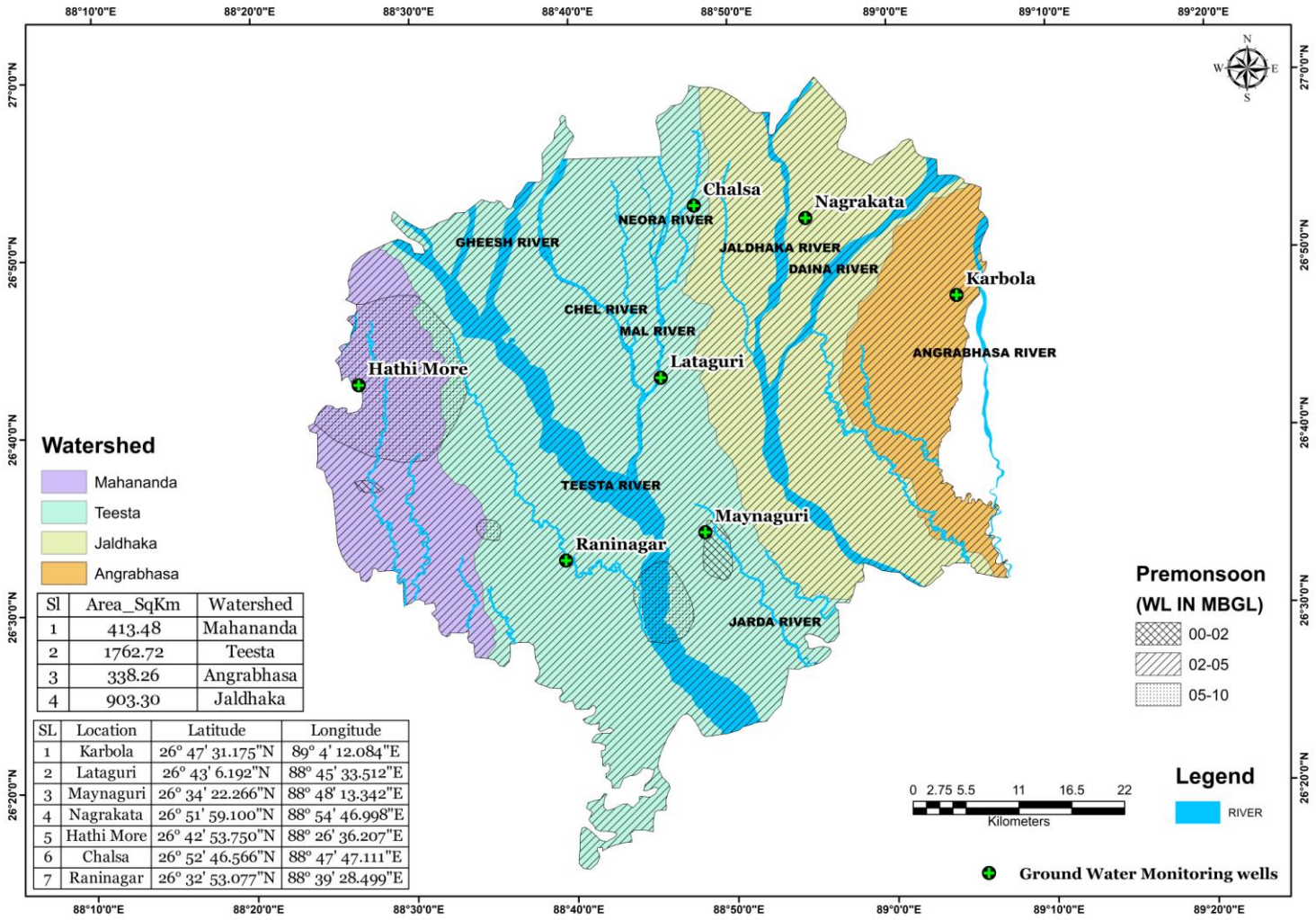


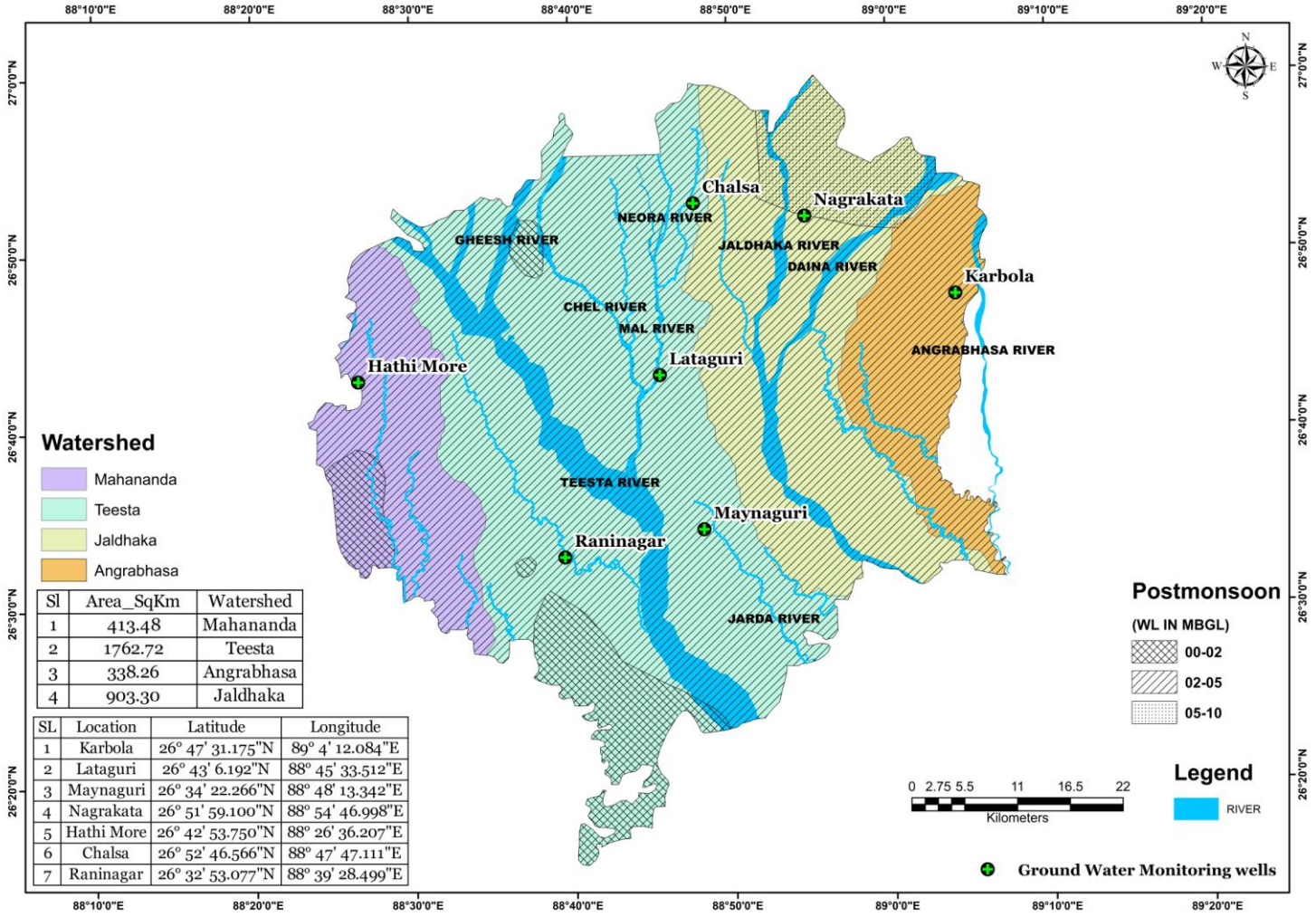
Plate 3A: watershed map of Jalpaiguri District *(Source: World Wild Fund for Nature, September 2020)*



Sl	Area_SqKm	Watershed
1	413.48	Mahananda
2	1762.72	Teesta
3	338.26	Angrabhasa
4	903.30	Jaldhaka

SL	Location	Latitude	Longitude
1	Karbola	26° 47' 31.175"N	89° 4' 12.084"E
2	Lataguri	26° 43' 6.192"N	88° 45' 33.512"E
3	Maynaguri	26° 34' 22.266"N	88° 48' 13.342"E
4	Nagrakata	26° 51' 59.100"N	88° 54' 46.998"E
5	Hathi More	26° 42' 53.750"N	88° 26' 36.207"E
6	Chalsa	26° 52' 46.566"N	88° 47' 47.111"E
7	Raninagar	26° 32' 53.077"N	88° 39' 28.499"E

Plate 3B: District Watershed Map showing ground water level during Pre-monsoon period *(Source: World Wild Fund for Nature, September 2020)*



Sl	Area_SqKm	Watershed
1	413.48	Mahananda
2	1762.72	Teesta
3	338.26	Angrabhasa
4	903.30	Jaldhaka

SL	Location	Latitude	Longitude
1	Karbola	26° 47' 31.175"N	89° 4' 12.084"E
2	Lataguri	26° 43' 6.192"N	88° 45' 33.512"E
3	Maynaguri	26° 34' 22.266"N	88° 48' 13.342"E
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5	Hathi More	26° 42' 53.750"N	88° 26' 36.207"E
6	Chalsa	26° 52' 46.566"N	88° 47' 47.111"E
7	Raninagar	26° 32' 53.077"N	88° 39' 28.499"E

Plate 3C: District Watershed Map showing ground water level during Post-monsoon period *(Source: World Wild Fund for Nature, September 2020)*

PLATE 4

FIELD SURVEY PHOTOGRAPHS

	
4A: Picture of Teesta Riverbed deposit (Date: 16/12/20; Lat: 26°48'39.95" N, Long: 88°32'24.87" E)	**4B: Picture of Neora Riverbed deposit (Date: 16/12/20; Lat: 26°50'39.71" N, Long: 88°45'32.83"E)**
	
4C: Picture of Leesh Riverbed deposit (Date: 16/12/20; Lat: 26°49'46.98" N, Long: 88°32'49.1" E)	**4D: Picture of Jaldhaka Riverbed deposit (Date: 16/12/20; Lat: 26° 56' 20.037" N, Long: 88° 52' 33.614" E)**

PLATE 5

LONG TERM EROSION-ACCRETION MAP OF RIVER BANK

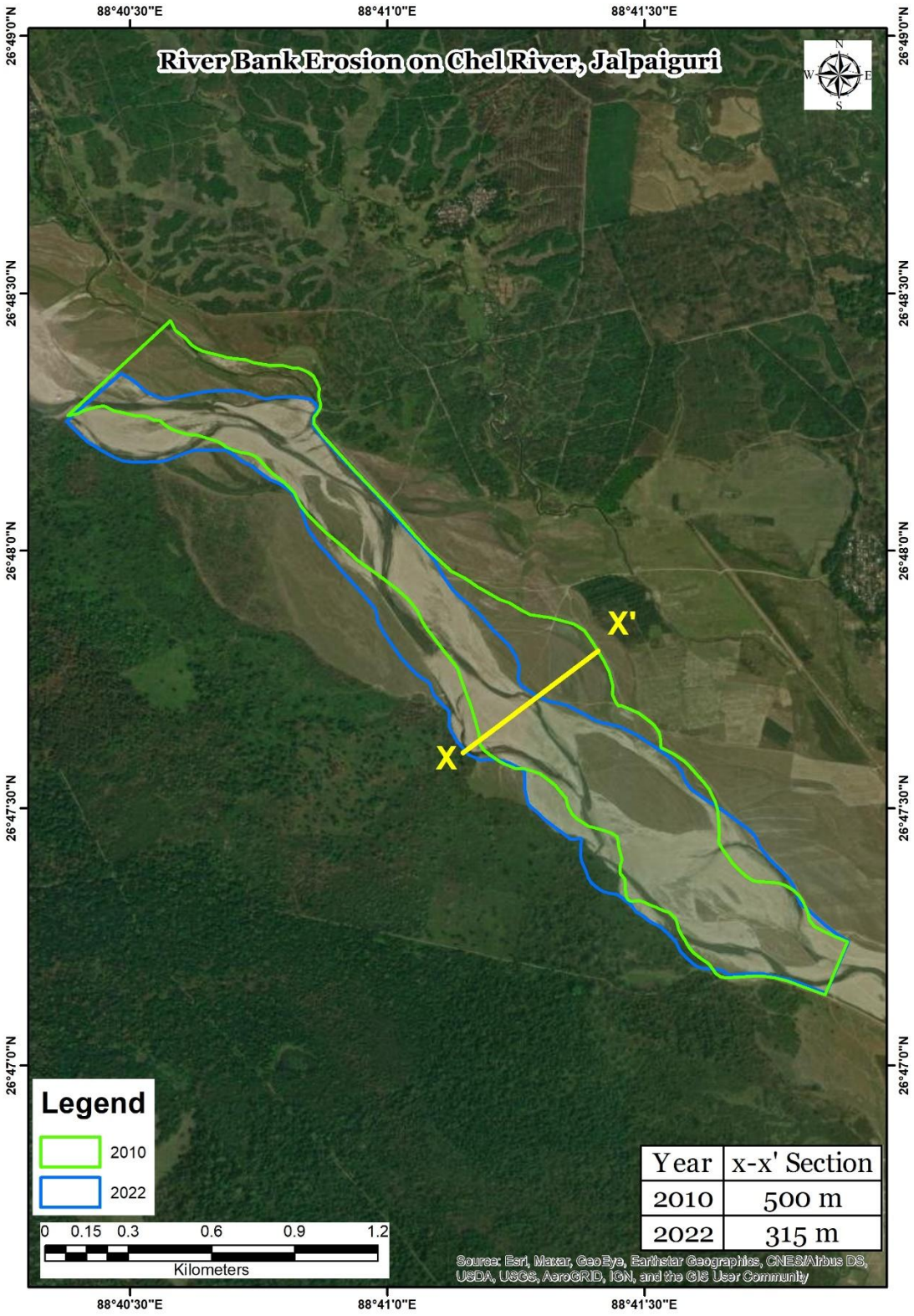


Plate 5: Map showing long-term (10-year or more) erosion-accretion areas on both the banks of Chel River, Jalpaiguri *(Source: ISRO RESOURCE Sat 2 LISS III Sensor)*

Annexure 1
Compliance as per Enforcement & Monitoring Guidelines for sand Mining, 2020 (MoEF& CC) for preparation of District Survey Report

Sl. No.	Particulars	Status
1	District Survey Report for sand mining shall be prepared before the auction/e-auction/grant of the mining lease/Letter of Intent (LoI) by Mining department or department dealing the mining activity in respective states.	Noted.
2	In order to make the inventory of River Bed Material, a detailed survey of the district needs to be carried out, to identify the source of River Bed Material and alternative source of sand (M-Sand). The source will include rivers, de-siltation of reservoir/dams, Patta lands/Khatedari Land, M-sand etc.	Complied with and explained in Chapter 7 pg no 51 to 90.
3	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 with and furnished in pg no 88-89.
4	Identification of the source of Sand & M-Sand. The sources may be from Rivers, Lakes, Ponds, Dams, De-silting locations, Patta land/Khtedari lands. The details in case of Rivers such as [name, length of river, type (Perennial or Non-Perennial), Villages, Tehsil, District], in case of Lakes, Ponds, Dams, De-silting locations [Name, owned/maintained by (State Govt./PSU), area, Villages, Tehsil, District] in case of Patta land/Khtedari lands [Owner Name, Sy No, Area, Agricultural/Non-Agricultural, Villages, Tehsil, District], in case of M-Sand Plant [Owner Name, Sy No, Area, Quantity/Annum, Villages, Tehsil, District], needs to be recorded .	Complied with and given in table 7.4 pg62-72.
5	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	Complied with and given in table 7.11 pg84.

Sl. No.	Particulars	Status
	and to maintain the flow of the rivers. For this, the entire river stretch needs to be surveyed and original ground level (OGL) to be recorded and area of aggradation/deposition needs to be ascertained by comparing the level difference between the outside riverbed OGL and water level. Once the area of aggradation/deposition is identified, then the quantity of River Bed Material available needs to be calculated. The next step is channelization of the river bed and for this central ¾th part of the river, width needs to be identified on a map. Out of the ¾th part area, where there is a deposition/aggradation of the material needs to be identified. The remaining ¼th area needs to be kept as no mining zone for the protection of banks. The specific gravity of the material also needs to be ascertained by analyzing the sample from a NABL accredited lab. Thus, the quantity of material available in metric ton needs to be calculated for mining and no mining zone.	
6	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.	Benchmark Pillars are established in strategic locations while boundary pillars will be fixed while fixation of the mining lease boundary subsequent to district level verification.
7	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.	Complied with and furnished in pg no 85 to 88.
8	Demand and supply of the Riverbed Material through market survey needs to be carried out. In addition to this future demand for the next 5 years also needs to be considered.	Complied with and given in pg no 11.

Sl. No.	Particulars	Status
9	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.	Complied with and furnished in pg no 88 to 89.
10	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.	Noted. The DSR is compose of all the potential sand zones for defining the resources. In a subsequent phase blocking of potential zones shall be done in due consultation with the district level committee. The areas mentioned in the observation points shall be excluded while blocking of sand mining leases which are part of these potential zones marked in this DSR.
11	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.	Shall be Complied with.
12	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.	Noted. Due care will be taken while distribution of mining leases either to prevent cluster situation or keeping the prescribed distance in between two mining clusters.
13	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.	Noted and shall be complied with.

Sl. No.	Particulars	Status
14	The mining outside the riverbed on Patta land/Khatedari land be granted when there is possibility of replenishment of material. In case, there is no replenishment then mining lease shall only be granted when there is no riverbed mining possibility within 5 KM of the Patta land/Khatedari land. For government projects, mining could be allowed on Patta land/Khatedari land but the mining should only be done by the Government agency and material should not be used for sale in the open market. Cluster situation as mentioned in para k above is also applicable for the mining in Patta land/Khatedari land.	Noted.
15	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 itscarrying capacity.	Noted and final transport route will be submitted during preparation of mine plan.
16	Potential site for mining having its impact on the forest, protected area, habitation, bridges etc, shall be avoided. For this, a sub-divisional committee may be formed which after the site visit shall decide its suitability for mining.	Shall be Complied with.

Sl. No.	Particulars	Status
17	Public consultation-The Comments of the various stakeholders may be sought on the list of mining lease to be auctioned. The State Government shall give an advertisement in the local and national newspaper for seeking comments of the general public on the list of mining lease included in the DSR. The DSR should be placed in the public domain for at least one month from the date of publication of the advertisement for obtaining comments of the general public. The comments so received shall be placed before the sub-divisional committee for active consideration. The final list of sand mining areas [leases to be granted on riverbed &Patta land/Khatedari land, de-siltation location (ponds/lakes/dams), M-Sand Plants (alternate source of sand)] after the public hearing needs to be defined in the final DSR.	After publication of the West Bengal Sand Mining Policy, 2021, it is now eminent that State owned The West Bengal Mineral Development and Trading Corporation Limited (WBMDTCL) shall be responsible for mining of sand/ gravel/ river bed materials in whole state of West Bengal. However, the existing mining leases which were in effect before hand of this Gazzate notification July 2021 will be in operation till the year 2027-28. In order to have the rational distribution of mining leases as per the prevailing norms and guidelines grant of mining leases in the state of West Bengal shall be carried out in phases till all the blocks are under the ambit of WBMDTCL. This DSR thus consist of the identified potential sand deposit areas within which the existing and future mining leases shall occur. The details of the mining leases as and when granted shall follow the procedure described in EMGSM 2020 and prevailing norms.
18	The LOI should not be granted for mining area falling on both riverbed and outside riverbed. Therefore, in the same lease, both types of area should not be included.	Shall be Complied with.



Annexure 2
Estimation of Sand Resources based on sediment load comparison between Pre and Post Monsoon period of Jalpaiguri District

ABBREVIATION FORM					
PERIOD	PR	PRE MONSOON	RIVER	AG	ANGRABHASA
	PO	POST MONSOON		TS	TEESTA
DISTRICT	JP	JALPAIGURI		MH	MAHANANDA
BLOCK	RG	RAJGANJ		RT	RETI
	ML	MAL		LS	LEESH
	JP	JALPAIGURI		CH	CHEL
	MG	MAYNAGURI		NR	NEORA
	NK	NAGRAKATA		ML	MAL
	DG	DHUPGURI		JD	JALDHAKA
RIVER	KT	KAROTOWA		JD1	JALDHAKA1
	JR	JARDA			

Pre monsoon					Post monsoon				
S L No	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**	**S L No**	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**
Estimation of Sand Resources in Pre monsoon period & Post monsoon period in sand bar regions of Mahananda River									
1	PR_JP_RG_MH_01	67508.26	2.40	0.16	-	PO_JP_RG_MH_01	0.00	3.00	0.00
2	PR_JP_RG_MH_02	263335.80	2.40	0.63	1	PO_JP_RG_MH_02	199773.59	3.00	0.60
3	PR_JP_RG_MH_03	464313.93	2.40	1.11	2	PO_JP_RG_MH_03	411764.38	3.00	1.24
4	PR_JP_RG_MH_04	186376.01	2.40	0.45	3	PO_JP_RG_MH_04	167024.02	3.00	0.50
5	PR_JP_RG_MH_05	133104.07	2.40	0.32	4	PO_JP_RG_MH_05	114069.55	3.00	0.34
6	PR_JP_RG_MH_06	63752.60	2.40	0.15	5	PO_JP_RG_MH_06	46142.67	3.00	0.14
7	PR_JP_RG_MH_07	39489.75	2.40	0.09	6	PO_JP_RG_MH_07	39364.58	3.00	0.12
Estimation of Sand Resources in Pre monsoon period & Post monsoon period in sand bar regions of Leesh River									
1	PR_JP_ML_LS_01	4216823.605	1.50	6.33	1	PO_JP_ML_LS_01	4156729.492	1.60	6.65
2	PR_JP_ML_LS_02	553076.4406	1.50	0.83	2	PO_JP_ML_LS_02	553629.7463	1.60	0.89
3	PR_JP_RG_LS_03	154385.9209	1.50	0.23	-	PO_JP_RG_LS_03	0.00	1.60	0.00
Estimation of Sand Resources in Pre monsoon period & Post monsoon period in sand bar regions of Teesta River									
1	PR_JP_RG_TS_01	122787.81	3.00	0.37	1	PO_JP_RG_TS_01	122787.81	3.00	0.37
2	PR_JP_RG_TS_02	378072.84	3.00	1.13	2	PO_JP_RG_TS_02	378072.84	3.00	1.13

Pre monsoon					Post monsoon				
S L No	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**	**S L No**	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**
3	PR_JP_RG_TS_03	496622.29	3.00	1.49	3	PO_JP_RG_TS_03	496622.29	3.00	1.49
4	PR_JP_RG_TS_04	182978.08	3.00	0.55	4	PO_JP_RG_TS_04	182978.08	3.00	0.55
5	PR_JP_RG_TS_05	134786.90	3.00	0.40	5	PO_JP_RG_TS_05	67365.33	3.00	0.20
6	PR_JP_RG_TS_06	480531.78	3.00	1.44	6	PO_JP_RG_TS_06	480531.78	3.00	1.44
7	PR_JP_RG_TS_07	289189.09	3.00	0.87	7	PO_JP_RG_TS_07	289189.09	3.00	0.87
8	PR_JP_RG_TS_08	412327.21	3.00	1.24	8	PO_JP_RG_TS_08	412327.21	3.00	1.24
9	PR_JP_RG_TS_09	432488.54	3.00	1.30	9	PO_JP_RG_TS_09	432488.54	3.00	1.30
10	PR_JP_RG_TS_10	125826.30	3.00	0.38	10	PO_JP_RG_TS_10	125826.30	3.00	0.38
11	PR_JP_RG_TS_11	544201.92	3.00	1.63	11	PO_JP_RG_TS_11	544201.92	3.00	1.63
12	PR_JP_RG_TS_12	467658.87	3.00	1.40	12	PO_JP_RG_TS_12	467658.87	3.00	1.40
13	PR_JP_RG_TS_13	170473.75	3.00	0.51		PO_JP_RG_TS_13	0.00	3.00	0.00
14	PR_JP_RG_TS_14	108405.65	3.00	0.33	13	PO_JP_RG_TS_14	108405.65	3.00	0.33
15	PR_JP_RG_TS_15	140293.63	3.00	0.42	14	PO_JP_RG_TS_15	140293.63	3.00	0.42
16	PR_JP_ML_TS_16	92741.88	3.00	0.28	15	PO_JP_ML_TS_16	92741.88	3.00	0.28
17	PR_JP_RG_TS_17	20817.32	3.00	0.06		PO_JP_RG_TS_17	0.00	3.00	0.00
18	PR_JP_ML_TS_18	250126.75	3.00	0.75	16	PO_JP_ML_TS_18	250126.75	3.00	0.75
19	PR_JP_ML_TS_19	1023225.76	3.00	3.07	17	PO_JP_RG_TS_19	1001785.04	3.00	3.01
20	PR_JP_ML_TS_20	1356811.86	3.00	4.07	18	PO_JP_RG_TS_20	1494800.31	3.00	4.48
21	PR_JP_ML_TS_21	11966158.56	3.00	35.90	19	PO_JP_ML_TS_21	12588646.59	3.00	37.77
22	PR_JP_ML_TS_22	838155.91	3.00	2.51	20	PO_JP_ML_TS_22	680608.90	3.00	2.04
23	PR_JP_RG_TS_23	130192.91	3.00	0.39	21	PO_JP_RG_TS_23	237201.77	3.00	0.71
24	PR_JP_RG_TS_24	569564.31	3.00	1.71	22	PO_JP_RG_TS_24	984348.61	3.00	2.95
25	PR_JP_RG_TS_25	748246.64	3.00	2.24	23	PO_JP_RG_TS_25	748246.64	3.00	2.24
26	PR_JP_RG_TS_26	780436.66	3.00	2.34	24	PO_JP_RG_TS_26	460688.75	3.00	1.38
27	PR_JP_RG_TS_27	97820.52	3.00	0.29		PO_JP_RG_TS_27	0.00	3.00	0.00



Pre monsoon					Post monsoon				
S L No	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**	**S L No**	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**
28	PR_JP_RG_TS_28	96721.23	3.00	0.29	25	PO_JP_RG_TS_28	96721.23	3.00	0.29
29	PR_JP_RG_TS_29	102113.77	3.00	0.31	26	PO_JP_RG_TS_29	102113.77	3.00	0.31
30	PR_JP_RG_TS_30	33272.32	3.00	0.10		PO_JP_RG_TS_30	0.00	3.00	0.00
31	PR_JP_RG_TS_31	62905.71	3.00	0.19		PO_JP_RG_TS_31	0.00	3.00	0.00
32	PR_JP_RG_TS_32	235023.58	3.00	0.71	27	PO_JP_RG_TS_32	490912.01	3.00	1.47
33	PR_JP_RG_TS_33	305881.91	3.00	0.92		PO_JP_RG_TS_33	0.00	3.00	0.00
34	PR_JP_RG_TS_34	40266.66	3.00	0.12		PO_JP_RG_TS_34	0.00	3.00	0.00
35	PR_JP_ML_TS_35	133774.45	3.00	0.40		PO_JP_RG_TS_35	0.00	3.00	0.00
36	PR_JP_ML_TS_36	924710.88	3.00	2.77	28	PO_JP_ML_TS_36	1103043.60	3.00	3.31
37	PR_JP_RG_TS_37	1142580.41	3.00	3.43	29	PO_JP_RG_TS_37	1079547.62	3.00	3.24
38	PR_JP_RG_TS_38	577970.18	3.00	1.73	30	PO_JP_RG_TS_38	577970.18	3.00	1.73
39	PR_JP_RG_TS_39	80915.50	3.00	0.24	31	PO_JP_RG_TS_39	80915.50	3.00	0.24
40	PR_JP_RG_TS_40	84437.60	3.00	0.25	32	PO_JP_RG_TS_40	84437.60	3.00	0.25
41	PR_JP_ML_TS_41	78668.57	3.00	0.24	33	PO_JP_ML_TS_41	67234.81	3.00	0.20
42	PR_JP_ML_TS_42	145697.12	3.00	0.44	34	PO_JP_ML_TS_42	98480.64	3.00	0.30
43	PR_JP_RG_TS_43	29133.95	3.00	0.09		PO_JP_RG_TS_43	0.00	3.00	0.00
44	PR_JP_RG_TS_44	29877.75	3.00	0.09	35	PO_JP_RG_TS_44	29877.75	3.00	0.09
45	PR_JP_RG_TS_45	174686.38	3.00	0.52	36	PO_JP_RG_TS_45	140309.42	3.00	0.42
46	PR_JP_RG_TS_46	80787.08	3.00	0.24	37	PO_JP_RG_TS_46	90440.80	3.00	0.27
47	PR_JP_RG_TS_47	140944.46	3.00	0.42	38	PO_JP_RG_TS_47	118833.41	3.00	0.36
48	PR_JP_JP_TS_48	34369.75	3.00	0.10	39	PO_JP_JP_TS_48	34369.75	3.00	0.10
49	PR_JP_JP_TS_49	183289.93	3.00	0.55	40	PO_JP_JP_TS_49	179294.88	3.00	0.54
50	PR_JP_JP_TS_50	118488.29	3.00	0.36	41	PO_JP_JP_TS_50	68933.85	3.00	0.21
51	PR_JP_JP_TS_51	28379.22	3.00	0.09	42	PO_JP_JP_TS_51	20884.69	3.00	0.06
52	PR_JP_JP_TS_52	28297.18	3.00	0.08		PO_JP_JP_TS_52	0.00	3.00	0.00

Pre monsoon					Post monsoon				
S L No	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**	**S L No**	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**
53	PR_JP_JP_TS_53	457770.06	3.00	1.37	43	PO_JP_JP_TS_53	304458.06	3.00	0.91
54	PR_JP_JP_TS_54	47996.92	3.00	0.14		PO_JP_JP_TS_54	0.00	3.00	0.00
55	PR_JP_JP_TS_55	97404.43	3.00	0.29	44	PO_JP_JP_TS_55	64633.48	3.00	0.19
56	PR_JP_JP_TS_56	190004.79	3.00	0.57	45	PO_JP_JP_TS_56	190004.79	3.00	0.57
57	PR_JP_JP_TS_57	235379.60	3.00	0.71	46	PO_JP_JP_TS_57	255365.17	3.00	0.77
58	PR_JP_JP_TS_58	227767.03	3.00	0.68	47	PO_JP_JP_TS_58	108804.38	3.00	0.33
59	PR_JP_JP_TS_59	117887.78	3.00	0.35	48	PO_JP_JP_TS_59	71575.32	3.00	0.21
60	PR_JP_JP_TS_60	400494.65	3.00	1.20	49	PO_JP_JP_TS_60	429441.45	3.00	1.29
61	PR_JP_JP_TS_61	241022.41	3.00	0.72	50	PO_JP_JP_TS_61	252462.81	3.00	0.76
62	PR_JP_ML_TS_62	52344.86	3.00	0.16	51	PO_JP_ML_TS_62	52344.86	3.00	0.16
63	PR_JP_ML_TS_63	148902.02	3.00	0.45	52	PO_JP_ML_TS_63	148902.02	3.00	0.45
64	PR_JP_ML_TS_64	671090.05	3.00	2.01	53	PO_JP_ML_TS_64	568655.23	3.00	1.71
65	PR_JP_ML_TS_65	274133.61	3.00	0.82	54	PO_JP_ML_TS_65	274133.61	3.00	0.82
66	PR_JP_ML_TS_66	77639.50	3.00	0.23		PO_JP_ML_TS_66	0.00	3.00	0.00
67	PR_JP_ML_TS_67	97818.38	3.00	0.29		PO_JP_ML_TS_67	0.00	3.00	0.00
68	PR_JP_ML_TS_68	105980.43	3.00	0.32	55	PO_JP_ML_TS_68	73415.32	3.00	0.22
69	PR_JP_ML_TS_69	203087.93	3.00	0.61		PO_JP_ML_TS_69	0.00	3.00	0.00
70	PR_JP_JP_TS_70	155831.38	3.00	0.47	56	PO_JP_JP_TS_70	104592.57	3.00	0.31
71	PR_JP_JP_TS_71	145385.38	3.00	0.44	57	PO_JP_JP_TS_71	171329.58	3.00	0.51
72	PR_JP_ML_TS_72	181184.98	3.00	0.54	58	PO_JP_ML_TS_72	181184.98	3.00	0.54
73	PR_JP_ML_TS_73	295373.99	3.00	0.89	59	PO_JP_ML_TS_73	295373.99	3.00	0.89
74	PR_JP_JP_TS_74	778801.40	3.00	2.34	60	PO_JP_JP_TS_74	685969.61	3.00	2.06
75	PR_JP_ML_TS_75	215291.55	3.00	0.65	61	PO_JP_ML_TS_75	168235.02	3.00	0.50
76	PR_JP_JP_TS_76	261828.76	3.00	0.79	62	PO_JP_JP_TS_76	94988.22	3.00	0.28
77	PR_JP_JP_TS_77	54096.95	3.00	0.16		PO_JP_JP_TS_77	0.00	3.00	0.00

Pre monsoon					Post monsoon				
S L No	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**	**S L No**	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**
78	PR_JP_ML_TS_78	57182.89	3.00	0.17		PO_JP_ML_TS_78	0.00	3.00	0.00
79	PR_JP_JP_TS_79	132980.78	3.00	0.40	63	PO_JP_JP_TS_79	155860.60	3.00	0.47
80	PR_JP_JP_TS_80	1420371.87	3.00	4.26	64	PO_JP_JP_TS_80	1420371.87	3.00	4.26
81	PR_JP_JP_TS_81	202306.35	3.00	0.61	65	PO_JP_JP_TS_81	202306.35	3.00	0.61
	PR_JP_MG_TS_81A	0.00	3.00	0.00	66	PO_JP_MG_TS_81A	627552.56	3.00	1.88
82	PR_JP_JP_TS_82	919558.29	3.00	2.76	67	PO_JP_JP_TS_82	626054.65	3.00	1.88
83	PR_JP_JP_TS_83	256851.33	3.00	0.77	68	PO_JP_JP_TS_83	495140.20	3.00	1.49
84	PR_JP_MG_TS_84	1927549.22	3.00	5.78	69	PO_JP_MG_TS_84_85_86	2599245.32	3.00	7.80
85	PR_JP_JP_TS_85	625701.30	3.00	1.88					
86	PR_JP_JP_TS_86	382927.06	3.00	1.15					
87	PR_JP_MG_TS_87	260479.57	3.00	0.78	70	PO_JP_JP_TS_87	243966.35	3.00	0.73
88	PR_JP_JP_TS_88	6377047.82	3.00	19.13	71	PO_JP_JP_TS_88_89	7120346.17	3.00	21.36
89	PR_JP_JP_TS_89	291397.07	3.00	0.87					
90	PR_JP_MG_TS_90	396542.89	3.00	1.19	72	PO_JP_MG_TS_90_91	668343.54	3.00	2.01
91	PR_JP_MG_TS_91	535172.23	3.00	1.61					
92	PR_JP_MG_TS_92	154089.70	3.00	0.46		PO_JP_MG_TS_92	0.00	3.00	0.00
93	PR_JP_MG_TS_93	510639.95	3.00	1.53	73	PO_JP_MG_TS_93_94	898396.65	3.00	2.70
94	PR_JP_MG_TS_94	151918.78	3.00	0.46					
95	PR_JP_MG_TS_95	295836.44	3.00	0.89	74	PO_JP_MG_TS_95	341864.70	3.00	1.03
96	PR_JP_MG_TS_96	3018290.83	3.00	9.05	75	PO_JP_MG_TS_96	3122517.70	3.00	9.37
97	PR_JP_MG_TS_97	80352.18	3.00	0.24	76	PO_JP_MG_TS_97_98	806229.88	3.00	2.42
98	PR_JP_MG_TS_98	390746.10	3.00	1.17					
99	PR_JP_MG_TS_99	814744.40	3.00	2.44	77	PO_JP_MG_TS_99	728263.30	3.00	2.18
100	PR_JP_JP_TS_100	83987.62	3.00	0.25	78	PO_JP_JP_TS_100_101	252474.34	3.00	0.76

Pre monsoon					Post monsoon				
S L No	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**	**S L No**	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**
101	PR_JP_JP_TS_101	99431.06	3.00	0.30					
102	PR_JP_MG_TS_102	83895.78	3.00	0.25	79	PO_JP_MG_TS_102	281625.36	3.00	0.84
103	PR_JP_JP_TS_103	143830.15	3.00	0.43	80	PO_JP_JP_TS_103	143830.15	3.00	0.43
104	PR_JP_MG_TS_104	908119.88	3.00	2.72	81	PO_JP_MG_TS_104	93147.71	3.00	0.28
105	PR_JP_MG_TS_105	2321424.03	3.00	6.96	82	PO_JP_MG_TS_105	1331555.24	3.00	3.99
	PR_JP_MG_TS_105A	0.00	3.00	0.00	83	PO_JP_MG_TS_105A	79847.27	3.00	0.24
106	PR_JP_JP_TS_106	101072.67	3.00	0.30		PO_JP_JP_TS_106	0.00	3.00	0.00
107	PR_JP_JP_TS_107	65552.33	3.00	0.20		PO_JP_JP_TS_107	0.00	3.00	0.00
108	PR_JP_MG_TS_108	399201.35	3.00	1.20	84	PO_JP_MG_TS_108	942912.57	3.00	2.83
109	PR_JP_MG_TS_109	129407.29	3.00	0.39	85	PO_JP_MG_TS_109	406112.02	3.00	1.22
110	PR_JP_MG_TS_110	211259.94	3.00	0.63	86	PO_JP_MG_TS_110	114342.20	3.00	0.34
111	PR_JP_MG_TS_111	262977.82	3.00	0.79	87	PO_JP_MG_TS_111	152827.06	3.00	0.46
112	PR_JP_MG_TS_112	728637.19	3.00	2.19	88	PO_JP_MG_TS_112	861572.82	3.00	2.58
	PR_JP_MG_TS_112A	0.00	3.00	0.00	89	PO_JP_MG_TS_112A	837372.39	3.00	2.51
113	PR_JP_MG_TS_113	257497.99	3.00	0.77	90	PO_JP_MG_TS_113	157302.90	3.00	0.47
	PR_JP_JP_TS_114	0.00	3.00	0.00	91	PO_JP_JP_TS_114	1352114.88	3.00	4.06
	PR_JP_JP_TS_115	0.00	3.00	0.00	92	PO_JP_JP_TS_115	577669.38	3.00	1.73
	PR_JP_JP_TS_116	0.00	3.00	0.00	93	PO_JP_JP_TS_116	334748.80	3.00	1.00
Estimation of Sand Resources in Pre monsoon period & Post monsoon period in sand bar regions of Chel River									
1	PR_JP_ML_CH_01	1242536.72	2.00	2.49	1	PO_JP_ML_CH_01	1678108.19	2.00	3.36
2	PR_JP_ML_CH_02	104908.92	2.00	0.21	2	PO_JP_ML_CH_02	104908.92	2.00	0.21
3	PR_JP_ML_CH_03	69896.33	2.00	0.14	3	PO_JP_ML_CH_03	69896.33	2.00	0.14
4	PR_JP_ML_CH_04	115772.34	2.00	0.23	4	PO_JP_ML_CH_04	115772.34	2.00	0.23
5	PR_JP_ML_CH_05	208836.53	2.00	0.42	5	PO_JP_ML_CH_05	208836.53	2.00	0.42
6	PR_JP_ML_CH_06	51649.41	2.00	0.10	6	PO_JP_ML_CH_06	51649.41	2.00	0.10
7	PR_JP_ML_CH_07	319787.50	2.00	0.64	7	PO_JP_ML_CH_07	380327.32	2.00	0.76



Pre monsoon					Post monsoon				
S L No	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**	**S L No**	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**
8	PR_JP_ML_CH_08	171235.92	2.00	0.34	8	PO_JP_ML_CH_08	171235.92	2.00	0.34
9	PR_JP_ML_CH_09	177242.95	2.00	0.35	9	PO_JP_ML_CH_09	177242.95	2.00	0.35
10	PR_JP_ML_CH_10	158297.95	2.00	0.32	10	PO_JP_ML_CH_10	78842.89	2.00	0.16
11	PR_JP_ML_CH_11	37300.70	2.00	0.07	11	PO_JP_ML_CH_11	53442.37	2.00	0.11
12	PR_JP_ML_CH_12	143837.62	2.00	0.29	12	PO_JP_ML_CH_12	143837.62	2.00	0.29
13	PR_JP_ML_CH_13	52262.82	2.00	0.10	13	PO_JP_ML_CH_13	50979.48	2.00	0.10
14	PR_JP_ML_CH_14	97460.43	2.00	0.19	14	PO_JP_ML_CH_14	61232.20	2.00	0.12
15	PR_JP_ML_CH_15	207257.43	2.00	0.41	15	PO_JP_ML_CH_15	69327.63	2.00	0.14
16	PR_JP_ML_CH_16	140621.78	2.00	0.28	16	PO_JP_ML_CH_16	142938.71	2.00	0.29
17	PR_JP_ML_CH_17	134795.24	2.00	0.27	17	PO_JP_ML_CH_17	81092.30	2.00	0.16
Estimation of Sand Resources in Pre monsoon period & Post monsoon period in sand bar regions of Mal River									
1	PR_JP_ML_ML_01	347270.85	2.00	0.69	1	PO_JP_ML_ML_01	246334.17	2.00	0.49
2	PR_JP_ML_ML_02	322770.19	2.00	0.65	2	PO_JP_ML_ML_02	208348.88	2.00	0.42
Estimation of Sand Resources in Pre monsoon period & Post monsoon period in sand bar regions of Neora River									
1	PR_JP_MT_NR_01	759419.08	2.00	1.52	1	PO_JP_ML_NR_01	699900.30	2.00	1.40
2	PR_JP_MT_NR_02	129772.86	2.00	0.26	2	PO_JP_ML_NR_02	113635.35	2.00	0.23
3	PR_JP_ML_NR_03	150358.29	2.00	0.30	3	PO_JP_MT_NR_03	140305.66	2.00	0.28
4	PR_JP_ML_NR_04	105980.43	2.00	0.21	4	PO_JP_ML_NR_04	92298.83	2.00	0.18
5	PR_JP_ML_NR_05	71817.74	2.00	0.14	5	PO_JP_ML_NR_05	71817.74	2.00	0.14
6	PR_JP_ML_NR_06	192611.87	2.00	0.39	6	PO_JP_ML_NR_06	208759.97	2.00	0.42
	PR_JP_ML_NR_06A	0.00	2.00	0.00	7	PO_JP_ML_NR_06A	93375.16	2.00	0.19
7	PR_JP_ML_NR_07	60963.52	2.00	0.12	8	PO_JP_ML_NR_07	38169.63	2.00	0.08
8	PR_JP_ML_NR_08	63791.71	2.00	0.13	9	PO_JP_ML_NR_08	48177.18	2.00	0.10
9	PR_JP_ML_NR_09	49486.27	2.00	0.10	10	PO_JP_ML_NR_09	28852.40	2.00	0.06
10	PR_JP_ML_NR_10	48537.70	2.00	0.10	11	PO_JP_ML_NR_10	48537.70	2.00	0.10
11	PR_JP_ML_NR_11	45867.03	2.00	0.09	12	PO_JP_ML_NR_11	44097.68	2.00	0.09



Pre monsoon					Post monsoon				
S L No	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**	**S L No**	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**
12	PR_JP_ML_NR_12	81555.38	2.00	0.16	13	PO_JP_ML_NR_12	52813.44	2.00	0.11
13	PR_JP_ML_NR_13	151888.69	2.00	0.30	14	PO_JP_ML_NR_13	42760.31	2.00	0.09
14	PR_JP_ML_NR_14	143667.39	2.00	0.29	15	PO_JP_ML_NR_14	60946.73	2.00	0.12
15	PR_JP_ML_NR_15	215237.96	2.00	0.43	16	PO_JP_ML_NR_15	170713.76	2.00	0.34
16	PR_JP_ML_NR_16	49348.01	2.00	0.10	17	PO_JP_ML_NR_16	14053.09	2.00	0.03
17	PR_JP_ML_NR_17	72848.56	2.00	0.15	18	PO_JP_ML_NR_17	22308.16	2.00	0.04
18	PR_JP_ML_NR_18	224365.42	2.00	0.45	19	PO_JP_ML_NR_18	204460.97	2.00	0.41
19	PR_JP_ML_NR_19	85399.54	2.00	0.17		PO_JP_ML_NR_19	0.00	2.00	0.00
20	PR_JP_ML_NR_20	112629.48	2.00	0.23	20	PO_JP_ML_NR_20	151642.16	2.00	0.30
21	PR_JP_ML_NR_21	111821.46	2.00	0.22	21	PO_JP_ML_NR_21	91056.82	2.00	0.18
22	PR_JP_ML_NR_22	245787.10	2.00	0.49	22	PO_JP_ML_NR_22	211618.69	2.00	0.42
Estimation of Sand Resources in Pre monsoon period & Post monsoon period in sand bar regions of Jaldhaka River									
1	PR_JP_NK_JD_01	307554.80	2.50	0.77	1	PO_JP_NK_JD_01	307554.80	2.50	0.77
	PR_JP_NK_JD_01A	0.00	2.50	0.00	2	PO_JP_NK_JD_01A	8739.64	2.50	0.02
2	PR_JP_NK_JD_02	147305.03	2.50	0.37	3	PO_JP_NK_JD_02	141884.36	2.50	0.35
3	PR_JP_NK_JD_03	27181.48	2.50	0.07	4	PO_JP_NK_JD_03	27181.48	2.50	0.07
4	PR_JP_NK_JD_04	39613.86	2.50	0.10	5	PO_JP_NK_JD_04	39613.86	2.50	0.10
	PR_JP_NK_JD_04A	0.00	2.50	0.00	6	PO_JP_NK_JD_04A	73219.32	2.50	0.18
5	PR_JP_NK_JD_05	44898.34	2.50	0.11	7	PO_JP_NK_JD_05	44898.34	2.50	0.11
6	PR_JP_NK_JD_06	110523.29	2.50	0.28	8	PO_JP_NK_JD_06	110523.29	2.50	0.28
7	PR_JP_NK_JD_07	997448.53	2.50	2.49	9	PO_JP_NK_JD_07	997448.53	2.50	2.49
8	PR_JP_NK_JD_08	212982.06	2.50	0.53	10	PO_JP_NK_JD_08	212982.06	2.50	0.53
9	PR_JP_NK_JD_09	204623.51	2.50	0.51	11	PO_JP_NK_JD_09	204623.51	2.50	0.51
10	PR_JP_NK_JD_10	164300.84	2.50	0.41	12	PO_JP_NK_JD_10	164300.84	2.50	0.41
11	PR_JP_NK_JD_11	194976.87	2.50	0.49	13	PO_JP_NK_JD_11	194976.87	2.50	0.49
	PR_JP_NK_JD_11A	0.00	2.50	0.00	14	PO_JP_NK_JD_11A	14509.55	2.50	0.04

Pre monsoon					Post monsoon				
S L No	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**	**S L No**	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**
12	PR_JP_NK_JD_12	46469.07	2.50	0.12	15	PO_JP_NK_JD_12	46469.07	2.50	0.12
13	PR_JP_NK_JD_13	138413.14	2.50	0.35	16	PO_JP_NK_JD_13	138413.14	2.50	0.35
14	PR_JP_NK_JD_14	302615.97	2.50	0.76	17	PO_JP_NK_JD_14	302615.97	2.50	0.76
15	PR_JP_NK_JD_15	248538.28	2.50	0.62	18	PO_JP_NK_JD_15	241387.53	2.50	0.60
16	PR_JP_NK_JD_16	30245.50	2.50	0.08	19	PO_JP_NK_JD_16_17	650616.30	2.50	1.63
17	PR_JP_NK_JD_17	547042.35	2.50	1.37					
18	PR_JP_NK_JD_18	252542.16	2.50	0.63	20	PO_JP_NK_JD_18	252542.16	2.50	0.63
19	PR_JP_NK_JD_19	39654.12	2.50	0.10	21	PO_JP_NK_JD_19	39654.12	2.50	0.10
20	PR_JP_NK_JD_20	156758.31	2.50	0.39	22	PO_JP_NK_JD_20	156758.31	2.50	0.39
21	PR_JP_MG_JD_21	328327.27	2.50	0.82	23	PO_JP_MG_JD_21_24_25_26	894423.65	2.50	2.24
22	PR_JP_MG_JD_24	112320.84	2.50	0.28					
23	PR_JP_MG_JD_25	36531.91	2.50	0.09					
24	PR_JP_MG_JD_26	103323.32	2.50	0.26					
	PR_JP_NK_JD_26A	0.00	2.50	0.00	24	PO_JP_NK_JD_26A	89286.83	2.50	0.22
25	PR_JP_MG_JD_22	72284.15	2.50	0.18	25	PO_JP_MG_JD_22	72284.15	2.50	0.18
26	PR_JP_MG_JD_23	147397.71	2.50	0.37	26	PO_JP_MG_JD_23	109227.07	2.50	0.27
27	PR_JP_MG_JD_27	203404.79	2.50	0.51	27	PO_JP_MG_JD_27	203404.79	2.50	0.51
28	PR_JP_MG_JD_28	68895.20	2.50	0.17	28	PO_JP_MG_JD_28_29_30	1410599.38	2.50	3.53
29	PR_JP_MG_JD_29	81380.37	2.50	0.20					
30	PR_JP_MG_JD_30	1203856.85	2.50	3.01					
31	PR_JP_DG_JD_31	860378.66	2.50	2.15	29	PO_JP_DG_JD_31	860378.66	2.50	2.15
32	PR_JP_DG_JD_32	925526.71	2.50	2.31	30	PO_JP_DG_JD_32	621699.02	2.50	1.55
	PR_JP_MG_JD_32A	0.00	2.50	0.00	31	PO_JP_MG_JD_32A	169315.79	2.50	0.42
	PR_JP_MG_JD_32B	0.00	2.50	0.00	32	PO_JP_MG_JD_32B	217998.56	2.50	0.54
33	PR_JP_DG_JD_33	425240.02	2.50	1.06	33	PO_JP_DG_JD_33	310342.75	2.50	0.78

Pre monsoon					Post monsoon				
S L No	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**	**S L No**	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**
34	PR_JP_MG_JD_34	112973.46	2.50	0.28	34	PO_JP_MG_JD_34	91035.97	2.50	0.23
35	PR_JP_MG_JD_35	210779.54	2.50	0.53	35	PO_JP_MG_JD_35	183441.97	2.50	0.46
36	PR_JP_MG_JD_36	18912.19	2.50	0.05	36	PO_JP_MG_JD_36_37	70451.89	2.50	0.18
37	PR_JP_MG_JD_37	18348.87	2.50	0.05					
38	PR_JP_DG_JD_38	72788.40	2.50	0.18	37	PO_JP_DG_JD_38	216251.99	2.50	0.54
39	PR_JP_MG_JD_39	94959.87	2.50	0.24	38	PO_JP_MG_JD_39	106065.34	2.50	0.27
40	PR_JP_MG_JD_40	906756.72	2.50	2.27	39	PO_JP_MG_JD_40_41	942060.85	2.50	2.36
41	PR_JP_MG_JD_41	73154.83	2.50	0.18					
42	PR_JP_MG_JD_42	109447.85	2.50	0.27	40	PO_JP_MG_JD_42	59969.56	2.50	0.15
43	PR_JP_DG_JD_43	444663.68	2.50	1.11		PO_JP_DG_JD_43	0.00	2.50	0.00
44	PR_JP_MG_JD_44	195291.89	2.50	0.49	41	PO_JP_MG_JD_44_45	403459.89	2.50	1.01
45	PR_JP_DG_JD_45	66041.11	2.50	0.17					
46	PR_JP_DG_JD_46	99723.77	2.50	0.25	42	PO_JP_DG_JD_46	330497.54	2.50	0.83
47	PR_JP_DG_JD_47	152424.12	2.50	0.38	43	PO_JP_DG_JD_47	386451.82	2.50	0.97
48	PR_JP_DG_JD_48	123339.39	2.50	0.31	44	PO_JP_DG_JD_48	280466.62	2.50	0.70
49	PR_JP_MG_JD_49	501020.58	2.50	1.25	45	PO_JP_MG_JD_49	682620.46	2.50	1.71
50	PR_JP_MG_JD_50	96690.38	2.50	0.24	46	PO_JP_MG_JD_50	168712.98	2.50	0.42
51	PR_JP_DG_JD_51	255012.83	2.50	0.64	47	PO_JP_DG_JD_51	351664.10	2.50	0.88
52	PR_JP_DG_JD_52	141011.18	2.50	0.35	48	PO_JP_DG_JD_52	261823.01	2.50	0.65
53	PR_JP_DG_JD_53	318139.93	2.50	0.80	49	PO_JP_DG_JD_53_54	733093.62	2.50	1.83
54	PR_JP_DG_JD_54	472538.43	2.50	1.18					
55	PR_JP_DG_JD_55	224031.52	2.50	0.56		PO_JP_DG_JD_55	0.00	2.50	0.00
56	PR_JP_DG_JD_56	157197.13	2.50	0.39	50	PO_JP_DG_JD_56	258691.32	2.50	0.65

Estimation of Sand Resources in Pre monsoon period & Post monsoon period in sand bar regions of Jaldhaka 1 River

Pre monsoon					Post monsoon				
S L No	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**	**S L No**	**Sand Bar_Code**	**Area in sq.m.**	**Sand Thickness in m.**	**Sand Volume in M. Cum**
1	PR_JP_NK_JD1_01	3559728.484	2.00	7.12	1	PO_JP_NK_JD1_01	6754594.488	2.00	13.51
2	PR_JP_NK_JD1_02	5192996.158	2.00	15.58	2	PO_JP_NK_JD1_02	4798671.478	2.00	14.40
3	PR_JP_NK_JD1_03	1677926.743	2.00	6.71	3	PO_JP_NK_JD1_03	1336646.362	2.00	5.35
4	PR_JP_NK_JD1_04	816980.8731	2.00	4.08	4	PO_JP_NK_JD1_04	664689.1875	2.00	3.32
5	PR_JP_NK_JD1_05	200985.3913	2.00	1.21	5	PO_JP_NK_JD1_05	126669.2409	2.00	0.76
6	PR_JP_NK_JD1_06	266757.2217	2.00	1.87		PO_JP_NK_JD1_06	0	2.00	0.00
7	PR_JP_NK_JD1_07	68660.53159	2.00	0.55	6	PO_JP_NK_JD1_07	63505.35062	2.00	0.51
8	PR_JP_NK_JD1_08	76049.51926	2.00	0.68	7	PO_JP_NK_JD1_08	42870.5141	2.00	0.39
Estimation of Sand Resources in Pre monsoon period & Post monsoon period in sand bar regions of Reti River									
1	PR_JP_DG_RT_01	548089.3473	2.00	1.10	1	PO_JP_DG_RT_01	518351.703	2.00	1.04
Estimation of Sand Resources in Pre monsoon period & Post monsoon period in sand bar regions of Angabarsha River									
1	PR_JP_DG_AG_01	4437743.083	2.00	8.88	1	PO_JP_DG_AG_01	3365241.257	2.00	6.73

Annexure 3
Boundary Coordinates of Potential Blocks of Jalpaiguri District



Abbreviation used in the table as below

DISTRICT	JP	JALPAIGURI	RIVER	MH	MAHANANDA
BLOCK	RG	RAJGANJ		RT	RETI
	ML	MAL		LS	LEESH
	JP	JALPAIGURI		CH	CHEL
	MG	MAYNAGURI		NR	NEORA
	NK	NAGRAKATA		ML	MAL
	DG	DHUPGURI		JD	JALDHAKA
RIVER	KT	KAROTOWA		JD1	JALDHAKA1
	JR	JARDA		AG	ANGRABHASA
	TS	TEESTA			

SANDBAR CODE	POINT_NO	Latitude	Longitude
JP_DG_AG_01	1	26° 47' 55.734" N	89° 5' 37.233" E
	2	26° 47' 44.390" N	89° 5' 38.694" E
	3	26° 48' 0.557" N	89° 5' 31.573" E
	4	26° 48' 2.959" N	89° 5' 30.963" E
	5	26° 48' 18.615" N	89° 5' 24.448" E
	6	26° 48' 36.372" N	89° 5' 27.026" E
	7	26° 48' 55.579" N	89° 5' 34.391" E
	8	26° 49' 36.153" N	89° 5' 25.249" E
	9	26° 49' 57.462" N	89° 5' 21.270" E
	10	26° 50' 11.096" N	89° 5' 20.141" E
	11	26° 50' 27.126" N	89° 5' 24.345" E
	12	26° 51' 5.578" N	89° 5' 33.102" E
	13	26° 51' 43.596" N	89° 5' 48.917" E
	14	26° 51' 45.221" N	89° 5' 50.839" E
	15	26° 51' 49.801" N	89° 5' 54.433" E
	16	26° 51' 53.694" N	89° 6' 0.080" E
	17	26° 51' 54.495" N	89° 6' 5.901" E
	18	26° 51' 47.470" N	89° 6' 11.687" E
	19	26° 51' 26.532" N	89° 6' 11.314" E
	20	26° 51' 17.455" N	89° 6' 2.344" E
	21	26° 51' 4.196" N	89° 5' 50.718" E
	22	26° 50' 43.345" N	89° 5' 43.745" E
	23	26° 50' 32.172" N	89° 5' 36.352" E
	24	26° 50' 0.236" N	89° 5' 36.433" E
	25	26° 49' 55.681" N	89° 5' 35.333" E
	26	26° 49' 47.538" N	89° 5' 33.746" E
	27	26° 49' 45.093" N	89° 5' 34.365" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	28	26° 49' 42.003" N	89° 5' 32.100" E
	29	26° 49' 35.131" N	89° 5' 33.127" E
	30	26° 49' 32.458" N	89° 5' 34.458" E
	31	26° 49' 9.408" N	89° 5' 37.824" E
	32	26° 48' 49.991" N	89° 5' 42.856" E
	33	26° 48' 41.603" N	89° 5' 43.003" E
	34	26° 48' 29.369" N	89° 5' 29.723" E
	35	26° 48' 21.021" N	89° 5' 30.337" E
JP_ML_CH_01	1	26° 55' 25.875" N	88° 39' 48.209" E
	2	26° 55' 23.867" N	88° 39' 51.558" E
	3	26° 55' 4.947" N	88° 39' 46.426" E
	4	26° 54' 37.669" N	88° 39' 35.596" E
	5	26° 54' 29.459" N	88° 39' 30.082" E
	6	26° 54' 23.475" N	88° 39' 27.117" E
	7	26° 54' 17.112" N	88° 39' 19.832" E
	8	26° 54' 4.108" N	88° 39' 10.652" E
	9	26° 53' 53.720" N	88° 38' 58.394" E
	10	26° 53' 46.051" N	88° 38' 52.409" E
	11	26° 53' 41.691" N	88° 38' 48.510" E
	12	26° 53' 36.891" N	88° 38' 45.324" E
	13	26° 53' 34.445" N	88° 38' 43.131" E
	14	26° 53' 31.533" N	88° 38' 34.819" E
	15	26° 53' 26.208" N	88° 38' 30.747" E
	16	26° 53' 24.603" N	88° 38' 28.694" E
	17	26° 53' 19.645" N	88° 38' 18.070" E
	18	26° 53' 30.364" N	88° 38' 24.446" E
	19	26° 53' 45.531" N	88° 38' 36.172" E
	20	26° 53' 56.008" N	88° 38' 52.050" E
	21	26° 53' 59.573" N	88° 38' 55.938" E
	22	26° 54' 6.068" N	88° 38' 59.293" E
	23	26° 54' 11.621" N	88° 39' 5.014" E
	24	26° 54' 14.368" N	88° 39' 12.409" E
	25	26° 54' 19.492" N	88° 39' 15.361" E
	26	26° 54' 23.591" N	88° 39' 17.722" E
	27	26° 54' 29.059" N	88° 39' 20.679" E
	28	26° 54' 33.525" N	88° 39' 21.127" E
	29	26° 54' 36.473" N	88° 39' 21.672" E
	30	26° 54' 42.379" N	88° 39' 26.290" E
	31	26° 54' 49.219" N	88° 39' 29.459" E
	32	26° 54' 54.361" N	88° 39' 30.877" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	33	26° 54' 59.151" N	88° 39' 33.057" E
	34	26° 55' 5.949" N	88° 39' 39.870" E
	35	26° 55' 11.979" N	88° 39' 38.808" E
	36	26° 55' 16.431" N	88° 39' 40.408" E
	37	26° 55' 25.434" N	88° 39' 42.019" E
	38	26° 55' 24.704" N	88° 39' 45.162" E
JP_ML_CH_02	1	26° 52' 38.912" N	88° 38' 2.232" E
	2	26° 52' 38.795" N	88° 38' 2.109" E
	3	26° 52' 45.748" N	88° 38' 1.558" E
	4	26° 52' 57.396" N	88° 38' 6.075" E
	5	26° 52' 54.835" N	88° 38' 8.214" E
	6	26° 52' 49.673" N	88° 38' 8.523" E
	7	26° 52' 43.838" N	88° 38' 7.480" E
	8	26° 52' 41.804" N	88° 38' 4.958" E
JP_ML_CH_03	1	26° 52' 28.957" N	88° 38' 4.414" E
	2	26° 52' 27.356" N	88° 38' 3.432" E
	3	26° 52' 27.638" N	88° 38' 2.994" E
	4	26° 52' 36.695" N	88° 38' 2.276" E
	5	26° 52' 40.020" N	88° 38' 4.932" E
	6	26° 52' 42.034" N	88° 38' 7.358" E
	7	26° 52' 44.806" N	88° 38' 9.316" E
	8	26° 52' 47.162" N	88° 38' 10.069" E
	9	26° 52' 50.909" N	88° 38' 11.321" E
	10	26° 52' 50.259" N	88° 38' 11.644" E
	11	26° 52' 43.248" N	88° 38' 9.552" E
	12	26° 52' 41.025" N	88° 38' 9.689" E
	13	26° 52' 39.973" N	88° 38' 9.006" E
	14	26° 52' 37.825" N	88° 38' 8.856" E
	15	26° 52' 35.048" N	88° 38' 7.378" E
	16	26° 52' 32.808" N	88° 38' 5.907" E
	17	26° 52' 31.523" N	88° 38' 5.529" E
JP_ML_CH_04	1	26° 52' 3.313" N	88° 38' 2.965" E
	2	26° 51' 59.379" N	88° 38' 3.354" E
	3	26° 52' 12.917" N	88° 38' 0.510" E
	4	26° 52' 21.720" N	88° 38' 2.042" E
	5	26° 52' 15.033" N	88° 38' 2.534" E
	6	26° 52' 10.416" N	88° 38' 2.108" E
JP_ML_CH_05	1	26° 51' 54.101" N	88° 38' 8.731" E
	2	26° 51' 54.060" N	88° 38' 6.352" E
	3	26° 51' 56.971" N	88° 38' 4.400" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	4	26° 52' 0.481" N	88° 38' 4.221" E
	5	26° 52' 4.474" N	88° 38' 3.971" E
	6	26° 52' 7.508" N	88° 38' 3.248" E
	7	26° 52' 10.672" N	88° 38' 3.293" E
	8	26° 52' 12.666" N	88° 38' 3.322" E
	9	26° 52' 16.375" N	88° 38' 3.788" E
	10	26° 52' 20.571" N	88° 38' 3.369" E
	11	26° 52' 24.650" N	88° 38' 3.787" E
	12	26° 52' 27.213" N	88° 38' 5.262" E
	13	26° 52' 34.484" N	88° 38' 8.482" E
	14	26° 52' 29.940" N	88° 38' 8.479" E
	15	26° 52' 26.694" N	88° 38' 9.583" E
	16	26° 52' 24.217" N	88° 38' 9.624" E
	17	26° 52' 21.260" N	88° 38' 9.582" E
	18	26° 52' 17.205" N	88° 38' 9.370" E
	19	26° 52' 11.413" N	88° 38' 10.590" E
	20	26° 52' 9.404" N	88° 38' 11.789" E
	21	26° 52' 5.885" N	88° 38' 12.735" E
	22	26° 52' 1.554" N	88° 38' 12.519" E
	23	26° 51' 58.316" N	88° 38' 13.009" E
	24	26° 51' 56.134" N	88° 38' 11.367" E
JP_ML_CH_06	1	26° 51' 42.321" N	88° 38' 4.590" E
	2	26° 51' 41.876" N	88° 38' 3.033" E
	3	26° 51' 48.268" N	88° 38' 5.645" E
	4	26° 51' 50.730" N	88° 38' 5.138" E
	5	26° 51' 53.054" N	88° 38' 5.799" E
	6	26° 51' 52.697" N	88° 38' 6.944" E
	7	26° 51' 52.432" N	88° 38' 7.612" E
	8	26° 51' 50.625" N	88° 38' 7.681" E
	9	26° 51' 48.303" N	88° 38' 7.744" E
	10	26° 51' 46.675" N	88° 38' 7.241" E
	11	26° 51' 43.933" N	88° 38' 6.435" E
JP_ML_CH_07	1	26° 51' 10.701" N	88° 38' 19.962" E
	2	26° 51' 5.161" N	88° 38' 25.035" E
	3	26° 51' 5.275" N	88° 38' 26.406" E
	4	26° 51' 5.158" N	88° 38' 26.347" E
	5	26° 51' 3.722" N	88° 38' 25.636" E
	6	26° 51' 2.894" N	88° 38' 25.239" E
	7	26° 51' 4.395" N	88° 38' 23.066" E
	8	26° 51' 2.809" N	88° 38' 17.521" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	9	26° 51' 7.831" N	88° 38' 15.929" E
	10	26° 51' 10.265" N	88° 38' 10.839" E
	11	26° 51' 19.170" N	88° 38' 6.558" E
	12	26° 51' 19.965" N	88° 38' 4.748" E
	13	26° 51' 21.789" N	88° 38' 3.145" E
	14	26° 51' 23.699" N	88° 38' 1.543" E
	15	26° 51' 23.709" N	88° 38' 1.540" E
	16	26° 51' 31.004" N	88° 38' 1.195" E
	17	26° 51' 32.713" N	88° 38' 2.727" E
	18	26° 51' 37.008" N	88° 38' 3.076" E
	19	26° 51' 39.930" N	88° 38' 3.214" E
	20	26° 51' 41.037" N	88° 38' 4.093" E
	21	26° 51' 41.699" N	88° 38' 6.307" E
	22	26° 51' 42.458" N	88° 38' 7.660" E
	23	26° 51' 44.191" N	88° 38' 7.991" E
	24	26° 51' 43.619" N	88° 38' 7.974" E
	25	26° 51' 36.148" N	88° 38' 12.202" E
	26	26° 51' 34.237" N	88° 38' 12.239" E
	27	26° 51' 32.236" N	88° 38' 14.223" E
	28	26° 51' 30.430" N	88° 38' 14.293" E
	29	26° 51' 28.452" N	88° 38' 14.360" E
	30	26° 51' 26.037" N	88° 38' 14.997" E
	31	26° 51' 23.790" N	88° 38' 16.019" E
	32	26° 51' 21.039" N	88° 38' 15.979" E
	33	26° 51' 19.225" N	88° 38' 16.720" E
	34	26° 51' 17.532" N	88° 38' 18.448" E
JP_ML_CH_08	1	26° 50' 54.094" N	88° 38' 10.625" E
	2	26° 50' 49.601" N	88° 38' 11.050" E
	3	26° 50' 50.302" N	88° 38' 7.529" E
	4	26° 50' 50.857" N	88° 38' 7.287" E
	5	26° 50' 54.403" N	88° 38' 7.386" E
	6	26° 51' 13.381" N	88° 38' 2.028" E
	7	26° 51' 21.278" N	88° 38' 1.654" E
	8	26° 51' 20.874" N	88° 38' 1.914" E
	9	26° 51' 16.960" N	88° 38' 5.812" E
	10	26° 51' 13.518" N	88° 38' 6.122" E
	11	26° 51' 11.468" N	88° 38' 6.572" E
	12	26° 51' 7.379" N	88° 38' 7.877" E
	13	26° 51' 4.995" N	88° 38' 8.875" E
	14	26° 51' 0.735" N	88° 38' 9.998" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	15	26° 50' 58.527" N	88° 38' 10.579" E
JP_ML_CH_09	1	26° 48' 49.016" N	88° 39' 26.278" E
	2	26° 48' 46.460" N	88° 39' 24.324" E
	3	26° 48' 45.620" N	88° 39' 22.635" E
	4	26° 48' 46.298" N	88° 39' 19.771" E
	5	26° 48' 46.948" N	88° 39' 19.301" E
	6	26° 48' 48.704" N	88° 39' 16.212" E
	7	26° 48' 48.734" N	88° 39' 13.663" E
	8	26° 48' 52.437" N	88° 39' 6.161" E
	9	26° 48' 54.205" N	88° 39' 5.272" E
	10	26° 48' 56.173" N	88° 39' 2.426" E
	11	26° 48' 59.207" N	88° 39' 0.314" E
	12	26° 49' 2.447" N	88° 38' 58.924" E
	13	26° 49' 6.740" N	88° 38' 59.465" E
	14	26° 49' 9.489" N	88° 39' 3.338" E
	15	26° 49' 6.045" N	88° 39' 3.767" E
	16	26° 49' 2.157" N	88° 39' 5.388" E
	17	26° 48' 57.808" N	88° 39' 9.637" E
	18	26° 48' 56.047" N	88° 39' 13.205" E
	19	26° 48' 53.155" N	88° 39' 21.547" E
JP_ML_CH_10	1	26° 48' 22.876" N	88° 40' 14.045" E
	2	26° 48' 22.790" N	88° 40' 13.947" E
	3	26° 48' 22.895" N	88° 40' 13.724" E
	4	26° 48' 25.489" N	88° 40' 3.342" E
	5	26° 48' 28.496" N	88° 39' 53.437" E
	6	26° 48' 30.168" N	88° 40' 3.651" E
	7	26° 48' 29.849" N	88° 40' 6.003" E
	8	26° 48' 27.197" N	88° 40' 12.192" E
JP_ML_CH_11	1	26° 47' 34.153" N	88° 41' 17.660" E
	2	26° 47' 33.644" N	88° 41' 17.738" E
	3	26° 47' 34.432" N	88° 41' 16.604" E
	4	26° 47' 42.400" N	88° 41' 10.999" E
	5	26° 47' 42.758" N	88° 41' 11.273" E
	6	26° 47' 43.017" N	88° 41' 12.580" E
	7	26° 47' 43.006" N	88° 41' 13.499" E
	8	26° 47' 42.371" N	88° 41' 14.870" E
	9	26° 47' 41.733" N	88° 41' 16.470" E
	10	26° 47' 40.418" N	88° 41' 17.140" E
	11	26° 47' 38.832" N	88° 41' 17.500" E
	12	26° 47' 37.592" N	88° 41' 17.635" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
JP_ML_CH_12	1	26° 47' 23.937" N	88° 41' 38.433" E
	2	26° 47' 23.830" N	88° 41' 32.152" E
	3	26° 47' 28.417" N	88° 41' 25.257" E
	4	26° 47' 32.643" N	88° 41' 19.177" E
	5	26° 47' 38.556" N	88° 41' 20.208" E
	6	26° 47' 37.419" N	88° 41' 25.460" E
	7	26° 47' 34.129" N	88° 41' 30.920" E
	8	26° 47' 28.917" N	88° 41' 35.393" E
JP_ML_CH_13	1	26° 47' 16.669" N	88° 41' 43.790" E
	2	26° 47' 16.586" N	88° 41' 43.040" E
	3	26° 47' 21.497" N	88° 41' 35.658" E
	4	26° 47' 21.692" N	88° 41' 37.158" E
	5	26° 47' 21.991" N	88° 41' 39.079" E
	6	26° 47' 21.640" N	88° 41' 41.468" E
	7	26° 47' 20.021" N	88° 41' 42.043" E
	8	26° 47' 17.865" N	88° 41' 42.610" E
JP_ML_CH_14	1	26° 46' 26.248" N	88° 42' 47.102" E
	2	26° 46' 23.673" N	88° 42' 46.834" E
	3	26° 46' 24.134" N	88° 42' 46.064" E
	4	26° 46' 24.666" N	88° 42' 44.731" E
	5	26° 46' 25.888" N	88° 42' 43.217" E
	6	26° 46' 27.883" N	88° 42' 41.714" E
	7	26° 46' 29.103" N	88° 42' 40.392" E
	8	26° 46' 29.504" N	88° 42' 39.528" E
	9	26° 46' 32.062" N	88° 42' 37.649" E
	10	26° 46' 33.438" N	88° 42' 37.391" E
	11	26° 46' 34.386" N	88° 42' 37.214" E
	12	26° 46' 36.622" N	88° 42' 37.152" E
	13	26° 46' 38.423" N	88° 42' 37.562" E
	14	26° 46' 39.788" N	88° 42' 38.444" E
	15	26° 46' 39.865" N	88° 42' 39.212" E
	16	26° 46' 37.612" N	88° 42' 40.615" E
	17	26° 46' 34.058" N	88° 42' 43.052" E
	18	26° 46' 32.151" N	88° 42' 44.269" E
	19	26° 46' 30.422" N	88° 42' 45.105" E
	20	26° 46' 28.261" N	88° 42' 46.030" E
	21	26° 46' 26.965" N	88° 42' 46.586" E
JP_ML_CH_15	1	26° 45' 46.661" N	88° 43' 3.135" E
	2	26° 45' 45.211" N	88° 43' 2.501" E
	3	26° 45' 45.473" N	88° 43' 2.384" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	4	26° 45' 47.539" N	88° 43' 0.380" E
	5	26° 45' 51.630" N	88° 42' 59.842" E
	6	26° 45' 57.256" N	88° 42' 59.626" E
	7	26° 45' 58.168" N	88° 43' 0.022" E
	8	26° 46' 1.580" N	88° 43' 2.229" E
	9	26° 46' 1.563" N	88° 43' 2.242" E
	10	26° 45' 52.982" N	88° 43' 3.435" E
	11	26° 45' 51.901" N	88° 43' 3.859" E
JP_ML_CH_16	1	26° 43' 57.703" N	88° 43' 55.259" E
	2	26° 43' 52.179" N	88° 43' 55.813" E
	3	26° 43' 52.625" N	88° 43' 54.390" E
	4	26° 43' 54.594" N	88° 43' 51.548" E
	5	26° 43' 56.972" N	88° 43' 50.387" E
	6	26° 44' 1.285" N	88° 43' 49.255" E
	7	26° 44' 5.209" N	88° 43' 44.766" E
	8	26° 44' 12.112" N	88° 43' 42.716" E
	9	26° 44' 24.129" N	88° 43' 44.334" E
	10	26° 44' 19.381" N	88° 43' 45.938" E
	11	26° 44' 14.635" N	88° 43' 47.303" E
	12	26° 44' 10.288" N	88° 43' 51.306" E
	13	26° 44' 9.297" N	88° 43' 52.179" E
	14	26° 44' 6.399" N	88° 43' 54.158" E
	15	26° 44' 3.822" N	88° 43' 54.528" E
	16	26° 44' 3.370" N	88° 43' 54.553" E
	17	26° 43' 59.290" N	88° 43' 54.252" E
JP_ML_CH_17	1	26° 42' 4.763" N	88° 44' 28.746" E
	2	26° 42' 0.193" N	88° 44' 23.030" E
	3	26° 42' 0.893" N	88° 44' 23.128" E
	4	26° 42' 1.803" N	88° 44' 23.716" E
	5	26° 42' 4.111" N	88° 44' 24.756" E
	6	26° 42' 8.752" N	88° 44' 24.970" E
	7	26° 42' 12.238" N	88° 44' 24.593" E
	8	26° 42' 15.594" N	88° 44' 24.356" E
	9	26° 42' 19.477" N	88° 44' 23.267" E
	10	26° 42' 22.305" N	88° 44' 22.170" E
	11	26° 42' 22.338" N	88° 44' 22.165" E
	12	26° 42' 23.868" N	88° 44' 22.759" E
	13	26° 42' 22.401" N	88° 44' 26.428" E
	14	26° 42' 15.398" N	88° 44' 29.810" E
	15	26° 42' 12.175" N	88° 44' 29.761" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	16	26° 42' 8.315" N	88° 44' 28.984" E
	17	26° 42' 7.014" N	88° 44' 29.469" E
JP_DG_JD_31	1	26° 39' 54.844" N	88° 52' 43.548" E
	2	26° 39' 53.797" N	88° 52' 42.427" E
	3	26° 40' 7.208" N	88° 52' 35.948" E
	4	26° 40' 28.735" N	88° 52' 33.430" E
	5	26° 40' 46.744" N	88° 52' 36.835" E
	6	26° 40' 55.011" N	88° 52' 41.285" E
	7	26° 40' 37.684" N	88° 52' 49.815" E
	8	26° 40' 10.541" N	88° 52' 41.427" E
JP_DG_JD_32	1	26° 39' 17.444" N	88° 52' 36.730" E
	2	26° 39' 15.679" N	88° 52' 33.231" E
	3	26° 39' 17.440" N	88° 52' 30.150" E
	4	26° 39' 21.782" N	88° 52' 26.872" E
	5	26° 39' 30.001" N	88° 52' 22.940" E
	6	26° 39' 37.513" N	88° 52' 23.780" E
	7	26° 39' 49.104" N	88° 52' 24.926" E
	8	26° 39' 56.895" N	88° 52' 21.944" E
	9	26° 40' 3.062" N	88° 52' 24.397" E
	10	26° 40' 11.405" N	88° 52' 27.404" E
	11	26° 39' 55.791" N	88° 52' 37.914" E
	12	26° 39' 44.329" N	88° 52' 43.229" E
	13	26° 39' 34.447" N	88° 52' 42.828" E
	14	26° 39' 30.383" N	88° 52' 41.326" E
	15	26° 39' 26.338" N	88° 52' 38.389" E
	16	26° 39' 22.521" N	88° 52' 34.499" E
JP_DG_JD_33	1	26° 38' 33.945" N	88° 53' 4.315" E
	2	26° 38' 32.356" N	88° 53' 4.005" E
	3	26° 38' 36.293" N	88° 52' 58.928" E
	4	26° 38' 40.003" N	88° 52' 54.683" E
	5	26° 38' 46.451" N	88° 52' 54.669" E
	6	26° 38' 52.477" N	88° 52' 47.164" E
	7	26° 38' 57.252" N	88° 52' 43.654" E
	8	26° 39' 3.709" N	88° 52' 43.042" E
	9	26° 38' 53.059" N	88° 52' 51.957" E
	10	26° 38' 49.265" N	88° 52' 59.507" E
JP_DG_JD_38	1	26° 36' 58.561" N	88° 53' 21.620" E
	2	26° 36' 58.565" N	88° 53' 21.306" E
	3	26° 36' 59.649" N	88° 53' 20.606" E
	4	26° 37' 2.120" N	88° 53' 20.647" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	5	26° 37' 2.771" N	88° 53' 20.179" E
	6	26° 37' 4.617" N	88° 53' 18.775" E
	7	26° 37' 9.574" N	88° 53' 17.323" E
	8	26° 37' 11.787" N	88° 53' 18.898" E
	9	26° 37' 13.006" N	88° 53' 17.858" E
	10	26° 37' 17.964" N	88° 53' 16.743" E
	11	26° 37' 23.450" N	88° 53' 21.019" E
	12	26° 37' 4.616" N	88° 53' 24.107" E
JP_DG_JD_46	1	26° 35' 22.611" N	88° 55' 36.429" E
	2	26° 35' 18.241" N	88° 55' 40.736" E
	3	26° 35' 17.394" N	88° 55' 40.354" E
	4	26° 35' 13.719" N	88° 55' 41.966" E
	5	26° 35' 8.090" N	88° 55' 44.979" E
	6	26° 35' 7.839" N	88° 55' 47.604" E
	7	26° 35' 5.007" N	88° 55' 50.426" E
	8	26° 35' 1.103" N	88° 55' 52.990" E
	9	26° 34' 58.095" N	88° 55' 52.939" E
	10	26° 34' 55.526" N	88° 55' 52.179" E
	11	26° 34' 55.125" N	88° 55' 50.021" E
	12	26° 34' 53.891" N	88° 55' 45.936" E
	13	26° 34' 54.721" N	88° 55' 45.366" E
	14	26° 35' 0.572" N	88° 55' 44.614" E
	15	26° 35' 3.180" N	88° 55' 42.506" E
	16	26° 35' 3.648" N	88° 55' 39.645" E
	17	26° 35' 3.038" N	88° 55' 35.453" E
	18	26° 35' 3.795" N	88° 55' 35.263" E
	19	26° 35' 3.572" N	88° 55' 29.365" E
	20	26° 35' 11.770" N	88° 55' 27.111" E
	21	26° 35' 19.128" N	88° 55' 23.409" E
	22	26° 35' 20.484" N	88° 55' 24.384" E
	23	26° 35' 19.761" N	88° 55' 29.221" E
	24	26° 35' 21.798" N	88° 55' 31.787" E
	25	26° 35' 21.876" N	88° 55' 36.068" E
JP_DG_JD_47	1	26° 34' 48.684" N	88° 55' 53.853" E
	2	26° 34' 46.415" N	88° 55' 54.771" E
	3	26° 34' 49.392" N	88° 56' 0.682" E
	4	26° 34' 48.718" N	88° 56' 4.636" E
	5	26° 34' 44.001" N	88° 56' 7.419" E
	6	26° 34' 42.848" N	88° 56' 7.743" E
	7	26° 34' 39.622" N	88° 56' 7.928" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	8	26° 34' 35.256" N	88° 56' 9.285" E
	9	26° 34' 34.827" N	88° 56' 9.277" E
	10	26° 34' 33.332" N	88° 56' 12.125" E
	11	26° 34' 31.170" N	88° 56' 13.044" E
	12	26° 34' 25.378" N	88° 56' 12.230" E
	13	26° 34' 15.900" N	88° 56' 13.744" E
	14	26° 34' 17.736" N	88° 56' 10.868" E
	15	26° 34' 17.944" N	88° 56' 10.720" E
	16	26° 34' 22.285" N	88° 56' 7.681" E
	17	26° 34' 23.646" N	88° 56' 2.252" E
	18	26° 34' 24.599" N	88° 55' 58.542" E
	19	26° 34' 25.358" N	88° 55' 57.888" E
	20	26° 34' 31.658" N	88° 55' 52.974" E
	21	26° 34' 36.101" N	88° 55' 54.598" E
	22	26° 34' 40.533" N	88° 55' 52.640" E
	23	26° 34' 44.745" N	88° 55' 51.157" E
	24	26° 34' 49.171" N	88° 55' 49.678" E
	25	26° 34' 50.221" N	88° 55' 51.488" E
JP_DG_JD_48	1	26° 33' 47.802" N	88° 56' 56.771" E
	2	26° 33' 46.343" N	88° 56' 53.400" E
	3	26° 33' 46.825" N	88° 56' 49.584" E
	4	26° 33' 48.414" N	88° 56' 43.396" E
	5	26° 33' 51.918" N	88° 56' 38.675" E
	6	26° 33' 53.346" N	88° 56' 35.999" E
	7	26° 33' 53.597" N	88° 56' 33.375" E
	8	26° 33' 57.177" N	88° 56' 30.925" E
	9	26° 33' 57.519" N	88° 56' 29.497" E
	10	26° 34' 0.546" N	88° 56' 28.114" E
	11	26° 34' 3.213" N	88° 56' 29.593" E
	12	26° 34' 3.294" N	88° 56' 31.507" E
	13	26° 34' 3.483" N	88° 56' 33.422" E
	14	26° 34' 4.875" N	88° 56' 33.804" E
	15	26° 34' 6.694" N	88° 56' 32.594" E
	16	26° 33' 51.394" N	88° 56' 54.347" E
	17	26° 33' 48.235" N	88° 56' 56.539" E
JP_DG_JD_51	1	26° 33' 6.502" N	88° 57' 29.446" E
	2	26° 33' 5.839" N	88° 57' 32.647" E
	3	26° 33' 6.525" N	88° 57' 42.753" E
	4	26° 33' 5.568" N	88° 57' 48.587" E
	5	26° 32' 58.070" N	88° 57' 57.407" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	6	26° 32' 54.474" N	88° 57' 56.117" E
	7	26° 32' 55.203" N	88° 57' 55.899" E
	8	26° 32' 57.136" N	88° 57' 52.873" E
	9	26° 32' 56.318" N	88° 57' 49.800" E
	10	26° 32' 55.829" N	88° 57' 47.880" E
	11	26° 32' 58.283" N	88° 57' 44.480" E
	12	26° 32' 58.317" N	88° 57' 41.995" E
	13	26° 32' 58.341" N	88° 57' 40.275" E
	14	26° 32' 56.360" N	88° 57' 33.420" E
	15	26° 33' 0.776" N	88° 57' 24.892" E
	16	26° 33' 4.224" N	88° 57' 24.233" E
	17	26° 33' 7.217" N	88° 57' 28.602" E
JP_DG_JD_52	1	26° 32' 54.341" N	88° 57' 52.036" E
	2	26° 32' 53.286" N	88° 57' 53.739" E
	3	26° 32' 50.834" N	88° 57' 53.841" E
	4	26° 32' 49.125" N	88° 57' 56.249" E
	5	26° 32' 48.231" N	88° 57' 57.426" E
	6	26° 32' 48.165" N	88° 57' 57.467" E
	7	26° 32' 48.142" N	88° 57' 57.544" E
	8	26° 32' 47.942" N	88° 57' 57.806" E
	9	26° 32' 45.207" N	88° 57' 59.767" E
	10	26° 32' 42.748" N	88° 58' 0.442" E
	11	26° 32' 39.644" N	88° 58' 1.095" E
	12	26° 32' 37.951" N	88° 57' 59.155" E
	13	26° 32' 36.705" N	88° 57' 56.027" E
	14	26° 32' 37.650" N	88° 57' 49.830" E
	15	26° 32' 37.485" N	88° 57' 46.242" E
	16	26° 32' 40.390" N	88° 57' 38.167" E
	17	26° 32' 47.276" N	88° 57' 37.567" E
	18	26° 32' 53.200" N	88° 57' 41.263" E
	19	26° 32' 53.787" N	88° 57' 45.431" E
	20	26° 32' 53.621" N	88° 57' 48.153" E
JP_DG_JD_53_54	1	26° 32' 38.026" N	88° 58' 38.132" E
	2	26° 32' 36.000" N	88° 58' 42.815" E
	3	26° 32' 36.408" N	88° 58' 43.922" E
	4	26° 32' 31.984" N	88° 58' 55.251" E
	5	26° 32' 31.742" N	88° 58' 55.475" E
	6	26° 32' 28.202" N	88° 59' 2.678" E
	7	26° 32' 24.451" N	88° 59' 12.745" E
	8	26° 32' 24.392" N	88° 59' 16.989" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	9	26° 32' 20.494" N	88° 59' 28.238" E
	10	26° 32' 20.725" N	88° 59' 37.514" E
	11	26° 32' 18.790" N	88° 59' 42.878" E
	12	26° 32' 17.971" N	88° 59' 42.289" E
	13	26° 32' 13.459" N	88° 59' 42.211" E
	14	26° 32' 9.486" N	88° 59' 34.257" E
	15	26° 32' 11.997" N	88° 59' 23.787" E
	16	26° 32' 17.384" N	88° 59' 20.060" E
	17	26° 32' 17.186" N	88° 59' 15.870" E
	18	26° 32' 17.429" N	88° 59' 13.742" E
	19	26° 32' 20.111" N	88° 59' 13.596" E
	20	26° 32' 23.285" N	88° 59' 7.915" E
	21	26° 32' 26.277" N	88° 58' 56.784" E
	22	26° 32' 27.038" N	88° 58' 48.800" E
	23	26° 32' 27.532" N	88° 58' 43.626" E
	24	26° 32' 26.272" N	88° 58' 44.750" E
	25	26° 32' 25.640" N	88° 58' 43.879" E
	26	26° 32' 27.736" N	88° 58' 41.478" E
	27	26° 32' 28.298" N	88° 58' 38.190" E
	28	26° 32' 27.659" N	88° 58' 37.749" E
	29	26° 32' 25.180" N	88° 58' 39.857" E
	30	26° 32' 24.813" N	88° 58' 38.417" E
	31	26° 32' 24.829" N	88° 58' 37.222" E
	32	26° 32' 26.957" N	88° 58' 35.719" E
	33	26° 32' 28.141" N	88° 58' 34.019" E
	34	26° 32' 28.972" N	88° 58' 29.875" E
	35	26° 32' 29.414" N	88° 58' 21.139" E
	36	26° 32' 29.942" N	88° 58' 19.442" E
	37	26° 32' 29.976" N	88° 58' 19.436" E
	38	26° 32' 32.047" N	88° 58' 18.898" E
	39	26° 32' 34.919" N	88° 58' 16.367" E
	40	26° 32' 35.627" N	88° 58' 11.791" E
	41	26° 32' 39.036" N	88° 58' 13.989" E
	42	26° 32' 41.567" N	88° 58' 11.261" E
	43	26° 32' 45.218" N	88° 58' 10.177" E
	44	26° 32' 45.273" N	88° 58' 16.344" E
	45	26° 32' 41.513" N	88° 58' 30.848" E
	46	26° 32' 38.943" N	88° 58' 37.431" E
JP_DG_JD_56	1	26° 31' 33.195" N	89° 1' 10.733" E
	2	26° 31' 20.200" N	89° 1' 32.257" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	3	26° 31' 19.947" N	89° 1' 32.540" E
	4	26° 31' 19.282" N	89° 1' 31.330" E
	5	26° 31' 18.273" N	89° 1' 29.783" E
	6	26° 31' 18.496" N	89° 1' 26.155" E
	7	26° 31' 20.629" N	89° 1' 21.223" E
	8	26° 31' 18.634" N	89° 1' 21.009" E
	9	26° 31' 23.642" N	89° 1' 11.255" E
	10	26° 31' 24.533" N	89° 1' 12.691" E
	11	26° 31' 27.545" N	89° 1' 6.436" E
	12	26° 31' 33.175" N	89° 0' 57.360" E
	13	26° 31' 39.265" N	89° 0' 52.305" E
	14	26° 31' 38.340" N	89° 0' 56.876" E
	15	26° 31' 37.538" N	89° 1' 3.753" E
JP_MG_JD_21_24_25_26	1	26° 43' 24.288" N	88° 52' 2.853" E
	2	26° 43' 19.927" N	88° 52' 7.568" E
	3	26° 43' 19.651" N	88° 52' 7.967" E
	4	26° 43' 14.848" N	88° 52' 10.725" E
	5	26° 43' 21.021" N	88° 52' 2.895" E
	6	26° 43' 23.073" N	88° 51' 57.806" E
	7	26° 43' 18.640" N	88° 51' 56.843" E
	8	26° 43' 14.933" N	88° 51' 57.644" E
	9	26° 43' 9.932" N	88° 51' 58.711" E
	10	26° 43' 8.211" N	88° 51' 59.380" E
	11	26° 43' 5.439" N	88° 52' 0.457" E
	12	26° 43' 2.097" N	88° 52' 3.639" E
	13	26° 42' 54.968" N	88° 52' 9.650" E
	14	26° 42' 52.719" N	88° 52' 10.666" E
	15	26° 42' 51.016" N	88° 52' 9.394" E
	16	26° 42' 53.801" N	88° 52' 2.852" E
	17	26° 42' 51.218" N	88° 52' 3.097" E
	18	26° 42' 53.392" N	88° 52' 1.218" E
	19	26° 42' 53.016" N	88° 51' 57.779" E
	20	26° 43' 0.388" N	88° 51' 52.874" E
	21	26° 43' 6.885" N	88° 51' 49.150" E
	22	26° 43' 8.955" N	88° 51' 47.036" E
	23	26° 43' 19.770" N	88° 51' 45.644" E
	24	26° 43' 27.992" N	88° 51' 51.758" E
	25	26° 43' 34.435" N	88° 51' 52.151" E
	26	26° 43' 38.417" N	88° 51' 53.364" E
	27	26° 43' 42.147" N	88° 51' 54.143" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	28	26° 43' 50.722" N	88° 51' 49.864" E
	29	26° 43' 58.072" N	88° 51' 46.633" E
	30	26° 44' 6.166" N	88° 51' 41.048" E
	31	26° 44' 8.796" N	88° 51' 39.788" E
	32	26° 44' 12.038" N	88° 51' 39.075" E
	33	26° 44' 13.478" N	88° 51' 39.405" E
	34	26° 44' 15.335" N	88° 51' 39.435" E
	35	26° 44' 18.102" N	88° 51' 38.254" E
	36	26° 44' 23.059" N	88° 51' 37.875" E
	37	26° 44' 28.148" N	88° 51' 37.882" E
	38	26° 44' 29.862" N	88° 51' 38.293" E
	39	26° 44' 31.639" N	88° 51' 39.164" E
	40	26° 44' 32.239" N	88° 51' 39.354" E
	41	26° 44' 31.840" N	88° 51' 42.591" E
	42	26° 44' 29.058" N	88° 51' 41.957" E
	43	26° 44' 27.197" N	88° 51' 42.233" E
	44	26° 44' 24.708" N	88° 51' 43.188" E
	45	26° 44' 21.258" N	88° 51' 44.051" E
	46	26° 44' 18.407" N	88° 51' 46.456" E
	47	26° 44' 14.682" N	88° 51' 47.238" E
	48	26° 44' 10.795" N	88° 51' 49.932" E
JP_MG_JD_22	1	26° 43' 57.945" N	88° 51' 30.086" E
	2	26° 43' 57.360" N	88° 51' 28.784" E
	3	26° 43' 57.539" N	88° 51' 28.261" E
	4	26° 43' 59.085" N	88° 51' 28.334" E
	5	26° 44' 1.241" N	88° 51' 27.842" E
	6	26° 44' 2.329" N	88° 51' 26.854" E
	7	26° 44' 2.973" N	88° 51' 26.379" E
	8	26° 44' 12.521" N	88° 51' 23.943" E
	9	26° 44' 13.334" N	88° 51' 24.768" E
	10	26° 44' 12.530" N	88° 51' 25.871" E
	11	26° 44' 10.527" N	88° 51' 27.754" E
	12	26° 44' 3.810" N	88° 51' 31.905" E
	13	26° 44' 1.790" N	88° 51' 31.872" E
	14	26° 43' 59.775" N	88° 51' 31.505" E
	15	26° 43' 58.578" N	88° 51' 30.959" E
JP_MG_JD_23	1	26° 43' 43.454" N	88° 51' 38.392" E
	2	26° 43' 43.303" N	88° 51' 41.741" E
	3	26° 43' 44.391" N	88° 51' 42.852" E
	4	26° 43' 39.832" N	88° 51' 44.421" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	5	26° 43' 36.546" N	88° 51' 42.391" E
	6	26° 43' 37.024" N	88° 51' 41.565" E
	7	26° 43' 37.833" N	88° 51' 38.898" E
	8	26° 43' 39.121" N	88° 51' 37.001" E
	9	26° 43' 45.595" N	88° 51' 32.419" E
	10	26° 43' 49.941" N	88° 51' 29.344" E
	11	26° 43' 51.569" N	88° 51' 29.033" E
	12	26° 43' 52.997" N	88° 51' 29.857" E
	13	26° 43' 54.614" N	88° 51' 31.128" E
	14	26° 43' 52.553" N	88° 51' 32.915" E
	15	26° 43' 47.774" N	88° 51' 36.787" E
JP_MG_JD_27	1	26° 41' 38.212" N	88° 52' 42.817" E
	2	26° 41' 37.610" N	88° 52' 41.582" E
	3	26° 41' 37.895" N	88° 52' 40.821" E
	4	26° 41' 39.635" N	88° 52' 39.242" E
	5	26° 41' 41.300" N	88° 52' 38.197" E
	6	26° 41' 43.788" N	88° 52' 37.243" E
	7	26° 41' 45.648" N	88° 52' 37.043" E
	8	26° 41' 48.893" N	88° 52' 36.101" E
	9	26° 41' 50.912" N	88° 52' 34.220" E
	10	26° 41' 53.487" N	88° 52' 31.965" E
	11	26° 41' 58.302" N	88° 52' 31.967" E
	12	26° 41' 59.809" N	88° 52' 32.375" E
	13	26° 42' 2.603" N	88° 52' 34.335" E
	14	26° 42' 5.752" N	88° 52' 35.458" E
	15	26° 42' 10.074" N	88° 52' 36.295" E
	16	26° 42' 14.959" N	88° 52' 36.449" E
	17	26° 42' 13.682" N	88° 52' 39.869" E
	18	26° 42' 10.430" N	88° 52' 40.589" E
	19	26° 42' 7.389" N	88° 52' 41.688" E
	20	26° 42' 6.145" N	88° 52' 42.204" E
	21	26° 42' 5.066" N	88° 52' 40.578" E
	22	26° 42' 3.002" N	88° 52' 40.621" E
	23	26° 41' 59.777" N	88° 52' 40.032" E
	24	26° 41' 57.997" N	88° 52' 39.390" E
	25	26° 41' 54.688" N	88° 52' 39.948" E
	26	26° 41' 49.521" N	88° 52' 40.629" E
	27	26° 41' 48.259" N	88° 52' 42.446" E
	28	26° 41' 44.396" N	88° 52' 43.302" E
	29	26° 41' 42.728" N	88° 52' 44.576" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	30	26° 41' 41.148" N	88° 52' 44.474" E
	31	26° 41' 40.466" N	88° 52' 44.003" E
	32	26° 41' 39.438" N	88° 52' 43.756" E
JP_MG_JD_28_29_30	1	26° 40' 56.670" N	88° 52' 19.308" E
	2	26° 40' 53.006" N	88° 52' 20.086" E
	3	26° 40' 50.729" N	88° 52' 21.604" E
	4	26° 40' 50.160" N	88° 52' 23.987" E
	5	26° 40' 50.667" N	88° 52' 26.268" E
	6	26° 40' 51.397" N	88° 52' 27.955" E
	7	26° 40' 53.741" N	88° 52' 29.548" E
	8	26° 40' 54.347" N	88° 52' 29.624" E
	9	26° 40' 59.960" N	88° 52' 30.391" E
	10	26° 41' 5.731" N	88° 52' 32.878" E
	11	26° 41' 10.083" N	88° 52' 35.719" E
	12	26° 41' 14.950" N	88° 52' 34.945" E
	13	26° 41' 20.249" N	88° 52' 34.027" E
	14	26° 41' 22.574" N	88° 52' 33.778" E
	15	26° 41' 22.147" N	88° 52' 36.786" E
	16	26° 41' 17.701" N	88° 52' 41.451" E
	17	26° 41' 13.309" N	88° 52' 40.530" E
	18	26° 41' 12.839" N	88° 52' 40.770" E
	19	26° 41' 3.645" N	88° 52' 37.034" E
	20	26° 40' 59.986" N	88° 52' 38.836" E
	21	26° 40' 57.748" N	88° 52' 35.140" E
	22	26° 40' 50.627" N	88° 52' 32.366" E
	23	26° 40' 49.525" N	88° 52' 31.394" E
	24	26° 40' 45.900" N	88° 52' 29.181" E
	25	26° 40' 44.840" N	88° 52' 28.087" E
	26	26° 40' 43.669" N	88° 52' 27.230" E
	27	26° 40' 41.306" N	88° 52' 27.192" E
	28	26° 40' 39.043" N	88° 52' 27.633" E
	29	26° 40' 39.700" N	88° 52' 26.687" E
	30	26° 40' 41.434" N	88° 52' 25.639" E
	31	26° 40' 41.776" N	88° 52' 24.089" E
	32	26° 40' 39.089" N	88° 52' 24.165" E
	33	26° 40' 34.897" N	88° 52' 24.216" E
	34	26° 40' 31.018" N	88° 52' 24.990" E
	35	26° 40' 27.325" N	88° 52' 27.317" E
	36	26° 40' 20.004" N	88° 52' 28.274" E
	37	26° 40' 17.880" N	88° 52' 25.357" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	38	26° 40' 14.059" N	88° 52' 21.706" E
	39	26° 40' 11.493" N	88° 52' 20.707" E
	40	26° 40' 9.401" N	88° 52' 16.367" E
	41	26° 40' 3.254" N	88° 52' 9.807" E
	42	26° 39' 58.163" N	88° 52' 4.700" E
	43	26° 39' 58.830" N	88° 52' 3.037" E
	44	26° 40' 3.361" N	88° 52' 1.675" E
	45	26° 40' 10.655" N	88° 52' 2.751" E
	46	26° 40' 16.419" N	88° 52' 5.716" E
	47	26° 40' 24.967" N	88° 52' 9.444" E
	48	26° 40' 34.242" N	88° 52' 6.963" E
	49	26° 40' 37.001" N	88° 52' 11.331" E
	50	26° 40' 39.041" N	88° 52' 11.484" E
	51	26° 40' 41.525" N	88° 52' 10.567" E
	52	26° 40' 43.790" N	88° 52' 9.886" E
	53	26° 40' 46.497" N	88° 52' 8.375" E
	54	26° 40' 49.512" N	88° 52' 7.946" E
	55	26° 40' 53.388" N	88° 52' 7.411" E
	56	26° 40' 57.802" N	88° 52' 6.765" E
	57	26° 41' 0.624" N	88° 52' 4.658" E
	58	26° 41' 3.350" N	88° 52' 1.711" E
	59	26° 41' 5.194" N	88° 52' 0.425" E
	60	26° 41' 7.486" N	88° 51' 57.711" E
	61	26° 41' 12.643" N	88° 51' 57.843" E
	62	26° 41' 14.779" N	88° 51' 58.835" E
	63	26° 41' 16.911" N	88° 52' 0.186" E
	64	26° 41' 19.369" N	88° 52' 1.183" E
	65	26° 41' 20.332" N	88° 52' 1.558" E
	66	26° 41' 22.277" N	88° 52' 0.752" E
	67	26° 41' 23.520" N	88° 51' 59.318" E
	68	26° 41' 29.122" N	88° 52' 1.186" E
	69	26° 41' 39.245" N	88° 52' 1.741" E
	70	26° 41' 39.415" N	88° 52' 1.894" E
	71	26° 41' 42.177" N	88° 52' 4.331" E
	72	26° 41' 46.690" N	88° 52' 4.405" E
	73	26° 41' 49.879" N	88° 52' 7.089" E
	74	26° 41' 53.702" N	88° 52' 10.502" E
	75	26° 41' 47.471" N	88° 52' 10.400" E
	76	26° 41' 43.628" N	88° 52' 8.423" E
	77	26° 41' 36.508" N	88° 52' 10.460" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	78	26° 41' 30.295" N	88° 52' 8.923" E
	79	26° 41' 26.661" N	88° 52' 7.428" E
	80	26° 41' 22.345" N	88° 52' 8.794" E
	81	26° 41' 19.272" N	88° 52' 8.551" E
	82	26° 41' 16.773" N	88° 52' 10.664" E
	83	26° 41' 15.142" N	88° 52' 12.073" E
	84	26° 41' 13.739" N	88° 52' 12.528" E
	85	26° 41' 10.927" N	88° 52' 13.918" E
	86	26° 41' 8.332" N	88° 52' 15.072" E
	87	26° 41' 6.485" N	88° 52' 16.597" E
	88	26° 41' 5.498" N	88° 52' 18.136" E
	89	26° 41' 3.884" N	88° 52' 18.230" E
	90	26° 41' 0.650" N	88° 52' 19.014" E
JP_MG_JD_32A	1	26° 39' 23.929" N	88° 52' 6.967" E
	2	26° 39' 21.857" N	88° 52' 7.651" E
	3	26° 39' 19.541" N	88° 52' 7.183" E
	4	26° 39' 18.409" N	88° 52' 5.012" E
	5	26° 39' 20.355" N	88° 52' 4.182" E
	6	26° 39' 20.768" N	88° 52' 2.179" E
	7	26° 39' 19.682" N	88° 52' 1.348" E
	8	26° 39' 22.567" N	88° 51' 59.835" E
	9	26° 39' 22.203" N	88° 52' 0.911" E
	10	26° 39' 30.690" N	88° 52' 2.772" E
	11	26° 39' 29.505" N	88° 52' 4.618" E
	12	26° 39' 26.276" N	88° 52' 4.996" E
JP_MG_JD_32B	1	26° 39' 3.590" N	88° 52' 3.094" E
	2	26° 39' 1.656" N	88° 51' 59.985" E
	3	26° 39' 12.596" N	88° 52' 1.499" E
	4	26° 39' 12.218" N	88° 52' 2.317" E
	5	26° 39' 8.322" N	88° 52' 4.406" E
JP_MG_JD_35	1	26° 37' 31.332" N	88° 52' 39.617" E
	2	26° 37' 30.197" N	88° 52' 36.676" E
	3	26° 37' 42.573" N	88° 52' 27.550" E
	4	26° 37' 48.869" N	88° 52' 25.214" E
	5	26° 37' 53.614" N	88° 52' 25.441" E
	6	26° 37' 52.985" N	88° 52' 27.535" E
	7	26° 37' 49.281" N	88° 52' 31.301" E
	8	26° 37' 46.879" N	88° 52' 34.132" E
	9	26° 37' 40.385" N	88° 52' 37.613" E
JP_MG_JD_36_37	1	26° 37' 15.977" N	88° 52' 48.254" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	2	26° 37' 15.756" N	88° 52' 47.324" E
	3	26° 37' 21.572" N	88° 52' 43.036" E
	4	26° 37' 20.742" N	88° 52' 45.462" E
JP_MG_JD_39	1	26° 36' 25.942" N	88° 53' 22.663" E
	2	26° 36' 25.881" N	88° 53' 22.636" E
	3	26° 36' 27.183" N	88° 53' 18.279" E
	4	26° 36' 28.269" N	88° 53' 18.340" E
	5	26° 36' 31.794" N	88° 53' 17.021" E
	6	26° 36' 35.119" N	88° 53' 15.239" E
	7	26° 36' 35.365" N	88° 53' 15.117" E
	8	26° 36' 41.544" N	88° 53' 14.560" E
	9	26° 36' 42.142" N	88° 53' 14.666" E
	10	26° 36' 45.750" N	88° 53' 14.779" E
	11	26° 36' 43.326" N	88° 53' 19.283" E
	12	26° 36' 42.861" N	88° 53' 21.905" E
	13	26° 36' 40.185" N	88° 53' 22.209" E
	14	26° 36' 37.278" N	88° 53' 23.538" E
	15	26° 36' 32.534" N	88° 53' 23.460" E
JP_MG_JD_40_41	1	26° 35' 47.903" N	88° 54' 21.490" E
	2	26° 35' 47.848" N	88° 54' 9.535" E
	3	26° 35' 48.650" N	88° 54' 1.605" E
	4	26° 35' 50.570" N	88° 53' 58.697" E
	5	26° 35' 56.186" N	88° 53' 55.289" E
	6	26° 35' 59.482" N	88° 53' 49.844" E
	7	26° 36' 2.965" N	88° 53' 46.554" E
	8	26° 36' 3.221" N	88° 53' 43.450" E
	9	26° 36' 10.579" N	88° 53' 41.220" E
	10	26° 36' 16.166" N	88° 53' 41.312" E
	11	26° 36' 25.665" N	88° 53' 38.121" E
	12	26° 36' 30.785" N	88° 53' 35.690" E
	13	26° 36' 31.688" N	88° 53' 36.268" E
	14	26° 36' 32.754" N	88° 53' 42.102" E
	15	26° 36' 31.598" N	88° 53' 43.745" E
	16	26° 36' 30.039" N	88° 53' 47.504" E
	17	26° 36' 23.101" N	88° 53' 51.668" E
	18	26° 36' 22.386" N	88° 53' 56.917" E
	19	26° 36' 21.867" N	88° 54' 3.603" E
	20	26° 36' 19.243" N	88° 54' 6.907" E
	21	26° 36' 12.730" N	88° 54' 11.820" E
	22	26° 36' 9.061" N	88° 54' 12.955" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	23	26° 36' 6.238" N	88° 54' 15.060" E
	24	26° 36' 2.566" N	88° 54' 16.434" E
	25	26° 35' 59.721" N	88° 54' 20.212" E
	26	26° 35' 57.976" N	88° 54' 22.096" E
	27	26° 35' 55.796" N	88° 54' 24.451" E
	28	26° 35' 53.637" N	88° 54' 25.132" E
	29	26° 35' 52.136" N	88° 54' 24.868" E
JP_MG_JD_42	1	26° 35' 50.173" N	88° 54' 26.987" E
	2	26° 35' 49.638" N	88° 54' 34.868" E
	3	26° 35' 49.599" N	88° 54' 37.737" E
	4	26° 35' 46.257" N	88° 54' 46.527" E
	5	26° 35' 45.604" N	88° 54' 46.516" E
	6	26° 35' 44.270" N	88° 54' 30.688" E
JP_MG_JD_44_45	1	26° 35' 30.433" N	88° 54' 42.000" E
	2	26° 35' 29.907" N	88° 54' 49.163" E
	3	26° 35' 30.702" N	88° 54' 53.958" E
	4	26° 35' 33.454" N	88° 54' 59.585" E
	5	26° 35' 31.788" N	88° 55' 1.948" E
	6	26° 35' 29.546" N	88° 55' 2.484" E
	7	26° 35' 27.349" N	88° 55' 5.986" E
	8	26° 35' 24.814" N	88° 55' 9.099" E
	9	26° 35' 16.939" N	88° 55' 12.889" E
	10	26° 35' 15.979" N	88° 55' 7.613" E
	11	26° 35' 16.137" N	88° 55' 6.147" E
	12	26° 35' 14.104" N	88° 54' 57.507" E
	13	26° 35' 18.983" N	88° 54' 46.352" E
	14	26° 35' 22.704" N	88° 54' 41.298" E
	15	26° 35' 32.383" N	88° 54' 24.819" E
	16	26° 35' 33.910" N	88° 54' 35.494" E
JP_MG_JD_49	1	26° 33' 43.554" N	88° 56' 37.339" E
	2	26° 33' 38.943" N	88° 56' 42.235" E
	3	26° 33' 39.318" N	88° 56' 47.028" E
	4	26° 33' 35.580" N	88° 56' 53.179" E
	5	26° 33' 30.712" N	88° 57' 3.373" E
	6	26° 33' 23.506" N	88° 57' 4.567" E
	7	26° 33' 17.241" N	88° 57' 10.006" E
	8	26° 33' 14.039" N	88° 57' 12.205" E
	9	26° 33' 11.104" N	88° 57' 7.512" E
	10	26° 33' 12.588" N	88° 57' 4.478" E
	11	26° 33' 13.771" N	88° 56' 59.718" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	12	26° 33' 12.779" N	88° 56' 55.939" E
	13	26° 33' 13.906" N	88° 56' 52.134" E
	14	26° 33' 17.426" N	88° 56' 50.221" E
	15	26° 33' 18.840" N	88° 56' 47.377" E
	16	26° 33' 19.915" N	88° 56' 43.315" E
	17	26° 33' 24.114" N	88° 56' 37.743" E
	18	26° 33' 27.421" N	88° 56' 36.789" E
	19	26° 33' 34.106" N	88° 56' 35.228" E
	20	26° 33' 34.284" N	88° 56' 35.391" E
	21	26° 33' 35.890" N	88° 56' 31.952" E
	22	26° 33' 46.090" N	88° 56' 24.715" E
	23	26° 33' 54.218" N	88° 56' 16.944" E
	24	26° 34' 2.214" N	88° 56' 17.040" E
	25	26° 34' 2.525" N	88° 56' 17.343" E
	26	26° 33' 55.789" N	88° 56' 22.727" E
	27	26° 33' 49.694" N	88° 56' 28.360" E
	28	26° 33' 47.041" N	88° 56' 33.813" E
JP_MG_JD_50	1	26° 32' 48.489" N	88° 57' 23.339" E
	2	26° 32' 44.372" N	88° 57' 25.779" E
	3	26° 32' 44.654" N	88° 57' 20.884" E
	4	26° 32' 46.956" N	88° 57' 17.578" E
	5	26° 32' 47.849" N	88° 57' 15.253" E
	6	26° 32' 53.979" N	88° 57' 6.892" E
	7	26° 32' 58.871" N	88° 57' 2.583" E
	8	26° 32' 59.412" N	88° 57' 2.614" E
	9	26° 32' 58.297" N	88° 57' 21.235" E
	10	26° 32' 55.591" N	88° 57' 22.623" E
JP_NK_JD_01	1	26° 55' 46.060" N	88° 52' 45.257" E
	2	26° 55' 42.190" N	88° 52' 45.336" E
	3	26° 55' 46.637" N	88° 52' 40.662" E
	4	26° 55' 52.846" N	88° 52' 39.183" E
	5	26° 55' 58.569" N	88° 52' 35.537" E
	6	26° 56' 9.307" N	88° 52' 32.305" E
	7	26° 56' 20.037" N	88° 52' 33.614" E
	8	26° 56' 22.996" N	88° 52' 33.975" E
	9	26° 56' 23.873" N	88° 52' 34.082" E
	10	26° 56' 27.210" N	88° 52' 33.680" E
	11	26° 56' 28.628" N	88° 52' 34.596" E
	12	26° 56' 22.752" N	88° 52' 40.110" E
	13	26° 56' 12.515" N	88° 52' 43.825" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	14	26° 56' 11.628" N	88° 52' 42.659" E
	15	26° 56' 5.056" N	88° 52' 42.262" E
	16	26° 56' 1.691" N	88° 52' 43.214" E
	17	26° 56' 1.406" N	88° 52' 45.223" E
	18	26° 55' 56.107" N	88° 52' 46.143" E
	19	26° 55' 50.947" N	88° 52' 46.201" E
JP_NK_JD_01A	1	26° 55' 37.354" N	88° 52' 51.778" E
	2	26° 55' 36.390" N	88° 52' 51.522" E
	3	26° 55' 38.483" N	88° 52' 47.721" E
	4	26° 55' 41.818" N	88° 52' 47.416" E
	5	26° 55' 39.522" N	88° 52' 50.375" E
JP_NK_JD_02	1	26° 55' 14.184" N	88° 53' 7.677" E
	2	26° 55' 13.130" N	88° 53' 6.101" E
	3	26° 55' 16.057" N	88° 53' 4.232" E
	4	26° 55' 17.609" N	88° 53' 0.661" E
	5	26° 55' 18.597" N	88° 52' 59.119" E
	6	26° 55' 21.303" N	88° 52' 57.605" E
	7	26° 55' 25.407" N	88° 52' 56.115" E
	8	26° 55' 29.193" N	88° 52' 54.259" E
	9	26° 55' 31.800" N	88° 52' 52.145" E
	10	26° 55' 34.299" N	88° 52' 50.148" E
	11	26° 55' 34.666" N	88° 52' 54.830" E
	12	26° 55' 34.703" N	88° 52' 56.108" E
	13	26° 55' 32.457" N	88° 52' 58.215" E
	14	26° 55' 28.399" N	88° 53' 2.751" E
	15	26° 55' 26.224" N	88° 53' 4.812" E
	16	26° 55' 15.803" N	88° 53' 7.104" E
JP_NK_JD_03	1	26° 55' 11.732" N	88° 53' 14.230" E
	2	26° 55' 10.443" N	88° 53' 14.208" E
	3	26° 55' 12.521" N	88° 53' 11.486" E
	4	26° 55' 18.052" N	88° 53' 7.741" E
	5	26° 55' 22.361" N	88° 53' 6.974" E
	6	26° 55' 22.651" N	88° 53' 9.376" E
	7	26° 55' 21.559" N	88° 53' 10.677" E
	8	26° 55' 20.050" N	88° 53' 11.011" E
	9	26° 55' 18.010" N	88° 53' 10.858" E
	10	26° 55' 14.983" N	88° 53' 12.246" E
JP_NK_JD_04	1	26° 55' 6.794" N	88° 53' 24.545" E
	2	26° 55' 6.473" N	88° 53' 19.649" E
	3	26° 55' 8.961" N	88° 53' 16.813" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	4	26° 55' 18.020" N	88° 53' 14.374" E
	5	26° 55' 13.044" N	88° 53' 20.046" E
	6	26° 55' 9.654" N	88° 53' 22.866" E
JP_NK_JD_04A	1	26° 54' 20.842" N	88° 53' 49.671" E
	2	26° 54' 19.511" N	88° 53' 49.513" E
	3	26° 54' 23.523" N	88° 53' 46.848" E
	4	26° 54' 32.869" N	88° 53' 42.343" E
	5	26° 54' 35.241" N	88° 53' 44.242" E
JP_NK_JD_05	1	26° 54' 4.495" N	88° 53' 44.795" E
	2	26° 54' 3.240" N	88° 53' 42.185" E
	3	26° 54' 6.178" N	88° 53' 44.247" E
	4	26° 54' 8.228" N	88° 53' 45.288" E
	5	26° 54' 11.445" N	88° 53' 45.774" E
	6	26° 54' 15.063" N	88° 53' 45.259" E
	7	26° 54' 17.124" N	88° 53' 45.437" E
	8	26° 54' 18.036" N	88° 53' 44.733" E
	9	26° 54' 19.862" N	88° 53' 43.181" E
	10	26° 54' 21.927" N	88° 53' 43.072" E
	11	26° 54' 22.435" N	88° 53' 43.656" E
	12	26° 54' 18.130" N	88° 53' 47.324" E
	13	26° 54' 15.144" N	88° 53' 48.993" E
	14	26° 54' 8.843" N	88° 53' 48.242" E
	15	26° 54' 7.427" N	88° 53' 47.289" E
	16	26° 54' 6.009" N	88° 53' 47.265" E
JP_NK_JD_06	1	26° 52' 6.292" N	88° 53' 26.972" E
	2	26° 52' 4.960" N	88° 53' 23.690" E
	3	26° 52' 7.182" N	88° 53' 24.686" E
	4	26° 52' 8.408" N	88° 53' 25.600" E
	5	26° 52' 9.250" N	88° 53' 26.421" E
	6	26° 52' 12.249" N	88° 53' 28.703" E
	7	26° 52' 15.984" N	88° 53' 30.767" E
	8	26° 52' 18.084" N	88° 53' 32.345" E
	9	26° 52' 20.806" N	88° 53' 34.499" E
	10	26° 52' 23.882" N	88° 53' 35.892" E
	11	26° 52' 26.787" N	88° 53' 37.283" E
	12	26° 52' 26.579" N	88° 53' 39.964" E
	13	26° 52' 23.639" N	88° 53' 41.257" E
	14	26° 52' 22.879" N	88° 53' 43.048" E
	15	26° 52' 16.285" N	88° 53' 38.963" E
	16	26° 52' 16.169" N	88° 53' 38.918" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	17	26° 52' 13.902" N	88° 53' 36.493" E
JP_NK_JD_07	1	26° 50' 15.605" N	88° 52' 58.386" E
	2	26° 50' 14.787" N	88° 52' 55.306" E
	3	26° 50' 21.337" N	88° 52' 54.072" E
	4	26° 50' 26.810" N	88° 52' 56.271" E
	5	26° 50' 32.791" N	88° 52' 59.054" E
	6	26° 50' 39.123" N	88° 53' 1.267" E
	7	26° 50' 44.614" N	88° 53' 2.125" E
	8	26° 50' 50.284" N	88° 53' 2.410" E
	9	26° 50' 52.484" N	88° 53' 2.843" E
	10	26° 50' 57.509" N	88° 53' 2.146" E
	11	26° 51' 3.703" N	88° 53' 1.866" E
	12	26° 51' 6.269" N	88° 53' 2.867" E
	13	26° 51' 8.804" N	88° 53' 6.167" E
	14	26° 51' 13.728" N	88° 53' 10.850" E
	15	26° 51' 20.478" N	88° 53' 7.511" E
	16	26° 51' 28.483" N	88° 53' 8.969" E
	17	26° 51' 31.808" N	88° 53' 8.378" E
	18	26° 51' 43.767" N	88° 53' 14.136" E
	19	26° 51' 51.633" N	88° 53' 12.694" E
	20	26° 51' 56.409" N	88° 53' 18.179" E
	21	26° 51' 53.972" N	88° 53' 19.535" E
	22	26° 51' 51.991" N	88° 53' 20.637" E
	23	26° 51' 46.055" N	88° 53' 20.941" E
	24	26° 51' 43.167" N	88° 53' 20.893" E
	25	26° 51' 42.948" N	88° 53' 18.013" E
	26	26° 51' 39.582" N	88° 53' 18.476" E
	27	26° 51' 36.016" N	88° 53' 15.158" E
	28	26° 51' 29.422" N	88° 53' 11.021" E
	29	26° 51' 25.539" N	88° 53' 12.155" E
	30	26° 51' 22.084" N	88° 53' 13.296" E
	31	26° 51' 17.434" N	88° 53' 15.495" E
	32	26° 51' 11.510" N	88° 53' 16.475" E
	33	26° 51' 8.932" N	88° 53' 16.432" E
	34	26° 50' 59.652" N	88° 53' 19.861" E
	35	26° 50' 40.362" N	88° 53' 20.843" E
	36	26° 50' 38.634" N	88° 53' 19.499" E
	37	26° 50' 29.959" N	88° 53' 17.983" E
	38	26° 50' 28.430" N	88° 53' 16.616" E
	39	26° 50' 27.101" N	88° 53' 13.143" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	40	26° 50' 23.729" N	88° 53' 8.104" E
	41	26° 50' 21.027" N	88° 53' 4.417" E
	42	26° 50' 18.151" N	88° 53' 0.920" E
JP_NK_JD_08	1	26° 51' 14.668" N	88° 53' 22.551" E
	2	26° 51' 8.416" N	88° 53' 19.531" E
	3	26° 51' 11.727" N	88° 53' 19.060" E
	4	26° 51' 23.976" N	88° 53' 16.004" E
	5	26° 51' 30.339" N	88° 53' 15.918" E
	6	26° 51' 35.304" N	88° 53' 17.534" E
	7	26° 51' 39.014" N	88° 53' 22.964" E
	8	26° 51' 37.261" N	88° 53' 25.427" E
	9	26° 51' 30.698" N	88° 53' 27.618" E
	10	26° 51' 24.374" N	88° 53' 24.829" E
	11	26° 51' 22.352" N	88° 53' 21.728" E
JP_NK_JD_09	1	26° 50' 0.522" N	88° 53' 20.561" E
	2	26° 49' 58.695" N	88° 53' 15.739" E
	3	26° 49' 59.735" N	88° 53' 15.181" E
	4	26° 50' 2.831" N	88° 53' 15.041" E
	5	26° 50' 6.080" N	88° 53' 16.437" E
	6	26° 50' 9.166" N	88° 53' 17.063" E
	7	26° 50' 14.126" N	88° 53' 19.062" E
	8	26° 50' 18.729" N	88° 53' 22.013" E
	9	26° 50' 21.151" N	88° 53' 20.903" E
	10	26° 50' 22.183" N	88° 53' 20.921" E
	11	26° 50' 24.071" N	88° 53' 21.144" E
	12	26° 50' 31.465" N	88° 53' 21.075" E
	13	26° 50' 35.669" N	88° 53' 22.015" E
	14	26° 50' 28.926" N	88° 53' 24.668" E
	15	26° 50' 21.996" N	88° 53' 26.489" E
	16	26° 50' 21.256" N	88° 53' 25.889" E
	17	26° 50' 17.303" N	88° 53' 25.823" E
	18	26° 50' 12.145" N	88° 53' 25.737" E
	19	26° 50' 5.811" N	88° 53' 23.715" E
JP_NK_JD_10	1	26° 49' 59.136" N	88° 53' 8.463" E
	2	26° 49' 55.916" N	88° 53' 4.960" E
	3	26° 49' 58.033" N	88° 53' 0.970" E
	4	26° 50' 4.608" N	88° 52' 57.821" E
	5	26° 50' 10.797" N	88° 52' 57.923" E
	6	26° 50' 15.023" N	88° 53' 3.360" E
	7	26° 50' 18.590" N	88° 53' 6.677" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	8	26° 50' 16.496" N	88° 53' 8.943" E
	9	26° 50' 11.003" N	88° 53' 8.277" E
	10	26° 50' 5.818" N	88° 53' 10.299" E
	11	26° 50' 2.192" N	88° 53' 11.389" E
JP_NK_JD_11	1	26° 49' 25.784" N	88° 53' 8.103" E
	2	26° 49' 21.720" N	88° 53' 3.436" E
	3	26° 49' 29.661" N	88° 53' 1.076" E
	4	26° 49' 35.505" N	88° 53' 1.172" E
	5	26° 49' 41.314" N	88° 53' 3.952" E
	6	26° 49' 46.279" N	88° 53' 5.567" E
	7	26° 49' 51.785" N	88° 53' 5.275" E
	8	26° 49' 55.013" N	88° 53' 8.203" E
	9	26° 49' 56.851" N	88° 53' 12.259" E
	10	26° 49' 52.017" N	88° 53' 13.712" E
	11	26° 49' 47.067" N	88° 53' 10.947" E
	12	26° 49' 40.717" N	88° 53' 10.075" E
	13	26° 49' 37.789" N	88° 53' 10.410" E
	14	26° 49' 34.351" N	88° 53' 10.353" E
	15	26° 49' 30.575" N	88° 53' 9.907" E
	16	26° 49' 27.485" N	88° 53' 9.472" E
JP_NK_JD_11A	1	26° 49' 10.844" N	88° 53' 10.110" E
	2	26° 49' 10.635" N	88° 53' 9.627" E
	3	26° 49' 11.618" N	88° 53' 8.446" E
	4	26° 49' 13.688" N	88° 53' 6.324" E
	5	26° 49' 15.860" N	88° 53' 4.683" E
	6	26° 49' 17.059" N	88° 53' 3.385" E
	7	26° 49' 18.769" N	88° 53' 4.132" E
	8	26° 49' 20.792" N	88° 53' 5.483" E
	9	26° 49' 19.486" N	88° 53' 6.779" E
	10	26° 49' 17.341" N	88° 53' 6.384" E
	11	26° 49' 15.513" N	88° 53' 6.474" E
	12	26° 49' 13.453" N	88° 53' 7.877" E
JP_NK_JD_12	1	26° 48' 57.800" N	88° 53' 17.796" E
	2	26° 48' 54.564" N	88° 53' 15.443" E
	3	26° 48' 55.947" N	88° 53' 14.891" E
	4	26° 49' 0.268" N	88° 53' 13.238" E
	5	26° 49' 3.380" N	88° 53' 11.948" E
	6	26° 49' 8.378" N	88° 53' 11.072" E
	7	26° 49' 8.353" N	88° 53' 12.988" E
	8	26° 49' 7.111" N	88° 53' 15.842" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	9	26° 49' 2.960" N	88° 53' 17.690" E
JP_NK_JD_13	1	26° 48' 47.385" N	88° 53' 12.258" E
	2	26° 48' 42.107" N	88° 53' 8.338" E
	3	26° 48' 43.326" N	88° 53' 7.208" E
	4	26° 48' 47.626" N	88° 53' 7.088" E
	5	26° 48' 51.590" N	88° 53' 6.387" E
	6	26° 48' 53.668" N	88° 53' 5.271" E
	7	26° 48' 56.437" N	88° 53' 3.976" E
	8	26° 49' 0.942" N	88° 53' 1.367" E
	9	26° 49' 4.039" N	88° 53' 1.227" E
	10	26° 49' 7.823" N	88° 53' 1.098" E
	11	26° 49' 8.991" N	88° 53' 3.800" E
	12	26° 49' 4.812" N	88° 53' 7.755" E
	13	26° 48' 57.186" N	88° 53' 12.228" E
	14	26° 48' 52.363" N	88° 53' 12.915" E
JP_NK_JD_14	1	26° 48' 16.417" N	88° 53' 13.661" E
	2	26° 48' 12.653" N	88° 53' 12.257" E
	3	26° 48' 21.337" N	88° 53' 5.695" E
	4	26° 48' 29.255" N	88° 53' 5.059" E
	5	26° 48' 35.257" N	88° 53' 6.308" E
	6	26° 48' 46.824" N	88° 53' 15.698" E
	7	26° 48' 42.136" N	88° 53' 19.069" E
	8	26° 48' 30.385" N	88° 53' 23.473" E
	9	26° 48' 26.962" N	88° 53' 22.267" E
	10	26° 48' 23.229" N	88° 53' 18.564" E
	11	26° 48' 20.530" N	88° 53' 14.687" E
JP_NK_JD_15	1	26° 47' 35.222" N	88° 53' 5.213" E
	2	26° 47' 22.848" N	88° 53' 2.545" E
	3	26° 47' 29.531" N	88° 53' 2.515" E
	4	26° 47' 37.106" N	88° 52' 58.569" E
	5	26° 47' 42.719" N	88° 52' 56.745" E
	6	26° 47' 53.627" N	88° 53' 0.758" E
	7	26° 47' 59.593" N	88° 53' 4.688" E
	8	26° 48' 2.543" N	88° 53' 9.048" E
	9	26° 48' 2.341" N	88° 53' 9.307" E
	10	26° 47' 54.980" N	88° 53' 6.402" E
	11	26° 47' 46.700" N	88° 53' 5.904" E
	12	26° 47' 42.617" N	88° 53' 4.408" E
	13	26° 47' 39.502" N	88° 53' 5.471" E
JP_NK_JD_16_17	1	26° 46' 40.884" N	88° 52' 13.549" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	2	26° 46' 36.747" N	88° 52' 9.360" E
	3	26° 46' 37.573" N	88° 52' 9.694" E
	4	26° 46' 42.904" N	88° 52' 12.894" E
	5	26° 46' 45.821" N	88° 52' 19.886" E
	6	26° 46' 48.974" N	88° 52' 25.206" E
	7	26° 46' 52.169" N	88° 52' 27.414" E
	8	26° 46' 58.331" N	88° 52' 32.784" E
	9	26° 47' 9.182" N	88° 52' 41.105" E
	10	26° 47' 14.738" N	88° 52' 47.687" E
	11	26° 47' 17.447" N	88° 52' 48.562" E
	12	26° 47' 20.182" N	88° 52' 49.757" E
	13	26° 47' 22.725" N	88° 52' 52.481" E
	14	26° 47' 25.804" N	88° 52' 53.681" E
	15	26° 47' 30.228" N	88° 52' 57.203" E
	16	26° 47' 26.751" N	88° 53' 0.019" E
	17	26° 47' 23.134" N	88° 53' 0.534" E
	18	26° 47' 16.310" N	88° 53' 1.135" E
	19	26° 47' 11.647" N	88° 53' 0.130" E
	20	26° 46' 51.855" N	88° 52' 42.082" E
	21	26° 46' 50.010" N	88° 52' 32.090" E
	22	26° 46' 43.124" N	88° 52' 26.230" E
JP_NK_JD_18	1	26° 46' 9.997" N	88° 51' 49.194" E
	2	26° 45' 52.091" N	88° 51' 49.161" E
	3	26° 45' 57.916" N	88° 51' 45.340" E
	4	26° 46' 4.407" N	88° 51' 42.093" E
	5	26° 46' 9.792" N	88° 51' 41.223" E
	6	26° 46' 14.715" N	88° 51' 42.740" E
	7	26° 46' 17.240" N	88° 51' 46.852" E
	8	26° 46' 23.733" N	88° 51' 57.111" E
	9	26° 46' 15.598" N	88° 51' 54.745" E
JP_NK_JD_19	1	26° 45' 43.284" N	88° 51' 53.834" E
	2	26° 45' 34.244" N	88° 51' 52.090" E
	3	26° 45' 36.054" N	88° 51' 51.673" E
	4	26° 45' 40.018" N	88° 51' 50.971" E
	5	26° 45' 44.233" N	88° 51' 50.753" E
	6	26° 45' 44.596" N	88° 51' 52.939" E
JP_NK_JD_20	1	26° 45' 5.761" N	88° 51' 50.675" E
	2	26° 45' 2.923" N	88° 51' 50.725" E
	3	26° 45' 0.259" N	88° 51' 50.681" E
	4	26° 44' 59.896" N	88° 51' 50.456" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	5	26° 44' 55.523" N	88° 51' 50.068" E
	6	26° 44' 55.779" N	88° 51' 46.960" E
	7	26° 45' 0.137" N	88° 51' 42.482" E
	8	26° 45' 4.673" N	88° 51' 38.795" E
	9	26° 45' 4.388" N	88° 51' 37.438" E
	10	26° 45' 5.844" N	88° 51' 37.844" E
	11	26° 45' 7.803" N	88° 51' 39.217" E
	12	26° 45' 8.888" N	88° 51' 41.725" E
	13	26° 45' 8.865" N	88° 51' 43.448" E
	14	26° 45' 9.538" N	88° 51' 44.608" E
	15	26° 45' 12.114" N	88° 51' 44.842" E
	16	26° 45' 15.451" N	88° 51' 46.045" E
	17	26° 45' 19.299" N	88° 51' 47.640" E
	18	26° 45' 21.266" N	88° 51' 48.438" E
	19	26° 45' 23.747" N	88° 51' 49.341" E
	20	26° 45' 25.893" N	88° 51' 49.567" E
	21	26° 45' 28.128" N	88° 51' 49.604" E
	22	26° 45' 31.651" N	88° 51' 49.757" E
	23	26° 45' 31.381" N	88° 51' 50.710" E
	24	26° 45' 26.997" N	88° 51' 50.639" E
	25	26° 45' 26.801" N	88° 51' 50.654" E
	26	26° 45' 24.847" N	88° 51' 50.277" E
	27	26° 45' 22.374" N	88° 51' 50.414" E
	28	26° 45' 21.929" N	88° 51' 50.269" E
	29	26° 45' 18.409" N	88° 51' 49.924" E
	30	26° 45' 14.109" N	88° 51' 50.045" E
	31	26° 45' 11.610" N	88° 51' 50.484" E
	32	26° 45' 10.149" N	88° 51' 50.460" E
	33	26° 45' 7.392" N	88° 51' 50.894" E
JP_NK_JD_26A	1	26° 42' 53.260" N	88° 52' 13.304" E
	2	26° 42' 40.561" N	88° 52' 16.538" E
	3	26° 42' 44.551" N	88° 52' 12.344" E
	4	26° 42' 51.737" N	88° 52' 12.462" E
JP_NK_JD1_01	1	26° 54' 8.263" N	89° 4' 30.503" E
	2	26° 53' 44.909" N	89° 3' 29.992" E
	3	26° 53' 42.665" N	89° 3' 26.738" E
	4	26° 53' 43.592" N	89° 3' 23.175" E
	5	26° 53' 39.517" N	89° 3' 19.650" E
	6	26° 53' 34.849" N	89° 3' 15.402" E
	7	26° 53' 27.253" N	89° 3' 4.384" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	8	26° 53' 25.024" N	89° 2' 59.446" E
	9	26° 53' 23.758" N	89° 2' 52.215" E
	10	26° 53' 21.901" N	89° 2' 31.572" E
	11	26° 53' 0.900" N	89° 2' 12.500" E
	12	26° 52' 38.713" N	89° 2' 1.077" E
	13	26° 52' 37.096" N	89° 1' 59.023" E
	14	26° 52' 41.991" N	89° 2' 0.606" E
	15	26° 52' 48.243" N	89° 1' 59.280" E
	16	26° 52' 46.160" N	89° 1' 54.689" E
	17	26° 52' 42.845" N	89° 1' 42.466" E
	18	26° 52' 43.410" N	89° 1' 8.978" E
	19	26° 52' 30.812" N	89° 0' 55.410" E
	20	26° 52' 24.258" N	89° 0' 52.073" E
	21	26° 52' 19.134" N	89° 0' 49.681" E
	22	26° 52' 13.446" N	89° 0' 43.369" E
	23	26° 52' 5.975" N	89° 0' 31.964" E
	24	26° 51' 59.122" N	89° 0' 20.570" E
	25	26° 51' 56.183" N	89° 0' 20.387" E
	26	26° 51' 55.950" N	89° 0' 36.742" E
	27	26° 52' 6.727" N	89° 0' 52.653" E
	28	26° 52' 14.988" N	89° 1' 16.189" E
	29	26° 52' 15.650" N	89° 1' 16.889" E
	30	26° 52' 15.254" N	89° 1' 21.784" E
	31	26° 52' 16.051" N	89° 1' 26.112" E
	32	26° 52' 18.384" N	89° 1' 28.311" E
	33	26° 52' 20.942" N	89° 1' 29.794" E
	34	26° 52' 24.117" N	89° 1' 33.206" E
	35	26° 52' 28.550" N	89° 1' 38.797" E
	36	26° 52' 30.183" N	89° 1' 44.817" E
	37	26° 52' 32.580" N	89° 1' 53.286" E
	38	26° 52' 10.008" N	89° 1' 24.617" E
	39	26° 51' 54.608" N	89° 0' 49.356" E
	40	26° 51' 49.068" N	89° 0' 15.709" E
	41	26° 51' 45.470" N	89° 0' 11.812" E
	42	26° 51' 40.879" N	89° 0' 7.929" E
	43	26° 51' 40.688" N	89° 0' 7.163" E
	44	26° 51' 38.183" N	89° 0' 5.649" E
	45	26° 51' 26.630" N	88° 59' 55.879" E
	46	26° 51' 30.956" N	88° 59' 55.030" E
	47	26° 51' 36.158" N	88° 59' 51.584" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	48	26° 51' 41.707" N	88° 59' 54.317" E
	49	26° 51' 49.188" N	89° 0' 4.322" E
	50	26° 51' 54.382" N	89° 0' 9.877" E
	51	26° 52' 0.425" N	89° 0' 15.992" E
	52	26° 52' 6.806" N	89° 0' 17.025" E
	53	26° 52' 11.710" N	89° 0' 17.111" E
	54	26° 52' 17.135" N	89° 0' 21.860" E
	55	26° 52' 49.229" N	89° 1' 8.156" E
	56	26° 53' 17.583" N	89° 1' 43.701" E
	57	26° 53' 19.183" N	89° 1' 46.659" E
	58	26° 53' 21.758" N	89° 1' 48.935" E
	59	26° 53' 29.231" N	89° 1' 58.305" E
	60	26° 53' 31.750" N	89° 2' 2.301" E
	61	26° 53' 36.611" N	89° 2' 8.601" E
	62	26° 53' 35.796" N	89° 2' 22.163" E
	63	26° 53' 46.535" N	89° 2' 35.702" E
	64	26° 53' 52.427" N	89° 2' 42.021" E
	65	26° 53' 53.554" N	89° 2' 49.635" E
	66	26° 53' 53.411" N	89° 2' 59.528" E
	67	26° 53' 57.463" N	89° 3' 4.663" E
	68	26° 53' 59.688" N	89° 3' 7.695" E
	69	26° 54' 2.722" N	89° 3' 11.892" E
	70	26° 54' 4.105" N	89° 3' 16.059" E
	71	26° 54' 1.449" N	89° 3' 28.437" E
	72	26° 54' 1.366" N	89° 3' 34.189" E
	73	26° 53' 57.522" N	89° 3' 46.219" E
	74	26° 53' 58.304" N	89° 3' 51.823" E
	75	26° 54' 4.994" N	89° 4' 4.601" E
	76	26° 54' 8.889" N	89° 4' 20.397" E
	77	26° 54' 10.529" N	89° 4' 25.797" E
JP_NK_JD1_02	1	26° 50' 57.174" N	88° 59' 21.842" E
	2	26° 50' 48.805" N	88° 59' 5.315" E
	3	26° 50' 45.355" N	88° 58' 56.628" E
	4	26° 50' 42.465" N	88° 58' 52.797" E
	5	26° 50' 42.117" N	88° 58' 52.109" E
	6	26° 50' 37.161" N	88° 58' 37.647" E
	7	26° 50' 23.282" N	88° 58' 23.800" E
	8	26° 50' 23.450" N	88° 58' 22.504" E
	9	26° 50' 26.135" N	88° 58' 14.884" E
	10	26° 50' 25.118" N	88° 58' 10.793" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	11	26° 50' 21.833" N	88° 57' 59.715" E
	12	26° 50' 17.206" N	88° 57' 52.448" E
	13	26° 50' 13.511" N	88° 57' 39.926" E
	14	26° 50' 5.406" N	88° 57' 19.902" E
	15	26° 49' 54.683" N	88° 57' 2.708" E
	16	26° 49' 39.917" N	88° 56' 53.832" E
	17	26° 49' 38.327" N	88° 56' 50.889" E
	18	26° 49' 5.449" N	88° 56' 19.186" E
	19	26° 48' 14.661" N	88° 56' 0.359" E
	20	26° 48' 0.695" N	88° 55' 57.721" E
	21	26° 48' 1.784" N	88° 55' 48.923" E
	22	26° 48' 2.295" N	88° 55' 42.944" E
	23	26° 48' 5.367" N	88° 55' 41.147" E
	24	26° 48' 8.773" N	88° 55' 43.583" E
	25	26° 48' 32.339" N	88° 55' 55.479" E
	26	26° 49' 4.492" N	88° 56' 1.773" E
	27	26° 49' 20.801" N	88° 56' 16.136" E
	28	26° 49' 57.466" N	88° 56' 50.683" E
	29	26° 50' 25.851" N	88° 57' 25.789" E
	30	26° 50' 31.605" N	88° 57' 34.012" E
	31	26° 50' 43.336" N	88° 58' 7.948" E
	32	26° 50' 52.044" N	88° 58' 30.074" E
	33	26° 50' 51.914" N	88° 58' 30.242" E
	34	26° 50' 53.639" N	88° 58' 36.023" E
	35	26° 50' 55.140" N	88° 58' 37.942" E
	36	26° 51' 4.755" N	88° 59' 2.375" E
	37	26° 51' 10.402" N	88° 59' 10.022" E
	38	26° 51' 10.676" N	88° 59' 11.686" E
	39	26° 51' 17.452" N	88° 59' 25.031" E
	40	26° 51' 17.237" N	88° 59' 40.267" E
	41	26° 51' 11.748" N	88° 59' 39.456" E
JP_NK_JD1_03	1	26° 47' 30.301" N	88° 55' 40.726" E
	2	26° 47' 21.065" N	88° 55' 40.331" E
	3	26° 47' 14.420" N	88° 55' 39.021" E
	4	26° 47' 8.468" N	88° 55' 34.131" E
	5	26° 47' 3.341" N	88° 55' 31.889" E
	6	26° 46' 58.852" N	88° 55' 31.522" E
	7	26° 46' 43.214" N	88° 55' 22.740" E
	8	26° 46' 21.163" N	88° 55' 19.103" E
	9	26° 46' 17.668" N	88° 55' 13.575" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	10	26° 46' 26.649" N	88° 55' 3.867" E
	11	26° 46' 34.663" N	88° 55' 3.487" E
	12	26° 46' 39.813" N	88° 55' 3.857" E
	13	26° 46' 40.292" N	88° 55' 3.962" E
	14	26° 46' 40.624" N	88° 55' 3.915" E
	15	26° 47' 13.563" N	88° 55' 6.283" E
	16	26° 47' 17.035" N	88° 55' 6.923" E
	17	26° 47' 29.090" N	88° 55' 15.261" E
	18	26° 47' 40.424" N	88° 55' 35.086" E
	19	26° 47' 41.346" N	88° 55' 43.149" E
	20	26° 47' 40.554" N	88° 55' 44.848" E
JP_NK_JD1_04	1	26° 45' 19.013" N	88° 54' 44.466" E
	2	26° 45' 17.608" N	88° 54' 39.239" E
	3	26° 45' 17.628" N	88° 54' 39.119" E
	4	26° 45' 20.661" N	88° 54' 40.120" E
	5	26° 45' 22.171" N	88° 54' 39.666" E
	6	26° 45' 25.190" N	88° 54' 38.998" E
	7	26° 45' 28.387" N	88° 54' 40.967" E
	8	26° 45' 30.070" N	88° 54' 43.629" E
	9	26° 45' 32.395" N	88° 54' 46.541" E
	10	26° 45' 39.678" N	88° 54' 49.116" E
	11	26° 45' 41.645" N	88° 54' 53.277" E
	12	26° 45' 51.903" N	88° 54' 57.663" E
	13	26° 45' 58.050" N	88° 55' 0.831" E
	14	26° 46' 3.478" N	88° 55' 6.285" E
	15	26° 46' 8.124" N	88° 55' 7.285" E
	16	26° 46' 10.146" N	88° 55' 10.384" E
	17	26° 46' 10.417" N	88° 55' 15.752" E
	18	26° 46' 8.560" N	88° 55' 17.025" E
	19	26° 46' 4.399" N	88° 55' 16.339" E
	20	26° 45' 36.168" N	88° 55' 6.048" E
JP_NK_JD1_05	1	26° 44' 59.897" N	88° 54' 1.916" E
	2	26° 44' 57.475" N	88° 54' 0.364" E
	3	26° 44' 57.997" N	88° 53' 59.000" E
	4	26° 44' 59.511" N	88° 53' 59.573" E
	5	26° 45' 2.588" N	88° 54' 0.927" E
	6	26° 45' 4.412" N	88° 54' 1.887" E
	7	26° 45' 5.973" N	88° 54' 3.678" E
	8	26° 45' 7.344" N	88° 54' 4.903" E
	9	26° 45' 8.692" N	88° 54' 7.387" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	10	26° 45' 9.130" N	88° 54' 10.612" E
	11	26° 45' 9.827" N	88° 54' 14.990" E
	12	26° 45' 12.326" N	88° 54' 18.403" E
	13	26° 45' 12.671" N	88° 54' 23.465" E
	14	26° 45' 12.744" N	88° 54' 28.293" E
	15	26° 45' 12.246" N	88° 54' 29.510" E
	16	26° 45' 3.293" N	88° 54' 13.105" E
	17	26° 45' 2.588" N	88° 54' 9.622" E
	18	26° 45' 0.922" N	88° 54' 5.644" E
	19	26° 45' 0.721" N	88° 54' 4.563" E
JP_NK_JD1_07	1	26° 43' 6.209" N	88° 53' 2.935" E
	2	26° 43' 5.039" N	88° 53' 2.992" E
	3	26° 43' 4.772" N	88° 53' 2.375" E
	4	26° 43' 5.333" N	88° 53' 1.542" E
	5	26° 43' 4.662" N	88° 53' 0.306" E
	6	26° 43' 3.032" N	88° 52' 58.747" E
	7	26° 43' 1.681" N	88° 52' 56.887" E
	8	26° 42' 59.904" N	88° 52' 56.015" E
	9	26° 42' 58.806" N	88° 52' 55.844" E
	10	26° 42' 57.096" N	88° 52' 55.126" E
	11	26° 42' 56.135" N	88° 52' 54.957" E
	12	26° 42' 55.473" N	88° 52' 55.020" E
	13	26° 42' 55.325" N	88° 52' 52.966" E
	14	26° 42' 55.676" N	88° 52' 53.265" E
	15	26° 42' 57.051" N	88° 52' 53.287" E
	16	26° 42' 59.859" N	88° 52' 54.253" E
	17	26° 43' 2.478" N	88° 52' 53.836" E
	18	26° 43' 4.247" N	88° 52' 55.244" E
	19	26° 43' 5.951" N	88° 52' 56.421" E
	20	26° 43' 7.798" N	88° 52' 57.217" E
	21	26° 43' 10.604" N	88° 52' 58.259" E
	22	26° 43' 11.977" N	88° 52' 58.435" E
	23	26° 43' 13.556" N	88° 52' 58.614" E
	24	26° 43' 14.570" N	88° 53' 0.009" E
	25	26° 43' 15.672" N	88° 52' 59.874" E
	26	26° 43' 18.285" N	88° 52' 59.917" E
	27	26° 43' 17.307" N	88° 53' 1.050" E
	28	26° 43' 15.646" N	88° 53' 1.788" E
	29	26° 43' 13.995" N	88° 53' 1.838" E
	30	26° 43' 8.834" N	88° 53' 2.059" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	31	26° 43' 7.794" N	88° 53' 2.655" E
JP_NK_JD1_08	1	26° 42' 35.768" N	88° 52' 48.943" E
	2	26° 42' 33.017" N	88° 52' 48.898" E
	3	26° 42' 30.785" N	88° 52' 48.670" E
	4	26° 42' 28.385" N	88° 52' 48.152" E
	5	26° 42' 27.040" N	88° 52' 45.832" E
	6	26° 42' 27.483" N	88° 52' 44.786" E
	7	26° 42' 26.577" N	88° 52' 43.258" E
	8	26° 42' 28.556" N	88° 52' 41.645" E
	9	26° 42' 28.557" N	88° 52' 41.645" E
	10	26° 42' 30.516" N	88° 52' 43.017" E
	11	26° 42' 31.790" N	88° 52' 44.187" E
	12	26° 42' 33.417" N	88° 52' 44.692" E
	13	26° 42' 34.207" N	88° 52' 43.461" E
	14	26° 42' 34.085" N	88° 52' 43.277" E
	15	26° 42' 36.639" N	88° 52' 43.463" E
	16	26° 42' 36.763" N	88° 52' 45.226" E
	17	26° 42' 37.082" N	88° 52' 47.050" E
JP_ML_LS_01	1	26° 49' 33.920" N	88° 33' 5.330" E
	2	26° 49' 33.543" N	88° 33' 5.170" E
	3	26° 49' 46.977" N	88° 32' 49.097" E
	4	26° 50' 1.673" N	88° 32' 55.986" E
	5	26° 50' 9.222" N	88° 33' 0.601" E
	6	26° 50' 14.972" N	88° 33' 4.117" E
	7	26° 50' 17.484" N	88° 33' 5.215" E
	8	26° 50' 21.500" N	88° 33' 8.227" E
	9	26° 50' 26.019" N	88° 33' 8.947" E
	10	26° 50' 32.490" N	88° 33' 11.777" E
	11	26° 50' 39.378" N	88° 33' 14.788" E
	12	26° 50' 49.630" N	88° 33' 16.888" E
	13	26° 51' 2.491" N	88° 33' 19.522" E
	14	26° 51' 3.365" N	88° 33' 19.701" E
	15	26° 51' 21.123" N	88° 33' 27.137" E
	16	26° 51' 28.702" N	88° 33' 30.310" E
	17	26° 51' 39.058" N	88° 33' 34.763" E
	18	26° 51' 43.306" N	88° 33' 45.061" E
	19	26° 52' 1.937" N	88° 33' 50.843" E
	20	26° 52' 5.578" N	88° 33' 49.986" E
	21	26° 52' 7.933" N	88° 33' 46.988" E
	22	26° 52' 12.216" N	88° 33' 45.061" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	23	26° 52' 17.784" N	88° 33' 43.776" E
	24	26° 52' 18.588" N	88° 33' 43.286" E
	25	26° 52' 19.320" N	88° 33' 43.209" E
	26	26° 52' 30.154" N	88° 33' 40.529" E
	27	26° 52' 43.861" N	88° 33' 39.860" E
	28	26° 52' 59.303" N	88° 34' 2.596" E
	29	26° 52' 36.958" N	88° 34' 2.122" E
	30	26° 52' 16.846" N	88° 34' 0.666" E
	31	26° 52' 8.844" N	88° 33' 59.370" E
	32	26° 52' 5.293" N	88° 33' 56.028" E
	33	26° 52' 3.653" N	88° 33' 55.085" E
	34	26° 51' 54.969" N	88° 33' 56.576" E
	35	26° 51' 54.402" N	88° 33' 56.765" E
	36	26° 51' 32.670" N	88° 33' 51.974" E
	37	26° 51' 21.145" N	88° 33' 48.971" E
	38	26° 51' 15.651" N	88° 33' 47.539" E
	39	26° 51' 4.669" N	88° 33' 44.677" E
	40	26° 50' 39.168" N	88° 33' 36.888" E
	41	26° 50' 33.530" N	88° 33' 34.490" E
	42	26° 50' 12.210" N	88° 33' 25.426" E
	43	26° 49' 58.511" N	88° 33' 17.942" E
	44	26° 49' 44.323" N	88° 33' 9.155" E
	45	26° 49' 43.101" N	88° 33' 8.706" E
JP_ML_LS_02	1	26° 49' 33.543" N	88° 33' 5.170" E
	2	26° 49' 25.465" N	88° 33' 1.723" E
	3	26° 49' 29.033" N	88° 33' 0.732" E
	4	26° 49' 29.033" N	88° 32' 59.018" E
	5	26° 49' 26.249" N	88° 32' 55.378" E
	6	26° 49' 21.538" N	88° 32' 52.380" E
	7	26° 49' 20.253" N	88° 32' 50.238" E
	8	26° 49' 11.687" N	88° 32' 42.957" E
	9	26° 49' 2.478" N	88° 32' 44.670" E
	10	26° 48' 59.266" N	88° 32' 43.599" E
	11	26° 49' 7.618" N	88° 32' 36.747" E
	12	26° 49' 11.044" N	88° 32' 37.389" E
	13	26° 49' 14.685" N	88° 32' 36.961" E
	14	26° 49' 15.643" N	88° 32' 36.143" E
	15	26° 49' 18.281" N	88° 32' 37.117" E
	16	26° 49' 22.991" N	88° 32' 38.856" E
	17	26° 49' 23.716" N	88° 32' 39.124" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	18	26° 49' 40.347" N	88° 32' 45.989" E
	19	26° 49' 46.977" N	88° 32' 49.097" E
JP_RG_MH_02	1	26° 40' 58.490" N	88° 24' 40.150" E
	2	26° 40' 53.184" N	88° 24' 41.951" E
	3	26° 40' 54.890" N	88° 24' 38.957" E
	4	26° 40' 58.926" N	88° 24' 35.130" E
	5	26° 41' 1.814" N	88° 24' 35.251" E
	6	26° 41' 9.575" N	88° 24' 33.050" E
	7	26° 41' 14.773" N	88° 24' 29.093" E
	8	26° 41' 19.977" N	88° 24' 24.562" E
	9	26° 41' 25.912" N	88° 24' 24.348" E
	10	26° 41' 31.819" N	88° 24' 27.005" E
	11	26° 41' 25.792" N	88° 24' 31.296" E
	12	26° 41' 23.565" N	88° 24' 34.459" E
	13	26° 41' 20.435" N	88° 24' 37.934" E
	14	26° 41' 16.958" N	88° 24' 37.649" E
	15	26° 41' 12.962" N	88° 24' 37.456" E
	16	26° 41' 10.383" N	88° 24' 37.424" E
	17	26° 41' 4.440" N	88° 24' 38.356" E
JP_RG_MH_03	1	26° 39' 56.537" N	88° 24' 37.999" E
	2	26° 39' 51.142" N	88° 24' 29.200" E
	3	26° 39' 53.184" N	88° 24' 29.225" E
	4	26° 40' 2.828" N	88° 24' 32.215" E
	5	26° 40' 9.061" N	88° 24' 32.291" E
	6	26° 40' 15.506" N	88° 24' 32.729" E
	7	26° 40' 21.057" N	88° 24' 36.506" E
	8	26° 40' 30.271" N	88° 24' 39.491" E
	9	26° 40' 34.027" N	88° 24' 40.136" E
	10	26° 40' 34.270" N	88° 24' 40.163" E
	11	26° 40' 42.610" N	88° 24' 42.115" E
	12	26° 40' 42.737" N	88° 24' 42.102" E
	13	26° 40' 38.684" N	88° 24' 47.372" E
	14	26° 40' 33.961" N	88° 24' 46.715" E
	15	26° 40' 31.271" N	88° 24' 47.041" E
	16	26° 40' 28.367" N	88° 24' 47.244" E
	17	26° 40' 26.429" N	88° 24' 47.579" E
	18	26° 40' 26.393" N	88° 24' 47.597" E
	19	26° 40' 12.050" N	88° 24' 45.663" E
	20	26° 40' 2.171" N	88° 24' 42.625" E
	21	26° 40' 1.439" N	88° 24' 42.247" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
JP_RG_MH_04	1	26° 39' 9.625" N	88° 24' 13.698" E
	2	26° 39' 6.847" N	88° 24' 7.636" E
	3	26° 39' 12.263" N	88° 24' 7.702" E
	4	26° 39' 19.332" N	88° 24' 10.229" E
	5	26° 39' 30.117" N	88° 24' 15.241" E
	6	26° 39' 36.279" N	88° 24' 18.188" E
	7	26° 39' 34.067" N	88° 24' 20.170" E
	8	26° 39' 30.187" N	88° 24' 21.271" E
	9	26° 39' 25.156" N	88° 24' 21.353" E
	10	26° 39' 17.185" N	88° 24' 18.671" E
JP_RG_MH_05	1	26° 38' 31.112" N	88° 24' 14.279" E
	2	26° 38' 29.425" N	88° 24' 18.121" E
	3	26° 38' 29.778" N	88° 24' 16.177" E
	4	26° 38' 30.217" N	88° 24' 10.872" E
	5	26° 38' 30.537" N	88° 24' 4.561" E
	6	26° 38' 31.338" N	88° 24' 1.844" E
	7	26° 38' 32.783" N	88° 23' 59.134" E
	8	26° 38' 38.194" N	88° 23' 59.774" E
	9	26° 38' 41.407" N	88° 24' 0.962" E
	10	26° 38' 42.531" N	88° 24' 4.707" E
	11	26° 38' 40.481" N	88° 24' 6.721" E
	12	26° 38' 37.631" N	88° 24' 7.182" E
	13	26° 38' 34.637" N	88° 24' 10.016" E
JP_RG_MH_06	1	26° 38' 12.073" N	88° 24' 32.753" E
	2	26° 38' 9.500" N	88° 24' 32.004" E
	3	26° 38' 11.840" N	88° 24' 30.166" E
	4	26° 38' 18.324" N	88° 24' 26.658" E
	5	26° 38' 25.875" N	88° 24' 19.574" E
	6	26° 38' 25.448" N	88° 24' 23.588" E
	7	26° 38' 23.223" N	88° 24' 26.862" E
	8	26° 38' 21.154" N	88° 24' 27.410" E
	9	26° 38' 16.596" N	88° 24' 31.804" E
JP_RG_MH_07	1	26° 37' 53.999" N	88° 24' 34.397" E
	2	26° 37' 48.714" N	88° 24' 27.119" E
	3	26° 37' 51.947" N	88° 24' 26.302" E
	4	26° 37' 54.046" N	88° 24' 29.661" E
	5	26° 37' 58.527" N	88° 24' 33.017" E
	6	26° 38' 3.679" N	88° 24' 33.798" E
	7	26° 38' 3.146" N	88° 24' 35.514" E
	8	26° 37' 59.532" N	88° 24' 35.756" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
JP_ML_ML_01	1	26° 51' 0.705" N	88° 45' 17.152" E
	2	26° 50' 59.812" N	88° 45' 14.128" E
	3	26° 51' 1.548" N	88° 45' 12.775" E
	4	26° 51' 2.743" N	88° 45' 13.100" E
	5	26° 51' 5.940" N	88° 45' 17.142" E
	6	26° 51' 9.165" N	88° 45' 17.077" E
	7	26° 51' 18.436" N	88° 45' 12.086" E
	8	26° 51' 20.413" N	88° 45' 11.770" E
	9	26° 51' 25.571" N	88° 45' 11.849" E
	10	26° 51' 29.700" N	88° 45' 11.625" E
	11	26° 51' 32.375" N	88° 45' 11.547" E
	12	26° 51' 35.019" N	88° 45' 12.127" E
	13	26° 51' 42.087" N	88° 45' 12.092" E
	14	26° 51' 48.678" N	88° 45' 10.958" E
	15	26° 51' 57.316" N	88° 45' 11.299" E
	16	26° 51' 56.709" N	88° 45' 12.989" E
	17	26° 51' 48.606" N	88° 45' 16.459" E
	18	26° 51' 42.793" N	88° 45' 18.336" E
	19	26° 51' 42.538" N	88° 45' 18.540" E
	20	26° 51' 33.310" N	88° 45' 16.380" E
	21	26° 51' 30.683" N	88° 45' 16.023" E
	22	26° 51' 28.192" N	88° 45' 16.023" E
	23	26° 51' 27.584" N	88° 45' 15.906" E
	24	26° 51' 27.157" N	88° 45' 16.023" E
	25	26° 51' 17.503" N	88° 45' 16.021" E
	26	26° 51' 10.024" N	88° 45' 19.408" E
	27	26° 51' 6.788" N	88° 45' 20.017" E
	28	26° 51' 3.863" N	88° 45' 18.747" E
	29	26° 51' 2.073" N	88° 45' 18.178" E
	30	26° 51' 1.242" N	88° 45' 17.858" E
	31	26° 51' 0.780" N	88° 45' 17.479" E
JP_ML_ML_02	1	26° 50' 42.955" N	88° 45' 3.517" E
	2	26° 50' 42.377" N	88° 45' 5.732" E
	3	26° 50' 42.485" N	88° 45' 6.291" E
	4	26° 50' 37.724" N	88° 45' 6.178" E
	5	26° 50' 26.895" N	88° 45' 5.896" E
	6	26° 50' 23.172" N	88° 45' 4.516" E
	7	26° 50' 21.982" N	88° 45' 4.343" E
	8	26° 50' 10.395" N	88° 45' 0.628" E
	9	26° 50' 7.951" N	88° 45' 2.001" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	10	26° 50' 6.210" N	88° 45' 1.668" E
	11	26° 49' 57.003" N	88° 45' 7.738" E
	12	26° 49' 53.646" N	88° 45' 8.653" E
	13	26° 49' 53.600" N	88° 45' 8.485" E
	14	26° 49' 53.748" N	88° 45' 4.446" E
	15	26° 49' 54.716" N	88° 45' 3.200" E
	16	26° 49' 59.643" N	88° 45' 3.228" E
	17	26° 50' 5.107" N	88° 45' 0.705" E
	18	26° 50' 8.837" N	88° 44' 59.459" E
	19	26° 50' 9.966" N	88° 44' 58.562" E
	20	26° 50' 14.311" N	88° 44' 58.617" E
	21	26° 50' 19.293" N	88° 44' 59.546" E
	22	26° 50' 19.677" N	88° 44' 59.467" E
	23	26° 50' 21.893" N	88° 45' 0.427" E
	24	26° 50' 27.966" N	88° 44' 58.833" E
	25	26° 50' 33.326" N	88° 44' 59.222" E
	26	26° 50' 39.375" N	88° 44' 59.469" E
	27	26° 50' 43.136" N	88° 45' 1.290" E
	28	26° 50' 44.368" N	88° 45' 1.411" E
	29	26° 50' 46.778" N	88° 45' 2.412" E
	30	26° 50' 47.016" N	88° 45' 2.542" E
	31	26° 50' 46.811" N	88° 45' 3.116" E
	32	26° 50' 44.128" N	88° 45' 3.151" E
JP_ML_NR_01	1	26° 49' 17.648" N	88° 45' 25.594" E
	2	26° 49' 15.272" N	88° 45' 26.351" E
	3	26° 49' 15.807" N	88° 45' 25.764" E
	4	26° 49' 16.217" N	88° 45' 23.422" E
	5	26° 49' 17.497" N	88° 45' 21.782" E
	6	26° 49' 18.971" N	88° 45' 21.405" E
	7	26° 49' 22.309" N	88° 45' 19.435" E
	8	26° 49' 23.263" N	88° 45' 19.297" E
	9	26° 49' 25.126" N	88° 45' 19.409" E
	10	26° 49' 28.793" N	88° 45' 21.508" E
	11	26° 49' 32.452" N	88° 45' 21.666" E
	12	26° 49' 33.389" N	88° 45' 19.314" E
	13	26° 49' 47.899" N	88° 45' 18.210" E
	14	26° 49' 59.831" N	88° 45' 19.736" E
	15	26° 50' 20.795" N	88° 45' 27.726" E
	16	26° 50' 28.640" N	88° 45' 28.437" E
	17	26° 50' 28.878" N	88° 45' 28.515" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	18	26° 50' 29.149" N	88° 45' 28.483" E
	19	26° 50' 29.727" N	88° 45' 28.535" E
	20	26° 50' 34.094" N	88° 45' 29.944" E
	21	26° 50' 39.713" N	88° 45' 32.825" E
	22	26° 50' 40.782" N	88° 45' 33.547" E
	23	26° 50' 46.405" N	88° 45' 36.354" E
	24	26° 50' 54.445" N	88° 45' 39.112" E
	25	26° 50' 54.880" N	88° 45' 39.261" E
	26	26° 50' 55.196" N	88° 45' 39.207" E
	27	26° 50' 59.705" N	88° 45' 39.775" E
	28	26° 51' 3.972" N	88° 45' 38.930" E
	29	26° 51' 4.594" N	88° 45' 38.805" E
	30	26° 51' 8.713" N	88° 45' 39.164" E
	31	26° 51' 12.091" N	88° 45' 41.290" E
	32	26° 51' 16.664" N	88° 45' 44.370" E
	33	26° 51' 23.551" N	88° 45' 49.154" E
	34	26° 51' 29.793" N	88° 45' 50.555" E
	35	26° 51' 34.723" N	88° 45' 52.318" E
	36	26° 51' 40.722" N	88° 45' 51.108" E
	37	26° 51' 41.642" N	88° 45' 50.898" E
	38	26° 51' 43.281" N	88° 45' 51.087" E
	39	26° 51' 43.433" N	88° 45' 51.155" E
	40	26° 51' 45.971" N	88° 45' 54.644" E
	41	26° 51' 47.482" N	88° 45' 59.761" E
	42	26° 51' 39.653" N	88° 45' 57.046" E
	43	26° 51' 39.622" N	88° 45' 57.032" E
	44	26° 51' 35.086" N	88° 45' 54.807" E
	45	26° 51' 34.400" N	88° 45' 54.725" E
	46	26° 51' 31.444" N	88° 45' 53.420" E
	47	26° 51' 30.398" N	88° 45' 53.164" E
	48	26° 51' 29.196" N	88° 45' 52.165" E
	49	26° 51' 25.668" N	88° 45' 52.009" E
	50	26° 51' 19.916" N	88° 45' 50.605" E
	51	26° 51' 16.843" N	88° 45' 49.240" E
	52	26° 51' 14.816" N	88° 45' 47.053" E
	53	26° 51' 7.831" N	88° 45' 44.828" E
	54	26° 51' 1.039" N	88° 45' 40.679" E
	55	26° 50' 54.481" N	88° 45' 41.522" E
	56	26° 50' 53.553" N	88° 45' 41.558" E
	57	26° 50' 53.374" N	88° 45' 41.783" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	58	26° 50' 50.866" N	88° 45' 42.966" E
	59	26° 50' 46.299" N	88° 45' 43.758" E
	60	26° 50' 40.755" N	88° 45' 40.675" E
	61	26° 50' 39.841" N	88° 45' 38.748" E
	62	26° 50' 36.305" N	88° 45' 39.160" E
	63	26° 50' 25.154" N	88° 45' 36.434" E
	64	26° 50' 24.738" N	88° 45' 36.285" E
	65	26° 50' 15.477" N	88° 45' 31.379" E
	66	26° 50' 5.688" N	88° 45' 25.894" E
	67	26° 50' 2.317" N	88° 45' 25.439" E
	68	26° 50' 0.029" N	88° 45' 24.257" E
	69	26° 49' 51.789" N	88° 45' 23.172" E
	70	26° 49' 47.597" N	88° 45' 23.224" E
	71	26° 49' 44.329" N	88° 45' 22.652" E
	72	26° 49' 42.433" N	88° 45' 23.287" E
	73	26° 49' 29.647" N	88° 45' 23.445" E
	74	26° 49' 26.537" N	88° 45' 23.198" E
	75	26° 49' 21.377" N	88° 45' 23.310" E
	76	26° 49' 20.756" N	88° 45' 24.058" E
JP_ML_NR_02	1	26° 48' 44.591" N	88° 45' 24.445" E
	2	26° 48' 42.524" N	88° 45' 20.056" E
	3	26° 48' 55.816" N	88° 45' 21.368" E
	4	26° 48' 57.238" N	88° 45' 21.554" E
	5	26° 48' 58.316" N	88° 45' 21.691" E
	6	26° 49' 3.992" N	88° 45' 22.995" E
	7	26° 49' 8.643" N	88° 45' 22.300" E
	8	26° 49' 12.244" N	88° 45' 23.122" E
	9	26° 49' 14.617" N	88° 45' 22.517" E
	10	26° 49' 14.832" N	88° 45' 22.638" E
	11	26° 49' 13.949" N	88° 45' 23.710" E
	12	26° 49' 12.515" N	88° 45' 27.080" E
	13	26° 49' 11.238" N	88° 45' 27.449" E
	14	26° 49' 10.198" N	88° 45' 26.785" E
	15	26° 49' 6.215" N	88° 45' 25.573" E
	16	26° 49' 2.865" N	88° 45' 25.378" E
	17	26° 48' 59.525" N	88° 45' 24.320" E
	18	26° 48' 55.012" N	88° 45' 24.251" E
	19	26° 48' 51.409" N	88° 45' 23.620" E
	20	26° 48' 47.918" N	88° 45' 24.285" E
JP_ML_NR_04	1	26° 47' 21.728" N	88° 45' 31.560" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	2	26° 47' 20.240" N	88° 45' 30.219" E
	3	26° 47' 16.280" N	88° 45' 28.841" E
	4	26° 47' 15.018" N	88° 45' 26.666" E
	5	26° 47' 14.269" N	88° 45' 25.573" E
	6	26° 47' 15.409" N	88° 45' 25.483" E
	7	26° 47' 19.748" N	88° 45' 25.013" E
	8	26° 47' 24.069" N	88° 45' 25.202" E
	9	26° 47' 26.522" N	88° 45' 26.245" E
	10	26° 47' 26.067" N	88° 45' 28.273" E
	11	26° 47' 25.745" N	88° 45' 28.269" E
	12	26° 47' 23.609" N	88° 45' 27.158" E
	13	26° 47' 21.566" N	88° 45' 27.246" E
	14	26° 47' 22.953" N	88° 45' 28.106" E
	15	26° 47' 24.548" N	88° 45' 29.448" E
	16	26° 47' 28.191" N	88° 45' 30.342" E
	17	26° 47' 30.865" N	88° 45' 31.341" E
	18	26° 47' 34.181" N	88° 45' 32.590" E
	19	26° 47' 36.630" N	88° 45' 34.424" E
	20	26° 47' 37.248" N	88° 45' 36.589" E
	21	26° 47' 35.083" N	88° 45' 37.873" E
	22	26° 47' 34.090" N	88° 45' 37.805" E
	23	26° 47' 28.280" N	88° 45' 35.234" E
	24	26° 47' 25.782" N	88° 45' 33.897" E
JP_ML_NR_05	1	26° 47' 10.506" N	88° 45' 30.976" E
	2	26° 46' 55.350" N	88° 45' 29.141" E
	3	26° 46' 58.366" N	88° 45' 26.170" E
	4	26° 47' 3.861" N	88° 45' 25.057" E
	5	26° 47' 9.657" N	88° 45' 25.602" E
	6	26° 47' 14.073" N	88° 45' 30.076" E
JP_ML_NR_06	1	26° 46' 43.914" N	88° 45' 37.547" E
	2	26° 46' 43.565" N	88° 45' 37.542" E
	3	26° 46' 43.847" N	88° 45' 35.630" E
	4	26° 46' 42.561" N	88° 45' 35.323" E
	5	26° 46' 42.188" N	88° 45' 35.317" E
	6	26° 46' 40.294" N	88° 45' 38.591" E
	7	26° 46' 38.064" N	88° 45' 41.574" E
	8	26° 46' 35.300" N	88° 45' 42.950" E
	9	26° 46' 33.222" N	88° 45' 42.254" E
	10	26° 46' 34.788" N	88° 45' 40.209" E
	11	26° 46' 36.506" N	88° 45' 39.881" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	12	26° 46' 47.823" N	88° 45' 21.664" E
	13	26° 46' 58.580" N	88° 45' 20.872" E
	14	26° 47' 5.897" N	88° 45' 22.236" E
	15	26° 47' 5.744" N	88° 45' 22.284" E
	16	26° 46' 57.802" N	88° 45' 24.844" E
	17	26° 46' 54.700" N	88° 45' 25.371" E
	18	26° 46' 52.604" N	88° 45' 28.021" E
	19	26° 46' 50.439" N	88° 45' 30.942" E
	20	26° 46' 48.697" N	88° 45' 32.735" E
	21	26° 46' 47.532" N	88° 45' 34.198" E
	22	26° 46' 45.039" N	88° 45' 36.505" E
	23	26° 46' 44.866" N	88° 45' 36.604" E
	24	26° 46' 44.723" N	88° 45' 36.798" E
JP_ML_NR_06A	1	26° 46' 14.135" N	88° 45' 47.239" E
	2	26° 46' 12.366" N	88° 45' 44.338" E
	3	26° 46' 12.898" N	88° 45' 43.054" E
	4	26° 46' 16.136" N	88° 45' 41.954" E
	5	26° 46' 18.312" N	88° 45' 43.281" E
	6	26° 46' 21.369" N	88° 45' 46.345" E
	7	26° 46' 25.101" N	88° 45' 46.978" E
	8	26° 46' 29.877" N	88° 45' 46.620" E
	9	26° 46' 31.508" N	88° 45' 44.491" E
	10	26° 46' 34.649" N	88° 45' 45.469" E
	11	26° 46' 35.233" N	88° 45' 45.436" E
	12	26° 46' 32.896" N	88° 45' 47.528" E
	13	26° 46' 32.210" N	88° 45' 47.986" E
	14	26° 46' 23.367" N	88° 45' 50.804" E
	15	26° 46' 19.347" N	88° 45' 50.454" E
	16	26° 46' 16.161" N	88° 45' 49.559" E
JP_ML_NR_07	1	26° 45' 46.699" N	88° 45' 24.271" E
	2	26° 45' 42.373" N	88° 45' 19.512" E
	3	26° 45' 42.826" N	88° 45' 18.537" E
	4	26° 45' 44.419" N	88° 45' 17.911" E
	5	26° 45' 52.117" N	88° 45' 24.125" E
	6	26° 45' 52.098" N	88° 45' 25.695" E
	7	26° 45' 52.177" N	88° 45' 26.271" E
	8	26° 45' 52.396" N	88° 45' 26.617" E
	9	26° 45' 46.932" N	88° 45' 24.538" E
JP_ML_NR_08	1	26° 45' 28.198" N	88° 45' 27.828" E
	2	26° 45' 25.322" N	88° 45' 26.250" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	3	26° 45' 25.530" N	88° 45' 25.765" E
	4	26° 45' 26.999" N	88° 45' 25.213" E
	5	26° 45' 28.298" N	88° 45' 24.467" E
	6	26° 45' 29.943" N	88° 45' 23.534" E
	7	26° 45' 30.633" N	88° 45' 23.354" E
	8	26° 45' 32.099" N	88° 45' 22.993" E
	9	26° 45' 33.647" N	88° 45' 22.921" E
	10	26° 45' 43.846" N	88° 45' 25.568" E
	11	26° 45' 45.129" N	88° 45' 26.067" E
	12	26° 45' 45.891" N	88° 45' 27.036" E
	13	26° 45' 44.160" N	88° 45' 27.967" E
	14	26° 45' 43.286" N	88° 45' 28.742" E
	15	26° 45' 41.912" N	88° 45' 28.441" E
	16	26° 45' 39.981" N	88° 45' 26.056" E
	17	26° 45' 38.409" N	88° 45' 25.150" E
	18	26° 45' 38.096" N	88° 45' 24.713" E
	19	26° 45' 37.439" N	88° 45' 24.591" E
	20	26° 45' 37.215" N	88° 45' 24.462" E
	21	26° 45' 37.060" N	88° 45' 24.520" E
	22	26° 45' 36.981" N	88° 45' 24.505" E
	23	26° 45' 35.859" N	88° 45' 24.871" E
	24	26° 45' 35.578" N	88° 45' 25.073" E
JP_ML_NR_09	1	26° 45' 17.341" N	88° 45' 20.563" E
	2	26° 45' 17.344" N	88° 45' 20.332" E
	3	26° 45' 18.334" N	88° 45' 19.909" E
	4	26° 45' 19.328" N	88° 45' 19.828" E
	5	26° 45' 21.477" N	88° 45' 19.861" E
	6	26° 45' 22.861" N	88° 45' 19.116" E
	7	26° 45' 23.010" N	88° 45' 18.923" E
	8	26° 45' 24.894" N	88° 45' 18.569" E
	9	26° 45' 29.376" N	88° 45' 19.234" E
	10	26° 45' 21.851" N	88° 45' 24.368" E
	11	26° 45' 20.923" N	88° 45' 22.917" E
	12	26° 45' 20.075" N	88° 45' 21.946" E
	13	26° 45' 18.621" N	88° 45' 21.349" E
JP_ML_NR_10	1	26° 45' 11.318" N	88° 45' 28.718" E
	2	26° 45' 7.573" N	88° 45' 32.181" E
	3	26° 45' 6.703" N	88° 45' 32.562" E
	4	26° 45' 6.192" N	88° 45' 32.171" E
	5	26° 45' 6.895" N	88° 45' 30.937" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	6	26° 45' 7.767" N	88° 45' 29.993" E
	7	26° 45' 8.551" N	88° 45' 29.143" E
	8	26° 45' 8.908" N	88° 45' 28.095" E
	9	26° 45' 8.399" N	88° 45' 27.513" E
	10	26° 45' 7.196" N	88° 45' 27.494" E
	11	26° 45' 6.161" N	88° 45' 27.766" E
	12	26° 45' 7.211" N	88° 45' 26.249" E
	13	26° 45' 8.775" N	88° 45' 24.933" E
	14	26° 45' 10.256" N	88° 45' 23.423" E
	15	26° 45' 10.412" N	88° 45' 23.298" E
	16	26° 45' 14.937" N	88° 45' 21.362" E
	17	26° 45' 16.121" N	88° 45' 21.885" E
	18	26° 45' 17.229" N	88° 45' 22.669" E
	19	26° 45' 18.586" N	88° 45' 24.126" E
	20	26° 45' 18.239" N	88° 45' 24.735" E
	21	26° 45' 17.354" N	88° 45' 25.245" E
	22	26° 45' 16.940" N	88° 45' 25.154" E
	23	26° 45' 14.955" N	88° 45' 25.794" E
	24	26° 45' 13.743" N	88° 45' 26.446" E
	25	26° 45' 13.045" N	88° 45' 27.297" E
	26	26° 45' 12.696" N	88° 45' 27.925" E
JP_ML_NR_11	1	26° 44' 47.961" N	88° 45' 48.583" E
	2	26° 44' 47.419" N	88° 45' 48.366" E
	3	26° 44' 49.753" N	88° 45' 47.432" E
	4	26° 44' 52.603" N	88° 45' 46.423" E
	5	26° 44' 53.992" N	88° 45' 45.295" E
	6	26° 44' 54.428" N	88° 45' 44.823" E
	7	26° 44' 55.912" N	88° 45' 43.026" E
	8	26° 44' 57.681" N	88° 45' 39.031" E
	9	26° 44' 58.727" N	88° 45' 37.898" E
	10	26° 45' 0.901" N	88° 45' 35.921" E
	11	26° 45' 2.463" N	88° 45' 34.795" E
	12	26° 45' 3.681" N	88° 45' 33.569" E
	13	26° 45' 4.721" N	88° 45' 32.915" E
	14	26° 45' 5.833" N	88° 45' 33.791" E
	15	26° 45' 4.169" N	88° 45' 35.330" E
	16	26° 45' 3.688" N	88° 45' 35.934" E
	17	26° 45' 2.442" N	88° 45' 36.423" E
	18	26° 45' 0.779" N	88° 45' 38.792" E
	19	26° 45' 0.160" N	88° 45' 40.219" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	20	26° 45' 0.037" N	88° 45' 40.513" E
	21	26° 44' 57.199" N	88° 45' 44.072" E
	22	26° 44' 53.971" N	88° 45' 46.493" E
JP_ML_NR_12	1	26° 44' 37.296" N	88° 45' 39.770" E
	2	26° 44' 37.224" N	88° 45' 39.679" E
	3	26° 44' 38.148" N	88° 45' 38.498" E
	4	26° 44' 38.340" N	88° 45' 38.733" E
	5	26° 44' 40.565" N	88° 45' 39.140" E
	6	26° 44' 45.761" N	88° 45' 40.462" E
	7	26° 44' 46.569" N	88° 45' 40.775" E
	8	26° 44' 49.054" N	88° 45' 41.388" E
	9	26° 44' 50.167" N	88° 45' 41.788" E
	10	26° 44' 49.352" N	88° 45' 45.127" E
	11	26° 44' 47.703" N	88° 45' 46.347" E
	12	26° 44' 44.955" N	88° 45' 46.113" E
	13	26° 44' 42.038" N	88° 45' 45.589" E
	14	26° 44' 39.820" N	88° 45' 44.214" E
	15	26° 44' 38.393" N	88° 45' 41.415" E
JP_ML_NR_13	1	26° 44' 1.889" N	88° 45' 30.200" E
	2	26° 43' 59.939" N	88° 45' 28.524" E
	3	26° 44' 5.789" N	88° 45' 28.194" E
	4	26° 44' 8.596" N	88° 45' 28.302" E
	5	26° 44' 8.950" N	88° 45' 29.351" E
	6	26° 44' 10.127" N	88° 45' 31.476" E
	7	26° 44' 11.107" N	88° 45' 32.349" E
	8	26° 44' 11.817" N	88° 45' 33.697" E
	9	26° 44' 11.980" N	88° 45' 34.569" E
	10	26° 44' 11.364" N	88° 45' 35.708" E
	11	26° 44' 9.817" N	88° 45' 35.684" E
	12	26° 44' 8.357" N	88° 45' 35.566" E
	13	26° 44' 6.565" N	88° 45' 34.485" E
	14	26° 44' 5.028" N	88° 45' 33.600" E
	15	26° 44' 3.924" N	88° 45' 32.530" E
JP_ML_NR_14	1	26° 41' 43.487" N	88° 44' 13.387" E
	2	26° 41' 43.083" N	88° 44' 11.395" E
	3	26° 41' 45.178" N	88° 44' 12.399" E
	4	26° 41' 51.979" N	88° 44' 17.112" E
	5	26° 41' 52.591" N	88° 44' 17.689" E
	6	26° 41' 53.603" N	88° 44' 19.284" E
	7	26° 41' 56.278" N	88° 44' 22.053" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	8	26° 41' 57.262" N	88° 44' 23.179" E
	9	26° 41' 56.123" N	88° 44' 25.169" E
	10	26° 41' 54.167" N	88° 44' 25.208" E
	11	26° 41' 51.637" N	88° 44' 23.002" E
	12	26° 41' 44.611" N	88° 44' 16.419" E
JP_ML_NR_15	1	26° 41' 8.168" N	88° 44' 14.686" E
	2	26° 41' 7.029" N	88° 44' 14.230" E
	3	26° 41' 7.178" N	88° 44' 12.653" E
	4	26° 41' 8.736" N	88° 44' 11.815" E
	5	26° 41' 10.825" N	88° 44' 9.693" E
	6	26° 41' 12.639" N	88° 44' 9.003" E
	7	26° 41' 15.598" N	88° 44' 9.622" E
	8	26° 41' 18.203" N	88° 44' 7.508" E
	9	26° 41' 18.813" N	88° 44' 6.847" E
	10	26° 41' 22.977" N	88° 44' 5.028" E
	11	26° 41' 23.777" N	88° 44' 5.152" E
	12	26° 41' 24.653" N	88° 44' 7.319" E
	13	26° 41' 26.574" N	88° 44' 8.496" E
	14	26° 41' 28.386" N	88° 44' 7.950" E
	15	26° 41' 36.271" N	88° 44' 12.497" E
	16	26° 41' 38.921" N	88° 44' 18.740" E
	17	26° 41' 35.182" N	88° 44' 15.316" E
	18	26° 41' 33.117" N	88° 44' 14.948" E
	19	26° 41' 32.816" N	88° 44' 14.765" E
	20	26° 41' 30.633" N	88° 44' 14.014" E
	21	26° 41' 27.673" N	88° 44' 13.538" E
	22	26° 41' 25.604" N	88° 44' 13.938" E
	23	26° 41' 23.440" N	88° 44' 14.788" E
JP_ML_NR_16	1	26° 40' 47.432" N	88° 44' 14.829" E
	2	26° 40' 47.055" N	88° 44' 13.448" E
	3	26° 40' 47.662" N	88° 44' 11.806" E
	4	26° 40' 49.064" N	88° 44' 10.799" E
	5	26° 40' 49.716" N	88° 44' 10.234" E
	6	26° 40' 49.836" N	88° 44' 10.208" E
	7	26° 40' 52.064" N	88° 44' 10.543" E
	8	26° 40' 52.201" N	88° 44' 12.528" E
	9	26° 40' 51.414" N	88° 44' 13.664" E
	10	26° 40' 50.476" N	88° 44' 14.681" E
	11	26° 40' 49.153" N	88° 44' 13.732" E
JP_ML_NR_18	1	26° 40' 7.089" N	88° 44' 16.818" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	2	26° 40' 7.116" N	88° 44' 14.666" E
	3	26° 40' 13.905" N	88° 44' 9.627" E
	4	26° 40' 18.799" N	88° 44' 9.936" E
	5	26° 40' 21.824" N	88° 44' 12.379" E
	6	26° 40' 22.870" N	88° 44' 14.787" E
	7	26° 40' 25.649" N	88° 44' 16.025" E
	8	26° 40' 29.866" N	88° 44' 15.964" E
	9	26° 40' 32.044" N	88° 44' 17.145" E
	10	26° 40' 34.595" N	88° 44' 19.481" E
	11	26° 40' 38.848" N	88° 44' 19.689" E
	12	26° 40' 39.114" N	88° 44' 20.380" E
	13	26° 40' 34.386" N	88° 44' 21.453" E
	14	26° 40' 24.300" N	88° 44' 20.103" E
	15	26° 40' 13.473" N	88° 44' 17.786" E
	16	26° 40' 9.798" N	88° 44' 17.942" E
JP_ML_NR_20	1	26° 39' 10.508" N	88° 44' 21.845" E
	2	26° 39' 10.482" N	88° 44' 21.650" E
	3	26° 39' 11.921" N	88° 44' 19.950" E
	4	26° 39' 17.751" N	88° 44' 14.040" E
	5	26° 39' 18.712" N	88° 44' 12.638" E
	6	26° 39' 19.874" N	88° 44' 12.494" E
	7	26° 39' 22.749" N	88° 44' 11.475" E
	8	26° 39' 24.009" N	88° 44' 12.239" E
	9	26° 39' 25.700" N	88° 44' 11.116" E
	10	26° 39' 28.408" N	88° 44' 11.157" E
	11	26° 39' 30.584" N	88° 44' 12.482" E
	12	26° 39' 32.635" N	88° 44' 13.517" E
	13	26° 39' 34.180" N	88° 44' 13.684" E
	14	26° 39' 35.860" N	88° 44' 13.423" E
	15	26° 39' 37.533" N	88° 44' 13.735" E
	16	26° 39' 38.550" N	88° 44' 14.899" E
	17	26° 39' 39.576" N	88° 44' 15.345" E
	18	26° 39' 39.631" N	88° 44' 15.389" E
	19	26° 39' 38.553" N	88° 44' 17.235" E
	20	26° 39' 38.008" N	88° 44' 17.044" E
	21	26° 39' 35.941" N	88° 44' 17.299" E
	22	26° 39' 34.131" N	88° 44' 17.703" E
	23	26° 39' 31.411" N	88° 44' 18.666" E
	24	26° 39' 31.120" N	88° 44' 18.886" E
JP_ML_NR_21	1	26° 38' 49.751" N	88° 44' 5.007" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	2	26° 38' 49.159" N	88° 44' 2.779" E
	3	26° 38' 50.279" N	88° 43' 59.282" E
	4	26° 38' 50.966" N	88° 44' 0.000" E
	5	26° 39' 2.571" N	88° 44' 10.401" E
	6	26° 38' 58.033" N	88° 44' 10.666" E
	7	26° 38' 56.689" N	88° 44' 11.312" E
	8	26° 38' 55.798" N	88° 44' 11.069" E
	9	26° 38' 55.177" N	88° 44' 11.213" E
	10	26° 38' 54.634" N	88° 44' 10.669" E
	11	26° 38' 53.424" N	88° 44' 8.354" E
	12	26° 38' 52.338" N	88° 44' 7.190" E
	13	26° 38' 51.453" N	88° 44' 6.411" E
JP_ML_NR_22	1	26° 38' 27.623" N	88° 43' 56.131" E
	2	26° 38' 15.549" N	88° 43' 53.636" E
	3	26° 38' 12.651" N	88° 43' 48.024" E
	4	26° 38' 13.395" N	88° 43' 48.084" E
	5	26° 38' 15.384" N	88° 43' 48.496" E
	6	26° 38' 16.354" N	88° 43' 47.899" E
	7	26° 38' 16.630" N	88° 43' 47.826" E
	8	26° 38' 18.073" N	88° 43' 48.001" E
	9	26° 38' 19.717" N	88° 43' 48.562" E
	10	26° 38' 20.482" N	88° 43' 47.884" E
	11	26° 38' 20.075" N	88° 43' 47.342" E
	12	26° 38' 18.282" N	88° 43' 45.862" E
	13	26° 38' 20.338" N	88° 43' 46.046" E
	14	26° 38' 21.124" N	88° 43' 45.053" E
	15	26° 38' 22.556" N	88° 43' 43.927" E
	16	26° 38' 24.381" N	88° 43' 42.375" E
	17	26° 38' 26.576" N	88° 43' 42.122" E
	18	26° 38' 28.613" N	88° 43' 44.305" E
	19	26° 38' 31.192" N	88° 43' 44.344" E
	20	26° 38' 34.139" N	88° 43' 45.967" E
	21	26° 38' 36.009" N	88° 43' 48.465" E
	22	26° 38' 36.243" N	88° 43' 51.609" E
	23	26° 38' 37.301" N	88° 43' 55.146" E
	24	26° 38' 38.718" N	88° 43' 57.387" E
	25	26° 38' 39.530" N	88° 43' 58.471" E
	26	26° 38' 41.830" N	88° 44' 0.891" E
	27	26° 38' 41.774" N	88° 44' 2.813" E
	28	26° 38' 40.653" N	88° 44' 1.738" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	29	26° 38' 40.664" N	88° 44' 0.847" E
	30	26° 38' 39.648" N	88° 43' 59.540" E
	31	26° 38' 37.350" N	88° 43' 57.640" E
	32	26° 38' 36.332" N	88° 43' 56.477" E
	33	26° 38' 33.504" N	88° 43' 55.716" E
	34	26° 38' 30.150" N	88° 43' 55.809" E
	35	26° 38' 28.083" N	88° 43' 56.065" E
JP_MT_NR_03	1	26° 47' 55.134" N	88° 45' 32.913" E
	2	26° 47' 53.919" N	88° 45' 35.501" E
	3	26° 47' 55.534" N	88° 45' 35.314" E
	4	26° 47' 57.832" N	88° 45' 35.761" E
	5	26° 47' 50.563" N	88° 45' 43.913" E
	6	26° 47' 47.485" N	88° 45' 42.963" E
	7	26° 47' 47.923" N	88° 45' 42.382" E
	8	26° 47' 49.371" N	88° 45' 38.333" E
	9	26° 47' 50.722" N	88° 45' 36.932" E
	10	26° 47' 51.249" N	88° 45' 34.171" E
	11	26° 47' 50.394" N	88° 45' 33.798" E
	12	26° 47' 52.380" N	88° 45' 29.637" E
	13	26° 47' 53.710" N	88° 45' 26.424" E
	14	26° 47' 52.749" N	88° 45' 24.656" E
	15	26° 47' 57.509" N	88° 45' 24.941" E
	16	26° 48' 0.771" N	88° 45' 24.516" E
	17	26° 48' 3.603" N	88° 45' 25.978" E
	18	26° 48' 3.031" N	88° 45' 28.724" E
	19	26° 47' 59.108" N	88° 45' 33.094" E
	20	26° 47' 57.496" N	88° 45' 33.069" E
JP_DG_RT_01	1	26° 51' 20.489" N	89° 5' 33.641" E
	2	26° 51' 13.314" N	89° 5' 31.042" E
	3	26° 51' 25.688" N	89° 5' 28.522" E
	4	26° 51' 38.367" N	89° 5' 28.635" E
	5	26° 52' 1.986" N	89° 5' 30.028" E
	6	26° 52' 23.570" N	89° 5' 32.126" E
	7	26° 52' 27.698" N	89° 5' 34.818" E
	8	26° 52' 30.811" N	89° 5' 38.658" E
	9	26° 52' 19.834" N	89° 5' 36.587" E
	10	26° 52' 18.381" N	89° 5' 36.788" E
	11	26° 52' 17.731" N	89° 5' 36.132" E
	12	26° 52' 11.161" N	89° 5' 35.724" E
	13	26° 52' 7.008" N	89° 5' 37.516" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	14	26° 51' 55.300" N	89° 5' 35.719" E
	15	26° 51' 46.820" N	89° 5' 33.694" E
	16	26° 51' 41.008" N	89° 5' 34.306" E
	17	26° 51' 39.717" N	89° 5' 35.117" E
	18	26° 51' 35.374" N	89° 5' 34.810" E
	19	26° 51' 28.962" N	89° 5' 39.545" E
JP_JP_TS_100_101	1	26° 26' 42.997" N	88° 46' 10.294" E
	2	26° 26' 42.513" N	88° 46' 7.708" E
	3	26° 26' 44.461" N	88° 46' 3.153" E
	4	26° 26' 46.403" N	88° 45' 59.075" E
	5	26° 26' 49.299" N	88° 45' 54.344" E
	6	26° 26' 51.387" N	88° 45' 52.370" E
	7	26° 26' 51.703" N	88° 45' 54.035" E
	8	26° 26' 54.356" N	88° 45' 50.798" E
	9	26° 26' 54.454" N	88° 45' 47.802" E
	10	26° 27' 2.035" N	88° 45' 43.159" E
	11	26° 27' 1.430" N	88° 45' 52.339" E
	12	26° 26' 58.393" N	88° 45' 58.023" E
	13	26° 26' 55.880" N	88° 46' 3.143" E
	14	26° 26' 53.629" N	88° 46' 7.836" E
	15	26° 26' 52.705" N	88° 46' 9.541" E
	16	26° 26' 50.231" N	88° 46' 9.354" E
	17	26° 26' 48.402" N	88° 46' 11.236" E
	18	26° 26' 46.750" N	88° 46' 12.739" E
	19	26° 26' 44.704" N	88° 46' 11.370" E
JP_JP_TS_103	1	26° 26' 42.613" N	88° 46' 55.083" E
	2	26° 26' 36.978" N	88° 46' 55.330" E
	3	26° 26' 33.857" N	88° 46' 57.383" E
	4	26° 26' 31.491" N	88° 46' 57.662" E
	5	26° 26' 29.240" N	88° 46' 52.757" E
	6	26° 26' 32.570" N	88° 46' 50.296" E
	7	26° 26' 36.206" N	88° 46' 48.251" E
	8	26° 26' 39.196" N	88° 46' 42.948" E
	9	26° 26' 38.897" N	88° 46' 39.314" E
	10	26° 26' 39.720" N	88° 46' 38.801" E
	11	26° 26' 42.127" N	88° 46' 38.838" E
	12	26° 26' 43.315" N	88° 46' 40.098" E
	13	26° 26' 44.601" N	88° 46' 40.404" E
	14	26° 26' 46.495" N	88° 46' 40.243" E
	15	26° 26' 47.512" N	88° 46' 41.404" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	16	26° 26' 45.837" N	88° 46' 44.722" E
	17	26° 26' 45.537" N	88° 46' 48.060" E
	18	26° 26' 44.196" N	88° 46' 52.242" E
JP_JP_TS_114	1	26° 24' 39.478" N	88° 47' 59.926" E
	2	26° 24' 33.729" N	88° 47' 59.381" E
	3	26° 24' 36.318" N	88° 47' 56.138" E
	4	26° 24' 57.692" N	88° 47' 36.619" E
	5	26° 24' 58.758" N	88° 47' 35.994" E
	6	26° 25' 4.174" N	88° 47' 32.818" E
	7	26° 25' 4.101" N	88° 47' 33.333" E
	8	26° 25' 3.841" N	88° 47' 36.910" E
	9	26° 24' 58.612" N	88° 47' 42.558" E
	10	26° 24' 54.481" N	88° 47' 46.314" E
	11	26° 24' 45.480" N	88° 48' 1.213" E
	12	26° 24' 41.606" N	88° 48' 1.630" E
JP_JP_TS_115	1	26° 23' 30.218" N	88° 49' 11.645" E
	2	26° 23' 29.749" N	88° 49' 11.519" E
	3	26° 23' 43.798" N	88° 48' 53.749" E
	4	26° 23' 51.110" N	88° 48' 48.682" E
	5	26° 23' 49.807" N	88° 48' 52.381" E
	6	26° 23' 48.433" N	88° 48' 59.042" E
	7	26° 23' 46.251" N	88° 49' 1.633" E
	8	26° 23' 41.662" N	88° 49' 7.528" E
	9	26° 23' 35.826" N	88° 49' 10.062" E
JP_JP_TS_48	1	26° 40' 18.891" N	88° 38' 42.995" E
	2	26° 40' 19.377" N	88° 38' 34.056" E
	3	26° 40' 23.816" N	88° 38' 36.506" E
	4	26° 40' 25.814" N	88° 38' 40.243" E
	5	26° 40' 22.129" N	88° 38' 42.942" E
JP_JP_TS_49	1	26° 40' 18.891" N	88° 38' 42.995" E
	2	26° 40' 18.259" N	88° 38' 43.006" E
	3	26° 40' 8.962" N	88° 38' 45.021" E
	4	26° 40' 5.341" N	88° 38' 45.830" E
	5	26° 40' 1.532" N	88° 38' 48.867" E
	6	26° 39' 58.097" N	88° 38' 47.736" E
	7	26° 40' 1.367" N	88° 38' 43.763" E
	8	26° 40' 3.513" N	88° 38' 36.617" E
	9	26° 40' 8.328" N	88° 38' 32.953" E
	10	26° 40' 13.559" N	88° 38' 31.215" E
	11	26° 40' 15.510" N	88° 38' 29.807" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	12	26° 40' 18.476" N	88° 38' 33.558" E
	13	26° 40' 19.377" N	88° 38' 34.056" E
JP_JP_TS_50	1	26° 39' 42.571" N	88° 38' 35.873" E
	2	26° 39' 42.131" N	88° 38' 34.301" E
	3	26° 39' 42.925" N	88° 38' 32.590" E
	4	26° 39' 43.720" N	88° 38' 30.735" E
	5	26° 39' 46.291" N	88° 38' 30.184" E
	6	26° 39' 46.732" N	88° 38' 29.233" E
	7	26° 39' 48.319" N	88° 38' 31.409" E
	8	26° 39' 51.427" N	88° 38' 31.310" E
	9	26° 39' 53.604" N	88° 38' 34.752" E
	10	26° 39' 54.199" N	88° 38' 39.067" E
	11	26° 39' 50.381" N	88° 38' 40.217" E
	12	26° 39' 47.269" N	88° 38' 38.572" E
	13	26° 39' 45.135" N	88° 38' 37.225" E
	14	26° 39' 44.070" N	88° 38' 36.373" E
JP_JP_TS_51	1	26° 39' 55.198" N	88° 38' 53.783" E
	2	26° 39' 53.051" N	88° 38' 52.831" E
	3	26° 39' 53.289" N	88° 38' 50.801" E
	4	26° 39' 56.323" N	88° 38' 48.691" E
	5	26° 40' 0.561" N	88° 38' 50.529" E
	6	26° 39' 59.854" N	88° 38' 51.924" E
	7	26° 39' 57.386" N	88° 38' 53.468" E
JP_JP_TS_53	1	26° 39' 13.797" N	88° 39' 10.387" E
	2	26° 39' 7.397" N	88° 39' 15.438" E
	3	26° 39' 4.714" N	88° 39' 15.160" E
	4	26° 39' 1.494" N	88° 39' 14.754" E
	5	26° 39' 2.583" N	88° 39' 13.574" E
	6	26° 39' 4.956" N	88° 39' 12.771" E
	7	26° 39' 4.786" N	88° 39' 8.941" E
	8	26° 39' 6.995" N	88° 39' 3.830" E
	9	26° 39' 7.995" N	88° 39' 0.974" E
	10	26° 39' 5.335" N	88° 38' 58.663" E
	11	26° 39' 2.616" N	88° 38' 57.057" E
	12	26° 39' 3.321" N	88° 38' 53.356" E
	13	26° 39' 6.143" N	88° 38' 53.890" E
	14	26° 39' 10.448" N	88° 38' 53.354" E
	15	26° 39' 14.304" N	88° 38' 54.486" E
	16	26° 39' 17.080" N	88° 38' 56.081" E
	17	26° 39' 19.667" N	88° 38' 55.400" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	18	26° 39' 23.559" N	88° 38' 53.423" E
	19	26° 39' 28.661" N	88° 38' 49.070" E
	20	26° 39' 30.918" N	88° 38' 48.359" E
	21	26° 39' 28.141" N	88° 39' 0.426" E
	22	26° 39' 24.876" N	88° 39' 0.379" E
	23	26° 39' 21.185" N	88° 39' 3.556" E
	24	26° 39' 18.150" N	88° 39' 5.785" E
JP_JP_TS_55	1	26° 39' 40.325" N	88° 39' 43.933" E
	2	26° 39' 35.245" N	88° 39' 39.350" E
	3	26° 39' 39.346" N	88° 39' 30.510" E
	4	26° 39' 43.278" N	88° 39' 25.112" E
	5	26° 39' 43.101" N	88° 39' 29.272" E
	6	26° 39' 42.930" N	88° 39' 32.858" E
	7	26° 39' 42.050" N	88° 39' 41.889" E
	8	26° 39' 40.350" N	88° 39' 43.874" E
JP_JP_TS_56	1	26° 39' 26.206" N	88° 40' 15.127" E
	2	26° 39' 22.307" N	88° 40' 17.654" E
	3	26° 39' 22.200" N	88° 40' 15.786" E
	4	26° 39' 23.382" N	88° 40' 13.938" E
	5	26° 39' 24.590" N	88° 40' 9.936" E
	6	26° 39' 25.007" N	88° 40' 7.359" E
	7	26° 39' 23.636" N	88° 40' 3.320" E
	8	26° 39' 20.695" N	88° 40' 1.124" E
	9	26° 39' 21.140" N	88° 39' 56.250" E
	10	26° 39' 23.367" N	88° 39' 53.268" E
	11	26° 39' 25.340" N	88° 39' 49.996" E
	12	26° 39' 29.106" N	88° 39' 47.754" E
	13	26° 39' 33.156" N	88° 39' 43.363" E
	14	26° 39' 32.810" N	88° 39' 50.822" E
	15	26° 39' 32.567" N	88° 40' 0.579" E
	16	26° 39' 31.617" N	88° 40' 4.584" E
	17	26° 39' 29.110" N	88° 40' 9.428" E
JP_JP_TS_57	1	26° 39' 6.178" N	88° 39' 37.069" E
	2	26° 39' 5.983" N	88° 39' 31.102" E
	3	26° 39' 7.261" N	88° 39' 27.676" E
	4	26° 39' 12.101" N	88° 39' 26.868" E
	5	26° 39' 15.017" N	88° 39' 25.595" E
	6	26° 39' 17.306" N	88° 39' 22.877" E
	7	26° 39' 19.804" N	88° 39' 20.640" E
	8	26° 39' 22.070" N	88° 39' 19.836" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	9	26° 39' 24.339" N	88° 39' 18.792" E
	10	26° 39' 25.213" N	88° 39' 17.608" E
	11	26° 39' 25.334" N	88° 39' 16.414" E
	12	26° 39' 27.154" N	88° 39' 17.038" E
	13	26° 39' 28.935" N	88° 39' 21.011" E
	14	26° 39' 29.782" N	88° 39' 22.100" E
	15	26° 39' 31.379" N	88° 39' 23.439" E
	16	26° 39' 28.001" N	88° 39' 27.337" E
	17	26° 39' 24.441" N	88° 39' 28.482" E
	18	26° 39' 21.082" N	88° 39' 30.826" E
	19	26° 39' 18.789" N	88° 39' 33.902" E
	20	26° 39' 17.341" N	88° 39' 38.307" E
	21	26° 39' 14.931" N	88° 39' 42.219" E
	22	26° 39' 12.123" N	88° 39' 43.375" E
	23	26° 39' 9.872" N	88° 39' 42.864" E
	24	26° 39' 7.216" N	88° 39' 40.194" E
JP_JP_TS_58	1	26° 38' 25.264" N	88° 39' 34.856" E
	2	26° 38' 21.705" N	88° 39' 34.294" E
	3	26° 38' 22.354" N	88° 39' 33.666" E
	4	26° 38' 28.763" N	88° 39' 29.740" E
	5	26° 38' 32.393" N	88° 39' 28.071" E
	6	26° 38' 35.533" N	88° 39' 24.289" E
	7	26° 38' 38.688" N	88° 39' 19.168" E
	8	26° 38' 43.197" N	88° 39' 26.901" E
	9	26° 38' 41.612" N	88° 39' 30.132" E
	10	26° 38' 38.338" N	88° 39' 30.658" E
	11	26° 38' 35.217" N	88° 39' 32.910" E
	12	26° 38' 32.783" N	88° 39' 35.171" E
	13	26° 38' 29.734" N	88° 39' 34.921" E
JP_JP_TS_59	1	26° 38' 17.946" N	88° 39' 50.975" E
	2	26° 38' 7.407" N	88° 39' 56.028" E
	3	26° 38' 5.257" N	88° 39' 54.658" E
	4	26° 38' 4.234" N	88° 39' 53.878" E
	5	26° 38' 6.998" N	88° 39' 52.770" E
	6	26° 38' 11.140" N	88° 39' 51.491" E
	7	26° 38' 8.055" N	88° 39' 50.681" E
	8	26° 38' 7.206" N	88° 39' 49.712" E
	9	26° 38' 7.229" N	88° 39' 47.798" E
	10	26° 38' 13.438" N	88° 39' 46.166" E
	11	26° 38' 17.397" N	88° 39' 45.841" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	12	26° 38' 21.584" N	88° 39' 47.223" E
JP_JP_TS_60	1	26° 39' 7.709" N	88° 40' 23.374" E
	2	26° 39' 7.292" N	88° 40' 25.951" E
	3	26° 39' 7.526" N	88° 40' 27.964" E
	4	26° 39' 7.068" N	88° 40' 33.985" E
	5	26° 39' 6.788" N	88° 40' 38.525" E
	6	26° 39' 5.414" N	88° 40' 38.749" E
	7	26° 39' 3.750" N	88° 40' 43.150" E
	8	26° 39' 2.754" N	88° 40' 45.528" E
	9	26° 39' 0.523" N	88° 40' 43.342" E
	10	26° 38' 59.834" N	88° 40' 39.619" E
	11	26° 38' 57.796" N	88° 40' 37.681" E
	12	26° 38' 56.248" N	88° 40' 36.089" E
	13	26° 38' 57.376" N	88° 40' 30.138" E
	14	26° 38' 55.792" N	88° 40' 27.793" E
	15	26° 38' 54.032" N	88° 40' 23.892" E
	16	26° 38' 53.660" N	88° 40' 11.687" E
	17	26° 38' 59.360" N	88° 40' 9.473" E
	18	26° 39' 5.041" N	88° 40' 8.982" E
	19	26° 39' 9.846" N	88° 40' 6.181" E
	20	26° 39' 10.892" N	88° 40' 4.905" E
	21	26° 39' 13.084" N	88° 40' 4.936" E
	22	26° 39' 15.543" N	88° 40' 4.255" E
	23	26° 39' 16.846" N	88° 40' 3.125" E
	24	26° 39' 18.295" N	88° 40' 0.563" E
	25	26° 39' 18.310" N	88° 40' 8.172" E
	26	26° 39' 14.661" N	88° 40' 11.372" E
	27	26° 39' 13.725" N	88° 40' 16.285" E
	28	26° 39' 11.631" N	88° 40' 18.838" E
	29	26° 39' 10.956" N	88° 40' 21.412" E
	30	26° 39' 9.400" N	88° 40' 22.107" E
JP_JP_TS_61	1	26° 39' 14.274" N	88° 40' 38.169" E
	2	26° 39' 12.535" N	88° 40' 39.866" E
	3	26° 39' 12.824" N	88° 40' 44.463" E
	4	26° 39' 13.188" N	88° 40' 45.228" E
	5	26° 39' 11.166" N	88° 40' 52.266" E
	6	26° 39' 7.920" N	88° 40' 52.046" E
	7	26° 39' 6.736" N	88° 40' 50.307" E
	8	26° 39' 7.123" N	88° 40' 46.676" E
	9	26° 39' 9.587" N	88° 40' 41.928" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	10	26° 39' 11.035" N	88° 40' 35.825" E
	11	26° 39' 10.137" N	88° 40' 30.444" E
	12	26° 39' 10.165" N	88° 40' 28.148" E
	13	26° 39' 11.331" N	88° 40' 25.304" E
	14	26° 39' 11.355" N	88° 40' 23.199" E
	15	26° 39' 13.635" N	88° 40' 19.405" E
	16	26° 39' 16.443" N	88° 40' 14.661" E
	17	26° 39' 18.209" N	88° 40' 10.668" E
	18	26° 39' 19.055" N	88° 40' 17.943" E
	19	26° 39' 22.134" N	88° 40' 21.160" E
	20	26° 39' 22.209" N	88° 40' 21.444" E
	21	26° 39' 24.080" N	88° 40' 23.193" E
	22	26° 39' 24.922" N	88° 40' 24.737" E
	23	26° 39' 23.508" N	88° 40' 27.970" E
	24	26° 39' 21.773" N	88° 40' 29.284" E
	25	26° 39' 20.893" N	88° 40' 30.993" E
	26	26° 39' 20.258" N	88° 40' 34.798" E
	27	26° 39' 15.626" N	88° 40' 38.022" E
JP_JP_TS_70	1	26° 37' 14.593" N	88° 42' 36.363" E
	2	26° 37' 13.335" N	88° 42' 33.714" E
	3	26° 37' 13.737" N	88° 42' 27.023" E
	4	26° 37' 14.402" N	88° 42' 25.359" E
	5	26° 37' 17.328" N	88° 42' 23.370" E
	6	26° 37' 24.105" N	88° 42' 22.873" E
	7	26° 37' 25.628" N	88° 42' 21.341" E
	8	26° 37' 26.044" N	88° 42' 21.028" E
	9	26° 37' 25.836" N	88° 42' 25.324" E
	10	26° 37' 19.630" N	88° 42' 36.712" E
	11	26° 37' 18.683" N	88° 42' 35.826" E
	12	26° 37' 17.071" N	88° 42' 35.802" E
	13	26° 37' 14.807" N	88° 42' 36.366" E
JP_JP_TS_71	1	26° 37' 5.900" N	88° 43' 10.909" E
	2	26° 37' 4.946" N	88° 43' 9.819" E
	3	26° 37' 5.311" N	88° 43' 6.357" E
	4	26° 37' 4.802" N	88° 43' 4.359" E
	5	26° 37' 5.218" N	88° 42' 56.594" E
	6	26° 37' 4.868" N	88° 42' 53.021" E
	7	26° 37' 6.613" N	88° 42' 45.241" E
	8	26° 37' 11.842" N	88° 42' 39.350" E
JP_JP_TS_74	1	26° 37' 2.619" N	88° 43' 18.945" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	2	26° 37' 1.409" N	88° 43' 21.199" E
	3	26° 37' 2.339" N	88° 43' 24.322" E
	4	26° 37' 3.484" N	88° 43' 27.328" E
	5	26° 37' 3.887" N	88° 43' 29.606" E
	6	26° 37' 2.568" N	88° 43' 31.978" E
	7	26° 37' 1.777" N	88° 43' 35.194" E
	8	26° 37' 2.603" N	88° 43' 37.957" E
	9	26° 37' 4.289" N	88° 43' 40.732" E
	10	26° 37' 5.451" N	88° 43' 42.424" E
	11	26° 37' 5.430" N	88° 43' 44.097" E
	12	26° 37' 4.597" N	88° 43' 46.427" E
	13	26° 37' 3.044" N	88° 43' 46.873" E
	14	26° 37' 0.448" N	88° 43' 48.173" E
	15	26° 36' 59.057" N	88° 43' 49.492" E
	16	26° 36' 59.477" N	88° 43' 57.342" E
	17	26° 36' 56.006" N	88° 43' 59.968" E
	18	26° 36' 50.114" N	88° 44' 3.705" E
	19	26° 36' 46.647" N	88° 44' 5.948" E
	20	26° 36' 42.335" N	88° 44' 7.031" E
	21	26° 36' 38.209" N	88° 44' 6.969" E
	22	26° 36' 34.083" N	88° 44' 6.906" E
	23	26° 36' 30.472" N	88° 44' 6.852" E
	24	26° 36' 31.706" N	88° 44' 4.384" E
	25	26° 36' 33.488" N	88° 43' 59.245" E
	26	26° 36' 34.037" N	88° 43' 56.576" E
	27	26° 36' 35.470" N	88° 43' 51.815" E
	28	26° 36' 39.120" N	88° 43' 48.618" E
	29	26° 36' 41.897" N	88° 43' 46.555" E
	30	26° 36' 45.549" N	88° 43' 43.166" E
	31	26° 36' 49.917" N	88° 43' 37.493" E
	32	26° 36' 50.110" N	88° 43' 35.774" E
	33	26° 36' 51.873" N	88° 43' 32.166" E
	34	26° 36' 54.292" N	88° 43' 31.246" E
	35	26° 36' 56.775" N	88° 43' 24.970" E
	36	26° 36' 55.618" N	88° 43' 21.126" E
	37	26° 36' 58.601" N	88° 43' 16.197" E
	38	26° 37' 2.820" N	88° 43' 8.608" E
	39	26° 37' 3.977" N	88° 43' 12.451" E
	40	26° 37' 5.918" N	88° 43' 15.114" E
	41	26° 37' 4.679" N	88° 43' 17.422" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
JP_JP_TS_79	1	26° 35' 24.706" N	88° 43' 48.562" E
	2	26° 35' 21.417" N	88° 43' 50.426" E
	3	26° 35' 22.220" N	88° 43' 55.028" E
	4	26° 35' 18.243" N	88° 43' 56.881" E
	5	26° 35' 14.997" N	88° 43' 55.111" E
	6	26° 35' 14.644" N	88° 43' 54.908" E
	7	26° 35' 21.739" N	88° 43' 41.988" E
	8	26° 35' 22.855" N	88° 43' 42.209" E
	9	26° 35' 25.146" N	88° 43' 40.727" E
	10	26° 35' 27.374" N	88° 43' 41.334" E
	11	26° 35' 27.348" N	88° 43' 43.438" E
	12	26° 35' 28.166" N	88° 43' 46.893" E
JP_JP_TS_80	1	26° 35' 17.050" N	88° 44' 50.365" E
	2	26° 35' 5.937" N	88° 44' 45.176" E
	3	26° 35' 7.889" N	88° 44' 43.771" E
	4	26° 35' 10.267" N	88° 44' 42.612" E
	5	26° 35' 12.004" N	88° 44' 41.204" E
	6	26° 35' 13.343" N	88° 44' 37.160" E
	7	26° 35' 13.690" N	88° 44' 26.407" E
	8	26° 35' 15.465" N	88° 44' 21.891" E
	9	26° 35' 19.594" N	88° 44' 18.128" E
	10	26° 35' 25.580" N	88° 44' 20.849" E
	11	26° 35' 31.170" N	88° 44' 20.694" E
	12	26° 35' 36.558" N	88° 44' 19.580" E
	13	26° 35' 40.617" N	88° 44' 21.554" E
	14	26° 35' 45.731" N	88° 44' 25.218" E
	15	26° 35' 51.322" N	88° 44' 25.064" E
	16	26° 35' 54.563" N	88° 44' 23.678" E
	17	26° 35' 58.693" N	88° 44' 19.915" E
	18	26° 36' 3.433" N	88° 44' 19.030" E
	19	26° 36' 8.155" N	88° 44' 19.580" E
	20	26° 36' 11.791" N	88° 44' 21.069" E
	21	26° 36' 13.701" N	88° 44' 23.011" E
	22	26° 36' 15.383" N	88° 44' 26.145" E
	23	26° 36' 19.457" N	88° 44' 26.924" E
	24	26° 36' 23.284" N	88° 44' 30.330" E
	25	26° 36' 20.217" N	88° 44' 35.065" E
	26	26° 36' 16.526" N	88° 44' 38.118" E
	27	26° 36' 5.495" N	88° 44' 43.689" E
	28	26° 35' 53.652" N	88° 44' 45.422" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	29	26° 35' 36.618" N	88° 44' 49.706" E
	30	26° 35' 26.085" N	88° 44' 49.785" E
JP_JP_TS_81	1	26° 36' 9.536" N	88° 45' 4.228" E
	2	26° 36' 2.498" N	88° 44' 59.673" E
	3	26° 36' 6.395" N	88° 44' 57.437" E
	4	26° 36' 11.182" N	88° 44' 56.219" E
	5	26° 36' 16.249" N	88° 44' 53.139" E
	6	26° 36' 20.162" N	88° 44' 49.612" E
	7	26° 36' 24.065" N	88° 44' 46.802" E
	8	26° 36' 27.863" N	88° 44' 42.125" E
	9	26° 36' 29.950" N	88° 44' 40.148" E
	10	26° 36' 29.951" N	88° 44' 50.622" E
	11	26° 36' 26.305" N	88° 44' 53.436" E
	12	26° 36' 25.279" N	88° 44' 56.900" E
	13	26° 36' 21.360" N	88° 45' 1.998" E
	14	26° 36' 16.797" N	88° 45' 1.038" E
	15	26° 36' 14.301" N	88° 45' 4.731" E
	16	26° 36' 12.779" N	88° 45' 2.699" E
JP_JP_TS_82	1	26° 34' 28.656" N	88° 44' 50.894" E
	2	26° 34' 26.070" N	88° 44' 48.430" E
	3	26° 34' 26.855" N	88° 44' 28.236" E
	4	26° 34' 41.968" N	88° 44' 20.281" E
	5	26° 34' 51.913" N	88° 44' 15.046" E
	6	26° 34' 52.018" N	88° 44' 27.546" E
	7	26° 34' 45.738" N	88° 44' 34.909" E
	8	26° 34' 37.171" N	88° 44' 39.369" E
	9	26° 34' 31.664" N	88° 44' 46.744" E
JP_JP_TS_83	1	26° 35' 56.209" N	88° 45' 1.943" E
	2	26° 35' 41.907" N	88° 45' 9.159" E
	3	26° 35' 43.459" N	88° 45' 9.877" E
	4	26° 35' 39.192" N	88° 45' 11.869" E
	5	26° 35' 33.464" N	88° 45' 14.051" E
	6	26° 35' 30.426" N	88° 45' 16.396" E
	7	26° 35' 28.236" N	88° 45' 19.710" E
	8	26° 35' 25.158" N	88° 45' 17.939" E
	9	26° 35' 23.766" N	88° 45' 20.142" E
	10	26° 35' 19.961" N	88° 45' 17.703" E
	11	26° 35' 14.820" N	88° 45' 16.286" E
	12	26° 35' 10.710" N	88° 45' 17.904" E
	13	26° 35' 10.054" N	88° 45' 16.490" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	14	26° 35' 9.985" N	88° 45' 14.798" E
	15	26° 35' 8.085" N	88° 45' 15.338" E
	16	26° 35' 5.056" N	88° 45' 8.624" E
	17	26° 34' 57.397" N	88° 45' 2.196" E
	18	26° 35' 4.360" N	88° 45' 2.302" E
	19	26° 35' 24.482" N	88° 45' 2.034" E
JP_JP_TS_87	1	26° 32' 53.778" N	88° 45' 33.916" E
	2	26° 32' 52.643" N	88° 45' 33.504" E
	3	26° 32' 53.563" N	88° 45' 29.091" E
	4	26° 32' 56.126" N	88° 45' 30.421" E
	5	26° 32' 59.095" N	88° 45' 30.179" E
	6	26° 33' 2.467" N	88° 45' 28.653" E
	7	26° 33' 4.029" N	88° 45' 27.530" E
	8	26° 33' 5.619" N	88° 45' 24.113" E
	9	26° 33' 8.710" N	88° 45' 24.446" E
	10	26° 33' 11.953" N	88° 45' 22.918" E
	11	26° 33' 13.864" N	88° 45' 24.812" E
	12	26° 33' 14.051" N	88° 45' 30.551" E
	13	26° 33' 16.260" N	88° 45' 33.856" E
	14	26° 33' 15.959" N	88° 45' 34.063" E
	15	26° 33' 14.897" N	88° 45' 36.533" E
	16	26° 33' 13.999" N	88° 45' 39.578" E
	17	26° 33' 13.448" N	88° 45' 42.438" E
	18	26° 33' 12.398" N	88° 45' 43.951" E
	19	26° 33' 11.391" N	88° 45' 45.312" E
	20	26° 33' 5.715" N	88° 45' 44.137" E
	21	26° 33' 5.085" N	88° 45' 44.022" E
	22	26° 33' 4.336" N	88° 45' 42.298" E
	23	26° 33' 2.487" N	88° 45' 38.829" E
	24	26° 33' 1.642" N	88° 45' 37.668" E
	25	26° 32' 59.263" N	88° 45' 35.338" E
	26	26° 32' 57.035" N	88° 45' 34.730" E
	27	26° 32' 54.464" N	88° 45' 34.117" E
JP_JP_TS_88_89	1	26° 32' 21.211" N	88° 45' 34.630" E
	2	26° 32' 20.504" N	88° 45' 37.470" E
	3	26° 32' 20.506" N	88° 45' 37.550" E
	4	26° 32' 15.580" N	88° 45' 37.303" E
	5	26° 32' 15.607" N	88° 45' 37.109" E
	6	26° 32' 16.026" N	88° 45' 34.534" E
	7	26° 32' 16.254" N	88° 45' 33.028" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	8	26° 32' 13.761" N	88° 45' 32.222" E
	9	26° 32' 7.854" N	88° 45' 30.125" E
	10	26° 32' 0.655" N	88° 45' 28.294" E
	11	26° 31' 56.546" N	88° 45' 26.798" E
	12	26° 31' 52.381" N	88° 45' 25.483" E
	13	26° 31' 51.501" N	88° 45' 29.402" E
	14	26° 31' 55.984" N	88° 45' 30.517" E
	15	26° 31' 57.761" N	88° 45' 32.838" E
	16	26° 31' 57.464" N	88° 45' 35.988" E
	17	26° 31' 57.319" N	88° 45' 36.385" E
	18	26° 31' 52.302" N	88° 45' 36.133" E
	19	26° 31' 40.824" N	88° 45' 38.846" E
	20	26° 31' 39.645" N	88° 45' 37.723" E
	21	26° 31' 38.547" N	88° 45' 33.619" E
	22	26° 31' 27.529" N	88° 45' 35.894" E
	23	26° 31' 31.537" N	88° 45' 41.040" E
	24	26° 31' 15.827" N	88° 45' 44.752" E
	25	26° 31' 10.803" N	88° 45' 44.011" E
	26	26° 31' 7.869" N	88° 45' 41.826" E
	27	26° 30' 54.794" N	88° 45' 35.319" E
	28	26° 30' 56.363" N	88° 45' 32.265" E
	29	26° 31' 4.651" N	88° 45' 29.524" E
	30	26° 31' 9.904" N	88° 45' 21.863" E
	31	26° 31' 6.332" N	88° 45' 18.655" E
	32	26° 31' 3.275" N	88° 45' 15.187" E
	33	26° 30' 57.057" N	88° 45' 17.386" E
	34	26° 30' 51.419" N	88° 45' 14.433" E
	35	26° 30' 55.859" N	88° 45' 9.913" E
	36	26° 30' 55.895" N	88° 45' 7.047" E
	37	26° 30' 52.040" N	88° 45' 5.842" E
	38	26° 30' 46.642" N	88° 45' 4.326" E
	39	26° 30' 43.032" N	88° 45' 4.271" E
	40	26° 30' 38.839" N	88° 45' 3.585" E
	41	26° 30' 39.465" N	88° 45' 1.044" E
	42	26° 30' 33.841" N	88° 44' 56.945" E
	43	26° 30' 19.360" N	88° 44' 59.879" E
	44	26° 30' 12.380" N	88° 45' 1.207" E
	45	26° 30' 2.354" N	88° 44' 58.475" E
	46	26° 29' 54.914" N	88° 44' 55.209" E
	47	26° 29' 46.251" N	88° 44' 46.478" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	48	26° 29' 33.988" N	88° 44' 36.833" E
	49	26° 29' 22.107" N	88° 44' 38.087" E
	50	26° 29' 21.881" N	88° 44' 35.504" E
	51	26° 29' 26.791" N	88° 44' 34.718" E
	52	26° 29' 27.600" N	88° 44' 31.864" E
	53	26° 29' 24.794" N	88° 44' 29.241" E
	54	26° 29' 25.525" N	88° 44' 26.761" E
	55	26° 29' 32.454" N	88° 44' 24.770" E
	56	26° 30' 4.741" N	88° 44' 23.487" E
	57	26° 30' 37.007" N	88° 44' 24.450" E
	58	26° 30' 48.295" N	88° 44' 24.203" E
	59	26° 31' 5.687" N	88° 44' 23.824" E
	60	26° 31' 8.287" N	88° 44' 23.767" E
	61	26° 31' 10.548" N	88° 44' 23.598" E
	62	26° 31' 10.688" N	88° 44' 23.831" E
	63	26° 31' 4.682" N	88° 44' 25.575" E
	64	26° 31' 2.156" N	88° 44' 29.666" E
	65	26° 31' 2.702" N	88° 44' 35.638" E
	66	26° 31' 8.414" N	88° 44' 41.000" E
	67	26° 31' 16.003" N	88° 44' 44.785" E
	68	26° 31' 20.505" N	88° 44' 47.835" E
	69	26° 31' 22.964" N	88° 44' 49.248" E
	70	26° 31' 27.514" N	88° 44' 48.400" E
	71	26° 31' 36.581" N	88° 44' 49.455" E
	72	26° 31' 45.184" N	88° 44' 54.632" E
	73	26° 31' 53.400" N	88° 44' 57.738" E
	74	26° 32' 1.435" N	88° 44' 58.778" E
	75	26° 32' 5.332" N	88° 45' 0.672" E
	76	26° 32' 9.252" N	88° 45' 0.732" E
	77	26° 32' 16.699" N	88° 44' 59.239" E
	78	26° 32' 23.161" N	88° 44' 58.046" E
	79	26° 32' 29.273" N	88° 45' 0.347" E
	80	26° 32' 37.514" N	88° 45' 1.390" E
	81	26° 32' 43.923" N	88° 45' 0.340" E
	82	26° 32' 49.694" N	88° 45' 0.887" E
	83	26° 32' 53.671" N	88° 44' 56.359" E
	84	26° 32' 58.594" N	88° 44' 58.728" E
	85	26° 33' 2.740" N	88° 44' 57.184" E
	86	26° 33' 6.994" N	88° 45' 2.036" E
	87	26° 33' 12.231" N	88° 45' 1.693" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	88	26° 33' 23.050" N	88° 45' 2.813" E
	89	26° 33' 14.907" N	88° 45' 6.472" E
	90	26° 33' 7.983" N	88° 45' 10.191" E
	91	26° 33' 6.581" N	88° 45' 12.273" E
	92	26° 33' 5.109" N	88° 45' 20.090" E
	93	26° 33' 3.188" N	88° 45' 22.546" E
	94	26° 33' 0.065" N	88° 45' 24.793" E
	95	26° 32' 57.980" N	88° 45' 26.482" E
	96	26° 32' 53.334" N	88° 45' 26.793" E
	97	26° 32' 51.075" N	88° 45' 28.671" E
	98	26° 32' 49.588" N	88° 45' 36.688" E
	99	26° 32' 48.017" N	88° 45' 36.186" E
	100	26° 32' 40.807" N	88° 45' 35.216" E
	101	26° 32' 36.158" N	88° 45' 35.718" E
	102	26° 32' 29.195" N	88° 45' 35.612" E
JP_MG_TS_102	1	26° 26' 58.145" N	88° 46' 23.554" E
	2	26° 26' 56.661" N	88° 46' 25.346" E
	3	26° 26' 56.878" N	88° 46' 28.597" E
	4	26° 26' 56.601" N	88° 46' 30.121" E
	5	26° 26' 54.442" N	88° 46' 30.948" E
	6	26° 26' 52.208" N	88° 46' 30.818" E
	7	26° 26' 50.485" N	88° 46' 31.078" E
	8	26° 26' 49.981" N	88° 46' 30.115" E
	9	26° 26' 50.769" N	88° 46' 28.981" E
	10	26° 26' 52.073" N	88° 46' 27.855" E
	11	26° 26' 52.307" N	88° 46' 25.531" E
	12	26° 26' 48.936" N	88° 46' 26.431" E
	13	26° 26' 49.336" N	88° 46' 21.929" E
	14	26° 26' 50.211" N	88° 46' 17.892" E
	15	26° 26' 52.490" N	88° 46' 17.163" E
	16	26° 26' 55.057" N	88° 46' 15.368" E
	17	26° 26' 55.635" N	88° 46' 11.003" E
	18	26° 26' 57.285" N	88° 46' 9.691" E
	19	26° 27' 0.627" N	88° 46' 10.602" E
	20	26° 27' 3.893" N	88° 46' 10.652" E
	21	26° 27' 8.404" N	88° 46' 7.473" E
	22	26° 27' 9.638" N	88° 46' 5.009" E
	23	26° 27' 10.445" N	88° 46' 2.347" E
	24	26° 27' 11.834" N	88° 46' 1.222" E
	25	26° 27' 13.810" N	88° 46' 1.347" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	26	26° 27' 15.152" N	88° 46' 2.994" E
	27	26° 27' 12.807" N	88° 46' 13.692" E
	28	26° 27' 12.392" N	88° 46' 15.589" E
	29	26° 27' 11.100" N	88° 46' 18.881" E
	30	26° 27' 8.415" N	88° 46' 20.464" E
	31	26° 27' 6.078" N	88° 46' 21.670" E
	32	26° 27' 4.177" N	88° 46' 22.405" E
	33	26° 27' 1.510" N	88° 46' 22.555" E
	34	26° 26' 59.876" N	88° 46' 22.626" E
JP_MG_TS_104	1	26° 26' 45.287" N	88° 47' 45.693" E
	2	26° 26' 46.098" N	88° 47' 42.660" E
	3	26° 26' 52.263" N	88° 47' 24.130" E
	4	26° 26' 56.463" N	88° 47' 18.508" E
	5	26° 26' 58.623" N	88° 47' 27.781" E
	6	26° 26' 49.254" N	88° 47' 40.426" E
	7	26° 26' 46.881" N	88° 47' 43.628" E
	8	26° 26' 45.504" N	88° 47' 45.486" E
JP_MG_TS_105	1	26° 27' 12.827" N	88° 47' 11.888" E
	2	26° 26' 39.954" N	88° 48' 9.247" E
	3	26° 26' 40.144" N	88° 48' 4.917" E
	4	26° 26' 45.287" N	88° 47' 45.693" E
	5	26° 26' 45.504" N	88° 47' 45.486" E
	6	26° 26' 46.881" N	88° 47' 43.628" E
	7	26° 26' 49.254" N	88° 47' 40.426" E
	8	26° 26' 58.623" N	88° 47' 27.781" E
	9	26° 26' 56.463" N	88° 47' 18.508" E
	10	26° 26' 58.822" N	88° 47' 15.349" E
	11	26° 27' 2.472" N	88° 47' 12.253" E
	12	26° 27' 8.919" N	88° 47' 12.353" E
JP_MG_TS_108	1	26° 26' 24.735" N	88° 47' 47.370" E
	2	26° 26' 23.179" N	88° 47' 54.545" E
	3	26° 26' 23.245" N	88° 48' 2.467" E
	4	26° 26' 16.196" N	88° 48' 17.593" E
	5	26° 26' 16.564" N	88° 48' 29.346" E
	6	26° 26' 14.047" N	88° 48' 44.778" E
	7	26° 26' 5.677" N	88° 48' 53.330" E
	8	26° 26' 4.830" N	88° 49' 3.545" E
	9	26° 25' 59.614" N	88° 49' 9.081" E
	10	26° 25' 59.212" N	88° 49' 15.705" E
	11	26° 25' 57.241" N	88° 49' 17.534" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	12	26° 25' 52.784" N	88° 49' 21.789" E
	13	26° 25' 52.556" N	88° 49' 21.359" E
	14	26° 25' 52.684" N	88° 49' 18.703" E
	15	26° 25' 53.253" N	88° 49' 16.206" E
	16	26° 25' 53.483" N	88° 49' 15.015" E
	17	26° 25' 53.072" N	88° 49' 13.576" E
	18	26° 25' 53.420" N	88° 49' 11.553" E
	19	26° 25' 55.177" N	88° 49' 8.596" E
	20	26° 25' 57.046" N	88° 49' 5.283" E
	21	26° 25' 57.705" N	88° 49' 3.209" E
	22	26° 25' 55.727" N	88° 49' 2.640" E
	23	26° 25' 56.879" N	88° 49' 0.570" E
	24	26° 25' 57.276" N	88° 48' 57.977" E
	25	26° 25' 57.454" N	88° 48' 57.595" E
	26	26° 25' 57.363" N	88° 48' 57.404" E
	27	26° 25' 58.567" N	88° 48' 49.537" E
	28	26° 26' 1.237" N	88° 48' 42.417" E
	29	26° 26' 4.187" N	88° 48' 37.287" E
	30	26° 26' 4.155" N	88° 48' 37.645" E
	31	26° 26' 9.426" N	88° 48' 22.645" E
	32	26° 26' 10.229" N	88° 48' 2.521" E
	33	26° 26' 9.994" N	88° 47' 55.594" E
	34	26° 26' 8.339" N	88° 47' 52.155" E
	35	26° 26' 6.791" N	88° 47' 47.713" E
	36	26° 26' 9.260" N	88° 47' 39.408" E
	37	26° 26' 14.327" N	88° 47' 34.029" E
	38	26° 26' 16.519" N	88° 47' 34.063" E
	39	26° 26' 17.664" N	88° 47' 35.370" E
	40	26° 26' 19.574" N	88° 47' 37.262" E
	41	26° 26' 21.754" N	88° 47' 38.299" E
	42	26° 26' 24.171" N	88° 47' 40.915" E
JP_MG_TS_110	1	26° 25' 28.765" N	88° 49' 47.600" E
	2	26° 25' 28.545" N	88° 49' 43.327" E
	3	26° 25' 30.314" N	88° 49' 39.535" E
	4	26° 25' 35.222" N	88° 49' 32.164" E
	5	26° 25' 37.177" N	88° 49' 27.229" E
	6	26° 25' 39.277" N	88° 49' 24.397" E
	7	26° 25' 39.771" N	88° 49' 24.301" E
	8	26° 25' 40.080" N	88° 49' 34.021" E
	9	26° 25' 36.345" N	88° 49' 38.484" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	10	26° 25' 35.101" N	88° 49' 43.943" E
JP_MG_TS_111	1	26° 25' 27.927" N	88° 49' 40.731" E
	2	26° 25' 27.115" N	88° 49' 45.373" E
	3	26° 25' 27.093" N	88° 49' 48.801" E
	4	26° 25' 23.094" N	88° 49' 54.336" E
	5	26° 25' 22.900" N	88° 49' 54.262" E
	6	26° 25' 6.205" N	88° 49' 57.990" E
	7	26° 25' 6.589" N	88° 49' 55.103" E
	8	26° 25' 17.310" N	88° 49' 47.924" E
	9	26° 25' 23.400" N	88° 49' 42.291" E
JP_MG_TS_112	1	26° 24' 47.471" N	88° 50' 43.623" E
	2	26° 24' 36.322" N	88° 50' 45.649" E
	3	26° 24' 37.962" N	88° 50' 41.395" E
	4	26° 24' 38.360" N	88° 50' 37.200" E
	5	26° 24' 36.508" N	88° 50' 34.115" E
	6	26° 24' 35.024" N	88° 50' 28.849" E
	7	26° 24' 40.234" N	88° 50' 24.874" E
	8	26° 24' 45.659" N	88° 50' 20.902" E
	9	26° 24' 56.419" N	88° 50' 19.879" E
	10	26° 25' 3.523" N	88° 50' 21.416" E
JP_MG_TS_112A	1	26° 24' 26.418" N	88° 50' 47.449" E
	2	26° 24' 1.374" N	88° 50' 52.000" E
	3	26° 24' 3.142" N	88° 50' 51.017" E
	4	26° 24' 8.395" N	88° 50' 43.702" E
	5	26° 24' 11.290" N	88° 50' 35.871" E
	6	26° 24' 15.167" N	88° 50' 35.217" E
	7	26° 24' 22.053" N	88° 50' 34.610" E
	8	26° 24' 25.804" N	88° 50' 32.730" E
	9	26° 24' 23.391" N	88° 50' 44.833" E
JP_MG_TS_81A	1	26° 35' 50.932" N	88° 45' 22.516" E
	2	26° 35' 50.950" N	88° 45' 21.082" E
	3	26° 35' 52.663" N	88° 45' 18.095" E
	4	26° 35' 58.580" N	88° 45' 8.861" E
	5	26° 36' 0.659" N	88° 45' 7.601" E
	6	26° 36' 5.813" N	88° 45' 7.967" E
	7	26° 36' 10.460" N	88° 45' 9.296" E
	8	26° 36' 15.844" N	88° 45' 7.443" E
	9	26° 36' 17.454" N	88° 45' 7.078" E
	10	26° 36' 7.338" N	88° 45' 20.234" E
	11	26° 35' 56.658" N	88° 45' 24.418" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	12	26° 35' 55.687" N	88° 45' 23.880" E
	13	26° 35' 53.634" N	88° 45' 22.988" E
JP_MG_TS_84_85_86	1	26° 34' 55.998" N	88° 45' 40.858" E
	2	26° 34' 52.865" N	88° 45' 43.966" E
	3	26° 34' 55.065" N	88° 45' 45.409" E
	4	26° 34' 39.596" N	88° 45' 44.713" E
	5	26° 34' 31.991" N	88° 45' 33.983" E
	6	26° 34' 28.186" N	88° 45' 28.762" E
	7	26° 34' 11.957" N	88° 45' 27.079" E
	8	26° 33' 51.270" N	88° 45' 31.353" E
	9	26° 33' 34.418" N	88° 45' 38.266" E
	10	26° 33' 29.944" N	88° 45' 41.658" E
	11	26° 33' 28.987" N	88° 45' 41.872" E
	12	26° 33' 25.653" N	88° 45' 38.031" E
	13	26° 33' 25.694" N	88° 45' 34.754" E
	14	26° 33' 27.312" N	88° 45' 29.042" E
	15	26° 33' 29.968" N	88° 45' 22.773" E
	16	26° 33' 35.165" N	88° 45' 19.697" E
	17	26° 33' 43.771" N	88° 45' 12.084" E
	18	26° 33' 48.904" N	88° 45' 14.170" E
	19	26° 33' 55.390" N	88° 45' 11.113" E
	20	26° 34' 0.167" N	88° 45' 6.875" E
	21	26° 34' 9.510" N	88° 45' 6.582" E
	22	26° 34' 10.057" N	88° 45' 6.406" E
	23	26° 34' 10.404" N	88° 45' 6.752" E
	24	26° 34' 17.091" N	88° 45' 8.288" E
	25	26° 34' 23.570" N	88° 45' 5.805" E
	26	26° 34' 28.041" N	88° 45' 5.291" E
	27	26° 34' 28.527" N	88° 45' 2.027" E
	28	26° 34' 44.421" N	88° 45' 2.986" E
	29	26° 34' 48.545" N	88° 45' 9.857" E
	30	26° 34' 54.217" N	88° 45' 15.225" E
	31	26° 34' 57.174" N	88° 45' 14.655" E
	32	26° 35' 0.000" N	88° 45' 12.068" E
	33	26° 35' 2.747" N	88° 45' 19.162" E
	34	26° 35' 6.112" N	88° 45' 27.574" E
	35	26° 35' 11.753" N	88° 45' 30.242" E
	36	26° 35' 19.999" N	88° 45' 30.942" E
	37	26° 35' 21.523" N	88° 45' 30.784" E
	38	26° 35' 17.477" N	88° 45' 35.162" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	39	26° 35' 11.023" N	88° 45' 35.637" E
	40	26° 35' 1.439" N	88° 45' 38.933" E
JP_MG_TS_90_91	1	26° 29' 56.876" N	88° 45' 30.006" E
	2	26° 29' 48.346" N	88° 45' 25.515" E
	3	26° 29' 50.109" N	88° 45' 22.849" E
	4	26° 29' 53.136" N	88° 45' 23.250" E
	5	26° 29' 56.186" N	88° 45' 19.951" E
	6	26° 29' 56.442" N	88° 45' 16.611" E
	7	26° 29' 55.335" N	88° 45' 16.272" E
	8	26° 29' 55.425" N	88° 45' 16.163" E
	9	26° 29' 59.583" N	88° 45' 13.646" E
	10	26° 30' 5.504" N	88° 45' 14.596" E
	11	26° 30' 11.375" N	88° 45' 19.559" E
	12	26° 30' 14.728" N	88° 45' 19.610" E
	13	26° 30' 21.475" N	88° 45' 16.272" E
	14	26° 30' 27.612" N	88° 45' 20.666" E
	15	26° 30' 31.957" N	88° 45' 23.885" E
	16	26° 30' 38.655" N	88° 45' 24.561" E
	17	26° 30' 41.471" N	88° 45' 26.324" E
	18	26° 30' 38.574" N	88° 45' 31.153" E
	19	26° 30' 33.918" N	88° 45' 32.229" E
	20	26° 30' 30.269" N	88° 45' 35.327" E
	21	26° 30' 27.640" N	88° 45' 39.301" E
	22	26° 30' 23.270" N	88° 45' 38.087" E
	23	26° 30' 17.999" N	88° 45' 35.045" E
	24	26° 30' 12.595" N	88° 45' 36.971" E
	25	26° 30' 3.798" N	88° 45' 40.106" E
JP_MG_TS_93_94	1	26° 30' 0.458" N	88° 45' 6.576" E
	2	26° 29' 45.944" N	88° 45' 13.824" E
	3	26° 29' 47.116" N	88° 45' 14.093" E
	4	26° 29' 43.282" N	88° 45' 18.928" E
	5	26° 29' 39.121" N	88° 45' 21.732" E
	6	26° 29' 33.794" N	88° 45' 17.460" E
	7	26° 29' 29.306" N	88° 45' 15.078" E
	8	26° 29' 25.064" N	88° 45' 12.827" E
	9	26° 29' 19.943" N	88° 45' 10.109" E
	10	26° 29' 17.011" N	88° 45' 11.514" E
	11	26° 29' 14.079" N	88° 45' 15.036" E
	12	26° 29' 13.035" N	88° 45' 16.024" E
	13	26° 29' 10.083" N	88° 45' 14.832" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	14	26° 29' 5.645" N	88° 45' 17.210" E
	15	26° 29' 2.264" N	88° 45' 19.452" E
	16	26° 28' 59.427" N	88° 45' 19.409" E
	17	26° 28' 54.569" N	88° 45' 15.895" E
	18	26° 28' 54.679" N	88° 45' 7.012" E
	19	26° 28' 57.000" N	88° 45' 7.047" E
	20	26° 29' 8.191" N	88° 44' 58.904" E
	21	26° 29' 14.673" N	88° 44' 56.136" E
	22	26° 29' 21.661" N	88° 44' 54.235" E
	23	26° 29' 33.326" N	88° 44' 56.673" E
	24	26° 29' 37.618" N	88° 44' 57.056" E
	25	26° 29' 49.732" N	88° 44' 57.813" E
JP_MG_TS_95	1	26° 29' 4.047" N	88° 45' 37.326" E
	2	26° 29' 6.996" N	88° 45' 29.511" E
	3	26° 29' 9.500" N	88° 45' 27.256" E
	4	26° 29' 13.025" N	88° 45' 25.934" E
	5	26° 29' 17.773" N	88° 45' 25.776" E
	6	26° 29' 15.209" N	88° 45' 31.033" E
	7	26° 29' 18.519" N	88° 45' 34.847" E
	8	26° 29' 20.337" N	88° 45' 36.694" E
	9	26° 29' 24.328" N	88° 45' 35.974" E
	10	26° 29' 23.091" N	88° 45' 37.976" E
	11	26° 29' 20.099" N	88° 45' 37.826" E
	12	26° 29' 9.508" N	88° 45' 39.098" E
	13	26° 28' 53.316" N	88° 45' 51.551" E
	14	26° 28' 53.762" N	88° 45' 48.085" E
	15	26° 29' 2.523" N	88° 45' 40.908" E
JP_MG_TS_96	1	26° 28' 42.913" N	88° 45' 53.746" E
	2	26° 28' 41.768" N	88° 45' 56.879" E
	3	26° 28' 38.238" N	88° 45' 58.660" E
	4	26° 28' 34.667" N	88° 45' 56.103" E
	5	26° 28' 30.932" N	88° 45' 54.168" E
	6	26° 28' 28.994" N	88° 45' 53.378" E
	7	26° 28' 25.732" N	88° 45' 52.049" E
	8	26° 28' 23.822" N	88° 45' 50.618" E
	9	26° 28' 24.280" N	88° 45' 45.816" E
	10	26° 28' 20.722" N	88° 45' 46.174" E
	11	26° 28' 19.648" N	88° 45' 43.473" E
	12	26° 28' 15.466" N	88° 45' 43.596" E
	13	26° 28' 1.469" N	88° 45' 49.114" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	14	26° 27' 50.659" N	88° 46' 8.150" E
	15	26° 27' 41.653" N	88° 46' 14.095" E
	16	26° 27' 37.788" N	88° 46' 11.759" E
	17	26° 27' 27.738" N	88° 46' 11.032" E
	18	26° 27' 22.046" N	88° 46' 12.378" E
	19	26° 27' 17.139" N	88° 46' 12.876" E
	20	26° 27' 17.297" N	88° 46' 11.358" E
	21	26° 27' 18.198" N	88° 46' 8.029" E
	22	26° 27' 19.319" N	88° 46' 4.345" E
	23	26° 27' 17.987" N	88° 46' 1.041" E
	24	26° 27' 18.465" N	88° 45' 59.643" E
	25	26° 27' 15.411" N	88° 45' 58.793" E
	26	26° 27' 12.273" N	88° 45' 58.534" E
	27	26° 27' 14.508" N	88° 45' 51.643" E
	28	26° 27' 9.041" N	88° 45' 41.769" E
	29	26° 27' 16.197" N	88° 45' 36.624" E
	30	26° 27' 17.966" N	88° 45' 33.400" E
	31	26° 27' 24.042" N	88° 45' 29.678" E
	32	26° 27' 35.627" N	88° 45' 20.993" E
	33	26° 27' 39.163" N	88° 45' 18.343" E
	34	26° 27' 39.207" N	88° 45' 18.347" E
	35	26° 27' 47.841" N	88° 45' 15.373" E
	36	26° 27' 54.042" N	88° 45' 18.094" E
	37	26° 27' 53.890" N	88° 45' 23.822" E
	38	26° 27' 58.423" N	88° 45' 24.349" E
	39	26° 28' 3.383" N	88° 45' 23.737" E
	40	26° 28' 5.867" N	88° 45' 23.086" E
	41	26° 28' 9.205" N	88° 45' 20.157" E
	42	26° 28' 13.336" N	88° 45' 19.761" E
	43	26° 28' 18.941" N	88° 45' 17.094" E
	44	26° 28' 23.494" N	88° 45' 16.017" E
	45	26° 28' 28.886" N	88° 45' 13.806" E
	46	26° 28' 34.049" N	88° 45' 13.426" E
	47	26° 28' 30.285" N	88° 45' 17.496" E
	48	26° 28' 34.406" N	88° 45' 18.017" E
	49	26° 28' 39.173" N	88° 45' 16.255" E
	50	26° 28' 43.732" N	88° 45' 14.719" E
	51	26° 28' 45.374" N	88° 45' 15.432" E
	52	26° 28' 47.214" N	88° 45' 16.836" E
	53	26° 28' 47.055" N	88° 45' 12.935" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	54	26° 28' 48.714" N	88° 45' 12.272" E
	55	26° 28' 50.187" N	88° 45' 10.002" E
	56	26° 28' 51.103" N	88° 45' 19.417" E
	57	26° 28' 52.674" N	88° 45' 25.861" E
	58	26° 28' 51.312" N	88° 45' 35.930" E
	59	26° 28' 48.359" N	88° 45' 41.159" E
	60	26° 28' 45.389" N	88° 45' 47.120" E
	61	26° 28' 42.382" N	88° 45' 42.079" E
	62	26° 28' 37.033" N	88° 45' 36.552" E
	63	26° 28' 34.214" N	88° 45' 35.076" E
	64	26° 28' 31.374" N	88° 45' 35.319" E
	65	26° 28' 27.746" N	88° 45' 36.697" E
	66	26° 28' 24.640" N	88° 45' 37.510" E
	67	26° 28' 23.068" N	88° 45' 39.492" E
	68	26° 28' 24.305" N	88° 45' 43.810" E
	69	26° 28' 28.577" N	88° 45' 39.824" E
	70	26° 28' 35.747" N	88° 45' 42.321" E
	71	26° 28' 39.315" N	88° 45' 49.302" E
JP_MG_TS_97_98	1	26° 28' 25.732" N	88° 45' 52.049" E
	2	26° 28' 28.994" N	88° 45' 53.378" E
	3	26° 28' 34.667" N	88° 45' 56.103" E
	4	26° 28' 38.238" N	88° 45' 58.660" E
	5	26° 28' 41.768" N	88° 45' 56.879" E
	6	26° 28' 42.913" N	88° 45' 53.746" E
	7	26° 28' 43.010" N	88° 45' 53.840" E
	8	26° 28' 43.771" N	88° 45' 58.530" E
	9	26° 28' 43.318" N	88° 45' 59.239" E
	10	26° 28' 26.018" N	88° 46' 12.542" E
	11	26° 28' 0.604" N	88° 46' 32.817" E
	12	26° 28' 0.711" N	88° 46' 32.278" E
	13	26° 28' 1.032" N	88° 46' 29.619" E
	14	26° 28' 1.295" N	88° 46' 29.324" E
	15	26° 28' 5.178" N	88° 46' 27.147" E
	16	26° 28' 6.455" N	88° 46' 23.996" E
	17	26° 28' 8.660" N	88° 46' 18.250" E
	18	26° 28' 9.861" N	88° 46' 9.361" E
	19	26° 28' 12.122" N	88° 46' 9.037" E
	20	26° 28' 14.317" N	88° 46' 11.634" E
	21	26° 28' 15.501" N	88° 46' 10.839" E
	22	26° 28' 15.217" N	88° 46' 10.756" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	23	26° 28' 13.893" N	88° 46' 7.588" E
	24	26° 28' 7.266" N	88° 46' 5.905" E
	25	26° 28' 6.270" N	88° 46' 3.024" E
	26	26° 28' 11.089" N	88° 46' 3.440" E
	27	26° 28' 13.690" N	88° 46' 1.689" E
	28	26° 28' 20.023" N	88° 45' 56.355" E
	29	26° 28' 23.381" N	88° 45' 52.534" E
JP_MG_TS_99	1	26° 27' 18.564" N	88° 46' 43.559" E
	2	26° 27' 13.392" N	88° 46' 44.626" E
	3	26° 27' 13.342" N	88° 46' 48.637" E
	4	26° 27' 11.458" N	88° 46' 54.912" E
	5	26° 27' 10.172" N	88° 46' 54.606" E
	6	26° 27' 3.786" N	88° 46' 57.413" E
	7	26° 27' 1.501" N	88° 46' 55.073" E
	8	26° 27' 0.000" N	88° 46' 55.050" E
	9	26° 26' 56.403" N	88° 46' 55.820" E
	10	26° 26' 55.185" N	88° 46' 53.066" E
	11	26° 26' 53.702" N	88° 46' 51.371" E
	12	26° 26' 51.320" N	88° 46' 52.767" E
	13	26° 26' 49.766" N	88° 46' 56.683" E
	14	26° 26' 48.453" N	88° 47' 0.289" E
	15	26° 26' 41.987" N	88° 47' 0.189" E
	16	26° 26' 48.499" N	88° 46' 55.132" E
	17	26° 26' 49.358" N	88° 46' 48.268" E
	18	26° 26' 52.023" N	88° 46' 41.432" E
	19	26° 26' 55.407" N	88° 46' 38.905" E
	20	26° 26' 57.220" N	88° 46' 38.360" E
	21	26° 27' 2.392" N	88° 46' 37.293" E
	22	26° 27' 9.380" N	88° 46' 35.395" E
	23	26° 27' 15.884" N	88° 46' 30.910" E
	24	26° 27' 18.429" N	88° 46' 28.343" E
	25	26° 27' 19.714" N	88° 46' 28.309" E
	26	26° 27' 25.939" N	88° 46' 25.539" E
	27	26° 27' 26.872" N	88° 46' 23.525" E
	28	26° 27' 28.094" N	88° 46' 23.933" E
	29	26° 27' 33.226" N	88° 46' 26.017" E
	30	26° 27' 37.044" N	88° 46' 28.355" E
	31	26° 27' 37.455" N	88° 46' 27.764" E
	32	26° 27' 42.851" N	88° 46' 25.936" E
	33	26° 27' 46.296" N	88° 46' 25.511" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	34	26° 27' 43.704" N	88° 46' 33.916" E
	35	26° 27' 40.826" N	88° 46' 39.082" E
	36	26° 27' 34.370" N	88° 46' 37.784" E
	37	26° 27' 29.964" N	88° 46' 39.436" E
	38	26° 27' 27.092" N	88° 46' 42.258" E
	39	26° 27' 23.979" N	88° 46' 43.643" E
JP_ML_TS_16	1	26° 48' 43.365" N	88° 32' 39.424" E
	2	26° 48' 34.441" N	88° 32' 31.028" E
	3	26° 48' 33.503" N	88° 32' 31.015" E
	4	26° 48' 34.910" N	88° 32' 29.404" E
	5	26° 48' 39.946" N	88° 32' 24.873" E
	6	26° 48' 44.244" N	88° 32' 24.931" E
	7	26° 48' 46.280" N	88° 32' 27.450" E
	8	26° 48' 46.220" N	88° 32' 33.007" E
JP_ML_TS_18	1	26° 48' 33.503" N	88° 32' 31.015" E
	2	26° 48' 34.441" N	88° 32' 31.028" E
	3	26° 48' 43.365" N	88° 32' 39.424" E
	4	26° 48' 41.813" N	88° 32' 42.913" E
	5	26° 48' 38.791" N	88° 32' 51.880" E
	6	26° 48' 31.327" N	88° 32' 58.294" E
	7	26° 48' 27.718" N	88° 32' 58.053" E
	8	26° 48' 26.638" N	88° 32' 46.732" E
	9	26° 48' 27.758" N	88° 32' 38.698" E
	10	26° 48' 31.601" N	88° 32' 33.193" E
JP_ML_TS_21	1	26° 46' 59.658" N	88° 35' 1.732" E
	2	26° 46' 54.226" N	88° 35' 1.657" E
	3	26° 46' 59.310" N	88° 34' 54.590" E
	4	26° 47' 3.650" N	88° 34' 53.578" E
	5	26° 47' 24.137" N	88° 34' 48.803" E
	6	26° 47' 27.730" N	88° 34' 44.118" E
	7	26° 47' 30.220" N	88° 34' 40.872" E
	8	26° 47' 34.899" N	88° 34' 40.560" E
	9	26° 47' 40.908" N	88° 34' 44.341" E
	10	26° 47' 49.736" N	88° 34' 43.026" E
	11	26° 47' 51.062" N	88° 34' 40.033" E
	12	26° 48' 14.693" N	88° 34' 52.105" E
	13	26° 48' 32.455" N	88° 35' 2.605" E
	14	26° 48' 32.927" N	88° 35' 3.507" E
	15	26° 48' 37.621" N	88° 35' 6.687" E
	16	26° 48' 42.733" N	88° 35' 10.830" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	17	26° 48' 47.448" N	88° 35' 12.094" E
	18	26° 48' 52.136" N	88° 35' 15.752" E
	19	26° 48' 57.678" N	88° 35' 19.902" E
	20	26° 49' 7.725" N	88° 35' 24.834" E
	21	26° 49' 12.004" N	88° 35' 26.570" E
	22	26° 49' 17.146" N	88° 35' 28.080" E
	23	26° 49' 20.139" N	88° 35' 29.559" E
	24	26° 49' 23.559" N	88° 35' 31.284" E
	25	26° 49' 27.645" N	88° 35' 31.101" E
	26	26° 49' 30.656" N	88° 35' 30.904" E
	27	26° 49' 33.469" N	88° 35' 29.266" E
	28	26° 49' 39.675" N	88° 35' 31.749" E
	29	26° 49' 46.299" N	88° 35' 35.196" E
	30	26° 49' 56.153" N	88° 35' 38.209" E
	31	26° 50' 2.582" N	88° 35' 39.976" E
	32	26° 50' 9.217" N	88° 35' 42.465" E
	33	26° 50' 15.858" N	88° 35' 44.475" E
	34	26° 50' 22.730" N	88° 35' 45.051" E
	35	26° 50' 33.889" N	88° 35' 46.645" E
	36	26° 50' 39.678" N	88° 35' 47.924" E
	37	26° 50' 44.635" N	88° 35' 46.796" E
	38	26° 50' 49.156" N	88° 35' 46.140" E
	39	26° 50' 55.601" N	88° 35' 46.470" E
	40	26° 50' 59.654" N	88° 35' 49.163" E
	41	26° 51' 6.096" N	88° 35' 49.733" E
	42	26° 51' 10.819" N	88° 35' 50.278" E
	43	26° 51' 16.614" N	88° 35' 51.079" E
	44	26° 51' 23.886" N	88° 35' 54.296" E
	45	26° 51' 25.554" N	88° 35' 53.963" E
	46	26° 51' 28.513" N	88° 35' 55.190" E
	47	26° 51' 58.702" N	88° 36' 5.681" E
	48	26° 52' 4.620" N	88° 36' 8.765" E
	49	26° 52' 7.704" N	88° 36' 16.004" E
	50	26° 52' 13.901" N	88° 36' 19.207" E
	51	26° 52' 17.516" N	88° 36' 22.614" E
	52	26° 52' 22.198" N	88° 36' 26.754" E
	53	26° 52' 26.660" N	88° 36' 31.372" E
	54	26° 52' 32.435" N	88° 36' 33.850" E
	55	26° 52' 38.863" N	88° 36' 35.619" E
	56	26° 52' 43.120" N	88° 36' 39.275" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	57	26° 52' 48.074" N	88° 36' 38.386" E
	58	26° 52' 53.398" N	88° 36' 34.444" E
	59	26° 53' 6.481" N	88° 36' 37.319" E
	60	26° 53' 30.188" N	88° 36' 50.600" E
	61	26° 53' 44.425" N	88° 37' 4.947" E
	62	26° 54' 13.404" N	88° 37' 27.427" E
	63	26° 54' 12.744" N	88° 37' 48.884" E
	64	26° 53' 53.762" N	88° 37' 35.934" E
	65	26° 53' 11.470" N	88° 37' 12.603" E
	66	26° 52' 47.185" N	88° 36' 53.561" E
	67	26° 52' 34.839" N	88° 36' 46.108" E
	68	26° 52' 32.135" N	88° 36' 41.276" E
	69	26° 52' 23.063" N	88° 36' 38.999" E
	70	26° 52' 16.444" N	88° 36' 35.004" E
	71	26° 51' 50.027" N	88° 36' 44.408" E
	72	26° 51' 32.030" N	88° 36' 39.264" E
	73	26° 49' 48.832" N	88° 35' 55.826" E
	74	26° 48' 11.735" N	88° 35' 19.970" E
	75	26° 47' 50.216" N	88° 35' 6.736" E
	76	26° 47' 20.361" N	88° 35' 0.860" E
	77	26° 47' 0.521" N	88° 35' 2.116" E
JP_ML_TS_22	1	26° 46' 54.226" N	88° 35' 1.657" E
	2	26° 46' 53.426" N	88° 35' 1.646" E
	3	26° 46' 47.002" N	88° 34' 59.401" E
	4	26° 46' 41.675" N	88° 34' 55.256" E
	5	26° 46' 44.724" N	88° 34' 51.706" E
	6	26° 46' 46.252" N	88° 34' 49.572" E
	7	26° 46' 48.463" N	88° 34' 44.094" E
	8	26° 46' 51.488" N	88° 34' 42.699" E
	9	26° 46' 56.038" N	88° 34' 39.409" E
	10	26° 47' 1.231" N	88° 34' 36.367" E
	11	26° 47' 7.928" N	88° 34' 33.346" E
	12	26° 47' 12.251" N	88° 34' 31.251" E
	13	26° 47' 18.308" N	88° 34' 27.742" E
	14	26° 47' 21.545" N	88° 34' 27.561" E
	15	26° 47' 22.652" N	88° 34' 34.857" E
	16	26° 47' 29.247" N	88° 34' 40.936" E
	17	26° 47' 30.220" N	88° 34' 40.872" E
	18	26° 47' 27.730" N	88° 34' 44.118" E
	19	26° 47' 24.137" N	88° 34' 48.803" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	20	26° 47' 3.650" N	88° 34' 53.578" E
	21	26° 46' 59.310" N	88° 34' 54.590" E
JP_ML_TS_36	1	26° 42' 42.003" N	88° 37' 59.086" E
	2	26° 42' 41.156" N	88° 38' 0.950" E
	3	26° 42' 41.761" N	88° 38' 2.146" E
	4	26° 42' 42.954" N	88° 38' 3.120" E
	5	26° 42' 43.867" N	88° 38' 5.393" E
	6	26° 42' 44.154" N	88° 38' 10.375" E
	7	26° 42' 44.212" N	88° 38' 12.770" E
	8	26° 42' 44.203" N	88° 38' 13.567" E
	9	26° 42' 5.164" N	88° 38' 24.418" E
	10	26° 42' 3.827" N	88° 38' 26.702" E
	11	26° 41' 54.586" N	88° 38' 26.840" E
	12	26° 41' 50.059" N	88° 38' 27.924" E
	13	26° 41' 45.749" N	88° 38' 32.601" E
	14	26° 41' 38.479" N	88° 38' 32.896" E
	15	26° 41' 41.305" N	88° 38' 26.427" E
	16	26° 41' 43.408" N	88° 38' 23.012" E
	17	26° 41' 50.714" N	88° 38' 15.872" E
	18	26° 41' 52.869" N	88° 38' 7.831" E
	19	26° 42' 0.116" N	88° 38' 5.812" E
	20	26° 42' 5.029" N	88° 38' 4.733" E
	21	26° 42' 15.496" N	88° 38' 3.016" E
	22	26° 42' 17.101" N	88° 38' 9.213" E
	23	26° 42' 17.865" N	88° 38' 10.086" E
	24	26° 42' 19.662" N	88° 38' 10.829" E
	25	26° 42' 21.470" N	88° 38' 10.568" E
	26	26° 42' 23.439" N	88° 38' 7.581" E
	27	26° 42' 30.040" N	88° 38' 5.521" E
	28	26° 42' 31.242" N	88° 38' 1.948" E
	29	26° 42' 34.355" N	88° 38' 0.413" E
	30	26° 42' 38.129" N	88° 37' 57.451" E
	31	26° 42' 39.188" N	88° 37' 55.168" E
	32	26° 42' 39.865" N	88° 37' 52.306" E
	33	26° 42' 42.472" N	88° 37' 49.902" E
	34	26° 42' 45.698" N	88° 37' 49.804" E
	35	26° 42' 45.451" N	88° 37' 52.319" E
	36	26° 42' 44.483" N	88° 37' 52.764" E
	37	26° 42' 42.939" N	88° 37' 55.385" E
	38	26° 42' 42.093" N	88° 37' 57.249" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
JP_ML_TS_41	1	26° 41' 35.190" N	88° 38' 51.270" E
	2	26° 41' 26.595" N	88° 38' 49.134" E
	3	26° 41' 26.836" N	88° 38' 48.300" E
	4	26° 41' 29.953" N	88° 38' 46.430" E
	5	26° 41' 33.757" N	88° 38' 47.545" E
	6	26° 41' 36.819" N	88° 38' 50.461" E
	7	26° 41' 37.045" N	88° 38' 50.591" E
JP_ML_TS_42	1	26° 41' 7.397" N	88° 38' 38.832" E
	2	26° 41' 5.263" N	88° 38' 37.485" E
	3	26° 41' 5.949" N	88° 38' 33.906" E
	4	26° 41' 7.433" N	88° 38' 30.983" E
	5	26° 41' 9.532" N	88° 38' 27.951" E
	6	26° 41' 12.886" N	88° 38' 28.861" E
	7	26° 41' 13.879" N	88° 38' 26.602" E
	8	26° 41' 14.471" N	88° 38' 26.513" E
	9	26° 41' 19.026" N	88° 38' 24.832" E
	10	26° 41' 20.720" N	88° 38' 28.513" E
	11	26° 41' 18.104" N	88° 38' 33.003" E
	12	26° 41' 12.703" N	88° 38' 36.228" E
	13	26° 41' 11.317" N	88° 38' 37.165" E
	14	26° 41' 9.435" N	88° 38' 39.101" E
JP_ML_TS_62	1	26° 39' 7.364" N	88° 41' 5.499" E
	2	26° 39' 1.776" N	88° 41' 10.991" E
	3	26° 39' 2.202" N	88° 41' 2.907" E
	4	26° 39' 3.737" N	88° 41' 0.417" E
	5	26° 39' 5.409" N	88° 40' 55.299" E
	6	26° 39' 6.031" N	88° 40' 57.222" E
	7	26° 39' 5.124" N	88° 41' 1.275" E
	8	26° 39' 6.298" N	88° 41' 1.890" E
	9	26° 39' 7.347" N	88° 41' 4.059" E
	10	26° 39' 7.414" N	88° 41' 5.326" E
JP_ML_TS_63	1	26° 38' 43.319" N	88° 41' 11.659" E
	2	26° 38' 43.173" N	88° 41' 14.886" E
	3	26° 38' 43.363" N	88° 41' 17.042" E
	4	26° 38' 44.504" N	88° 41' 20.527" E
	5	26° 38' 45.227" N	88° 41' 22.930" E
	6	26° 38' 44.761" N	88° 41' 26.033" E
	7	26° 38' 43.428" N	88° 41' 29.601" E
	8	26° 38' 44.593" N	88° 41' 31.053" E
	9	26° 38' 45.031" N	88° 41' 32.581" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	10	26° 38' 45.050" N	88° 41' 33.459" E
	11	26° 38' 44.864" N	88° 41' 35.363" E
	12	26° 38' 43.786" N	88° 41' 35.706" E
	13	26° 38' 42.707" N	88° 41' 36.049" E
	14	26° 38' 41.427" N	88° 41' 35.193" E
	15	26° 38' 40.590" N	88° 41' 33.267" E
	16	26° 38' 40.085" N	88° 41' 30.628" E
	17	26° 38' 39.925" N	88° 41' 25.961" E
	18	26° 38' 39.743" N	88° 41' 23.208" E
	19	26° 38' 39.154" N	88° 41' 18.535" E
	20	26° 38' 39.076" N	88° 41' 16.022" E
	21	26° 38' 39.090" N	88° 41' 14.826" E
	22	26° 38' 39.020" N	88° 41' 11.716" E
	23	26° 38' 38.723" N	88° 41' 9.559" E
	24	26° 38' 38.651" N	88° 41' 6.567" E
	25	26° 38' 39.320" N	88° 41' 4.544" E
	26	26° 38' 39.988" N	88° 41' 2.521" E
	27	26° 38' 41.520" N	88° 41' 0.271" E
	28	26° 38' 44.999" N	88° 41' 5.943" E
	29	26° 38' 45.932" N	88° 41' 8.827" E
	30	26° 38' 47.176" N	88° 41' 12.673" E
	31	26° 38' 47.672" N	88° 41' 16.148" E
	32	26° 38' 46.489" N	88° 41' 16.251" E
	33	26° 38' 45.443" N	88° 41' 13.843" E
	34	26° 38' 44.720" N	88° 41' 11.321" E
JP_ML_TS_64	1	26° 38' 26.121" N	88° 41' 37.782" E
	2	26° 38' 11.600" N	88° 41' 53.154" E
	3	26° 38' 8.172" N	88° 41' 59.417" E
	4	26° 38' 10.354" N	88° 42' 5.731" E
	5	26° 38' 7.386" N	88° 42' 8.733" E
	6	26° 38' 3.642" N	88° 42' 11.203" E
	7	26° 38' 0.734" N	88° 42' 12.767" E
	8	26° 38' 0.376" N	88° 42' 8.170" E
	9	26° 38' 0.467" N	88° 42' 0.594" E
	10	26° 38' 1.565" N	88° 41' 55.100" E
	11	26° 38' 6.208" N	88° 41' 46.443" E
	12	26° 38' 10.237" N	88° 41' 37.318" E
	13	26° 38' 13.392" N	88° 41' 32.313" E
	14	26° 38' 19.625" N	88° 41' 28.731" E
	15	26° 38' 19.080" N	88° 41' 22.523" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	16	26° 38' 23.043" N	88° 41' 18.908" E
	17	26° 38' 30.737" N	88° 41' 13.969" E
	18	26° 38' 30.702" N	88° 41' 16.954" E
	19	26° 38' 30.674" N	88° 41' 19.250" E
	20	26° 38' 32.050" N	88° 41' 20.822" E
	21	26° 38' 33.749" N	88° 41' 39.714" E
	22	26° 38' 29.804" N	88° 41' 40.362" E
JP_ML_TS_65	1	26° 38' 29.333" N	88° 42' 24.041" E
	2	26° 38' 23.144" N	88° 42' 23.949" E
	3	26° 38' 25.903" N	88° 42' 17.561" E
	4	26° 38' 29.259" N	88° 42' 13.018" E
	5	26° 38' 32.230" N	88° 42' 6.174" E
	6	26° 38' 34.527" N	88° 42' 3.912" E
	7	26° 38' 42.380" N	88° 42' 2.880" E
	8	26° 38' 43.858" N	88° 42' 0.146" E
	9	26° 38' 44.928" N	88° 41' 56.947" E
	10	26° 38' 45.574" N	88° 41' 57.092" E
	11	26° 38' 45.971" N	88° 42' 15.067" E
	12	26° 38' 41.415" N	88° 42' 14.577" E
	13	26° 38' 38.892" N	88° 42' 18.443" E
	14	26° 38' 35.322" N	88° 42' 23.671" E
JP_ML_TS_68	1	26° 37' 56.837" N	88° 42' 24.651" E
	2	26° 37' 56.172" N	88° 42' 26.315" E
	3	26° 37' 56.234" N	88° 42' 29.923" E
	4	26° 37' 51.634" N	88° 42' 33.571" E
	5	26° 37' 46.076" N	88° 42' 34.775" E
	6	26° 37' 43.854" N	88° 42' 31.872" E
	7	26° 37' 46.220" N	88° 42' 31.668" E
	8	26° 37' 48.179" N	88° 42' 29.664" E
	9	26° 37' 49.065" N	88° 42' 27.525" E
	10	26° 37' 52.089" N	88° 42' 26.254" E
	11	26° 37' 53.294" N	88° 42' 24.359" E
	12	26° 37' 53.866" N	88° 42' 21.497" E
	13	26° 37' 53.998" N	88° 42' 19.466" E
	14	26° 37' 57.237" N	88° 42' 18.199" E
	15	26° 37' 57.513" N	88° 42' 22.030" E
JP_ML_TS_72	1	26° 37' 54.791" N	88° 42' 58.486" E
	2	26° 37' 52.001" N	88° 43' 1.697" E
	3	26° 37' 51.945" N	88° 43' 6.288" E
	4	26° 37' 46.778" N	88° 43' 6.976" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	5	26° 37' 41.899" N	88° 43' 12.261" E
	6	26° 37' 41.142" N	88° 43' 17.989" E
	7	26° 37' 40.002" N	88° 43' 26.965" E
	8	26° 37' 37.934" N	88° 43' 27.316" E
	9	26° 37' 38.751" N	88° 43' 16.614" E
	10	26° 37' 37.278" N	88° 43' 10.470" E
	11	26° 37' 46.650" N	88° 43' 3.339" E
	12	26° 37' 48.601" N	88° 42' 58.394" E
	13	26° 37' 50.404" N	88° 42' 51.533" E
	14	26° 37' 54.544" N	88° 42' 50.446" E
	15	26° 37' 59.897" N	88° 42' 45.719" E
	16	26° 38' 2.830" N	88° 42' 49.702" E
	17	26° 38' 2.624" N	88° 42' 50.567" E
	18	26° 38' 0.896" N	88° 42' 51.307" E
	19	26° 37' 59.660" N	88° 42' 53.967" E
	20	26° 37' 58.610" N	88° 42' 55.482" E
JP_ML_TS_73	1	26° 37' 51.535" N	88° 43' 28.963" E
	2	26° 37' 44.540" N	88° 43' 30.023" E
	3	26° 37' 45.444" N	88° 43' 26.121" E
	4	26° 37' 45.160" N	88° 43' 22.888" E
	5	26° 37' 44.761" N	88° 43' 20.371" E
	6	26° 37' 47.831" N	88° 43' 15.395" E
	7	26° 37' 50.643" N	88° 43' 13.882" E
	8	26° 37' 52.499" N	88° 43' 11.518" E
	9	26° 37' 56.833" N	88° 43' 8.594" E
	10	26° 37' 58.577" N	88° 43' 6.587" E
	11	26° 38' 0.980" N	88° 43' 3.394" E
	12	26° 38' 1.773" N	88° 43' 0.057" E
	13	26° 38' 4.814" N	88° 42' 57.352" E
	14	26° 38' 7.962" N	88° 42' 54.768" E
	15	26° 38' 9.356" N	88° 42' 55.028" E
	16	26° 38' 10.877" N	88° 42' 53.736" E
	17	26° 38' 13.212" N	88° 42' 56.162" E
	18	26° 38' 13.163" N	88° 43' 0.228" E
	19	26° 38' 10.944" N	88° 43' 5.935" E
	20	26° 38' 9.196" N	88° 43' 8.300" E
	21	26° 38' 7.992" N	88° 43' 10.076" E
	22	26° 38' 7.547" N	88° 43' 11.385" E
	23	26° 38' 5.945" N	88° 43' 10.524" E
	24	26° 38' 3.687" N	88° 43' 10.610" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	25	26° 38' 2.160" N	88° 43' 12.500" E
	26	26° 38' 1.601" N	88° 43' 14.286" E
	27	26° 37' 58.132" N	88° 43' 16.745" E
	28	26° 37' 55.628" N	88° 43' 19.338" E
	29	26° 37' 54.641" N	88° 43' 20.998" E
	30	26° 37' 52.213" N	88° 43' 26.223" E
JP_ML_TS_75	1	26° 37' 21.352" N	88° 43' 48.899" E
	2	26° 37' 17.980" N	88° 43' 52.197" E
	3	26° 37' 14.509" N	88° 43' 54.775" E
	4	26° 37' 11.485" N	88° 43' 56.045" E
	5	26° 37' 8.871" N	88° 43' 58.875" E
	6	26° 37' 7.454" N	88° 44' 0.528" E
	7	26° 37' 6.060" N	88° 44' 0.267" E
	8	26° 37' 6.019" N	88° 43' 54.767" E
	9	26° 37' 9.697" N	88° 43' 52.789" E
	10	26° 37' 12.413" N	88° 43' 50.439" E
	11	26° 37' 13.630" N	88° 43' 47.587" E
	12	26° 37' 13.007" N	88° 43' 45.784" E
	13	26° 37' 12.281" N	88° 43' 43.621" E
	14	26° 37' 12.850" N	88° 43' 40.999" E
	15	26° 37' 11.908" N	88° 43' 38.952" E
	16	26° 37' 13.532" N	88° 43' 37.900" E
	17	26° 37' 15.099" N	88° 43' 41.631" E
	18	26° 37' 18.146" N	88° 43' 38.568" E
	19	26° 37' 21.288" N	88° 43' 36.463" E
	20	26° 37' 21.239" N	88° 43' 31.679" E
	21	26° 37' 23.816" N	88° 43' 30.647" E
	22	26° 37' 25.013" N	88° 43' 40.256" E
	23	26° 37' 24.349" N	88° 43' 41.052" E
	24	26° 37' 22.913" N	88° 43' 44.259" E
JP_RG_TS_01	1	26° 50' 55.684" N	88° 29' 6.371" E
	2	26° 50' 50.000" N	88° 29' 4.578" E
	3	26° 50' 57.034" N	88° 28' 53.837" E
	4	26° 50' 59.805" N	88° 28' 51.743" E
	5	26° 51' 0.800" N	88° 28' 55.127" E
	6	26° 51' 3.779" N	88° 29' 5.256" E
JP_RG_TS_02	1	26° 50' 40.509" N	88° 29' 26.685" E
	2	26° 50' 33.429" N	88° 29' 29.877" E
	3	26° 50' 44.610" N	88° 29' 12.808" E
	4	26° 50' 48.774" N	88° 29' 9.348" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	5	26° 50' 56.861" N	88° 29' 8.879" E
	6	26° 50' 59.062" N	88° 29' 12.166" E
	7	26° 51' 3.877" N	88° 29' 12.229" E
	8	26° 51' 3.362" N	88° 29' 18.309" E
	9	26° 51' 2.486" N	88° 29' 21.468" E
	10	26° 51' 1.446" N	88° 29' 25.220" E
	11	26° 50' 59.972" N	88° 29' 28.929" E
	12	26° 50' 56.795" N	88° 29' 28.538" E
	13	26° 50' 53.576" N	88° 29' 28.017" E
	14	26° 50' 48.063" N	88° 29' 27.935" E
JP_RG_TS_03	1	26° 50' 36.283" N	88° 29' 52.318" E
	2	26° 50' 29.758" N	88° 29' 51.466" E
	3	26° 50' 31.000" N	88° 29' 47.840" E
	4	26° 50' 26.167" N	88° 29' 49.501" E
	5	26° 50' 21.676" N	88° 29' 51.359" E
	6	26° 50' 19.851" N	88° 29' 50.605" E
	7	26° 50' 29.442" N	88° 29' 35.965" E
	8	26° 50' 29.904" N	88° 29' 37.665" E
	9	26° 50' 33.375" N	88° 29' 34.643" E
	10	26° 50' 39.425" N	88° 29' 31.656" E
	11	26° 50' 46.818" N	88° 29' 31.752" E
	12	26° 50' 58.477" N	88° 29' 32.262" E
	13	26° 50' 54.249" N	88° 29' 41.682" E
	14	26° 50' 49.428" N	88° 29' 45.206" E
	15	26° 50' 44.571" N	88° 29' 49.168" E
JP_RG_TS_04	1	26° 50' 20.958" N	88° 30' 4.652" E
	2	26° 50' 20.466" N	88° 30' 2.441" E
	3	26° 50' 24.055" N	88° 29' 56.450" E
	4	26° 50' 28.122" N	88° 29' 54.011" E
	5	26° 50' 33.710" N	88° 29' 54.085" E
	6	26° 50' 39.369" N	88° 29' 55.597" E
	7	26° 50' 45.558" N	88° 29' 55.679" E
	8	26° 50' 49.624" N	88° 29' 53.336" E
	9	26° 50' 48.555" N	88° 29' 56.868" E
	10	26° 50' 44.224" N	88° 29' 59.879" E
	11	26° 50' 39.396" N	88° 30' 1.157" E
	12	26° 50' 34.033" N	88° 30' 4.154" E
	13	26° 50' 23.765" N	88° 30' 7.565" E
	14	26° 50' 23.264" N	88° 30' 6.120" E
JP_RG_TS_05	1	26° 49' 58.434" N	88° 30' 29.705" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	2	26° 49' 58.095" N	88° 30' 23.813" E
	3	26° 50' 6.546" N	88° 30' 10.915" E
	4	26° 50' 7.880" N	88° 30' 11.305" E
	5	26° 50' 6.113" N	88° 30' 15.691" E
	6	26° 50' 2.431" N	88° 30' 22.351" E
JP_RG_TS_06	1	26° 49' 51.485" N	88° 30' 49.042" E
	2	26° 49' 46.124" N	88° 30' 51.846" E
	3	26° 49' 49.293" N	88° 30' 44.987" E
	4	26° 50' 1.130" N	88° 30' 31.535" E
	5	26° 50' 11.826" N	88° 30' 12.124" E
	6	26° 50' 18.945" N	88° 30' 5.700" E
	7	26° 50' 20.965" N	88° 30' 8.444" E
	8	26° 50' 17.862" N	88° 30' 9.473" E
	9	26° 50' 17.413" N	88° 30' 14.716" E
	10	26° 50' 16.310" N	88° 30' 27.519" E
	11	26° 50' 14.921" N	88° 30' 43.364" E
	12	26° 50' 9.927" N	88° 30' 45.070" E
	13	26° 50' 4.908" N	88° 30' 48.070" E
	14	26° 50' 1.252" N	88° 30' 52.239" E
	15	26° 49' 59.036" N	88° 30' 50.484" E
	16	26° 49' 59.079" N	88° 30' 46.459" E
	17	26° 49' 55.124" N	88° 30' 46.407" E
JP_RG_TS_07	1	26° 49' 53.534" N	88° 31' 25.930" E
	2	26° 49' 50.582" N	88° 31' 25.066" E
	3	26° 49' 51.282" N	88° 31' 23.925" E
	4	26° 49' 53.049" N	88° 31' 19.540" E
	5	26° 49' 56.380" N	88° 31' 13.642" E
	6	26° 50' 1.450" N	88° 31' 5.851" E
	7	26° 50' 7.522" N	88° 31' 0.948" E
	8	26° 50' 12.522" N	88° 30' 59.673" E
	9	26° 50' 12.393" N	88° 31' 11.748" E
	10	26° 50' 10.743" N	88° 31' 17.051" E
	11	26° 49' 57.820" N	88° 31' 21.009" E
JP_RG_TS_08	1	26° 49' 38.667" N	88° 31' 29.698" E
	2	26° 49' 31.284" N	88° 31' 28.641" E
	3	26° 49' 31.667" N	88° 31' 25.004" E
	4	26° 49' 39.141" N	88° 31' 17.629" E
	5	26° 49' 43.796" N	88° 31' 0.440" E
	6	26° 49' 44.535" N	88° 30' 55.658" E
	7	26° 49' 50.590" N	88° 30' 52.288" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	8	26° 49' 55.421" N	88° 30' 50.819" E
	9	26° 49' 56.426" N	88° 30' 53.324" E
	10	26° 49' 58.125" N	88° 30' 55.264" E
	11	26° 49' 57.868" N	88° 31' 3.120" E
	12	26° 49' 54.882" N	88° 31' 9.022" E
	13	26° 49' 48.533" N	88° 31' 23.697" E
JP_RG_TS_09	1	26° 49' 16.909" N	88° 31' 22.124" E
	2	26° 49' 16.965" N	88° 31' 16.949" E
	3	26° 49' 17.026" N	88° 31' 15.854" E
	4	26° 49' 27.773" N	88° 31' 1.478" E
	5	26° 49' 33.552" N	88° 30' 54.747" E
	6	26° 49' 39.048" N	88° 30' 54.243" E
	7	26° 49' 39.887" N	88° 30' 56.171" E
	8	26° 49' 38.738" N	88° 31' 7.081" E
	9	26° 49' 34.830" N	88° 31' 18.721" E
	10	26° 49' 26.699" N	88° 31' 23.213" E
JP_RG_TS_10	1	26° 49' 37.451" N	88° 31' 44.395" E
	2	26° 49' 37.190" N	88° 31' 39.070" E
	3	26° 49' 41.745" N	88° 31' 31.273" E
	4	26° 49' 49.171" N	88° 31' 28.305" E
	5	26° 49' 51.053" N	88° 31' 28.778" E
JP_RG_TS_11	1	26° 49' 33.861" N	88° 31' 48.516" E
	2	26° 49' 30.179" N	88° 31' 52.744" E
	3	26° 49' 23.136" N	88° 32' 7.201" E
	4	26° 49' 21.228" N	88° 32' 7.990" E
	5	26° 49' 17.601" N	88° 32' 9.474" E
	6	26° 49' 15.014" N	88° 32' 10.206" E
	7	26° 49' 9.495" N	88° 32' 11.665" E
	8	26° 49' 2.617" N	88° 32' 11.572" E
	9	26° 48' 59.214" N	88° 32' 8.268" E
	10	26° 49' 4.432" N	88° 32' 2.780" E
	11	26° 49' 10.386" N	88° 31' 52.894" E
	12	26° 49' 19.391" N	88° 31' 47.073" E
	13	26° 49' 21.504" N	88° 31' 42.502" E
	14	26° 49' 28.398" N	88° 31' 41.061" E
	15	26° 49' 28.427" N	88° 31' 38.378" E
	16	26° 49' 30.352" N	88° 31' 35.337" E
	17	26° 49' 33.952" N	88° 31' 36.344" E
	18	26° 49' 32.995" N	88° 31' 45.339" E
JP_RG_TS_12	1	26° 49' 1.452" N	88° 31' 52.199" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	2	26° 48' 58.900" N	88° 31' 49.673" E
	3	26° 48' 59.604" N	88° 31' 48.149" E
	4	26° 48' 59.975" N	88° 31' 45.663" E
	5	26° 49' 0.557" N	88° 31' 39.537" E
	6	26° 49' 1.234" N	88° 31' 32.328" E
	7	26° 49' 6.001" N	88° 31' 29.261" E
	8	26° 49' 12.280" N	88° 31' 22.202" E
	9	26° 49' 12.888" N	88° 31' 21.388" E
	10	26° 49' 14.661" N	88° 31' 23.244" E
	11	26° 49' 16.696" N	88° 31' 25.954" E
	12	26° 49' 23.219" N	88° 31' 27.000" E
	13	26° 49' 28.674" N	88° 31' 31.481" E
	14	26° 49' 27.609" N	88° 31' 34.534" E
	15	26° 49' 26.202" N	88° 31' 37.390" E
	16	26° 49' 23.599" N	88° 31' 39.655" E
	17	26° 49' 18.772" N	88° 31' 40.740" E
	18	26° 49' 13.558" N	88° 31' 45.845" E
	19	26° 49' 9.721" N	88° 31' 50.777" E
	20	26° 49' 5.042" N	88° 31' 54.164" E
	21	26° 49' 1.588" N	88° 31' 55.459" E
JP_RG_TS_14	1	26° 48' 46.915" N	88° 32' 21.481" E
	2	26° 48' 44.694" N	88° 32' 20.205" E
	3	26° 48' 46.092" N	88° 32' 18.116" E
	4	26° 48' 50.814" N	88° 32' 10.801" E
	5	26° 48' 55.453" N	88° 32' 11.247" E
	6	26° 48' 57.218" N	88° 32' 14.912" E
	7	26° 49' 1.688" N	88° 32' 15.068" E
	8	26° 49' 5.895" N	88° 32' 15.604" E
	9	26° 49' 1.640" N	88° 32' 19.476" E
	10	26° 48' 56.372" N	88° 32' 20.686" E
	11	26° 48' 54.203" N	88° 32' 19.811" E
	12	26° 48' 53.674" N	88° 32' 21.084" E
	13	26° 48' 51.732" N	88° 32' 21.354" E
	14	26° 48' 49.319" N	88° 32' 21.801" E
JP_RG_TS_15	1	26° 48' 20.506" N	88° 32' 27.008" E
	2	26° 48' 20.098" N	88° 32' 24.966" E
	3	26° 48' 27.987" N	88° 32' 21.000" E
	4	26° 48' 29.998" N	88° 32' 13.960" E
	5	26° 48' 34.313" N	88° 32' 12.581" E
	6	26° 48' 38.865" N	88° 32' 9.049" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	7	26° 48' 44.666" N	88° 32' 9.247" E
	8	26° 48' 47.700" N	88° 32' 7.012" E
	9	26° 48' 46.566" N	88° 32' 12.507" E
	10	26° 48' 42.215" N	88° 32' 17.240" E
	11	26° 48' 38.538" N	88° 32' 19.346" E
	12	26° 48' 38.556" N	88° 32' 17.669" E
	13	26° 48' 36.955" N	88° 32' 16.689" E
	14	26° 48' 32.624" N	88° 32' 19.625" E
	15	26° 48' 30.753" N	88° 32' 23.673" E
	16	26° 48' 26.533" N	88° 32' 26.251" E
JP_RG_TS_19	1	26° 47' 43.611" N	88° 34' 1.244" E
	2	26° 47' 45.037" N	88° 33' 53.651" E
	3	26° 47' 47.588" N	88° 33' 42.787" E
	4	26° 47' 51.075" N	88° 33' 30.757" E
	5	26° 47' 51.554" N	88° 33' 29.104" E
	6	26° 47' 57.524" N	88° 33' 22.938" E
	7	26° 47' 56.786" N	88° 33' 13.933" E
	8	26° 47' 57.825" N	88° 33' 12.558" E
	9	26° 48' 3.756" N	88° 33' 4.710" E
	10	26° 48' 12.789" N	88° 32' 52.047" E
	11	26° 48' 21.825" N	88° 32' 35.182" E
	12	26° 48' 22.882" N	88° 32' 34.624" E
	13	26° 48' 24.931" N	88° 32' 34.053" E
	14	26° 48' 24.895" N	88° 32' 37.286" E
	15	26° 48' 23.573" N	88° 32' 40.262" E
	16	26° 48' 22.226" N	88° 32' 45.514" E
	17	26° 48' 23.145" N	88° 32' 49.958" E
	18	26° 48' 24.181" N	88° 32' 53.446" E
	19	26° 48' 21.693" N	88° 32' 54.969" E
	20	26° 48' 14.350" N	88° 32' 58.103" E
	21	26° 48' 9.559" N	88° 33' 3.787" E
	22	26° 48' 7.048" N	88° 33' 7.346" E
	23	26° 48' 10.745" N	88° 33' 9.129" E
	24	26° 48' 20.778" N	88° 33' 3.708" E
	25	26° 48' 25.617" N	88° 33' 1.474" E
	26	26° 48' 27.133" N	88° 33' 4.369" E
	27	26° 48' 30.241" N	88° 33' 3.262" E
	28	26° 48' 31.964" N	88° 33' 2.826" E
	29	26° 48' 5.892" N	88° 33' 37.763" E
	30	26° 48' 4.574" N	88° 33' 38.556" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	31	26° 47' 58.701" N	88° 33' 40.966" E
	32	26° 47' 54.386" N	88° 33' 42.440" E
	33	26° 47' 49.323" N	88° 33' 49.269" E
	34	26° 47' 45.821" N	88° 33' 54.970" E
	35	26° 47' 44.747" N	88° 33' 58.788" E
JP_RG_TS_20	1	26° 47' 56.786" N	88° 33' 13.933" E
	2	26° 47' 55.432" N	88° 33' 15.724" E
	3	26° 47' 54.012" N	88° 33' 20.623" E
	4	26° 47' 51.554" N	88° 33' 29.104" E
	5	26° 47' 51.075" N	88° 33' 30.757" E
	6	26° 47' 47.588" N	88° 33' 42.787" E
	7	26° 47' 45.037" N	88° 33' 53.651" E
	8	26° 47' 43.611" N	88° 34' 1.244" E
	9	26° 47' 43.162" N	88° 34' 2.215" E
	10	26° 47' 42.040" N	88° 34' 4.788" E
	11	26° 47' 32.000" N	88° 34' 14.120" E
	12	26° 47' 30.657" N	88° 34' 13.348" E
	13	26° 47' 27.755" N	88° 34' 11.392" E
	14	26° 47' 25.215" N	88° 34' 7.908" E
	15	26° 47' 23.359" N	88° 34' 4.625" E
	16	26° 47' 25.335" N	88° 33' 56.988" E
	17	26° 47' 28.697" N	88° 33' 48.412" E
	18	26° 47' 34.772" N	88° 33' 37.872" E
	19	26° 47' 33.410" N	88° 33' 37.361" E
	20	26° 47' 34.619" N	88° 33' 33.698" E
	21	26° 47' 35.824" N	88° 33' 30.496" E
	22	26° 47' 34.811" N	88° 33' 28.796" E
	23	26° 47' 33.659" N	88° 33' 27.247" E
	24	26° 47' 33.815" N	88° 33' 25.486" E
	25	26° 47' 35.142" N	88° 33' 23.742" E
	26	26° 47' 36.904" N	88° 33' 19.857" E
	27	26° 47' 38.284" N	88° 33' 18.785" E
	28	26° 47' 41.358" N	88° 33' 7.387" E
	29	26° 47' 48.178" N	88° 32' 53.316" E
	30	26° 47' 46.793" N	88° 32' 52.220" E
	31	26° 47' 50.609" N	88° 32' 47.241" E
	32	26° 47' 55.160" N	88° 32' 43.830" E
	33	26° 48' 1.860" N	88° 32' 40.567" E
	34	26° 48' 6.161" N	88° 32' 40.386" E
	35	26° 48' 11.762" N	88° 32' 39.264" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	36	26° 48' 18.234" N	88° 32' 37.076" E
	37	26° 48' 21.825" N	88° 32' 35.182" E
	38	26° 48' 12.789" N	88° 32' 52.047" E
	39	26° 48' 3.756" N	88° 33' 4.710" E
	40	26° 47' 57.825" N	88° 33' 12.558" E
JP_RG_TS_23	1	26° 47' 14.947" N	88° 34' 15.955" E
	2	26° 47' 12.124" N	88° 34' 28.638" E
	3	26° 47' 8.423" N	88° 34' 27.438" E
	4	26° 47' 5.594" N	88° 34' 25.273" E
	5	26° 47' 4.919" N	88° 34' 24.114" E
	6	26° 47' 3.937" N	88° 34' 19.578" E
	7	26° 47' 3.062" N	88° 34' 17.880" E
	8	26° 47' 4.309" N	88° 34' 10.847" E
	9	26° 47' 8.532" N	88° 34' 2.168" E
	10	26° 47' 10.410" N	88° 34' 0.354" E
	11	26° 47' 15.479" N	88° 33' 55.978" E
	12	26° 47' 15.176" N	88° 33' 58.503" E
	13	26° 47' 15.001" N	88° 34' 1.950" E
	14	26° 47' 18.127" N	88° 34' 8.334" E
JP_RG_TS_24	1	26° 47' 1.683" N	88° 34' 1.306" E
	2	26° 46' 56.243" N	88° 34' 7.219" E
	3	26° 46' 50.935" N	88° 34' 10.977" E
	4	26° 46' 47.494" N	88° 34' 11.170" E
	5	26° 46' 46.055" N	88° 34' 11.253" E
	6	26° 46' 45.274" N	88° 34' 12.980" E
	7	26° 46' 45.897" N	88° 34' 12.896" E
	8	26° 46' 45.817" N	88° 34' 16.248" E
	9	26° 46' 43.659" N	88° 34' 16.984" E
	10	26° 46' 43.166" N	88° 34' 17.640" E
	11	26° 46' 42.088" N	88° 34' 19.070" E
	12	26° 46' 39.044" N	88° 34' 22.189" E
	13	26° 46' 35.398" N	88° 34' 25.396" E
	14	26° 46' 32.895" N	88° 34' 26.224" E
	15	26° 46' 28.889" N	88° 34' 30.767" E
	16	26° 46' 25.327" N	88° 34' 34.070" E
	17	26° 46' 22.145" N	88° 34' 34.218" E
	18	26° 46' 19.206" N	88° 34' 35.614" E
	19	26° 46' 16.159" N	88° 34' 38.924" E
	20	26° 46' 9.098" N	88° 34' 43.394" E
	21	26° 46' 7.234" N	88° 34' 40.877" E



SANDBAR CODE	POINT_NO	Latitude	Longitude
	22	26° 46' 3.428" N	88° 34' 42.932" E
	23	26° 45' 57.875" N	88° 34' 47.453" E
	24	26° 45' 50.420" N	88° 34' 52.905" E
	25	26° 45' 46.790" N	88° 34' 54.579" E
	26	26° 45' 45.969" N	88° 34' 51.120" E
	27	26° 45' 47.657" N	88° 34' 38.500" E
	28	26° 45' 49.430" N	88° 34' 33.735" E
	29	26° 45' 52.053" N	88° 34' 29.748" E
	30	26° 45' 53.616" N	88° 34' 28.429" E
	31	26° 45' 57.923" N	88° 34' 27.722" E
	32	26° 46' 10.828" N	88° 34' 26.942" E
	33	26° 46' 9.599" N	88° 34' 29.224" E
	34	26° 46' 7.835" N	88° 34' 33.223" E
	35	26° 46' 7.973" N	88° 34' 36.290" E
	36	26° 46' 9.351" N	88° 34' 36.117" E
	37	26° 46' 11.259" N	88° 34' 34.611" E
	38	26° 46' 12.989" N	88° 34' 33.677" E
JP_RG_TS_25	1	26° 45' 19.394" N	88° 35' 38.181" E
	2	26° 45' 9.083" N	88° 35' 45.585" E
	3	26° 45' 2.209" N	88° 36' 0.429" E
	4	26° 45' 2.709" N	88° 36' 0.685" E
	5	26° 45' 1.703" N	88° 36' 1.540" E
	6	26° 44' 59.228" N	88° 36' 3.660" E
	7	26° 44' 56.237" N	88° 36' 5.917" E
	8	26° 44' 53.651" N	88° 36' 6.455" E
	9	26° 44' 50.688" N	88° 36' 6.126" E
	10	26° 44' 50.182" N	88° 36' 5.257" E
	11	26° 44' 52.275" N	88° 36' 2.701" E
	12	26° 44' 53.482" N	88° 35' 58.552" E
	13	26° 44' 55.807" N	88° 35' 58.297" E
	14	26° 45' 0.715" N	88° 35' 57.647" E
	15	26° 45' 0.986" N	88° 35' 56.502" E
	16	26° 44' 57.000" N	88° 35' 55.441" E
	17	26° 44' 53.789" N	88° 35' 54.246" E
	18	26° 44' 49.679" N	88° 35' 52.752" E
	19	26° 44' 46.843" N	88° 35' 52.569" E
	20	26° 44' 43.600" N	88° 35' 54.248" E
	21	26° 44' 40.595" N	88° 35' 57.653" E
	22	26° 44' 40.181" N	88° 36' 0.089" E
	23	26° 44' 38.995" N	88° 36' 2.371" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	24	26° 44' 36.391" N	88° 36' 4.489" E
	25	26° 44' 33.683" N	88° 36' 4.451" E
	26	26° 44' 33.703" N	88° 36' 2.728" E
	27	26° 44' 32.438" N	88° 36' 0.556" E
	28	26° 44' 29.217" N	88° 36' 0.223" E
	29	26° 44' 28.587" N	88° 35' 58.922" E
	30	26° 44' 31.949" N	88° 35' 58.107" E
	31	26° 44' 34.156" N	88° 35' 56.845" E
	32	26° 44' 35.346" N	88° 35' 54.276" E
	33	26° 44' 35.375" N	88° 35' 51.691" E
	34	26° 44' 35.915" N	88° 35' 49.543" E
	35	26° 44' 38.006" N	88° 35' 47.131" E
	36	26° 44' 39.703" N	88° 35' 45.287" E
	37	26° 44' 39.236" N	88° 35' 40.971" E
	38	26° 44' 40.941" N	88° 35' 38.409" E
	39	26° 44' 44.312" N	88° 35' 36.876" E
	40	26° 44' 45.237" N	88° 35' 34.878" E
	41	26° 44' 46.182" N	88° 35' 31.156" E
	42	26° 44' 49.794" N	88° 35' 31.063" E
	43	26° 44' 52.368" N	88° 35' 31.529" E
	44	26° 44' 54.541" N	88° 35' 33.284" E
	45	26° 44' 58.379" N	88° 35' 36.066" E
	46	26° 45' 3.935" N	88° 35' 35.138" E
	47	26° 45' 6.651" N	88° 35' 34.458" E
	48	26° 45' 9.198" N	88° 35' 37.367" E
	49	26° 45' 11.390" N	88° 35' 37.397" E
	50	26° 45' 10.634" N	88° 35' 35.806" E
	51	26° 45' 8.735" N	88° 35' 32.619" E
	52	26° 45' 8.400" N	88° 35' 28.018" E
	53	26° 45' 10.316" N	88° 35' 29.625" E
	54	26° 45' 11.706" N	88° 35' 32.230" E
	55	26° 45' 14.370" N	88° 35' 36.146" E
	56	26° 45' 17.436" N	88° 35' 38.775" E
JP_RG_TS_26	1	26° 44' 22.169" N	88° 35' 43.683" E
	2	26° 44' 17.578" N	88° 35' 48.216" E
	3	26° 44' 17.908" N	88° 35' 55.575" E
	4	26° 44' 13.508" N	88° 36' 1.489" E
	5	26° 44' 11.808" N	88° 36' 5.831" E
	6	26° 44' 8.569" N	88° 36' 7.491" E
	7	26° 44' 7.303" N	88° 36' 6.883" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	8	26° 44' 6.352" N	88° 36' 5.433" E
	9	26° 44' 3.630" N	88° 36' 8.507" E
	10	26° 43' 56.753" N	88° 36' 7.038" E
	11	26° 43' 54.902" N	88° 36' 4.445" E
	12	26° 43' 55.610" N	88° 36' 2.299" E
	13	26° 44' 22.138" N	88° 35' 31.491" E
	14	26° 44' 23.672" N	88° 35' 30.779" E
	15	26° 44' 24.604" N	88° 35' 31.132" E
	16	26° 44' 28.715" N	88° 35' 33.163" E
JP_RG_TS_28	1	26° 44' 38.258" N	88° 36' 6.718" E
	2	26° 44' 38.160" N	88° 36' 5.879" E
	3	26° 44' 39.897" N	88° 36' 4.347" E
	4	26° 44' 41.431" N	88° 36' 1.735" E
	5	26° 44' 41.775" N	88° 35' 59.824" E
	6	26° 44' 41.900" N	88° 35' 58.270" E
	7	26° 44' 43.087" N	88° 35' 57.808" E
	8	26° 44' 44.612" N	88° 35' 56.033" E
	9	26° 44' 47.316" N	88° 35' 54.515" E
	10	26° 44' 50.094" N	88° 35' 55.990" E
	11	26° 44' 53.415" N	88° 35' 56.875" E
	12	26° 44' 51.654" N	88° 36' 0.561" E
	13	26° 44' 49.902" N	88° 36' 3.410" E
	14	26° 44' 47.190" N	88° 36' 5.646" E
	15	26° 44' 46.098" N	88° 36' 7.187" E
	16	26° 44' 45.652" N	88° 36' 8.617" E
	17	26° 44' 42.863" N	88° 36' 8.099" E
	18	26° 44' 40.397" N	88° 36' 7.586" E
JP_RG_TS_29	1	26° 44' 27.776" N	88° 36' 23.066" E
	2	26° 44' 24.867" N	88° 36' 23.744" E
	3	26° 44' 25.744" N	88° 36' 22.200" E
	4	26° 44' 27.068" N	88° 36' 19.226" E
	5	26° 44' 26.987" N	88° 36' 16.831" E
	6	26° 44' 24.621" N	88° 36' 17.037" E
	7	26° 44' 21.378" N	88° 36' 18.667" E
	8	26° 44' 20.645" N	88° 36' 16.981" E
	9	26° 44' 21.846" N	88° 36' 15.322" E
	10	26° 44' 23.508" N	88° 36' 10.916" E
	11	26° 44' 25.986" N	88° 36' 10.353" E
	12	26° 44' 31.794" N	88° 36' 9.955" E
	13	26° 44' 42.317" N	88° 36' 10.821" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	14	26° 44' 41.755" N	88° 36' 12.968" E
	15	26° 44' 40.656" N	88° 36' 15.107" E
	16	26° 44' 38.308" N	88° 36' 13.638" E
	17	26° 44' 36.703" N	88° 36' 13.017" E
	18	26° 44' 33.478" N	88° 36' 13.091" E
	19	26° 44' 29.639" N	88° 36' 19.980" E
JP_RG_TS_32	1	26° 44' 8.069" N	88° 36' 34.146" E
	2	26° 44' 6.431" N	88° 36' 36.398" E
	3	26° 44' 4.614" N	88° 36' 35.534" E
	4	26° 44' 6.574" N	88° 36' 33.287" E
	5	26° 44' 6.484" N	88° 36' 31.730" E
	6	26° 44' 5.513" N	88° 36' 32.075" E
	7	26° 44' 3.207" N	88° 36' 36.352" E
	8	26° 44' 4.698" N	88° 36' 37.570" E
	9	26° 44' 0.125" N	88° 36' 42.772" E
	10	26° 43' 59.521" N	88° 36' 45.513" E
	11	26° 43' 58.434" N	88° 36' 51.653" E
	12	26° 43' 56.342" N	88° 36' 57.102" E
	13	26° 43' 55.782" N	88° 37' 0.924" E
	14	26° 43' 55.683" N	88° 37' 9.628" E
	15	26° 43' 51.506" N	88° 37' 10.968" E
	16	26° 43' 46.212" N	88° 37' 16.120" E
	17	26° 43' 45.657" N	88° 37' 14.186" E
	18	26° 43' 44.759" N	88° 37' 2.492" E
	19	26° 43' 46.219" N	88° 36' 55.044" E
	20	26° 43' 49.215" N	88° 36' 47.646" E
	21	26° 43' 48.527" N	88° 36' 44.562" E
	22	26° 43' 49.815" N	88° 36' 42.148" E
	23	26° 43' 49.183" N	88° 36' 40.942" E
	24	26° 43' 47.878" N	88° 36' 41.647" E
	25	26° 43' 47.503" N	88° 36' 39.965" E
	26	26° 43' 48.448" N	88° 36' 39.496" E
	27	26° 43' 51.927" N	88° 36' 35.954" E
	28	26° 43' 54.133" N	88° 36' 30.958" E
	29	26° 43' 58.891" N	88° 36' 28.391" E
	30	26° 44' 0.658" N	88° 36' 26.564" E
	31	26° 44' 10.271" N	88° 36' 27.419" E
	32	26° 44' 9.315" N	88° 36' 28.538" E
	33	26° 44' 8.972" N	88° 36' 30.329" E
JP_RG_TS_37	1	26° 41' 58.771" N	88° 37' 40.474" E

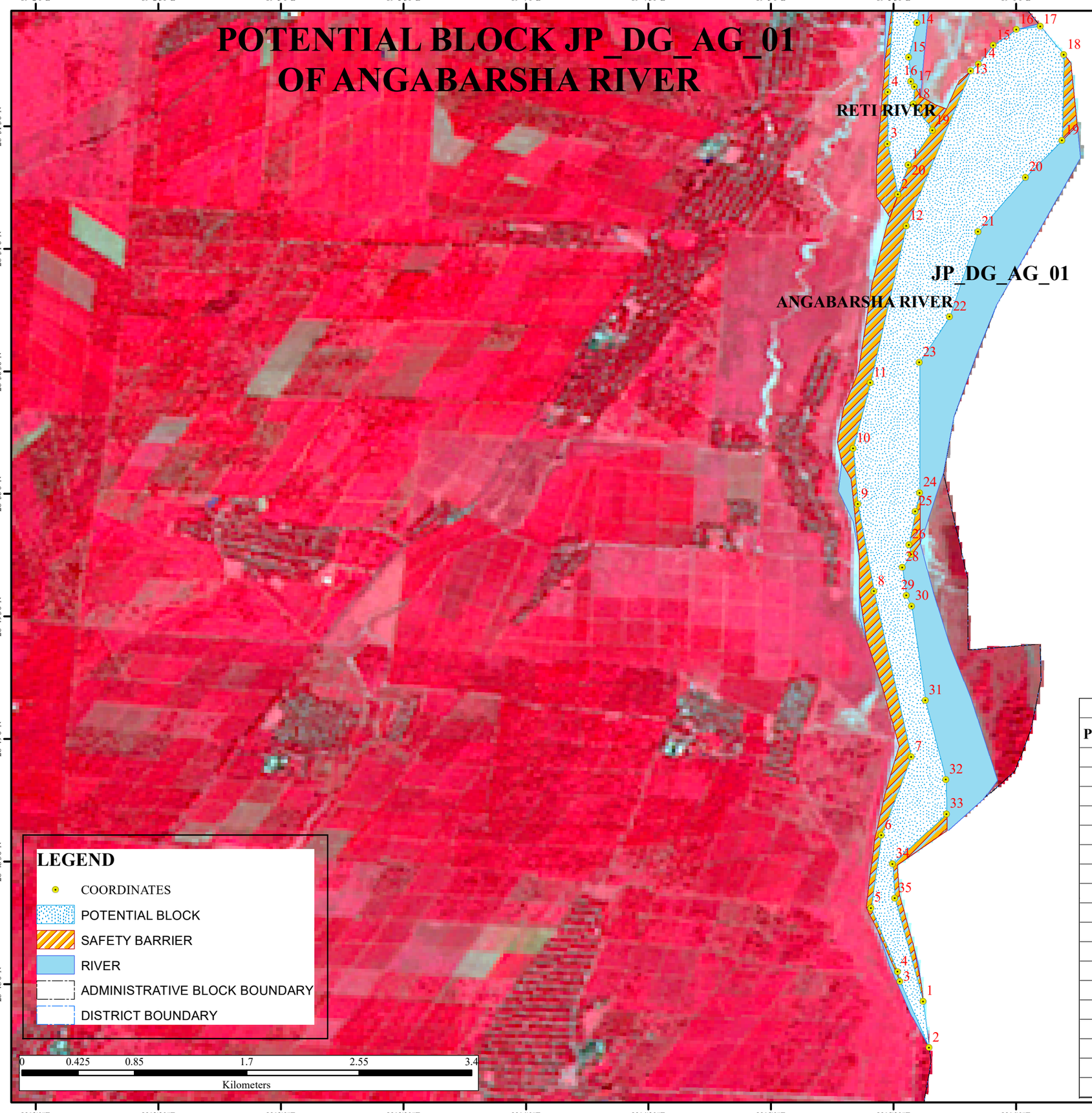
SANDBAR CODE	POINT_NO	Latitude	Longitude
	2	26° 41' 55.923" N	88° 37' 41.439" E
	3	26° 41' 55.893" N	88° 37' 44.023" E
	4	26° 41' 57.168" N	88° 37' 45.333" E
	5	26° 41' 59.087" N	88° 37' 46.653" E
	6	26° 41' 58.801" N	88° 37' 49.090" E
	7	26° 41' 51.293" N	88° 37' 51.567" E
	8	26° 41' 43.405" N	88° 37' 53.322" E
	9	26° 41' 38.193" N	88° 37' 57.986" E
	10	26° 41' 35.475" N	88° 37' 58.808" E
	11	26° 41' 26.812" N	88° 38' 0.695" E
	12	26° 41' 24.838" N	88° 38' 4.113" E
	13	26° 41' 22.750" N	88° 38' 6.237" E
	14	26° 41' 20.684" N	88° 38' 6.494" E
	15	26° 41' 18.621" N	88° 38' 6.465" E
	16	26° 41' 16.976" N	88° 38' 3.714" E
	17	26° 41' 17.009" N	88° 38' 0.842" E
	18	26° 41' 17.806" N	88° 37' 58.844" E
	19	26° 41' 20.398" N	88° 37' 57.732" E
	20	26° 41' 21.456" N	88° 37' 55.450" E
	21	26° 41' 22.129" N	88° 37' 53.019" E
	22	26° 41' 22.300" N	88° 37' 49.288" E
	23	26° 41' 23.595" N	88° 37' 48.876" E
	24	26° 41' 25.275" N	88° 37' 48.613" E
	25	26° 41' 26.273" N	88° 37' 51.498" E
	26	26° 41' 29.599" N	88° 37' 53.843" E
	27	26° 41' 33.985" N	88° 37' 53.762" E
	28	26° 41' 38.917" N	88° 37' 51.104" E
	29	26° 41' 44.296" N	88° 37' 43.140" E
	30	26° 41' 46.597" N	88° 37' 40.164" E
	31	26° 41' 49.308" N	88° 37' 39.061" E
	32	26° 42' 7.427" N	88° 37' 31.692" E
	33	26° 42' 15.578" N	88° 37' 25.589" E
	34	26° 42' 15.967" N	88° 37' 25.497" E
	35	26° 42' 18.819" N	88° 37' 24.245" E
	36	26° 42' 20.127" N	88° 37' 22.183" E
	37	26° 42' 26.630" N	88° 37' 17.314" E
	38	26° 42' 42.815" N	88° 37' 12.812" E
	39	26° 42' 42.662" N	88° 37' 14.387" E
	40	26° 42' 42.105" N	88° 37' 17.970" E
	41	26° 42' 34.433" N	88° 37' 23.154" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	42	26° 42' 25.707" N	88° 37' 28.315" E
	43	26° 42' 17.975" N	88° 37' 32.312" E
	44	26° 42' 15.649" N	88° 37' 32.710" E
	45	26° 42' 15.152" N	88° 37' 36.253" E
	46	26° 42' 14.037" N	88° 37' 36.383" E
	47	26° 42' 10.825" N	88° 37' 35.332" E
	48	26° 42' 7.746" N	88° 37' 33.853" E
	49	26° 42' 3.956" N	88° 37' 38.250" E
JP_RG_TS_38	1	26° 41' 28.285" N	88° 37' 48.879" E
	2	26° 41' 26.333" N	88° 37' 47.757" E
	3	26° 41' 34.224" N	88° 37' 45.196" E
	4	26° 41' 38.350" N	88° 37' 43.518" E
	5	26° 41' 39.195" N	88° 37' 44.128" E
	6	26° 41' 39.283" N	88° 37' 45.805" E
	7	26° 41' 35.485" N	88° 37' 48.981" E
	8	26° 41' 32.570" N	88° 37' 50.136" E
	9	26° 41' 30.300" N	88° 37' 51.301" E
	10	26° 41' 29.016" N	88° 37' 50.804" E
JP_RG_TS_45	1	26° 40' 45.786" N	88° 38' 33.229" E
	2	26° 40' 41.628" N	88° 38' 35.850" E
	3	26° 40' 35.648" N	88° 38' 35.534" E
	4	26° 40' 36.348" N	88° 38' 34.472" E
	5	26° 40' 38.431" N	88° 38' 32.818" E
	6	26° 40' 40.842" N	88° 38' 32.469" E
	7	26° 40' 42.573" N	88° 38' 31.499" E
	8	26° 40' 42.859" N	88° 38' 30.584" E
	9	26° 40' 39.616" N	88° 38' 31.456" E
	10	26° 40' 40.047" N	88° 38' 29.855" E
	11	26° 40' 41.456" N	88° 38' 26.965" E
	12	26° 40' 43.073" N	88° 38' 23.926" E
	13	26° 40' 45.571" N	88° 38' 22.047" E
	14	26° 40' 47.908" N	88° 38' 22.157" E
	15	26° 40' 49.630" N	88° 38' 22.029" E
	16	26° 40' 52.249" N	88° 38' 21.530" E
	17	26° 40' 53.296" N	88° 38' 20.244" E
	18	26° 40' 54.961" N	88° 38' 18.966" E
	19	26° 40' 56.130" N	88° 38' 18.982" E
	20	26° 40' 56.644" N	88° 38' 22.129" E
	21	26° 40' 56.404" N	88° 38' 25.112" E
	22	26° 40' 56.104" N	88° 38' 27.252" E

SANDBAR CODE	POINT_NO	Latitude	Longitude
	23	26° 40' 55.053" N	88° 38' 28.921" E
	24	26° 40' 53.307" N	88° 38' 31.193" E
	25	26° 40' 52.555" N	88° 38' 30.800" E
	26	26° 40' 52.510" N	88° 38' 28.732" E
	27	26° 40' 50.702" N	88° 38' 30.390" E
	28	26° 40' 48.137" N	88° 38' 32.114" E
JP_RG_TS_47	1	26° 40' 21.225" N	88° 38' 24.109" E
	2	26° 40' 21.081" N	88° 38' 17.886" E
	3	26° 40' 23.127" N	88° 38' 17.556" E
	4	26° 40' 28.500" N	88° 38' 17.633" E
	5	26° 40' 31.724" N	88° 38' 17.679" E
	6	26° 40' 33.762" N	88° 38' 18.067" E
	7	26° 40' 38.954" N	88° 38' 15.150" E
	8	26° 40' 41.226" N	88° 38' 13.867" E
	9	26° 40' 43.803" N	88° 38' 14.023" E
	10	26° 40' 43.855" N	88° 38' 14.400" E
	11	26° 40' 38.370" N	88° 38' 19.210" E
	12	26° 40' 32.835" N	88° 38' 26.386" E
	13	26° 40' 27.972" N	88° 38' 26.119" E
	14	26° 40' 25.830" N	88° 38' 25.490" E
	15	26° 40' 22.825" N	88° 38' 25.088" E

Annexure 4
Map showing of Potential Blocks of Jalpaiguri District

POTENTIAL BLOCK JP_DG_AG_01 OF ANGABARSHA RIVER

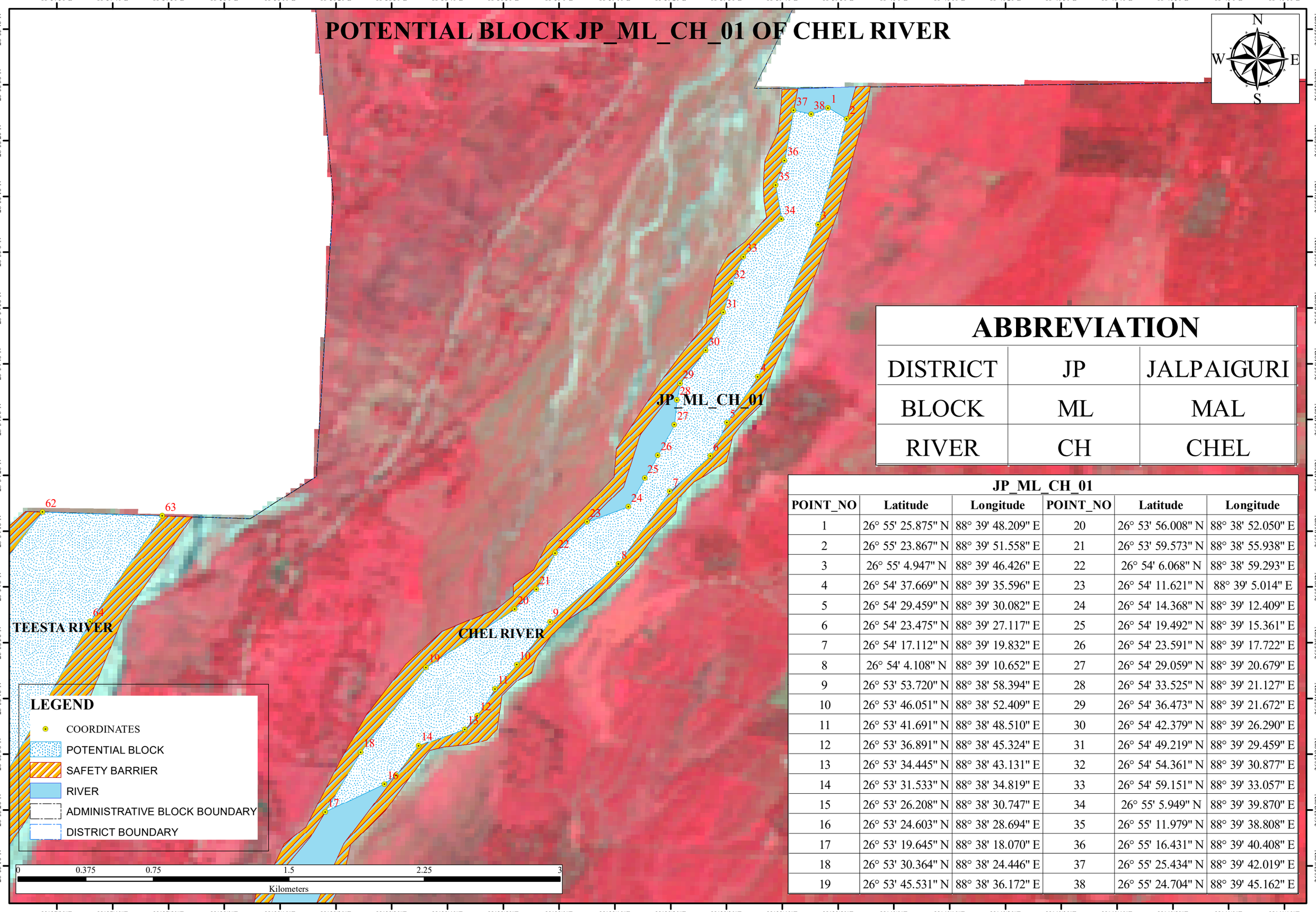


ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	DG	DHUPGURI
RIVER	AG	ANGABARSHA

JP_DG_AG_01

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 47' 55.734" N	89° 5' 37.233" E	19	26° 51' 26.532" N	89° 6' 11.314" E
2	26° 47' 44.390" N	89° 5' 38.694" E	20	26° 51' 17.455" N	89° 6' 2.344" E
3	26° 48' 0.557" N	89° 5' 31.573" E	21	26° 51' 4.196" N	89° 5' 50.718" E
4	26° 48' 2.959" N	89° 5' 30.963" E	22	26° 50' 43.345" N	89° 5' 43.745" E
5	26° 48' 18.615" N	89° 5' 24.448" E	23	26° 50' 32.172" N	89° 5' 36.352" E
6	26° 48' 36.372" N	89° 5' 27.026" E	24	26° 50' 0.236" N	89° 5' 36.433" E
7	26° 48' 55.579" N	89° 5' 34.391" E	25	26° 49' 55.681" N	89° 5' 35.333" E
8	26° 49' 36.153" N	89° 5' 25.249" E	26	26° 49' 47.538" N	89° 5' 33.746" E
9	26° 49' 57.462" N	89° 5' 21.270" E	27	26° 49' 45.093" N	89° 5' 34.365" E
10	26° 50' 11.096" N	89° 5' 20.141" E	28	26° 49' 42.003" N	89° 5' 32.100" E
11	26° 50' 27.126" N	89° 5' 24.345" E	29	26° 49' 35.131" N	89° 5' 33.127" E
12	26° 51' 5.578" N	89° 5' 33.102" E	30	26° 49' 32.458" N	89° 5' 34.458" E
13	26° 51' 43.596" N	89° 5' 48.917" E	31	26° 49' 9.408" N	89° 5' 37.824" E
14	26° 51' 45.221" N	89° 5' 50.839" E	32	26° 48' 49.991" N	89° 5' 42.856" E
15	26° 51' 49.801" N	89° 5' 54.433" E	33	26° 48' 41.603" N	89° 5' 43.003" E
16	26° 51' 53.694" N	89° 6' 0.080" E	34	26° 48' 29.369" N	89° 5' 29.723" E
17	26° 51' 54.495" N	89° 6' 5.901" E	35	26° 48' 21.021" N	89° 5' 30.337" E
18	26° 51' 47.470" N	89° 6' 11.687" E			

POTENTIAL BLOCK JP_ML_CH_01 OF CHEL RIVER



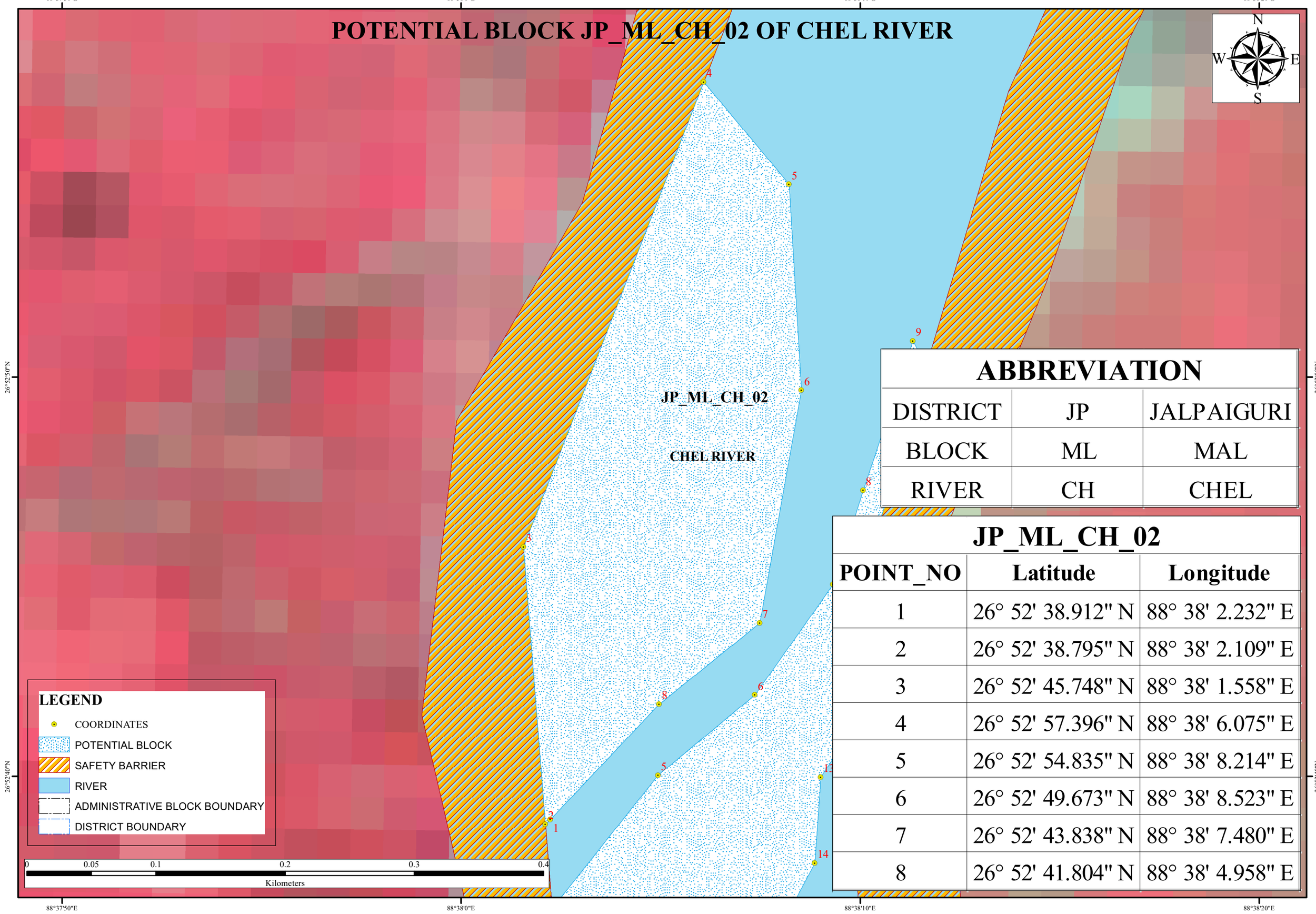
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	CH	CHEL

JP_ML_CH_01

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 55' 25.875" N	88° 39' 48.209" E	20	26° 53' 56.008" N	88° 38' 52.050" E
2	26° 55' 23.867" N	88° 39' 51.558" E	21	26° 53' 59.573" N	88° 38' 55.938" E
3	26° 55' 4.947" N	88° 39' 46.426" E	22	26° 54' 6.068" N	88° 38' 59.293" E
4	26° 54' 37.669" N	88° 39' 35.596" E	23	26° 54' 11.621" N	88° 39' 5.014" E
5	26° 54' 29.459" N	88° 39' 30.082" E	24	26° 54' 14.368" N	88° 39' 12.409" E
6	26° 54' 23.475" N	88° 39' 27.117" E	25	26° 54' 19.492" N	88° 39' 15.361" E
7	26° 54' 17.112" N	88° 39' 19.832" E	26	26° 54' 23.591" N	88° 39' 17.722" E
8	26° 54' 4.108" N	88° 39' 10.652" E	27	26° 54' 29.059" N	88° 39' 20.679" E
9	26° 53' 53.720" N	88° 38' 58.394" E	28	26° 54' 33.525" N	88° 39' 21.127" E
10	26° 53' 46.051" N	88° 38' 52.409" E	29	26° 54' 36.473" N	88° 39' 21.672" E
11	26° 53' 41.691" N	88° 38' 48.510" E	30	26° 54' 42.379" N	88° 39' 26.290" E
12	26° 53' 36.891" N	88° 38' 45.324" E	31	26° 54' 49.219" N	88° 39' 29.459" E
13	26° 53' 34.445" N	88° 38' 43.131" E	32	26° 54' 54.361" N	88° 39' 30.877" E
14	26° 53' 31.533" N	88° 38' 34.819" E	33	26° 54' 59.151" N	88° 39' 33.057" E
15	26° 53' 26.208" N	88° 38' 30.747" E	34	26° 55' 5.949" N	88° 39' 39.870" E
16	26° 53' 24.603" N	88° 38' 28.694" E	35	26° 55' 11.979" N	88° 39' 38.808" E
17	26° 53' 19.645" N	88° 38' 18.070" E	36	26° 55' 16.431" N	88° 39' 40.408" E
18	26° 53' 30.364" N	88° 38' 24.446" E	37	26° 55' 25.434" N	88° 39' 42.019" E
19	26° 53' 45.531" N	88° 38' 36.172" E	38	26° 55' 24.704" N	88° 39' 45.162" E

POTENTIAL BLOCK JP_ML_CH_02 OF CHEL RIVER



ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	CH	CHEL

JP_ML_CH_02

POINT_NO	Latitude	Longitude
1	26° 52' 38.912" N	88° 38' 2.232" E
2	26° 52' 38.795" N	88° 38' 2.109" E
3	26° 52' 45.748" N	88° 38' 1.558" E
4	26° 52' 57.396" N	88° 38' 6.075" E
5	26° 52' 54.835" N	88° 38' 8.214" E
6	26° 52' 49.673" N	88° 38' 8.523" E
7	26° 52' 43.838" N	88° 38' 7.480" E
8	26° 52' 41.804" N	88° 38' 4.958" E

POTENTIAL BLOCK JP_ML_CH_03 OF CHEL RIVER

88°37'50"E 88°38'0"E 88°38'10"E 88°38'20"E

26°52'50"N 26°52'40"N 26°52'30"N

N W E S

JP_ML_CH_03

CHEL RIVER

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4

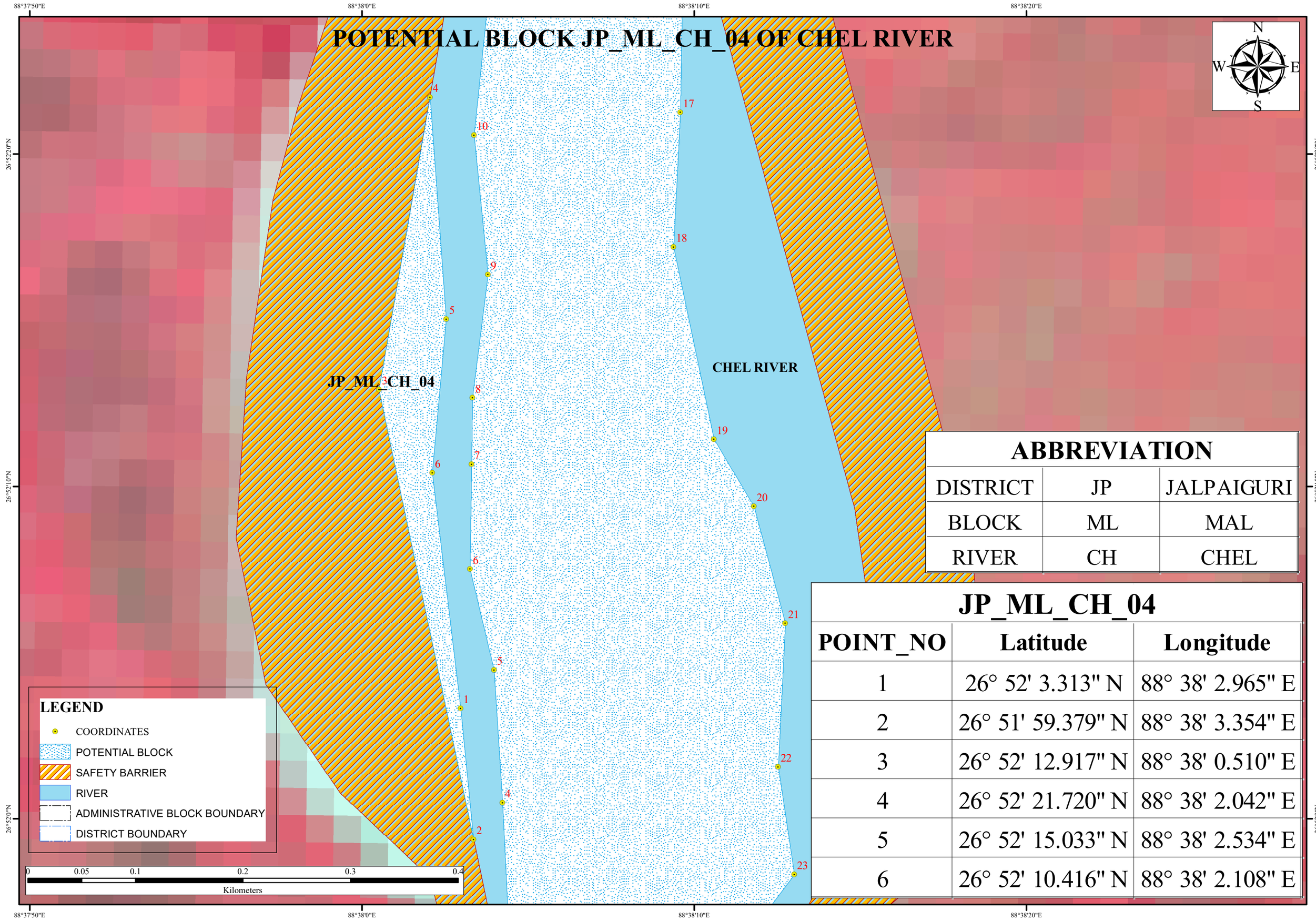
Kilometers

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	CH	CHEL

JP_ML_CH_03		
POINT_NO	Latitude	Longitude
1	26° 52' 28.957" N	88° 38' 4.414" E
2	26° 52' 27.356" N	88° 38' 3.432" E
3	26° 52' 27.638" N	88° 38' 2.994" E
4	26° 52' 36.695" N	88° 38' 2.276" E
5	26° 52' 40.020" N	88° 38' 4.932" E
6	26° 52' 42.034" N	88° 38' 7.358" E
7	26° 52' 44.806" N	88° 38' 9.316" E
8	26° 52' 47.162" N	88° 38' 10.069" E
9	26° 52' 50.909" N	88° 38' 11.321" E
10	26° 52' 50.259" N	88° 38' 11.644" E
11	26° 52' 43.248" N	88° 38' 9.552" E
12	26° 52' 41.025" N	88° 38' 9.689" E
13	26° 52' 39.973" N	88° 38' 9.006" E
14	26° 52' 37.825" N	88° 38' 8.856" E
15	26° 52' 35.048" N	88° 38' 7.378" E
16	26° 52' 32.808" N	88° 38' 5.907" E
17	26° 52' 31.523" N	88° 38' 5.529" E

POTENTIAL BLOCK JP_ML_CH_04 OF CHEL RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	CH	CHEL

JP_ML_CH_04

POINT_NO	Latitude	Longitude
1	26° 52' 3.313" N	88° 38' 2.965" E
2	26° 51' 59.379" N	88° 38' 3.354" E
3	26° 52' 12.917" N	88° 38' 0.510" E
4	26° 52' 21.720" N	88° 38' 2.042" E
5	26° 52' 15.033" N	88° 38' 2.534" E
6	26° 52' 10.416" N	88° 38' 2.108" E

POTENTIAL BLOCK JP_ML_CH_05 OF CHEL RIVER

88°37'40"E 88°37'50"E 88°38'0"E 88°38'10"E 88°38'20"E 88°38'30"E 88°38'40"E

26°52'30"N 26°52'20"N 26°52'10"N 26°52'0"N

CHEL RIVER

JP_ML_CH_05

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.1 0.2 0.4 0.6 0.8
Kilometers

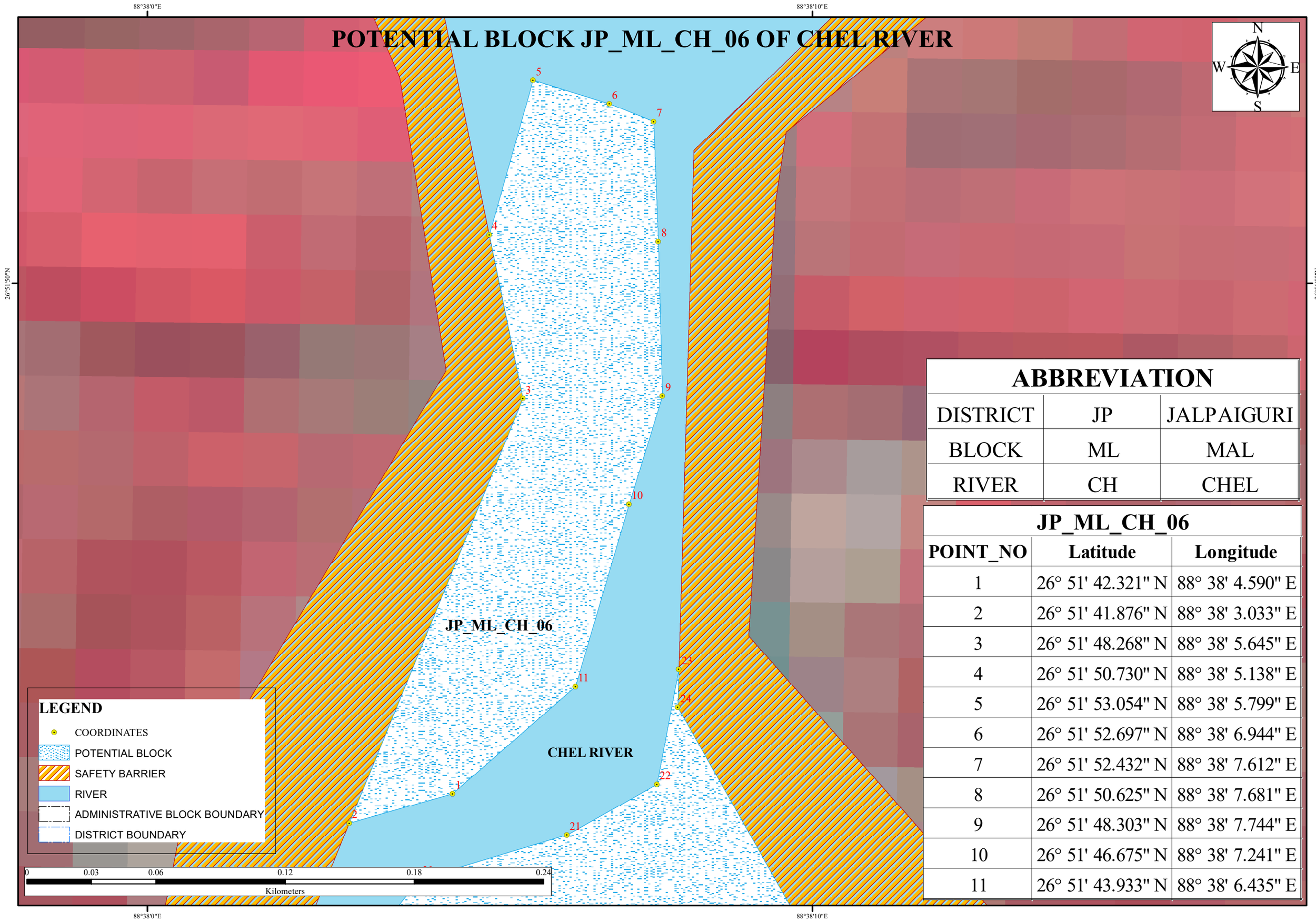
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	CH	CHEL

JP_ML_CH_05

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 51' 54.101" N	88° 38' 8.731" E	13	26° 52' 34.484" N	88° 38' 8.482" E
2	26° 51' 54.060" N	88° 38' 6.352" E	14	26° 52' 29.940" N	88° 38' 8.479" E
3	26° 51' 56.971" N	88° 38' 4.400" E	15	26° 52' 26.694" N	88° 38' 9.583" E
4	26° 52' 0.481" N	88° 38' 4.221" E	16	26° 52' 24.217" N	88° 38' 9.624" E
5	26° 52' 4.474" N	88° 38' 3.971" E	17	26° 52' 21.260" N	88° 38' 9.582" E
6	26° 52' 7.508" N	88° 38' 3.248" E	18	26° 52' 17.205" N	88° 38' 9.370" E
7	26° 52' 10.672" N	88° 38' 3.293" E	19	26° 52' 11.413" N	88° 38' 10.590" E
8	26° 52' 12.666" N	88° 38' 3.322" E	20	26° 52' 9.404" N	88° 38' 11.789" E
9	26° 52' 16.375" N	88° 38' 3.788" E	21	26° 52' 5.885" N	88° 38' 12.735" E
10	26° 52' 20.571" N	88° 38' 3.369" E	22	26° 52' 1.554" N	88° 38' 12.519" E
11	26° 52' 24.650" N	88° 38' 3.787" E	23	26° 51' 58.316" N	88° 38' 13.009" E
12	26° 52' 27.213" N	88° 38' 5.262" E	24	26° 51' 56.134" N	88° 38' 11.367" E

POTENTIAL BLOCK JP_ML_CH_06 OF CHEL RIVER



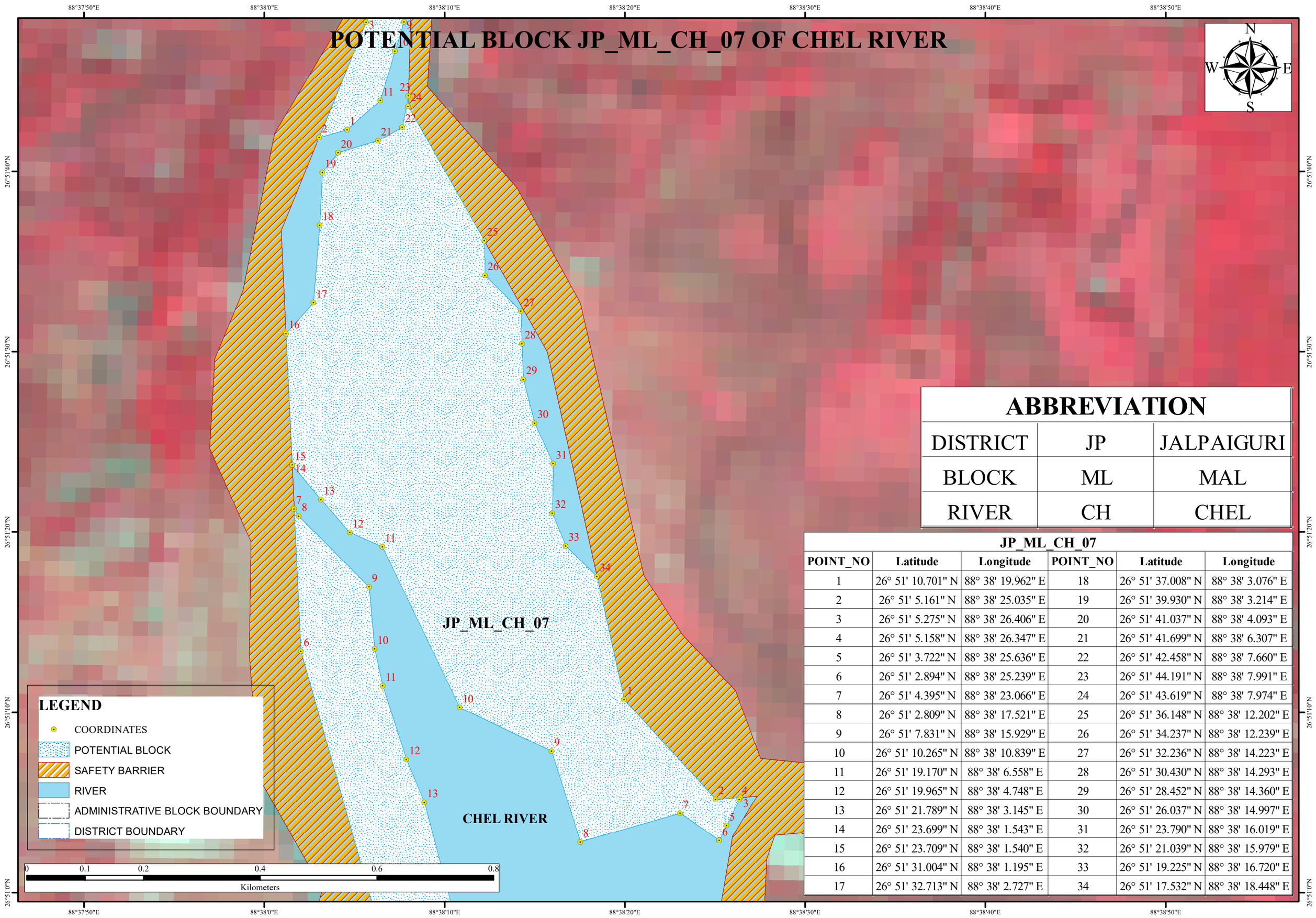
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	CH	CHEL

JP_ML_CH_06

POINT_NO	Latitude	Longitude
1	26° 51' 42.321" N	88° 38' 4.590" E
2	26° 51' 41.876" N	88° 38' 3.033" E
3	26° 51' 48.268" N	88° 38' 5.645" E
4	26° 51' 50.730" N	88° 38' 5.138" E
5	26° 51' 53.054" N	88° 38' 5.799" E
6	26° 51' 52.697" N	88° 38' 6.944" E
7	26° 51' 52.432" N	88° 38' 7.612" E
8	26° 51' 50.625" N	88° 38' 7.681" E
9	26° 51' 48.303" N	88° 38' 7.744" E
10	26° 51' 46.675" N	88° 38' 7.241" E
11	26° 51' 43.933" N	88° 38' 6.435" E

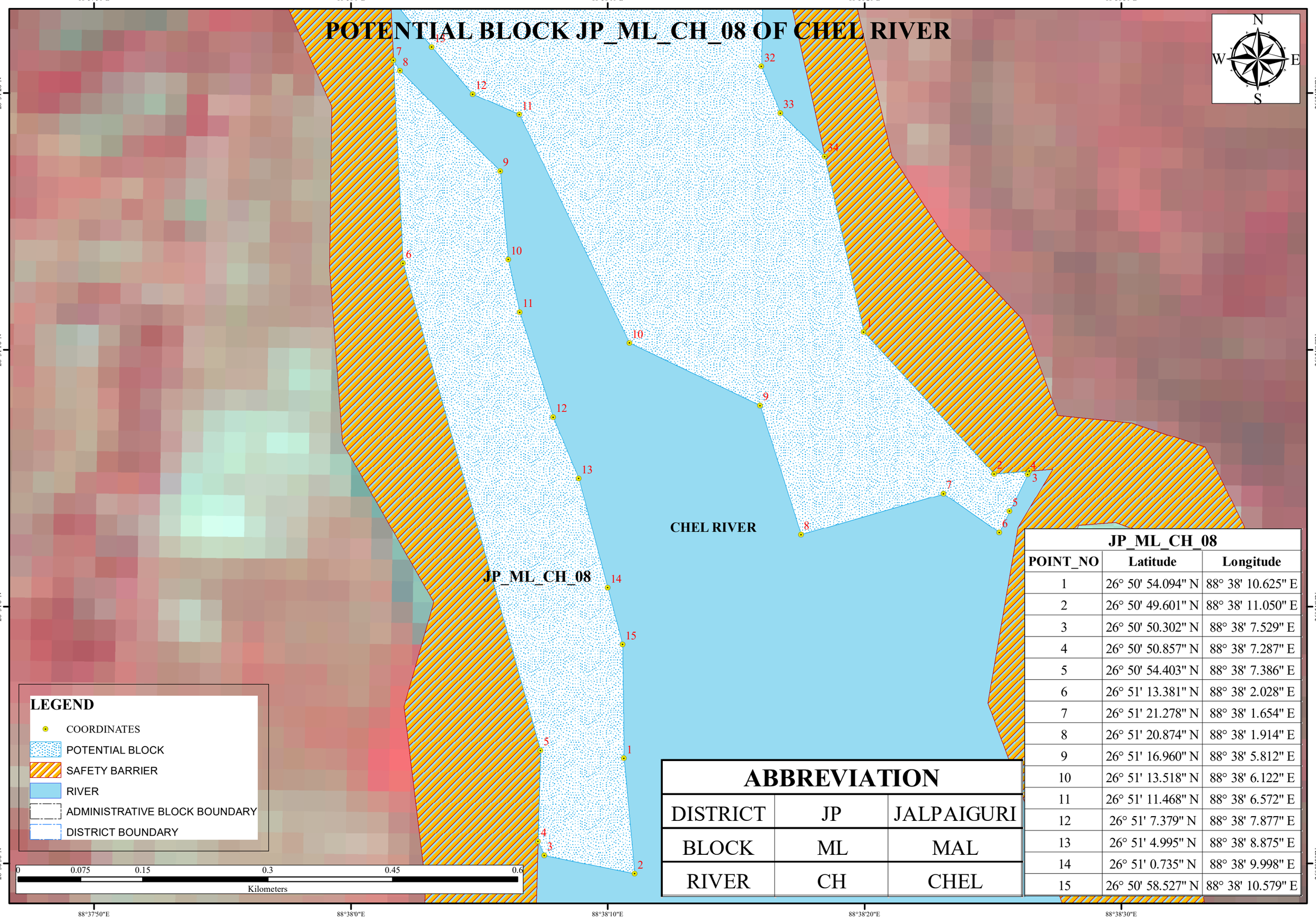
POTENTIAL BLOCK JP_ML_CH_07 OF CHEL RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	CH	CHEL

JP_ML_CH_07					
POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 51' 10.701" N	88° 38' 19.962" E	18	26° 51' 37.008" N	88° 38' 3.076" E
2	26° 51' 5.161" N	88° 38' 25.035" E	19	26° 51' 39.930" N	88° 38' 3.214" E
3	26° 51' 5.275" N	88° 38' 26.406" E	20	26° 51' 41.037" N	88° 38' 4.093" E
4	26° 51' 5.158" N	88° 38' 26.347" E	21	26° 51' 41.699" N	88° 38' 6.307" E
5	26° 51' 3.722" N	88° 38' 25.636" E	22	26° 51' 42.458" N	88° 38' 7.660" E
6	26° 51' 2.894" N	88° 38' 25.239" E	23	26° 51' 44.191" N	88° 38' 7.991" E
7	26° 51' 4.395" N	88° 38' 23.066" E	24	26° 51' 43.619" N	88° 38' 7.974" E
8	26° 51' 2.809" N	88° 38' 17.521" E	25	26° 51' 36.148" N	88° 38' 12.202" E
9	26° 51' 7.831" N	88° 38' 15.929" E	26	26° 51' 34.237" N	88° 38' 12.239" E
10	26° 51' 10.265" N	88° 38' 10.839" E	27	26° 51' 32.236" N	88° 38' 14.223" E
11	26° 51' 19.170" N	88° 38' 6.558" E	28	26° 51' 30.430" N	88° 38' 14.293" E
12	26° 51' 19.965" N	88° 38' 4.748" E	29	26° 51' 28.452" N	88° 38' 14.360" E
13	26° 51' 21.789" N	88° 38' 3.145" E	30	26° 51' 26.037" N	88° 38' 14.997" E
14	26° 51' 23.699" N	88° 38' 1.543" E	31	26° 51' 23.790" N	88° 38' 16.019" E
15	26° 51' 23.709" N	88° 38' 1.540" E	32	26° 51' 21.039" N	88° 38' 15.979" E
16	26° 51' 31.004" N	88° 38' 1.195" E	33	26° 51' 19.225" N	88° 38' 16.720" E
17	26° 51' 32.713" N	88° 38' 2.727" E	34	26° 51' 17.532" N	88° 38' 18.448" E

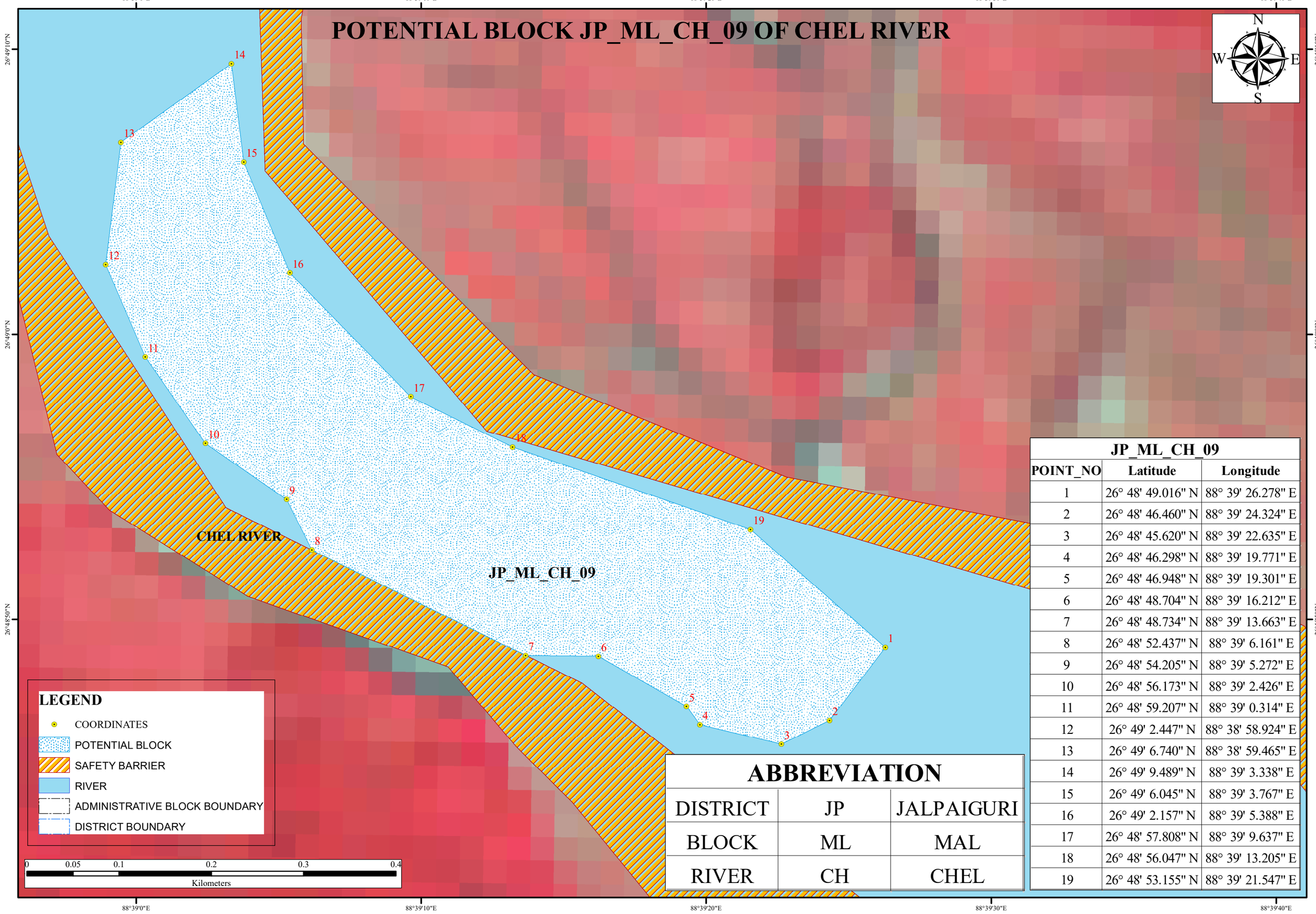
POTENTIAL BLOCK JP_ML_CH_08 OF CHEL RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	CH	CHEL

JP_ML_CH_08		
POINT_NO	Latitude	Longitude
1	26° 50' 54.094" N	88° 38' 10.625" E
2	26° 50' 49.601" N	88° 38' 11.050" E
3	26° 50' 50.302" N	88° 38' 7.529" E
4	26° 50' 50.857" N	88° 38' 7.287" E
5	26° 50' 54.403" N	88° 38' 7.386" E
6	26° 51' 13.381" N	88° 38' 2.028" E
7	26° 51' 21.278" N	88° 38' 1.654" E
8	26° 51' 20.874" N	88° 38' 1.914" E
9	26° 51' 16.960" N	88° 38' 5.812" E
10	26° 51' 13.518" N	88° 38' 6.122" E
11	26° 51' 11.468" N	88° 38' 6.572" E
12	26° 51' 7.379" N	88° 38' 7.877" E
13	26° 51' 4.995" N	88° 38' 8.875" E
14	26° 51' 0.735" N	88° 38' 9.998" E
15	26° 50' 58.527" N	88° 38' 10.579" E

POTENTIAL BLOCK JP_ML_CH_09 OF CHEL RIVER



JP_ML_CH_09		
POINT_NO	Latitude	Longitude
1	26° 48' 49.016" N	88° 39' 26.278" E
2	26° 48' 46.460" N	88° 39' 24.324" E
3	26° 48' 45.620" N	88° 39' 22.635" E
4	26° 48' 46.298" N	88° 39' 19.771" E
5	26° 48' 46.948" N	88° 39' 19.301" E
6	26° 48' 48.704" N	88° 39' 16.212" E
7	26° 48' 48.734" N	88° 39' 13.663" E
8	26° 48' 52.437" N	88° 39' 6.161" E
9	26° 48' 54.205" N	88° 39' 5.272" E
10	26° 48' 56.173" N	88° 39' 2.426" E
11	26° 48' 59.207" N	88° 39' 0.314" E
12	26° 49' 2.447" N	88° 38' 58.924" E
13	26° 49' 6.740" N	88° 38' 59.465" E
14	26° 49' 9.489" N	88° 39' 3.338" E
15	26° 49' 6.045" N	88° 39' 3.767" E
16	26° 49' 2.157" N	88° 39' 5.388" E
17	26° 48' 57.808" N	88° 39' 9.637" E
18	26° 48' 56.047" N	88° 39' 13.205" E
19	26° 48' 53.155" N	88° 39' 21.547" E

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	CH	CHEL

POTENTIAL BLOCK JP_ML_CH_10 OF CHEL RIVER

88°40'0"E

88°40'10"E

26°48'30"N

26°48'20"N

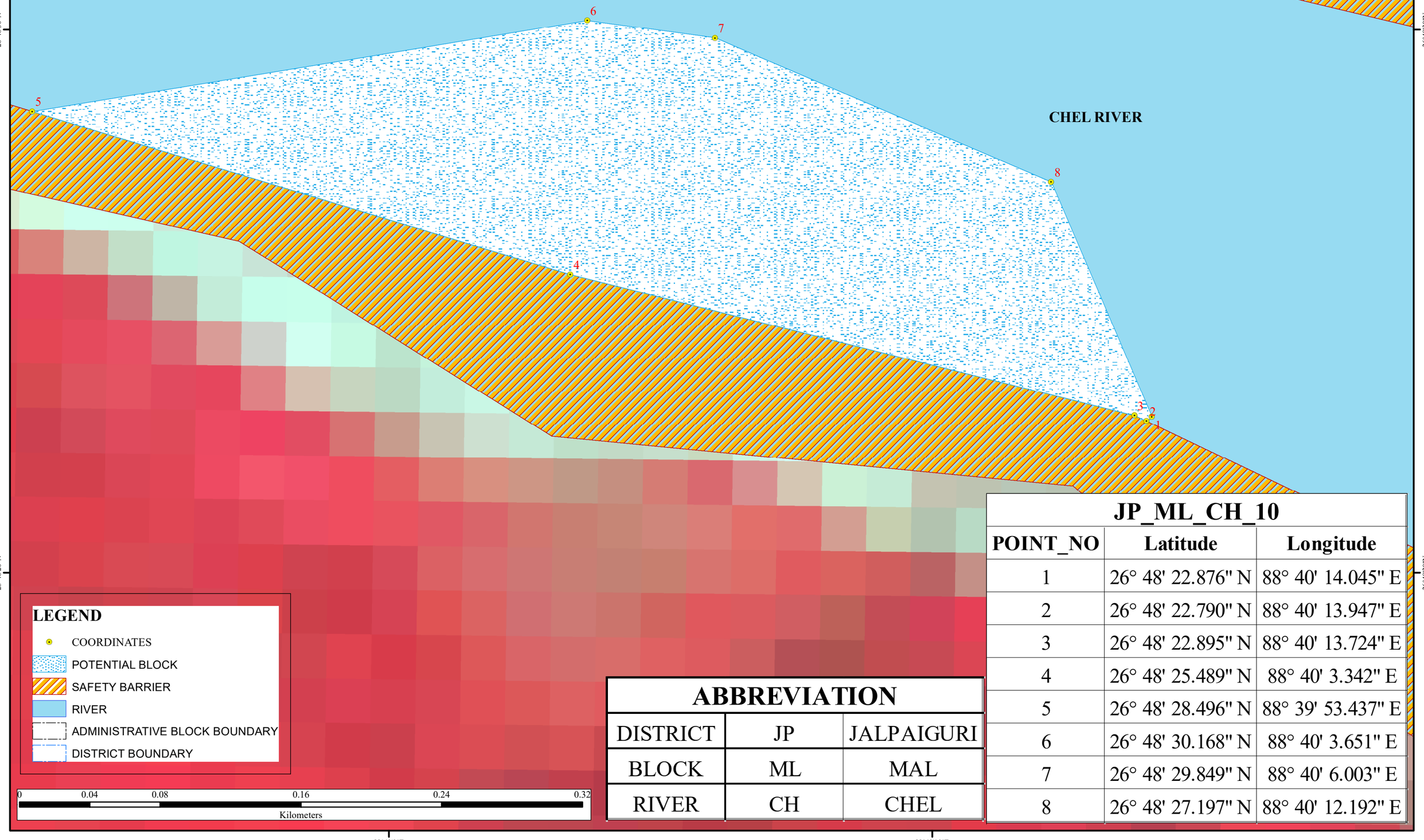
N

W

E

S

CHEL RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.04 0.08 0.16 0.24 0.32

Kilometers

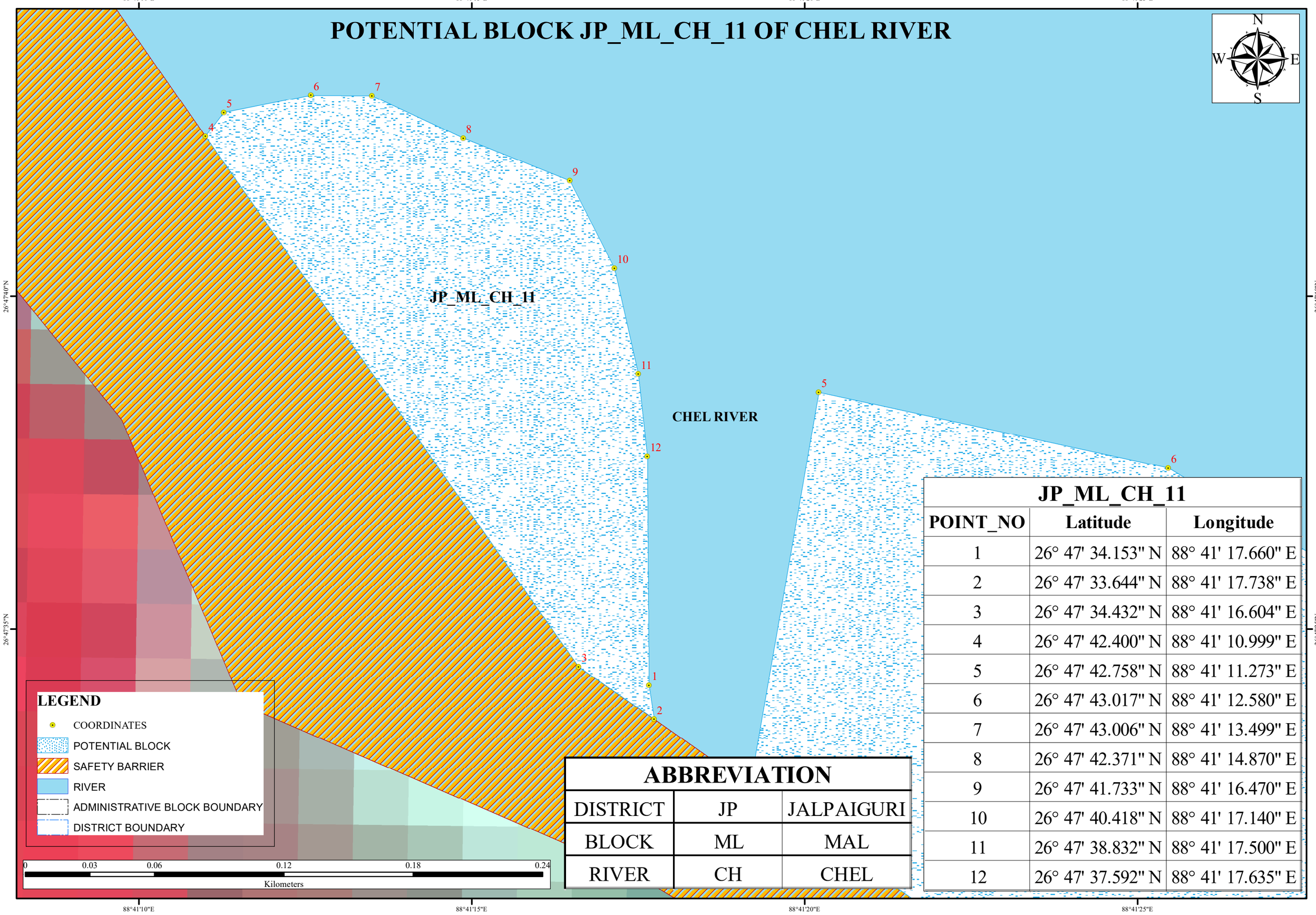
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	CH	CHEL

JP_ML_CH_10

POINT_NO	Latitude	Longitude
1	26° 48' 22.876" N	88° 40' 14.045" E
2	26° 48' 22.790" N	88° 40' 13.947" E
3	26° 48' 22.895" N	88° 40' 13.724" E
4	26° 48' 25.489" N	88° 40' 3.342" E
5	26° 48' 28.496" N	88° 39' 53.437" E
6	26° 48' 30.168" N	88° 40' 3.651" E
7	26° 48' 29.849" N	88° 40' 6.003" E
8	26° 48' 27.197" N	88° 40' 12.192" E

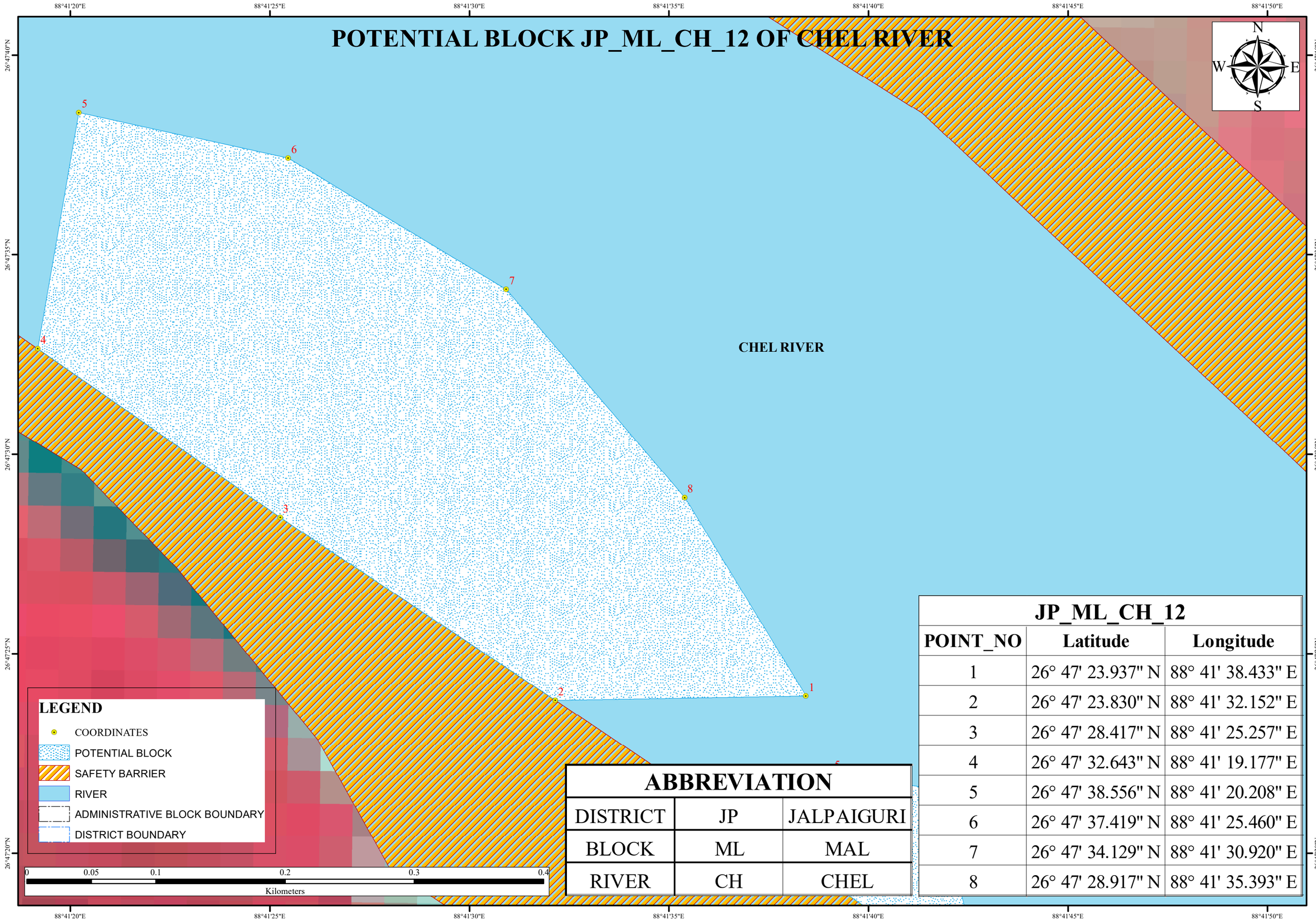
POTENTIAL BLOCK JP_ML_CH_11 OF CHEL RIVER



JP_ML_CH_11		
POINT_NO	Latitude	Longitude
1	26° 47' 34.153" N	88° 41' 17.660" E
2	26° 47' 33.644" N	88° 41' 17.738" E
3	26° 47' 34.432" N	88° 41' 16.604" E
4	26° 47' 42.400" N	88° 41' 10.999" E
5	26° 47' 42.758" N	88° 41' 11.273" E
6	26° 47' 43.017" N	88° 41' 12.580" E
7	26° 47' 43.006" N	88° 41' 13.499" E
8	26° 47' 42.371" N	88° 41' 14.870" E
9	26° 47' 41.733" N	88° 41' 16.470" E
10	26° 47' 40.418" N	88° 41' 17.140" E
11	26° 47' 38.832" N	88° 41' 17.500" E
12	26° 47' 37.592" N	88° 41' 17.635" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	CH	CHEL

POTENTIAL BLOCK JP_ML_CH_12 OF CHEL RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	CH	CHEL

JP_ML_CH_12		
POINT_NO	Latitude	Longitude
1	26° 47' 23.937" N	88° 41' 38.433" E
2	26° 47' 23.830" N	88° 41' 32.152" E
3	26° 47' 28.417" N	88° 41' 25.257" E
4	26° 47' 32.643" N	88° 41' 19.177" E
5	26° 47' 38.556" N	88° 41' 20.208" E
6	26° 47' 37.419" N	88° 41' 25.460" E
7	26° 47' 34.129" N	88° 41' 30.920" E
8	26° 47' 28.917" N	88° 41' 35.393" E

POTENTIAL BLOCK JP_ML_CH_13 OF CHEL RIVER

88°41'40"E

88°41'45"E

26°47'20"N

26°47'15"N

N

W

E

S

CHEL RIVER

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.02 0.04 0.08 0.12 0.16

Kilometers

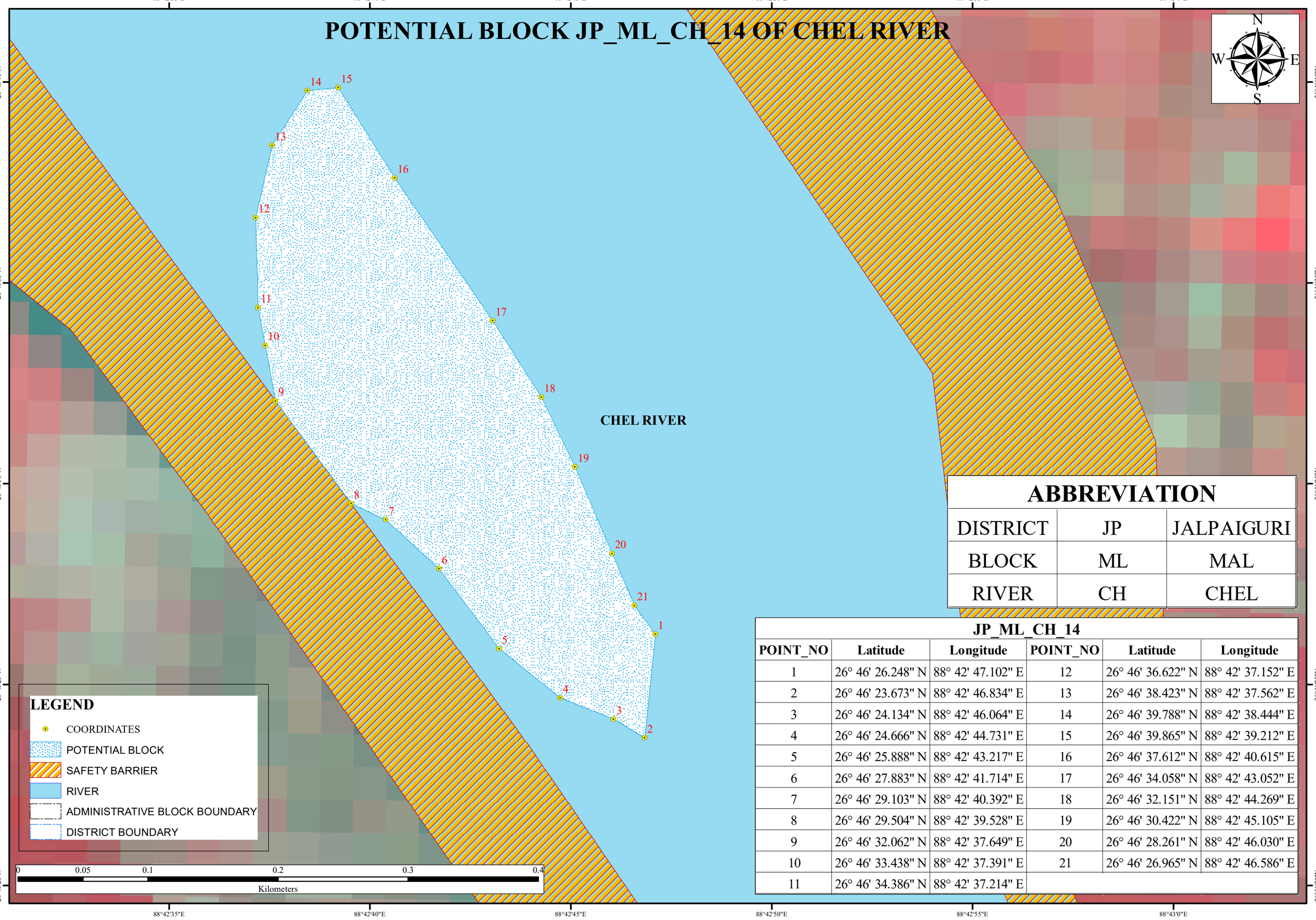
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	CH	CHEL

JP_ML_CH_13

POINT_NO	Latitude	Longitude
1	26° 47' 16.669" N	88° 41' 43.790" E
2	26° 47' 16.586" N	88° 41' 43.040" E
3	26° 47' 21.497" N	88° 41' 35.658" E
4	26° 47' 21.692" N	88° 41' 37.158" E
5	26° 47' 21.991" N	88° 41' 39.079" E
6	26° 47' 21.640" N	88° 41' 41.468" E
7	26° 47' 20.021" N	88° 41' 42.043" E
8	26° 47' 17.865" N	88° 41' 42.610" E

POTENTIAL BLOCK JP_ML_CH_14 OF CHEL RIVER



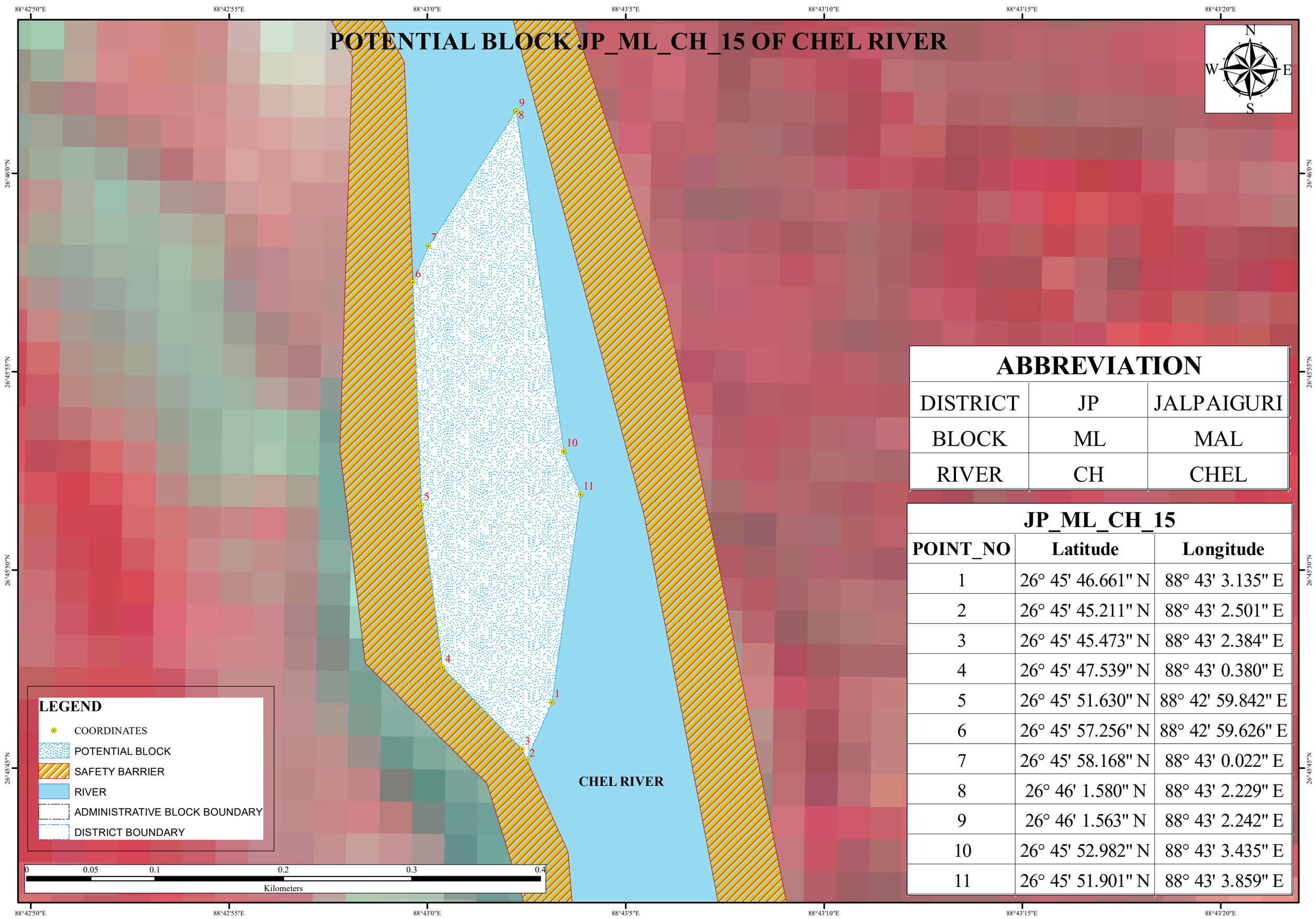
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	CH	CHEL

JP_ML_CH_14

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 46' 26.248" N	88° 42' 47.102" E	12	26° 46' 36.622" N	88° 42' 37.152" E
2	26° 46' 23.673" N	88° 42' 46.834" E	13	26° 46' 38.423" N	88° 42' 37.562" E
3	26° 46' 24.134" N	88° 42' 46.064" E	14	26° 46' 39.788" N	88° 42' 38.444" E
4	26° 46' 24.666" N	88° 42' 44.731" E	15	26° 46' 39.865" N	88° 42' 39.212" E
5	26° 46' 25.888" N	88° 42' 43.217" E	16	26° 46' 37.612" N	88° 42' 40.615" E
6	26° 46' 27.883" N	88° 42' 41.714" E	17	26° 46' 34.058" N	88° 42' 43.052" E
7	26° 46' 29.103" N	88° 42' 40.392" E	18	26° 46' 32.151" N	88° 42' 44.269" E
8	26° 46' 29.504" N	88° 42' 39.528" E	19	26° 46' 30.422" N	88° 42' 45.105" E
9	26° 46' 32.062" N	88° 42' 37.649" E	20	26° 46' 28.261" N	88° 42' 46.030" E
10	26° 46' 33.438" N	88° 42' 37.391" E	21	26° 46' 26.965" N	88° 42' 46.586" E
11	26° 46' 34.386" N	88° 42' 37.214" E			

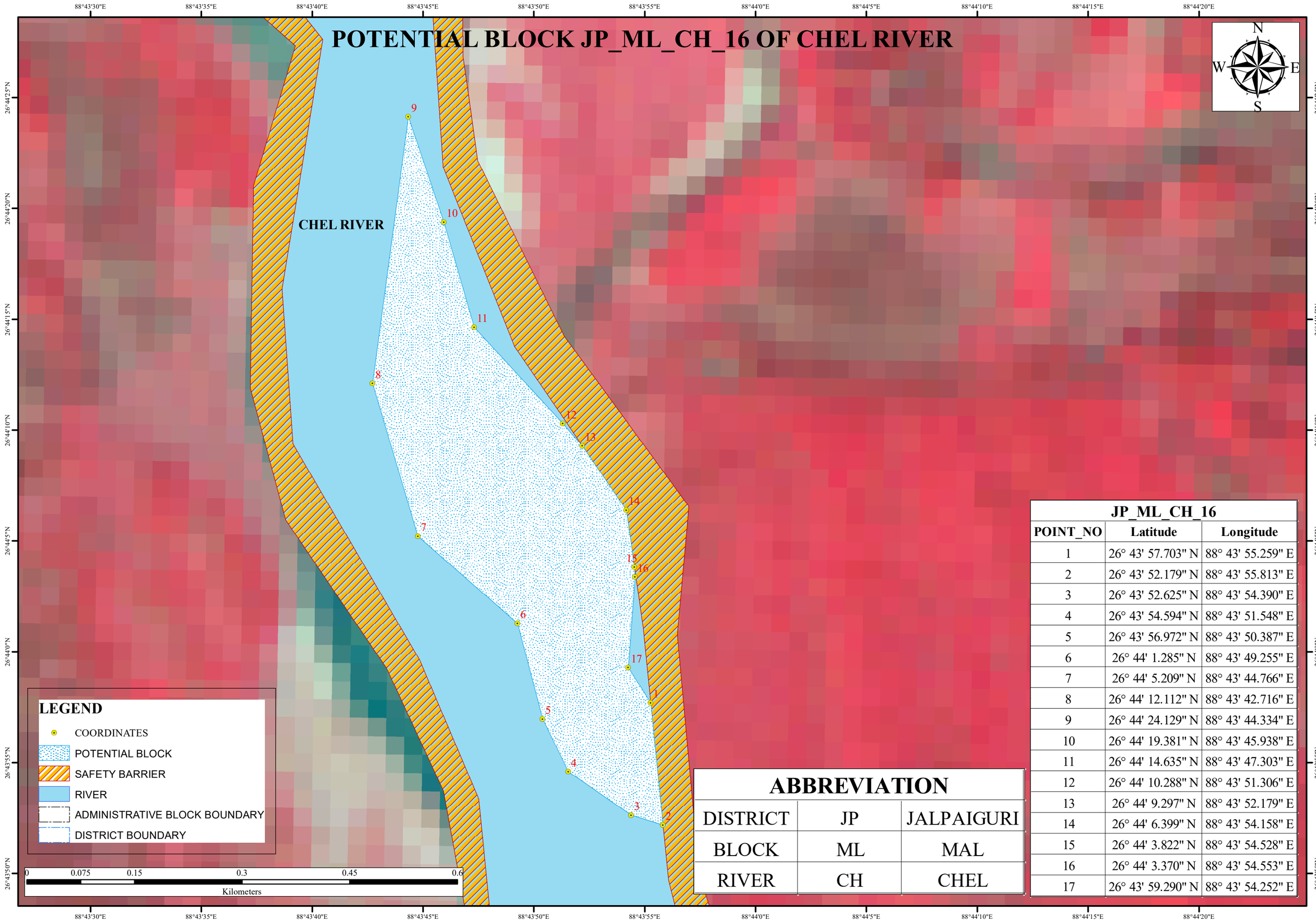
POTENTIAL BLOCK JP_ML_CH_15 OF CHEL RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	CH	CHEL

JP_ML_CH_15		
POINT_NO	**Latitude**	**Longitude**
1	26° 45' 46.661" N	88° 43' 3.135" E
2	26° 45' 45.211" N	88° 43' 2.501" E
3	26° 45' 45.473" N	88° 43' 2.384" E
4	26° 45' 47.539" N	88° 43' 0.380" E
5	26° 45' 51.630" N	88° 42' 59.842" E
6	26° 45' 57.256" N	88° 42' 59.626" E
7	26° 45' 58.168" N	88° 43' 0.022" E
8	26° 46' 1.580" N	88° 43' 2.229" E
9	26° 46' 1.563" N	88° 43' 2.242" E
10	26° 45' 52.982" N	88° 43' 3.435" E
11	26° 45' 51.901" N	88° 43' 3.859" E

POTENTIAL BLOCK JP_ML_CH_16 OF CHEL RIVER

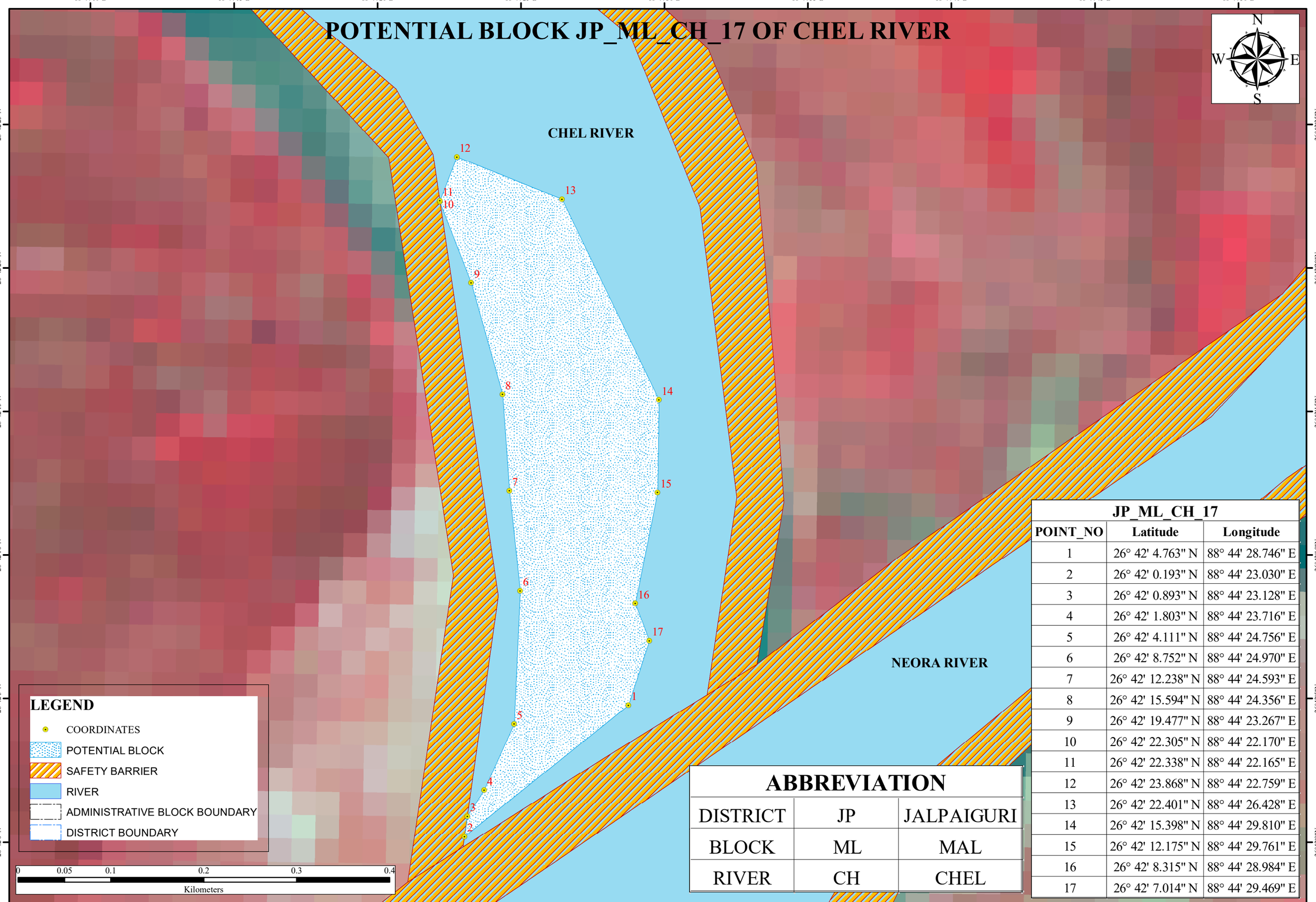


JP_ML_CH_16		
POINT_NO	Latitude	Longitude
1	26° 43' 57.703" N	88° 43' 55.259" E
2	26° 43' 52.179" N	88° 43' 55.813" E
3	26° 43' 52.625" N	88° 43' 54.390" E
4	26° 43' 54.594" N	88° 43' 51.548" E
5	26° 43' 56.972" N	88° 43' 50.387" E
6	26° 44' 1.285" N	88° 43' 49.255" E
7	26° 44' 5.209" N	88° 43' 44.766" E
8	26° 44' 12.112" N	88° 43' 42.716" E
9	26° 44' 24.129" N	88° 43' 44.334" E
10	26° 44' 19.381" N	88° 43' 45.938" E
11	26° 44' 14.635" N	88° 43' 47.303" E
12	26° 44' 10.288" N	88° 43' 51.306" E
13	26° 44' 9.297" N	88° 43' 52.179" E
14	26° 44' 6.399" N	88° 43' 54.158" E
15	26° 44' 3.822" N	88° 43' 54.528" E
16	26° 44' 3.370" N	88° 43' 54.553" E
17	26° 43' 59.290" N	88° 43' 54.252" E

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	CH	CHEL

POTENTIAL BLOCK JP_ML_CH_17 OF CHEL RIVER

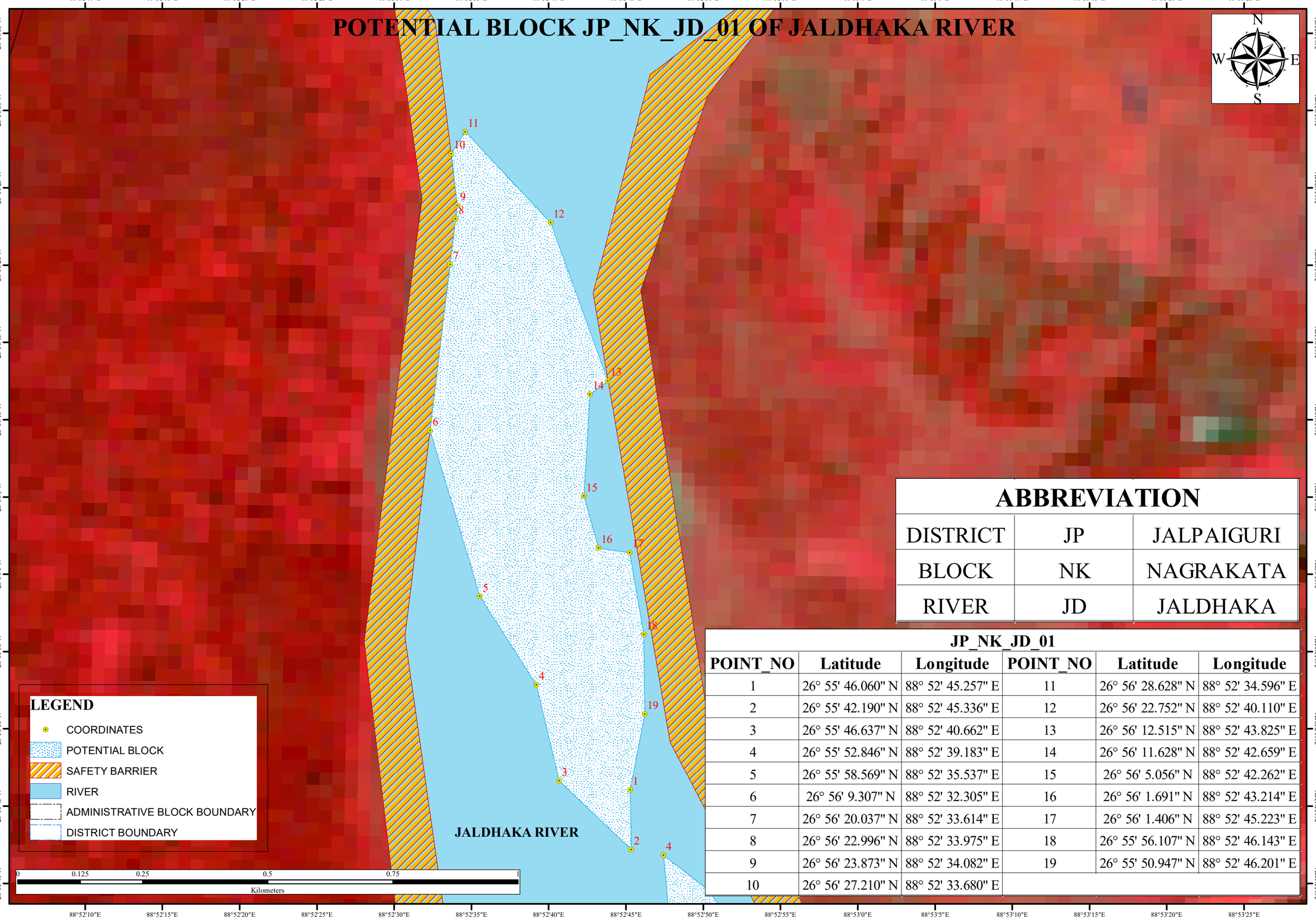


JP_ML_CH_17		
POINT_NO	Latitude	Longitude
1	26° 42' 4.763" N	88° 44' 28.746" E
2	26° 42' 0.193" N	88° 44' 23.030" E
3	26° 42' 0.893" N	88° 44' 23.128" E
4	26° 42' 1.803" N	88° 44' 23.716" E
5	26° 42' 4.111" N	88° 44' 24.756" E
6	26° 42' 8.752" N	88° 44' 24.970" E
7	26° 42' 12.238" N	88° 44' 24.593" E
8	26° 42' 15.594" N	88° 44' 24.356" E
9	26° 42' 19.477" N	88° 44' 23.267" E
10	26° 42' 22.305" N	88° 44' 22.170" E
11	26° 42' 22.338" N	88° 44' 22.165" E
12	26° 42' 23.868" N	88° 44' 22.759" E
13	26° 42' 22.401" N	88° 44' 26.428" E
14	26° 42' 15.398" N	88° 44' 29.810" E
15	26° 42' 12.175" N	88° 44' 29.761" E
16	26° 42' 8.315" N	88° 44' 28.984" E
17	26° 42' 7.014" N	88° 44' 29.469" E

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	CH	CHEL

POTENTIAL BLOCK JP_NK_JD_01 OF JALDHAKA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

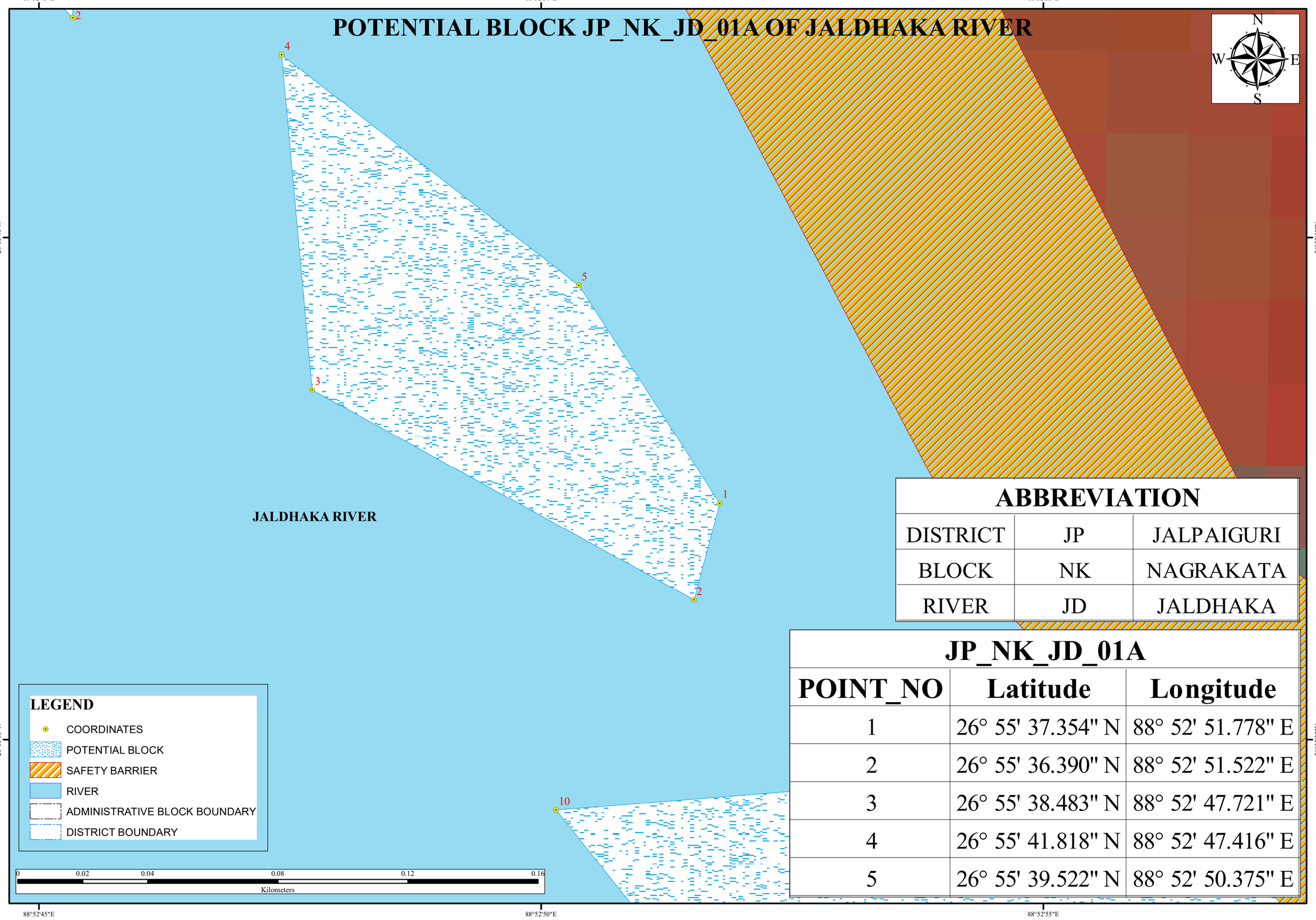
JP_NK_JD_01

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 55' 46.060" N	88° 52' 45.257" E	11	26° 56' 28.628" N	88° 52' 34.596" E
2	26° 55' 42.190" N	88° 52' 45.336" E	12	26° 56' 22.752" N	88° 52' 40.110" E
3	26° 55' 46.637" N	88° 52' 40.662" E	13	26° 56' 12.515" N	88° 52' 43.825" E
4	26° 55' 52.846" N	88° 52' 39.183" E	14	26° 56' 11.628" N	88° 52' 42.659" E
5	26° 55' 58.569" N	88° 52' 35.537" E	15	26° 56' 5.056" N	88° 52' 42.262" E
6	26° 56' 9.307" N	88° 52' 32.305" E	16	26° 56' 1.691" N	88° 52' 43.214" E
7	26° 56' 20.037" N	88° 52' 33.614" E	17	26° 56' 1.406" N	88° 52' 45.223" E
8	26° 56' 22.996" N	88° 52' 33.975" E	18	26° 55' 56.107" N	88° 52' 46.143" E
9	26° 56' 23.873" N	88° 52' 34.082" E	19	26° 55' 50.947" N	88° 52' 46.201" E
10	26° 56' 27.210" N	88° 52' 33.680" E			

POTENTIAL BLOCK JP_NK_JD_01A OF JALDHAKA RIVER

88°52'45"E 88°52'50"E 88°52'55"E

26°55'40"N



N W E S

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

JP_NK_JD_01A

POINT_NO	Latitude	Longitude
1	26° 55' 37.354" N	88° 52' 51.778" E
2	26° 55' 36.390" N	88° 52' 51.522" E
3	26° 55' 38.483" N	88° 52' 47.721" E
4	26° 55' 41.818" N	88° 52' 47.416" E
5	26° 55' 39.522" N	88° 52' 50.375" E

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

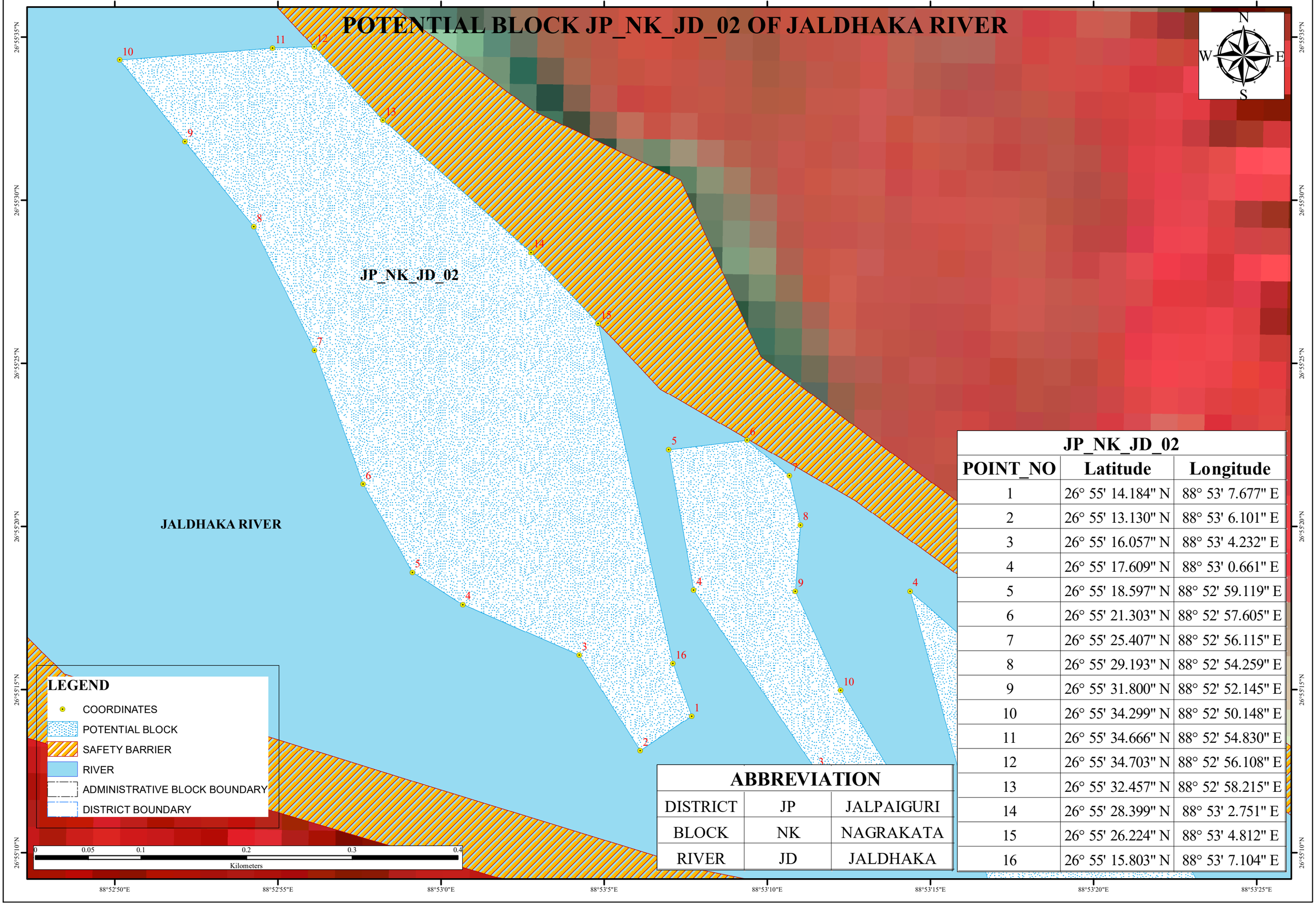
0 0.02 0.04 0.08 0.12 0.16

Kilometers

26°55'35"N

88°52'45"E 88°52'50"E 88°52'55"E

POTENTIAL BLOCK JP_NK_JD_02 OF JALDHAKA RIVER



JP_NK_JD_02		
POINT_NO	Latitude	Longitude
1	26° 55' 14.184" N	88° 53' 7.677" E
2	26° 55' 13.130" N	88° 53' 6.101" E
3	26° 55' 16.057" N	88° 53' 4.232" E
4	26° 55' 17.609" N	88° 53' 0.661" E
5	26° 55' 18.597" N	88° 52' 59.119" E
6	26° 55' 21.303" N	88° 52' 57.605" E
7	26° 55' 25.407" N	88° 52' 56.115" E
8	26° 55' 29.193" N	88° 52' 54.259" E
9	26° 55' 31.800" N	88° 52' 52.145" E
10	26° 55' 34.299" N	88° 52' 50.148" E
11	26° 55' 34.666" N	88° 52' 54.830" E
12	26° 55' 34.703" N	88° 52' 56.108" E
13	26° 55' 32.457" N	88° 52' 58.215" E
14	26° 55' 28.399" N	88° 53' 2.751" E
15	26° 55' 26.224" N	88° 53' 4.812" E
16	26° 55' 15.803" N	88° 53' 7.104" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

POTENTIAL BLOCK JP_NK_JD_03 OF JALDHAKA RIVER

88°53'0"E 88°53'5"E 88°53'10"E 88°53'15"E 88°53'20"E 88°53'25"E

26°55'20"N 26°55'15"N 26°55'10"N

N W E S

JP_NK_JD_03

JALDHAKA RIVER

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

JP_NK_JD_03		
POINT_NO	Latitude	Longitude
1	26° 55' 11.732" N	88° 53' 14.230" E
2	26° 55' 10.443" N	88° 53' 14.208" E
3	26° 55' 12.521" N	88° 53' 11.486" E
4	26° 55' 18.052" N	88° 53' 7.741" E
5	26° 55' 22.361" N	88° 53' 6.974" E
6	26° 55' 22.651" N	88° 53' 9.376" E
7	26° 55' 21.559" N	88° 53' 10.677" E
8	26° 55' 20.050" N	88° 53' 11.011" E
9	26° 55' 18.010" N	88° 53' 10.858" E
10	26° 55' 14.983" N	88° 53' 12.246" E

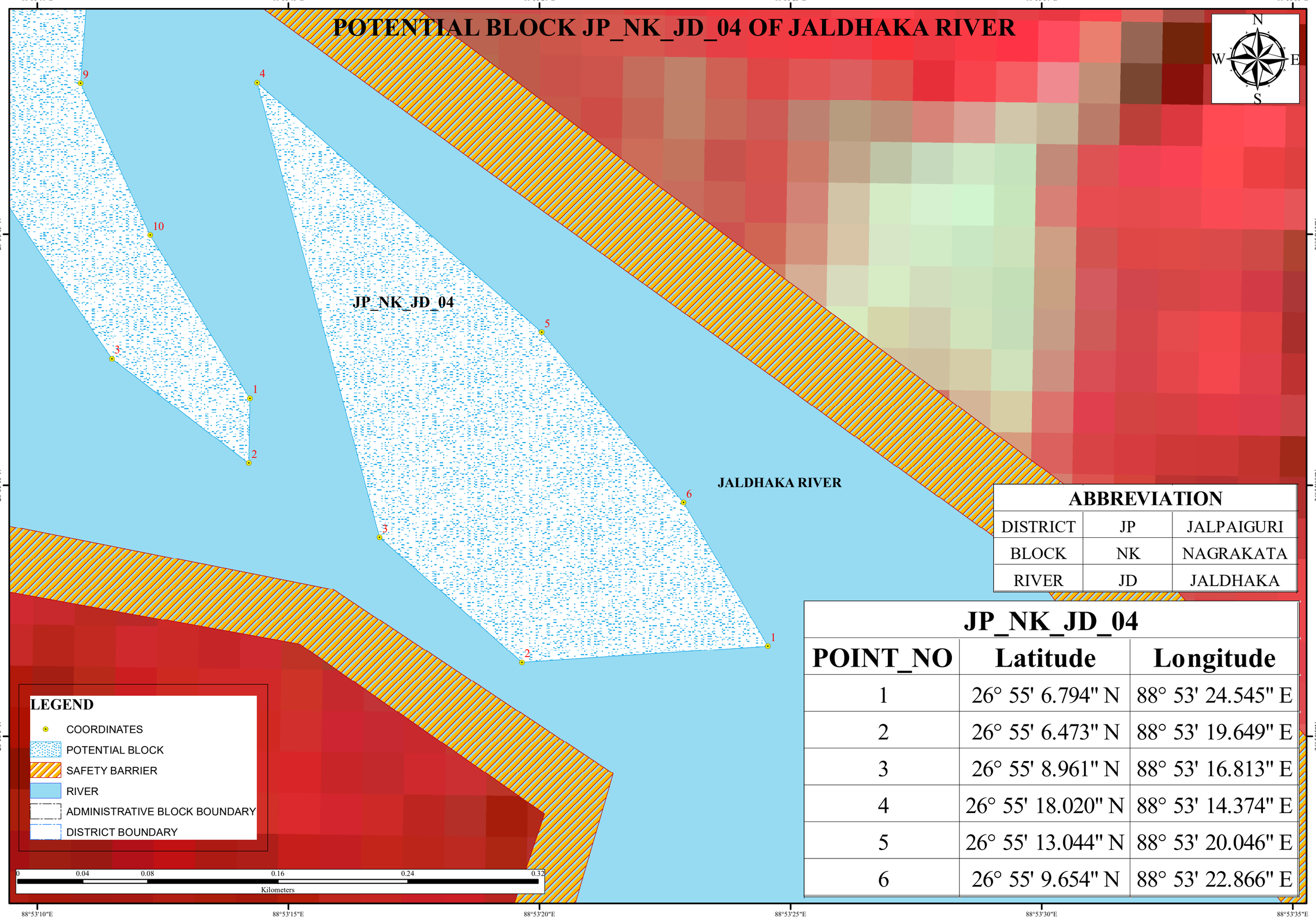
LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.04 0.08 0.16 0.24 0.32

Kilometers

POTENTIAL BLOCK JP_NK_JD_04 OF JALDHAKA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

JP_NK_JD_04		
POINT_NO	Latitude	Longitude
1	26° 55' 6.794" N	88° 53' 24.545" E
2	26° 55' 6.473" N	88° 53' 19.649" E
3	26° 55' 8.961" N	88° 53' 16.813" E
4	26° 55' 18.020" N	88° 53' 14.374" E
5	26° 55' 13.044" N	88° 53' 20.046" E
6	26° 55' 9.654" N	88° 53' 22.866" E

POTENTIAL BLOCK JP_NK_JD_04A OF JALDHAKA RIVER

88°53'35"E 88°53'40"E 88°53'45"E 88°53'50"E 88°53'55"E 88°54'0"E 88°54'5"E

26°54'35"N 26°54'30"N 26°54'25"N 26°54'20"N

N W E S

JP_NK_JD_04A

JALDHAKA RIVER

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

JP_NK_JD_04A

POINT_NO	Latitude	Longitude
1	26° 54' 20.842" N	88° 53' 49.671" E
2	26° 54' 19.511" N	88° 53' 49.513" E
3	26° 54' 23.523" N	88° 53' 46.848" E
4	26° 54' 32.869" N	88° 53' 42.343" E
5	26° 54' 35.241" N	88° 53' 44.242" E

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4
Kilometers

POTENTIAL BLOCK JP_NK_JD_05 OF JALDHAKA RIVER

88°53'35"E 88°53'40"E 88°53'45"E 88°53'50"E 88°53'55"E 88°54'0"E

26°54'20"N 26°54'15"N 26°54'10"N 26°54'5"N

JP_NK_JD_05

JALDHAKA RIVER

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4
Kilometers

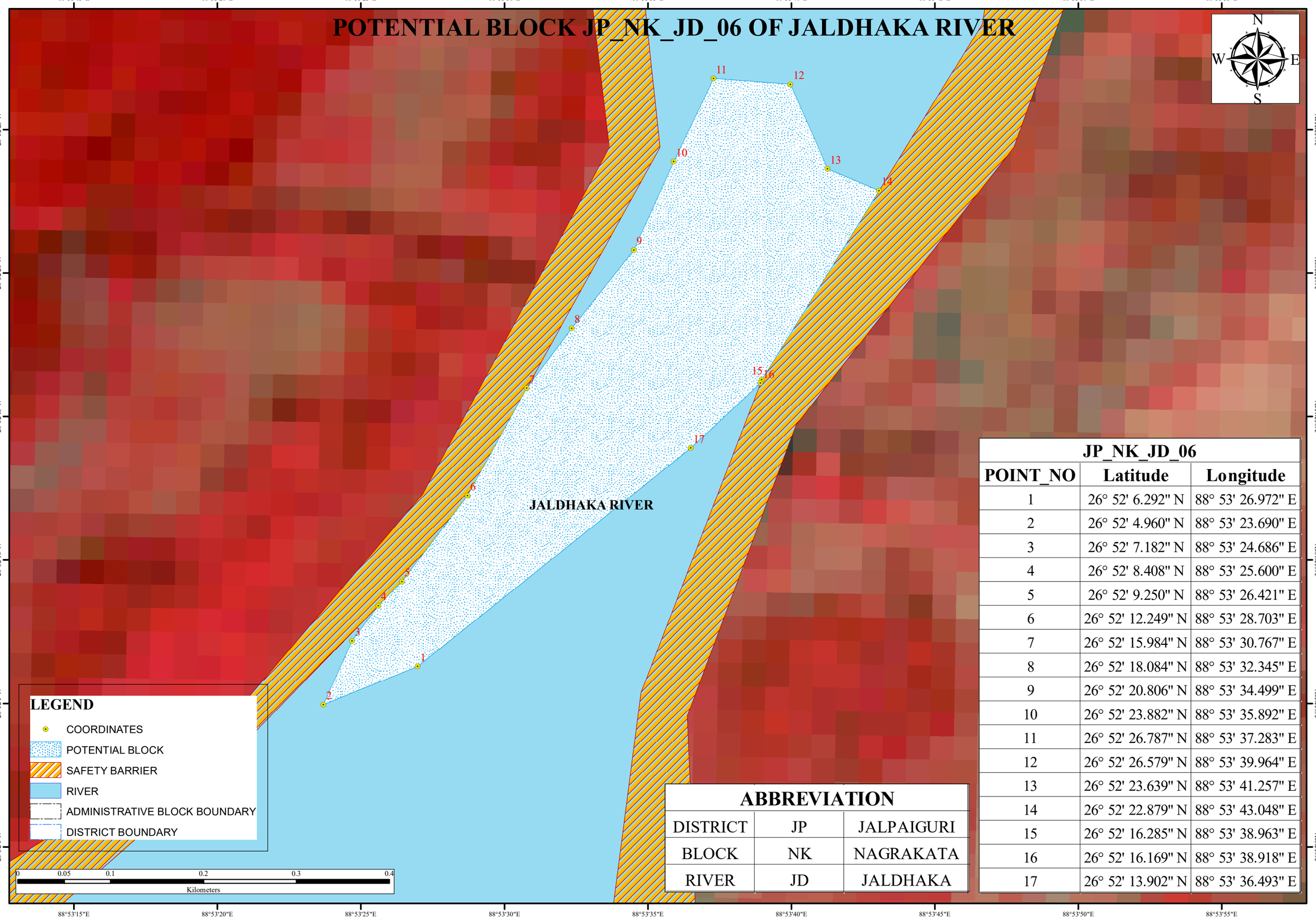
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

JP_NK_JD_05

POINT_NO	Latitude	Longitude
1	26° 54' 4.495" N	88° 53' 44.795" E
2	26° 54' 3.240" N	88° 53' 42.185" E
3	26° 54' 6.178" N	88° 53' 44.247" E
4	26° 54' 8.228" N	88° 53' 45.288" E
5	26° 54' 11.445" N	88° 53' 45.774" E
6	26° 54' 15.063" N	88° 53' 45.259" E
7	26° 54' 17.124" N	88° 53' 45.437" E
8	26° 54' 18.036" N	88° 53' 44.733" E
9	26° 54' 19.862" N	88° 53' 43.181" E
10	26° 54' 21.927" N	88° 53' 43.072" E
11	26° 54' 22.435" N	88° 53' 43.656" E
12	26° 54' 18.130" N	88° 53' 47.324" E
13	26° 54' 15.144" N	88° 53' 48.993" E
14	26° 54' 8.843" N	88° 53' 48.242" E
15	26° 54' 7.427" N	88° 53' 47.289" E
16	26° 54' 6.009" N	88° 53' 47.265" E

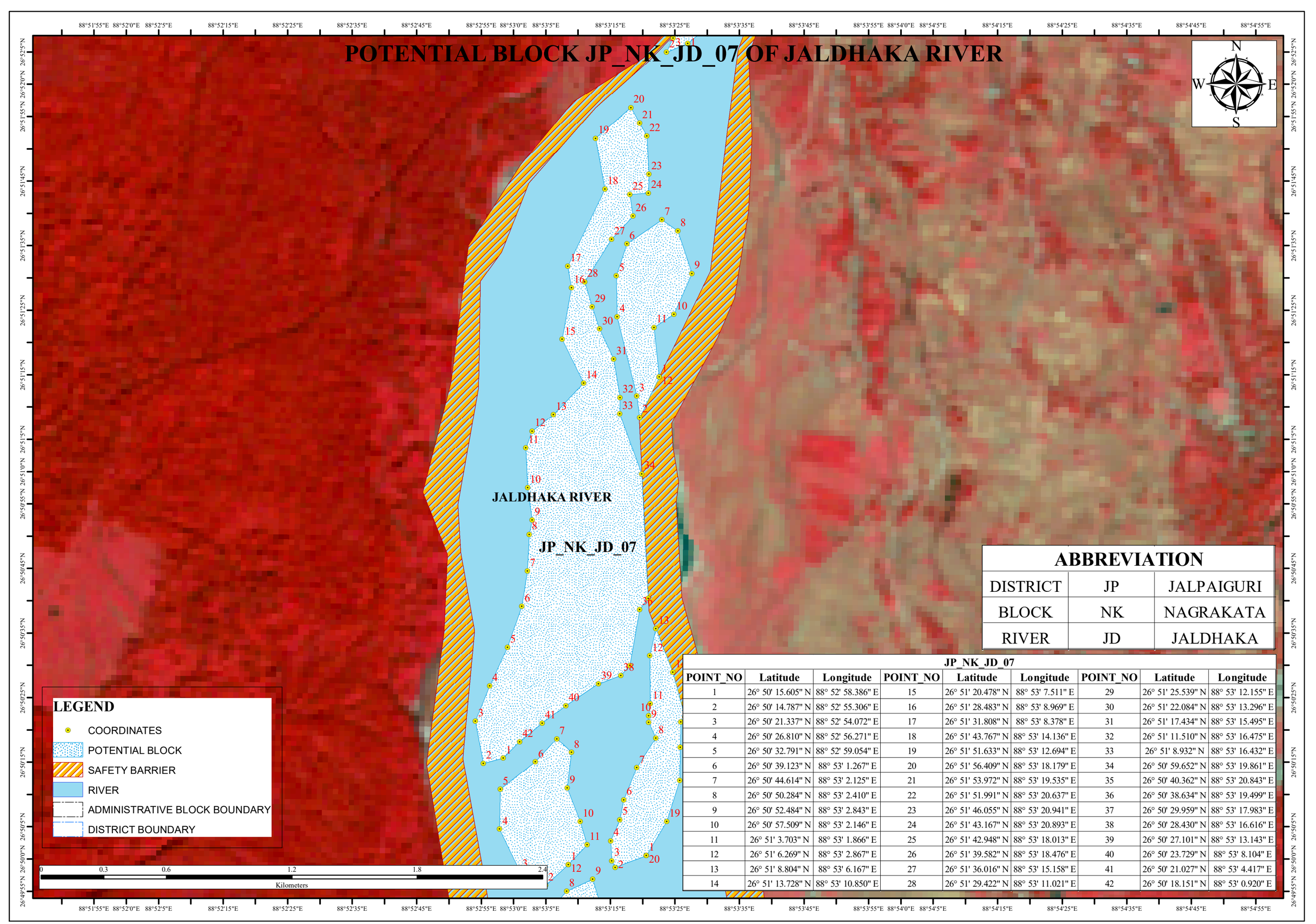
POTENTIAL BLOCK JP_NK_JD_06 OF JALDHAKA RIVER



JP_NK_JD_06		
POINT_NO	Latitude	Longitude
1	26° 52' 6.292" N	88° 53' 26.972" E
2	26° 52' 4.960" N	88° 53' 23.690" E
3	26° 52' 7.182" N	88° 53' 24.686" E
4	26° 52' 8.408" N	88° 53' 25.600" E
5	26° 52' 9.250" N	88° 53' 26.421" E
6	26° 52' 12.249" N	88° 53' 28.703" E
7	26° 52' 15.984" N	88° 53' 30.767" E
8	26° 52' 18.084" N	88° 53' 32.345" E
9	26° 52' 20.806" N	88° 53' 34.499" E
10	26° 52' 23.882" N	88° 53' 35.892" E
11	26° 52' 26.787" N	88° 53' 37.283" E
12	26° 52' 26.579" N	88° 53' 39.964" E
13	26° 52' 23.639" N	88° 53' 41.257" E
14	26° 52' 22.879" N	88° 53' 43.048" E
15	26° 52' 16.285" N	88° 53' 38.963" E
16	26° 52' 16.169" N	88° 53' 38.918" E
17	26° 52' 13.902" N	88° 53' 36.493" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

POTENTIAL BLOCK JP_NK_JD_07 OF JALDHAKA RIVER

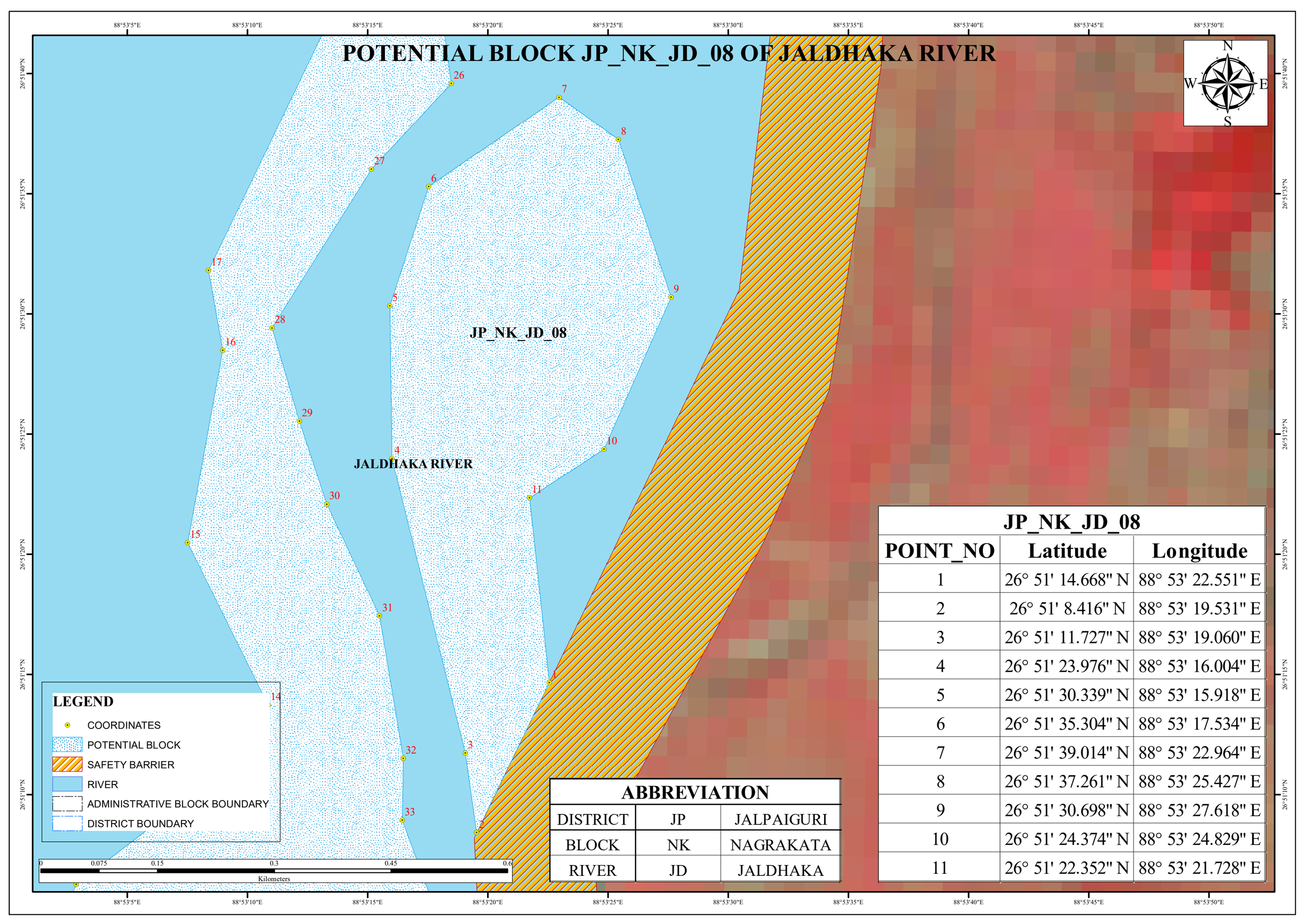


ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

JP_NK_JD_07

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 50' 15.605" N	88° 52' 58.386" E	15	26° 51' 20.478" N	88° 53' 7.511" E	29	26° 51' 25.539" N	88° 53' 12.155" E
2	26° 50' 14.787" N	88° 52' 55.306" E	16	26° 51' 28.483" N	88° 53' 8.969" E	30	26° 51' 22.084" N	88° 53' 13.296" E
3	26° 50' 21.337" N	88° 52' 54.072" E	17	26° 51' 31.808" N	88° 53' 8.378" E	31	26° 51' 17.434" N	88° 53' 15.495" E
4	26° 50' 26.810" N	88° 52' 56.271" E	18	26° 51' 43.767" N	88° 53' 14.136" E	32	26° 51' 11.510" N	88° 53' 16.475" E
5	26° 50' 32.791" N	88° 52' 59.054" E	19	26° 51' 51.633" N	88° 53' 12.694" E	33	26° 51' 8.932" N	88° 53' 16.432" E
6	26° 50' 39.123" N	88° 53' 1.267" E	20	26° 51' 56.409" N	88° 53' 18.179" E	34	26° 50' 59.652" N	88° 53' 19.861" E
7	26° 50' 44.614" N	88° 53' 2.125" E	21	26° 51' 53.972" N	88° 53' 19.535" E	35	26° 50' 40.362" N	88° 53' 20.843" E
8	26° 50' 50.284" N	88° 53' 2.410" E	22	26° 51' 51.991" N	88° 53' 20.637" E	36	26° 50' 38.634" N	88° 53' 19.499" E
9	26° 50' 52.484" N	88° 53' 2.843" E	23	26° 51' 46.055" N	88° 53' 20.941" E	37	26° 50' 29.959" N	88° 53' 17.983" E
10	26° 50' 57.509" N	88° 53' 2.146" E	24	26° 51' 43.167" N	88° 53' 20.893" E	38	26° 50' 28.430" N	88° 53' 16.616" E
11	26° 51' 3.703" N	88° 53' 1.866" E	25	26° 51' 42.948" N	88° 53' 18.013" E	39	26° 50' 27.101" N	88° 53' 13.143" E
12	26° 51' 6.269" N	88° 53' 2.867" E	26	26° 51' 39.582" N	88° 53' 18.476" E	40	26° 50' 23.729" N	88° 53' 8.104" E
13	26° 51' 8.804" N	88° 53' 6.167" E	27	26° 51' 36.016" N	88° 53' 15.158" E	41	26° 50' 21.027" N	88° 53' 4.417" E
14	26° 51' 13.728" N	88° 53' 10.850" E	28	26° 51' 29.422" N	88° 53' 11.021" E	42	26° 50' 18.151" N	88° 53' 0.920" E

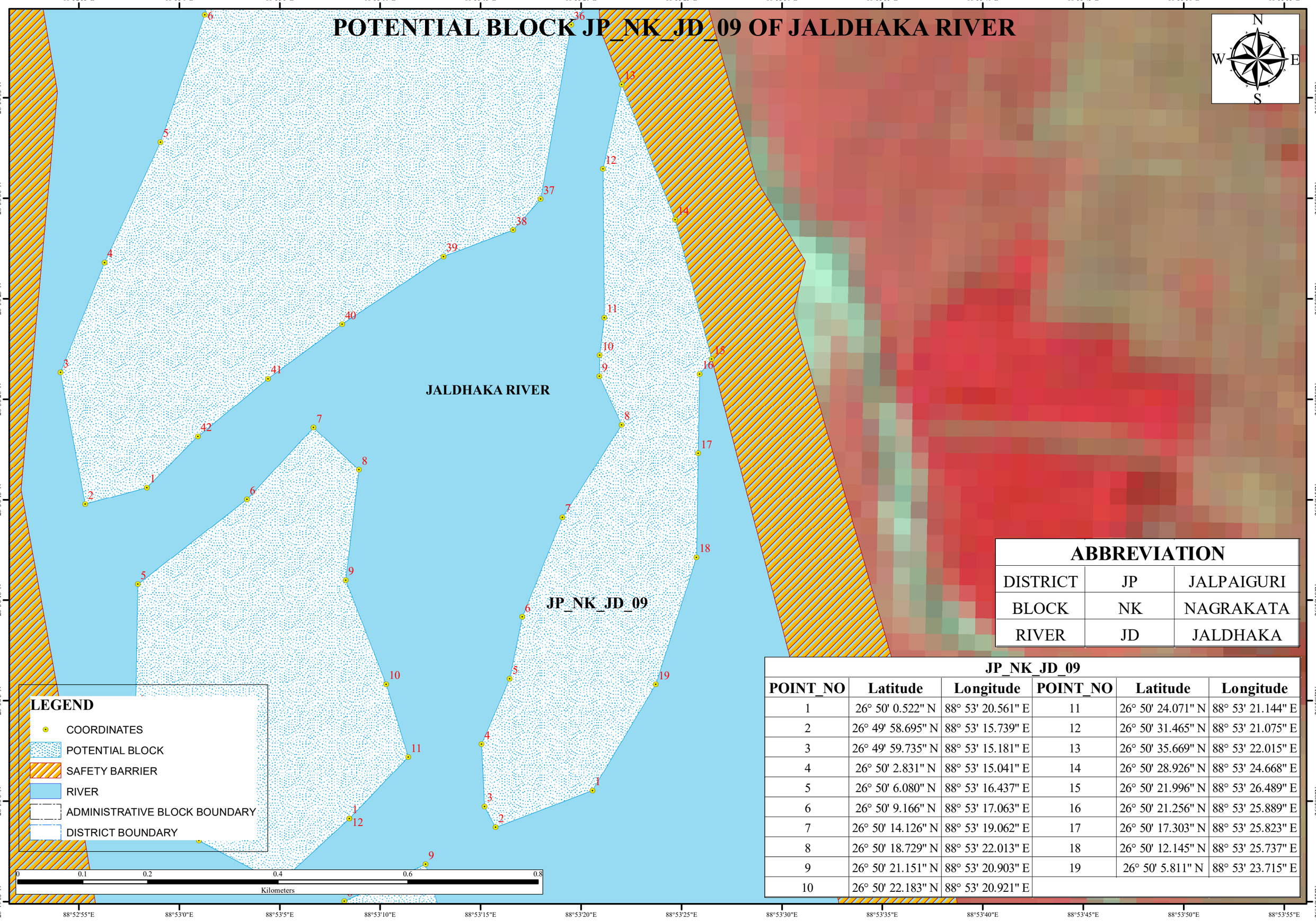
POTENTIAL BLOCK JP_NK_JD_08 OF JALDHAKA RIVER



JP_NK_JD_08		
POINT_NO	Latitude	Longitude
1	26° 51' 14.668" N	88° 53' 22.551" E
2	26° 51' 8.416" N	88° 53' 19.531" E
3	26° 51' 11.727" N	88° 53' 19.060" E
4	26° 51' 23.976" N	88° 53' 16.004" E
5	26° 51' 30.339" N	88° 53' 15.918" E
6	26° 51' 35.304" N	88° 53' 17.534" E
7	26° 51' 39.014" N	88° 53' 22.964" E
8	26° 51' 37.261" N	88° 53' 25.427" E
9	26° 51' 30.698" N	88° 53' 27.618" E
10	26° 51' 24.374" N	88° 53' 24.829" E
11	26° 51' 22.352" N	88° 53' 21.728" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

POTENTIAL BLOCK JP_NK_JD_09 OF JALDHAKA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

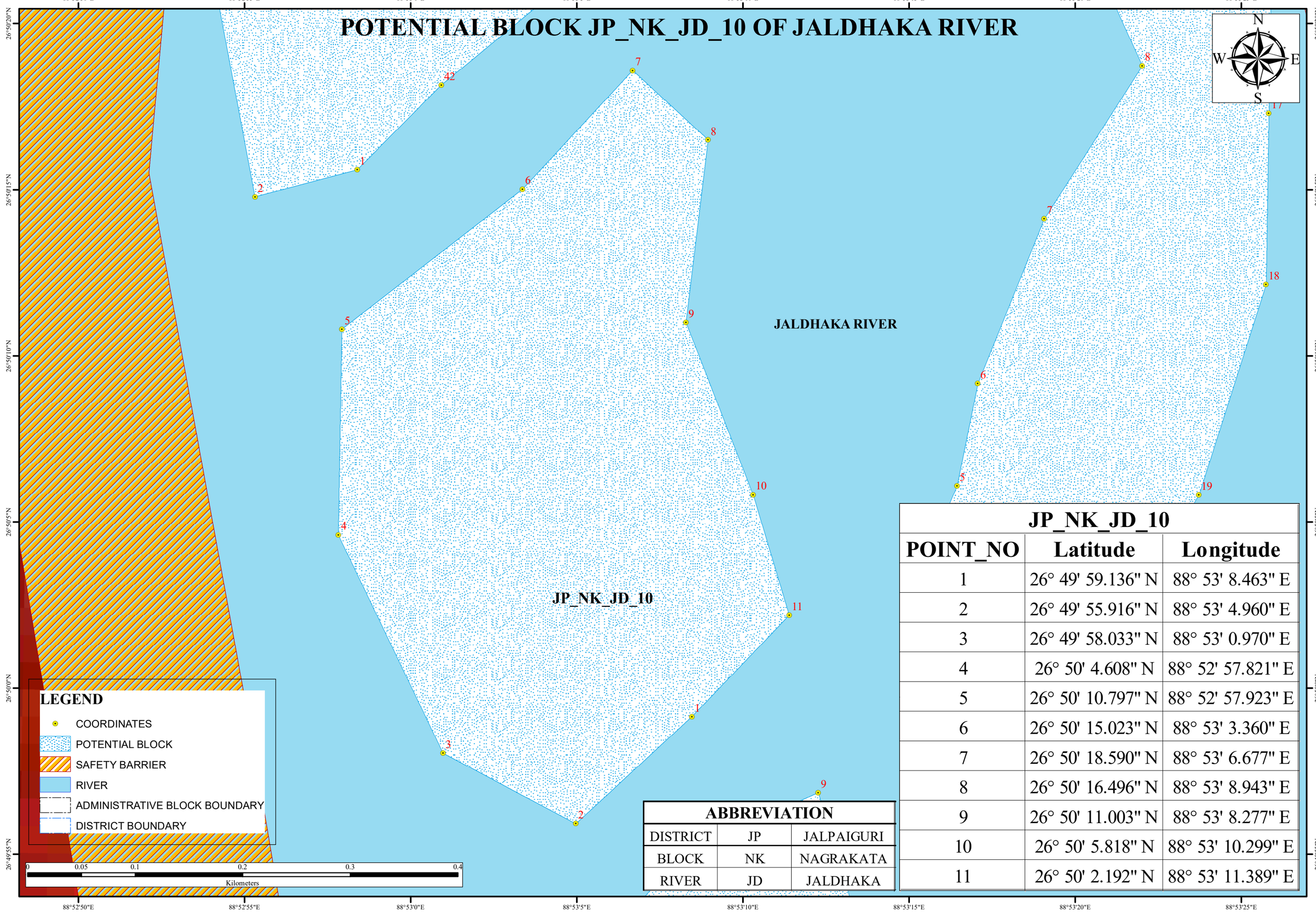
0 0.1 0.2 0.4 0.6 0.8
Kilometers

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

JP_NK_JD_09

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 50' 0.522" N	88° 53' 20.561" E	11	26° 50' 24.071" N	88° 53' 21.144" E
2	26° 49' 58.695" N	88° 53' 15.739" E	12	26° 50' 31.465" N	88° 53' 21.075" E
3	26° 49' 59.735" N	88° 53' 15.181" E	13	26° 50' 35.669" N	88° 53' 22.015" E
4	26° 50' 2.831" N	88° 53' 15.041" E	14	26° 50' 28.926" N	88° 53' 24.668" E
5	26° 50' 6.080" N	88° 53' 16.437" E	15	26° 50' 21.996" N	88° 53' 26.489" E
6	26° 50' 9.166" N	88° 53' 17.063" E	16	26° 50' 21.256" N	88° 53' 25.889" E
7	26° 50' 14.126" N	88° 53' 19.062" E	17	26° 50' 17.303" N	88° 53' 25.823" E
8	26° 50' 18.729" N	88° 53' 22.013" E	18	26° 50' 12.145" N	88° 53' 25.737" E
9	26° 50' 21.151" N	88° 53' 20.903" E	19	26° 50' 5.811" N	88° 53' 23.715" E
10	26° 50' 22.183" N	88° 53' 20.921" E			

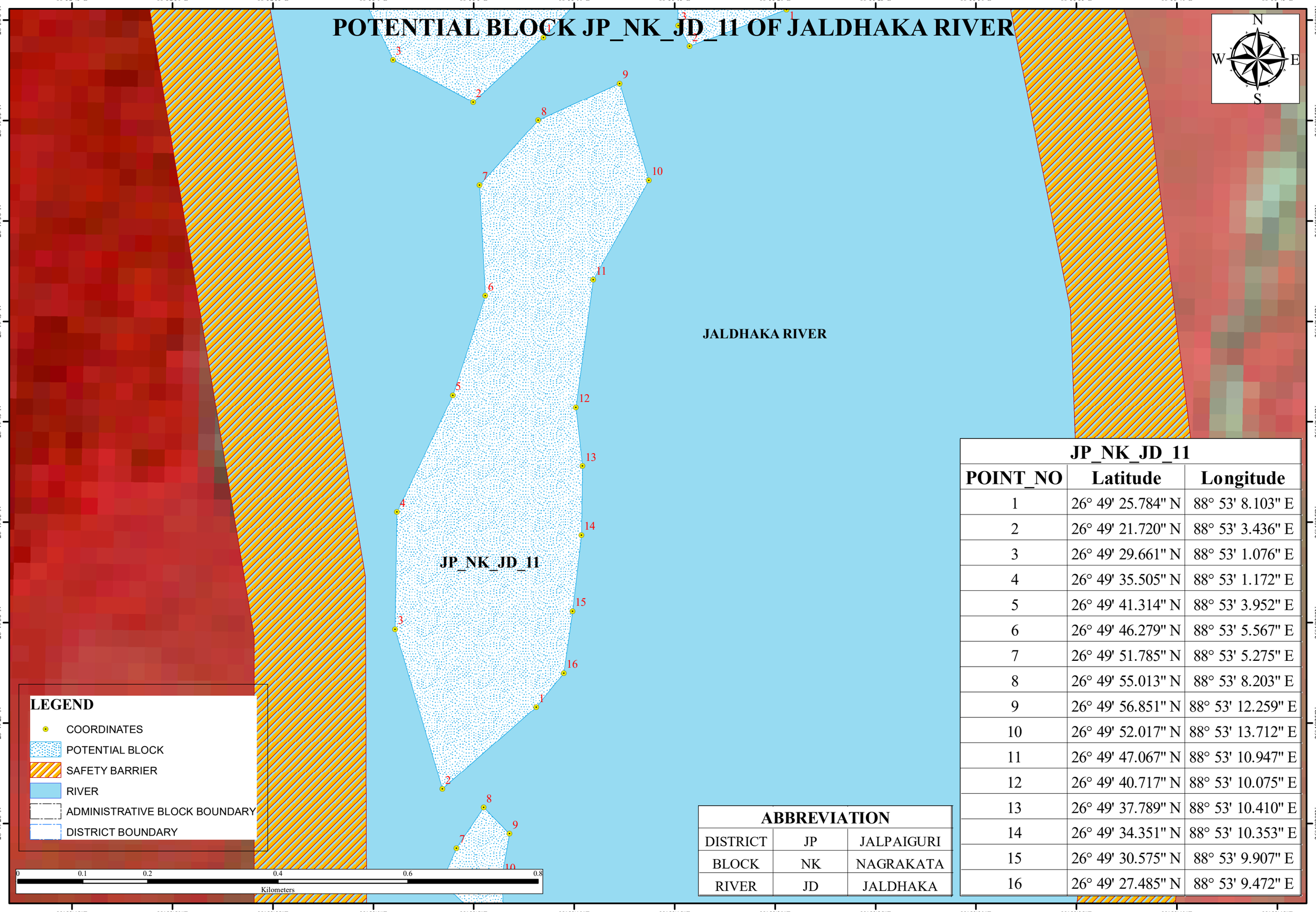
POTENTIAL BLOCK JP_NK_JD_10 OF JALDHAKA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

JP_NK_JD_10		
POINT_NO	Latitude	Longitude
1	26° 49' 59.136" N	88° 53' 8.463" E
2	26° 49' 55.916" N	88° 53' 4.960" E
3	26° 49' 58.033" N	88° 53' 0.970" E
4	26° 50' 4.608" N	88° 52' 57.821" E
5	26° 50' 10.797" N	88° 52' 57.923" E
6	26° 50' 15.023" N	88° 53' 3.360" E
7	26° 50' 18.590" N	88° 53' 6.677" E
8	26° 50' 16.496" N	88° 53' 8.943" E
9	26° 50' 11.003" N	88° 53' 8.277" E
10	26° 50' 5.818" N	88° 53' 10.299" E
11	26° 50' 2.192" N	88° 53' 11.389" E

POTENTIAL BLOCK JP_NK_JD_11 OF JALDHAKA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

JP_NK_JD_11		
POINT_NO	Latitude	Longitude
1	26° 49' 25.784" N	88° 53' 8.103" E
2	26° 49' 21.720" N	88° 53' 3.436" E
3	26° 49' 29.661" N	88° 53' 1.076" E
4	26° 49' 35.505" N	88° 53' 1.172" E
5	26° 49' 41.314" N	88° 53' 3.952" E
6	26° 49' 46.279" N	88° 53' 5.567" E
7	26° 49' 51.785" N	88° 53' 5.275" E
8	26° 49' 55.013" N	88° 53' 8.203" E
9	26° 49' 56.851" N	88° 53' 12.259" E
10	26° 49' 52.017" N	88° 53' 13.712" E
11	26° 49' 47.067" N	88° 53' 10.947" E
12	26° 49' 40.717" N	88° 53' 10.075" E
13	26° 49' 37.789" N	88° 53' 10.410" E
14	26° 49' 34.351" N	88° 53' 10.353" E
15	26° 49' 30.575" N	88° 53' 9.907" E
16	26° 49' 27.485" N	88° 53' 9.472" E

POTENTIAL BLOCK JP_NK_JD_11A OF JALDHAKA RIVER



88°53'0"E 88°53'5"E 88°53'10"E 88°53'15"E 88°53'20"E

26°49'20"N
26°49'15"N
26°49'10"N

JP_NK_JD_11A

JALDHAKA RIVER

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.04 0.08 0.16 0.24 0.32
Kilometers

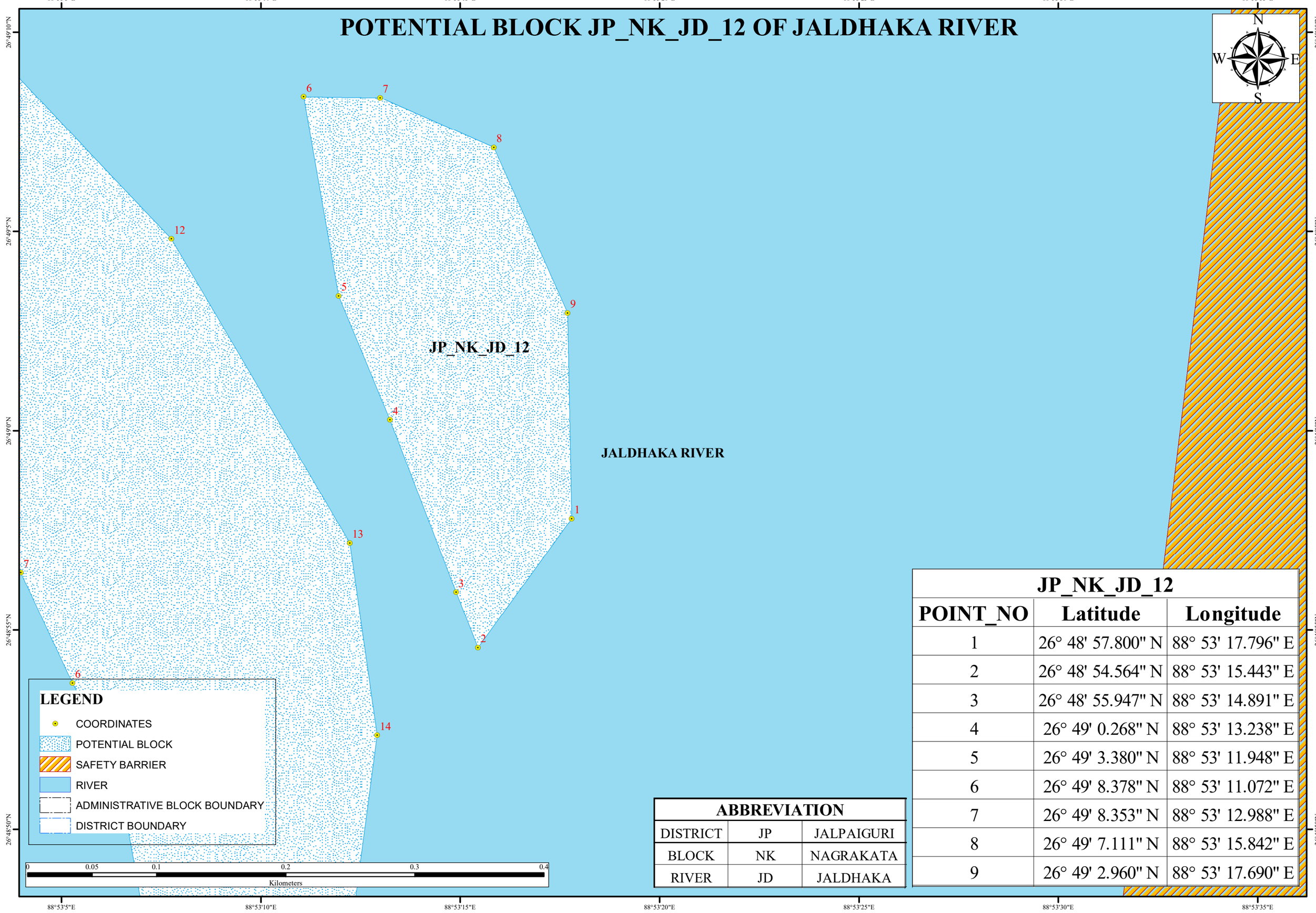
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

JP_NK_JD_11A

POINT_NO	Latitude	Longitude
1	26° 49' 10.844" N	88° 53' 10.110" E
2	26° 49' 10.635" N	88° 53' 9.627" E
3	26° 49' 11.618" N	88° 53' 8.446" E
4	26° 49' 13.688" N	88° 53' 6.324" E
5	26° 49' 15.860" N	88° 53' 4.683" E
6	26° 49' 17.059" N	88° 53' 3.385" E
7	26° 49' 18.769" N	88° 53' 4.132" E
8	26° 49' 20.792" N	88° 53' 5.483" E
9	26° 49' 19.486" N	88° 53' 6.779" E
10	26° 49' 17.341" N	88° 53' 6.384" E
11	26° 49' 15.513" N	88° 53' 6.474" E
12	26° 49' 13.453" N	88° 53' 7.877" E

POTENTIAL BLOCK JP_NK_JD_12 OF JALDHAKA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

JP_NK_JD_12		
POINT_NO	Latitude	Longitude
1	26° 48' 57.800" N	88° 53' 17.796" E
2	26° 48' 54.564" N	88° 53' 15.443" E
3	26° 48' 55.947" N	88° 53' 14.891" E
4	26° 49' 0.268" N	88° 53' 13.238" E
5	26° 49' 3.380" N	88° 53' 11.948" E
6	26° 49' 8.378" N	88° 53' 11.072" E
7	26° 49' 8.353" N	88° 53' 12.988" E
8	26° 49' 7.111" N	88° 53' 15.842" E
9	26° 49' 2.960" N	88° 53' 17.690" E

POTENTIAL BLOCK JP_NK_JD_13 OF JALDHAKA RIVER

JP_NK_JD_13

JALDHAKA RIVER

JP_NK_JD_13		
POINT_NO	Latitude	Longitude
1	26° 48' 47.385" N	88° 53' 12.258" E
2	26° 48' 42.107" N	88° 53' 8.338" E
3	26° 48' 43.326" N	88° 53' 7.208" E
4	26° 48' 47.626" N	88° 53' 7.088" E
5	26° 48' 51.590" N	88° 53' 6.387" E
6	26° 48' 53.668" N	88° 53' 5.271" E
7	26° 48' 56.437" N	88° 53' 3.976" E
8	26° 49' 0.942" N	88° 53' 1.367" E
9	26° 49' 4.039" N	88° 53' 1.227" E
10	26° 49' 7.823" N	88° 53' 1.098" E
11	26° 49' 8.991" N	88° 53' 3.800" E
12	26° 49' 4.812" N	88° 53' 7.755" E
13	26° 48' 57.186" N	88° 53' 12.228" E
14	26° 48' 52.363" N	88° 53' 12.915" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.075 0.15 0.3 0.45 0.6

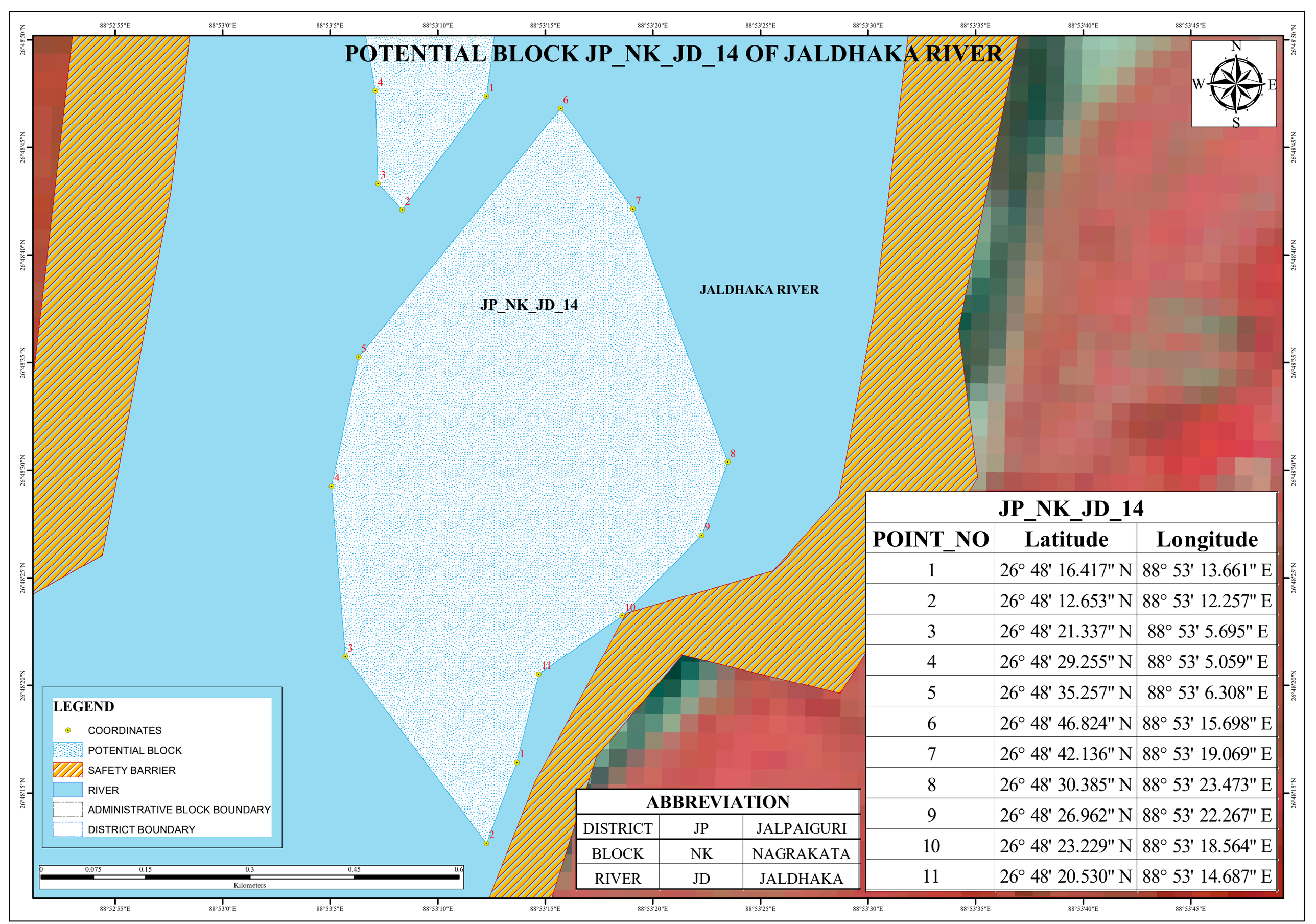
Kilometers

N W E S

88°52'45"E 88°52'50"E 88°52'55"E 88°53'0"E 88°53'5"E 88°53'10"E 88°53'15"E 88°53'20"E 88°53'25"E 88°53'30"E 88°53'35"E

26°49'10"N 26°49'5"N 26°49'0"N 26°48'55"N 26°48'50"N 26°48'45"N 26°48'40"N

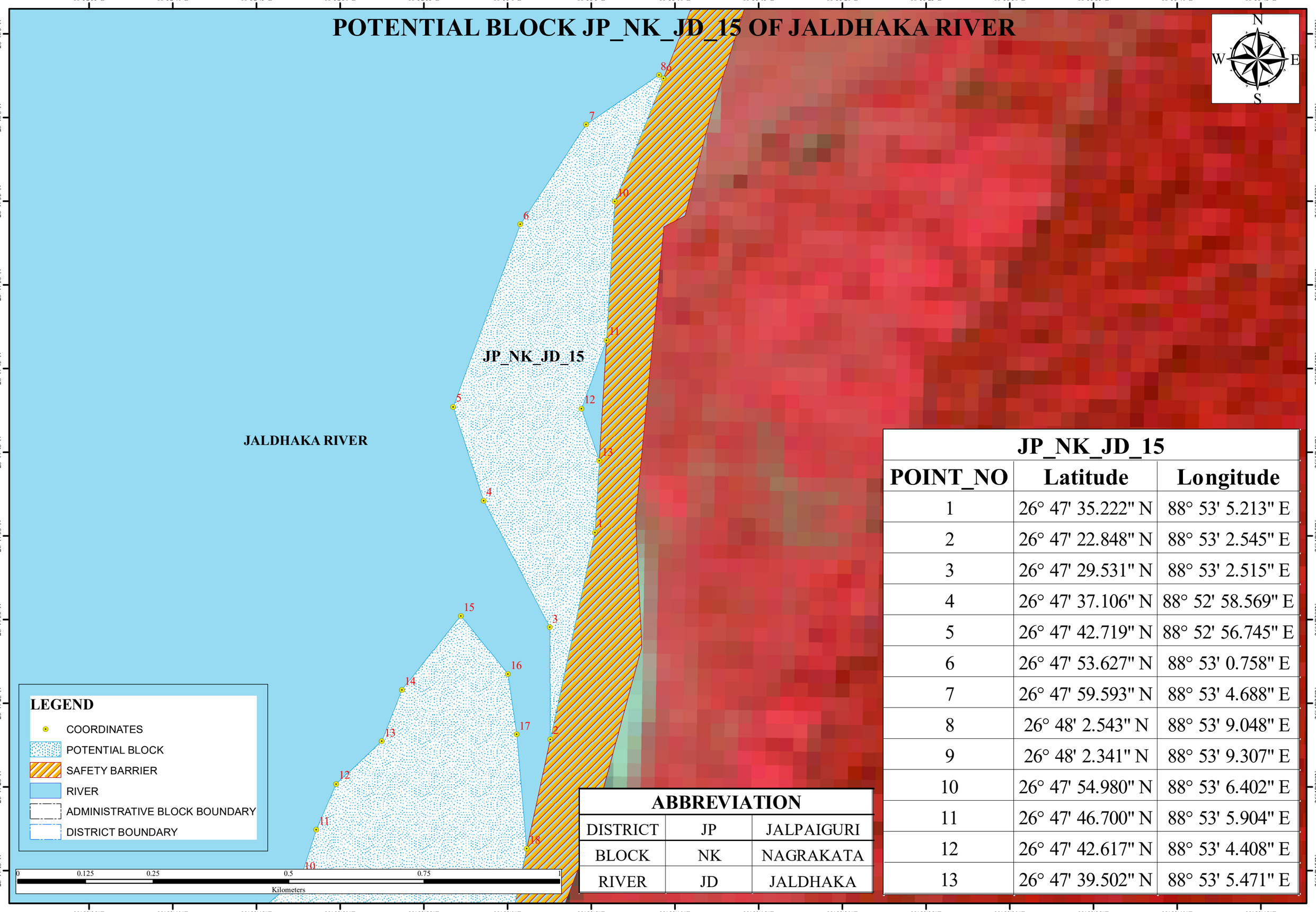
POTENTIAL BLOCK JP_NK_JD_14 OF JALDHAKA RIVER



JP_NK_JD_14		
POINT_NO	**Latitude**	**Longitude**
1	26° 48' 16.417" N	88° 53' 13.661" E
2	26° 48' 12.653" N	88° 53' 12.257" E
3	26° 48' 21.337" N	88° 53' 5.695" E
4	26° 48' 29.255" N	88° 53' 5.059" E
5	26° 48' 35.257" N	88° 53' 6.308" E
6	26° 48' 46.824" N	88° 53' 15.698" E
7	26° 48' 42.136" N	88° 53' 19.069" E
8	26° 48' 30.385" N	88° 53' 23.473" E
9	26° 48' 26.962" N	88° 53' 22.267" E
10	26° 48' 23.229" N	88° 53' 18.564" E
11	26° 48' 20.530" N	88° 53' 14.687" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

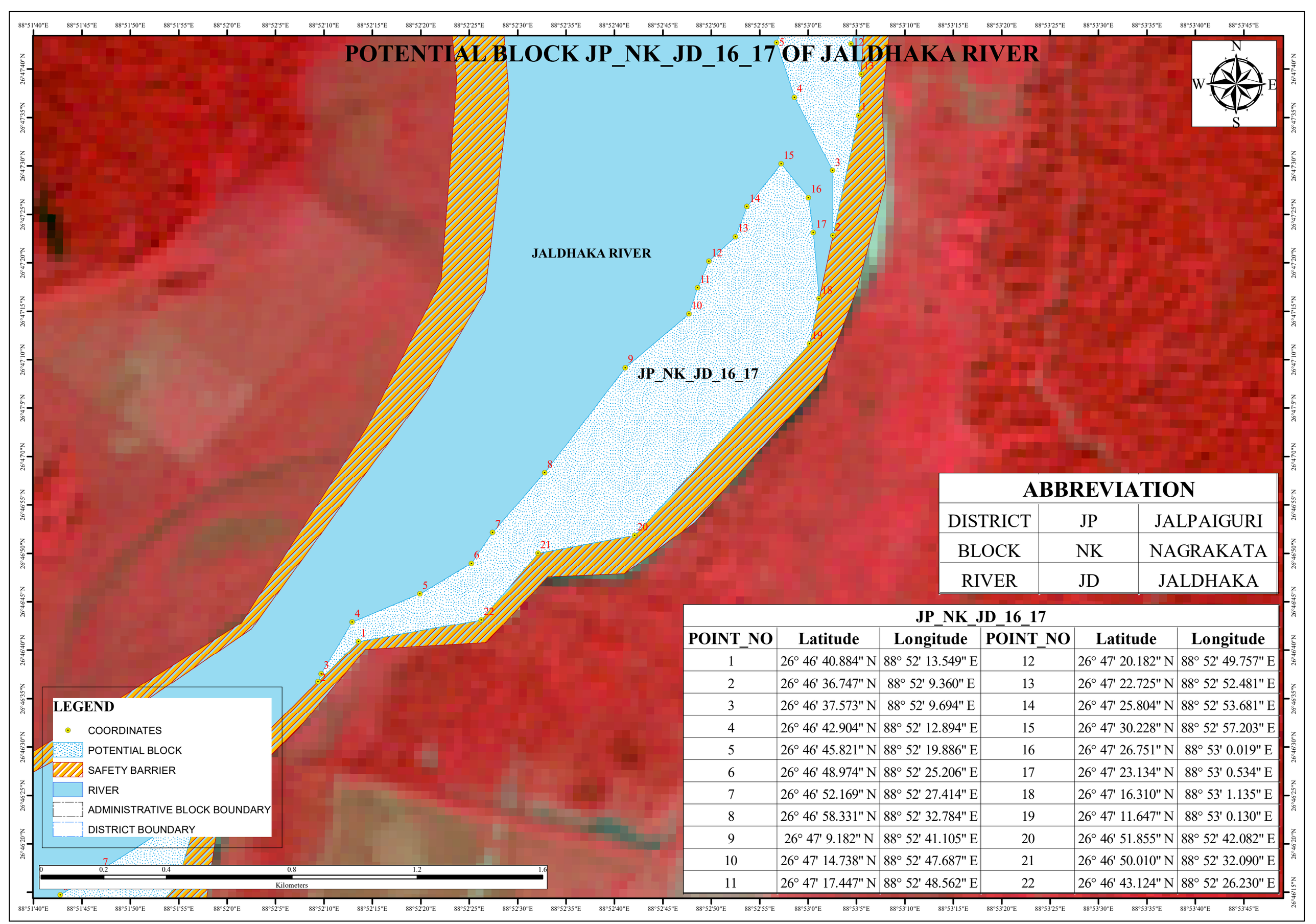
POTENTIAL BLOCK JP_NK_JD_15 OF JALDHAKA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

JP_NK_JD_15		
POINT_NO	Latitude	Longitude
1	26° 47' 35.222" N	88° 53' 5.213" E
2	26° 47' 22.848" N	88° 53' 2.545" E
3	26° 47' 29.531" N	88° 53' 2.515" E
4	26° 47' 37.106" N	88° 52' 58.569" E
5	26° 47' 42.719" N	88° 52' 56.745" E
6	26° 47' 53.627" N	88° 53' 0.758" E
7	26° 47' 59.593" N	88° 53' 4.688" E
8	26° 48' 2.543" N	88° 53' 9.048" E
9	26° 48' 2.341" N	88° 53' 9.307" E
10	26° 47' 54.980" N	88° 53' 6.402" E
11	26° 47' 46.700" N	88° 53' 5.904" E
12	26° 47' 42.617" N	88° 53' 4.408" E
13	26° 47' 39.502" N	88° 53' 5.471" E

POTENTIAL BLOCK JP_NK_JD_16_17 OF JALDHAKA RIVER



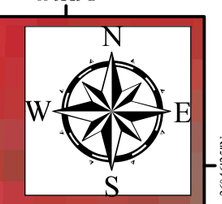
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

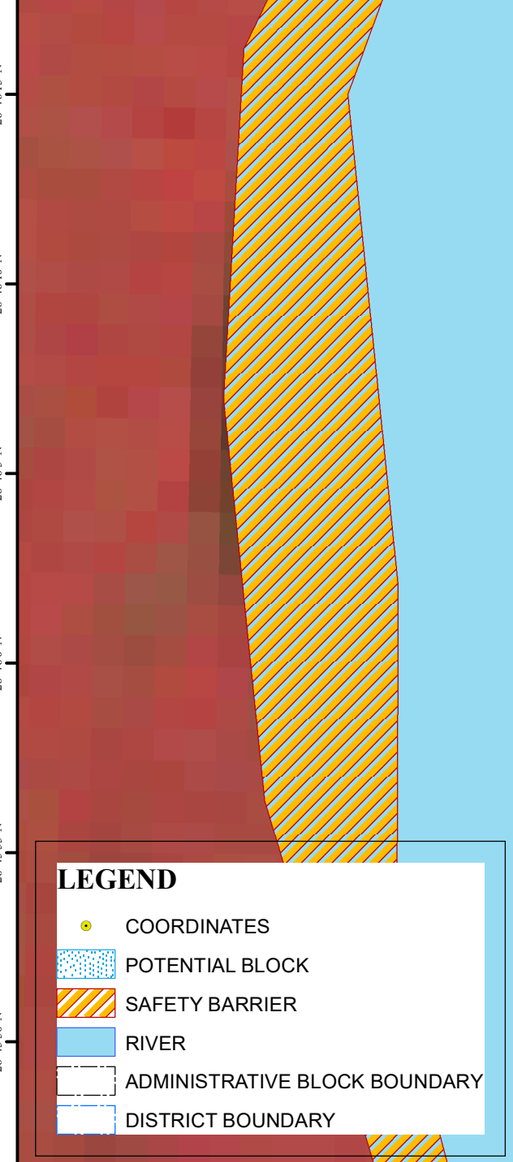
JP_NK_JD_16_17

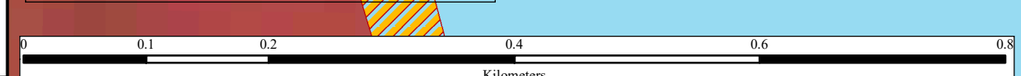
POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 46' 40.884" N	88° 52' 13.549" E	12	26° 47' 20.182" N	88° 52' 49.757" E
2	26° 46' 36.747" N	88° 52' 9.360" E	13	26° 47' 22.725" N	88° 52' 52.481" E
3	26° 46' 37.573" N	88° 52' 9.694" E	14	26° 47' 25.804" N	88° 52' 53.681" E
4	26° 46' 42.904" N	88° 52' 12.894" E	15	26° 47' 30.228" N	88° 52' 57.203" E
5	26° 46' 45.821" N	88° 52' 19.886" E	16	26° 47' 26.751" N	88° 53' 0.019" E
6	26° 46' 48.974" N	88° 52' 25.206" E	17	26° 47' 23.134" N	88° 53' 0.534" E
7	26° 46' 52.169" N	88° 52' 27.414" E	18	26° 47' 16.310" N	88° 53' 1.135" E
8	26° 46' 58.331" N	88° 52' 32.784" E	19	26° 47' 11.647" N	88° 53' 0.130" E
9	26° 47' 9.182" N	88° 52' 41.105" E	20	26° 46' 51.855" N	88° 52' 42.082" E
10	26° 47' 14.738" N	88° 52' 47.687" E	21	26° 46' 50.010" N	88° 52' 32.090" E
11	26° 47' 17.447" N	88° 52' 48.562" E	22	26° 46' 43.124" N	88° 52' 26.230" E

POTENTIAL BLOCK JP_NK_JD_18 OF JALDHAKA RIVER



JALDHAKA RIVER

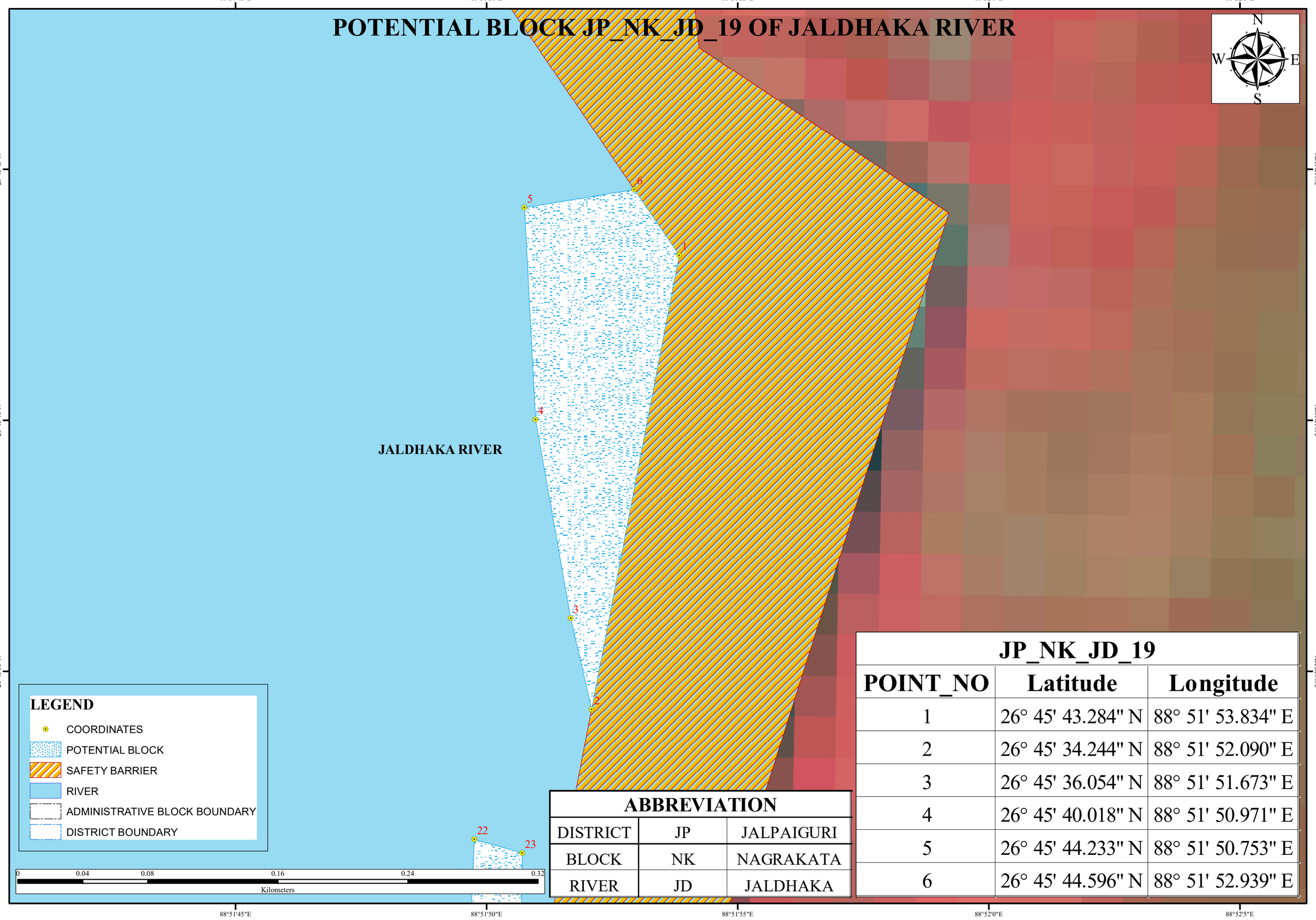




ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

JP_NK_JD_18		
POINT_NO	Latitude	Longitude
1	26° 46' 9.997" N	88° 51' 49.194" E
2	26° 45' 52.091" N	88° 51' 49.161" E
3	26° 45' 57.916" N	88° 51' 45.340" E
4	26° 46' 4.407" N	88° 51' 42.093" E
5	26° 46' 9.792" N	88° 51' 41.223" E
6	26° 46' 14.715" N	88° 51' 42.740" E
7	26° 46' 17.240" N	88° 51' 46.852" E
8	26° 46' 23.733" N	88° 51' 57.111" E
9	26° 46' 15.598" N	88° 51' 54.745" E

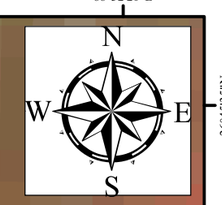
POTENTIAL BLOCK JP_NK_JD_19 OF JALDHAKA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

JP_NK_JD_19		
POINT_NO	Latitude	Longitude
1	26° 45' 43.284" N	88° 51' 53.834" E
2	26° 45' 34.244" N	88° 51' 52.090" E
3	26° 45' 36.054" N	88° 51' 51.673" E
4	26° 45' 40.018" N	88° 51' 50.971" E
5	26° 45' 44.233" N	88° 51' 50.753" E
6	26° 45' 44.596" N	88° 51' 52.939" E

POTENTIAL BLOCK JP_NK_JD_20 OF JALDHAKA RIVER



JALDHAKA RIVER

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.1 0.2 0.4 0.6 0.8
Kilometers

JP_NK_JD_20

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 45' 5.761" N	88° 51' 50.675" E	18	26° 45' 21.266" N	88° 51' 48.438" E
2	26° 45' 2.923" N	88° 51' 50.725" E	19	26° 45' 23.747" N	88° 51' 49.341" E
3	26° 45' 0.259" N	88° 51' 50.681" E	20	26° 45' 25.893" N	88° 51' 49.567" E
4	26° 44' 59.896" N	88° 51' 50.456" E	21	26° 45' 28.128" N	88° 51' 49.604" E
5	26° 44' 55.523" N	88° 51' 50.068" E	22	26° 45' 31.651" N	88° 51' 49.757" E
6	26° 44' 55.779" N	88° 51' 46.960" E	23	26° 45' 31.381" N	88° 51' 50.710" E
7	26° 45' 0.137" N	88° 51' 42.482" E	24	26° 45' 26.997" N	88° 51' 50.639" E
8	26° 45' 4.673" N	88° 51' 38.795" E	25	26° 45' 26.801" N	88° 51' 50.654" E
9	26° 45' 4.388" N	88° 51' 37.438" E	26	26° 45' 24.847" N	88° 51' 50.277" E
10	26° 45' 5.844" N	88° 51' 37.844" E	27	26° 45' 22.374" N	88° 51' 50.414" E
11	26° 45' 7.803" N	88° 51' 39.217" E	28	26° 45' 21.929" N	88° 51' 50.269" E
12	26° 45' 8.888" N	88° 51' 41.725" E	29	26° 45' 18.409" N	88° 51' 49.924" E
13	26° 45' 8.865" N	88° 51' 43.448" E	30	26° 45' 14.109" N	88° 51' 50.045" E
14	26° 45' 9.538" N	88° 51' 44.608" E	31	26° 45' 11.610" N	88° 51' 50.484" E
15	26° 45' 12.114" N	88° 51' 44.842" E	32	26° 45' 10.149" N	88° 51' 50.460" E
16	26° 45' 15.451" N	88° 51' 46.045" E	33	26° 45' 7.392" N	88° 51' 50.894" E
17	26° 45' 19.299" N	88° 51' 47.640" E			

POTENTIAL BLOCK JP_MG_JD_21_24_25_26 OF JALDHAKA RIVER

88°51'0"E 88°51'45"E 88°52'30"E 88°53'15"E 88°54'0"E

26°44'15"N 26°43'30"N 26°42'45"N

JP_MG_JD_21_24_25_26

JALDHAKA RIVER

JALDHAKA1 RIVER

N W E S

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.3 0.6 1.2 1.8 2.4

Kilometers

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	JD	JALDHAKA

JP_MG_JD_21_24_25_26

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 43' 24.288" N	88° 52' 2.853" E	17	26° 42' 51.218" N	88° 52' 3.097" E	33	26° 44' 13.478" N	88° 51' 39.405" E	49	26° 44' 8.172" N	88° 51' 50.655" E
2	26° 43' 19.927" N	88° 52' 7.568" E	18	26° 42' 53.392" N	88° 52' 1.218" E	34	26° 44' 15.335" N	88° 51' 39.435" E	50	26° 44' 5.753" N	88° 51' 51.535" E
3	26° 43' 19.651" N	88° 52' 7.967" E	19	26° 42' 53.016" N	88° 51' 57.779" E	35	26° 44' 18.102" N	88° 51' 38.254" E	51	26° 44' 1.524" N	88° 51' 54.070" E
4	26° 43' 14.848" N	88° 52' 10.725" E	20	26° 43' 0.388" N	88° 51' 52.874" E	36	26° 44' 23.059" N	88° 51' 37.875" E	52	26° 43' 55.176" N	88° 52' 0.861" E
5	26° 43' 21.021" N	88° 52' 2.895" E	21	26° 43' 6.885" N	88° 51' 49.150" E	37	26° 44' 28.148" N	88° 51' 37.882" E	53	26° 43' 52.830" N	88° 52' 1.435" E
6	26° 43' 23.073" N	88° 51' 57.806" E	22	26° 43' 8.955" N	88° 51' 47.036" E	38	26° 44' 29.862" N	88° 51' 38.293" E	54	26° 43' 50.701" N	88° 52' 1.247" E
7	26° 43' 18.640" N	88° 51' 56.843" E	23	26° 43' 19.770" N	88° 51' 45.644" E	39	26° 44' 31.639" N	88° 51' 39.164" E	55	26° 43' 44.794" N	88° 52' 0.615" E
8	26° 43' 14.933" N	88° 51' 57.644" E	24	26° 43' 27.992" N	88° 51' 51.758" E	40	26° 44' 32.239" N	88° 51' 39.354" E	56	26° 43' 41.732" N	88° 52' 3.361" E
9	26° 43' 9.932" N	88° 51' 58.711" E	25	26° 43' 34.435" N	88° 51' 52.151" E	41	26° 44' 31.840" N	88° 51' 42.591" E	57	26° 43' 37.434" N	88° 52' 3.291" E
10	26° 43' 8.211" N	88° 51' 59.380" E	26	26° 43' 38.417" N	88° 51' 53.364" E	42	26° 44' 29.058" N	88° 51' 41.957" E	58	26° 43' 34.644" N	88° 52' 3.006" E
11	26° 43' 5.439" N	88° 52' 0.457" E	27	26° 43' 42.147" N	88° 51' 54.143" E	43	26° 44' 27.197" N	88° 51' 42.233" E	59	26° 43' 33.052" N	88° 52' 3.283" E
12	26° 43' 2.097" N	88° 52' 3.639" E	28	26° 43' 50.722" N	88° 51' 49.864" E	44	26° 44' 24.708" N	88° 51' 43.188" E	60	26° 43' 31.502" N	88° 52' 3.449" E
13	26° 42' 54.968" N	88° 52' 9.650" E	29	26° 43' 58.072" N	88° 51' 46.633" E	45	26° 44' 21.258" N	88° 51' 44.051" E	61	26° 43' 31.248" N	88° 52' 3.158" E
14	26° 42' 52.719" N	88° 52' 10.666" E	30	26° 44' 6.166" N	88° 51' 41.048" E	46	26° 44' 18.407" N	88° 51' 46.456" E			
15	26° 42' 51.016" N	88° 52' 9.394" E	31	26° 44' 8.796" N	88° 51' 39.788" E	47	26° 44' 14.682" N	88° 51' 47.238" E			
16	26° 42' 53.801" N	88° 52' 2.852" E	32	26° 44' 12.038" N	88° 51' 39.075" E	48	26° 44' 10.795" N	88° 51' 49.932" E			

POTENTIAL BLOCK JP_MG_JD_22 OF JALDHAKA RIVER

88°51'20"E 88°51'30"E 88°51'40"E

26°44'10"N

JALDHAKA RIVER

JP_MG_JD_22



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	JD	JALDHAKA

JP_MG_JD_22		
POINT_NO	Latitude	Longitude
1	26° 43' 57.945" N	88° 51' 30.086" E
2	26° 43' 57.360" N	88° 51' 28.784" E
3	26° 43' 57.539" N	88° 51' 28.261" E
4	26° 43' 59.085" N	88° 51' 28.334" E
5	26° 44' 1.241" N	88° 51' 27.842" E
6	26° 44' 2.329" N	88° 51' 26.854" E
7	26° 44' 2.973" N	88° 51' 26.379" E
8	26° 44' 12.521" N	88° 51' 23.943" E
9	26° 44' 13.334" N	88° 51' 24.768" E
10	26° 44' 12.530" N	88° 51' 25.871" E
11	26° 44' 10.527" N	88° 51' 27.754" E
12	26° 44' 3.810" N	88° 51' 31.905" E
13	26° 44' 1.790" N	88° 51' 31.872" E
14	26° 43' 59.775" N	88° 51' 31.505" E
15	26° 43' 58.578" N	88° 51' 30.959" E

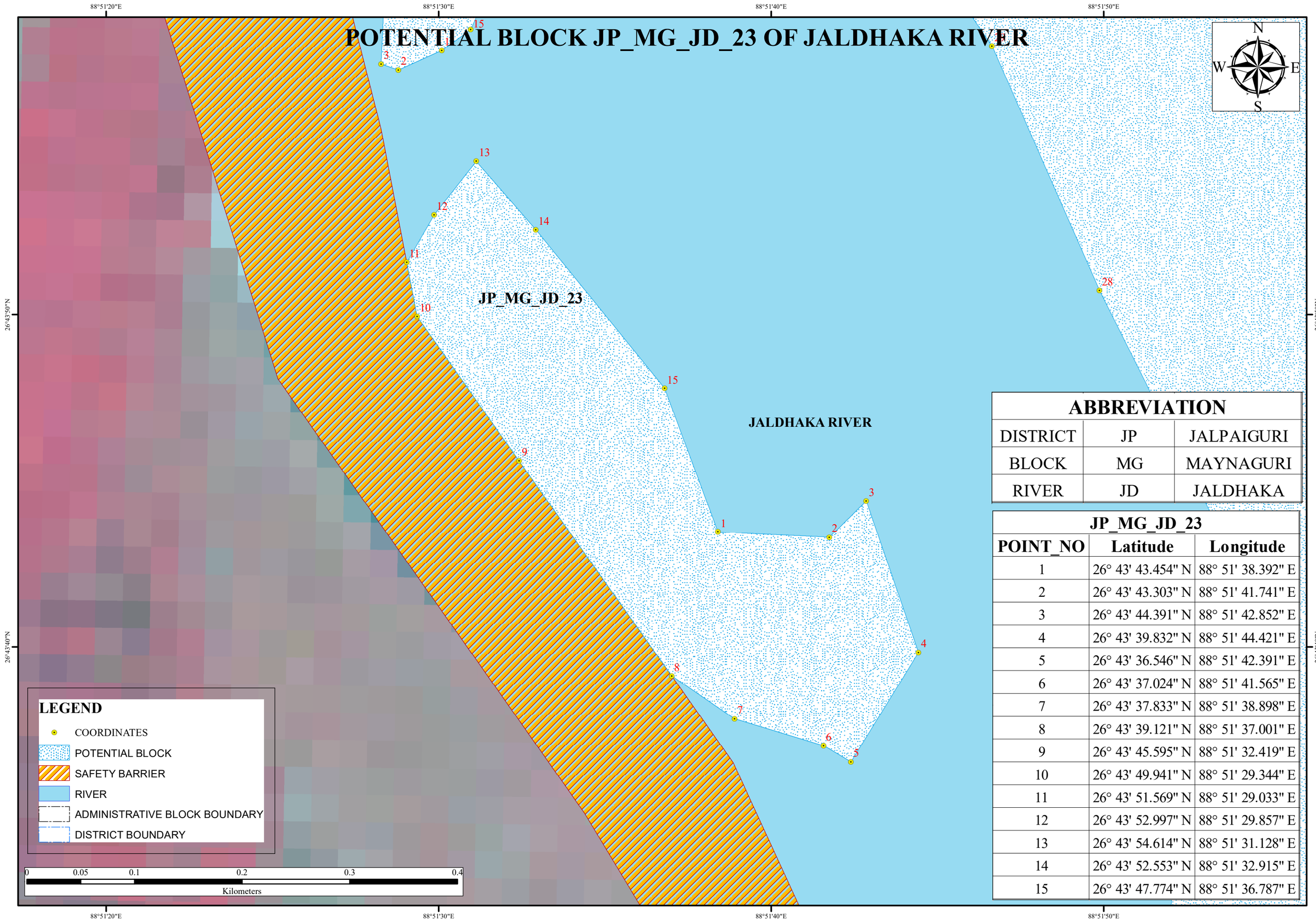
LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4

Kilometers

POTENTIAL BLOCK JP_MG_JD_23 OF JALDHAKA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	JD	JALDHAKA

JP_MG_JD_23		
POINT_NO	Latitude	Longitude
1	26° 43' 43.454" N	88° 51' 38.392" E
2	26° 43' 43.303" N	88° 51' 41.741" E
3	26° 43' 44.391" N	88° 51' 42.852" E
4	26° 43' 39.832" N	88° 51' 44.421" E
5	26° 43' 36.546" N	88° 51' 42.391" E
6	26° 43' 37.024" N	88° 51' 41.565" E
7	26° 43' 37.833" N	88° 51' 38.898" E
8	26° 43' 39.121" N	88° 51' 37.001" E
9	26° 43' 45.595" N	88° 51' 32.419" E
10	26° 43' 49.941" N	88° 51' 29.344" E
11	26° 43' 51.569" N	88° 51' 29.033" E
12	26° 43' 52.997" N	88° 51' 29.857" E
13	26° 43' 54.614" N	88° 51' 31.128" E
14	26° 43' 52.553" N	88° 51' 32.915" E
15	26° 43' 47.774" N	88° 51' 36.787" E

POTENTIAL BLOCK JP_NK_JD_26A OF JALDHAKA RIVER

88°52'10"E 88°52'15"E 88°52'20"E 88°52'25"E

26°42'50"N

26°42'45"N

N W E S

JP_NK_JD_26A

JALDHAKA RIVER

1 2 3 4 14 15

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD	JALDHAKA

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

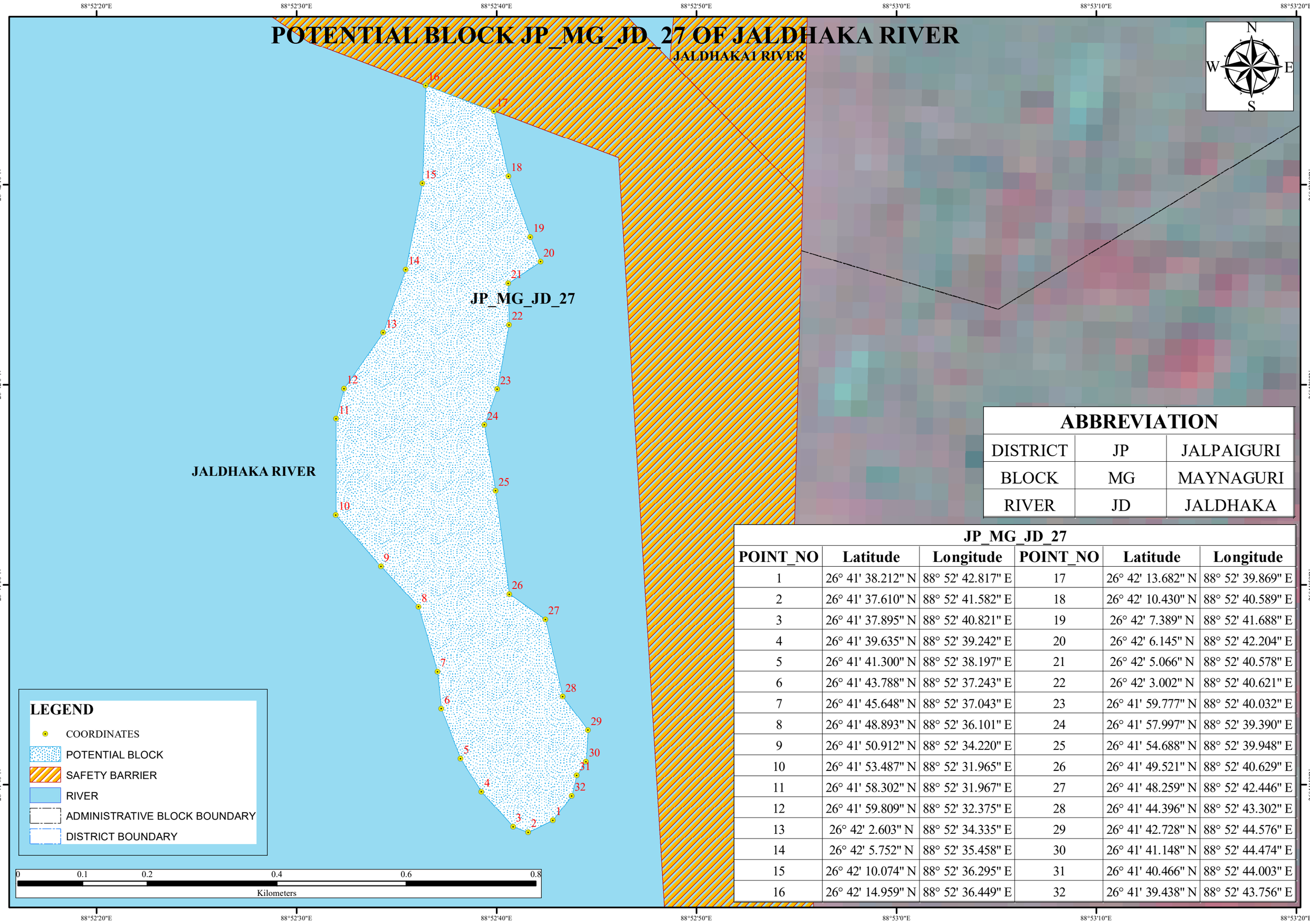
0 0.0325 0.065 0.13 0.195 0.26

Kilometers

JP_NK_JD_26A

POINT_NO	Latitude	Longitude
1	26° 42' 53.260" N	88° 52' 13.304" E
2	26° 42' 40.561" N	88° 52' 16.538" E
3	26° 42' 44.551" N	88° 52' 12.344" E
4	26° 42' 51.737" N	88° 52' 12.462" E

POTENTIAL BLOCK JP_MG_JD_27 OF JALDHAKA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

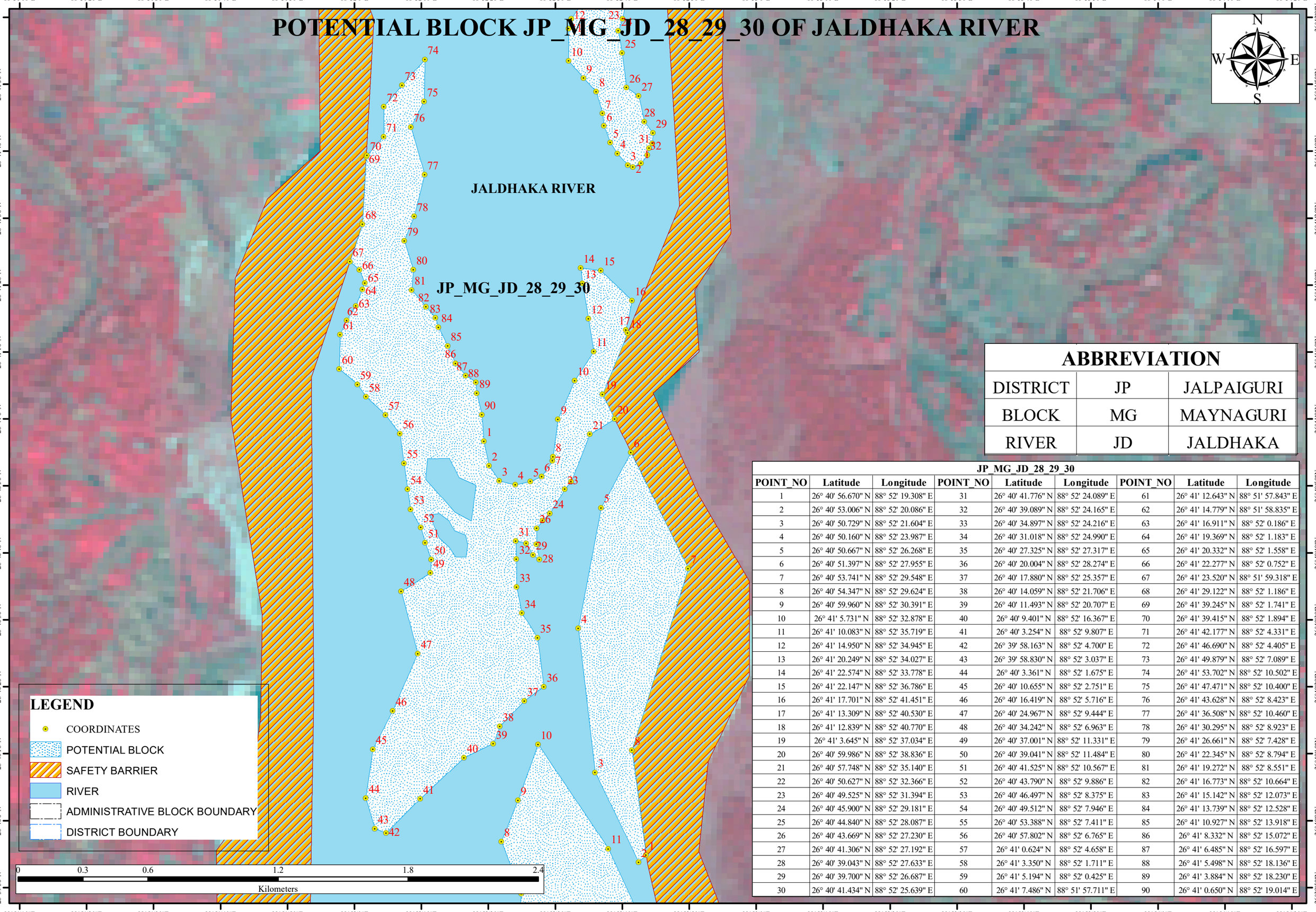
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	JD	JALDHAKA

JP_MG_JD_27

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 41' 38.212" N	88° 52' 42.817" E	17	26° 42' 13.682" N	88° 52' 39.869" E
2	26° 41' 37.610" N	88° 52' 41.582" E	18	26° 42' 10.430" N	88° 52' 40.589" E
3	26° 41' 37.895" N	88° 52' 40.821" E	19	26° 42' 7.389" N	88° 52' 41.688" E
4	26° 41' 39.635" N	88° 52' 39.242" E	20	26° 42' 6.145" N	88° 52' 42.204" E
5	26° 41' 41.300" N	88° 52' 38.197" E	21	26° 42' 5.066" N	88° 52' 40.578" E
6	26° 41' 43.788" N	88° 52' 37.243" E	22	26° 42' 3.002" N	88° 52' 40.621" E
7	26° 41' 45.648" N	88° 52' 37.043" E	23	26° 41' 59.777" N	88° 52' 40.032" E
8	26° 41' 48.893" N	88° 52' 36.101" E	24	26° 41' 57.997" N	88° 52' 39.390" E
9	26° 41' 50.912" N	88° 52' 34.220" E	25	26° 41' 54.688" N	88° 52' 39.948" E
10	26° 41' 53.487" N	88° 52' 31.965" E	26	26° 41' 49.521" N	88° 52' 40.629" E
11	26° 41' 58.302" N	88° 52' 31.967" E	27	26° 41' 48.259" N	88° 52' 42.446" E
12	26° 41' 59.809" N	88° 52' 32.375" E	28	26° 41' 44.396" N	88° 52' 43.302" E
13	26° 42' 2.603" N	88° 52' 34.335" E	29	26° 41' 42.728" N	88° 52' 44.576" E
14	26° 42' 5.752" N	88° 52' 35.458" E	30	26° 41' 41.148" N	88° 52' 44.474" E
15	26° 42' 10.074" N	88° 52' 36.295" E	31	26° 41' 40.466" N	88° 52' 44.003" E
16	26° 42' 14.959" N	88° 52' 36.449" E	32	26° 41' 39.438" N	88° 52' 43.756" E

POTENTIAL BLOCK JP_MG_JD_28_29_30 OF JALDHAKA RIVER



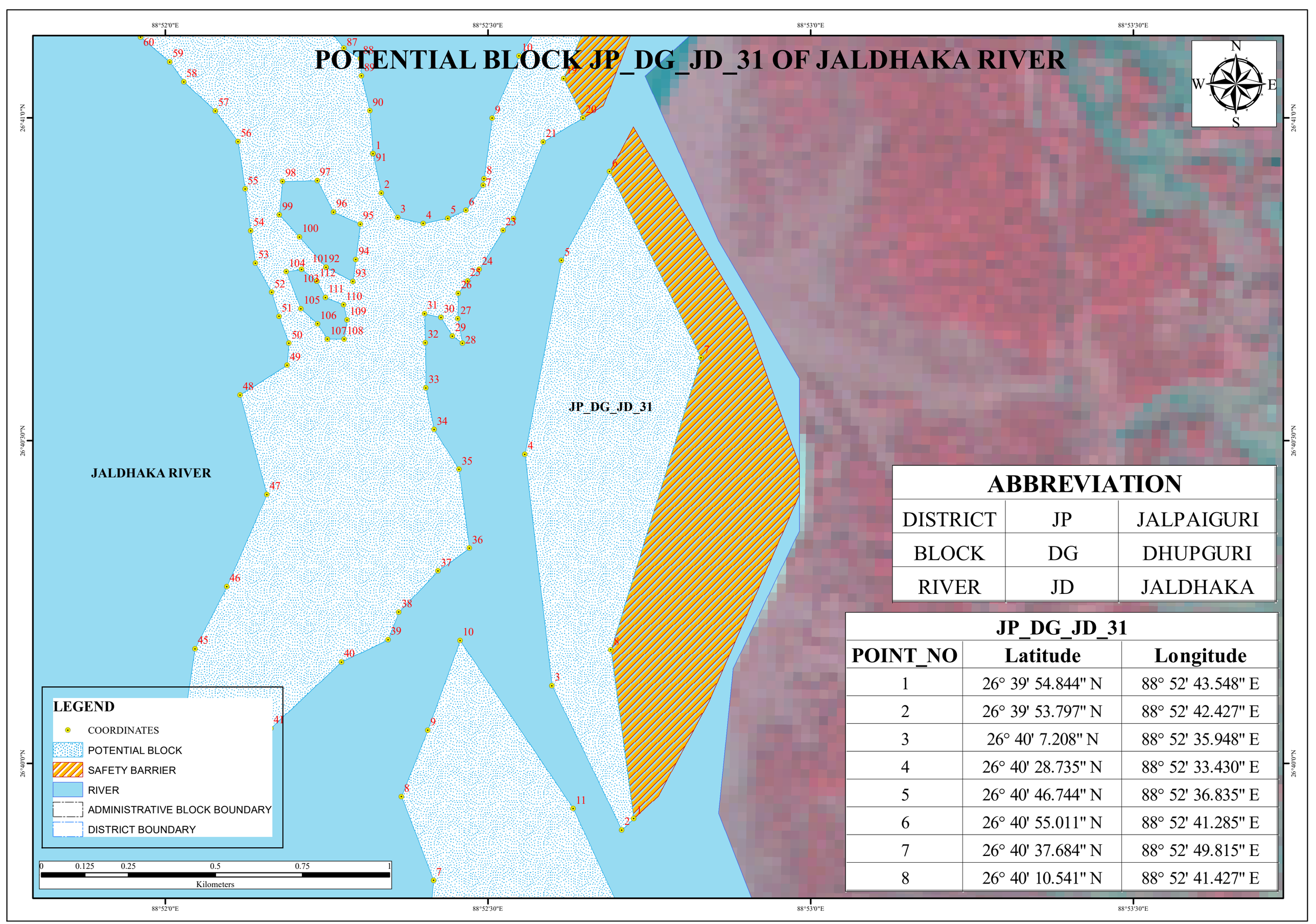
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	JD	JALDHAKA

JP_MG_JD_28_29_30

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 40' 56.670" N	88° 52' 19.308" E	31	26° 40' 41.776" N	88° 52' 24.089" E	61	26° 41' 12.643" N	88° 51' 57.843" E
2	26° 40' 53.006" N	88° 52' 20.086" E	32	26° 40' 39.089" N	88° 52' 24.165" E	62	26° 41' 14.779" N	88° 51' 58.835" E
3	26° 40' 50.729" N	88° 52' 21.604" E	33	26° 40' 34.897" N	88° 52' 24.216" E	63	26° 41' 16.911" N	88° 52' 0.186" E
4	26° 40' 50.160" N	88° 52' 23.987" E	34	26° 40' 31.018" N	88° 52' 24.990" E	64	26° 41' 19.369" N	88° 52' 1.183" E
5	26° 40' 50.667" N	88° 52' 26.268" E	35	26° 40' 27.325" N	88° 52' 27.317" E	65	26° 41' 20.332" N	88° 52' 1.558" E
6	26° 40' 51.397" N	88° 52' 27.955" E	36	26° 40' 20.004" N	88° 52' 28.274" E	66	26° 41' 22.277" N	88° 52' 0.752" E
7	26° 40' 53.741" N	88° 52' 29.548" E	37	26° 40' 17.880" N	88° 52' 25.357" E	67	26° 41' 23.520" N	88° 51' 59.318" E
8	26° 40' 54.347" N	88° 52' 29.624" E	38	26° 40' 14.059" N	88° 52' 21.706" E	68	26° 41' 29.122" N	88° 52' 1.186" E
9	26° 40' 59.960" N	88° 52' 30.391" E	39	26° 40' 11.493" N	88° 52' 20.707" E	69	26° 41' 39.245" N	88° 52' 1.741" E
10	26° 41' 5.731" N	88° 52' 32.878" E	40	26° 40' 9.401" N	88° 52' 16.367" E	70	26° 41' 39.415" N	88° 52' 1.894" E
11	26° 41' 10.083" N	88° 52' 35.719" E	41	26° 40' 3.254" N	88° 52' 9.807" E	71	26° 41' 42.177" N	88° 52' 4.331" E
12	26° 41' 14.950" N	88° 52' 34.945" E	42	26° 39' 58.163" N	88° 52' 4.700" E	72	26° 41' 46.690" N	88° 52' 4.405" E
13	26° 41' 20.249" N	88° 52' 34.027" E	43	26° 39' 58.830" N	88° 52' 3.037" E	73	26° 41' 49.879" N	88° 52' 7.089" E
14	26° 41' 22.574" N	88° 52' 33.778" E	44	26° 40' 3.361" N	88° 52' 1.675" E	74	26° 41' 53.702" N	88° 52' 10.502" E
15	26° 41' 22.147" N	88° 52' 36.786" E	45	26° 40' 10.655" N	88° 52' 2.751" E	75	26° 41' 47.471" N	88° 52' 10.400" E
16	26° 41' 17.701" N	88° 52' 41.451" E	46	26° 40' 16.419" N	88° 52' 5.716" E	76	26° 41' 43.628" N	88° 52' 8.423" E
17	26° 41' 13.309" N	88° 52' 40.530" E	47	26° 40' 24.967" N	88° 52' 9.444" E	77	26° 41' 36.508" N	88° 52' 10.460" E
18	26° 41' 12.839" N	88° 52' 40.770" E	48	26° 40' 34.242" N	88° 52' 6.963" E	78	26° 41' 30.295" N	88° 52' 8.923" E
19	26° 41' 3.645" N	88° 52' 37.034" E	49	26° 40' 37.001" N	88° 52' 11.331" E	79	26° 41' 26.661" N	88° 52' 7.428" E
20	26° 40' 59.986" N	88° 52' 38.836" E	50	26° 40' 39.041" N	88° 52' 11.484" E	80	26° 41' 22.345" N	88° 52' 8.794" E
21	26° 40' 57.748" N	88° 52' 35.140" E	51	26° 40' 41.525" N	88° 52' 10.567" E	81	26° 41' 19.272" N	88° 52' 8.551" E
22	26° 40' 50.627" N	88° 52' 32.366" E	52	26° 40' 43.790" N	88° 52' 9.886" E	82	26° 41' 16.773" N	88° 52' 10.664" E
23	26° 40' 49.525" N	88° 52' 31.394" E	53	26° 40' 46.497" N	88° 52' 8.375" E	83	26° 41' 15.142" N	88° 52' 12.073" E
24	26° 40' 45.900" N	88° 52' 29.181" E	54	26° 40' 49.512" N	88° 52' 7.946" E	84	26° 41' 13.739" N	88° 52' 12.528" E
25	26° 40' 44.840" N	88° 52' 28.087" E	55	26° 40' 53.388" N	88° 52' 7.411" E	85	26° 41' 10.927" N	88° 52' 13.918" E
26	26° 40' 43.669" N	88° 52' 27.230" E	56	26° 40' 57.802" N	88° 52' 6.765" E	86	26° 41' 8.332" N	88° 52' 15.072" E
27	26° 40' 41.306" N	88° 52' 27.192" E	57	26° 41' 0.624" N	88° 52' 4.658" E	87	26° 41' 6.485" N	88° 52' 16.597" E
28	26° 40' 39.043" N	88° 52' 27.633" E	58	26° 41' 3.350" N	88° 52' 1.711" E	88	26° 41' 5.498" N	88° 52' 18.136" E
29	26° 40' 39.700" N	88° 52' 26.687" E	59	26° 41' 5.194" N	88° 52' 0.425" E	89	26° 41' 3.884" N	88° 52' 18.230" E
30	26° 40' 41.434" N	88° 52' 25.639" E	60	26° 41' 7.486" N	88° 51' 57.711" E	90	26° 41' 0.650" N	88° 52' 19.014" E

POTENTIAL BLOCK JP_DG_JD_31 OF JALDHAKA RIVER



ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	DG	DHUPGURI
RIVER	JD	JALDHAKA

JP_DG_JD_31

POINT_NO	Latitude	Longitude
1	26° 39' 54.844" N	88° 52' 43.548" E
2	26° 39' 53.797" N	88° 52' 42.427" E
3	26° 40' 7.208" N	88° 52' 35.948" E
4	26° 40' 28.735" N	88° 52' 33.430" E
5	26° 40' 46.744" N	88° 52' 36.835" E
6	26° 40' 55.011" N	88° 52' 41.285" E
7	26° 40' 37.684" N	88° 52' 49.815" E
8	26° 40' 10.541" N	88° 52' 41.427" E

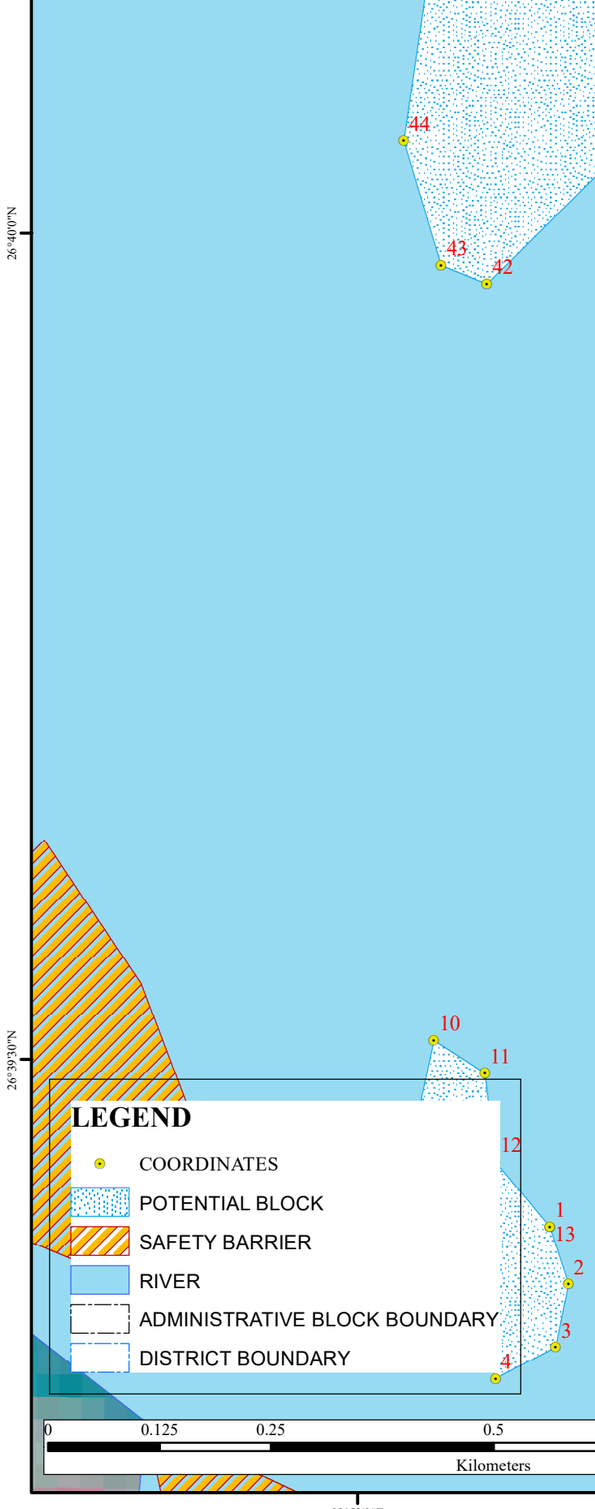
POTENTIAL BLOCK JP_DG_JD_32 OF JALDHAKA RIVER

88°52'0"E 88°52'30"E 88°53'0"E

26°40'0"N 26°39'30"N

JALDHAKA RIVER

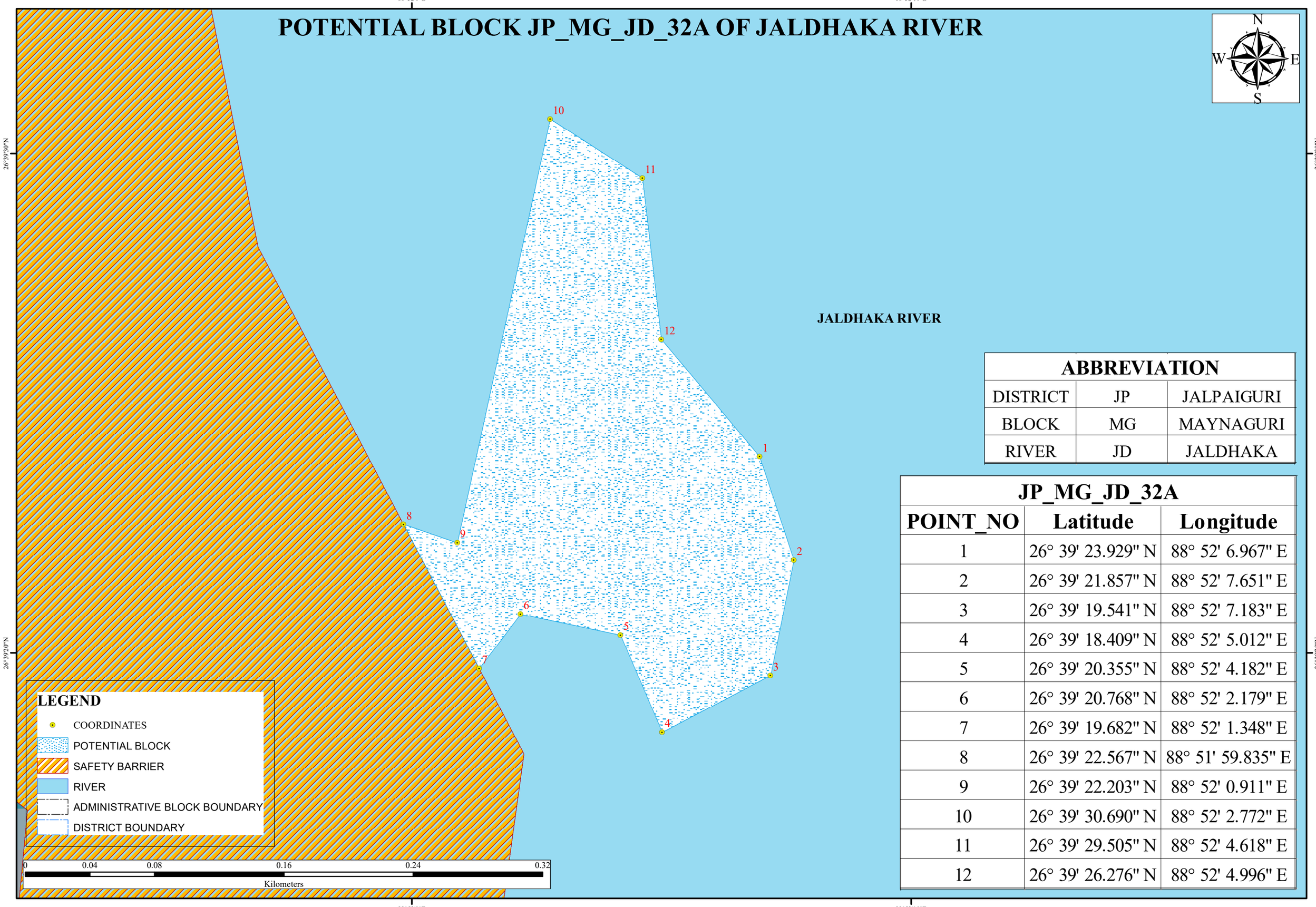
JP_DG_JD_32



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	DG	DHUPGURI
RIVER	JD	JALDHAKA

JP_DG_JD_32		
POINT_NO	Latitude	Longitude
1	26° 39' 17.444" N	88° 52' 36.730" E
2	26° 39' 15.679" N	88° 52' 33.231" E
3	26° 39' 17.440" N	88° 52' 30.150" E
4	26° 39' 21.782" N	88° 52' 26.872" E
5	26° 39' 30.001" N	88° 52' 22.940" E
6	26° 39' 37.513" N	88° 52' 23.780" E
7	26° 39' 49.104" N	88° 52' 24.926" E
8	26° 39' 56.895" N	88° 52' 21.944" E
9	26° 40' 3.062" N	88° 52' 24.397" E
10	26° 40' 11.405" N	88° 52' 27.404" E
11	26° 39' 55.791" N	88° 52' 37.914" E
12	26° 39' 44.329" N	88° 52' 43.229" E
13	26° 39' 34.447" N	88° 52' 42.828" E
14	26° 39' 30.383" N	88° 52' 41.326" E
15	26° 39' 26.338" N	88° 52' 38.389" E
16	26° 39' 22.521" N	88° 52' 34.499" E

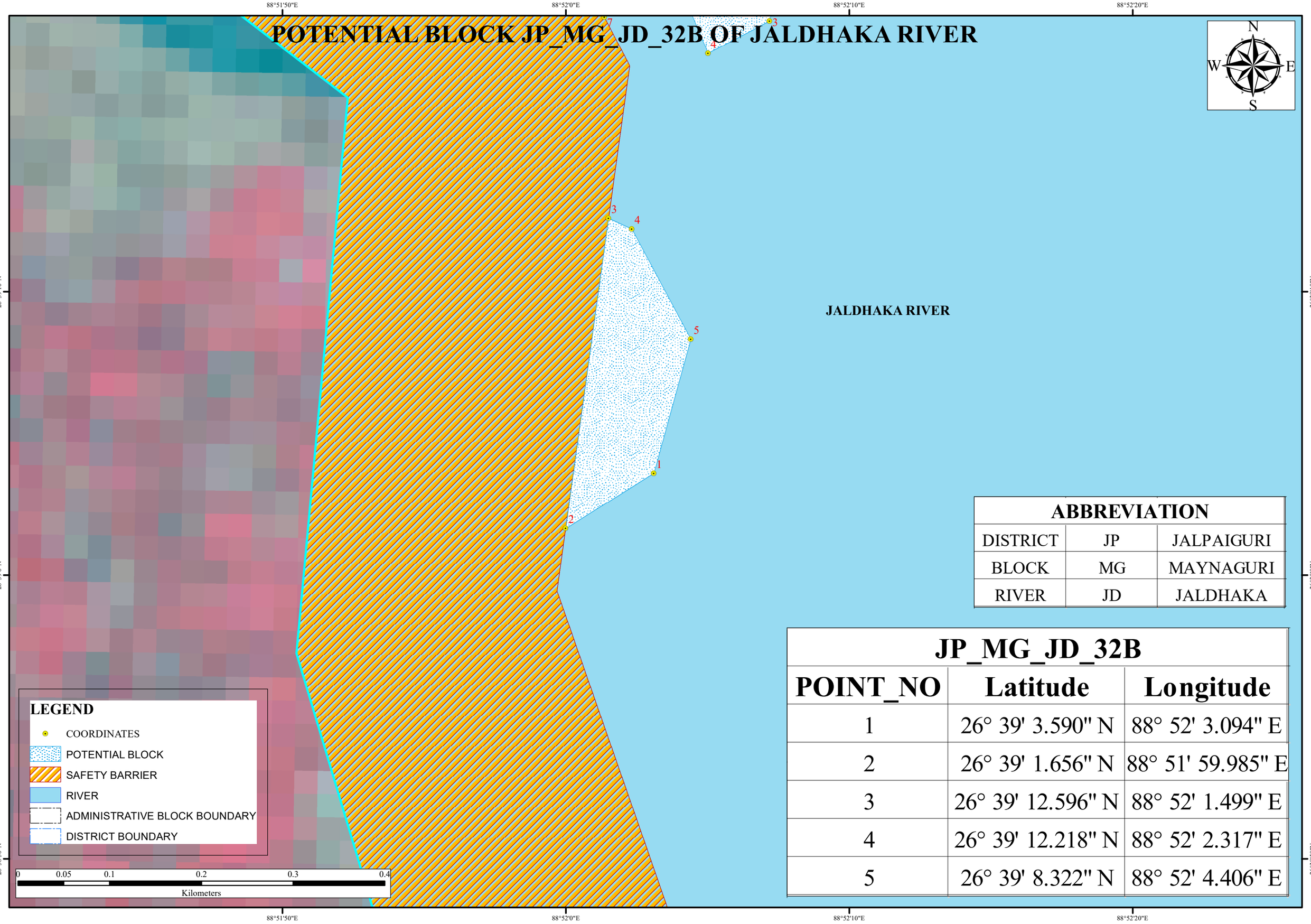
POTENTIAL BLOCK JP_MG_JD_32A OF JALDHAKA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	JD	JALDHAKA

JP_MG_JD_32A		
POINT_NO	**Latitude**	**Longitude**
1	26° 39' 23.929" N	88° 52' 6.967" E
2	26° 39' 21.857" N	88° 52' 7.651" E
3	26° 39' 19.541" N	88° 52' 7.183" E
4	26° 39' 18.409" N	88° 52' 5.012" E
5	26° 39' 20.355" N	88° 52' 4.182" E
6	26° 39' 20.768" N	88° 52' 2.179" E
7	26° 39' 19.682" N	88° 52' 1.348" E
8	26° 39' 22.567" N	88° 51' 59.835" E
9	26° 39' 22.203" N	88° 52' 0.911" E
10	26° 39' 30.690" N	88° 52' 2.772" E
11	26° 39' 29.505" N	88° 52' 4.618" E
12	26° 39' 26.276" N	88° 52' 4.996" E

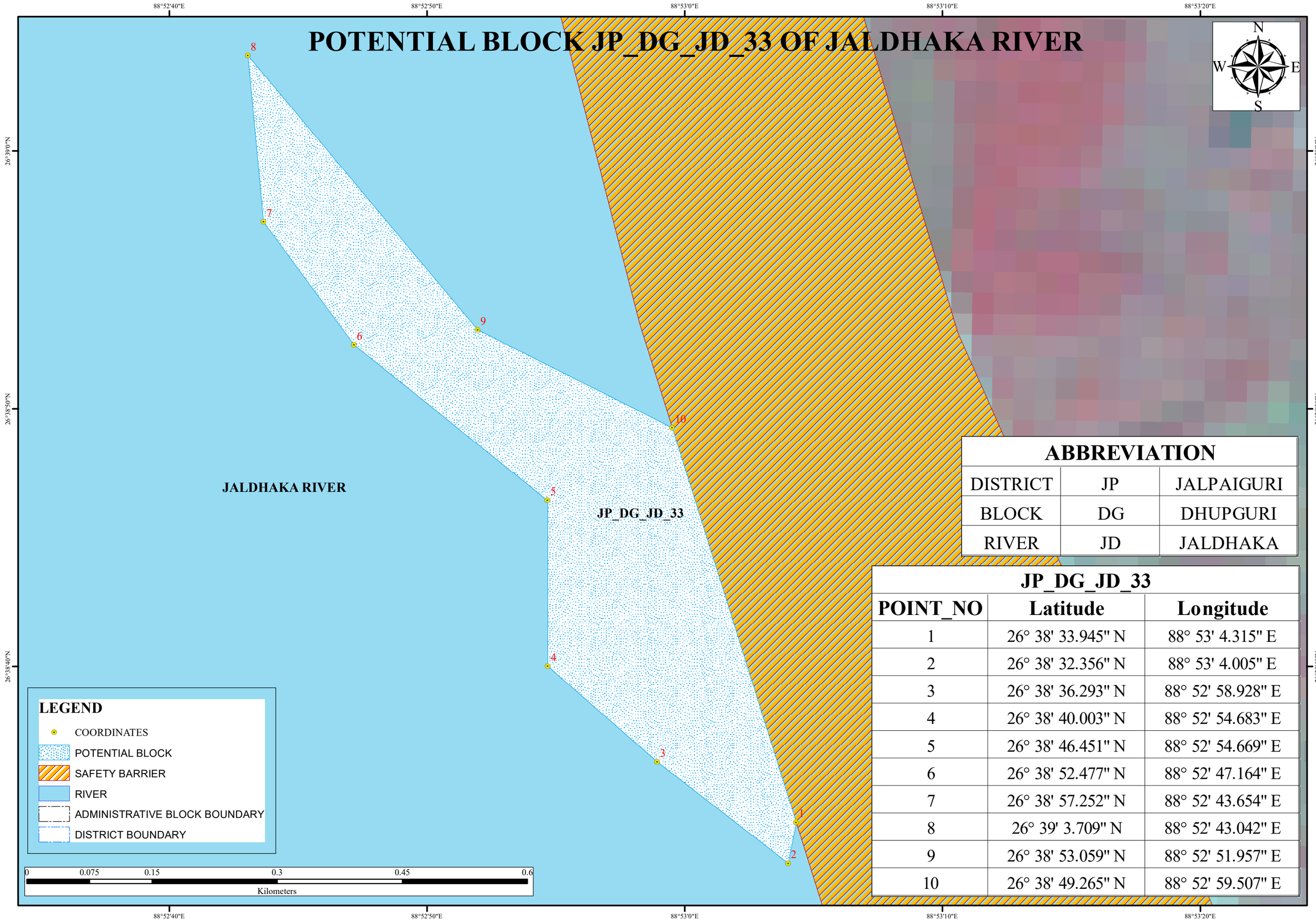
POTENTIAL BLOCK JP_MG_JD_32B OF JALDHAKA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	JD	JALDHAKA

JP_MG_JD_32B		
POINT_NO	Latitude	Longitude
1	26° 39' 3.590" N	88° 52' 3.094" E
2	26° 39' 1.656" N	88° 51' 59.985" E
3	26° 39' 12.596" N	88° 52' 1.499" E
4	26° 39' 12.218" N	88° 52' 2.317" E
5	26° 39' 8.322" N	88° 52' 4.406" E

POTENTIAL BLOCK JP_DG_JD_33 OF JALDHAKA RIVER



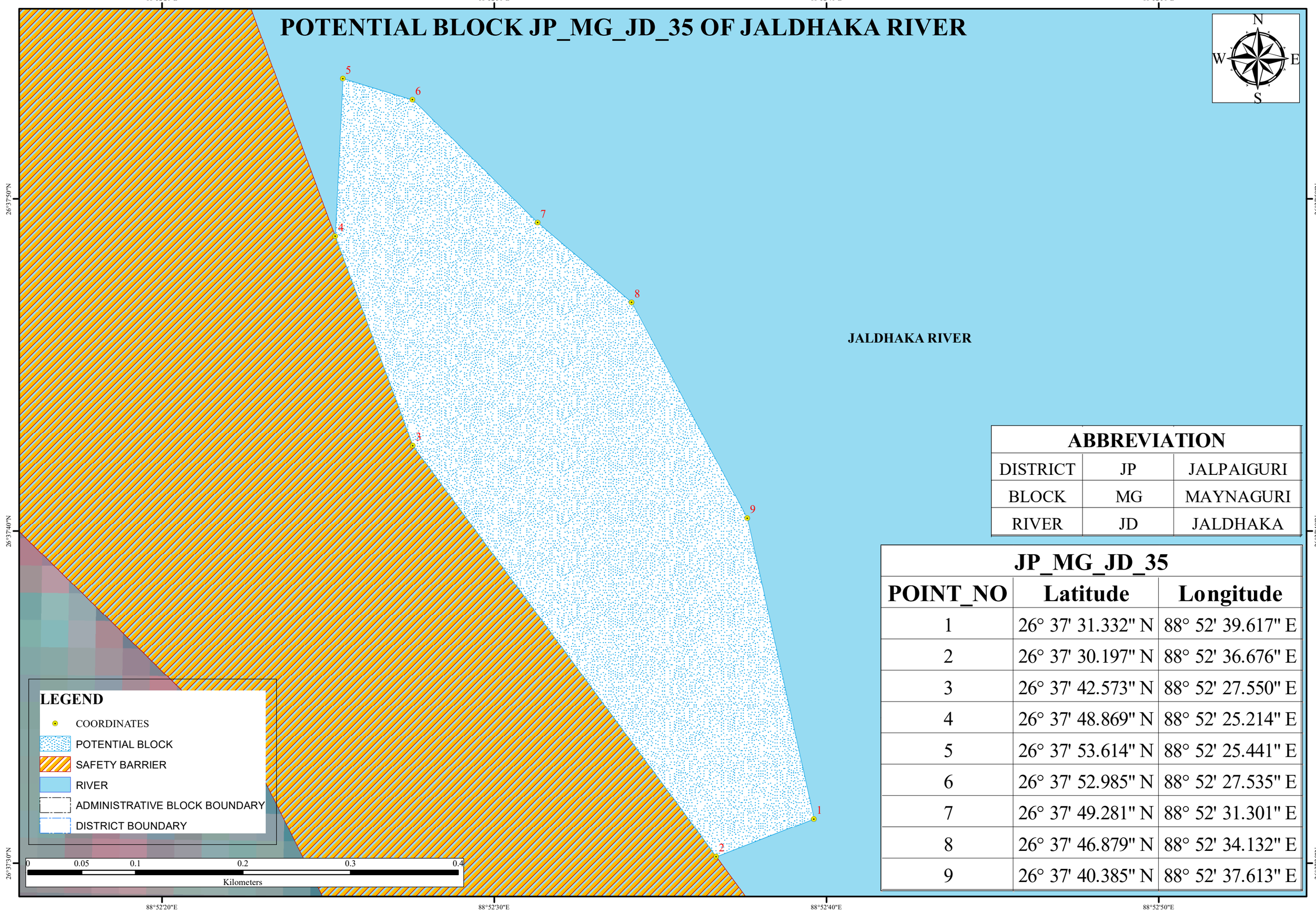
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	DG	DHUPGURI
RIVER	JD	JALDHAKA

JP_DG_JD_33

POINT_NO	Latitude	Longitude
1	26° 38' 33.945" N	88° 53' 4.315" E
2	26° 38' 32.356" N	88° 53' 4.005" E
3	26° 38' 36.293" N	88° 52' 58.928" E
4	26° 38' 40.003" N	88° 52' 54.683" E
5	26° 38' 46.451" N	88° 52' 54.669" E
6	26° 38' 52.477" N	88° 52' 47.164" E
7	26° 38' 57.252" N	88° 52' 43.654" E
8	26° 39' 3.709" N	88° 52' 43.042" E
9	26° 38' 53.059" N	88° 52' 51.957" E
10	26° 38' 49.265" N	88° 52' 59.507" E

POTENTIAL BLOCK JP_MG_JD_35 OF JALDHAKA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	JD	JALDHAKA

JP_MG_JD_35		
POINT_NO	**Latitude**	**Longitude**
1	26° 37' 31.332" N	88° 52' 39.617" E
2	26° 37' 30.197" N	88° 52' 36.676" E
3	26° 37' 42.573" N	88° 52' 27.550" E
4	26° 37' 48.869" N	88° 52' 25.214" E
5	26° 37' 53.614" N	88° 52' 25.441" E
6	26° 37' 52.985" N	88° 52' 27.535" E
7	26° 37' 49.281" N	88° 52' 31.301" E
8	26° 37' 46.879" N	88° 52' 34.132" E
9	26° 37' 40.385" N	88° 52' 37.613" E

POTENTIAL BLOCK JP_MG_JD_36_37 OF JALDHAKA RIVER

88°52'50"E

26°37'20"N

N
W
E
S

3
4
1
2

JALDHAKA RIVER

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.02 0.04 0.08 0.12 0.16
Kilometers

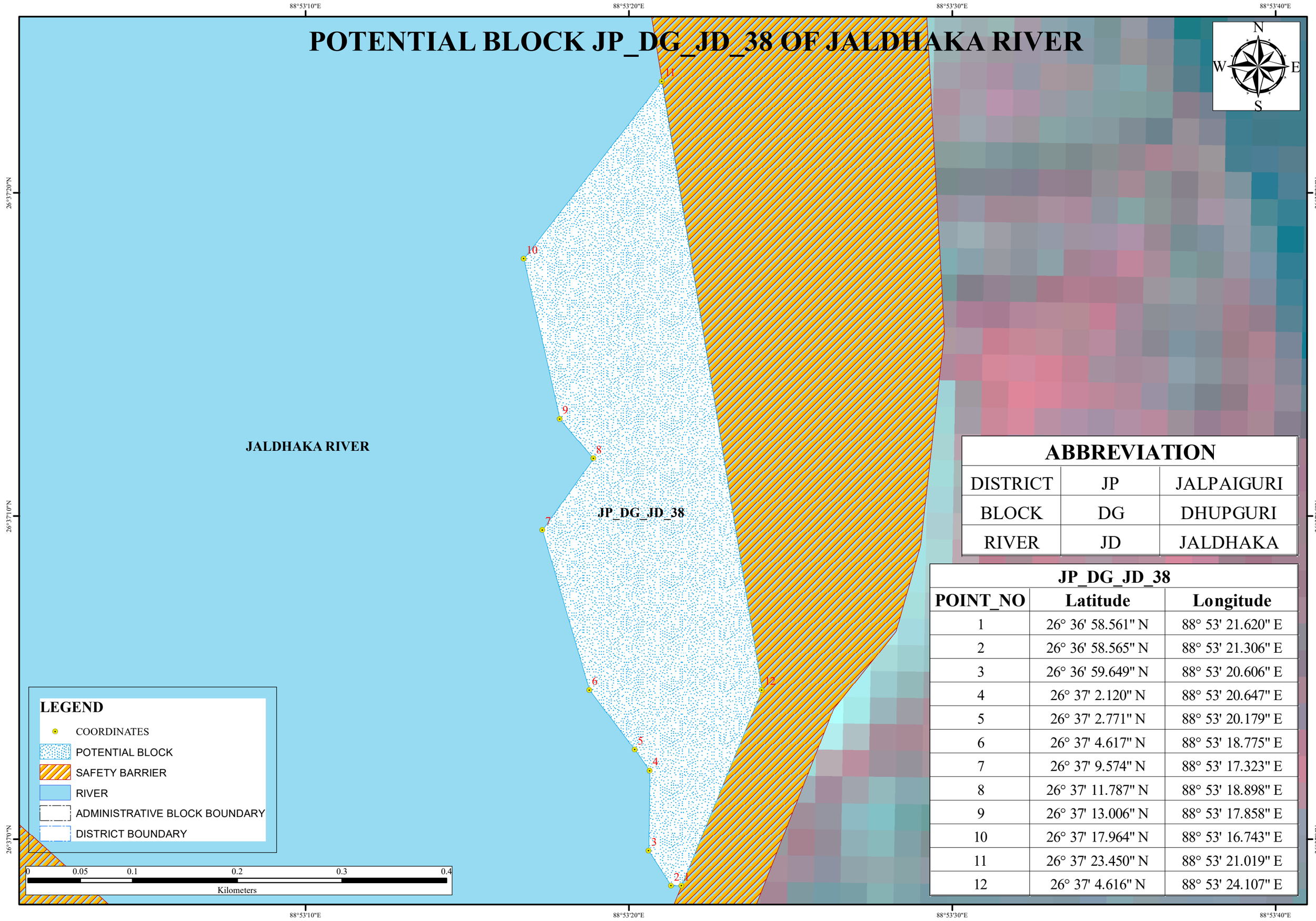
ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	JD	JALDHAKA

JP_MG_JD_36_37

POINT_NO	Latitude	Longitude
1	26° 37' 15.977" N	88° 52' 48.254" E
2	26° 37' 15.756" N	88° 52' 47.324" E
3	26° 37' 21.572" N	88° 52' 43.036" E
4	26° 37' 20.742" N	88° 52' 45.462" E

88°52'50"E

POTENTIAL BLOCK JP_DG_JD_38 OF JALDHAKA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

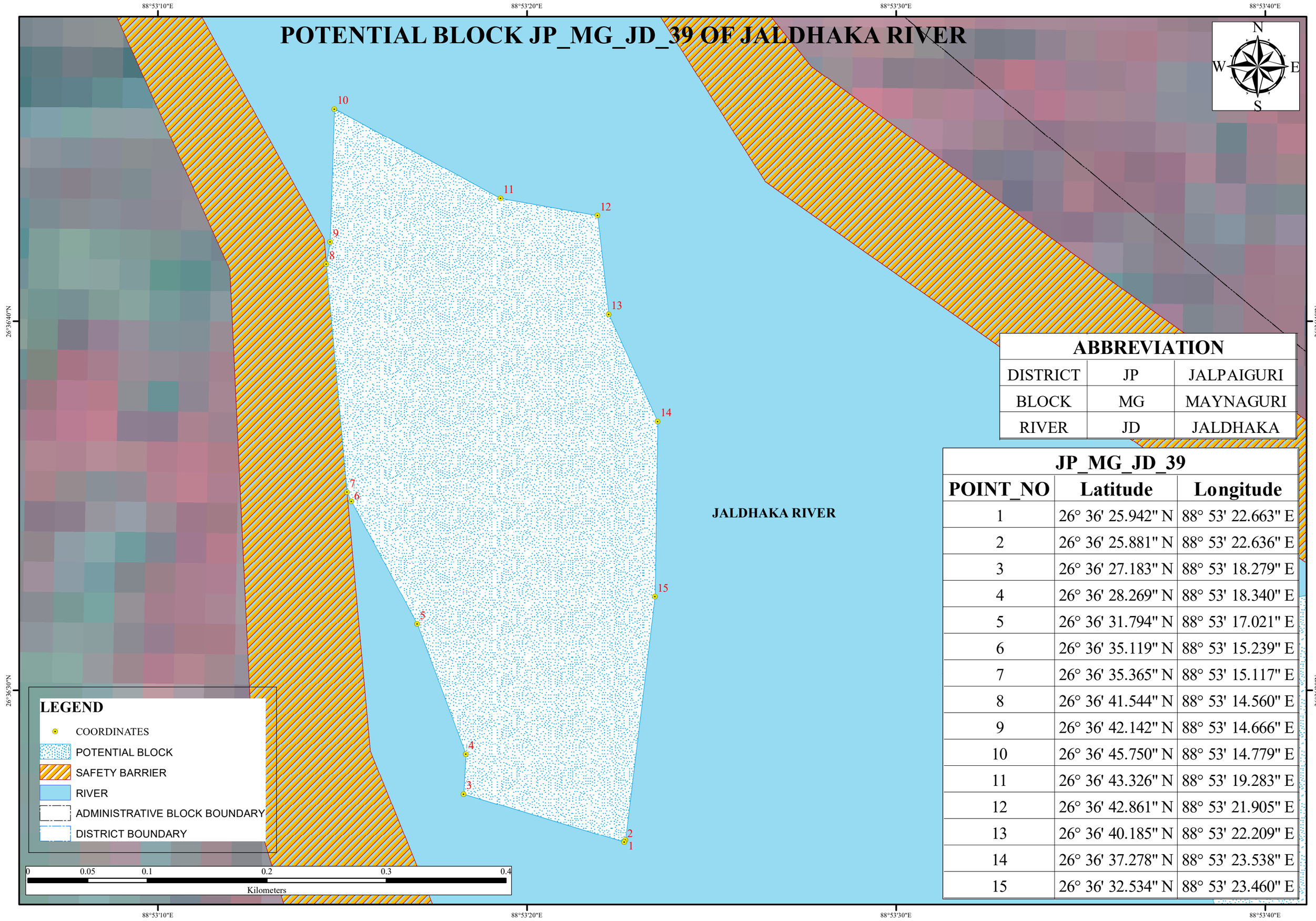
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	DG	DHUPGURI
RIVER	JD	JALDHAKA

JP_DG_JD_38

POINT_NO	Latitude	Longitude
1	26° 36' 58.561" N	88° 53' 21.620" E
2	26° 36' 58.565" N	88° 53' 21.306" E
3	26° 36' 59.649" N	88° 53' 20.606" E
4	26° 37' 2.120" N	88° 53' 20.647" E
5	26° 37' 2.771" N	88° 53' 20.179" E
6	26° 37' 4.617" N	88° 53' 18.775" E
7	26° 37' 9.574" N	88° 53' 17.323" E
8	26° 37' 11.787" N	88° 53' 18.898" E
9	26° 37' 13.006" N	88° 53' 17.858" E
10	26° 37' 17.964" N	88° 53' 16.743" E
11	26° 37' 23.450" N	88° 53' 21.019" E
12	26° 37' 4.616" N	88° 53' 24.107" E

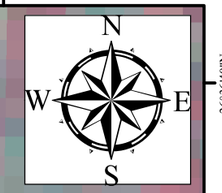
POTENTIAL BLOCK JP_MG_JD_39 OF JALDHAKA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	JD	JALDHAKA

JP_MG_JD_39		
POINT_NO	Latitude	Longitude
1	26° 36' 25.942" N	88° 53' 22.663" E
2	26° 36' 25.881" N	88° 53' 22.636" E
3	26° 36' 27.183" N	88° 53' 18.279" E
4	26° 36' 28.269" N	88° 53' 18.340" E
5	26° 36' 31.794" N	88° 53' 17.021" E
6	26° 36' 35.119" N	88° 53' 15.239" E
7	26° 36' 35.365" N	88° 53' 15.117" E
8	26° 36' 41.544" N	88° 53' 14.560" E
9	26° 36' 42.142" N	88° 53' 14.666" E
10	26° 36' 45.750" N	88° 53' 14.779" E
11	26° 36' 43.326" N	88° 53' 19.283" E
12	26° 36' 42.861" N	88° 53' 21.905" E
13	26° 36' 40.185" N	88° 53' 22.209" E
14	26° 36' 37.278" N	88° 53' 23.538" E
15	26° 36' 32.534" N	88° 53' 23.460" E

POTENTIAL BLOCK JP_MG_JD_40_41 OF JALDHAKA RIVER



JALDHAKA RIVER

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	JD	JALDHAKA

JP_MG_JD_40_41

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 35' 47.903" N	88° 54' 21.490" E	16	26° 36' 30.039" N	88° 53' 47.504" E
2	26° 35' 47.848" N	88° 54' 9.535" E	17	26° 36' 23.101" N	88° 53' 51.668" E
3	26° 35' 48.650" N	88° 54' 1.605" E	18	26° 36' 22.386" N	88° 53' 56.917" E
4	26° 35' 50.570" N	88° 53' 58.697" E	19	26° 36' 21.867" N	88° 54' 3.603" E
5	26° 35' 56.186" N	88° 53' 55.289" E	20	26° 36' 19.243" N	88° 54' 6.907" E
6	26° 35' 59.482" N	88° 53' 49.844" E	21	26° 36' 12.730" N	88° 54' 11.820" E
7	26° 36' 2.965" N	88° 53' 46.554" E	22	26° 36' 9.061" N	88° 54' 12.955" E
8	26° 36' 3.221" N	88° 53' 43.450" E	23	26° 36' 6.238" N	88° 54' 15.060" E
9	26° 36' 10.579" N	88° 53' 41.220" E	24	26° 36' 2.566" N	88° 54' 16.434" E
10	26° 36' 16.166" N	88° 53' 41.312" E	25	26° 35' 59.721" N	88° 54' 20.212" E
11	26° 36' 25.665" N	88° 53' 38.121" E	26	26° 35' 57.976" N	88° 54' 22.096" E
12	26° 36' 30.785" N	88° 53' 35.690" E	27	26° 35' 55.796" N	88° 54' 24.451" E
13	26° 36' 31.688" N	88° 53' 36.268" E	28	26° 35' 53.637" N	88° 54' 25.132" E
14	26° 36' 32.754" N	88° 53' 42.102" E	29	26° 35' 52.136" N	88° 54' 24.868" E
15	26° 36' 31.598" N	88° 53' 43.745" E			

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.15 0.3 0.6 0.9 1.2
Kilometers

88°53'30"E 88°53'40"E 88°53'50"E 88°54'0"E 88°54'10"E 88°54'20"E 88°54'30"E 88°54'40"E 88°54'50"E 88°55'0"E

26°36'40"N 26°36'30"N 26°36'20"N 26°36'10"N 26°36'0"N 26°35'50"N 26°35'40"N

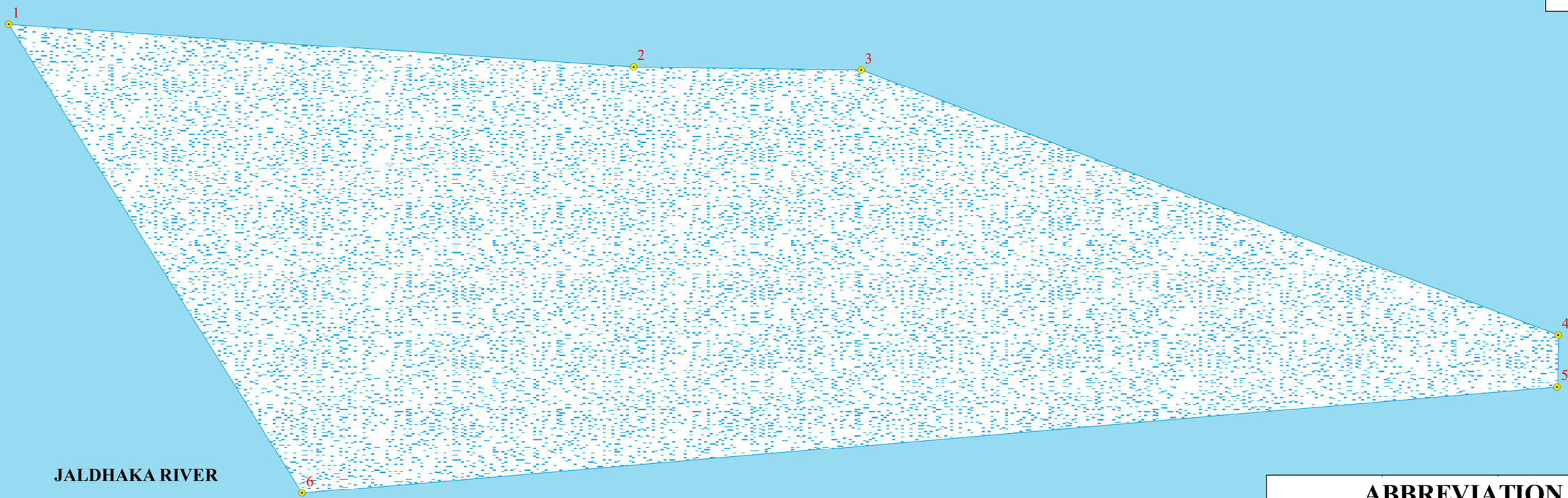
POTENTIAL BLOCK JP_MG_JD_42 OF JALDHAKA RIVER

88°54'30"E

88°54'40"E

26°35'50"N

26°35'40"N



N

W

E

S

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	JD	JALDHAKA

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

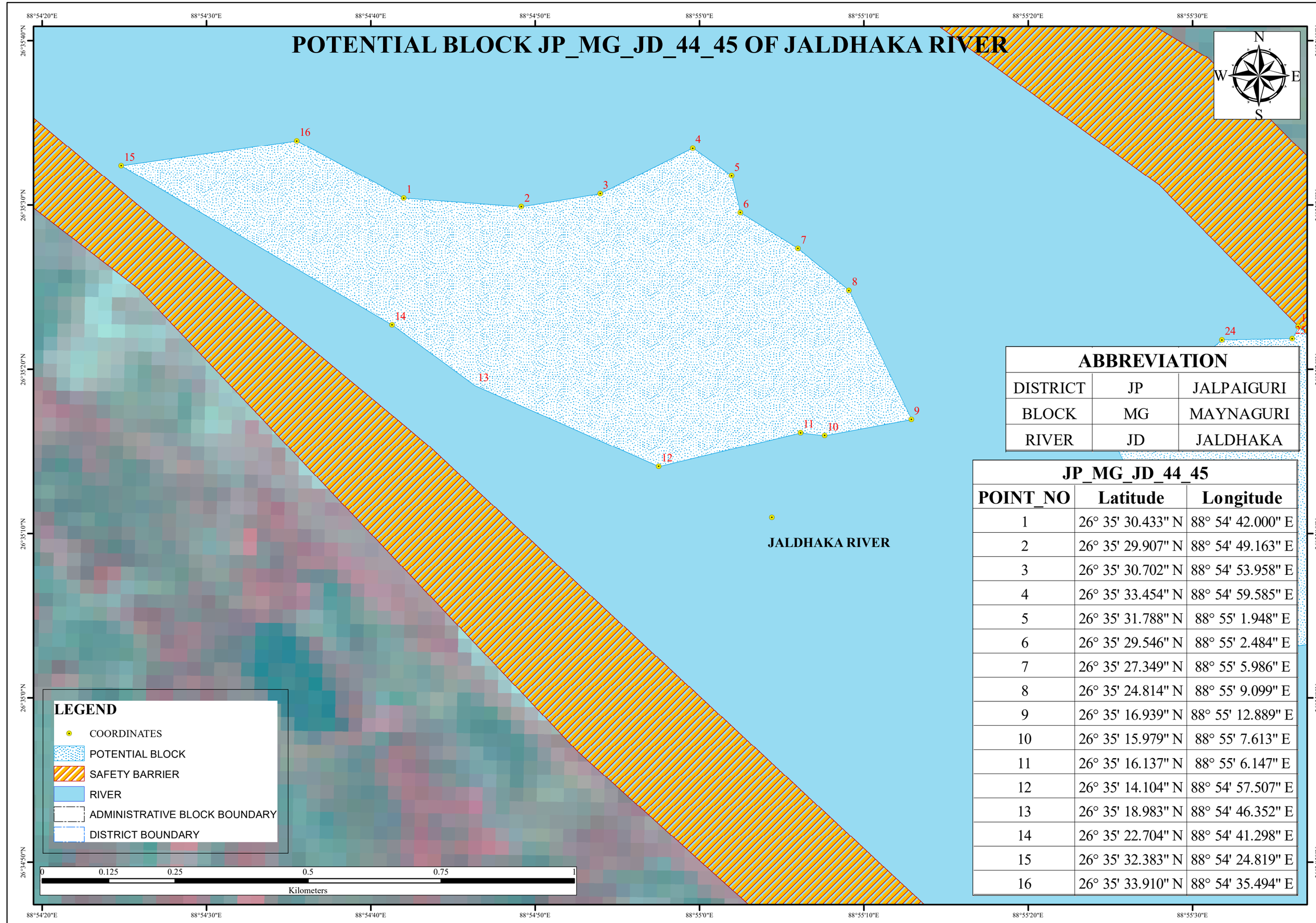
0 0.0325 0.065 0.13 0.195 0.26

Kilometers

JP_MG_JD_42

POINT_NO	Latitude	Longitude
1	26° 35' 50.173" N	88° 54' 26.987" E
2	26° 35' 49.638" N	88° 54' 34.868" E
3	26° 35' 49.599" N	88° 54' 37.737" E
4	26° 35' 46.257" N	88° 54' 46.527" E
5	26° 35' 45.604" N	88° 54' 46.516" E
6	26° 35' 44.270" N	88° 54' 30.688" E

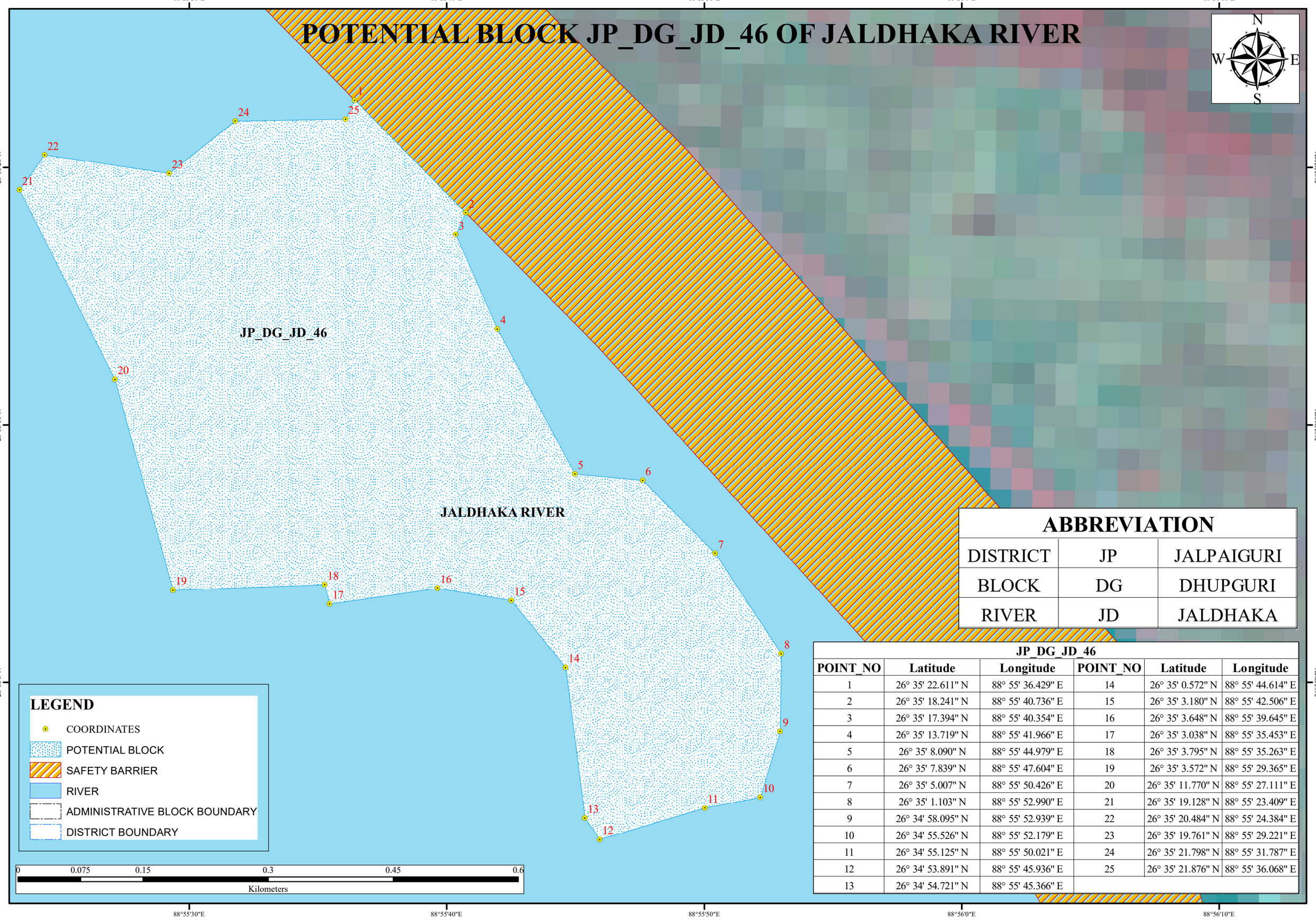
POTENTIAL BLOCK JP_MG_JD_44_45 OF JALDHAKA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	JD	JALDHAKA

JP_MG_JD_44_45		
POINT_NO	Latitude	Longitude
1	26° 35' 30.433" N	88° 54' 42.000" E
2	26° 35' 29.907" N	88° 54' 49.163" E
3	26° 35' 30.702" N	88° 54' 53.958" E
4	26° 35' 33.454" N	88° 54' 59.585" E
5	26° 35' 31.788" N	88° 55' 1.948" E
6	26° 35' 29.546" N	88° 55' 2.484" E
7	26° 35' 27.349" N	88° 55' 5.986" E
8	26° 35' 24.814" N	88° 55' 9.099" E
9	26° 35' 16.939" N	88° 55' 12.889" E
10	26° 35' 15.979" N	88° 55' 7.613" E
11	26° 35' 16.137" N	88° 55' 6.147" E
12	26° 35' 14.104" N	88° 54' 57.507" E
13	26° 35' 18.983" N	88° 54' 46.352" E
14	26° 35' 22.704" N	88° 54' 41.298" E
15	26° 35' 32.383" N	88° 54' 24.819" E
16	26° 35' 33.910" N	88° 54' 35.494" E

POTENTIAL BLOCK JP_DG_JD_46 OF JALDHAKA RIVER



ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	DG	DHUPGURI
RIVER	JD	JALDHAKA

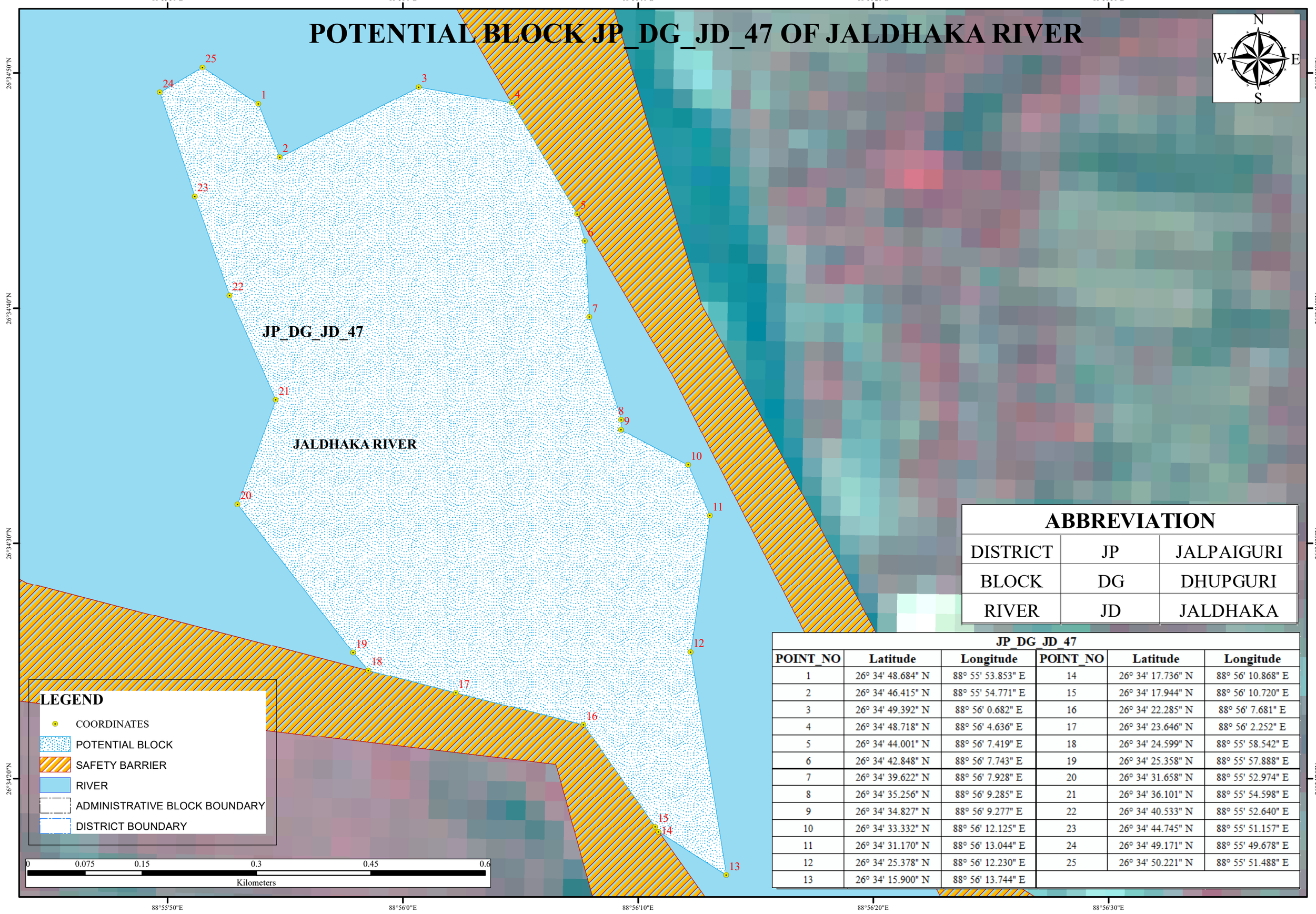
LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

JP_DG_JD_46

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 35' 22.611" N	88° 55' 36.429" E	14	26° 35' 0.572" N	88° 55' 44.614" E
2	26° 35' 18.241" N	88° 55' 40.736" E	15	26° 35' 3.180" N	88° 55' 42.506" E
3	26° 35' 17.394" N	88° 55' 40.354" E	16	26° 35' 3.648" N	88° 55' 39.645" E
4	26° 35' 13.719" N	88° 55' 41.966" E	17	26° 35' 3.038" N	88° 55' 35.453" E
5	26° 35' 8.090" N	88° 55' 44.979" E	18	26° 35' 3.795" N	88° 55' 35.263" E
6	26° 35' 7.839" N	88° 55' 47.604" E	19	26° 35' 3.572" N	88° 55' 29.365" E
7	26° 35' 5.007" N	88° 55' 50.426" E	20	26° 35' 11.770" N	88° 55' 27.111" E
8	26° 35' 1.103" N	88° 55' 52.990" E	21	26° 35' 19.128" N	88° 55' 23.409" E
9	26° 34' 58.095" N	88° 55' 52.939" E	22	26° 35' 20.484" N	88° 55' 24.384" E
10	26° 34' 55.526" N	88° 55' 52.179" E	23	26° 35' 19.761" N	88° 55' 29.221" E
11	26° 34' 55.125" N	88° 55' 50.021" E	24	26° 35' 21.798" N	88° 55' 31.787" E
12	26° 34' 53.891" N	88° 55' 45.936" E	25	26° 35' 21.876" N	88° 55' 36.068" E
13	26° 34' 54.721" N	88° 55' 45.366" E			

POTENTIAL BLOCK JP_DG_JD_47 OF JALDHAKA RIVER

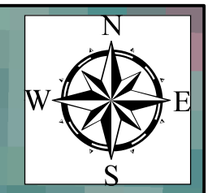


ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	DG	DHUPGURI
RIVER	JD	JALDHAKA

JP_DG_JD_47

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 34' 48.684" N	88° 55' 53.853" E	14	26° 34' 17.736" N	88° 56' 10.868" E
2	26° 34' 46.415" N	88° 55' 54.771" E	15	26° 34' 17.944" N	88° 56' 10.720" E
3	26° 34' 49.392" N	88° 56' 0.682" E	16	26° 34' 22.285" N	88° 56' 7.681" E
4	26° 34' 48.718" N	88° 56' 4.636" E	17	26° 34' 23.646" N	88° 56' 2.252" E
5	26° 34' 44.001" N	88° 56' 7.419" E	18	26° 34' 24.599" N	88° 55' 58.542" E
6	26° 34' 42.848" N	88° 56' 7.743" E	19	26° 34' 25.358" N	88° 55' 57.888" E
7	26° 34' 39.622" N	88° 56' 7.928" E	20	26° 34' 31.658" N	88° 55' 52.974" E
8	26° 34' 35.256" N	88° 56' 9.285" E	21	26° 34' 36.101" N	88° 55' 54.598" E
9	26° 34' 34.827" N	88° 56' 9.277" E	22	26° 34' 40.533" N	88° 55' 52.640" E
10	26° 34' 33.332" N	88° 56' 12.125" E	23	26° 34' 44.745" N	88° 55' 51.157" E
11	26° 34' 31.170" N	88° 56' 13.044" E	24	26° 34' 49.171" N	88° 55' 49.678" E
12	26° 34' 25.378" N	88° 56' 12.230" E	25	26° 34' 50.221" N	88° 55' 51.488" E
13	26° 34' 15.900" N	88° 56' 13.744" E			

POTENTIAL BLOCK JP_DG_JD_48 OF JALDHAKA RIVER



88°56'30"E 88°56'40"E 88°56'50"E 88°57'0"E 88°57'10"E

26°34'10"N 26°34'0"N 26°33'50"N 26°33'40"N

JALDHAKA RIVER

LEGEND

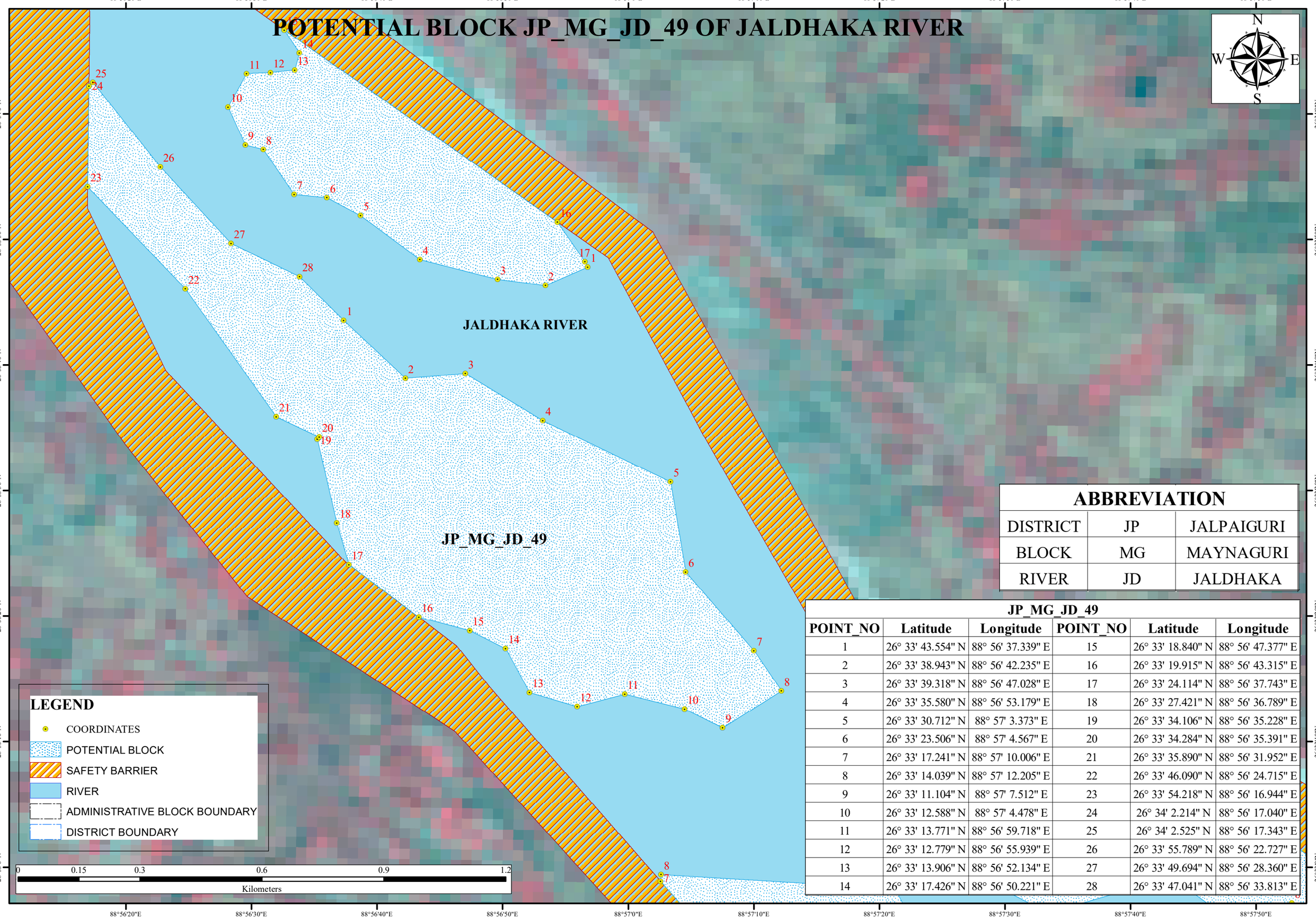
- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.075 0.15 0.3 0.45 0.6
Kilometers

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	DG	DHUPGURI
RIVER	JD	JALDHAKA

JP_DG_JD_48		
POINT_NO	Latitude	Longitude
1	26° 33' 47.802" N	88° 56' 56.771" E
2	26° 33' 46.343" N	88° 56' 53.400" E
3	26° 33' 46.825" N	88° 56' 49.584" E
4	26° 33' 48.414" N	88° 56' 43.396" E
5	26° 33' 51.918" N	88° 56' 38.675" E
6	26° 33' 53.346" N	88° 56' 35.999" E
7	26° 33' 53.597" N	88° 56' 33.375" E
8	26° 33' 57.177" N	88° 56' 30.925" E
9	26° 33' 57.519" N	88° 56' 29.497" E
10	26° 34' 0.546" N	88° 56' 28.114" E
11	26° 34' 3.213" N	88° 56' 29.593" E
12	26° 34' 3.294" N	88° 56' 31.507" E
13	26° 34' 3.483" N	88° 56' 33.422" E
14	26° 34' 4.875" N	88° 56' 33.804" E
15	26° 34' 6.694" N	88° 56' 32.594" E
16	26° 33' 51.394" N	88° 56' 54.347" E
17	26° 33' 48.235" N	88° 56' 56.539" E

POTENTIAL BLOCK JP_MG_JD_49 OF JALDHAKA RIVER

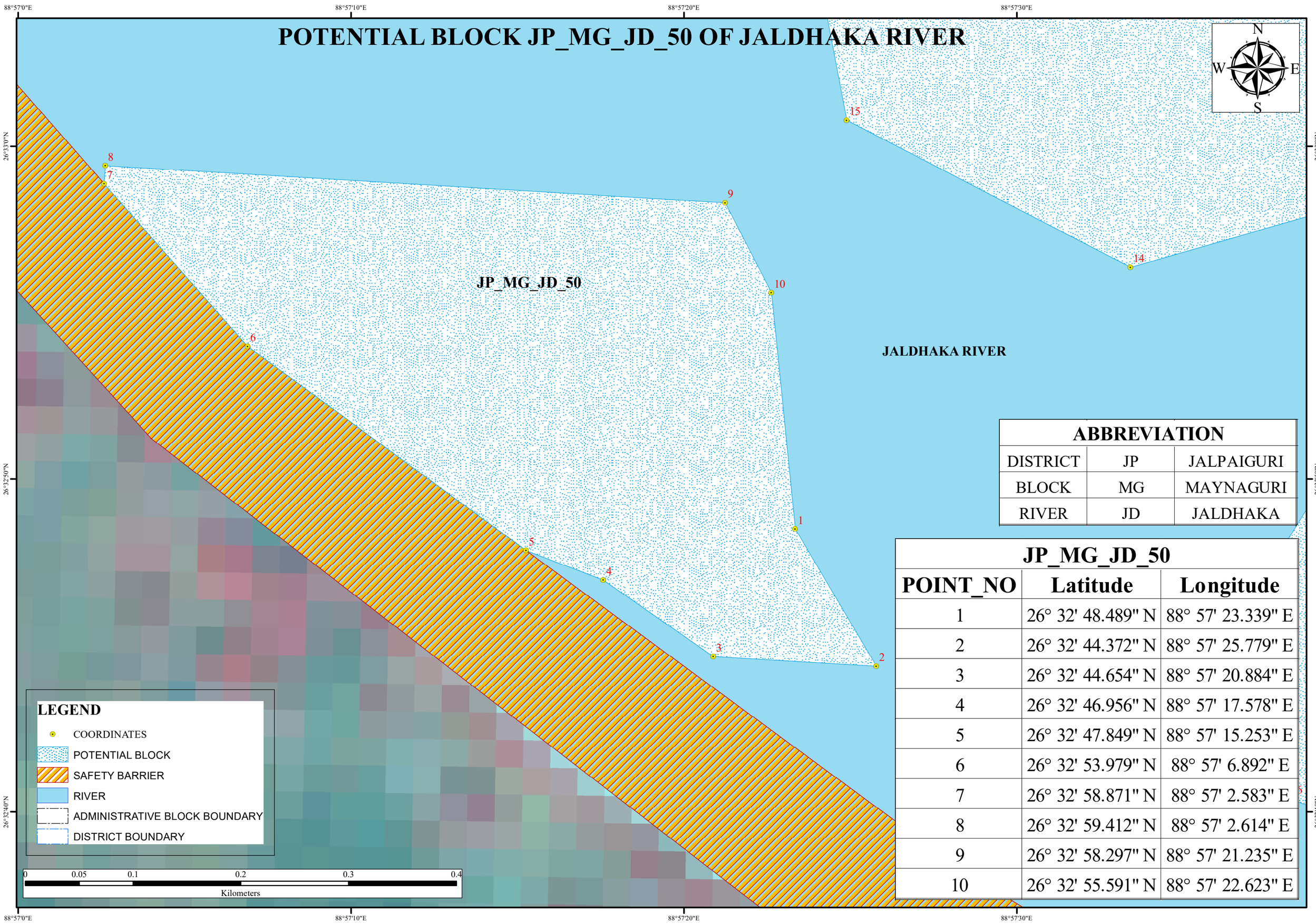


ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	JD	JALDHAKA

JP_MG_JD_49

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 33' 43.554" N	88° 56' 37.339" E	15	26° 33' 18.840" N	88° 56' 47.377" E
2	26° 33' 38.943" N	88° 56' 42.235" E	16	26° 33' 19.915" N	88° 56' 43.315" E
3	26° 33' 39.318" N	88° 56' 47.028" E	17	26° 33' 24.114" N	88° 56' 37.743" E
4	26° 33' 35.580" N	88° 56' 53.179" E	18	26° 33' 27.421" N	88° 56' 36.789" E
5	26° 33' 30.712" N	88° 57' 3.373" E	19	26° 33' 34.106" N	88° 56' 35.228" E
6	26° 33' 23.506" N	88° 57' 4.567" E	20	26° 33' 34.284" N	88° 56' 35.391" E
7	26° 33' 17.241" N	88° 57' 10.006" E	21	26° 33' 35.890" N	88° 56' 31.952" E
8	26° 33' 14.039" N	88° 57' 12.205" E	22	26° 33' 46.090" N	88° 56' 24.715" E
9	26° 33' 11.104" N	88° 57' 7.512" E	23	26° 33' 54.218" N	88° 56' 16.944" E
10	26° 33' 12.588" N	88° 57' 4.478" E	24	26° 34' 2.214" N	88° 56' 17.040" E
11	26° 33' 13.771" N	88° 56' 59.718" E	25	26° 34' 2.525" N	88° 56' 17.343" E
12	26° 33' 12.779" N	88° 56' 55.939" E	26	26° 33' 55.789" N	88° 56' 22.727" E
13	26° 33' 13.906" N	88° 56' 52.134" E	27	26° 33' 49.694" N	88° 56' 28.360" E
14	26° 33' 17.426" N	88° 56' 50.221" E	28	26° 33' 47.041" N	88° 56' 33.813" E

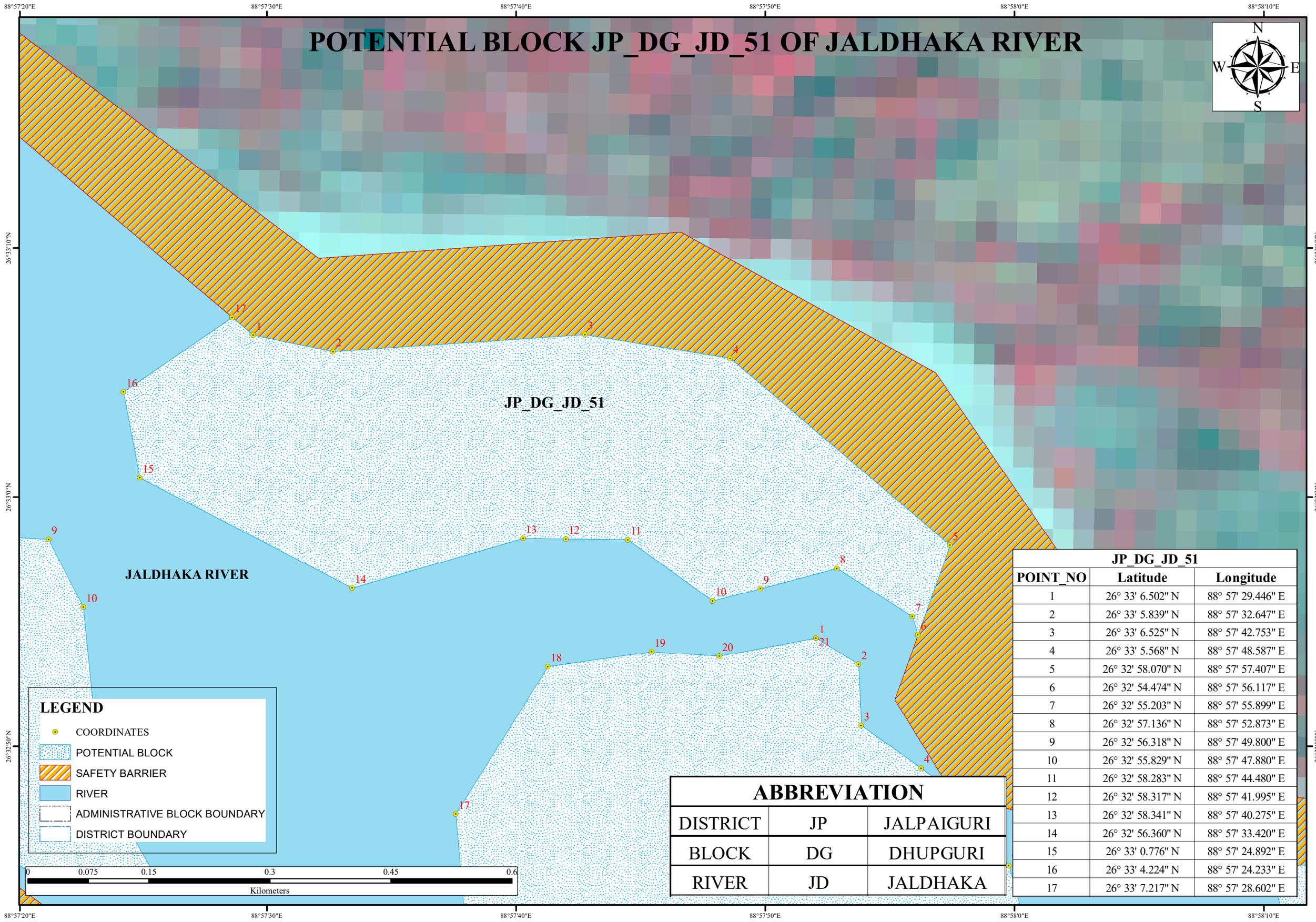
POTENTIAL BLOCK JP_MG_JD_50 OF JALDHAKA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	JD	JALDHAKA

JP_MG_JD_50		
POINT_NO	**Latitude**	**Longitude**
1	26° 32' 48.489" N	88° 57' 23.339" E
2	26° 32' 44.372" N	88° 57' 25.779" E
3	26° 32' 44.654" N	88° 57' 20.884" E
4	26° 32' 46.956" N	88° 57' 17.578" E
5	26° 32' 47.849" N	88° 57' 15.253" E
6	26° 32' 53.979" N	88° 57' 6.892" E
7	26° 32' 58.871" N	88° 57' 2.583" E
8	26° 32' 59.412" N	88° 57' 2.614" E
9	26° 32' 58.297" N	88° 57' 21.235" E
10	26° 32' 55.591" N	88° 57' 22.623" E

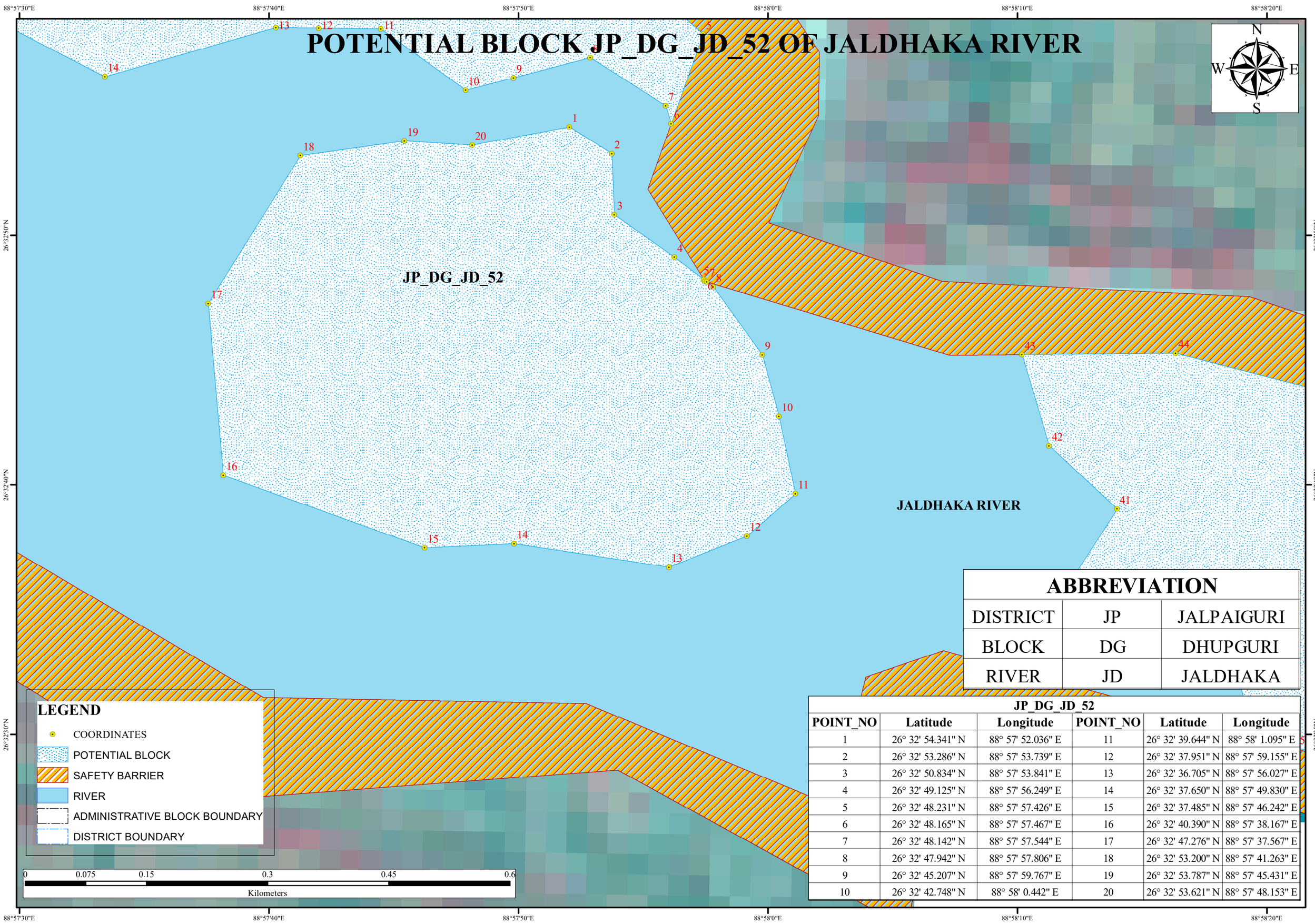
POTENTIAL BLOCK JP_DG_JD_51 OF JALDHAKA RIVER



JP_DG_JD_51		
POINT_NO	Latitude	Longitude
1	26° 33' 6.502" N	88° 57' 29.446" E
2	26° 33' 5.839" N	88° 57' 32.647" E
3	26° 33' 6.525" N	88° 57' 42.753" E
4	26° 33' 5.568" N	88° 57' 48.587" E
5	26° 32' 58.070" N	88° 57' 57.407" E
6	26° 32' 54.474" N	88° 57' 56.117" E
7	26° 32' 55.203" N	88° 57' 55.899" E
8	26° 32' 57.136" N	88° 57' 52.873" E
9	26° 32' 56.318" N	88° 57' 49.800" E
10	26° 32' 55.829" N	88° 57' 47.880" E
11	26° 32' 58.283" N	88° 57' 44.480" E
12	26° 32' 58.317" N	88° 57' 41.995" E
13	26° 32' 58.341" N	88° 57' 40.275" E
14	26° 32' 56.360" N	88° 57' 33.420" E
15	26° 33' 0.776" N	88° 57' 24.892" E
16	26° 33' 4.224" N	88° 57' 24.233" E
17	26° 33' 7.217" N	88° 57' 28.602" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	DG	DHUPGURI
RIVER	JD	JALDHAKA

POTENTIAL BLOCK JP_DG_JD_52 OF JALDHAKA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.075 0.15 0.3 0.45 0.6
Kilometers

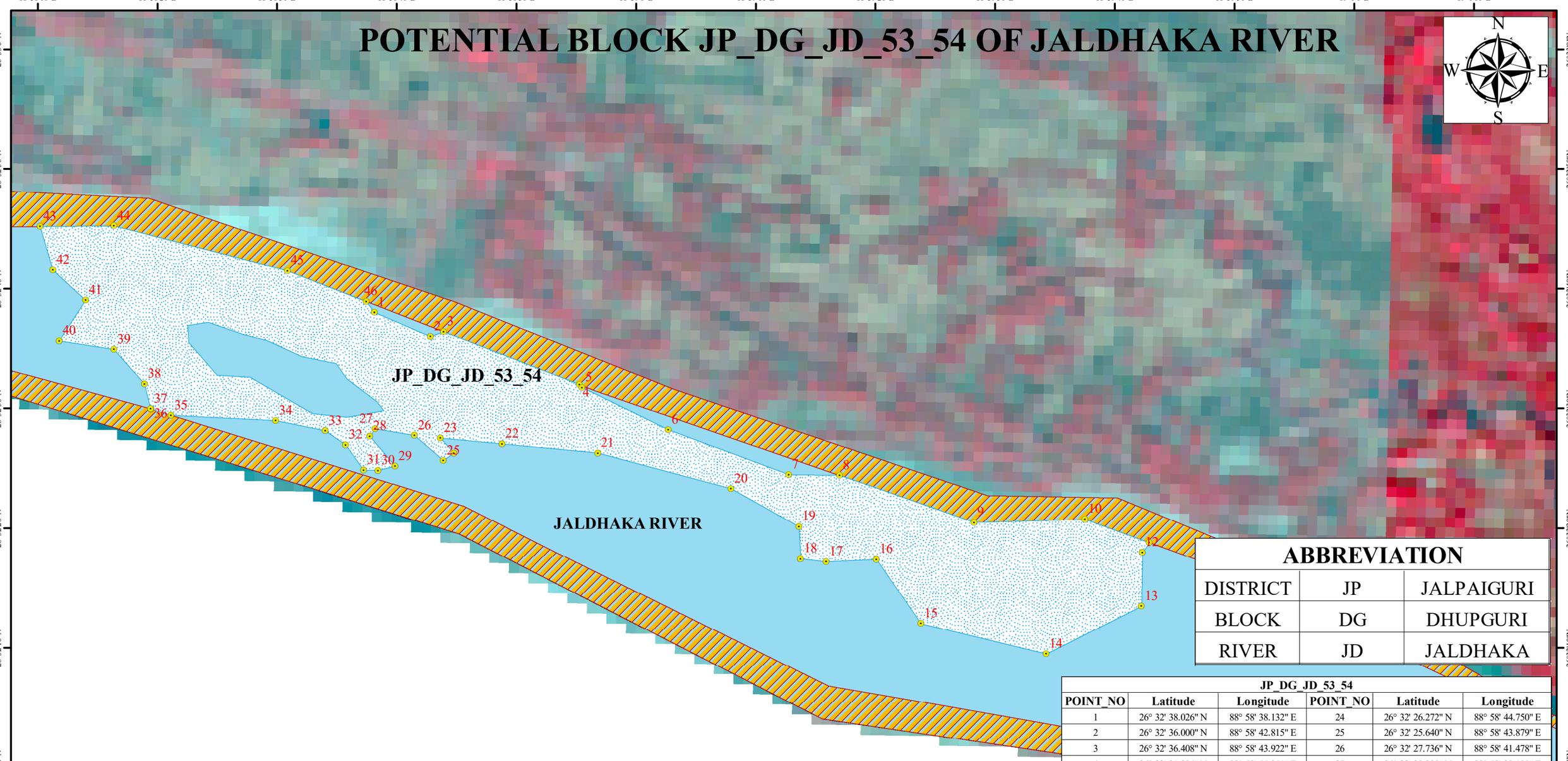
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	DG	DHUPGURI
RIVER	JD	JALDHAKA

JP_DG_JD_52

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 32' 54.341" N	88° 57' 52.036" E	11	26° 32' 39.644" N	88° 58' 1.095" E
2	26° 32' 53.286" N	88° 57' 53.739" E	12	26° 32' 37.951" N	88° 57' 59.155" E
3	26° 32' 50.834" N	88° 57' 53.841" E	13	26° 32' 36.705" N	88° 57' 56.027" E
4	26° 32' 49.125" N	88° 57' 56.249" E	14	26° 32' 37.650" N	88° 57' 49.830" E
5	26° 32' 48.231" N	88° 57' 57.426" E	15	26° 32' 37.485" N	88° 57' 46.242" E
6	26° 32' 48.165" N	88° 57' 57.467" E	16	26° 32' 40.390" N	88° 57' 38.167" E
7	26° 32' 48.142" N	88° 57' 57.544" E	17	26° 32' 47.276" N	88° 57' 37.567" E
8	26° 32' 47.942" N	88° 57' 57.806" E	18	26° 32' 53.200" N	88° 57' 41.263" E
9	26° 32' 45.207" N	88° 57' 59.767" E	19	26° 32' 53.787" N	88° 57' 45.431" E
10	26° 32' 42.748" N	88° 58' 0.442" E	20	26° 32' 53.621" N	88° 57' 48.153" E

POTENTIAL BLOCK JP_DG_JD_53_54 OF JALDHAKA RIVER



ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	DG	DHUPGURI
RIVER	JD	JALDHAKA

JP_DG_JD_53_54

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 32' 38.026" N	88° 58' 38.132" E	24	26° 32' 26.272" N	88° 58' 44.750" E
2	26° 32' 36.000" N	88° 58' 42.815" E	25	26° 32' 25.640" N	88° 58' 43.879" E
3	26° 32' 36.408" N	88° 58' 43.922" E	26	26° 32' 27.736" N	88° 58' 41.478" E
4	26° 32' 31.984" N	88° 58' 55.251" E	27	26° 32' 28.298" N	88° 58' 38.190" E
5	26° 32' 31.742" N	88° 58' 55.475" E	28	26° 32' 27.659" N	88° 58' 37.749" E
6	26° 32' 28.202" N	88° 59' 2.678" E	29	26° 32' 25.180" N	88° 58' 39.857" E
7	26° 32' 24.451" N	88° 59' 12.745" E	30	26° 32' 24.813" N	88° 58' 38.417" E
8	26° 32' 24.392" N	88° 59' 16.989" E	31	26° 32' 24.829" N	88° 58' 37.222" E
9	26° 32' 20.494" N	88° 59' 28.238" E	32	26° 32' 26.957" N	88° 58' 35.719" E
10	26° 32' 20.725" N	88° 59' 37.514" E	33	26° 32' 28.141" N	88° 58' 34.019" E
11	26° 32' 18.790" N	88° 59' 42.878" E	34	26° 32' 28.972" N	88° 58' 29.875" E
12	26° 32' 17.971" N	88° 59' 42.289" E	35	26° 32' 29.414" N	88° 58' 21.139" E
13	26° 32' 13.459" N	88° 59' 42.211" E	36	26° 32' 29.942" N	88° 58' 19.442" E
14	26° 32' 9.486" N	88° 59' 34.257" E	37	26° 32' 29.976" N	88° 58' 19.436" E
15	26° 32' 11.997" N	88° 59' 23.787" E	38	26° 32' 32.047" N	88° 58' 18.898" E
16	26° 32' 17.384" N	88° 59' 20.060" E	39	26° 32' 34.919" N	88° 58' 16.367" E
17	26° 32' 17.186" N	88° 59' 15.870" E	40	26° 32' 35.627" N	88° 58' 11.791" E
18	26° 32' 17.429" N	88° 59' 13.742" E	41	26° 32' 39.036" N	88° 58' 13.989" E
19	26° 32' 20.111" N	88° 59' 13.596" E	42	26° 32' 41.567" N	88° 58' 11.261" E
20	26° 32' 23.285" N	88° 59' 7.915" E	43	26° 32' 45.218" N	88° 58' 10.177" E
21	26° 32' 26.277" N	88° 58' 56.784" E	44	26° 32' 45.273" N	88° 58' 16.344" E
22	26° 32' 27.038" N	88° 58' 48.800" E	45	26° 32' 41.513" N	88° 58' 30.848" E
23	26° 32' 27.532" N	88° 58' 43.626" E	46	26° 32' 38.943" N	88° 58' 37.431" E

LEGEND

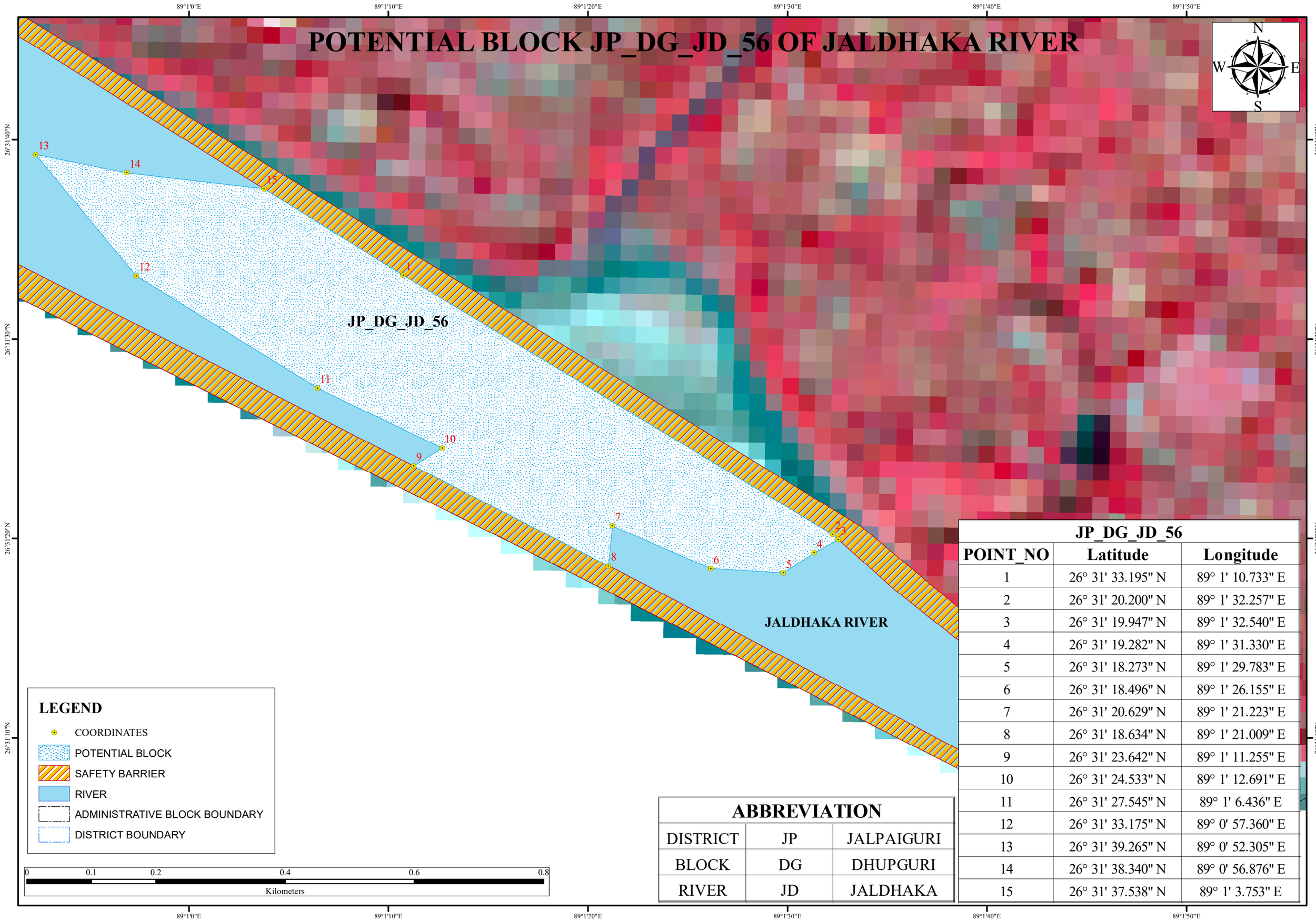
- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.2 0.4 0.8 1.2 1.6
Kilometers

88°58'10"E 88°58'20"E 88°58'30"E 88°58'40"E 88°58'50"E 88°59'0"E 88°59'10"E 88°59'20"E 88°59'30"E 88°59'40"E 88°59'50"E 89°0'0"E 89°0'10"E

26°33'0"N 26°32'50"N 26°32'40"N 26°32'30"N 26°32'20"N 26°32'10"N 26°32'0"N 26°31'50"N 26°31'40"N

POTENTIAL BLOCK JP_DG_JD_56 OF JALDHAKA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

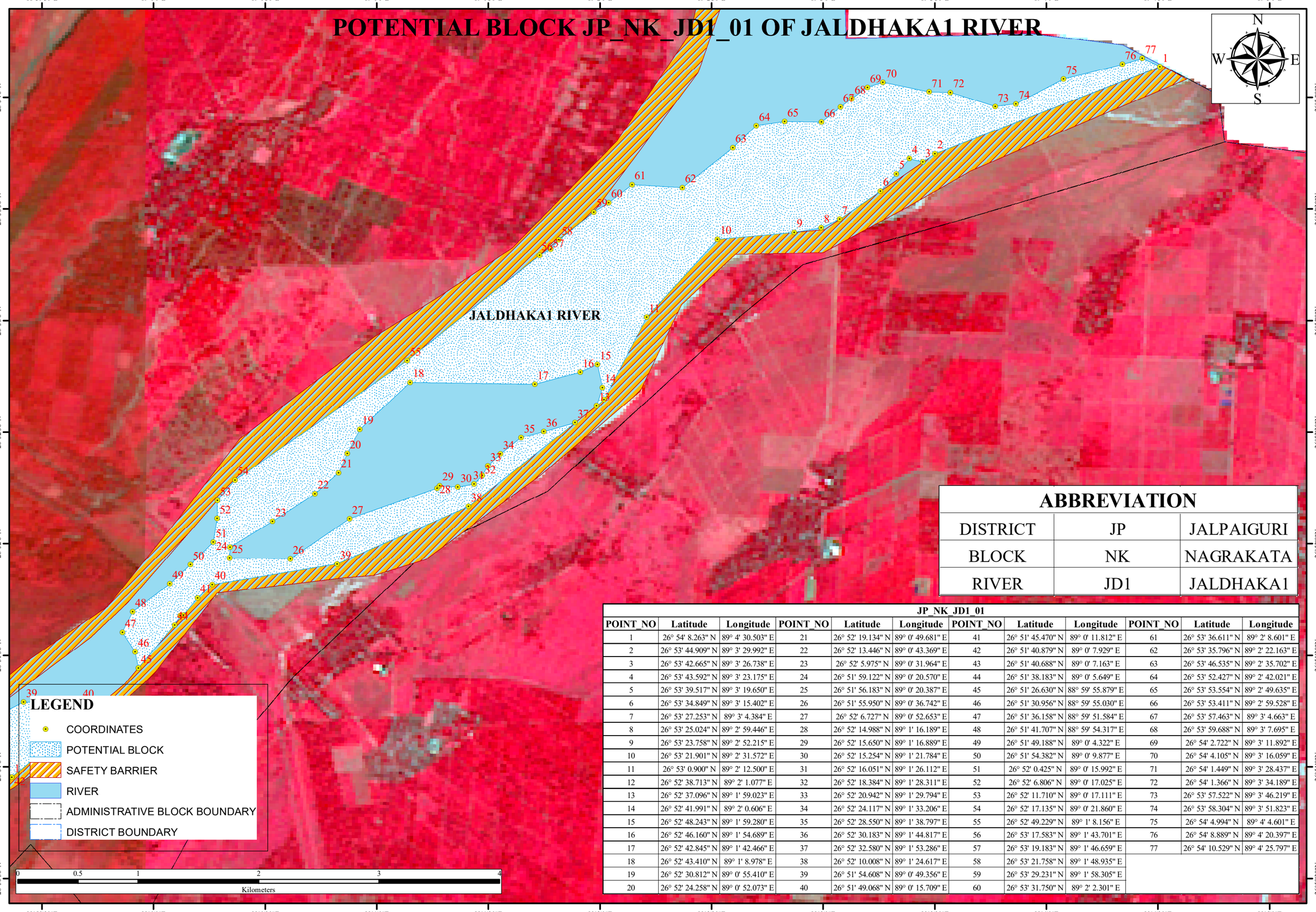
0 0.1 0.2 0.4 0.6 0.8

Kilometers

JP_DG_JD_56		
POINT_NO	Latitude	Longitude
1	26° 31' 33.195" N	89° 1' 10.733" E
2	26° 31' 20.200" N	89° 1' 32.257" E
3	26° 31' 19.947" N	89° 1' 32.540" E
4	26° 31' 19.282" N	89° 1' 31.330" E
5	26° 31' 18.273" N	89° 1' 29.783" E
6	26° 31' 18.496" N	89° 1' 26.155" E
7	26° 31' 20.629" N	89° 1' 21.223" E
8	26° 31' 18.634" N	89° 1' 21.009" E
9	26° 31' 23.642" N	89° 1' 11.255" E
10	26° 31' 24.533" N	89° 1' 12.691" E
11	26° 31' 27.545" N	89° 1' 6.436" E
12	26° 31' 33.175" N	89° 0' 57.360" E
13	26° 31' 39.265" N	89° 0' 52.305" E
14	26° 31' 38.340" N	89° 0' 56.876" E
15	26° 31' 37.538" N	89° 1' 3.753" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	DG	DHUPGURI
RIVER	JD	JALDHAKA

POTENTIAL BLOCK JP_NK_JD1_01 OF JALDHAKA1 RIVER

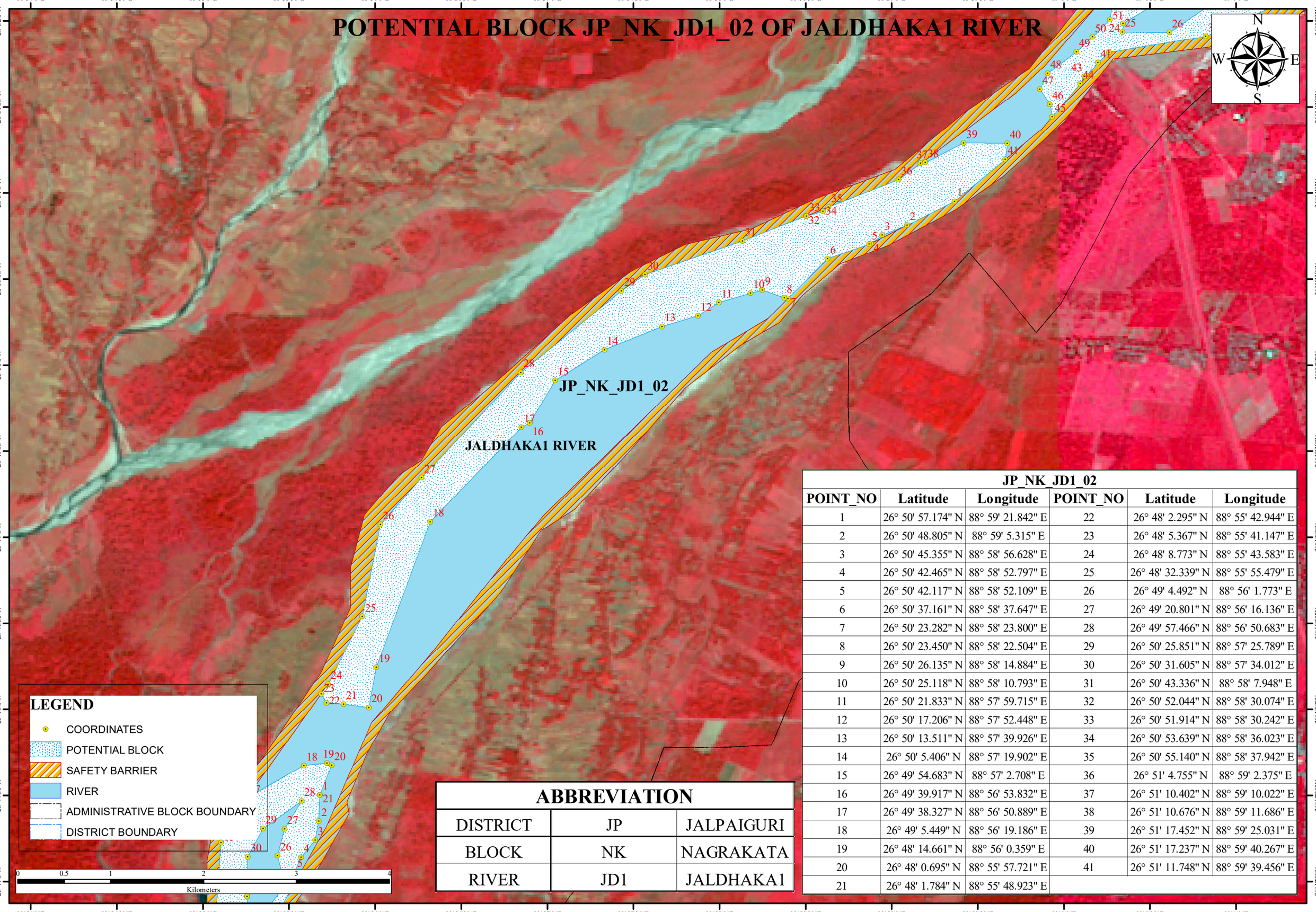


ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD1	JALDHAKA1

JP_NK_JD1_01

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 54' 8.263" N	89° 4' 30.503" E	21	26° 52' 19.134" N	89° 0' 49.681" E	41	26° 51' 45.470" N	89° 0' 11.812" E	61	26° 53' 36.611" N	89° 2' 8.601" E
2	26° 53' 44.909" N	89° 3' 29.992" E	22	26° 52' 13.446" N	89° 0' 43.369" E	42	26° 51' 40.879" N	89° 0' 7.929" E	62	26° 53' 35.796" N	89° 2' 22.163" E
3	26° 53' 42.665" N	89° 3' 26.738" E	23	26° 52' 5.975" N	89° 0' 31.964" E	43	26° 51' 40.688" N	89° 0' 7.163" E	63	26° 53' 46.535" N	89° 2' 35.702" E
4	26° 53' 43.592" N	89° 3' 23.175" E	24	26° 51' 59.122" N	89° 0' 20.570" E	44	26° 51' 38.183" N	89° 0' 5.649" E	64	26° 53' 52.427" N	89° 2' 42.021" E
5	26° 53' 39.517" N	89° 3' 19.650" E	25	26° 51' 56.183" N	89° 0' 20.387" E	45	26° 51' 26.630" N	88° 59' 55.879" E	65	26° 53' 53.554" N	89° 2' 49.635" E
6	26° 53' 34.849" N	89° 3' 15.402" E	26	26° 51' 55.950" N	89° 0' 36.742" E	46	26° 51' 30.956" N	88° 59' 55.030" E	66	26° 53' 53.411" N	89° 2' 59.528" E
7	26° 53' 27.253" N	89° 3' 4.384" E	27	26° 52' 6.727" N	89° 0' 52.653" E	47	26° 51' 36.158" N	88° 59' 51.584" E	67	26° 53' 57.463" N	89° 3' 4.663" E
8	26° 53' 25.024" N	89° 2' 59.446" E	28	26° 52' 14.988" N	89° 1' 16.189" E	48	26° 51' 41.707" N	88° 59' 54.317" E	68	26° 53' 59.688" N	89° 3' 7.695" E
9	26° 53' 23.758" N	89° 2' 52.215" E	29	26° 52' 15.650" N	89° 1' 16.889" E	49	26° 51' 49.188" N	89° 0' 4.322" E	69	26° 54' 2.722" N	89° 3' 11.892" E
10	26° 53' 21.901" N	89° 2' 31.572" E	30	26° 52' 15.254" N	89° 1' 21.784" E	50	26° 51' 54.382" N	89° 0' 9.877" E	70	26° 54' 4.105" N	89° 3' 16.059" E
11	26° 53' 0.900" N	89° 2' 12.500" E	31	26° 52' 16.051" N	89° 1' 26.112" E	51	26° 52' 0.425" N	89° 0' 15.992" E	71	26° 54' 1.449" N	89° 3' 28.437" E
12	26° 52' 38.713" N	89° 2' 1.077" E	32	26° 52' 18.384" N	89° 1' 28.311" E	52	26° 52' 6.806" N	89° 0' 17.025" E	72	26° 54' 1.366" N	89° 3' 34.189" E
13	26° 52' 37.096" N	89° 1' 59.023" E	33	26° 52' 20.942" N	89° 1' 29.794" E	53	26° 52' 11.710" N	89° 0' 17.111" E	73	26° 53' 57.522" N	89° 3' 46.219" E
14	26° 52' 41.991" N	89° 2' 0.606" E	34	26° 52' 24.117" N	89° 1' 33.206" E	54	26° 52' 17.135" N	89° 0' 21.860" E	74	26° 53' 58.304" N	89° 3' 51.823" E
15	26° 52' 48.243" N	89° 1' 59.280" E	35	26° 52' 28.550" N	89° 1' 38.797" E	55	26° 52' 49.229" N	89° 1' 8.156" E	75	26° 54' 4.994" N	89° 4' 4.601" E
16	26° 52' 46.160" N	89° 1' 54.689" E	36	26° 52' 30.183" N	89° 1' 44.817" E	56	26° 53' 17.583" N	89° 1' 43.701" E	76	26° 54' 8.889" N	89° 4' 20.397" E
17	26° 52' 42.845" N	89° 1' 42.466" E	37	26° 52' 32.580" N	89° 1' 53.286" E	57	26° 53' 19.183" N	89° 1' 46.659" E	77	26° 54' 10.529" N	89° 4' 25.797" E
18	26° 52' 43.410" N	89° 1' 8.978" E	38	26° 52' 10.008" N	89° 1' 24.617" E	58	26° 53' 21.758" N	89° 1' 48.935" E			
19	26° 52' 30.812" N	89° 0' 55.410" E	39	26° 51' 54.608" N	89° 0' 49.356" E	59	26° 53' 29.231" N	89° 1' 58.305" E			
20	26° 52' 24.258" N	89° 0' 52.073" E	40	26° 51' 49.068" N	89° 0' 15.709" E	60	26° 53' 31.750" N	89° 2' 2.301" E			

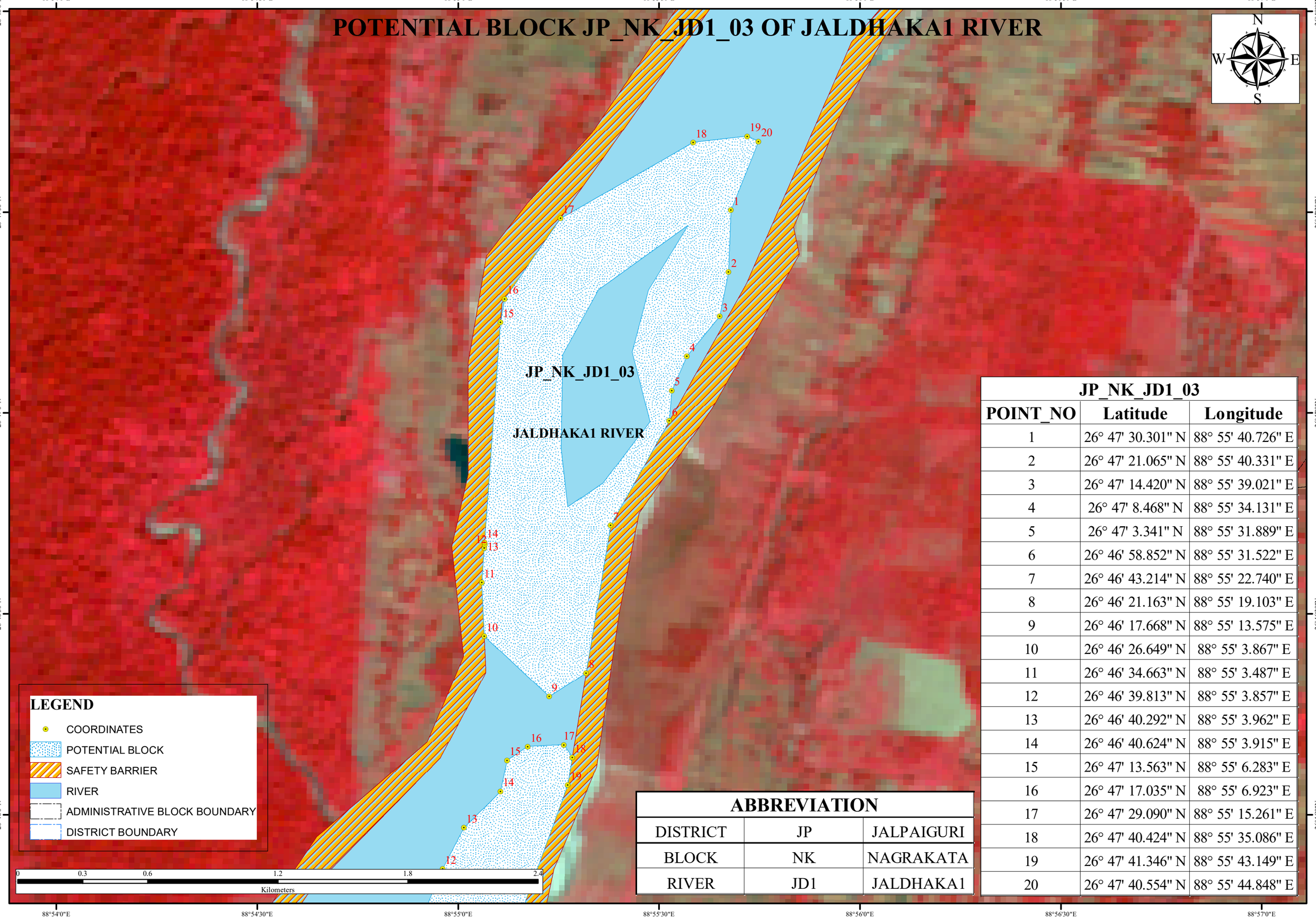
POTENTIAL BLOCK JP_NK_JD1_02 OF JALDHAKA1 RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD1	JALDHAKA1

JP_NK_JD1_02					
POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 50' 57.174" N	88° 59' 21.842" E	22	26° 48' 2.295" N	88° 55' 42.944" E
2	26° 50' 48.805" N	88° 59' 5.315" E	23	26° 48' 5.367" N	88° 55' 41.147" E
3	26° 50' 45.355" N	88° 58' 56.628" E	24	26° 48' 8.773" N	88° 55' 43.583" E
4	26° 50' 42.465" N	88° 58' 52.797" E	25	26° 48' 32.339" N	88° 55' 55.479" E
5	26° 50' 42.117" N	88° 58' 52.109" E	26	26° 49' 4.492" N	88° 56' 1.773" E
6	26° 50' 37.161" N	88° 58' 37.647" E	27	26° 49' 20.801" N	88° 56' 16.136" E
7	26° 50' 23.282" N	88° 58' 23.800" E	28	26° 49' 57.466" N	88° 56' 50.683" E
8	26° 50' 23.450" N	88° 58' 22.504" E	29	26° 50' 25.851" N	88° 57' 25.789" E
9	26° 50' 26.135" N	88° 58' 14.884" E	30	26° 50' 31.605" N	88° 57' 34.012" E
10	26° 50' 25.118" N	88° 58' 10.793" E	31	26° 50' 43.336" N	88° 58' 7.948" E
11	26° 50' 21.833" N	88° 57' 59.715" E	32	26° 50' 52.044" N	88° 58' 30.074" E
12	26° 50' 17.206" N	88° 57' 52.448" E	33	26° 50' 51.914" N	88° 58' 30.242" E
13	26° 50' 13.511" N	88° 57' 39.926" E	34	26° 50' 53.639" N	88° 58' 36.023" E
14	26° 50' 5.406" N	88° 57' 19.902" E	35	26° 50' 55.140" N	88° 58' 37.942" E
15	26° 49' 54.683" N	88° 57' 2.708" E	36	26° 51' 4.755" N	88° 59' 2.375" E
16	26° 49' 39.917" N	88° 56' 53.832" E	37	26° 51' 10.402" N	88° 59' 10.022" E
17	26° 49' 38.327" N	88° 56' 50.889" E	38	26° 51' 10.676" N	88° 59' 11.686" E
18	26° 49' 5.449" N	88° 56' 19.186" E	39	26° 51' 17.452" N	88° 59' 25.031" E
19	26° 48' 14.661" N	88° 56' 0.359" E	40	26° 51' 17.237" N	88° 59' 40.267" E
20	26° 48' 0.695" N	88° 55' 57.721" E	41	26° 51' 11.748" N	88° 59' 39.456" E
21	26° 48' 1.784" N	88° 55' 48.923" E			

POTENTIAL BLOCK JP_NK_JD1_03 OF JALDHAKA1 RIVER



JP_NK_JD1_03		
POINT_NO	Latitude	Longitude
1	26° 47' 30.301" N	88° 55' 40.726" E
2	26° 47' 21.065" N	88° 55' 40.331" E
3	26° 47' 14.420" N	88° 55' 39.021" E
4	26° 47' 8.468" N	88° 55' 34.131" E
5	26° 47' 3.341" N	88° 55' 31.889" E
6	26° 46' 58.852" N	88° 55' 31.522" E
7	26° 46' 43.214" N	88° 55' 22.740" E
8	26° 46' 21.163" N	88° 55' 19.103" E
9	26° 46' 17.668" N	88° 55' 13.575" E
10	26° 46' 26.649" N	88° 55' 3.867" E
11	26° 46' 34.663" N	88° 55' 3.487" E
12	26° 46' 39.813" N	88° 55' 3.857" E
13	26° 46' 40.292" N	88° 55' 3.962" E
14	26° 46' 40.624" N	88° 55' 3.915" E
15	26° 47' 13.563" N	88° 55' 6.283" E
16	26° 47' 17.035" N	88° 55' 6.923" E
17	26° 47' 29.090" N	88° 55' 15.261" E
18	26° 47' 40.424" N	88° 55' 35.086" E
19	26° 47' 41.346" N	88° 55' 43.149" E
20	26° 47' 40.554" N	88° 55' 44.848" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD1	JALDHAKA1

POTENTIAL BLOCK JP_NK_JD1_04 OF JALDHAKA1 RIVER

88°54'30"E 88°55'0"E 88°55'30"E

26°46'0"N 26°45'30"N

N W E S

JALDHAKA1 RIVER

JP_NK_JD1_04		
POINT_NO	Latitude	Longitude
1	26° 45' 19.013" N	88° 54' 44.466" E
2	26° 45' 17.608" N	88° 54' 39.239" E
3	26° 45' 17.628" N	88° 54' 39.119" E
4	26° 45' 20.661" N	88° 54' 40.120" E
5	26° 45' 22.171" N	88° 54' 39.666" E
6	26° 45' 25.190" N	88° 54' 38.998" E
7	26° 45' 28.387" N	88° 54' 40.967" E
8	26° 45' 30.070" N	88° 54' 43.629" E
9	26° 45' 32.395" N	88° 54' 46.541" E
10	26° 45' 39.678" N	88° 54' 49.116" E
11	26° 45' 41.645" N	88° 54' 53.277" E
12	26° 45' 51.903" N	88° 54' 57.663" E
13	26° 45' 58.050" N	88° 55' 0.831" E
14	26° 46' 3.478" N	88° 55' 6.285" E
15	26° 46' 8.124" N	88° 55' 7.285" E
16	26° 46' 10.146" N	88° 55' 10.384" E
17	26° 46' 10.417" N	88° 55' 15.752" E
18	26° 46' 8.560" N	88° 55' 17.025" E
19	26° 46' 4.399" N	88° 55' 16.339" E
20	26° 45' 36.168" N	88° 55' 6.048" E

LEGEND

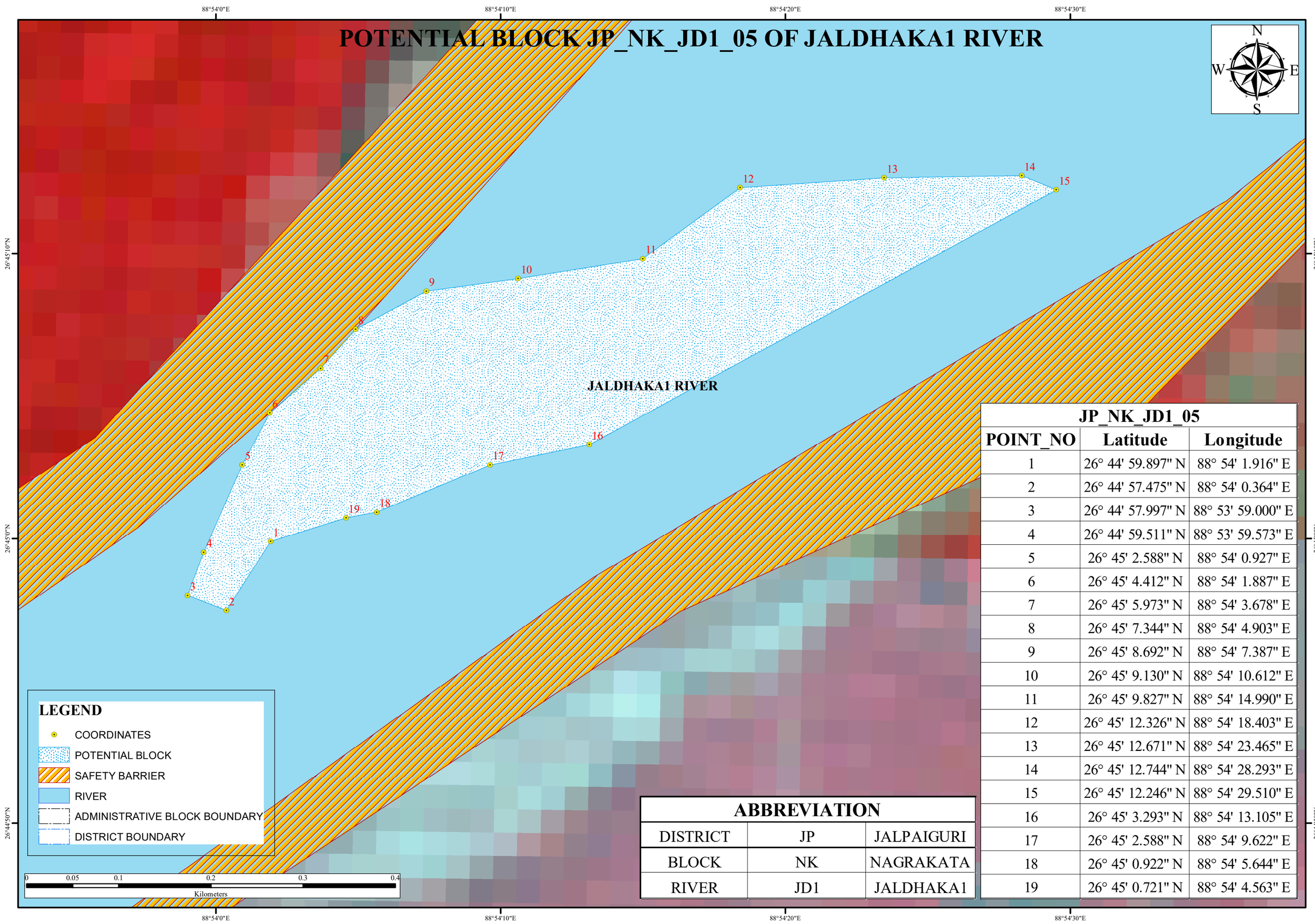
- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.125 0.25 0.5 0.75 1

Kilometers

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD1	JALDHAKA1

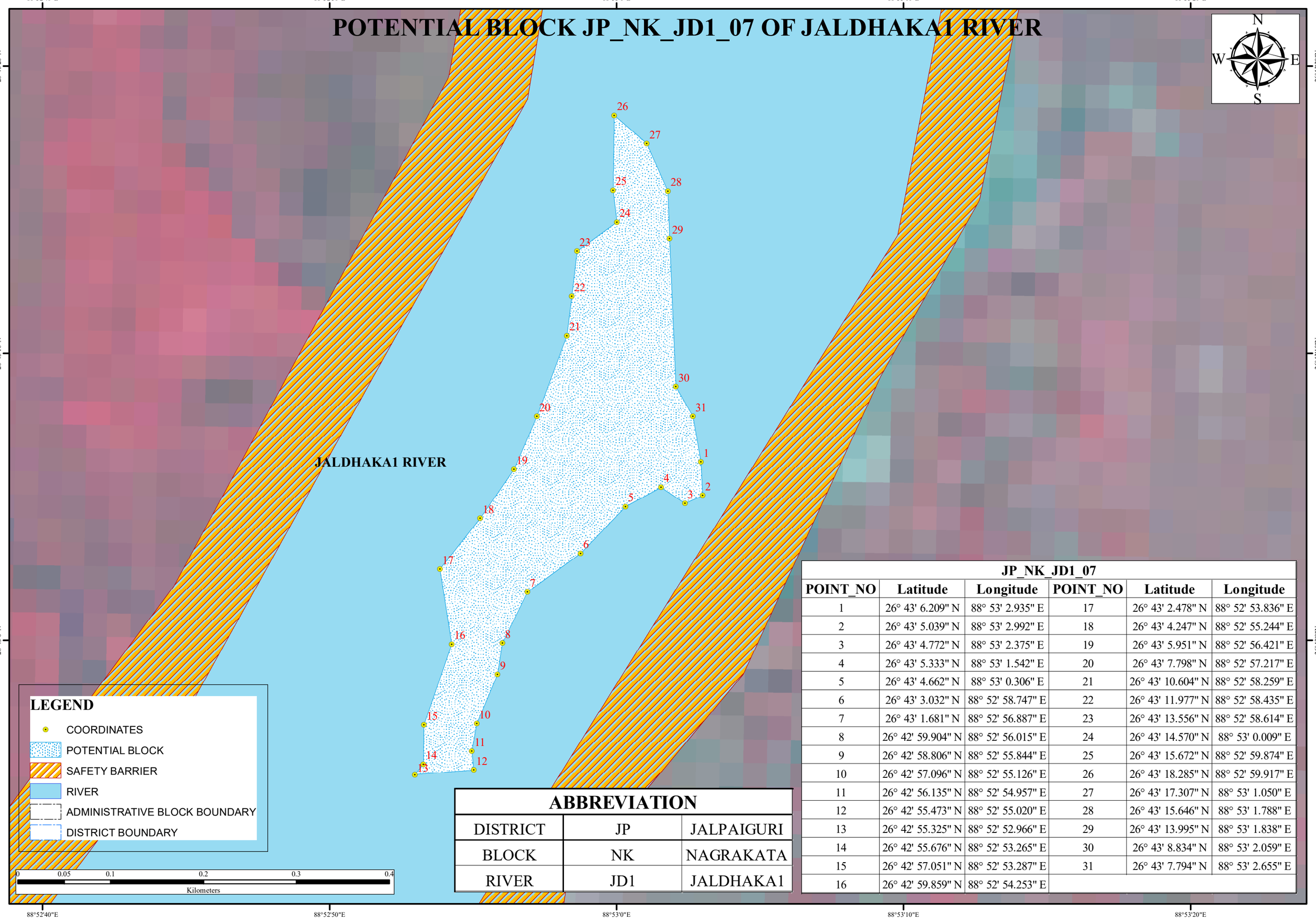
POTENTIAL BLOCK JP_NK_JD1_05 OF JALDHAKA1 RIVER



JP_NK_JD1_05		
POINT_NO	**Latitude**	**Longitude**
1	26° 44' 59.897" N	88° 54' 1.916" E
2	26° 44' 57.475" N	88° 54' 0.364" E
3	26° 44' 57.997" N	88° 53' 59.000" E
4	26° 44' 59.511" N	88° 53' 59.573" E
5	26° 45' 2.588" N	88° 54' 0.927" E
6	26° 45' 4.412" N	88° 54' 1.887" E
7	26° 45' 5.973" N	88° 54' 3.678" E
8	26° 45' 7.344" N	88° 54' 4.903" E
9	26° 45' 8.692" N	88° 54' 7.387" E
10	26° 45' 9.130" N	88° 54' 10.612" E
11	26° 45' 9.827" N	88° 54' 14.990" E
12	26° 45' 12.326" N	88° 54' 18.403" E
13	26° 45' 12.671" N	88° 54' 23.465" E
14	26° 45' 12.744" N	88° 54' 28.293" E
15	26° 45' 12.246" N	88° 54' 29.510" E
16	26° 45' 3.293" N	88° 54' 13.105" E
17	26° 45' 2.588" N	88° 54' 9.622" E
18	26° 45' 0.922" N	88° 54' 5.644" E
19	26° 45' 0.721" N	88° 54' 4.563" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD1	JALDHAKA1

POTENTIAL BLOCK JP_NK_JD1_07 OF JALDHAKA1 RIVER



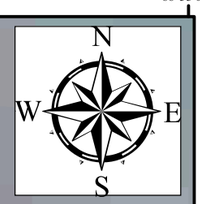
ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD1	JALDHAKA1

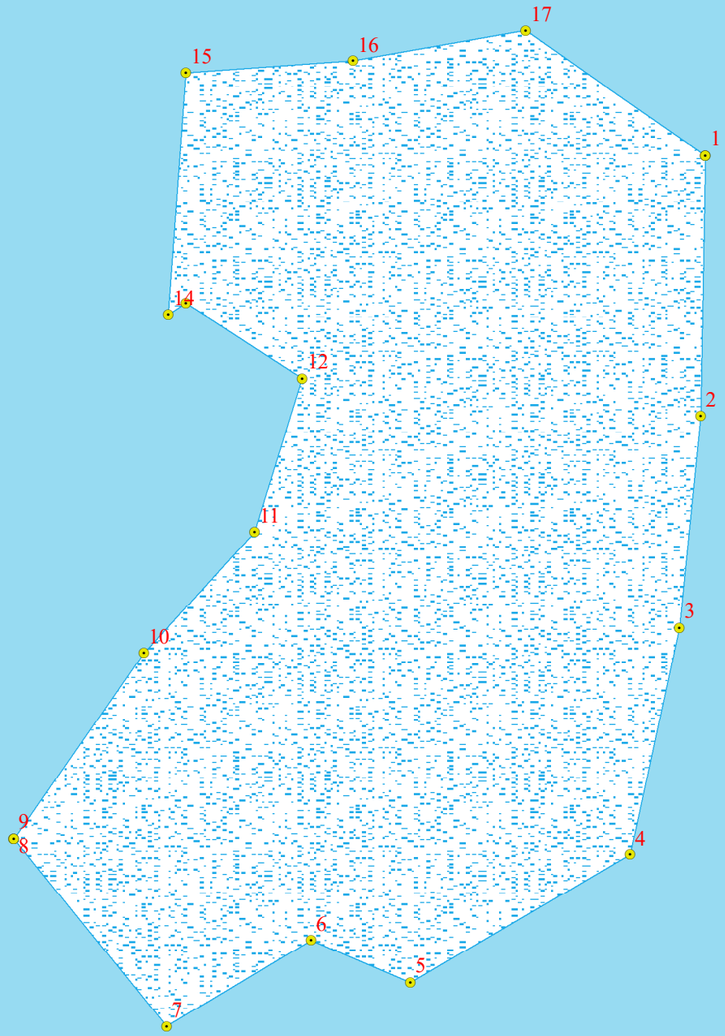
JP_NK_JD1_07					
POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 43' 6.209" N	88° 53' 2.935" E	17	26° 43' 2.478" N	88° 52' 53.836" E
2	26° 43' 5.039" N	88° 53' 2.992" E	18	26° 43' 4.247" N	88° 52' 55.244" E
3	26° 43' 4.772" N	88° 53' 2.375" E	19	26° 43' 5.951" N	88° 52' 56.421" E
4	26° 43' 5.333" N	88° 53' 1.542" E	20	26° 43' 7.798" N	88° 52' 57.217" E
5	26° 43' 4.662" N	88° 53' 0.306" E	21	26° 43' 10.604" N	88° 52' 58.259" E
6	26° 43' 3.032" N	88° 52' 58.747" E	22	26° 43' 11.977" N	88° 52' 58.435" E
7	26° 43' 1.681" N	88° 52' 56.887" E	23	26° 43' 13.556" N	88° 52' 58.614" E
8	26° 42' 59.904" N	88° 52' 56.015" E	24	26° 43' 14.570" N	88° 53' 0.009" E
9	26° 42' 58.806" N	88° 52' 55.844" E	25	26° 43' 15.672" N	88° 52' 59.874" E
10	26° 42' 57.096" N	88° 52' 55.126" E	26	26° 43' 18.285" N	88° 52' 59.917" E
11	26° 42' 56.135" N	88° 52' 54.957" E	27	26° 43' 17.307" N	88° 53' 1.050" E
12	26° 42' 55.473" N	88° 52' 55.020" E	28	26° 43' 15.646" N	88° 53' 1.788" E
13	26° 42' 55.325" N	88° 52' 52.966" E	29	26° 43' 13.995" N	88° 53' 1.838" E
14	26° 42' 55.676" N	88° 52' 53.265" E	30	26° 43' 8.834" N	88° 53' 2.059" E
15	26° 42' 57.051" N	88° 52' 53.287" E	31	26° 43' 7.794" N	88° 53' 2.655" E
16	26° 42' 59.859" N	88° 52' 54.253" E			

POTENTIAL BLOCK JP_NK_JD1_08 OF JALDHAKA1 RIVER

88°52'40"E 88°52'50"E 88°53'0"E

26°42'30"N





JALDHAKA1 RIVER

JP_NK_JD1_08		
POINT_NO	Latitude	Longitude
1	26° 42' 35.768" N	88° 52' 48.943" E
2	26° 42' 33.017" N	88° 52' 48.898" E
3	26° 42' 30.785" N	88° 52' 48.670" E
4	26° 42' 28.385" N	88° 52' 48.152" E
5	26° 42' 27.040" N	88° 52' 45.832" E
6	26° 42' 27.483" N	88° 52' 44.786" E
7	26° 42' 26.577" N	88° 52' 43.258" E
8	26° 42' 28.556" N	88° 52' 41.645" E
9	26° 42' 28.557" N	88° 52' 41.645" E
10	26° 42' 30.516" N	88° 52' 43.017" E
11	26° 42' 31.790" N	88° 52' 44.187" E
12	26° 42' 33.417" N	88° 52' 44.692" E
13	26° 42' 34.207" N	88° 52' 43.461" E
14	26° 42' 34.085" N	88° 52' 43.277" E
15	26° 42' 36.639" N	88° 52' 43.463" E
16	26° 42' 36.763" N	88° 52' 45.226" E
17	26° 42' 37.082" N	88° 52' 47.050" E

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

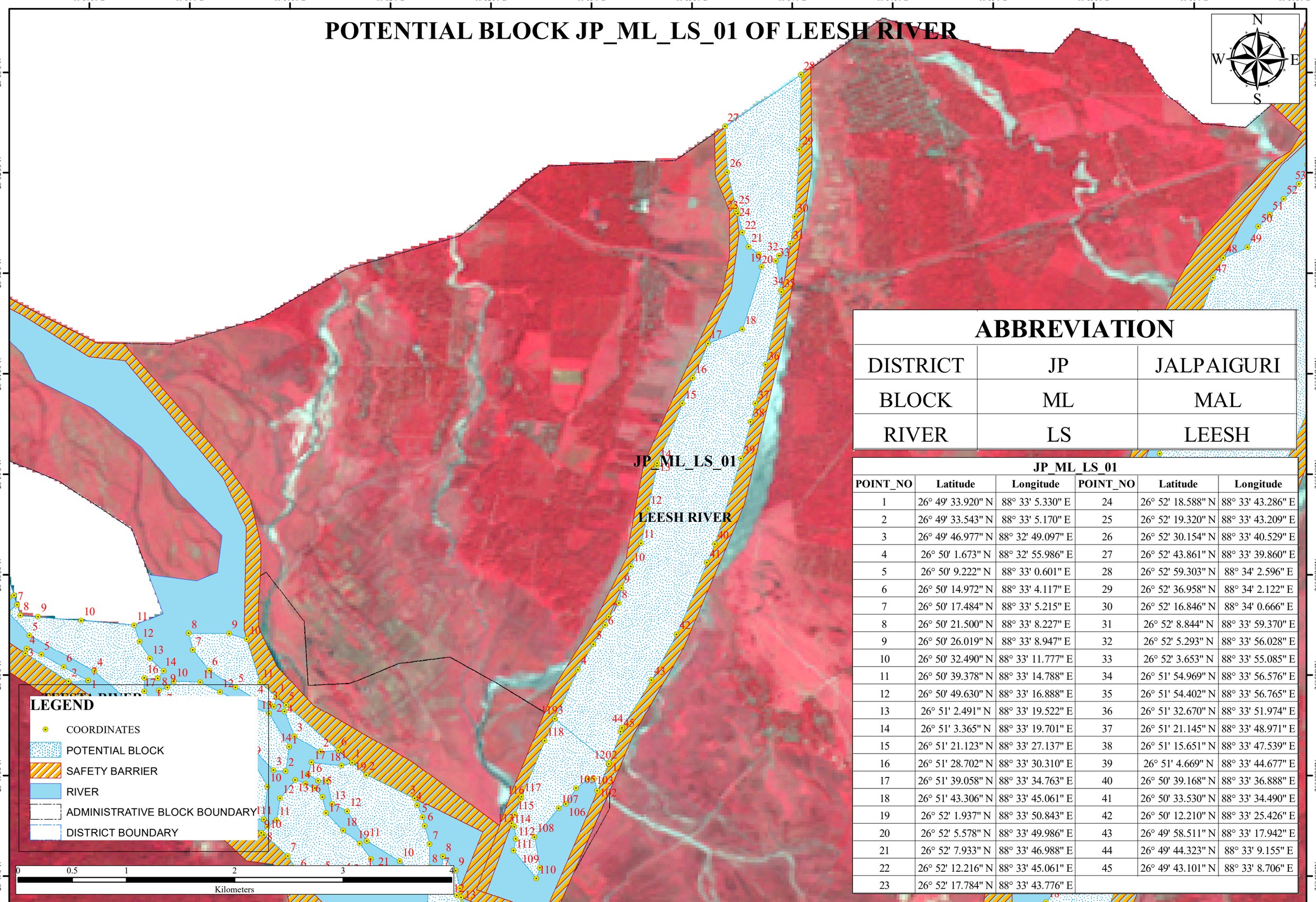
ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	NK	NAGRAKATA
RIVER	JD1	JALDHAKA1

0 0.04 0.08 0.16 0.24 0.32

Kilometers

88°52'40"E 88°52'50"E 88°53'0"E

POTENTIAL BLOCK JP_ML_LS_01 OF LEESH RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	LS	LEESH

JP_ML_LS_01

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 49' 33.920" N	88° 33' 5.330" E	24	26° 52' 18.588" N	88° 33' 43.286" E
2	26° 49' 33.543" N	88° 33' 5.170" E	25	26° 52' 19.320" N	88° 33' 43.209" E
3	26° 49' 46.977" N	88° 32' 49.097" E	26	26° 52' 30.154" N	88° 33' 40.529" E
4	26° 50' 1.673" N	88° 32' 55.986" E	27	26° 52' 43.861" N	88° 33' 39.860" E
5	26° 50' 9.222" N	88° 33' 0.601" E	28	26° 52' 59.303" N	88° 34' 2.596" E
6	26° 50' 14.972" N	88° 33' 4.117" E	29	26° 52' 36.958" N	88° 34' 2.122" E
7	26° 50' 17.484" N	88° 33' 5.215" E	30	26° 52' 16.846" N	88° 34' 0.666" E
8	26° 50' 21.500" N	88° 33' 8.227" E	31	26° 52' 8.844" N	88° 33' 59.370" E
9	26° 50' 26.019" N	88° 33' 8.947" E	32	26° 52' 5.293" N	88° 33' 56.028" E
10	26° 50' 32.490" N	88° 33' 11.777" E	33	26° 52' 3.653" N	88° 33' 55.085" E
11	26° 50' 39.378" N	88° 33' 14.788" E	34	26° 51' 54.969" N	88° 33' 56.576" E
12	26° 50' 49.630" N	88° 33' 16.888" E	35	26° 51' 54.402" N	88° 33' 56.765" E
13	26° 51' 2.491" N	88° 33' 19.522" E	36	26° 51' 32.670" N	88° 33' 51.974" E
14	26° 51' 3.365" N	88° 33' 19.701" E	37	26° 51' 21.145" N	88° 33' 48.971" E
15	26° 51' 21.123" N	88° 33' 27.137" E	38	26° 51' 15.651" N	88° 33' 47.539" E
16	26° 51' 28.702" N	88° 33' 30.310" E	39	26° 51' 4.669" N	88° 33' 44.677" E
17	26° 51' 39.058" N	88° 33' 34.763" E	40	26° 50' 39.168" N	88° 33' 36.888" E
18	26° 51' 43.306" N	88° 33' 45.061" E	41	26° 50' 33.530" N	88° 33' 34.490" E
19	26° 52' 1.937" N	88° 33' 50.843" E	42	26° 50' 12.210" N	88° 33' 25.426" E
20	26° 52' 5.578" N	88° 33' 49.986" E	43	26° 49' 58.511" N	88° 33' 17.942" E
21	26° 52' 7.933" N	88° 33' 46.988" E	44	26° 49' 44.323" N	88° 33' 9.155" E
22	26° 52' 12.216" N	88° 33' 45.061" E	45	26° 49' 43.101" N	88° 33' 8.706" E
23	26° 52' 17.784" N	88° 33' 43.776" E			

POTENTIAL BLOCK JP_ML_LS_02 OF LEESH RIVER

88°32'30"E 88°33'0"E 88°33'30"E

26°49'30"N 26°49'0"N

N W E S

JP_ML_LS_02

LEESH RIVER

TEESTA RIVER

JP_ML_LS_02		
POINT_NO	Latitude	Longitude
1	26° 49' 33.543" N	88° 33' 5.170" E
2	26° 49' 25.465" N	88° 33' 1.723" E
3	26° 49' 29.033" N	88° 33' 0.732" E
4	26° 49' 29.033" N	88° 32' 59.018" E
5	26° 49' 26.249" N	88° 32' 55.378" E
6	26° 49' 21.538" N	88° 32' 52.380" E
7	26° 49' 20.253" N	88° 32' 50.238" E
8	26° 49' 11.687" N	88° 32' 42.957" E
9	26° 49' 2.478" N	88° 32' 44.670" E
10	26° 48' 59.266" N	88° 32' 43.599" E
11	26° 49' 7.618" N	88° 32' 36.747" E
12	26° 49' 11.044" N	88° 32' 37.389" E
13	26° 49' 14.685" N	88° 32' 36.961" E
14	26° 49' 15.643" N	88° 32' 36.143" E
15	26° 49' 18.281" N	88° 32' 37.117" E
16	26° 49' 22.991" N	88° 32' 38.856" E
17	26° 49' 23.716" N	88° 32' 39.124" E
18	26° 49' 40.347" N	88° 32' 45.989" E
19	26° 49' 46.977" N	88° 32' 49.097" E

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

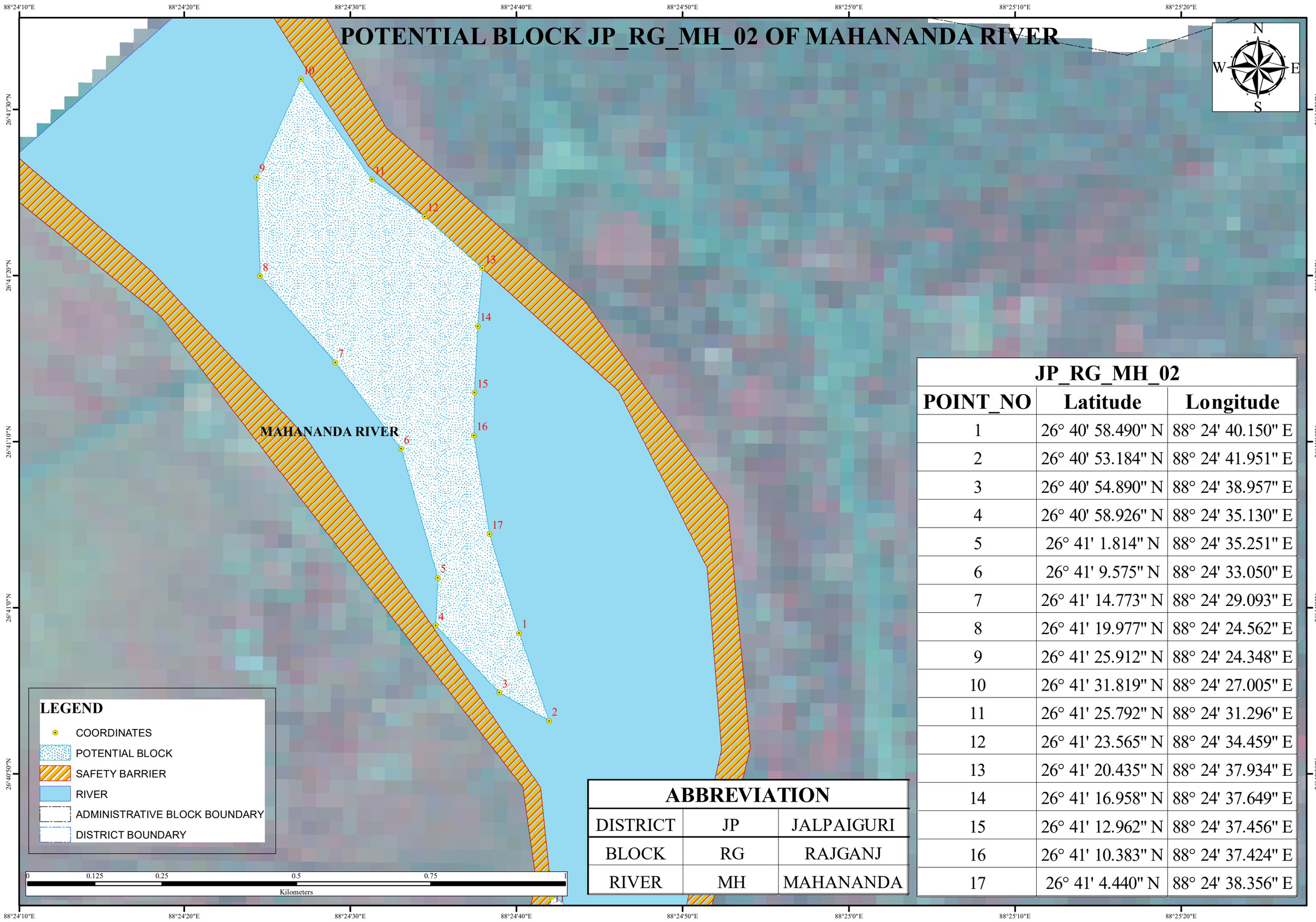
0 0.125 0.25 0.5 0.75 1

Kilometers

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	LS	LEESH

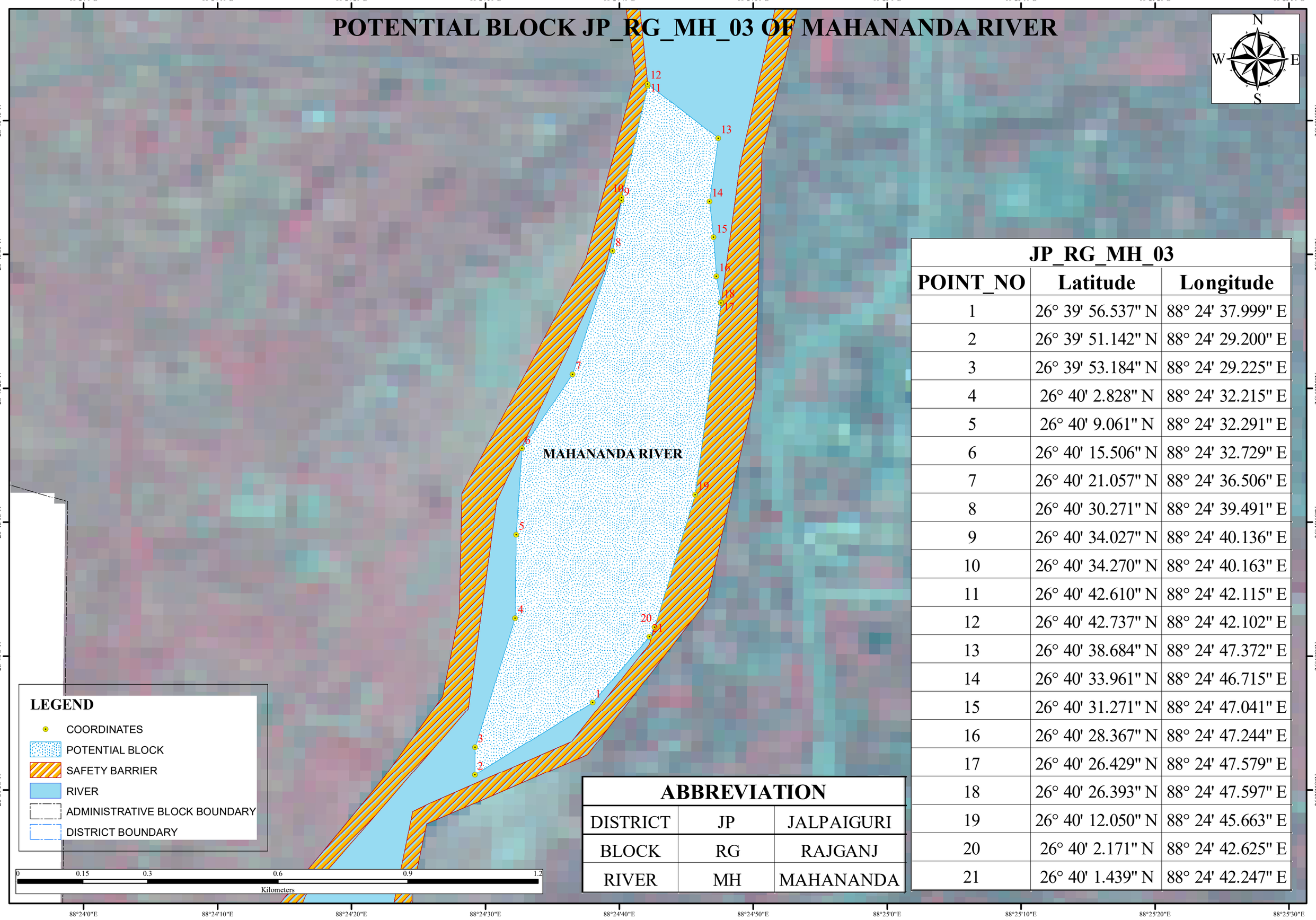
POTENTIAL BLOCK JP_RG_MH_02 OF MAHANANDA RIVER



JP_RG_MH_02		
POINT_NO	Latitude	Longitude
1	26° 40' 58.490" N	88° 24' 40.150" E
2	26° 40' 53.184" N	88° 24' 41.951" E
3	26° 40' 54.890" N	88° 24' 38.957" E
4	26° 40' 58.926" N	88° 24' 35.130" E
5	26° 41' 1.814" N	88° 24' 35.251" E
6	26° 41' 9.575" N	88° 24' 33.050" E
7	26° 41' 14.773" N	88° 24' 29.093" E
8	26° 41' 19.977" N	88° 24' 24.562" E
9	26° 41' 25.912" N	88° 24' 24.348" E
10	26° 41' 31.819" N	88° 24' 27.005" E
11	26° 41' 25.792" N	88° 24' 31.296" E
12	26° 41' 23.565" N	88° 24' 34.459" E
13	26° 41' 20.435" N	88° 24' 37.934" E
14	26° 41' 16.958" N	88° 24' 37.649" E
15	26° 41' 12.962" N	88° 24' 37.456" E
16	26° 41' 10.383" N	88° 24' 37.424" E
17	26° 41' 4.440" N	88° 24' 38.356" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	MH	MAHANANDA

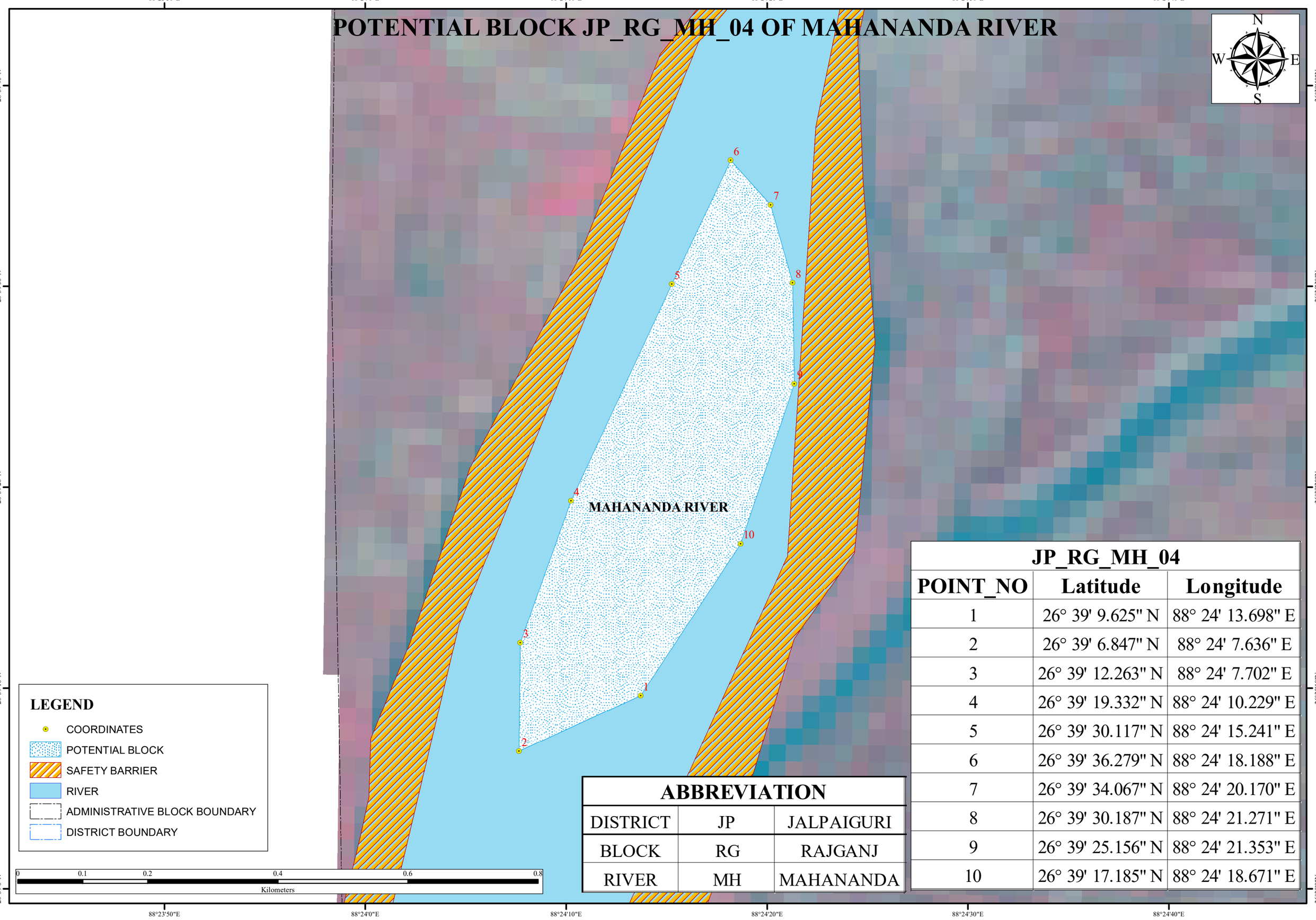
POTENTIAL BLOCK JP_RG_MH_03 OF MAHANANDA RIVER



JP_RG_MH_03		
POINT_NO	**Latitude**	**Longitude**
1	26° 39' 56.537" N	88° 24' 37.999" E
2	26° 39' 51.142" N	88° 24' 29.200" E
3	26° 39' 53.184" N	88° 24' 29.225" E
4	26° 40' 2.828" N	88° 24' 32.215" E
5	26° 40' 9.061" N	88° 24' 32.291" E
6	26° 40' 15.506" N	88° 24' 32.729" E
7	26° 40' 21.057" N	88° 24' 36.506" E
8	26° 40' 30.271" N	88° 24' 39.491" E
9	26° 40' 34.027" N	88° 24' 40.136" E
10	26° 40' 34.270" N	88° 24' 40.163" E
11	26° 40' 42.610" N	88° 24' 42.115" E
12	26° 40' 42.737" N	88° 24' 42.102" E
13	26° 40' 38.684" N	88° 24' 47.372" E
14	26° 40' 33.961" N	88° 24' 46.715" E
15	26° 40' 31.271" N	88° 24' 47.041" E
16	26° 40' 28.367" N	88° 24' 47.244" E
17	26° 40' 26.429" N	88° 24' 47.579" E
18	26° 40' 26.393" N	88° 24' 47.597" E
19	26° 40' 12.050" N	88° 24' 45.663" E
20	26° 40' 2.171" N	88° 24' 42.625" E
21	26° 40' 1.439" N	88° 24' 42.247" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	MH	MAHANANDA

POTENTIAL BLOCK JP_RG_MH_04 OF MAHANANDA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	MH	MAHANANDA

JP_RG_MH_04		
POINT_NO	Latitude	Longitude
1	26° 39' 9.625" N	88° 24' 13.698" E
2	26° 39' 6.847" N	88° 24' 7.636" E
3	26° 39' 12.263" N	88° 24' 7.702" E
4	26° 39' 19.332" N	88° 24' 10.229" E
5	26° 39' 30.117" N	88° 24' 15.241" E
6	26° 39' 36.279" N	88° 24' 18.188" E
7	26° 39' 34.067" N	88° 24' 20.170" E
8	26° 39' 30.187" N	88° 24' 21.271" E
9	26° 39' 25.156" N	88° 24' 21.353" E
10	26° 39' 17.185" N	88° 24' 18.671" E

POTENTIAL BLOCK JP_RG_MH_05 OF MAHANANDA RIVER

88°24'0"E 88°24'10"E 88°24'20"E

26°38'40"N 26°38'30"N 26°38'20"N

N W E S

MAHANANDA RIVER

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4
Kilometers

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	MH	MAHANANDA

JP_RG_MH_05		
POINT_NO	Latitude	Longitude
1	26° 38' 31.112" N	88° 24' 14.279" E
2	26° 38' 29.425" N	88° 24' 18.121" E
3	26° 38' 29.778" N	88° 24' 16.177" E
4	26° 38' 30.217" N	88° 24' 10.872" E
5	26° 38' 30.537" N	88° 24' 4.561" E
6	26° 38' 31.338" N	88° 24' 1.844" E
7	26° 38' 32.783" N	88° 23' 59.134" E
8	26° 38' 38.194" N	88° 23' 59.774" E
9	26° 38' 41.407" N	88° 24' 0.962" E
10	26° 38' 42.531" N	88° 24' 4.707" E
11	26° 38' 40.481" N	88° 24' 6.721" E
12	26° 38' 37.631" N	88° 24' 7.182" E
13	26° 38' 34.637" N	88° 24' 10.016" E

POTENTIAL BLOCK JP_RG_MH_06 OF MAHANANDA RIVER

88°24'20"E 88°24'30"E 88°24'40"E

26°38'20"N 26°38'10"N

N W E S

MAHANANDA RIVER

LEGEND

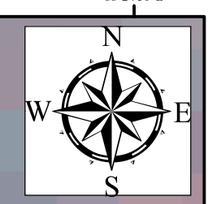
- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4
Kilometers

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	MH	MAHANANDA

JP_RG_MH_06		
POINT_NO	Latitude	Longitude
1	26° 38' 12.073" N	88° 24' 32.753" E
2	26° 38' 9.500" N	88° 24' 32.004" E
3	26° 38' 11.840" N	88° 24' 30.166" E
4	26° 38' 18.324" N	88° 24' 26.658" E
5	26° 38' 25.875" N	88° 24' 19.574" E
6	26° 38' 25.448" N	88° 24' 23.588" E
7	26° 38' 23.223" N	88° 24' 26.862" E
8	26° 38' 21.154" N	88° 24' 27.410" E
9	26° 38' 16.596" N	88° 24' 31.804" E

POTENTIAL BLOCK JP_RG_MH_07 OF MAHANANDA RIVER



88°24'20"E 88°24'30"E 88°24'40"E 88°24'50"E

26°38'0"N

26°37'50"N

MAHANANDA RIVER

6 7 8 5 4 1 3 2

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4
Kilometers

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	MH	MAHANANDA

JP_RG_MH_07		
POINT_NO	Latitude	Longitude
1	26° 37' 53.999" N	88° 24' 34.397" E
2	26° 37' 48.714" N	88° 24' 27.119" E
3	26° 37' 51.947" N	88° 24' 26.302" E
4	26° 37' 54.046" N	88° 24' 29.661" E
5	26° 37' 58.527" N	88° 24' 33.017" E
6	26° 38' 3.679" N	88° 24' 33.798" E
7	26° 38' 3.146" N	88° 24' 35.514" E
8	26° 37' 59.532" N	88° 24' 35.756" E

POTENTIAL BLOCK JP_ML_ML_01 OF MAL RIVER

88°44'30"E | 88°45'0"E | 88°45'30"E | 88°46'0"E

26°52'0"N | 26°51'30"N | 26°51'0"N

N W E S

MAL RIVER

JP_ML_ML_01

NEORA RIVER

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	ML	MAL

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

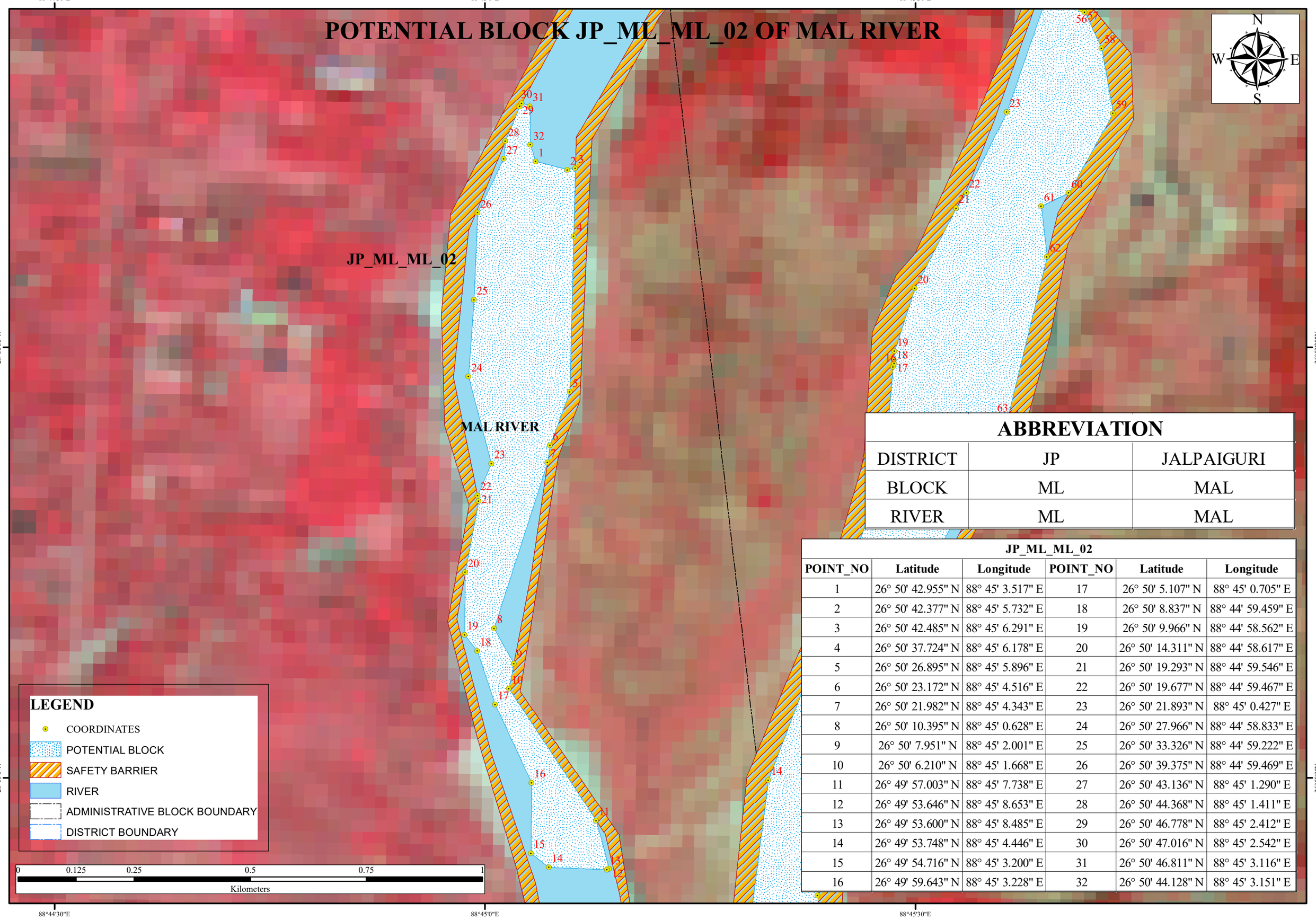
0 0.175 0.35 0.7 1.05 1.4

Kilometers

JP_ML_ML_01

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 51' 0.705" N	88° 45' 17.152" E	17	26° 51' 48.606" N	88° 45' 16.459" E
2	26° 50' 59.812" N	88° 45' 14.128" E	18	26° 51' 42.793" N	88° 45' 18.336" E
3	26° 51' 1.548" N	88° 45' 12.775" E	19	26° 51' 42.538" N	88° 45' 18.540" E
4	26° 51' 2.743" N	88° 45' 13.100" E	20	26° 51' 33.310" N	88° 45' 16.380" E
5	26° 51' 5.940" N	88° 45' 17.142" E	21	26° 51' 30.683" N	88° 45' 16.023" E
6	26° 51' 9.165" N	88° 45' 17.077" E	22	26° 51' 28.192" N	88° 45' 16.023" E
7	26° 51' 18.436" N	88° 45' 12.086" E	23	26° 51' 27.584" N	88° 45' 15.906" E
8	26° 51' 20.413" N	88° 45' 11.770" E	24	26° 51' 27.157" N	88° 45' 16.023" E
9	26° 51' 25.571" N	88° 45' 11.849" E	25	26° 51' 17.503" N	88° 45' 16.021" E
10	26° 51' 29.700" N	88° 45' 11.625" E	26	26° 51' 10.024" N	88° 45' 19.408" E
11	26° 51' 32.375" N	88° 45' 11.547" E	27	26° 51' 6.788" N	88° 45' 20.017" E
12	26° 51' 35.019" N	88° 45' 12.127" E	28	26° 51' 3.863" N	88° 45' 18.747" E
13	26° 51' 42.087" N	88° 45' 12.092" E	29	26° 51' 2.073" N	88° 45' 18.178" E
14	26° 51' 48.678" N	88° 45' 10.958" E	30	26° 51' 1.242" N	88° 45' 17.858" E
15	26° 51' 57.316" N	88° 45' 11.299" E	31	26° 51' 0.780" N	88° 45' 17.479" E
16	26° 51' 56.709" N	88° 45' 12.989" E			

POTENTIAL BLOCK JP_ML_ML_02 OF MAL RIVER

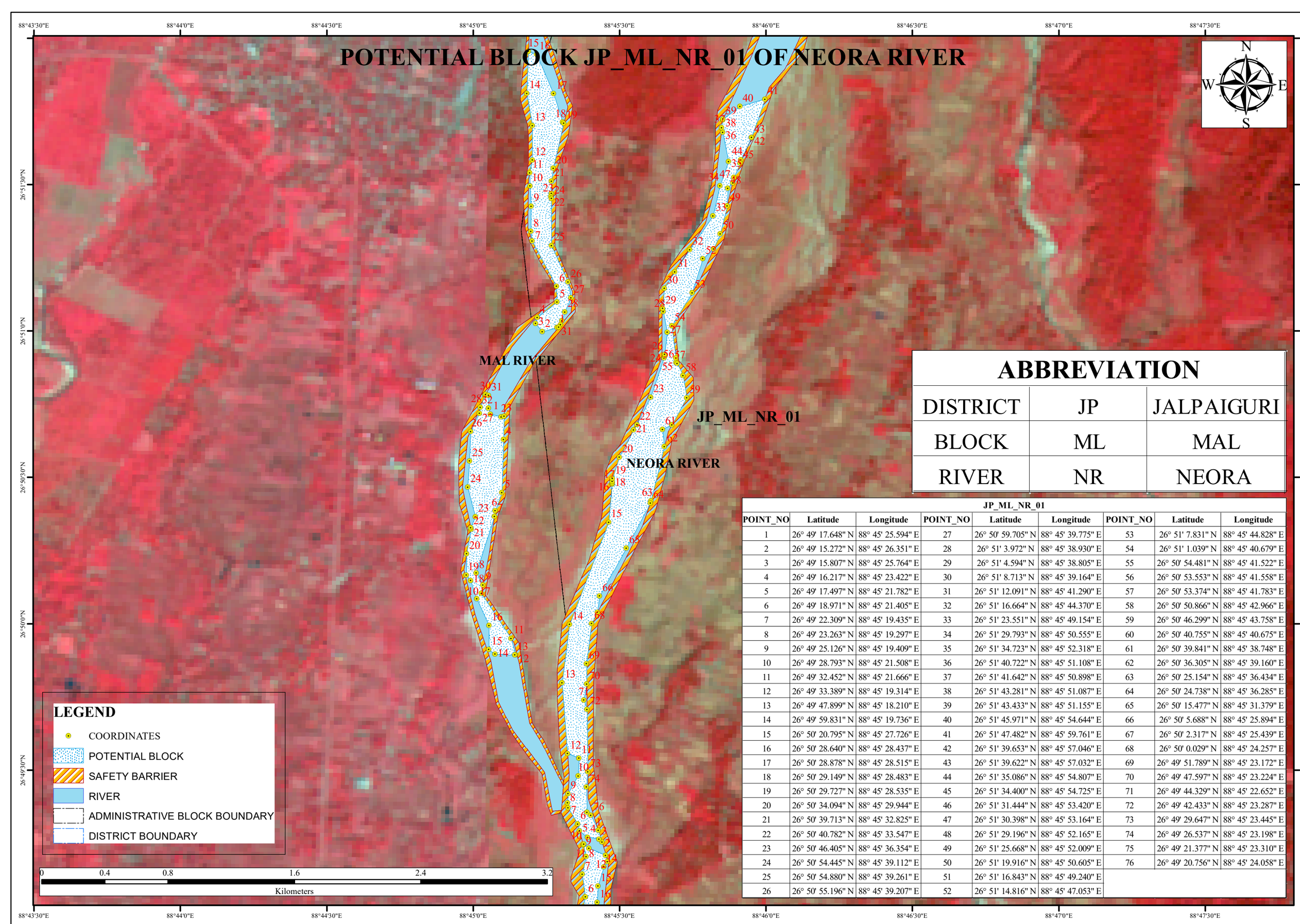


ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	ML	MAL

JP_ML_ML_02

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 50' 42.955" N	88° 45' 3.517" E	17	26° 50' 5.107" N	88° 45' 0.705" E
2	26° 50' 42.377" N	88° 45' 5.732" E	18	26° 50' 8.837" N	88° 44' 59.459" E
3	26° 50' 42.485" N	88° 45' 6.291" E	19	26° 50' 9.966" N	88° 44' 58.562" E
4	26° 50' 37.724" N	88° 45' 6.178" E	20	26° 50' 14.311" N	88° 44' 58.617" E
5	26° 50' 26.895" N	88° 45' 5.896" E	21	26° 50' 19.293" N	88° 44' 59.546" E
6	26° 50' 23.172" N	88° 45' 4.516" E	22	26° 50' 19.677" N	88° 44' 59.467" E
7	26° 50' 21.982" N	88° 45' 4.343" E	23	26° 50' 21.893" N	88° 45' 0.427" E
8	26° 50' 10.395" N	88° 45' 0.628" E	24	26° 50' 27.966" N	88° 44' 58.833" E
9	26° 50' 7.951" N	88° 45' 2.001" E	25	26° 50' 33.326" N	88° 44' 59.222" E
10	26° 50' 6.210" N	88° 45' 1.668" E	26	26° 50' 39.375" N	88° 44' 59.469" E
11	26° 49' 57.003" N	88° 45' 7.738" E	27	26° 50' 43.136" N	88° 45' 1.290" E
12	26° 49' 53.646" N	88° 45' 8.653" E	28	26° 50' 44.368" N	88° 45' 1.411" E
13	26° 49' 53.600" N	88° 45' 8.485" E	29	26° 50' 46.778" N	88° 45' 2.412" E
14	26° 49' 53.748" N	88° 45' 4.446" E	30	26° 50' 47.016" N	88° 45' 2.542" E
15	26° 49' 54.716" N	88° 45' 3.200" E	31	26° 50' 46.811" N	88° 45' 3.116" E
16	26° 49' 59.643" N	88° 45' 3.228" E	32	26° 50' 44.128" N	88° 45' 3.151" E

POTENTIAL BLOCK JP_ML_NR_01 OF NEORA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

JP_ML_NR_01

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 49' 17.648" N	88° 45' 25.594" E	27	26° 50' 59.705" N	88° 45' 39.775" E	53	26° 51' 7.831" N	88° 45' 44.828" E
2	26° 49' 15.272" N	88° 45' 26.351" E	28	26° 51' 3.972" N	88° 45' 38.930" E	54	26° 51' 1.039" N	88° 45' 40.679" E
3	26° 49' 15.807" N	88° 45' 25.764" E	29	26° 51' 4.594" N	88° 45' 38.805" E	55	26° 50' 54.481" N	88° 45' 41.522" E
4	26° 49' 16.217" N	88° 45' 23.422" E	30	26° 51' 8.713" N	88° 45' 39.164" E	56	26° 50' 53.553" N	88° 45' 41.558" E
5	26° 49' 17.497" N	88° 45' 21.782" E	31	26° 51' 12.091" N	88° 45' 41.290" E	57	26° 50' 53.374" N	88° 45' 41.783" E
6	26° 49' 18.971" N	88° 45' 21.405" E	32	26° 51' 16.664" N	88° 45' 44.370" E	58	26° 50' 50.866" N	88° 45' 42.966" E
7	26° 49' 22.309" N	88° 45' 19.435" E	33	26° 51' 23.551" N	88° 45' 49.154" E	59	26° 50' 46.299" N	88° 45' 43.758" E
8	26° 49' 23.263" N	88° 45' 19.297" E	34	26° 51' 29.793" N	88° 45' 50.555" E	60	26° 50' 40.755" N	88° 45' 40.675" E
9	26° 49' 25.126" N	88° 45' 19.409" E	35	26° 51' 34.723" N	88° 45' 52.318" E	61	26° 50' 39.841" N	88° 45' 38.748" E
10	26° 49' 28.793" N	88° 45' 21.508" E	36	26° 51' 40.722" N	88° 45' 51.108" E	62	26° 50' 36.305" N	88° 45' 39.160" E
11	26° 49' 32.452" N	88° 45' 21.666" E	37	26° 51' 41.642" N	88° 45' 50.898" E	63	26° 50' 25.154" N	88° 45' 36.434" E
12	26° 49' 33.389" N	88° 45' 19.314" E	38	26° 51' 43.281" N	88° 45' 51.087" E	64	26° 50' 24.738" N	88° 45' 36.285" E
13	26° 49' 47.899" N	88° 45' 18.210" E	39	26° 51' 43.433" N	88° 45' 51.155" E	65	26° 50' 15.477" N	88° 45' 31.379" E
14	26° 49' 59.831" N	88° 45' 19.736" E	40	26° 51' 45.971" N	88° 45' 54.644" E	66	26° 50' 5.688" N	88° 45' 25.894" E
15	26° 50' 20.795" N	88° 45' 27.726" E	41	26° 51' 47.482" N	88° 45' 59.761" E	67	26° 50' 2.317" N	88° 45' 25.439" E
16	26° 50' 28.640" N	88° 45' 28.437" E	42	26° 51' 39.653" N	88° 45' 57.046" E	68	26° 50' 0.029" N	88° 45' 24.257" E
17	26° 50' 28.878" N	88° 45' 28.515" E	43	26° 51' 39.622" N	88° 45' 57.032" E	69	26° 49' 51.789" N	88° 45' 23.172" E
18	26° 50' 29.149" N	88° 45' 28.483" E	44	26° 51' 35.086" N	88° 45' 54.807" E	70	26° 49' 47.597" N	88° 45' 23.224" E
19	26° 50' 29.727" N	88° 45' 28.535" E	45	26° 51' 34.400" N	88° 45' 54.725" E	71	26° 49' 44.329" N	88° 45' 22.652" E
20	26° 50' 34.094" N	88° 45' 29.944" E	46	26° 51' 31.444" N	88° 45' 53.420" E	72	26° 49' 42.433" N	88° 45' 23.287" E
21	26° 50' 39.713" N	88° 45' 32.825" E	47	26° 51' 30.398" N	88° 45' 53.164" E	73	26° 49' 29.647" N	88° 45' 23.445" E
22	26° 50' 40.782" N	88° 45' 33.547" E	48	26° 51' 29.196" N	88° 45' 52.165" E	74	26° 49' 26.537" N	88° 45' 23.198" E
23	26° 50' 46.405" N	88° 45' 36.354" E	49	26° 51' 25.668" N	88° 45' 52.009" E	75	26° 49' 21.377" N	88° 45' 23.310" E
24	26° 50' 54.445" N	88° 45' 39.112" E	50	26° 51' 19.916" N	88° 45' 50.605" E	76	26° 49' 20.756" N	88° 45' 24.058" E
25	26° 50' 54.880" N	88° 45' 39.261" E	51	26° 51' 16.843" N	88° 45' 49.240" E			
26	26° 50' 55.196" N	88° 45' 39.207" E	52	26° 51' 14.816" N	88° 45' 47.053" E			

POTENTIAL BLOCK JP_ML_NR_02 OF NEORA RIVER

88°45'0"E

88°45'30"E

26°49'0"N

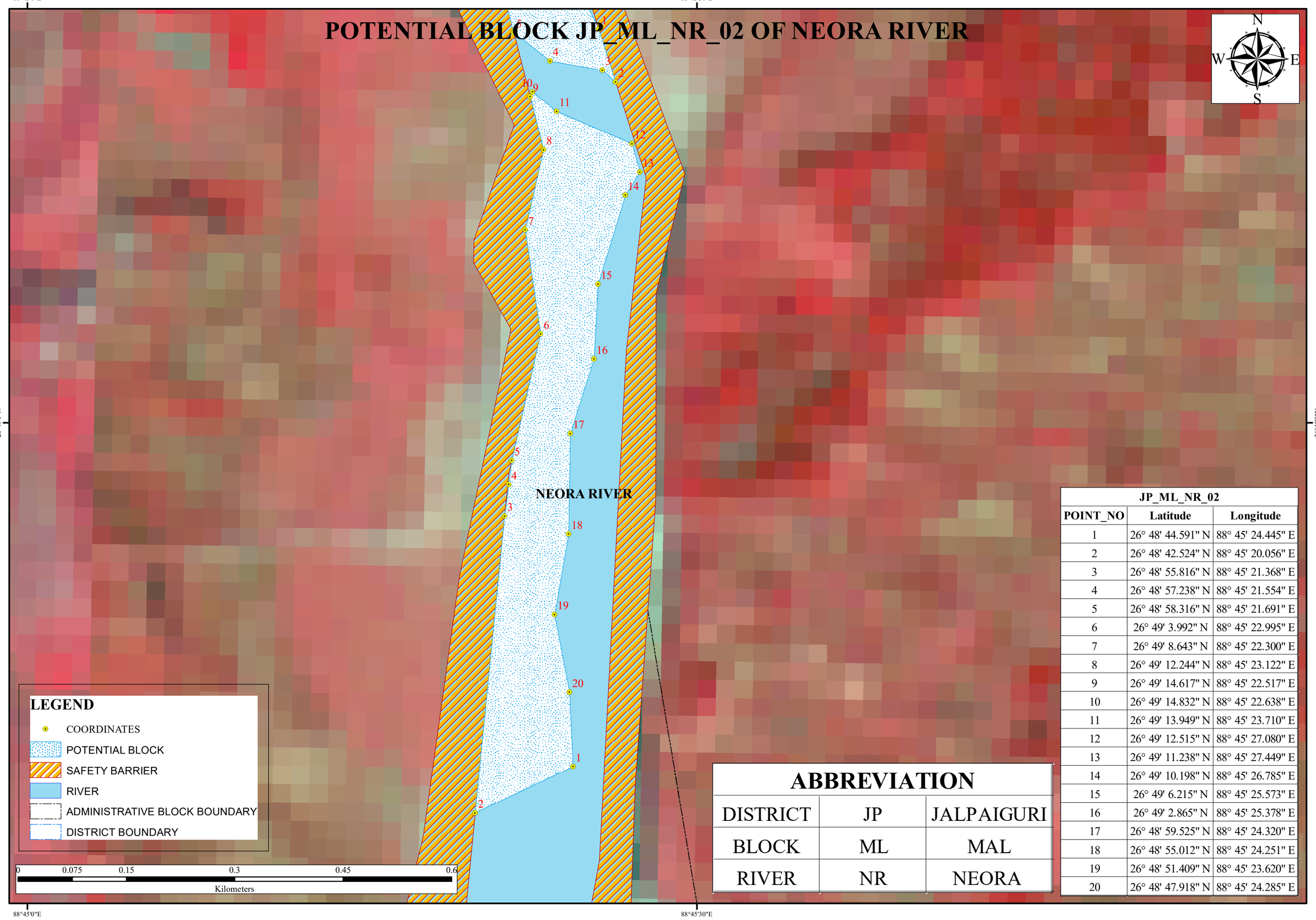
N

W

E

S

NEORA RIVER



JP_ML_NR_02		
POINT_NO	Latitude	Longitude
1	26° 48' 44.591" N	88° 45' 24.445" E
2	26° 48' 42.524" N	88° 45' 20.056" E
3	26° 48' 55.816" N	88° 45' 21.368" E
4	26° 48' 57.238" N	88° 45' 21.554" E
5	26° 48' 58.316" N	88° 45' 21.691" E
6	26° 49' 3.992" N	88° 45' 22.995" E
7	26° 49' 8.643" N	88° 45' 22.300" E
8	26° 49' 12.244" N	88° 45' 23.122" E
9	26° 49' 14.617" N	88° 45' 22.517" E
10	26° 49' 14.832" N	88° 45' 22.638" E
11	26° 49' 13.949" N	88° 45' 23.710" E
12	26° 49' 12.515" N	88° 45' 27.080" E
13	26° 49' 11.238" N	88° 45' 27.449" E
14	26° 49' 10.198" N	88° 45' 26.785" E
15	26° 49' 6.215" N	88° 45' 25.573" E
16	26° 49' 2.865" N	88° 45' 25.378" E
17	26° 48' 59.525" N	88° 45' 24.320" E
18	26° 48' 55.012" N	88° 45' 24.251" E
19	26° 48' 51.409" N	88° 45' 23.620" E
20	26° 48' 47.918" N	88° 45' 24.285" E

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

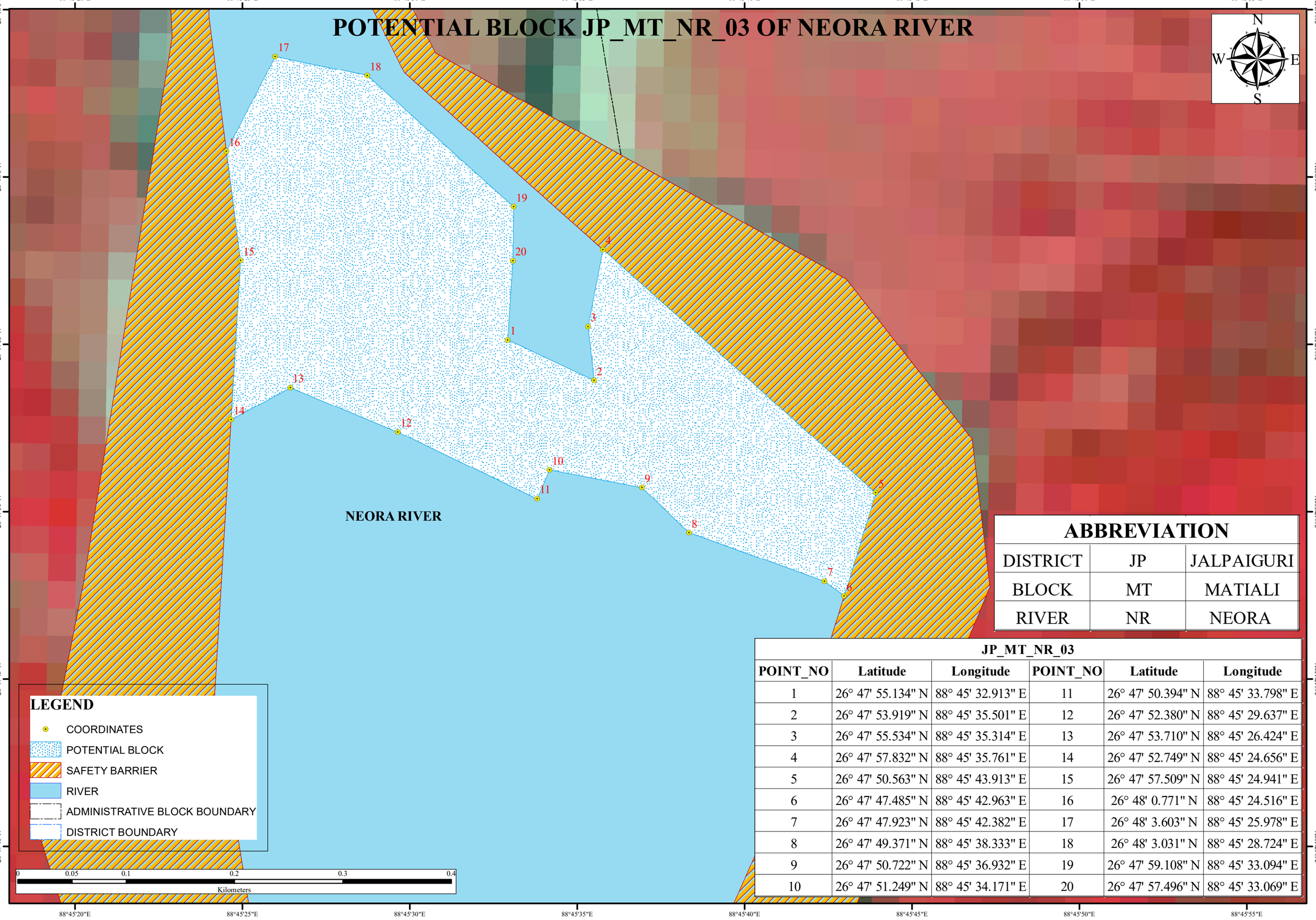
0 0.075 0.15 0.3 0.45 0.6

Kilometers

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

POTENTIAL BLOCK JP_MT_NR_03 OF NEORA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	MT	MATIALI
RIVER	NR	NEORA

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

JP_MT_NR_03

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 47' 55.134" N	88° 45' 32.913" E	11	26° 47' 50.394" N	88° 45' 33.798" E
2	26° 47' 53.919" N	88° 45' 35.501" E	12	26° 47' 52.380" N	88° 45' 29.637" E
3	26° 47' 55.534" N	88° 45' 35.314" E	13	26° 47' 53.710" N	88° 45' 26.424" E
4	26° 47' 57.832" N	88° 45' 35.761" E	14	26° 47' 52.749" N	88° 45' 24.656" E
5	26° 47' 50.563" N	88° 45' 43.913" E	15	26° 47' 57.509" N	88° 45' 24.941" E
6	26° 47' 47.485" N	88° 45' 42.963" E	16	26° 48' 0.771" N	88° 45' 24.516" E
7	26° 47' 47.923" N	88° 45' 42.382" E	17	26° 48' 3.603" N	88° 45' 25.978" E
8	26° 47' 49.371" N	88° 45' 38.333" E	18	26° 48' 3.031" N	88° 45' 28.724" E
9	26° 47' 50.722" N	88° 45' 36.932" E	19	26° 47' 59.108" N	88° 45' 33.094" E
10	26° 47' 51.249" N	88° 45' 34.171" E	20	26° 47' 57.496" N	88° 45' 33.069" E

POTENTIAL BLOCK JP_ML_NR_04 OF NEORA RIVER

88°45'30"E

88°45'45"E

26°47'30"N

26°47'15"N

N

W

E

S

NEORA RIVER

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4

Kilometers

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

JP_ML_NR_04

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 47' 21.728" N	88° 45' 31.560" E	13	26° 47' 21.566" N	88° 45' 27.246" E
2	26° 47' 20.240" N	88° 45' 30.219" E	14	26° 47' 22.953" N	88° 45' 28.106" E
3	26° 47' 16.280" N	88° 45' 28.841" E	15	26° 47' 24.548" N	88° 45' 29.448" E
4	26° 47' 15.018" N	88° 45' 26.666" E	16	26° 47' 28.191" N	88° 45' 30.342" E
5	26° 47' 14.269" N	88° 45' 25.573" E	17	26° 47' 30.865" N	88° 45' 31.341" E
6	26° 47' 15.409" N	88° 45' 25.483" E	18	26° 47' 34.181" N	88° 45' 32.590" E
7	26° 47' 19.748" N	88° 45' 25.013" E	19	26° 47' 36.630" N	88° 45' 34.424" E
8	26° 47' 24.069" N	88° 45' 25.202" E	20	26° 47' 37.248" N	88° 45' 36.589" E
9	26° 47' 26.522" N	88° 45' 26.245" E	21	26° 47' 35.083" N	88° 45' 37.873" E
10	26° 47' 26.067" N	88° 45' 28.273" E	22	26° 47' 34.090" N	88° 45' 37.805" E
11	26° 47' 25.745" N	88° 45' 28.269" E	23	26° 47' 28.280" N	88° 45' 35.234" E
12	26° 47' 23.609" N	88° 45' 27.158" E	24	26° 47' 25.782" N	88° 45' 33.897" E

POTENTIAL BLOCK JP_ML_NR_05 OF NEORA RIVER

88°45'15"E 88°45'30"E 88°45'45"E

26°47'15"N 26°47'0"N

N W E S

NEORA RIVER

JP_ML_NR_05

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

JP_ML_NR_05

POINT_NO	Latitude	Longitude
1	26° 47' 10.506" N	88° 45' 30.976" E
2	26° 46' 55.350" N	88° 45' 29.141" E
3	26° 46' 58.366" N	88° 45' 26.170" E
4	26° 47' 3.861" N	88° 45' 25.057" E
5	26° 47' 9.657" N	88° 45' 25.602" E
6	26° 47' 14.073" N	88° 45' 30.076" E

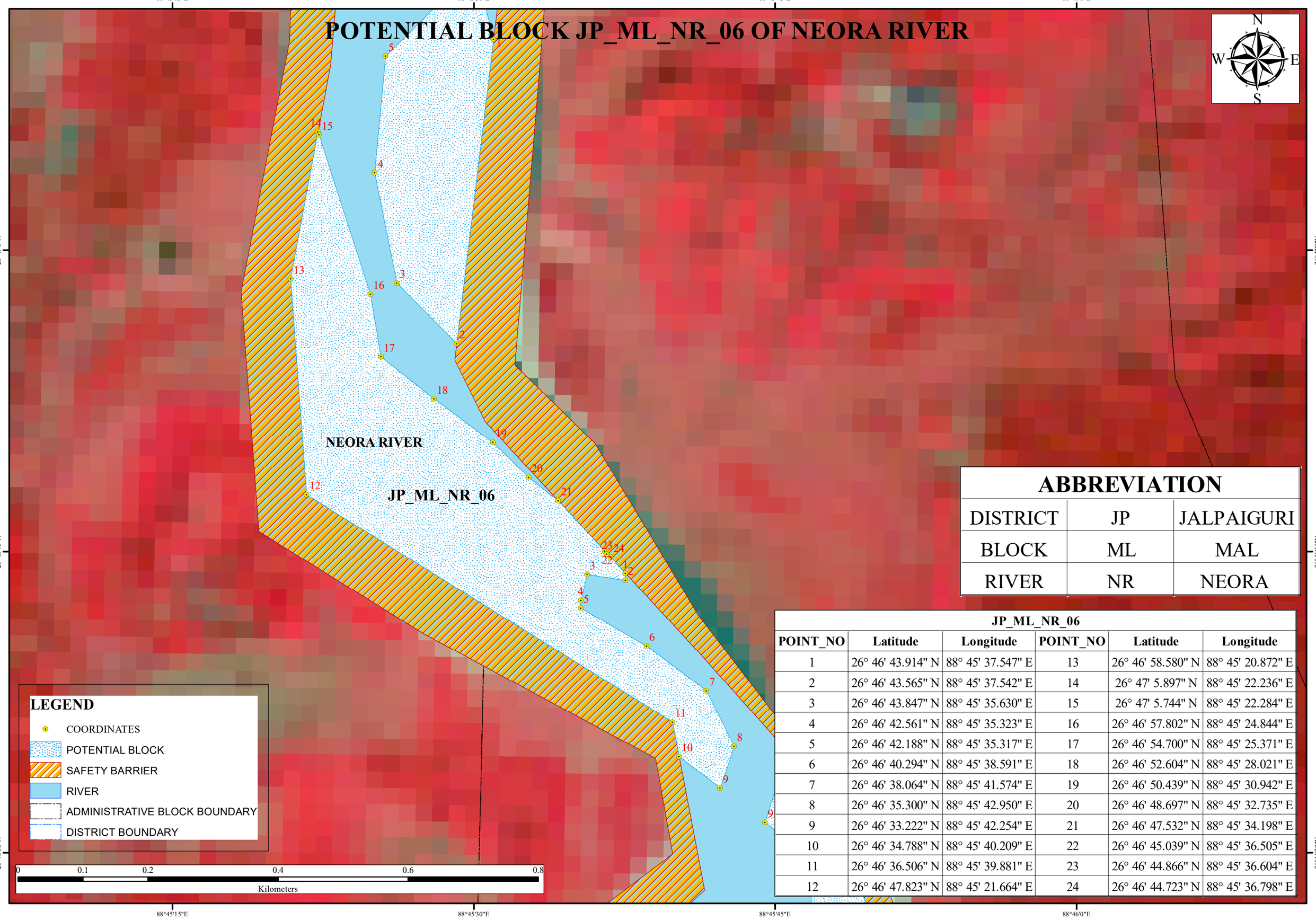
LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4

Kilometers

POTENTIAL BLOCK JP_ML_NR_06 OF NEORA RIVER



ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

JP_ML_NR_06

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 46' 43.914" N	88° 45' 37.547" E	13	26° 46' 58.580" N	88° 45' 20.872" E
2	26° 46' 43.565" N	88° 45' 37.542" E	14	26° 47' 5.897" N	88° 45' 22.236" E
3	26° 46' 43.847" N	88° 45' 35.630" E	15	26° 47' 5.744" N	88° 45' 22.284" E
4	26° 46' 42.561" N	88° 45' 35.323" E	16	26° 46' 57.802" N	88° 45' 24.844" E
5	26° 46' 42.188" N	88° 45' 35.317" E	17	26° 46' 54.700" N	88° 45' 25.371" E
6	26° 46' 40.294" N	88° 45' 38.591" E	18	26° 46' 52.604" N	88° 45' 28.021" E
7	26° 46' 38.064" N	88° 45' 41.574" E	19	26° 46' 50.439" N	88° 45' 30.942" E
8	26° 46' 35.300" N	88° 45' 42.950" E	20	26° 46' 48.697" N	88° 45' 32.735" E
9	26° 46' 33.222" N	88° 45' 42.254" E	21	26° 46' 47.532" N	88° 45' 34.198" E
10	26° 46' 34.788" N	88° 45' 40.209" E	22	26° 46' 45.039" N	88° 45' 36.505" E
11	26° 46' 36.506" N	88° 45' 39.881" E	23	26° 46' 44.866" N	88° 45' 36.604" E
12	26° 46' 47.823" N	88° 45' 21.664" E	24	26° 46' 44.723" N	88° 45' 36.798" E

POTENTIAL BLOCK JP_ML_NR_06A OF NEORA RIVER

88°45'45"E

88°46'0"E

26°46'30"N

26°46'15"N

N

W

E

S

JP_ML_NR_06A

NEORA RIVER

JP_ML_NR_06A		
POINT_NO	Latitude	Longitude
1	26° 46' 14.135" N	88° 45' 47.239" E
2	26° 46' 12.366" N	88° 45' 44.338" E
3	26° 46' 12.898" N	88° 45' 43.054" E
4	26° 46' 16.136" N	88° 45' 41.954" E
5	26° 46' 18.312" N	88° 45' 43.281" E
6	26° 46' 21.369" N	88° 45' 46.345" E
7	26° 46' 25.101" N	88° 45' 46.978" E
8	26° 46' 29.877" N	88° 45' 46.620" E
9	26° 46' 31.508" N	88° 45' 44.491" E
10	26° 46' 34.649" N	88° 45' 45.469" E
11	26° 46' 35.233" N	88° 45' 45.436" E
12	26° 46' 32.896" N	88° 45' 47.528" E
13	26° 46' 32.210" N	88° 45' 47.986" E
14	26° 46' 23.367" N	88° 45' 50.804" E
15	26° 46' 19.347" N	88° 45' 50.454" E
16	26° 46' 16.161" N	88° 45' 49.559" E

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4

Kilometers

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

POTENTIAL BLOCK JP_ML_NR_07 OF NEORA RIVER

88°45'10"E 88°45'20"E 88°45'30"E

26°45'50"N

N W E S

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

NEORA RIVER

JP_ML_NR_07		
POINT_NO	Latitude	Longitude
1	26° 45' 46.699" N	88° 45' 24.271" E
2	26° 45' 42.373" N	88° 45' 19.512" E
3	26° 45' 42.826" N	88° 45' 18.537" E
4	26° 45' 44.419" N	88° 45' 17.911" E
5	26° 45' 52.117" N	88° 45' 24.125" E
6	26° 45' 52.098" N	88° 45' 25.695" E
7	26° 45' 52.177" N	88° 45' 26.271" E
8	26° 45' 52.396" N	88° 45' 26.617" E
9	26° 45' 46.932" N	88° 45' 24.538" E

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

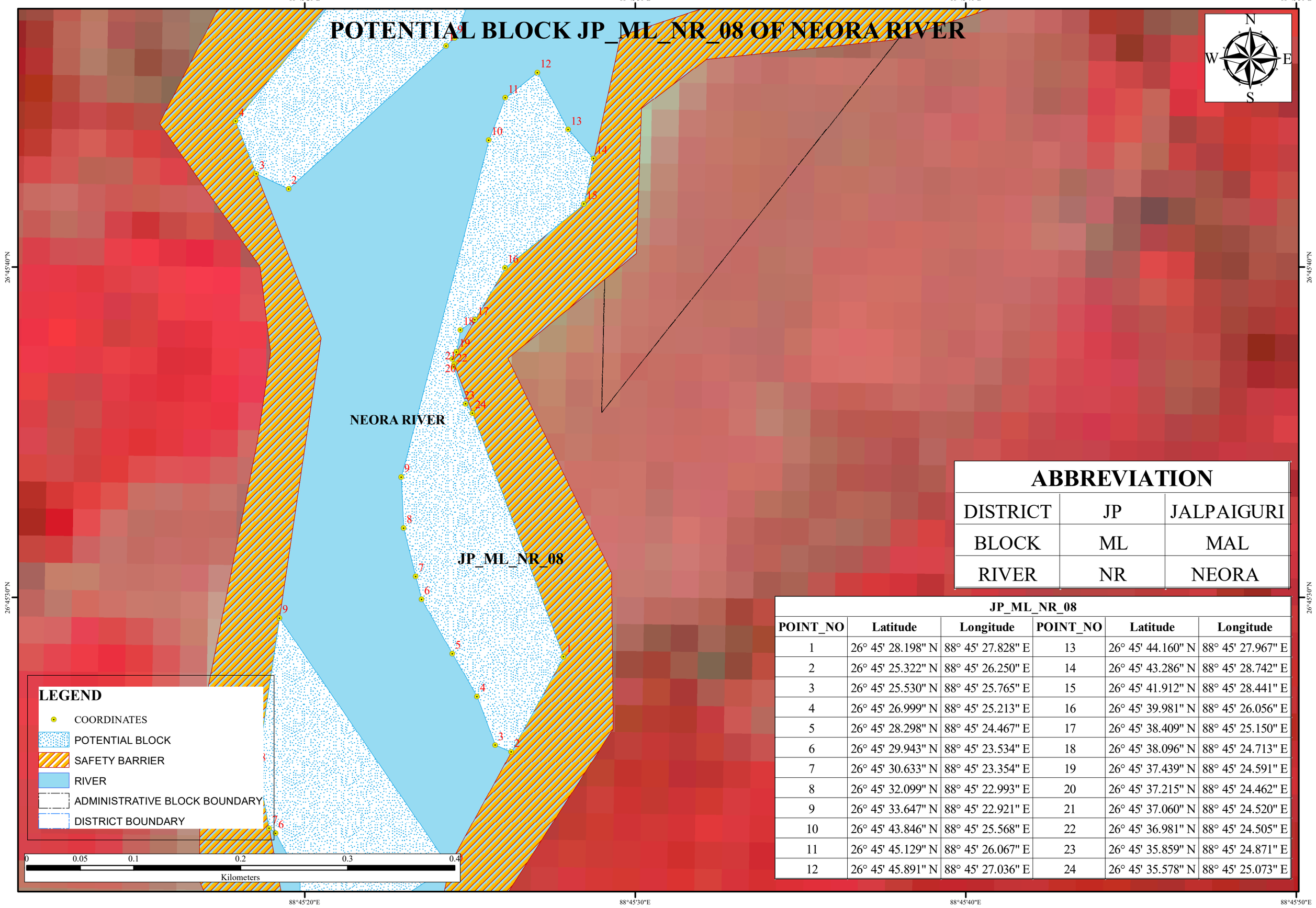
0 0.04 0.08 0.16 0.24 0.32

Kilometers

26°45'40"N

88°45'10"E 88°45'20"E 88°45'30"E

POTENTIAL BLOCK JP_ML_NR_08 OF NEORA RIVER

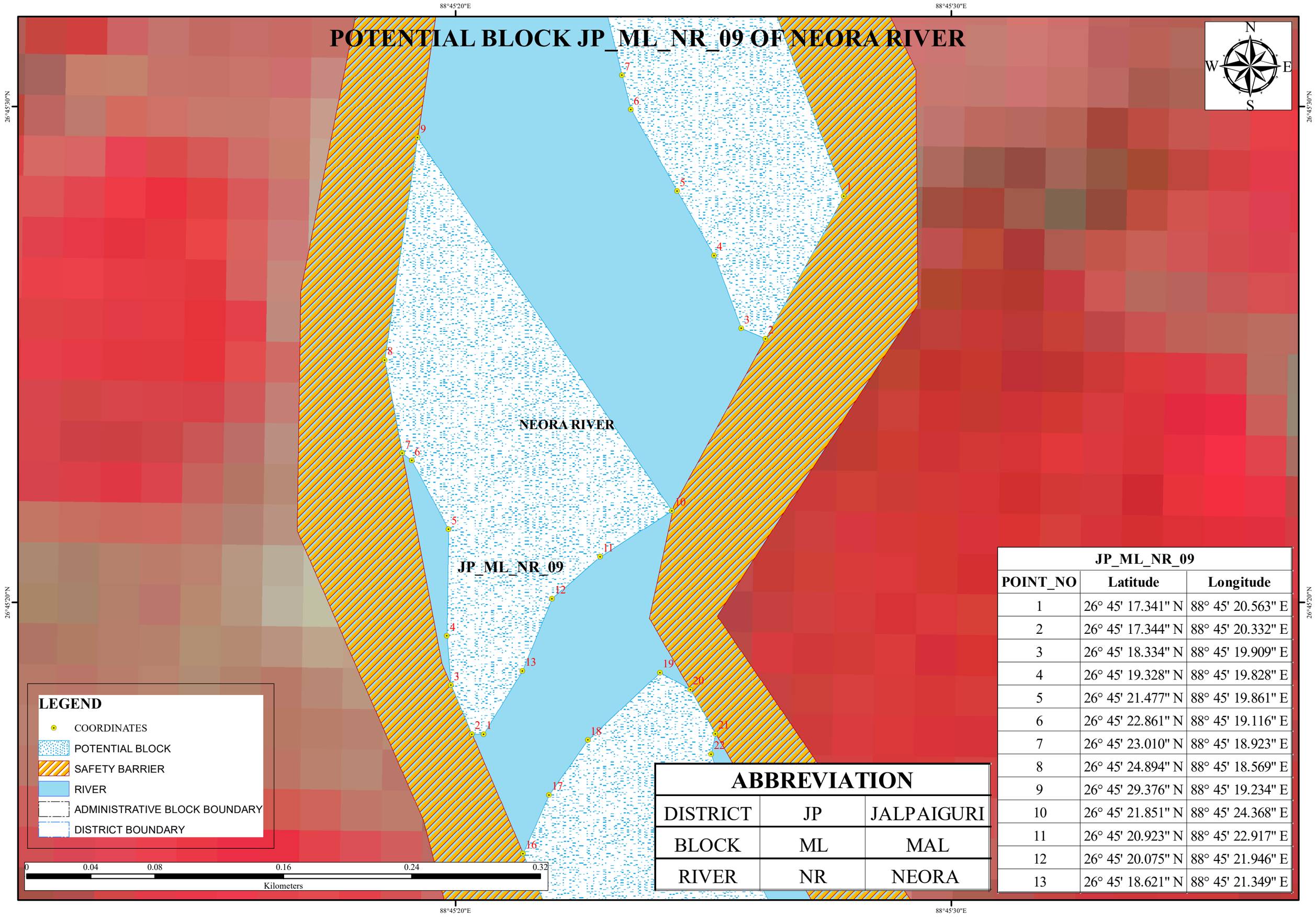


ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

JP_ML_NR_08

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 45' 28.198" N	88° 45' 27.828" E	13	26° 45' 44.160" N	88° 45' 27.967" E
2	26° 45' 25.322" N	88° 45' 26.250" E	14	26° 45' 43.286" N	88° 45' 28.742" E
3	26° 45' 25.530" N	88° 45' 25.765" E	15	26° 45' 41.912" N	88° 45' 28.441" E
4	26° 45' 26.999" N	88° 45' 25.213" E	16	26° 45' 39.981" N	88° 45' 26.056" E
5	26° 45' 28.298" N	88° 45' 24.467" E	17	26° 45' 38.409" N	88° 45' 25.150" E
6	26° 45' 29.943" N	88° 45' 23.534" E	18	26° 45' 38.096" N	88° 45' 24.713" E
7	26° 45' 30.633" N	88° 45' 23.354" E	19	26° 45' 37.439" N	88° 45' 24.591" E
8	26° 45' 32.099" N	88° 45' 22.993" E	20	26° 45' 37.215" N	88° 45' 24.462" E
9	26° 45' 33.647" N	88° 45' 22.921" E	21	26° 45' 37.060" N	88° 45' 24.520" E
10	26° 45' 43.846" N	88° 45' 25.568" E	22	26° 45' 36.981" N	88° 45' 24.505" E
11	26° 45' 45.129" N	88° 45' 26.067" E	23	26° 45' 35.859" N	88° 45' 24.871" E
12	26° 45' 45.891" N	88° 45' 27.036" E	24	26° 45' 35.578" N	88° 45' 25.073" E

POTENTIAL BLOCK JP_ML_NR_09 OF NEORA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

JP_ML_NR_09		
POINT_NO	Latitude	Longitude
1	26° 45' 17.341" N	88° 45' 20.563" E
2	26° 45' 17.344" N	88° 45' 20.332" E
3	26° 45' 18.334" N	88° 45' 19.909" E
4	26° 45' 19.328" N	88° 45' 19.828" E
5	26° 45' 21.477" N	88° 45' 19.861" E
6	26° 45' 22.861" N	88° 45' 19.116" E
7	26° 45' 23.010" N	88° 45' 18.923" E
8	26° 45' 24.894" N	88° 45' 18.569" E
9	26° 45' 29.376" N	88° 45' 19.234" E
10	26° 45' 21.851" N	88° 45' 24.368" E
11	26° 45' 20.923" N	88° 45' 22.917" E
12	26° 45' 20.075" N	88° 45' 21.946" E
13	26° 45' 18.621" N	88° 45' 21.349" E

POTENTIAL BLOCK JP_ML_NR_10 OF NEORA RIVER

88°45'20"E 88°45'30"E 88°45'40"E

26°45'20"N 26°45'10"N

N S E W

NEORA RIVER

JP_ML_NR_10

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4

Kilometers

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

JP_ML_NR_10

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 45' 11.318" N	88° 45' 28.718" E	14	26° 45' 10.256" N	88° 45' 23.423" E
2	26° 45' 7.573" N	88° 45' 32.181" E	15	26° 45' 10.412" N	88° 45' 23.298" E
3	26° 45' 6.703" N	88° 45' 32.562" E	16	26° 45' 14.937" N	88° 45' 21.362" E
4	26° 45' 6.192" N	88° 45' 32.171" E	17	26° 45' 16.121" N	88° 45' 21.885" E
5	26° 45' 6.895" N	88° 45' 30.937" E	18	26° 45' 17.229" N	88° 45' 22.669" E
6	26° 45' 7.767" N	88° 45' 29.993" E	19	26° 45' 18.586" N	88° 45' 24.126" E
7	26° 45' 8.551" N	88° 45' 29.143" E	20	26° 45' 18.239" N	88° 45' 24.735" E
8	26° 45' 8.908" N	88° 45' 28.095" E	21	26° 45' 17.354" N	88° 45' 25.245" E
9	26° 45' 8.399" N	88° 45' 27.513" E	22	26° 45' 16.940" N	88° 45' 25.154" E
10	26° 45' 7.196" N	88° 45' 27.494" E	23	26° 45' 14.955" N	88° 45' 25.794" E
11	26° 45' 6.161" N	88° 45' 27.766" E	24	26° 45' 13.743" N	88° 45' 26.446" E
12	26° 45' 7.211" N	88° 45' 26.249" E	25	26° 45' 13.045" N	88° 45' 27.297" E
13	26° 45' 8.775" N	88° 45' 24.933" E	26	26° 45' 12.696" N	88° 45' 27.925" E

POTENTIAL BLOCK JP_ML_NR_11 OF NEORA RIVER

88°45'30"E 88°45'40"E 88°45'50"E 88°46'0"E

26°45'0"N 26°44'50"N

N W E S

NEORA RIVER

JP_ML_NR_11

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4
Kilometers

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

JP_ML_NR_11

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 44' 47.961" N	88° 45' 48.583" E	12	26° 45' 3.681" N	88° 45' 33.569" E
2	26° 44' 47.419" N	88° 45' 48.366" E	13	26° 45' 4.721" N	88° 45' 32.915" E
3	26° 44' 49.753" N	88° 45' 47.432" E	14	26° 45' 5.833" N	88° 45' 33.791" E
4	26° 44' 52.603" N	88° 45' 46.423" E	15	26° 45' 4.169" N	88° 45' 35.330" E
5	26° 44' 53.992" N	88° 45' 45.295" E	16	26° 45' 3.688" N	88° 45' 35.934" E
6	26° 44' 54.428" N	88° 45' 44.823" E	17	26° 45' 2.442" N	88° 45' 36.423" E
7	26° 44' 55.912" N	88° 45' 43.026" E	18	26° 45' 0.779" N	88° 45' 38.792" E
8	26° 44' 57.681" N	88° 45' 39.031" E	19	26° 45' 0.160" N	88° 45' 40.219" E
9	26° 44' 58.727" N	88° 45' 37.898" E	20	26° 45' 0.037" N	88° 45' 40.513" E
10	26° 45' 0.901" N	88° 45' 35.921" E	21	26° 44' 57.199" N	88° 45' 44.072" E
11	26° 45' 2.463" N	88° 45' 34.795" E	22	26° 44' 53.971" N	88° 45' 46.493" E

POTENTIAL BLOCK JP_ML_NR_12 OF NEORA RIVER

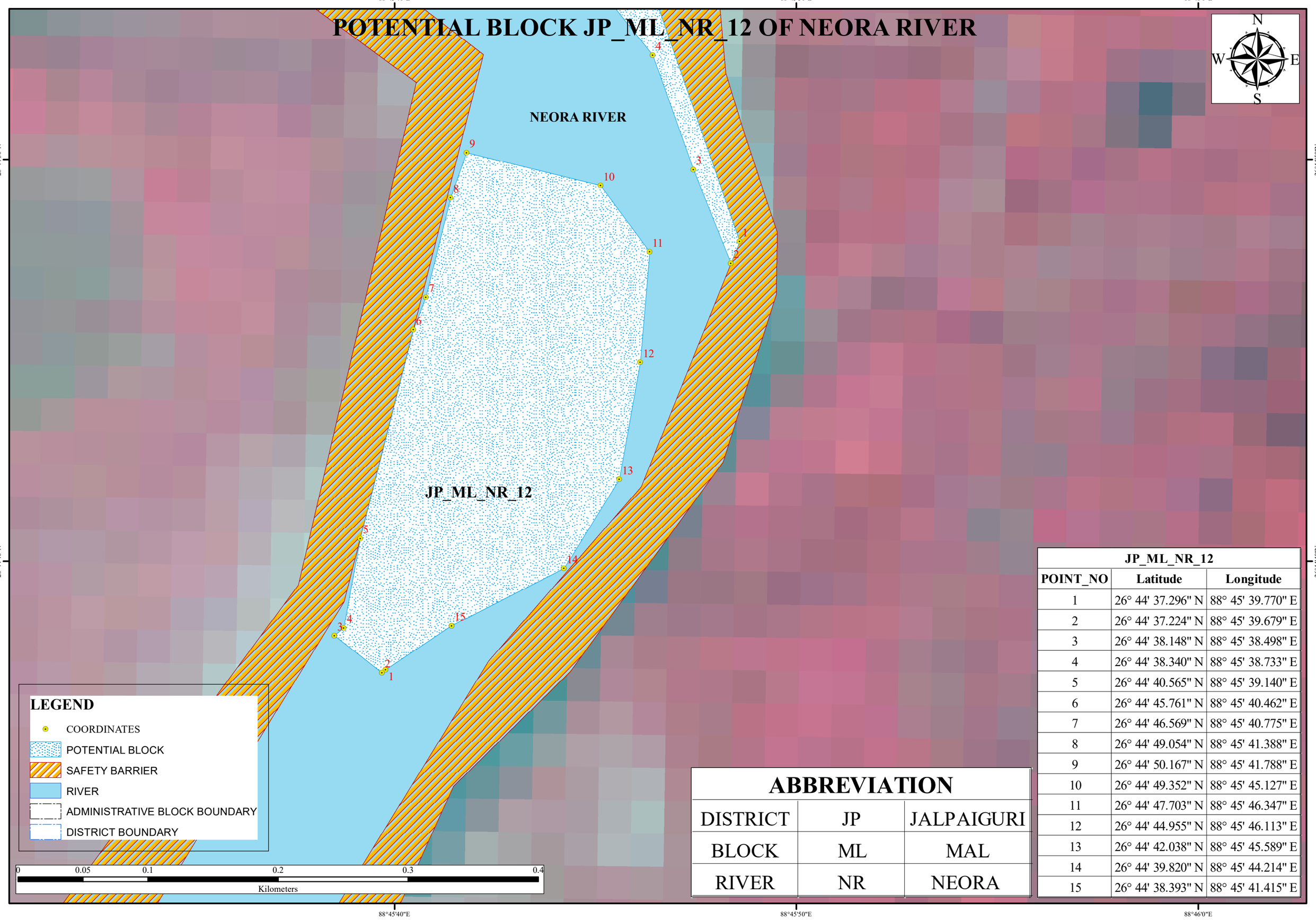
88°45'40"E 88°45'50"E 88°46'0"E

26°44'50"N 26°44'40"N

N W E S

NEORA RIVER

JP_ML_NR_12



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4

Kilometers

JP_ML_NR_12		
POINT_NO	**Latitude**	**Longitude**
1	26° 44' 37.296" N	88° 45' 39.770" E
2	26° 44' 37.224" N	88° 45' 39.679" E
3	26° 44' 38.148" N	88° 45' 38.498" E
4	26° 44' 38.340" N	88° 45' 38.733" E
5	26° 44' 40.565" N	88° 45' 39.140" E
6	26° 44' 45.761" N	88° 45' 40.462" E
7	26° 44' 46.569" N	88° 45' 40.775" E
8	26° 44' 49.054" N	88° 45' 41.388" E
9	26° 44' 50.167" N	88° 45' 41.788" E
10	26° 44' 49.352" N	88° 45' 45.127" E
11	26° 44' 47.703" N	88° 45' 46.347" E
12	26° 44' 44.955" N	88° 45' 46.113" E
13	26° 44' 42.038" N	88° 45' 45.589" E
14	26° 44' 39.820" N	88° 45' 44.214" E
15	26° 44' 38.393" N	88° 45' 41.415" E

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

POTENTIAL BLOCK JP_ML_NR_13 OF NEORA RIVER

88°45'30"E

88°45'40"E

26°44'10"N

N

W

E

S

NEORA RIVER

JP_ML_NR_13

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.04 0.08 0.16 0.24 0.32

Kilometers

JP_ML_NR_13		
POINT_NO	Latitude	Longitude
1	26° 44' 1.889" N	88° 45' 30.200" E
2	26° 43' 59.939" N	88° 45' 28.524" E
3	26° 44' 5.789" N	88° 45' 28.194" E
4	26° 44' 8.596" N	88° 45' 28.302" E
5	26° 44' 8.950" N	88° 45' 29.351" E
6	26° 44' 10.127" N	88° 45' 31.476" E
7	26° 44' 11.107" N	88° 45' 32.349" E
8	26° 44' 11.817" N	88° 45' 33.697" E
9	26° 44' 11.980" N	88° 45' 34.569" E
10	26° 44' 11.364" N	88° 45' 35.708" E
11	26° 44' 9.817" N	88° 45' 35.684" E
12	26° 44' 8.357" N	88° 45' 35.566" E
13	26° 44' 6.565" N	88° 45' 34.485" E
14	26° 44' 5.028" N	88° 45' 33.600" E
15	26° 44' 3.924" N	88° 45' 32.530" E

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

POTENTIAL BLOCK JP_ML_NR_14 OF NEORA RIVER

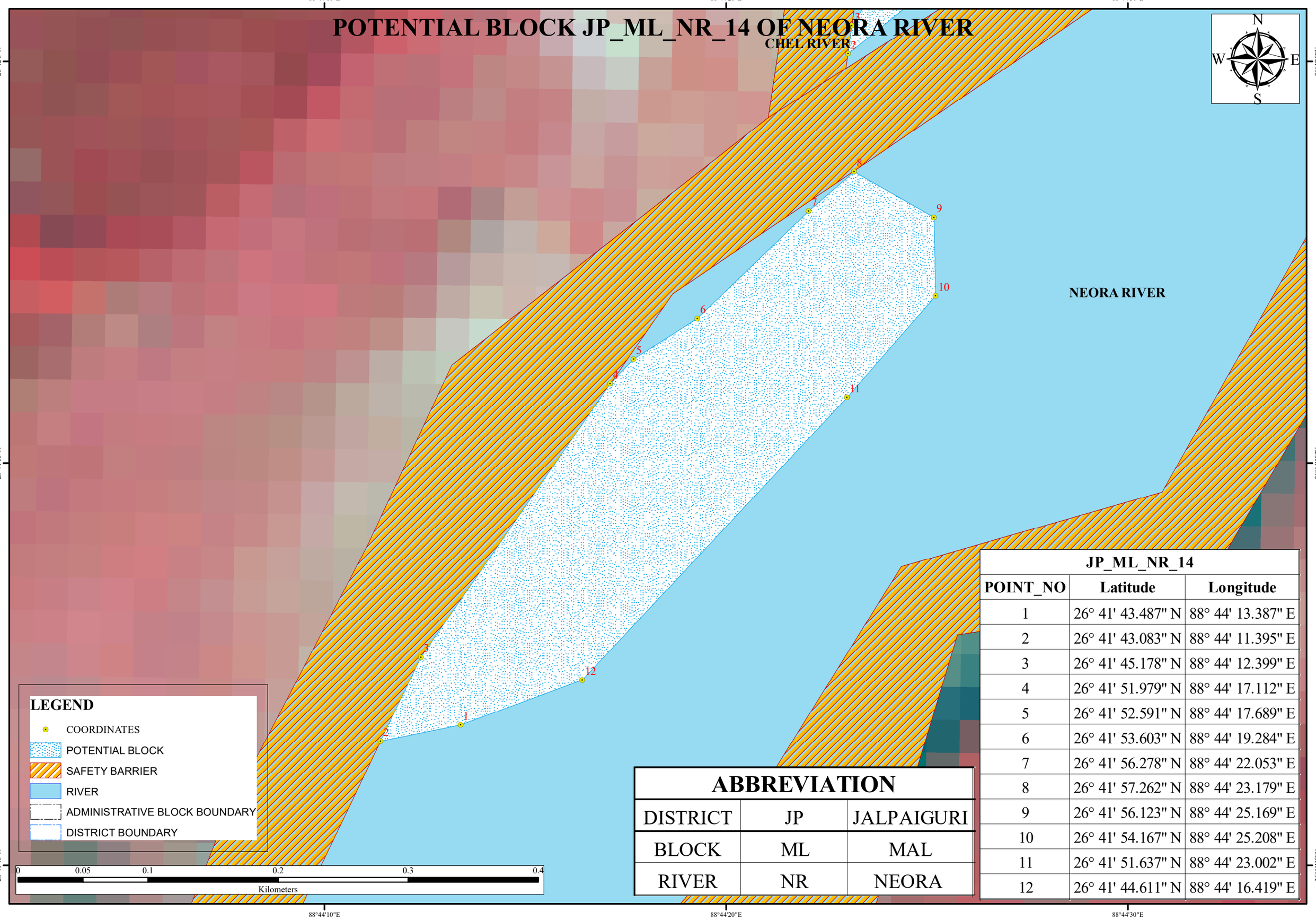
88°44'10"E 88°44'20"E 88°44'30"E

26°42'0"N 26°41'50"N 26°41'40"N

CHEL RIVER

NEORA RIVER

N W E S



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

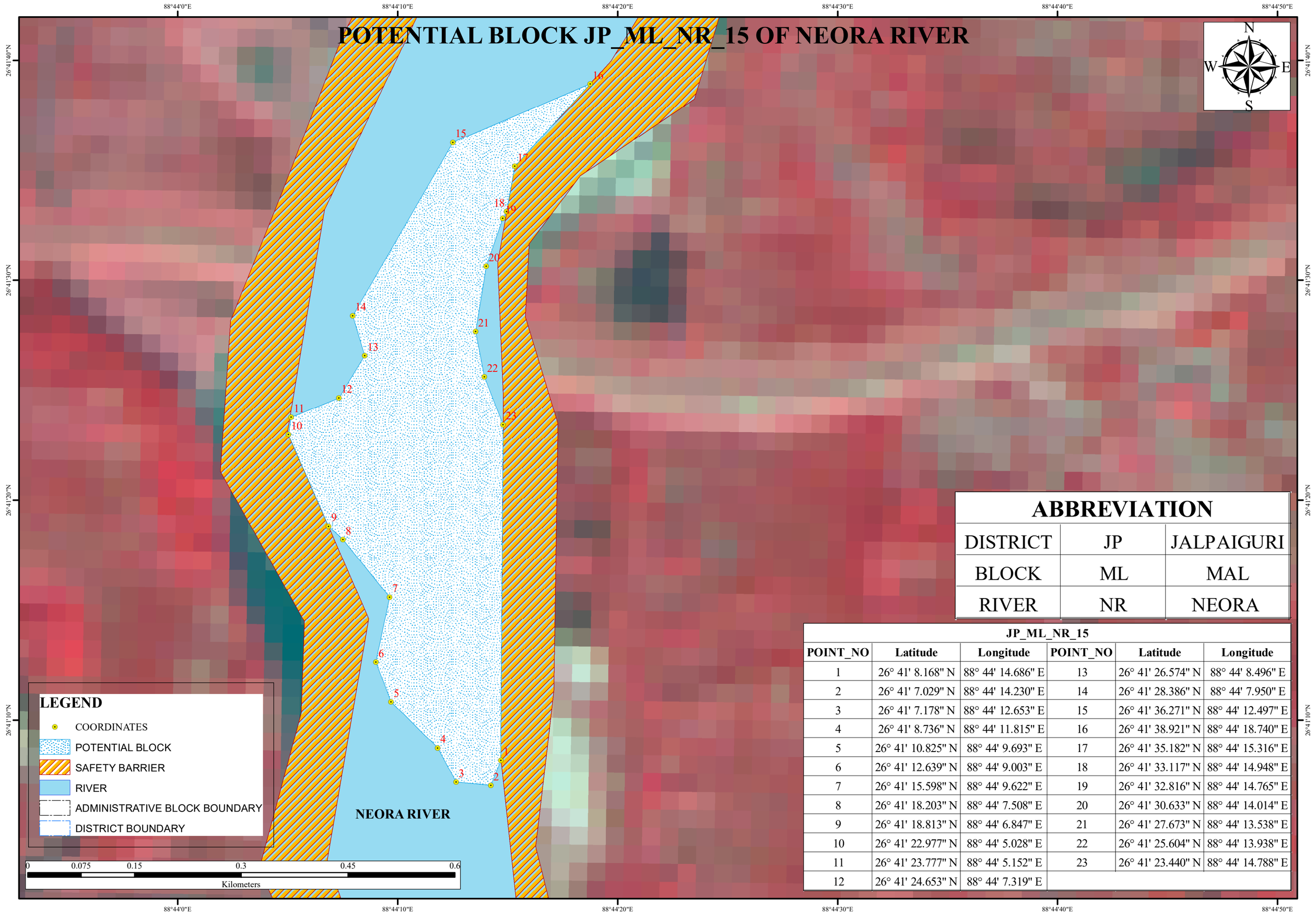
0 0.05 0.1 0.2 0.3 0.4

Kilometers

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

JP_ML_NR_14		
POINT_NO	Latitude	Longitude
1	26° 41' 43.487" N	88° 44' 13.387" E
2	26° 41' 43.083" N	88° 44' 11.395" E
3	26° 41' 45.178" N	88° 44' 12.399" E
4	26° 41' 51.979" N	88° 44' 17.112" E
5	26° 41' 52.591" N	88° 44' 17.689" E
6	26° 41' 53.603" N	88° 44' 19.284" E
7	26° 41' 56.278" N	88° 44' 22.053" E
8	26° 41' 57.262" N	88° 44' 23.179" E
9	26° 41' 56.123" N	88° 44' 25.169" E
10	26° 41' 54.167" N	88° 44' 25.208" E
11	26° 41' 51.637" N	88° 44' 23.002" E
12	26° 41' 44.611" N	88° 44' 16.419" E

POTENTIAL BLOCK JP_ML_NR_15 OF NEORA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

JP_ML_NR_15					
POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 41' 8.168" N	88° 44' 14.686" E	13	26° 41' 26.574" N	88° 44' 8.496" E
2	26° 41' 7.029" N	88° 44' 14.230" E	14	26° 41' 28.386" N	88° 44' 7.950" E
3	26° 41' 7.178" N	88° 44' 12.653" E	15	26° 41' 36.271" N	88° 44' 12.497" E
4	26° 41' 8.736" N	88° 44' 11.815" E	16	26° 41' 38.921" N	88° 44' 18.740" E
5	26° 41' 10.825" N	88° 44' 9.693" E	17	26° 41' 35.182" N	88° 44' 15.316" E
6	26° 41' 12.639" N	88° 44' 9.003" E	18	26° 41' 33.117" N	88° 44' 14.948" E
7	26° 41' 15.598" N	88° 44' 9.622" E	19	26° 41' 32.816" N	88° 44' 14.765" E
8	26° 41' 18.203" N	88° 44' 7.508" E	20	26° 41' 30.633" N	88° 44' 14.014" E
9	26° 41' 18.813" N	88° 44' 6.847" E	21	26° 41' 27.673" N	88° 44' 13.538" E
10	26° 41' 22.977" N	88° 44' 5.028" E	22	26° 41' 25.604" N	88° 44' 13.938" E
11	26° 41' 23.777" N	88° 44' 5.152" E	23	26° 41' 23.440" N	88° 44' 14.788" E
12	26° 41' 24.653" N	88° 44' 7.319" E			

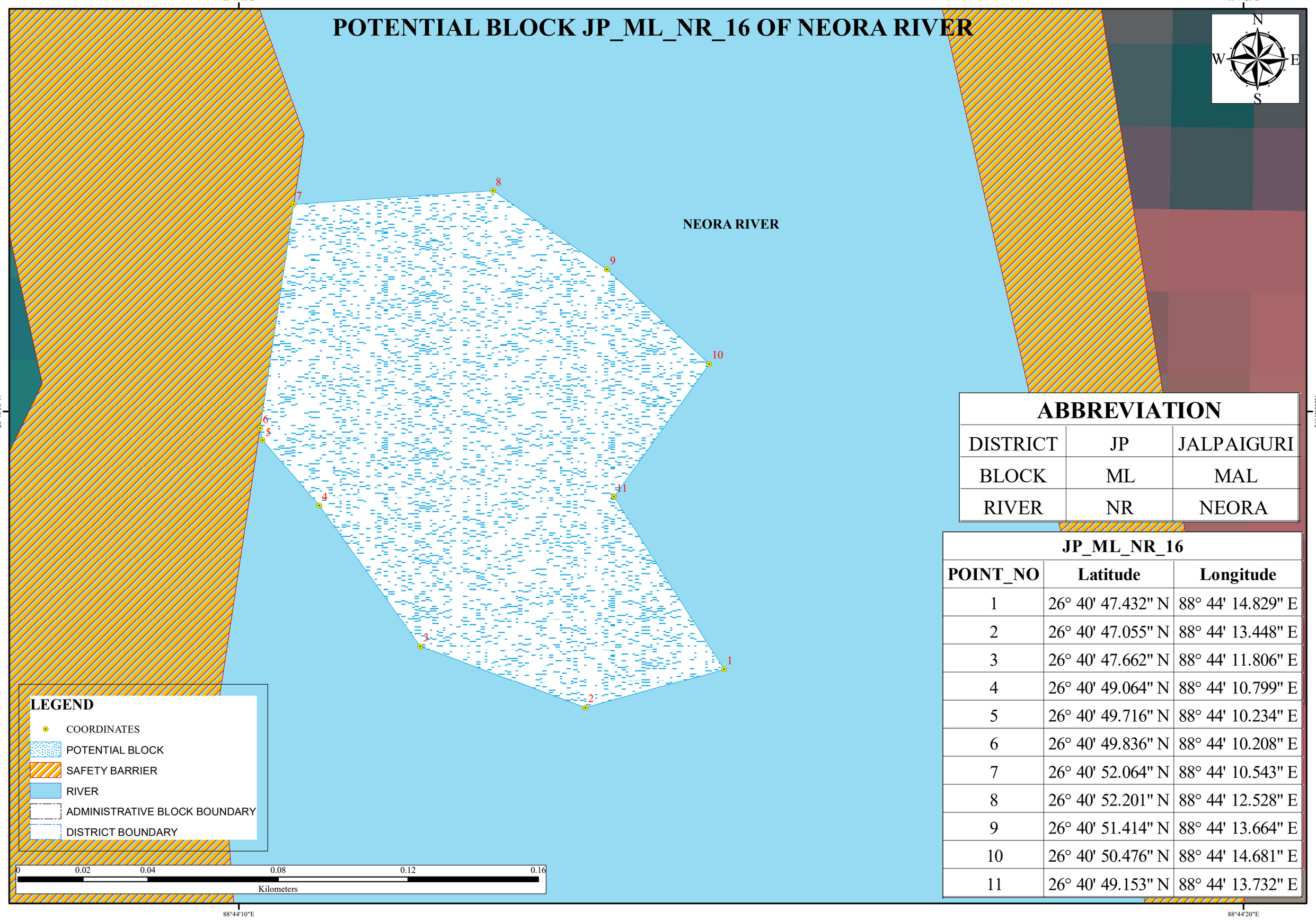
POTENTIAL BLOCK JP_ML_NR_16 OF NEORA RIVER

88°44'10"E

88°44'20"E

26°40'50"N

NEORA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

JP_ML_NR_16

POINT_NO	Latitude	Longitude
1	26° 40' 47.432" N	88° 44' 14.829" E
2	26° 40' 47.055" N	88° 44' 13.448" E
3	26° 40' 47.662" N	88° 44' 11.806" E
4	26° 40' 49.064" N	88° 44' 10.799" E
5	26° 40' 49.716" N	88° 44' 10.234" E
6	26° 40' 49.836" N	88° 44' 10.208" E
7	26° 40' 52.064" N	88° 44' 10.543" E
8	26° 40' 52.201" N	88° 44' 12.528" E
9	26° 40' 51.414" N	88° 44' 13.664" E
10	26° 40' 50.476" N	88° 44' 14.681" E
11	26° 40' 49.153" N	88° 44' 13.732" E

POTENTIAL BLOCK JP_ML_NR_18 OF NEORA RIVER

88°44'0"E 88°44'10"E 88°44'20"E 88°44'30"E 88°44'40"E

26°40'40"N 26°40'30"N 26°40'20"N 26°40'10"N

N W E S

NEORA RIVER

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.075 0.15 0.3 0.45 0.6

Kilometers

JP_ML_NR_18		
POINT_NO	**Latitude**	**Longitude**
1	26° 40' 7.089" N	88° 44' 16.818" E
2	26° 40' 7.116" N	88° 44' 14.666" E
3	26° 40' 13.905" N	88° 44' 9.627" E
4	26° 40' 18.799" N	88° 44' 9.936" E
5	26° 40' 21.824" N	88° 44' 12.379" E
6	26° 40' 22.870" N	88° 44' 14.787" E
7	26° 40' 25.649" N	88° 44' 16.025" E
8	26° 40' 29.866" N	88° 44' 15.964" E
9	26° 40' 32.044" N	88° 44' 17.145" E
10	26° 40' 34.595" N	88° 44' 19.481" E
11	26° 40' 38.848" N	88° 44' 19.689" E
12	26° 40' 39.114" N	88° 44' 20.380" E
13	26° 40' 34.386" N	88° 44' 21.453" E
14	26° 40' 24.300" N	88° 44' 20.103" E
15	26° 40' 13.473" N	88° 44' 17.786" E
16	26° 40' 9.798" N	88° 44' 17.942" E

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

POTENTIAL BLOCK JP_ML_NR_20 OF NEORA RIVER



88°44'0"E 88°44'10"E 88°44'20"E 88°44'30"E 88°44'40"E 88°44'50"E

26°39'40"N
26°39'30"N
26°39'20"N
26°39'10"N

NEORA RIVER

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

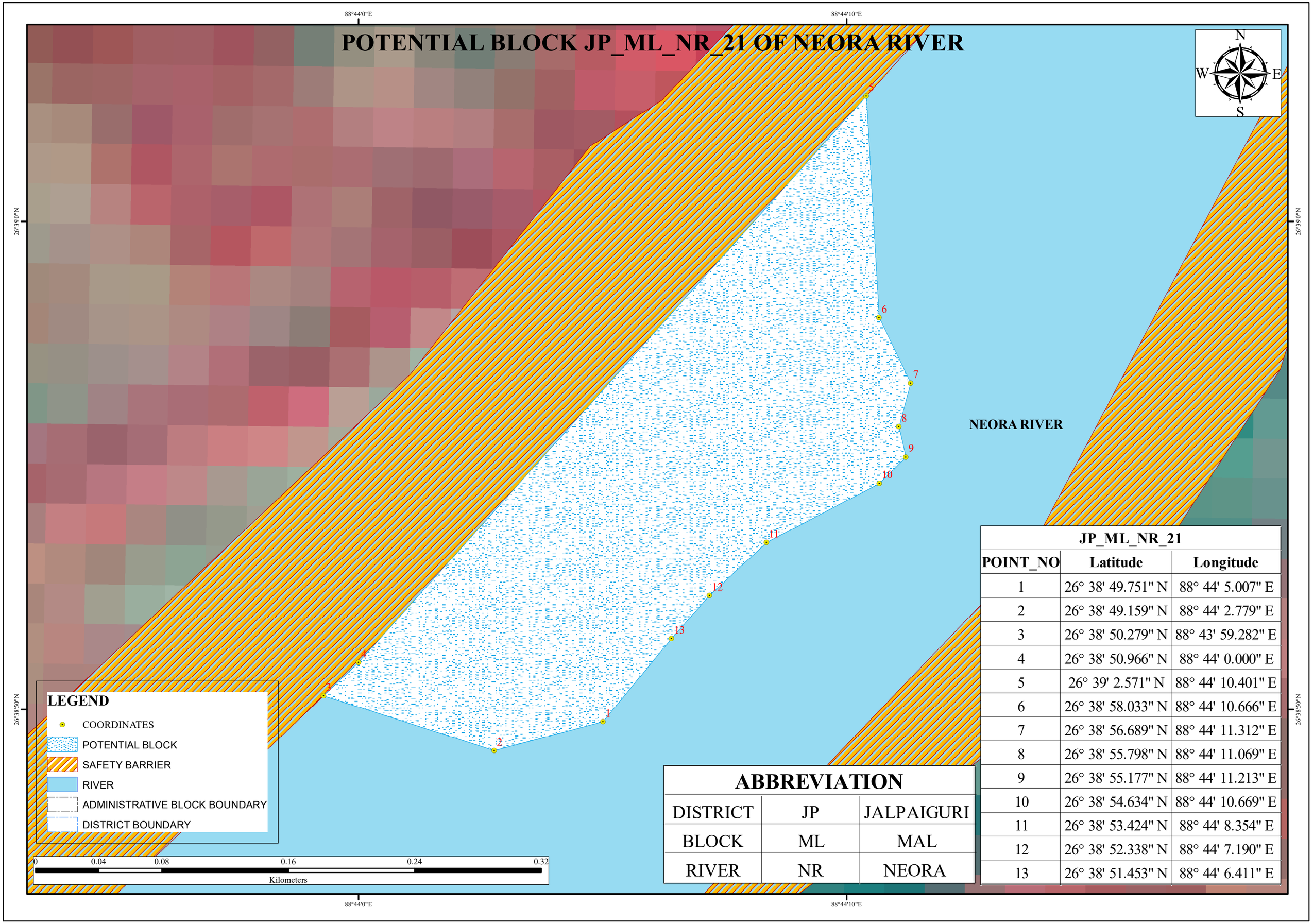
0 0.075 0.15 0.3 0.45 0.6
Kilometers

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

JP_ML_NR_20

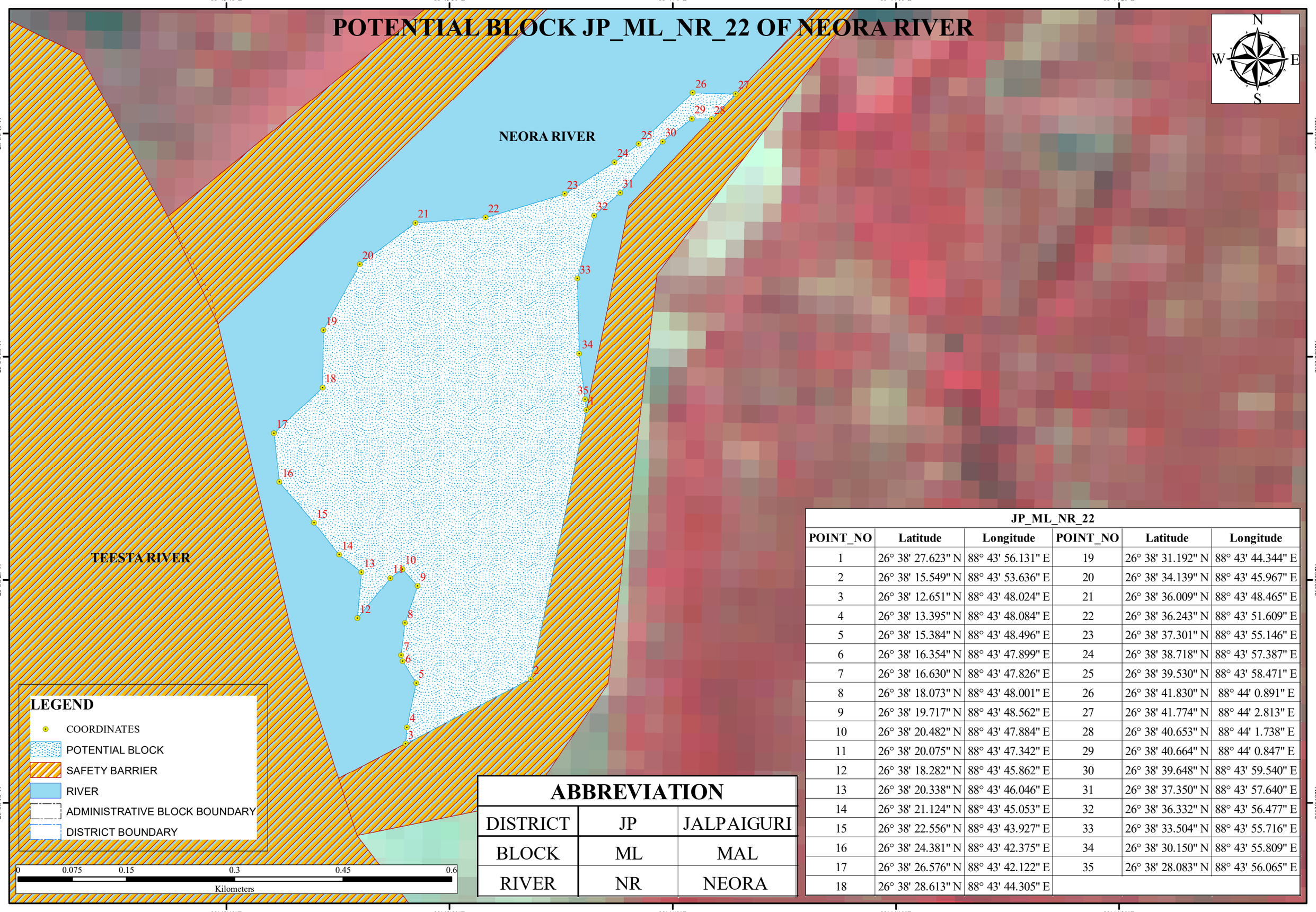
POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 39' 10.508" N	88° 44' 21.845" E	13	26° 39' 34.180" N	88° 44' 13.684" E
2	26° 39' 10.482" N	88° 44' 21.650" E	14	26° 39' 35.860" N	88° 44' 13.423" E
3	26° 39' 11.921" N	88° 44' 19.950" E	15	26° 39' 37.533" N	88° 44' 13.735" E
4	26° 39' 17.751" N	88° 44' 14.040" E	16	26° 39' 38.550" N	88° 44' 14.899" E
5	26° 39' 18.712" N	88° 44' 12.638" E	17	26° 39' 39.576" N	88° 44' 15.345" E
6	26° 39' 19.874" N	88° 44' 12.494" E	18	26° 39' 39.631" N	88° 44' 15.389" E
7	26° 39' 22.749" N	88° 44' 11.475" E	19	26° 39' 38.553" N	88° 44' 17.235" E
8	26° 39' 24.009" N	88° 44' 12.239" E	20	26° 39' 38.008" N	88° 44' 17.044" E
9	26° 39' 25.700" N	88° 44' 11.116" E	21	26° 39' 35.941" N	88° 44' 17.299" E
10	26° 39' 28.408" N	88° 44' 11.157" E	22	26° 39' 34.131" N	88° 44' 17.703" E
11	26° 39' 30.584" N	88° 44' 12.482" E	23	26° 39' 31.411" N	88° 44' 18.666" E
12	26° 39' 32.635" N	88° 44' 13.517" E	24	26° 39' 31.120" N	88° 44' 18.886" E



JP_ML_NR_21		
POINT_NO	Latitude	Longitude
1	26° 38' 49.751" N	88° 44' 5.007" E
2	26° 38' 49.159" N	88° 44' 2.779" E
3	26° 38' 50.279" N	88° 43' 59.282" E
4	26° 38' 50.966" N	88° 44' 0.000" E
5	26° 39' 2.571" N	88° 44' 10.401" E
6	26° 38' 58.033" N	88° 44' 10.666" E
7	26° 38' 56.689" N	88° 44' 11.312" E
8	26° 38' 55.798" N	88° 44' 11.069" E
9	26° 38' 55.177" N	88° 44' 11.213" E
10	26° 38' 54.634" N	88° 44' 10.669" E
11	26° 38' 53.424" N	88° 44' 8.354" E
12	26° 38' 52.338" N	88° 44' 7.190" E
13	26° 38' 51.453" N	88° 44' 6.411" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

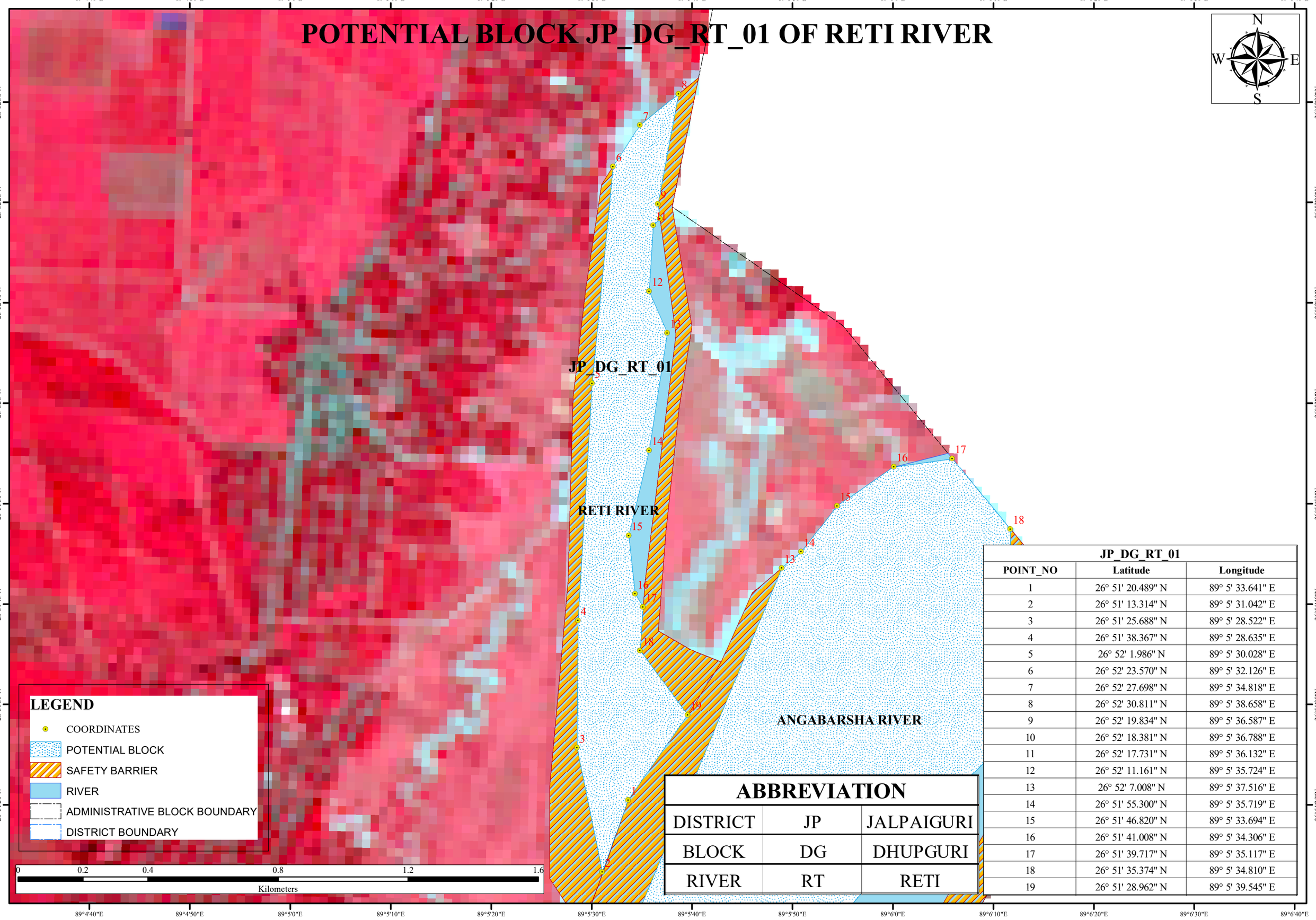
POTENTIAL BLOCK JP_ML_NR_22 OF NEORA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	NR	NEORA

JP_ML_NR_22					
POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 38' 27.623" N	88° 43' 56.131" E	19	26° 38' 31.192" N	88° 43' 44.344" E
2	26° 38' 15.549" N	88° 43' 53.636" E	20	26° 38' 34.139" N	88° 43' 45.967" E
3	26° 38' 12.651" N	88° 43' 48.024" E	21	26° 38' 36.009" N	88° 43' 48.465" E
4	26° 38' 13.395" N	88° 43' 48.084" E	22	26° 38' 36.243" N	88° 43' 51.609" E
5	26° 38' 15.384" N	88° 43' 48.496" E	23	26° 38' 37.301" N	88° 43' 55.146" E
6	26° 38' 16.354" N	88° 43' 47.899" E	24	26° 38' 38.718" N	88° 43' 57.387" E
7	26° 38' 16.630" N	88° 43' 47.826" E	25	26° 38' 39.530" N	88° 43' 58.471" E
8	26° 38' 18.073" N	88° 43' 48.001" E	26	26° 38' 41.830" N	88° 44' 0.891" E
9	26° 38' 19.717" N	88° 43' 48.562" E	27	26° 38' 41.774" N	88° 44' 2.813" E
10	26° 38' 20.482" N	88° 43' 47.884" E	28	26° 38' 40.653" N	88° 44' 1.738" E
11	26° 38' 20.075" N	88° 43' 47.342" E	29	26° 38' 40.664" N	88° 44' 0.847" E
12	26° 38' 18.282" N	88° 43' 45.862" E	30	26° 38' 39.648" N	88° 43' 59.540" E
13	26° 38' 20.338" N	88° 43' 46.046" E	31	26° 38' 37.350" N	88° 43' 57.640" E
14	26° 38' 21.124" N	88° 43' 45.053" E	32	26° 38' 36.332" N	88° 43' 56.477" E
15	26° 38' 22.556" N	88° 43' 43.927" E	33	26° 38' 33.504" N	88° 43' 55.716" E
16	26° 38' 24.381" N	88° 43' 42.375" E	34	26° 38' 30.150" N	88° 43' 55.809" E
17	26° 38' 26.576" N	88° 43' 42.122" E	35	26° 38' 28.083" N	88° 43' 56.065" E
18	26° 38' 28.613" N	88° 43' 44.305" E			

POTENTIAL BLOCK JP_DG_RT_01 OF RETI RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	DG	DHUPGURI
RIVER	RT	RETI

JP_DG_RT_01		
POINT_NO	Latitude	Longitude
1	26° 51' 20.489" N	89° 5' 33.641" E
2	26° 51' 13.314" N	89° 5' 31.042" E
3	26° 51' 25.688" N	89° 5' 28.522" E
4	26° 51' 38.367" N	89° 5' 28.635" E
5	26° 52' 1.986" N	89° 5' 30.028" E
6	26° 52' 23.570" N	89° 5' 32.126" E
7	26° 52' 27.698" N	89° 5' 34.818" E
8	26° 52' 30.811" N	89° 5' 38.658" E
9	26° 52' 19.834" N	89° 5' 36.587" E
10	26° 52' 18.381" N	89° 5' 36.788" E
11	26° 52' 17.731" N	89° 5' 36.132" E
12	26° 52' 11.161" N	89° 5' 35.724" E
13	26° 52' 7.008" N	89° 5' 37.516" E
14	26° 51' 55.300" N	89° 5' 35.719" E
15	26° 51' 46.820" N	89° 5' 33.694" E
16	26° 51' 41.008" N	89° 5' 34.306" E
17	26° 51' 39.717" N	89° 5' 35.117" E
18	26° 51' 35.374" N	89° 5' 34.810" E
19	26° 51' 28.962" N	89° 5' 39.545" E

POTENTIAL BLOCK JP_RG_TS_01 OF TEESTA RIVER

88°28'50"E 88°29'0"E 88°29'10"E

26°51'0"N

26°50'52"N

N W E S

JP_RG_TS_01

TEESTA RIVER

1 2 3 4 5 6 7

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

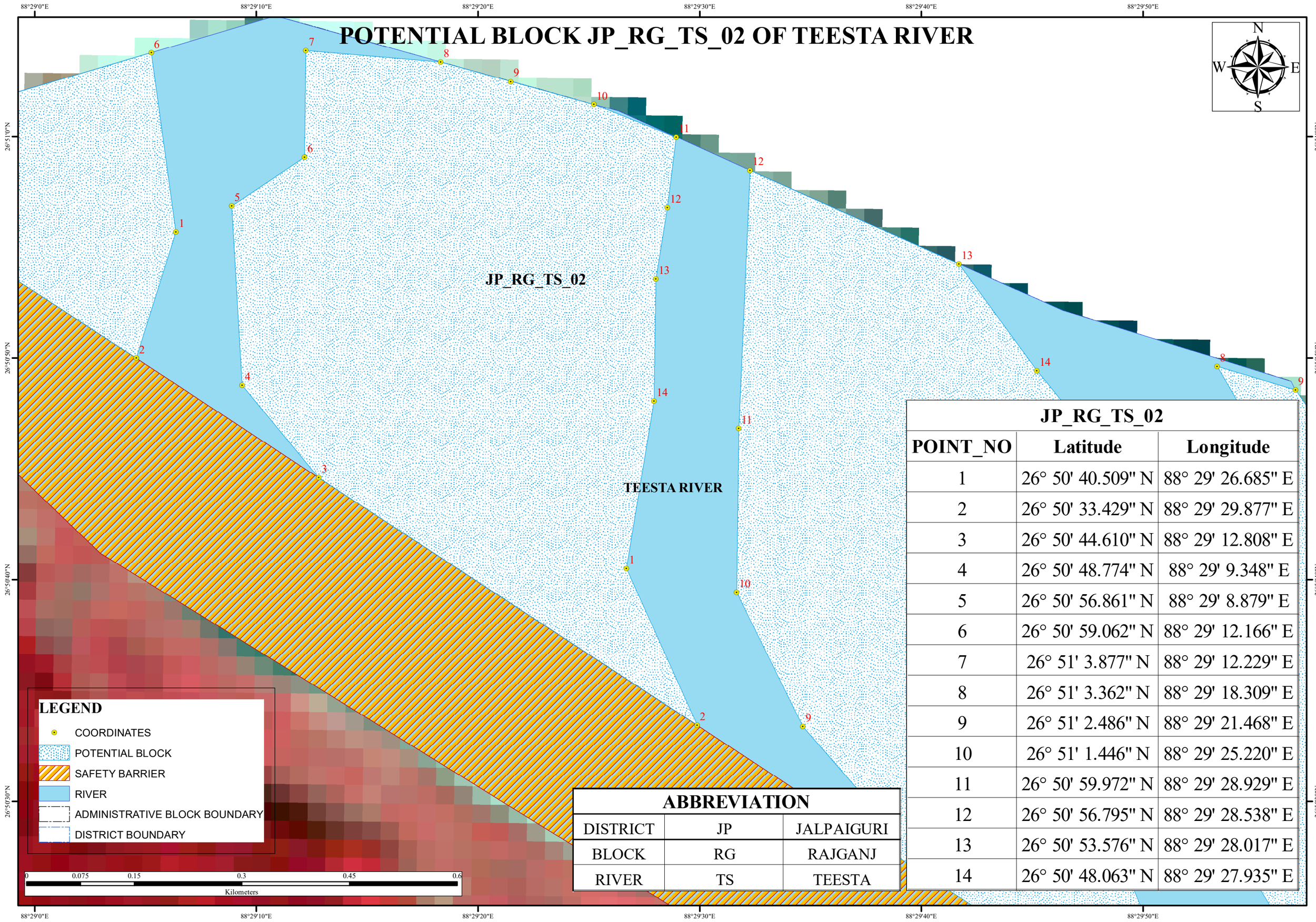
0 0.05 0.1 0.2 0.3 0.4

Kilometers

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

JP_RG_TS_01		
POINT_NO	Latitude	Longitude
1	26° 50' 55.684" N	88° 29' 6.371" E
2	26° 50' 50.000" N	88° 29' 4.578" E
3	26° 50' 57.034" N	88° 28' 53.837" E
4	26° 50' 59.805" N	88° 28' 51.743" E
5	26° 51' 0.800" N	88° 28' 55.127" E
6	26° 51' 3.779" N	88° 29' 5.256" E

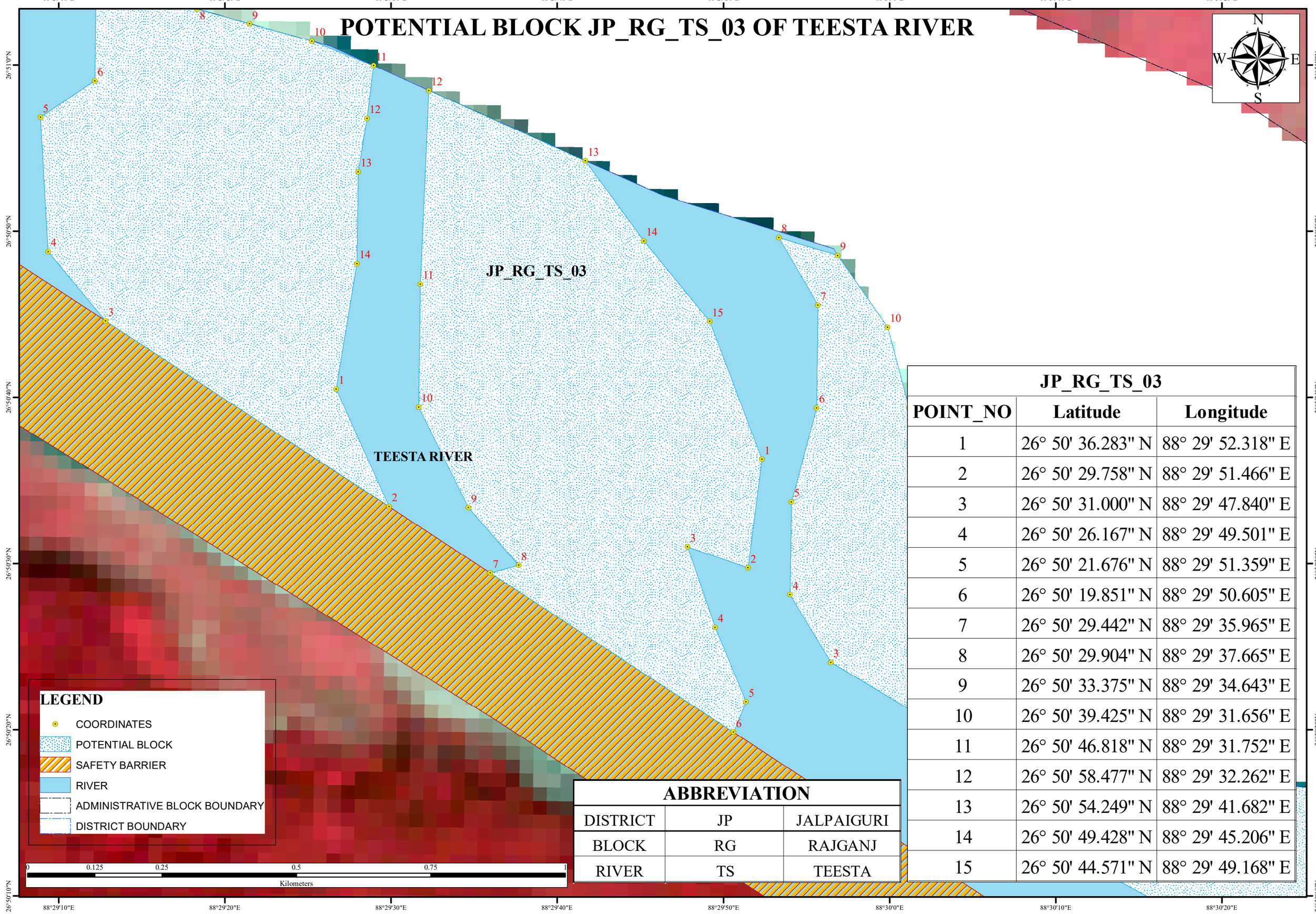
POTENTIAL BLOCK JP_RG_TS_02 OF TEESTA RIVER



JP_RG_TS_02		
POINT_NO	Latitude	Longitude
1	26° 50' 40.509" N	88° 29' 26.685" E
2	26° 50' 33.429" N	88° 29' 29.877" E
3	26° 50' 44.610" N	88° 29' 12.808" E
4	26° 50' 48.774" N	88° 29' 9.348" E
5	26° 50' 56.861" N	88° 29' 8.879" E
6	26° 50' 59.062" N	88° 29' 12.166" E
7	26° 51' 3.877" N	88° 29' 12.229" E
8	26° 51' 3.362" N	88° 29' 18.309" E
9	26° 51' 2.486" N	88° 29' 21.468" E
10	26° 51' 1.446" N	88° 29' 25.220" E
11	26° 50' 59.972" N	88° 29' 28.929" E
12	26° 50' 56.795" N	88° 29' 28.538" E
13	26° 50' 53.576" N	88° 29' 28.017" E
14	26° 50' 48.063" N	88° 29' 27.935" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

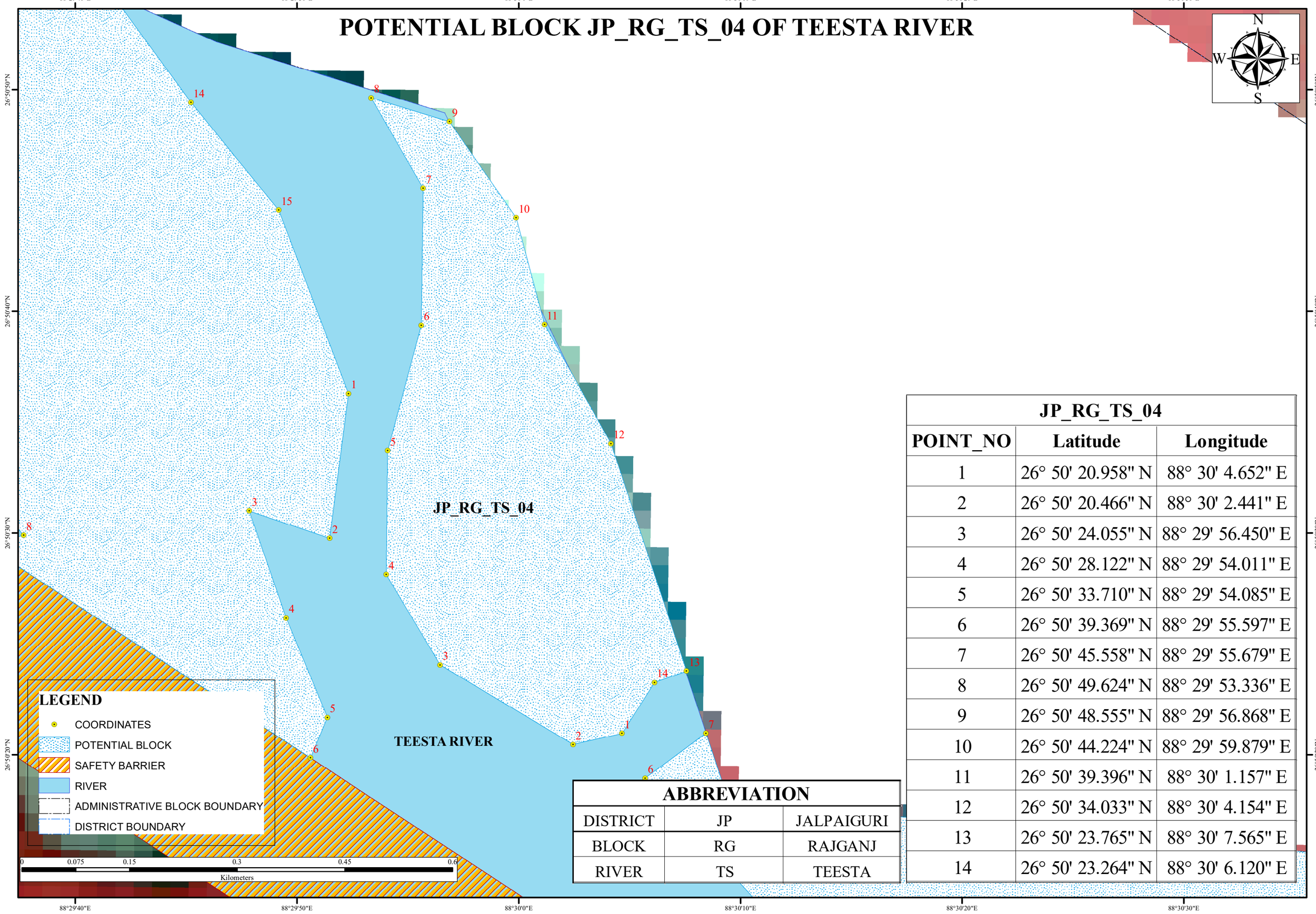
POTENTIAL BLOCK JP_RG_TS_03 OF TEESTA RIVER



JP_RG_TS_03		
POINT_NO	Latitude	Longitude
1	26° 50' 36.283" N	88° 29' 52.318" E
2	26° 50' 29.758" N	88° 29' 51.466" E
3	26° 50' 31.000" N	88° 29' 47.840" E
4	26° 50' 26.167" N	88° 29' 49.501" E
5	26° 50' 21.676" N	88° 29' 51.359" E
6	26° 50' 19.851" N	88° 29' 50.605" E
7	26° 50' 29.442" N	88° 29' 35.965" E
8	26° 50' 29.904" N	88° 29' 37.665" E
9	26° 50' 33.375" N	88° 29' 34.643" E
10	26° 50' 39.425" N	88° 29' 31.656" E
11	26° 50' 46.818" N	88° 29' 31.752" E
12	26° 50' 58.477" N	88° 29' 32.262" E
13	26° 50' 54.249" N	88° 29' 41.682" E
14	26° 50' 49.428" N	88° 29' 45.206" E
15	26° 50' 44.571" N	88° 29' 49.168" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

POTENTIAL BLOCK JP_RG_TS_04 OF TEESTA RIVER



JP_RG_TS_04		
POINT_NO	Latitude	Longitude
1	26° 50' 20.958" N	88° 30' 4.652" E
2	26° 50' 20.466" N	88° 30' 2.441" E
3	26° 50' 24.055" N	88° 29' 56.450" E
4	26° 50' 28.122" N	88° 29' 54.011" E
5	26° 50' 33.710" N	88° 29' 54.085" E
6	26° 50' 39.369" N	88° 29' 55.597" E
7	26° 50' 45.558" N	88° 29' 55.679" E
8	26° 50' 49.624" N	88° 29' 53.336" E
9	26° 50' 48.555" N	88° 29' 56.868" E
10	26° 50' 44.224" N	88° 29' 59.879" E
11	26° 50' 39.396" N	88° 30' 1.157" E
12	26° 50' 34.033" N	88° 30' 4.154" E
13	26° 50' 23.765" N	88° 30' 7.565" E
14	26° 50' 23.264" N	88° 30' 6.120" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

POTENTIAL BLOCK JP_RG_TS_05 OF TEESTA RIVER

88°30'10"E 88°30'15"E 88°30'20"E 88°30'25"E 88°30'30"E

26°50'5"N 26°50'0"N 26°49'55"N

N S W E

JP_RG_TS_05

TEESTA RIVER

1 2 3 4 5 6 4

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.04 0.08 0.16 0.24 0.32
Kilometers

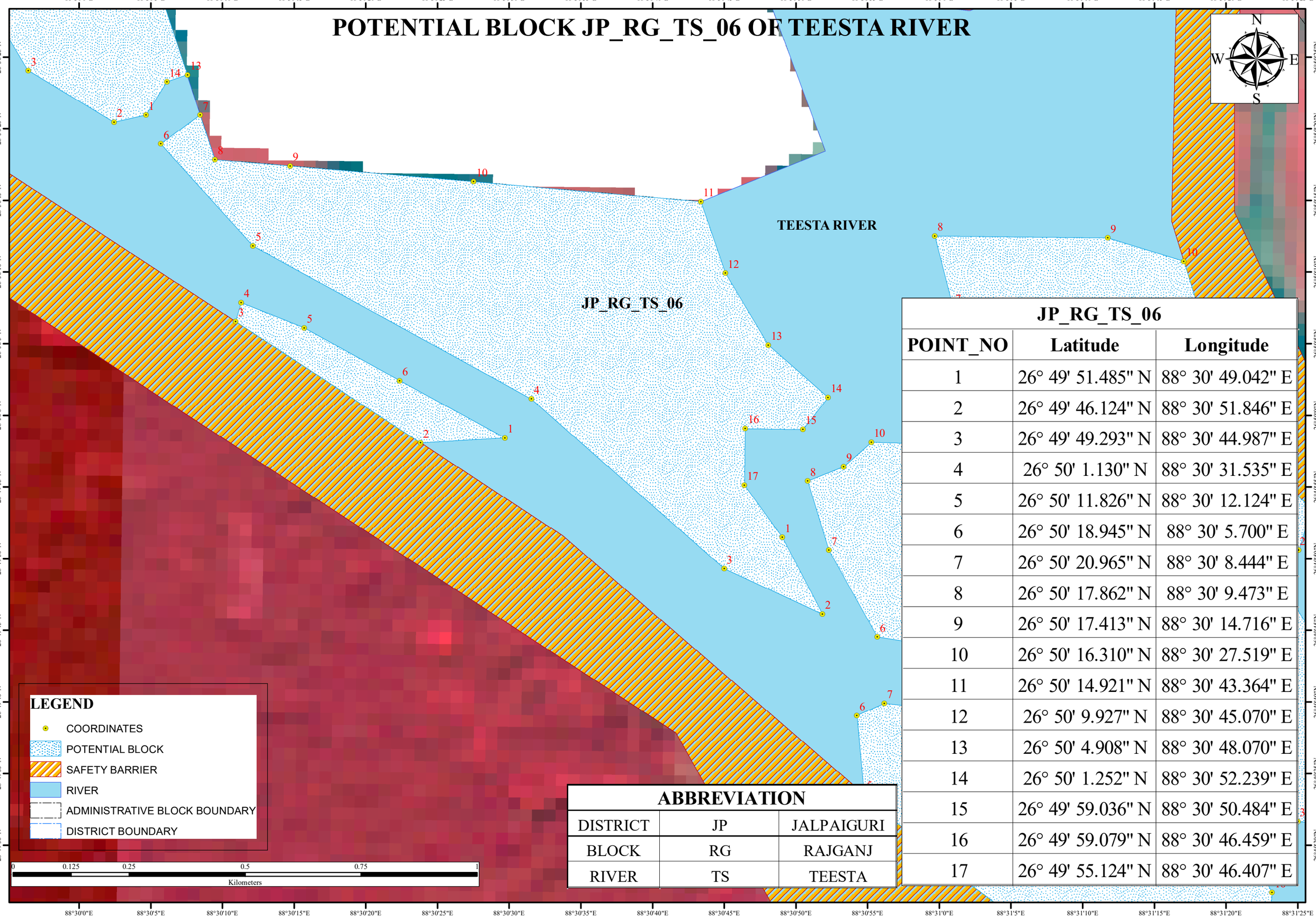
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

JP_RG_TS_05

POINT_NO	Latitude	Longitude
1	26° 49' 58.434" N	88° 30' 29.705" E
2	26° 49' 58.095" N	88° 30' 23.813" E
3	26° 50' 6.546" N	88° 30' 10.915" E
4	26° 50' 7.880" N	88° 30' 11.305" E
5	26° 50' 6.113" N	88° 30' 15.691" E
6	26° 50' 2.431" N	88° 30' 22.351" E

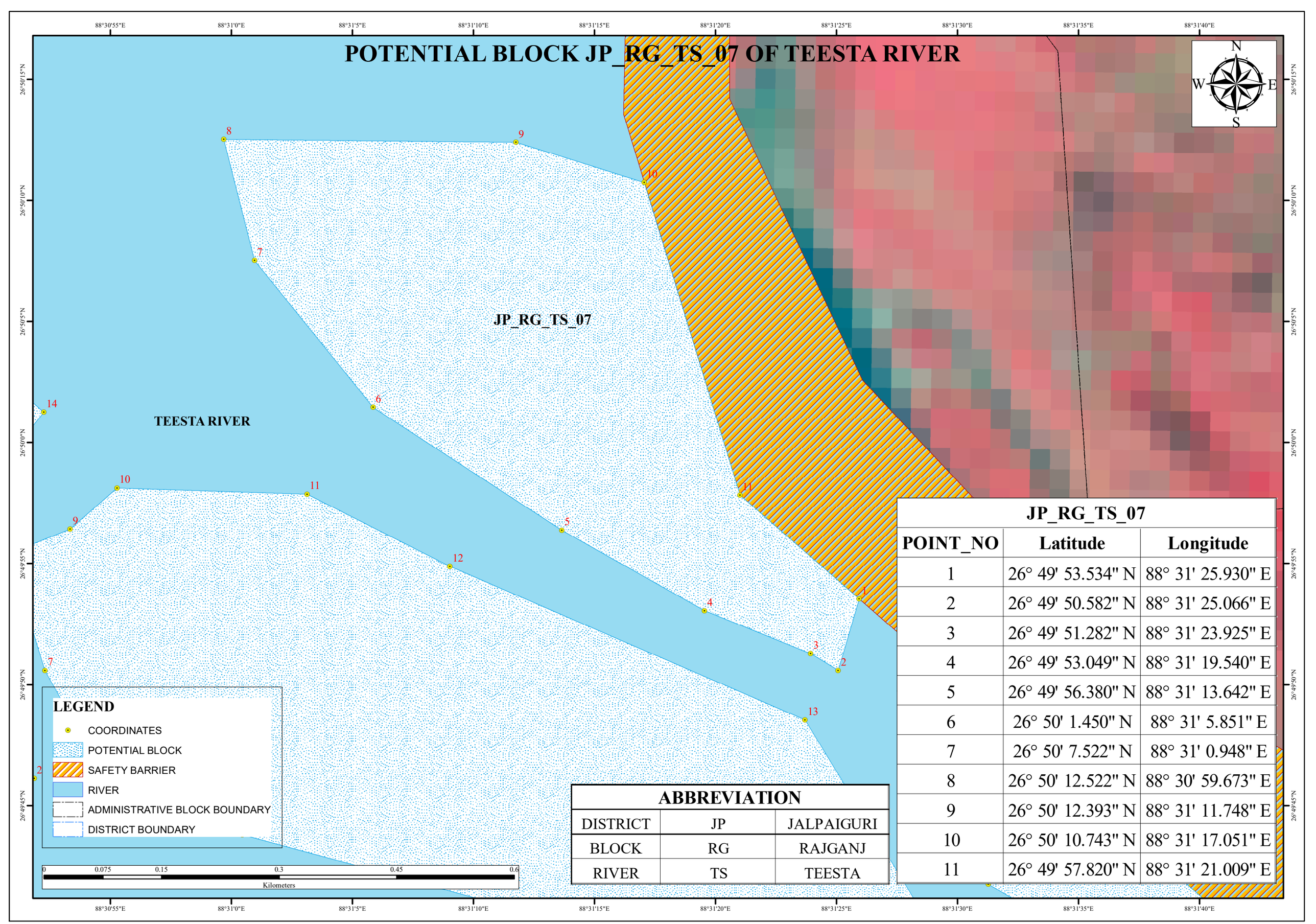
POTENTIAL BLOCK JP_RG_TS_06 OF TEESTA RIVER



JP_RG_TS_06		
POINT_NO	Latitude	Longitude
1	26° 49' 51.485" N	88° 30' 49.042" E
2	26° 49' 46.124" N	88° 30' 51.846" E
3	26° 49' 49.293" N	88° 30' 44.987" E
4	26° 50' 1.130" N	88° 30' 31.535" E
5	26° 50' 11.826" N	88° 30' 12.124" E
6	26° 50' 18.945" N	88° 30' 5.700" E
7	26° 50' 20.965" N	88° 30' 8.444" E
8	26° 50' 17.862" N	88° 30' 9.473" E
9	26° 50' 17.413" N	88° 30' 14.716" E
10	26° 50' 16.310" N	88° 30' 27.519" E
11	26° 50' 14.921" N	88° 30' 43.364" E
12	26° 50' 9.927" N	88° 30' 45.070" E
13	26° 50' 4.908" N	88° 30' 48.070" E
14	26° 50' 1.252" N	88° 30' 52.239" E
15	26° 49' 59.036" N	88° 30' 50.484" E
16	26° 49' 59.079" N	88° 30' 46.459" E
17	26° 49' 55.124" N	88° 30' 46.407" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

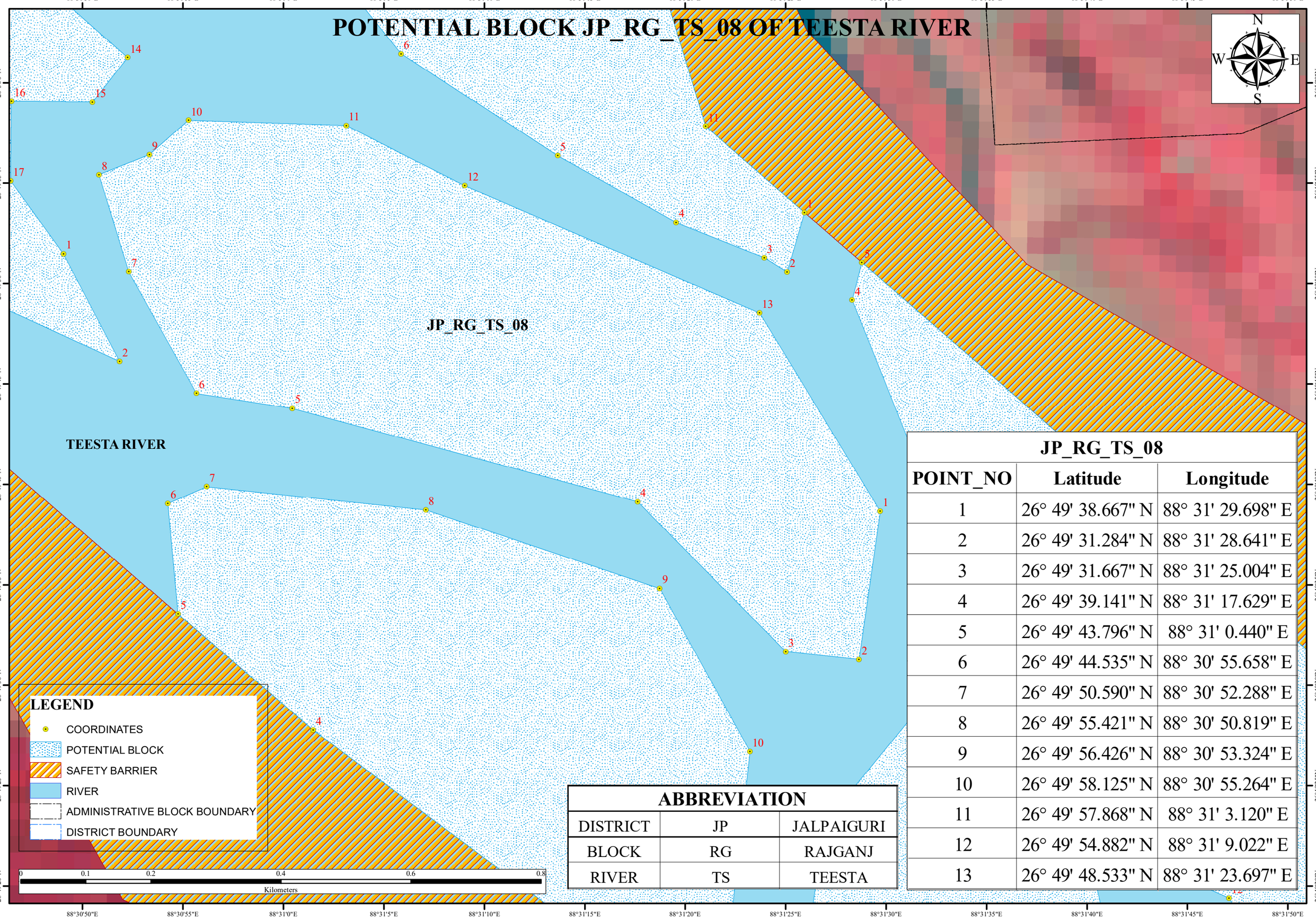
POTENTIAL BLOCK JP_RG_TS_07 OF TEESTA RIVER



JP_RG_TS_07		
POINT_NO	Latitude	Longitude
1	26° 49' 53.534" N	88° 31' 25.930" E
2	26° 49' 50.582" N	88° 31' 25.066" E
3	26° 49' 51.282" N	88° 31' 23.925" E
4	26° 49' 53.049" N	88° 31' 19.540" E
5	26° 49' 56.380" N	88° 31' 13.642" E
6	26° 50' 1.450" N	88° 31' 5.851" E
7	26° 50' 7.522" N	88° 31' 0.948" E
8	26° 50' 12.522" N	88° 30' 59.673" E
9	26° 50' 12.393" N	88° 31' 11.748" E
10	26° 50' 10.743" N	88° 31' 17.051" E
11	26° 49' 57.820" N	88° 31' 21.009" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

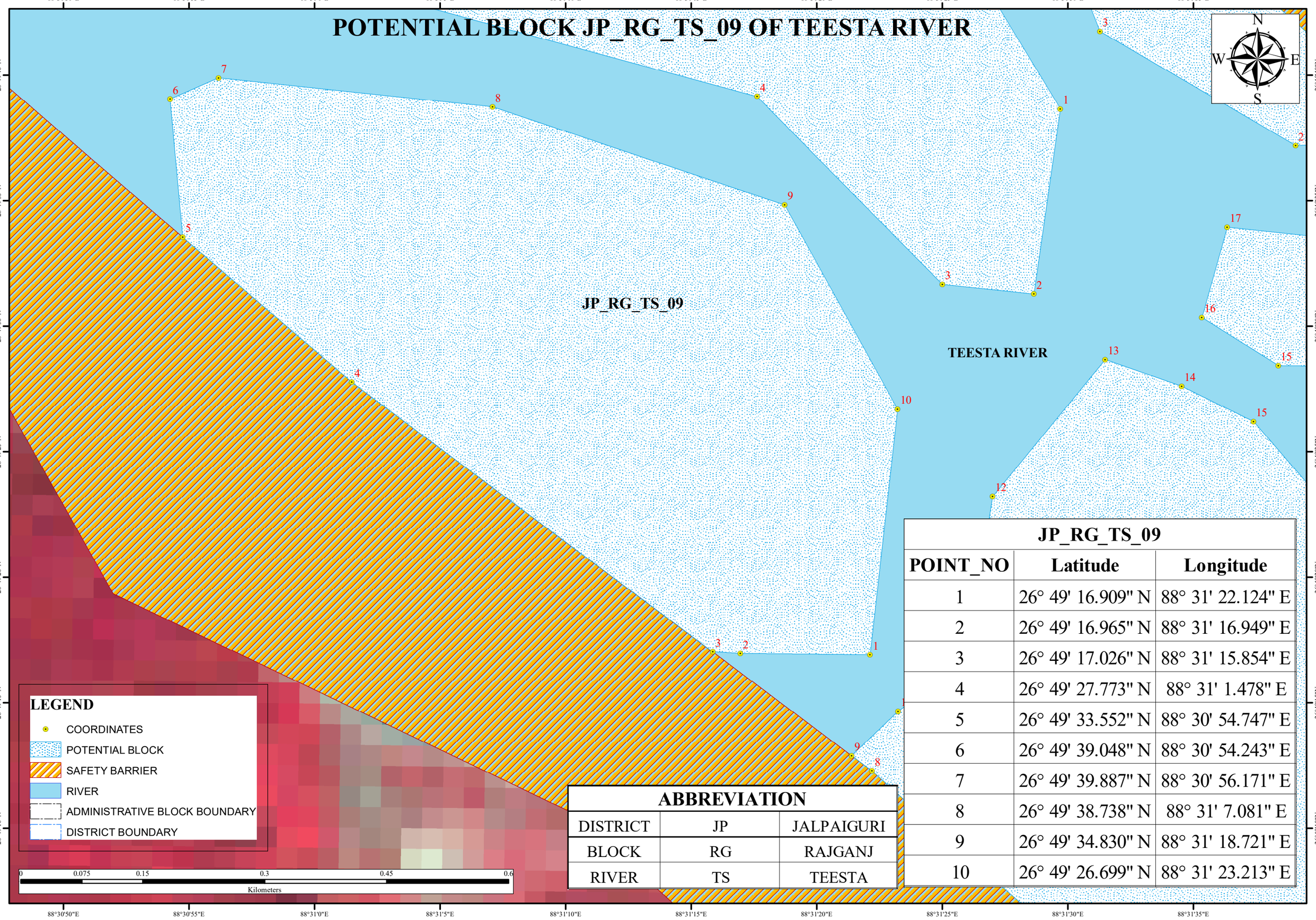
POTENTIAL BLOCK JP_RG_TS_08 OF TEESTA RIVER



JP_RG_TS_08		
POINT_NO	**Latitude**	**Longitude**
1	26° 49' 38.667" N	88° 31' 29.698" E
2	26° 49' 31.284" N	88° 31' 28.641" E
3	26° 49' 31.667" N	88° 31' 25.004" E
4	26° 49' 39.141" N	88° 31' 17.629" E
5	26° 49' 43.796" N	88° 31' 0.440" E
6	26° 49' 44.535" N	88° 30' 55.658" E
7	26° 49' 50.590" N	88° 30' 52.288" E
8	26° 49' 55.421" N	88° 30' 50.819" E
9	26° 49' 56.426" N	88° 30' 53.324" E
10	26° 49' 58.125" N	88° 30' 55.264" E
11	26° 49' 57.868" N	88° 31' 3.120" E
12	26° 49' 54.882" N	88° 31' 9.022" E
13	26° 49' 48.533" N	88° 31' 23.697" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

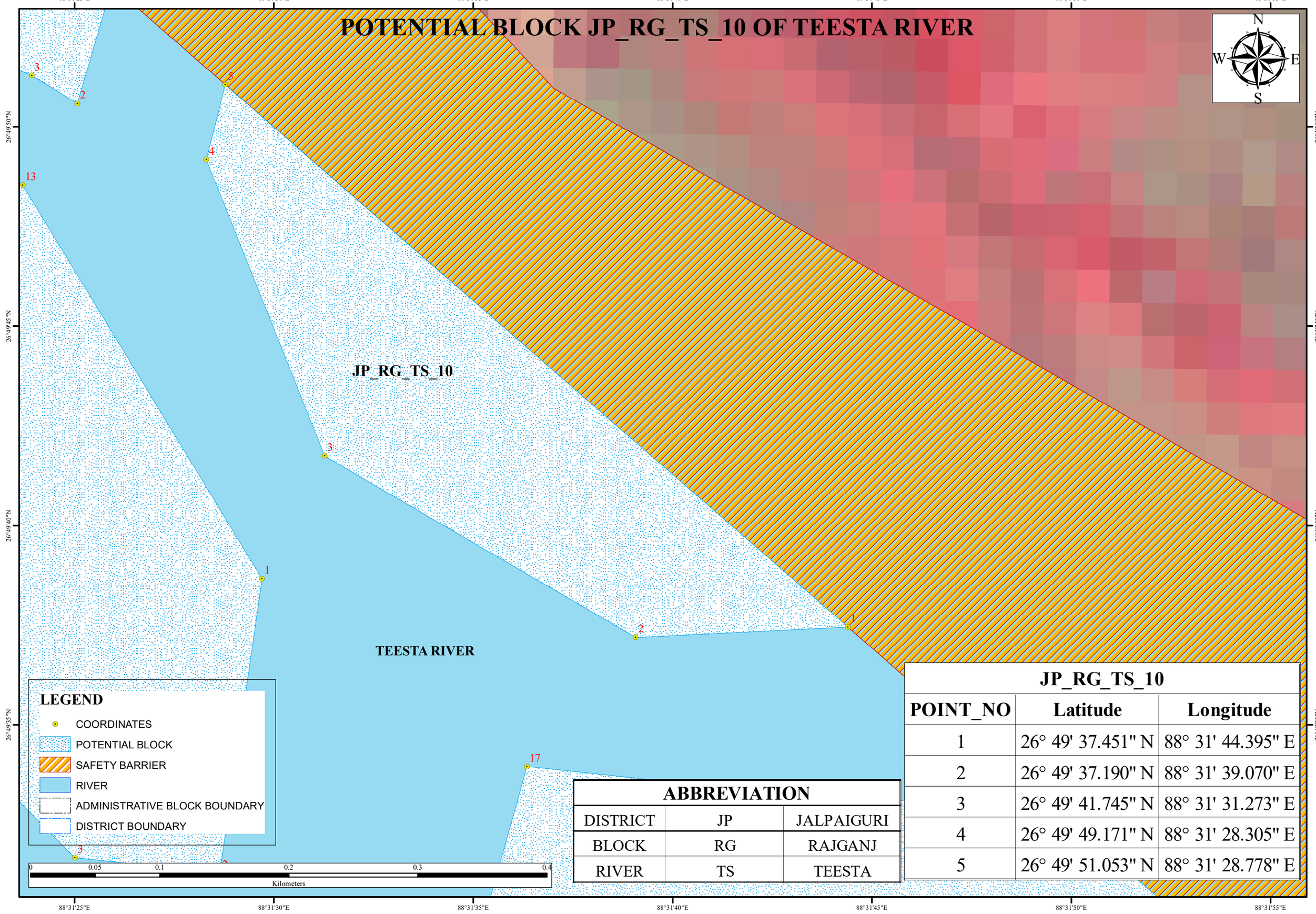
POTENTIAL BLOCK JP_RG_TS_09 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

JP_RG_TS_09		
POINT_NO	Latitude	Longitude
1	26° 49' 16.909" N	88° 31' 22.124" E
2	26° 49' 16.965" N	88° 31' 16.949" E
3	26° 49' 17.026" N	88° 31' 15.854" E
4	26° 49' 27.773" N	88° 31' 1.478" E
5	26° 49' 33.552" N	88° 30' 54.747" E
6	26° 49' 39.048" N	88° 30' 54.243" E
7	26° 49' 39.887" N	88° 30' 56.171" E
8	26° 49' 38.738" N	88° 31' 7.081" E
9	26° 49' 34.830" N	88° 31' 18.721" E
10	26° 49' 26.699" N	88° 31' 23.213" E

POTENTIAL BLOCK JP_RG_TS_10 OF TEESTA RIVER



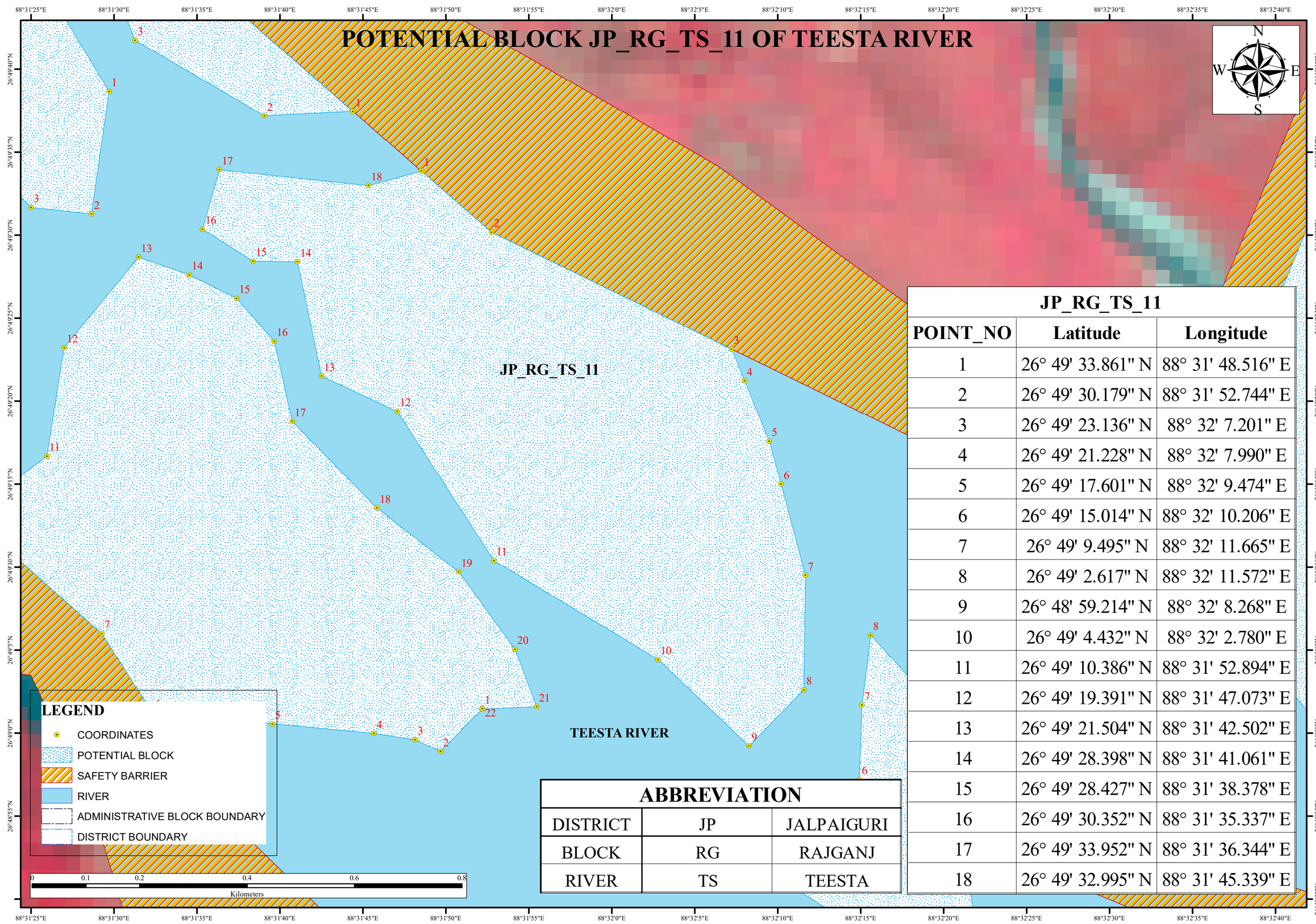
LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

JP_RG_TS_10		
POINT_NO	Latitude	Longitude
1	26° 49' 37.451" N	88° 31' 44.395" E
2	26° 49' 37.190" N	88° 31' 39.070" E
3	26° 49' 41.745" N	88° 31' 31.273" E
4	26° 49' 49.171" N	88° 31' 28.305" E
5	26° 49' 51.053" N	88° 31' 28.778" E

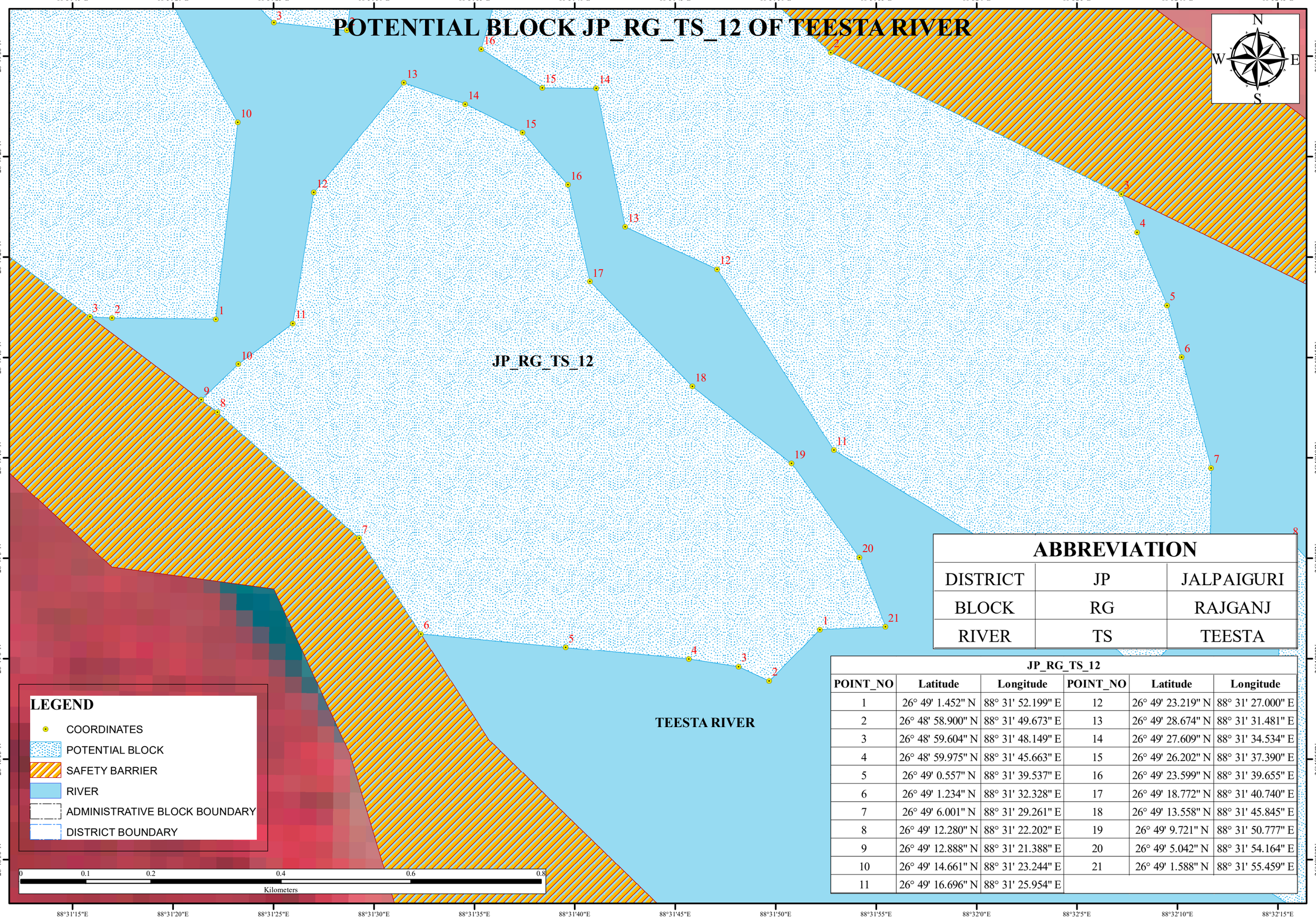
POTENTIAL BLOCK JP_RG_TS_11 OF TEESTA RIVER



JP_RG_TS_11		
POINT_NO	**Latitude**	**Longitude**
1	26° 49' 33.861" N	88° 31' 48.516" E
2	26° 49' 30.179" N	88° 31' 52.744" E
3	26° 49' 23.136" N	88° 32' 7.201" E
4	26° 49' 21.228" N	88° 32' 7.990" E
5	26° 49' 17.601" N	88° 32' 9.474" E
6	26° 49' 15.014" N	88° 32' 10.206" E
7	26° 49' 9.495" N	88° 32' 11.665" E
8	26° 49' 2.617" N	88° 32' 11.572" E
9	26° 48' 59.214" N	88° 32' 8.268" E
10	26° 49' 4.432" N	88° 32' 2.780" E
11	26° 49' 10.386" N	88° 31' 52.894" E
12	26° 49' 19.391" N	88° 31' 47.073" E
13	26° 49' 21.504" N	88° 31' 42.502" E
14	26° 49' 28.398" N	88° 31' 41.061" E
15	26° 49' 28.427" N	88° 31' 38.378" E
16	26° 49' 30.352" N	88° 31' 35.337" E
17	26° 49' 33.952" N	88° 31' 36.344" E
18	26° 49' 32.995" N	88° 31' 45.339" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

POTENTIAL BLOCK JP_RG_TS_12 OF TEESTA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

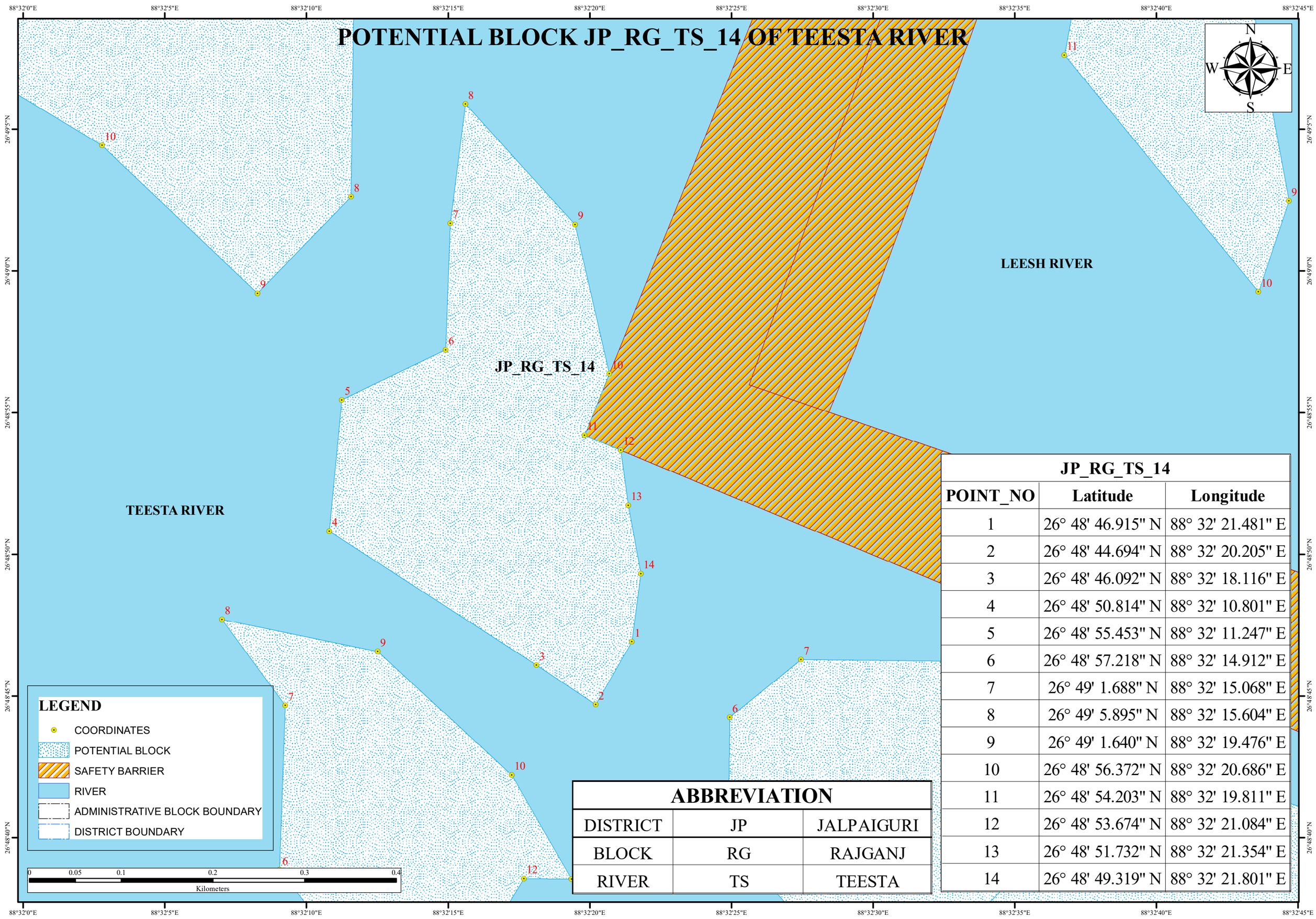
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

JP_RG_TS_12

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 49' 1.452" N	88° 31' 52.199" E	12	26° 49' 23.219" N	88° 31' 27.000" E
2	26° 48' 58.900" N	88° 31' 49.673" E	13	26° 49' 28.674" N	88° 31' 31.481" E
3	26° 48' 59.604" N	88° 31' 48.149" E	14	26° 49' 27.609" N	88° 31' 34.534" E
4	26° 48' 59.975" N	88° 31' 45.663" E	15	26° 49' 26.202" N	88° 31' 37.390" E
5	26° 49' 0.557" N	88° 31' 39.537" E	16	26° 49' 23.599" N	88° 31' 39.655" E
6	26° 49' 1.234" N	88° 31' 32.328" E	17	26° 49' 18.772" N	88° 31' 40.740" E
7	26° 49' 6.001" N	88° 31' 29.261" E	18	26° 49' 13.558" N	88° 31' 45.845" E
8	26° 49' 12.280" N	88° 31' 22.202" E	19	26° 49' 9.721" N	88° 31' 50.777" E
9	26° 49' 12.888" N	88° 31' 21.388" E	20	26° 49' 5.042" N	88° 31' 54.164" E
10	26° 49' 14.661" N	88° 31' 23.244" E	21	26° 49' 1.588" N	88° 31' 55.459" E
11	26° 49' 16.696" N	88° 31' 25.954" E			

POTENTIAL BLOCK JP_RG_TS_14 OF TEESTA RIVER



JP_RG_TS_14

POINT_NO	Latitude	Longitude
1	26° 48' 46.915" N	88° 32' 21.481" E
2	26° 48' 44.694" N	88° 32' 20.205" E
3	26° 48' 46.092" N	88° 32' 18.116" E
4	26° 48' 50.814" N	88° 32' 10.801" E
5	26° 48' 55.453" N	88° 32' 11.247" E
6	26° 48' 57.218" N	88° 32' 14.912" E
7	26° 49' 1.688" N	88° 32' 15.068" E
8	26° 49' 5.895" N	88° 32' 15.604" E
9	26° 49' 1.640" N	88° 32' 19.476" E
10	26° 48' 56.372" N	88° 32' 20.686" E
11	26° 48' 54.203" N	88° 32' 19.811" E
12	26° 48' 53.674" N	88° 32' 21.084" E
13	26° 48' 51.732" N	88° 32' 21.354" E
14	26° 48' 49.319" N	88° 32' 21.801" E

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4
Kilometers

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

POTENTIAL BLOCK JP_RG_TS_15 OF TEESTA RIVER

LEESH RIVER

JP_RG_TS_15

TEESTA RIVER

JP_RG_TS_15		
POINT_NO	Latitude	Longitude
1	26° 48' 20.506" N	88° 32' 27.008" E
2	26° 48' 20.098" N	88° 32' 24.966" E
3	26° 48' 27.987" N	88° 32' 21.000" E
4	26° 48' 29.998" N	88° 32' 13.960" E
5	26° 48' 34.313" N	88° 32' 12.581" E
6	26° 48' 38.865" N	88° 32' 9.049" E
7	26° 48' 44.666" N	88° 32' 9.247" E
8	26° 48' 47.700" N	88° 32' 7.012" E
9	26° 48' 46.566" N	88° 32' 12.507" E
10	26° 48' 42.215" N	88° 32' 17.240" E
11	26° 48' 38.538" N	88° 32' 19.346" E
12	26° 48' 38.556" N	88° 32' 17.669" E
13	26° 48' 36.955" N	88° 32' 16.689" E
14	26° 48' 32.624" N	88° 32' 19.625" E
15	26° 48' 30.753" N	88° 32' 23.673" E
16	26° 48' 26.533" N	88° 32' 26.251" E

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.1 0.2 0.4 0.6 0.8

Kilometers

N W E S

88°31'50"E 88°31'55"E 88°32'0"E 88°32'5"E 88°32'10"E 88°32'15"E 88°32'20"E 88°32'25"E 88°32'30"E 88°32'35"E 88°32'40"E 88°32'45"E 88°32'50"E 88°32'55"E

26°48'55"N 26°48'50"N 26°48'45"N 26°48'40"N 26°48'35"N 26°48'30"N 26°48'25"N 26°48'20"N 26°48'15"N 26°48'10"N

POTENTIAL BLOCK JP_ML_TS_16 OF TEESTA RIVER

88°32'20"E 88°32'30"E 88°32'40"E 88°32'50"E

26°48'40"N

26°48'30"N

LEESH RIVER

N W E S

JP_ML_TS_16

TEESTA RIVER

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	TS	TEESTA

JP_ML_TS_16

POINT_NO	Latitude	Longitude
1	26° 48' 43.365" N	88° 32' 39.424" E
2	26° 48' 34.441" N	88° 32' 31.028" E
3	26° 48' 33.503" N	88° 32' 31.015" E
4	26° 48' 34.910" N	88° 32' 29.404" E
5	26° 48' 39.946" N	88° 32' 24.873" E
6	26° 48' 44.244" N	88° 32' 24.931" E
7	26° 48' 46.280" N	88° 32' 27.450" E
8	26° 48' 46.220" N	88° 32' 33.007" E

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4

Kilometers

POTENTIAL BLOCK JP_ML_TS_18 OF TEESTA RIVER

88°32'30"E 88°32'40"E 88°32'50"E 88°33'0"E 88°33'10"E

26°48'40"N 26°48'30"N 26°48'20"N

LEESH RIVER

JP_ML_TS_18

TEESTA RIVER

N W E S

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.075 0.15 0.3 0.45 0.6

Kilometers

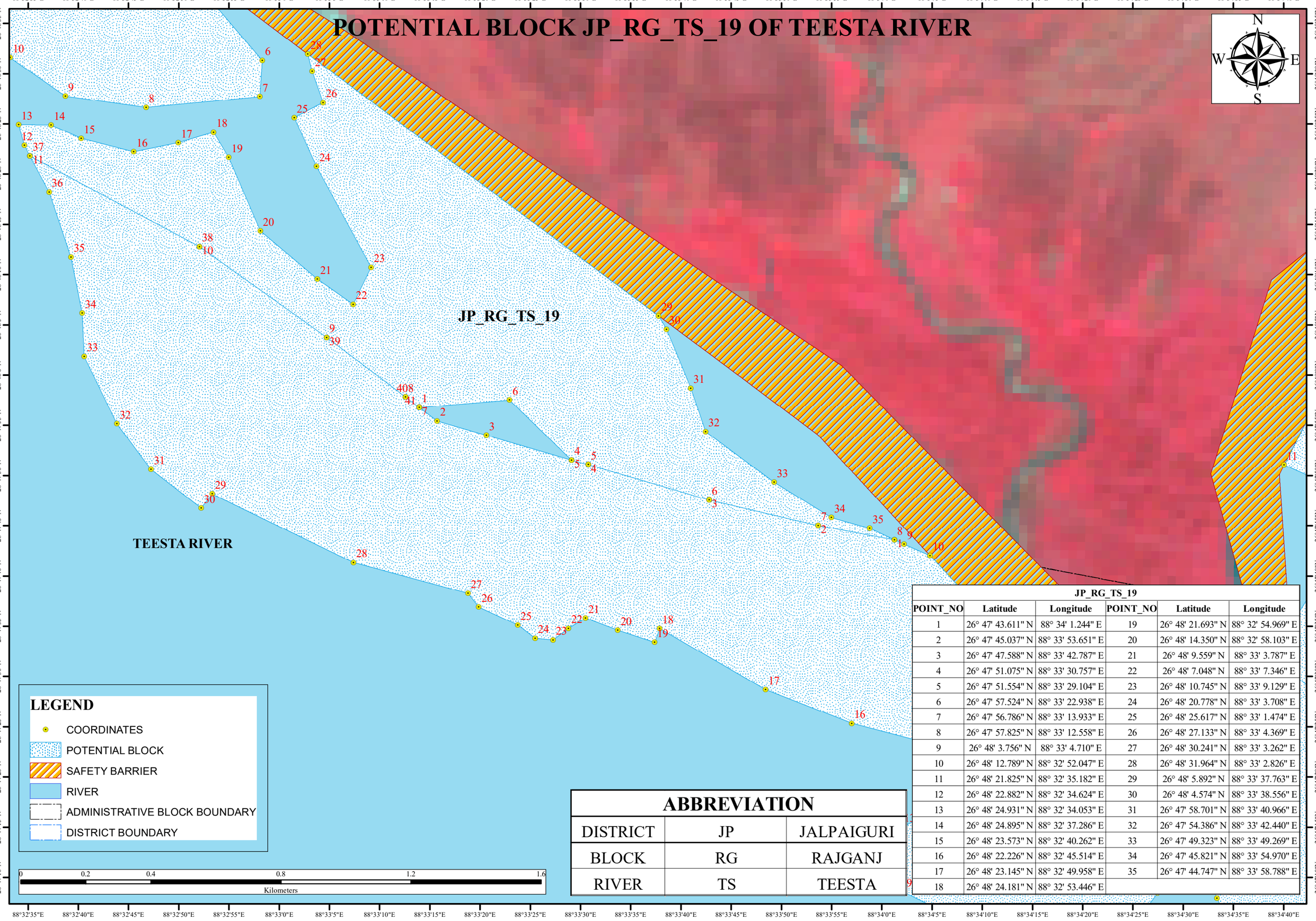
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	TS	TEESTA

JP_ML_TS_18

POINT_NO	Latitude	Longitude
1	26° 48' 33.503" N	88° 32' 31.015" E
2	26° 48' 34.441" N	88° 32' 31.028" E
3	26° 48' 43.365" N	88° 32' 39.424" E
4	26° 48' 41.813" N	88° 32' 42.913" E
5	26° 48' 38.791" N	88° 32' 51.880" E
6	26° 48' 31.327" N	88° 32' 58.294" E
7	26° 48' 27.718" N	88° 32' 58.053" E
8	26° 48' 26.638" N	88° 32' 46.732" E
9	26° 48' 27.758" N	88° 32' 38.698" E
10	26° 48' 31.601" N	88° 32' 33.193" E

POTENTIAL BLOCK JP_RG_TS_19 OF TEESTA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.2 0.4 0.8 1.2 1.6
Kilometers

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

JP_RG_TS_19

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 47' 43.611" N	88° 34' 1.244" E	19	26° 48' 21.693" N	88° 32' 54.969" E
2	26° 47' 45.037" N	88° 33' 53.651" E	20	26° 48' 14.350" N	88° 32' 58.103" E
3	26° 47' 47.588" N	88° 33' 42.787" E	21	26° 48' 9.559" N	88° 33' 3.787" E
4	26° 47' 51.075" N	88° 33' 30.757" E	22	26° 48' 7.048" N	88° 33' 7.346" E
5	26° 47' 51.554" N	88° 33' 29.104" E	23	26° 48' 10.745" N	88° 33' 9.129" E
6	26° 47' 57.524" N	88° 33' 22.938" E	24	26° 48' 20.778" N	88° 33' 3.708" E
7	26° 47' 56.786" N	88° 33' 13.933" E	25	26° 48' 25.617" N	88° 33' 1.474" E
8	26° 47' 57.825" N	88° 33' 12.558" E	26	26° 48' 27.133" N	88° 33' 4.369" E
9	26° 48' 3.756" N	88° 33' 4.710" E	27	26° 48' 30.241" N	88° 33' 3.262" E
10	26° 48' 12.789" N	88° 32' 52.047" E	28	26° 48' 31.964" N	88° 33' 2.826" E
11	26° 48' 21.825" N	88° 32' 35.182" E	29	26° 48' 5.892" N	88° 33' 37.763" E
12	26° 48' 22.882" N	88° 32' 34.624" E	30	26° 48' 4.574" N	88° 33' 38.556" E
13	26° 48' 24.931" N	88° 32' 34.053" E	31	26° 47' 58.701" N	88° 33' 40.966" E
14	26° 48' 24.895" N	88° 32' 37.286" E	32	26° 47' 54.386" N	88° 33' 42.440" E
15	26° 48' 23.573" N	88° 32' 40.262" E	33	26° 47' 49.323" N	88° 33' 49.269" E
16	26° 48' 22.226" N	88° 32' 45.514" E	34	26° 47' 45.821" N	88° 33' 54.970" E
17	26° 48' 23.145" N	88° 32' 49.958" E	35	26° 47' 44.747" N	88° 33' 58.788" E
18	26° 48' 24.181" N	88° 32' 53.446" E			

POTENTIAL BLOCK JP_RG_TS_20 OF TEESTA RIVER

JP_RG_TS_20

TEESTA RIVER

N

S

E

W

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.225 0.45 0.9 1.35 1.8

Kilometers

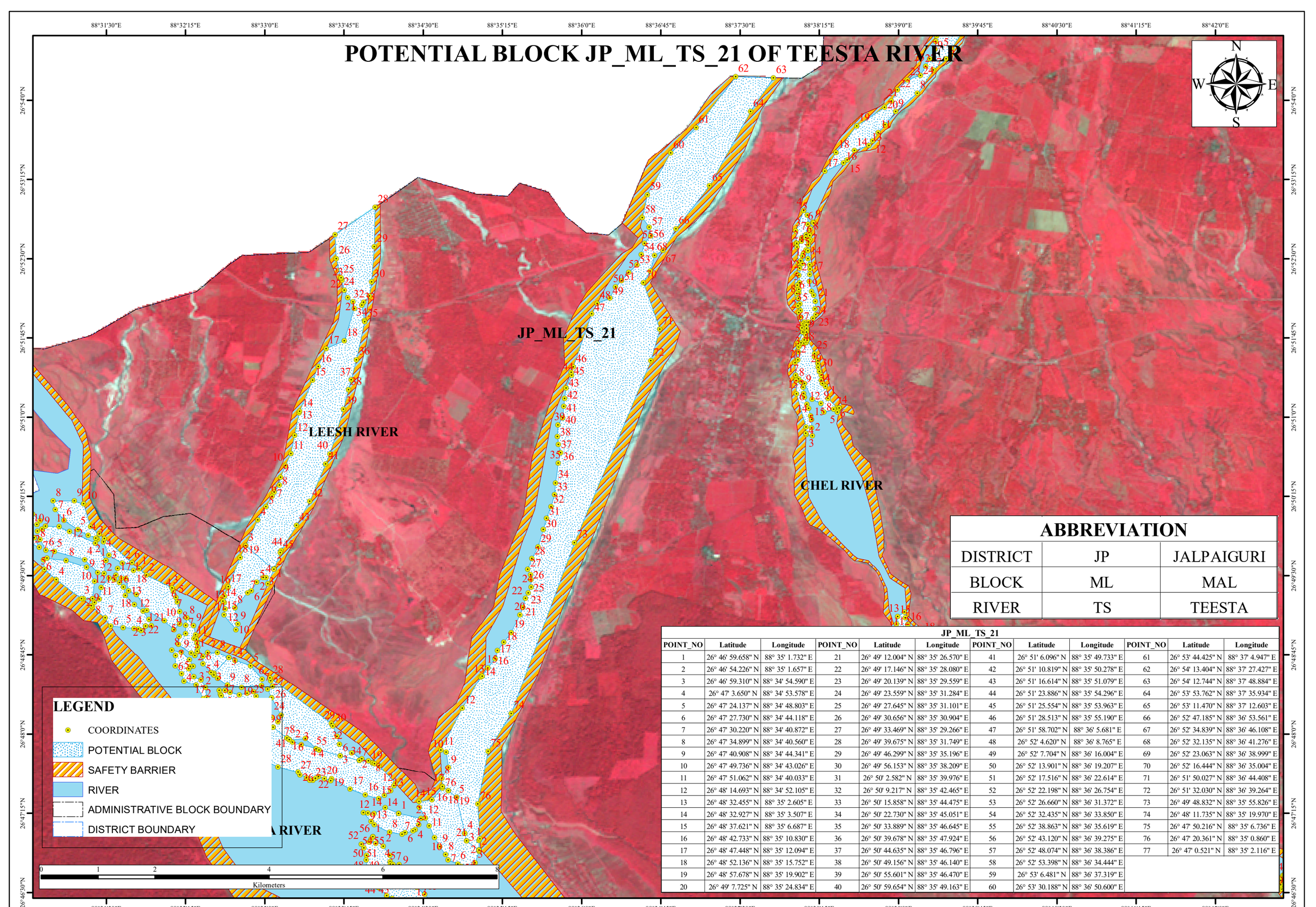
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

JP_RG_TS_20

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 47' 56.786" N	88° 33' 13.933" E	21	26° 47' 35.824" N	88° 33' 30.496" E
2	26° 47' 55.432" N	88° 33' 15.724" E	22	26° 47' 34.811" N	88° 33' 28.796" E
3	26° 47' 54.012" N	88° 33' 20.623" E	23	26° 47' 33.659" N	88° 33' 27.247" E
4	26° 47' 51.554" N	88° 33' 29.104" E	24	26° 47' 33.815" N	88° 33' 25.486" E
5	26° 47' 51.075" N	88° 33' 30.757" E	25	26° 47' 35.142" N	88° 33' 23.742" E
6	26° 47' 47.588" N	88° 33' 42.787" E	26	26° 47' 36.904" N	88° 33' 19.857" E
7	26° 47' 45.037" N	88° 33' 53.651" E	27	26° 47' 38.284" N	88° 33' 18.785" E
8	26° 47' 43.611" N	88° 34' 1.244" E	28	26° 47' 41.358" N	88° 33' 7.387" E
9	26° 47' 43.162" N	88° 34' 2.215" E	29	26° 47' 48.178" N	88° 32' 53.316" E
10	26° 47' 42.040" N	88° 34' 4.788" E	30	26° 47' 46.793" N	88° 32' 52.220" E
11	26° 47' 32.000" N	88° 34' 14.120" E	31	26° 47' 50.609" N	88° 32' 47.241" E
12	26° 47' 30.657" N	88° 34' 13.348" E	32	26° 47' 55.160" N	88° 32' 43.830" E
13	26° 47' 27.755" N	88° 34' 11.392" E	33	26° 48' 1.860" N	88° 32' 40.567" E
14	26° 47' 25.215" N	88° 34' 7.908" E	34	26° 48' 6.161" N	88° 32' 40.386" E
15	26° 47' 23.359" N	88° 34' 4.625" E	35	26° 48' 11.762" N	88° 32' 39.264" E
16	26° 47' 25.335" N	88° 33' 56.988" E	36	26° 48' 18.234" N	88° 32' 37.076" E
17	26° 47' 28.697" N	88° 33' 48.412" E	37	26° 48' 21.825" N	88° 32' 35.182" E
18	26° 47' 34.772" N	88° 33' 37.872" E	38	26° 48' 12.789" N	88° 32' 52.047" E
19	26° 47' 33.410" N	88° 33' 37.361" E	39	26° 48' 3.756" N	88° 33' 4.710" E
20	26° 47' 34.619" N	88° 33' 33.698" E	40	26° 47' 57.825" N	88° 33' 12.558" E

POTENTIAL BLOCK JP_ML_TS_21 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	TS	TEESTA

JP_ML_TS_21

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 46' 59.658" N	88° 35' 1.732" E	21	26° 49' 12.004" N	88° 35' 26.570" E	41	26° 51' 6.096" N	88° 35' 49.733" E	61	26° 53' 44.425" N	88° 37' 4.947" E
2	26° 46' 54.226" N	88° 35' 1.657" E	22	26° 49' 17.146" N	88° 35' 28.080" E	42	26° 51' 10.819" N	88° 35' 50.278" E	62	26° 54' 13.404" N	88° 37' 27.427" E
3	26° 46' 59.310" N	88° 34' 54.590" E	23	26° 49' 20.139" N	88° 35' 29.559" E	43	26° 51' 16.614" N	88° 35' 51.079" E	63	26° 54' 12.744" N	88° 37' 48.884" E
4	26° 47' 3.650" N	88° 34' 53.578" E	24	26° 49' 23.559" N	88° 35' 31.284" E	44	26° 51' 23.886" N	88° 35' 54.296" E	64	26° 53' 53.762" N	88° 37' 35.934" E
5	26° 47' 24.137" N	88° 34' 48.803" E	25	26° 49' 27.645" N	88° 35' 31.101" E	45	26° 51' 25.554" N	88° 35' 53.963" E	65	26° 53' 11.470" N	88° 37' 12.603" E
6	26° 47' 27.730" N	88° 34' 44.118" E	26	26° 49' 30.656" N	88° 35' 30.904" E	46	26° 51' 28.513" N	88° 35' 55.190" E	66	26° 52' 47.185" N	88° 36' 53.561" E
7	26° 47' 30.220" N	88° 34' 40.872" E	27	26° 49' 33.469" N	88° 35' 29.266" E	47	26° 51' 58.702" N	88° 36' 5.681" E	67	26° 52' 34.839" N	88° 36' 46.108" E
8	26° 47' 34.899" N	88° 34' 40.560" E	28	26° 49' 39.675" N	88° 35' 31.749" E	48	26° 52' 4.620" N	88° 36' 8.765" E	68	26° 52' 32.135" N	88° 36' 41.276" E
9	26° 47' 40.908" N	88° 34' 44.341" E	29	26° 49' 46.299" N	88° 35' 35.196" E	49	26° 52' 7.704" N	88° 36' 16.004" E	69	26° 52' 23.063" N	88° 36' 38.999" E
10	26° 47' 49.736" N	88° 34' 43.026" E	30	26° 49' 56.153" N	88° 35' 38.209" E	50	26° 52' 13.901" N	88° 36' 19.207" E	70	26° 52' 16.444" N	88° 36' 35.004" E
11	26° 47' 51.062" N	88° 34' 40.033" E	31	26° 50' 2.582" N	88° 35' 39.976" E	51	26° 52' 17.516" N	88° 36' 22.614" E	71	26° 51' 50.027" N	88° 36' 44.408" E
12	26° 48' 14.693" N	88° 34' 52.105" E	32	26° 50' 9.217" N	88° 35' 42.465" E	52	26° 52' 22.198" N	88° 36' 26.754" E	72	26° 51' 32.030" N	88° 36' 39.264" E
13	26° 48' 32.455" N	88° 35' 2.605" E	33	26° 50' 15.858" N	88° 35' 44.475" E	53	26° 52' 26.660" N	88° 36' 31.372" E	73	26° 49' 48.832" N	88° 35' 55.826" E
14	26° 48' 32.927" N	88° 35' 3.507" E	34	26° 50' 22.730" N	88° 35' 45.051" E	54	26° 52' 32.435" N	88° 36' 33.850" E	74	26° 48' 11.735" N	88° 35' 19.970" E
15	26° 48' 37.621" N	88° 35' 6.687" E	35	26° 50' 33.889" N	88° 35' 46.645" E	55	26° 52' 38.863" N	88° 36' 35.619" E	75	26° 47' 50.216" N	88° 35' 6.736" E
16	26° 48' 42.733" N	88° 35' 10.830" E	36	26° 50' 39.678" N	88° 35' 47.924" E	56	26° 52' 43.120" N	88° 36' 39.275" E	76	26° 47' 20.361" N	88° 35' 0.860" E
17	26° 48' 47.448" N	88° 35' 12.094" E	37	26° 50' 44.635" N	88° 35' 46.796" E	57	26° 52' 48.074" N	88° 36' 38.386" E	77	26° 47' 0.521" N	88° 35' 2.116" E
18	26° 48' 52.136" N	88° 35' 15.752" E	38	26° 50' 49.156" N	88° 35' 46.140" E	58	26° 52' 53.398" N	88° 36' 34.444" E			
19	26° 48' 57.678" N	88° 35' 19.902" E	39	26° 50' 55.601" N	88° 35' 46.470" E	59	26° 53' 6.481" N	88° 36' 37.319" E			
20	26° 49' 7.725" N	88° 35' 24.834" E	40	26° 50' 59.654" N	88° 35' 49.163" E	60	26° 53' 30.188" N	88° 36' 50.600" E			

POTENTIAL BLOCK JP_ML_TS_22 OF TEESTA RIVER

88°34'30"E 88°35'0"E 88°35'30"E

26°47'30"N 26°47'0"N

N W E S

JP_ML_TS_22

TEESTA RIVER

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	TS	TEESTA

JP_ML_TS_22

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 46' 54.226" N	88° 35' 1.657" E	12	26° 47' 12.251" N	88° 34' 31.251" E
2	26° 46' 53.426" N	88° 35' 1.646" E	13	26° 47' 18.308" N	88° 34' 27.742" E
3	26° 46' 47.002" N	88° 34' 59.401" E	14	26° 47' 21.545" N	88° 34' 27.561" E
4	26° 46' 41.675" N	88° 34' 55.256" E	15	26° 47' 22.652" N	88° 34' 34.857" E
5	26° 46' 44.724" N	88° 34' 51.706" E	16	26° 47' 29.247" N	88° 34' 40.936" E
6	26° 46' 46.252" N	88° 34' 49.572" E	17	26° 47' 30.220" N	88° 34' 40.872" E
7	26° 46' 48.463" N	88° 34' 44.094" E	18	26° 47' 27.730" N	88° 34' 44.118" E
8	26° 46' 51.488" N	88° 34' 42.699" E	19	26° 47' 24.137" N	88° 34' 48.803" E
9	26° 46' 56.038" N	88° 34' 39.409" E	20	26° 47' 3.650" N	88° 34' 53.578" E
10	26° 47' 1.231" N	88° 34' 36.367" E	21	26° 46' 59.310" N	88° 34' 54.590" E
11	26° 47' 7.928" N	88° 34' 33.346" E			

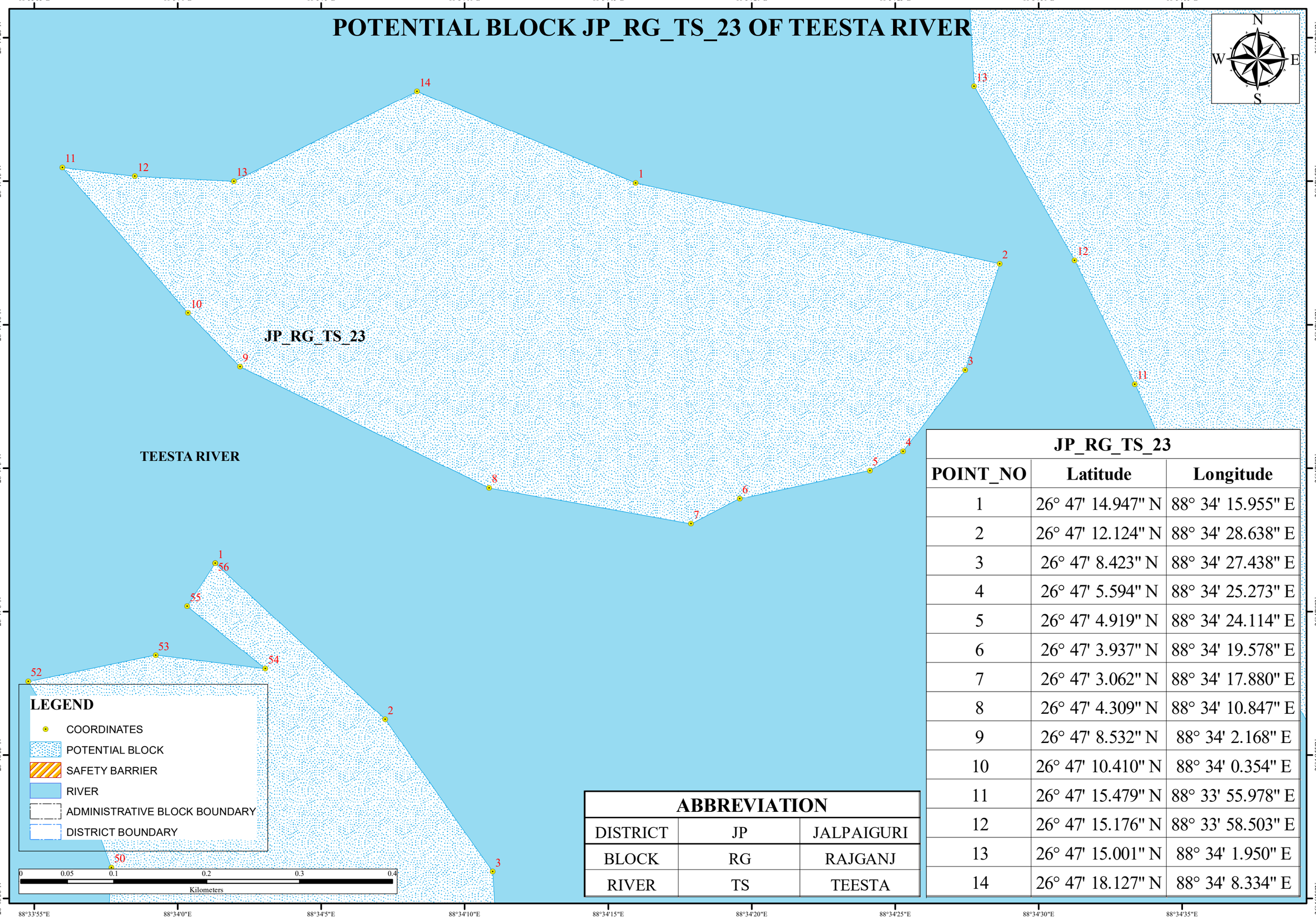
LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.125 0.25 0.5 0.75 1

Kilometers

POTENTIAL BLOCK JP_RG_TS_23 OF TEESTA RIVER



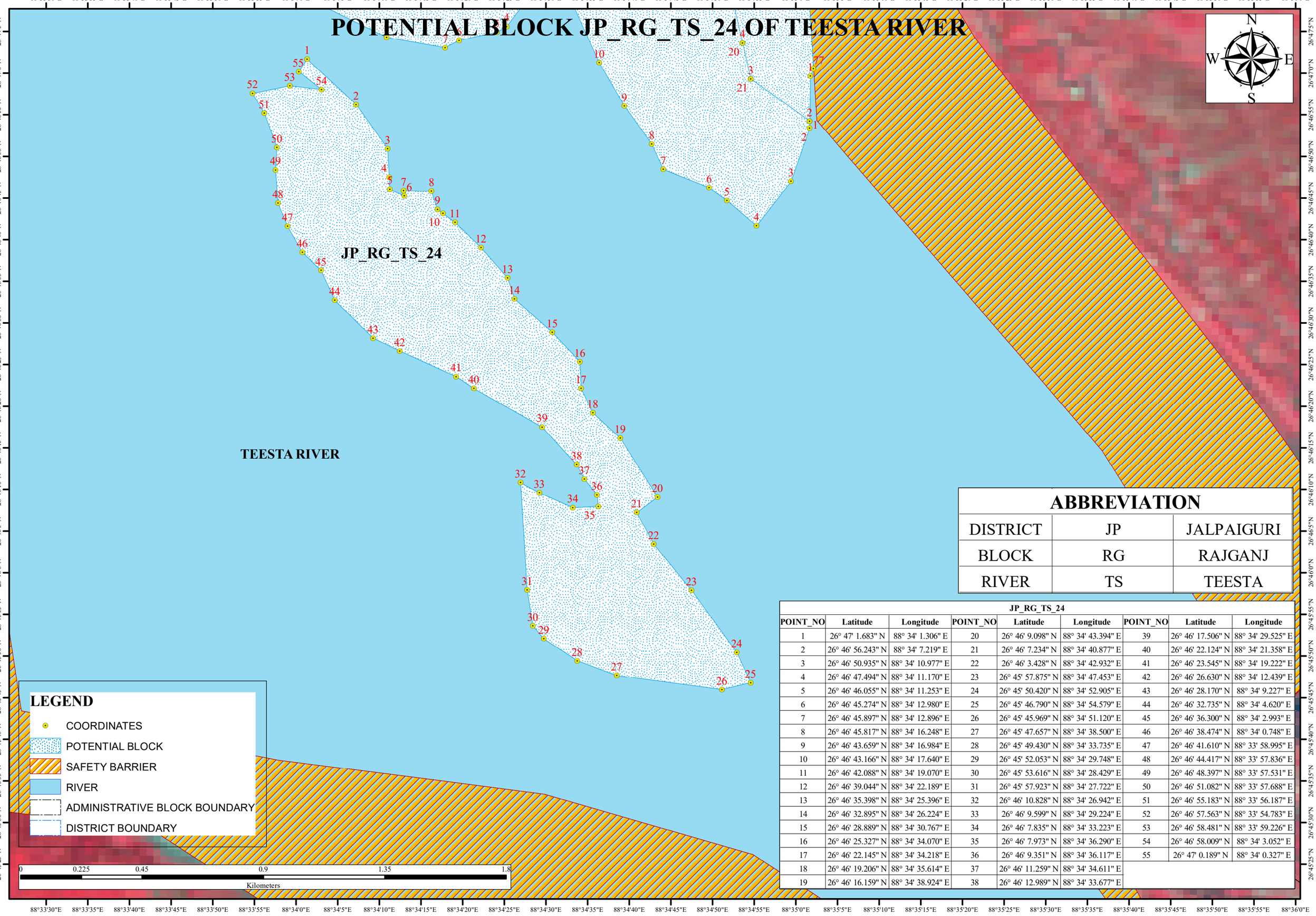
LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

JP_RG_TS_23		
POINT_NO	Latitude	Longitude
1	26° 47' 14.947" N	88° 34' 15.955" E
2	26° 47' 12.124" N	88° 34' 28.638" E
3	26° 47' 8.423" N	88° 34' 27.438" E
4	26° 47' 5.594" N	88° 34' 25.273" E
5	26° 47' 4.919" N	88° 34' 24.114" E
6	26° 47' 3.937" N	88° 34' 19.578" E
7	26° 47' 3.062" N	88° 34' 17.880" E
8	26° 47' 4.309" N	88° 34' 10.847" E
9	26° 47' 8.532" N	88° 34' 2.168" E
10	26° 47' 10.410" N	88° 34' 0.354" E
11	26° 47' 15.479" N	88° 33' 55.978" E
12	26° 47' 15.176" N	88° 33' 58.503" E
13	26° 47' 15.001" N	88° 34' 1.950" E
14	26° 47' 18.127" N	88° 34' 8.334" E

POTENTIAL BLOCK JP_RG_TS_24 OF TEESTA RIVER

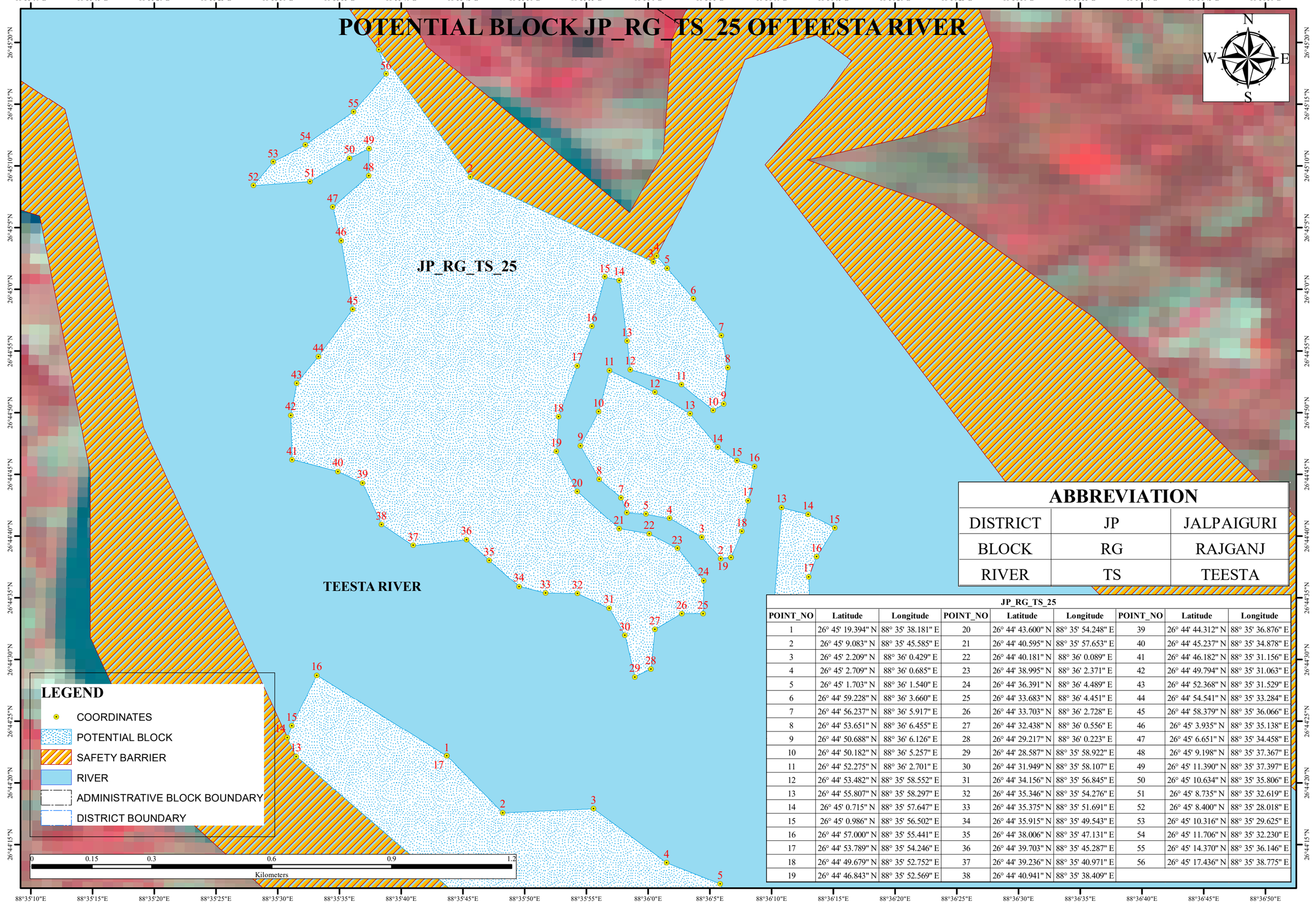


ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

JP_RG_TS_24

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 47' 1.683" N	88° 34' 1.306" E	20	26° 46' 9.098" N	88° 34' 43.394" E	39	26° 46' 17.506" N	88° 34' 29.525" E
2	26° 46' 56.243" N	88° 34' 7.219" E	21	26° 46' 7.234" N	88° 34' 40.877" E	40	26° 46' 22.124" N	88° 34' 21.358" E
3	26° 46' 50.935" N	88° 34' 10.977" E	22	26° 46' 3.428" N	88° 34' 42.932" E	41	26° 46' 23.545" N	88° 34' 19.222" E
4	26° 46' 47.494" N	88° 34' 11.170" E	23	26° 45' 57.875" N	88° 34' 47.453" E	42	26° 46' 26.630" N	88° 34' 12.439" E
5	26° 46' 46.055" N	88° 34' 11.253" E	24	26° 45' 50.420" N	88° 34' 52.905" E	43	26° 46' 28.170" N	88° 34' 9.227" E
6	26° 46' 45.274" N	88° 34' 12.980" E	25	26° 45' 46.790" N	88° 34' 54.579" E	44	26° 46' 32.735" N	88° 34' 4.620" E
7	26° 46' 45.897" N	88° 34' 12.896" E	26	26° 45' 45.969" N	88° 34' 51.120" E	45	26° 46' 36.300" N	88° 34' 2.993" E
8	26° 46' 45.817" N	88° 34' 16.248" E	27	26° 45' 47.657" N	88° 34' 38.500" E	46	26° 46' 38.474" N	88° 34' 0.748" E
9	26° 46' 43.659" N	88° 34' 16.984" E	28	26° 45' 49.430" N	88° 34' 33.735" E	47	26° 46' 41.610" N	88° 33' 58.995" E
10	26° 46' 43.166" N	88° 34' 17.640" E	29	26° 45' 52.053" N	88° 34' 29.748" E	48	26° 46' 44.417" N	88° 33' 57.836" E
11	26° 46' 42.088" N	88° 34' 19.070" E	30	26° 45' 53.616" N	88° 34' 28.429" E	49	26° 46' 48.397" N	88° 33' 57.531" E
12	26° 46' 39.044" N	88° 34' 22.189" E	31	26° 45' 57.923" N	88° 34' 27.722" E	50	26° 46' 51.082" N	88° 33' 57.688" E
13	26° 46' 35.398" N	88° 34' 25.396" E	32	26° 46' 10.828" N	88° 34' 26.942" E	51	26° 46' 55.183" N	88° 33' 56.187" E
14	26° 46' 32.895" N	88° 34' 26.224" E	33	26° 46' 9.599" N	88° 34' 29.224" E	52	26° 46' 57.563" N	88° 33' 54.783" E
15	26° 46' 28.889" N	88° 34' 30.767" E	34	26° 46' 7.835" N	88° 34' 33.223" E	53	26° 46' 58.481" N	88° 33' 59.226" E
16	26° 46' 25.327" N	88° 34' 34.070" E	35	26° 46' 7.973" N	88° 34' 36.290" E	54	26° 46' 58.009" N	88° 34' 3.052" E
17	26° 46' 22.145" N	88° 34' 34.218" E	36	26° 46' 9.351" N	88° 34' 36.117" E	55	26° 47' 0.189" N	88° 34' 0.327" E
18	26° 46' 19.206" N	88° 34' 35.614" E	37	26° 46' 11.259" N	88° 34' 34.611" E			
19	26° 46' 16.159" N	88° 34' 38.924" E	38	26° 46' 12.989" N	88° 34' 33.677" E			

POTENTIAL BLOCK JP_RG_TS_25 OF TEESTA RIVER



ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

JP_RG_TS_25

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 45' 19.394" N	88° 35' 38.181" E	20	26° 44' 43.600" N	88° 35' 54.248" E	39	26° 44' 44.312" N	88° 35' 36.876" E
2	26° 45' 9.083" N	88° 35' 45.585" E	21	26° 44' 40.595" N	88° 35' 57.653" E	40	26° 44' 45.237" N	88° 35' 34.878" E
3	26° 45' 2.209" N	88° 36' 0.429" E	22	26° 44' 40.181" N	88° 36' 0.089" E	41	26° 44' 46.182" N	88° 35' 31.156" E
4	26° 45' 2.709" N	88° 36' 0.685" E	23	26° 44' 38.995" N	88° 36' 2.371" E	42	26° 44' 49.794" N	88° 35' 31.063" E
5	26° 45' 1.703" N	88° 36' 1.540" E	24	26° 44' 36.391" N	88° 36' 4.489" E	43	26° 44' 52.368" N	88° 35' 31.529" E
6	26° 44' 59.228" N	88° 36' 3.660" E	25	26° 44' 33.683" N	88° 36' 4.451" E	44	26° 44' 54.541" N	88° 35' 33.284" E
7	26° 44' 56.237" N	88° 36' 5.917" E	26	26° 44' 33.703" N	88° 36' 2.728" E	45	26° 44' 58.379" N	88° 35' 36.066" E
8	26° 44' 53.651" N	88° 36' 6.455" E	27	26° 44' 32.438" N	88° 36' 0.556" E	46	26° 45' 3.935" N	88° 35' 35.138" E
9	26° 44' 50.688" N	88° 36' 6.126" E	28	26° 44' 29.217" N	88° 36' 0.223" E	47	26° 45' 6.651" N	88° 35' 34.458" E
10	26° 44' 50.182" N	88° 36' 5.257" E	29	26° 44' 28.587" N	88° 35' 58.922" E	48	26° 45' 9.198" N	88° 35' 37.367" E
11	26° 44' 52.275" N	88° 36' 2.701" E	30	26° 44' 31.949" N	88° 35' 58.107" E	49	26° 45' 11.390" N	88° 35' 37.397" E
12	26° 44' 53.482" N	88° 35' 58.552" E	31	26° 44' 34.156" N	88° 35' 56.845" E	50	26° 45' 10.634" N	88° 35' 35.806" E
13	26° 44' 55.807" N	88° 35' 58.297" E	32	26° 44' 35.346" N	88° 35' 54.276" E	51	26° 45' 8.735" N	88° 35' 32.619" E
14	26° 45' 0.715" N	88° 35' 57.647" E	33	26° 44' 35.375" N	88° 35' 51.691" E	52	26° 45' 8.400" N	88° 35' 28.018" E
15	26° 45' 0.986" N	88° 35' 56.502" E	34	26° 44' 35.915" N	88° 35' 49.543" E	53	26° 45' 10.316" N	88° 35' 29.625" E
16	26° 44' 57.000" N	88° 35' 55.441" E	35	26° 44' 38.006" N	88° 35' 47.131" E	54	26° 45' 11.706" N	88° 35' 32.230" E
17	26° 44' 53.789" N	88° 35' 54.246" E	36	26° 44' 39.703" N	88° 35' 45.287" E	55	26° 45' 14.370" N	88° 35' 36.146" E
18	26° 44' 49.679" N	88° 35' 52.752" E	37	26° 44' 39.236" N	88° 35' 40.971" E	56	26° 45' 17.436" N	88° 35' 38.775" E
19	26° 44' 46.843" N	88° 35' 52.569" E	38	26° 44' 40.941" N	88° 35' 38.409" E			

POTENTIAL BLOCK JP_RG_TS_26 OF TEESTA RIVER

88°35'30"E 88°36'0"E 88°36'30"E

26°44'30"N 26°44'0"N

JP_RG_TS_26

TEESTA RIVER

N W E S

JP_RG_TS_26		
POINT_NO	Latitude	Longitude
1	26° 44' 22.169" N	88° 35' 43.683" E
2	26° 44' 17.578" N	88° 35' 48.216" E
3	26° 44' 17.908" N	88° 35' 55.575" E
4	26° 44' 13.508" N	88° 36' 1.489" E
5	26° 44' 11.808" N	88° 36' 5.831" E
6	26° 44' 8.569" N	88° 36' 7.491" E
7	26° 44' 7.303" N	88° 36' 6.883" E
8	26° 44' 6.352" N	88° 36' 5.433" E
9	26° 44' 3.630" N	88° 36' 8.507" E
10	26° 43' 56.753" N	88° 36' 7.038" E
11	26° 43' 54.902" N	88° 36' 4.445" E
12	26° 43' 55.610" N	88° 36' 2.299" E
13	26° 44' 22.138" N	88° 35' 31.491" E
14	26° 44' 23.672" N	88° 35' 30.779" E
15	26° 44' 24.604" N	88° 35' 31.132" E
16	26° 44' 28.715" N	88° 35' 33.163" E

LEGEND

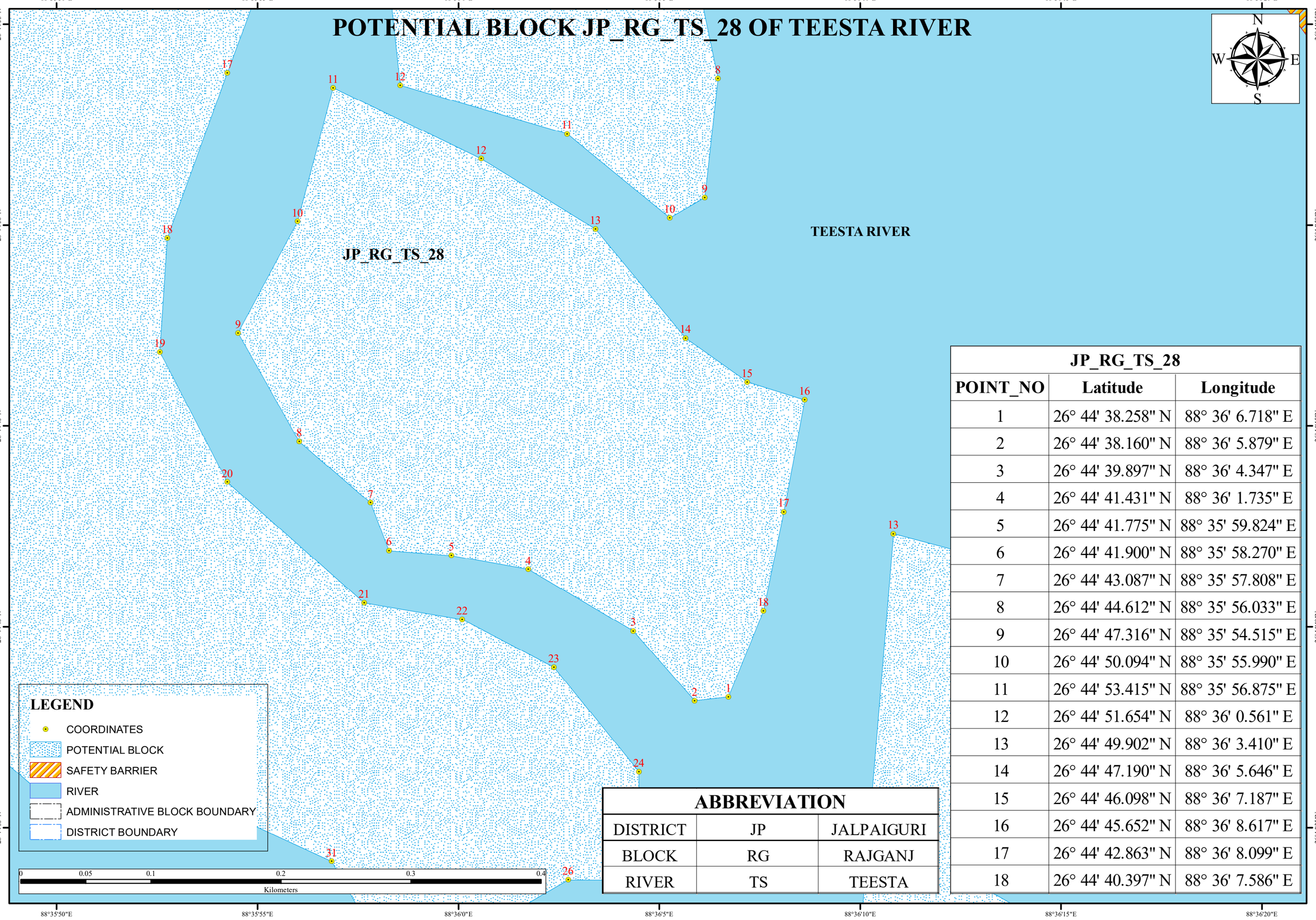
- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.075 0.15 0.3 0.45 0.6

Kilometers

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

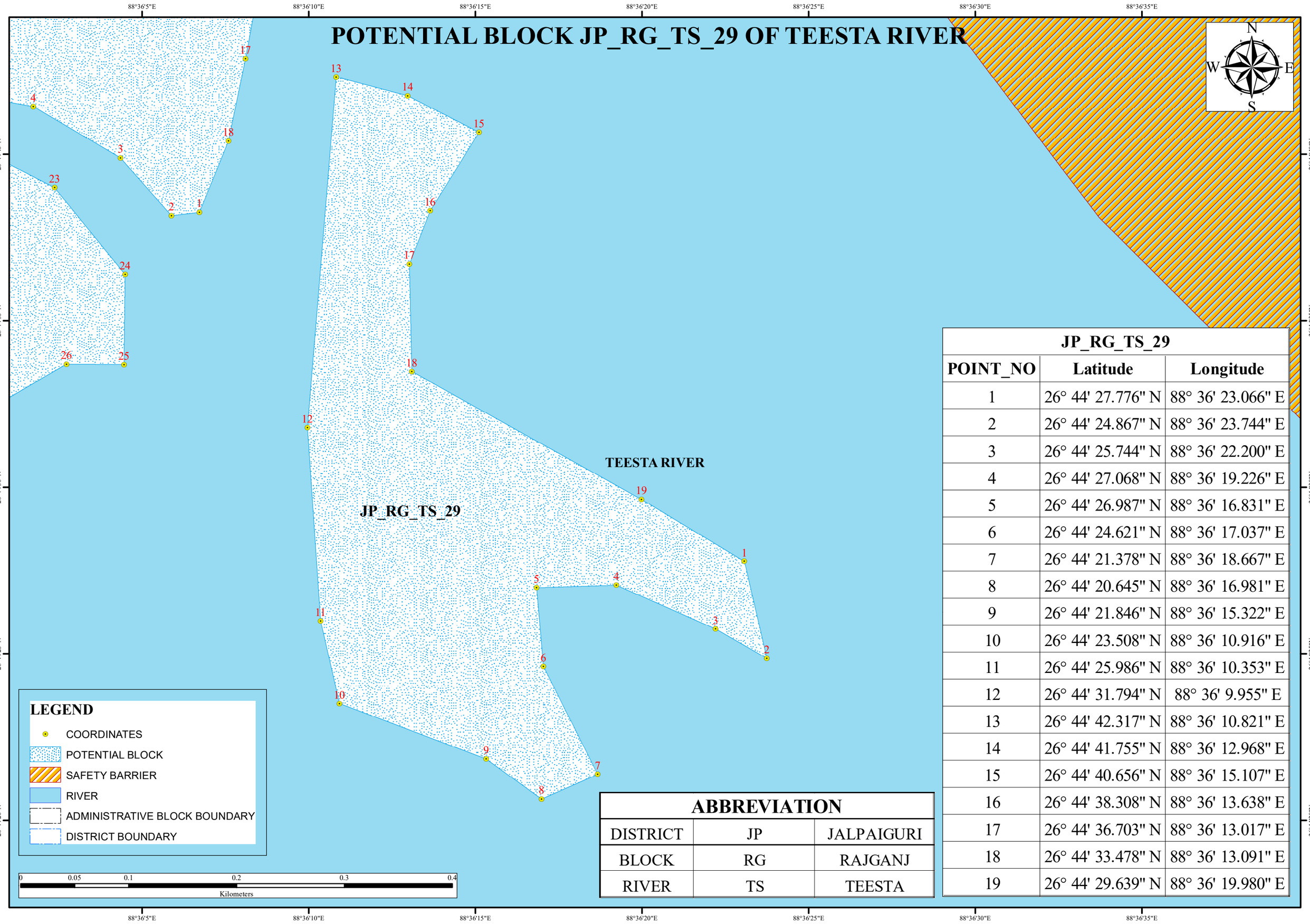
POTENTIAL BLOCK JP_RG_TS_28 OF TEESTA RIVER



JP_RG_TS_28		
POINT_NO	Latitude	Longitude
1	26° 44' 38.258" N	88° 36' 6.718" E
2	26° 44' 38.160" N	88° 36' 5.879" E
3	26° 44' 39.897" N	88° 36' 4.347" E
4	26° 44' 41.431" N	88° 36' 1.735" E
5	26° 44' 41.775" N	88° 35' 59.824" E
6	26° 44' 41.900" N	88° 35' 58.270" E
7	26° 44' 43.087" N	88° 35' 57.808" E
8	26° 44' 44.612" N	88° 35' 56.033" E
9	26° 44' 47.316" N	88° 35' 54.515" E
10	26° 44' 50.094" N	88° 35' 55.990" E
11	26° 44' 53.415" N	88° 35' 56.875" E
12	26° 44' 51.654" N	88° 36' 0.561" E
13	26° 44' 49.902" N	88° 36' 3.410" E
14	26° 44' 47.190" N	88° 36' 5.646" E
15	26° 44' 46.098" N	88° 36' 7.187" E
16	26° 44' 45.652" N	88° 36' 8.617" E
17	26° 44' 42.863" N	88° 36' 8.099" E
18	26° 44' 40.397" N	88° 36' 7.586" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

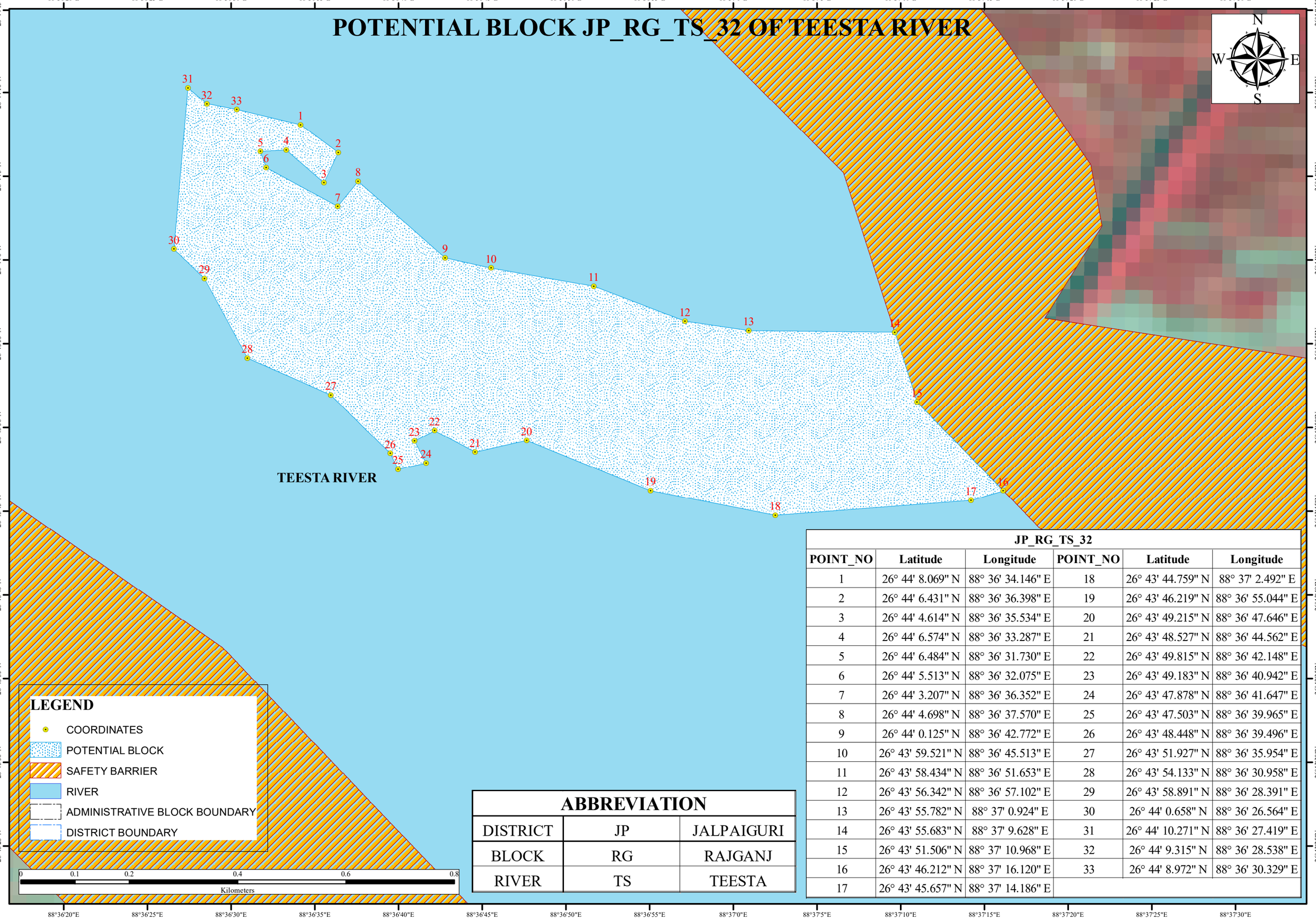
POTENTIAL BLOCK JP_RG_TS_29 OF TEESTA RIVER



JP_RG_TS_29		
POINT_NO	**Latitude**	**Longitude**
1	26° 44' 27.776" N	88° 36' 23.066" E
2	26° 44' 24.867" N	88° 36' 23.744" E
3	26° 44' 25.744" N	88° 36' 22.200" E
4	26° 44' 27.068" N	88° 36' 19.226" E
5	26° 44' 26.987" N	88° 36' 16.831" E
6	26° 44' 24.621" N	88° 36' 17.037" E
7	26° 44' 21.378" N	88° 36' 18.667" E
8	26° 44' 20.645" N	88° 36' 16.981" E
9	26° 44' 21.846" N	88° 36' 15.322" E
10	26° 44' 23.508" N	88° 36' 10.916" E
11	26° 44' 25.986" N	88° 36' 10.353" E
12	26° 44' 31.794" N	88° 36' 9.955" E
13	26° 44' 42.317" N	88° 36' 10.821" E
14	26° 44' 41.755" N	88° 36' 12.968" E
15	26° 44' 40.656" N	88° 36' 15.107" E
16	26° 44' 38.308" N	88° 36' 13.638" E
17	26° 44' 36.703" N	88° 36' 13.017" E
18	26° 44' 33.478" N	88° 36' 13.091" E
19	26° 44' 29.639" N	88° 36' 19.980" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

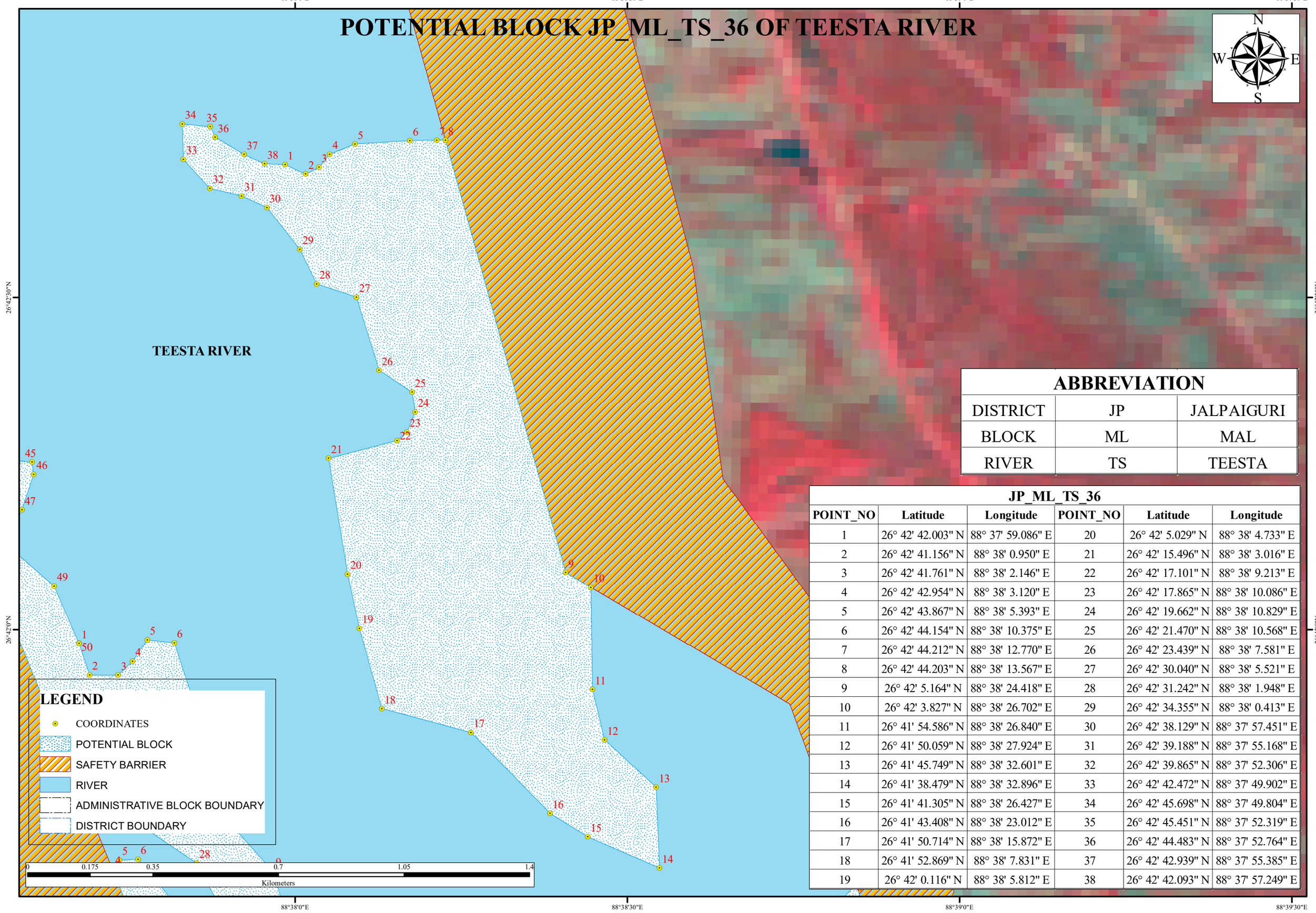
POTENTIAL BLOCK JP_RG_TS_32 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

JP_RG_TS_32					
POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 44' 8.069" N	88° 36' 34.146" E	18	26° 43' 44.759" N	88° 37' 2.492" E
2	26° 44' 6.431" N	88° 36' 36.398" E	19	26° 43' 46.219" N	88° 36' 55.044" E
3	26° 44' 4.614" N	88° 36' 35.534" E	20	26° 43' 49.215" N	88° 36' 47.646" E
4	26° 44' 6.574" N	88° 36' 33.287" E	21	26° 43' 48.527" N	88° 36' 44.562" E
5	26° 44' 6.484" N	88° 36' 31.730" E	22	26° 43' 49.815" N	88° 36' 42.148" E
6	26° 44' 5.513" N	88° 36' 32.075" E	23	26° 43' 49.183" N	88° 36' 40.942" E
7	26° 44' 3.207" N	88° 36' 36.352" E	24	26° 43' 47.878" N	88° 36' 41.647" E
8	26° 44' 4.698" N	88° 36' 37.570" E	25	26° 43' 47.503" N	88° 36' 39.965" E
9	26° 44' 0.125" N	88° 36' 42.772" E	26	26° 43' 48.448" N	88° 36' 39.496" E
10	26° 43' 59.521" N	88° 36' 45.513" E	27	26° 43' 51.927" N	88° 36' 35.954" E
11	26° 43' 58.434" N	88° 36' 51.653" E	28	26° 43' 54.133" N	88° 36' 30.958" E
12	26° 43' 56.342" N	88° 36' 57.102" E	29	26° 43' 58.891" N	88° 36' 28.391" E
13	26° 43' 55.782" N	88° 37' 0.924" E	30	26° 44' 0.658" N	88° 36' 26.564" E
14	26° 43' 55.683" N	88° 37' 9.628" E	31	26° 44' 10.271" N	88° 36' 27.419" E
15	26° 43' 51.506" N	88° 37' 10.968" E	32	26° 44' 9.315" N	88° 36' 28.538" E
16	26° 43' 46.212" N	88° 37' 16.120" E	33	26° 44' 8.972" N	88° 36' 30.329" E
17	26° 43' 45.657" N	88° 37' 14.186" E			

POTENTIAL BLOCK JP_ML_TS_36 OF TEESTA RIVER

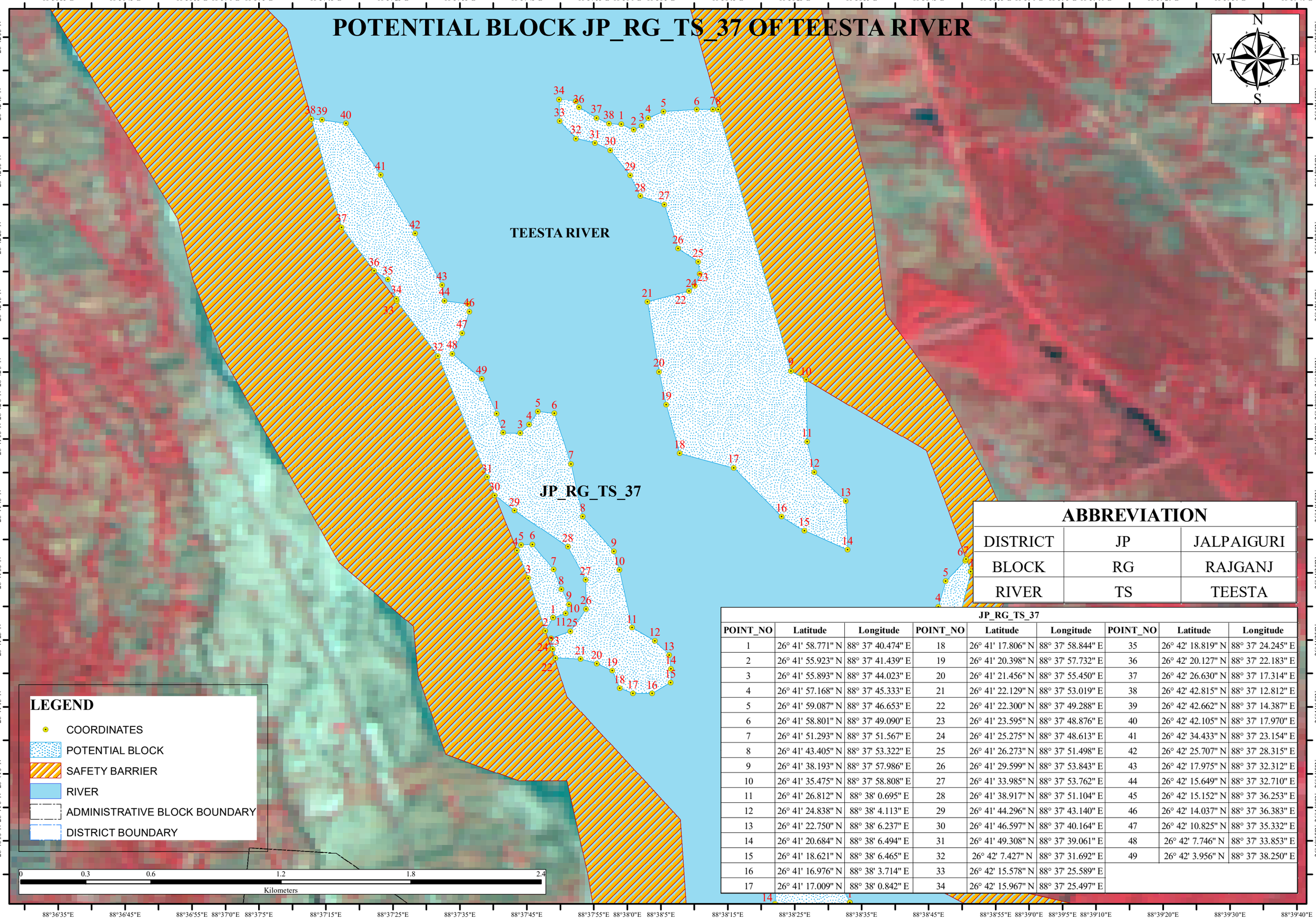


ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	TS	TEESTA

JP_ML_TS_36

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 42' 42.003" N	88° 37' 59.086" E	20	26° 42' 5.029" N	88° 38' 4.733" E
2	26° 42' 41.156" N	88° 38' 0.950" E	21	26° 42' 15.496" N	88° 38' 3.016" E
3	26° 42' 41.761" N	88° 38' 2.146" E	22	26° 42' 17.101" N	88° 38' 9.213" E
4	26° 42' 42.954" N	88° 38' 3.120" E	23	26° 42' 17.865" N	88° 38' 10.086" E
5	26° 42' 43.867" N	88° 38' 5.393" E	24	26° 42' 19.662" N	88° 38' 10.829" E
6	26° 42' 44.154" N	88° 38' 10.375" E	25	26° 42' 21.470" N	88° 38' 10.568" E
7	26° 42' 44.212" N	88° 38' 12.770" E	26	26° 42' 23.439" N	88° 38' 7.581" E
8	26° 42' 44.203" N	88° 38' 13.567" E	27	26° 42' 30.040" N	88° 38' 5.521" E
9	26° 42' 5.164" N	88° 38' 24.418" E	28	26° 42' 31.242" N	88° 38' 1.948" E
10	26° 42' 3.827" N	88° 38' 26.702" E	29	26° 42' 34.355" N	88° 38' 0.413" E
11	26° 41' 54.586" N	88° 38' 26.840" E	30	26° 42' 38.129" N	88° 37' 57.451" E
12	26° 41' 50.059" N	88° 38' 27.924" E	31	26° 42' 39.188" N	88° 37' 55.168" E
13	26° 41' 45.749" N	88° 38' 32.601" E	32	26° 42' 39.865" N	88° 37' 52.306" E
14	26° 41' 38.479" N	88° 38' 32.896" E	33	26° 42' 42.472" N	88° 37' 49.902" E
15	26° 41' 41.305" N	88° 38' 26.427" E	34	26° 42' 45.698" N	88° 37' 49.804" E
16	26° 41' 43.408" N	88° 38' 23.012" E	35	26° 42' 45.451" N	88° 37' 52.319" E
17	26° 41' 50.714" N	88° 38' 15.872" E	36	26° 42' 44.483" N	88° 37' 52.764" E
18	26° 41' 52.869" N	88° 38' 7.831" E	37	26° 42' 42.939" N	88° 37' 55.385" E
19	26° 42' 0.116" N	88° 38' 5.812" E	38	26° 42' 42.093" N	88° 37' 57.249" E

POTENTIAL BLOCK JP_RG_TS_37 OF TEESTA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

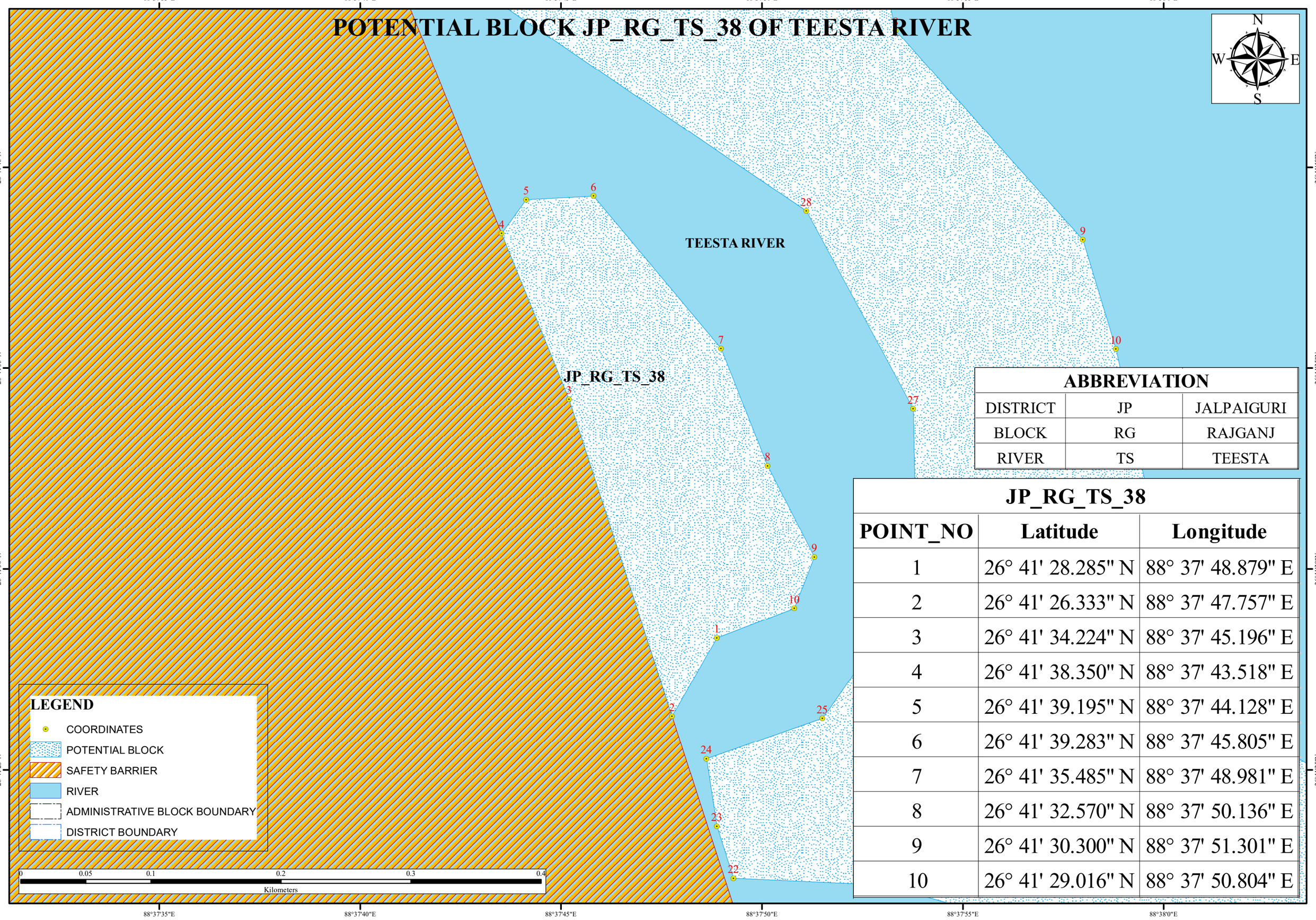
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

JP_RG_TS_37

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 41' 58.771" N	88° 37' 40.474" E	18	26° 41' 17.806" N	88° 37' 58.844" E	35	26° 42' 18.819" N	88° 37' 24.245" E
2	26° 41' 55.923" N	88° 37' 41.439" E	19	26° 41' 20.398" N	88° 37' 57.732" E	36	26° 42' 20.127" N	88° 37' 22.183" E
3	26° 41' 55.893" N	88° 37' 44.023" E	20	26° 41' 21.456" N	88° 37' 55.450" E	37	26° 42' 26.630" N	88° 37' 17.314" E
4	26° 41' 57.168" N	88° 37' 45.333" E	21	26° 41' 22.129" N	88° 37' 53.019" E	38	26° 42' 42.815" N	88° 37' 12.812" E
5	26° 41' 59.087" N	88° 37' 46.653" E	22	26° 41' 22.300" N	88° 37' 49.288" E	39	26° 42' 42.662" N	88° 37' 14.387" E
6	26° 41' 58.801" N	88° 37' 49.090" E	23	26° 41' 23.595" N	88° 37' 48.876" E	40	26° 42' 42.105" N	88° 37' 17.970" E
7	26° 41' 51.293" N	88° 37' 51.567" E	24	26° 41' 25.275" N	88° 37' 48.613" E	41	26° 42' 34.433" N	88° 37' 23.154" E
8	26° 41' 43.405" N	88° 37' 53.322" E	25	26° 41' 26.273" N	88° 37' 51.498" E	42	26° 42' 25.707" N	88° 37' 28.315" E
9	26° 41' 38.193" N	88° 37' 57.986" E	26	26° 41' 29.599" N	88° 37' 53.843" E	43	26° 42' 17.975" N	88° 37' 32.312" E
10	26° 41' 35.475" N	88° 37' 58.808" E	27	26° 41' 33.985" N	88° 37' 53.762" E	44	26° 42' 15.649" N	88° 37' 32.710" E
11	26° 41' 26.812" N	88° 38' 0.695" E	28	26° 41' 38.917" N	88° 37' 51.104" E	45	26° 42' 15.152" N	88° 37' 36.253" E
12	26° 41' 24.838" N	88° 38' 4.113" E	29	26° 41' 44.296" N	88° 37' 43.140" E	46	26° 42' 14.037" N	88° 37' 36.383" E
13	26° 41' 22.750" N	88° 38' 6.237" E	30	26° 41' 46.597" N	88° 37' 40.164" E	47	26° 42' 10.825" N	88° 37' 35.332" E
14	26° 41' 20.684" N	88° 38' 6.494" E	31	26° 41' 49.308" N	88° 37' 39.061" E	48	26° 42' 7.746" N	88° 37' 33.853" E
15	26° 41' 18.621" N	88° 38' 6.465" E	32	26° 42' 7.427" N	88° 37' 31.692" E	49	26° 42' 3.956" N	88° 37' 38.250" E
16	26° 41' 16.976" N	88° 38' 3.714" E	33	26° 42' 15.578" N	88° 37' 25.589" E			
17	26° 41' 17.009" N	88° 38' 0.842" E	34	26° 42' 15.967" N	88° 37' 25.497" E			

POTENTIAL BLOCK JP_RG_TS_38 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

JP_RG_TS_38		
POINT_NO	Latitude	Longitude
1	26° 41' 28.285" N	88° 37' 48.879" E
2	26° 41' 26.333" N	88° 37' 47.757" E
3	26° 41' 34.224" N	88° 37' 45.196" E
4	26° 41' 38.350" N	88° 37' 43.518" E
5	26° 41' 39.195" N	88° 37' 44.128" E
6	26° 41' 39.283" N	88° 37' 45.805" E
7	26° 41' 35.485" N	88° 37' 48.981" E
8	26° 41' 32.570" N	88° 37' 50.136" E
9	26° 41' 30.300" N	88° 37' 51.301" E
10	26° 41' 29.016" N	88° 37' 50.804" E

POTENTIAL BLOCK JP_ML_TS_41 OF TEESTA RIVER

88°38'40"E 88°38'45"E 88°38'50"E 88°38'55"E 88°39'0"E 88°39'5"E

26°41'35"N 26°41'30"N 26°41'25"N

N W E S

TEESTA RIVER

7 6 1 5 4 3 2

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	TS	TEESTA

JP_ML_TS_41

POINT_NO	Latitude	Longitude
1	26° 41' 35.190" N	88° 38' 51.270" E
2	26° 41' 26.595" N	88° 38' 49.134" E
3	26° 41' 26.836" N	88° 38' 48.300" E
4	26° 41' 29.953" N	88° 38' 46.430" E
5	26° 41' 33.757" N	88° 38' 47.545" E
6	26° 41' 36.819" N	88° 38' 50.461" E
7	26° 41' 37.045" N	88° 38' 50.591" E

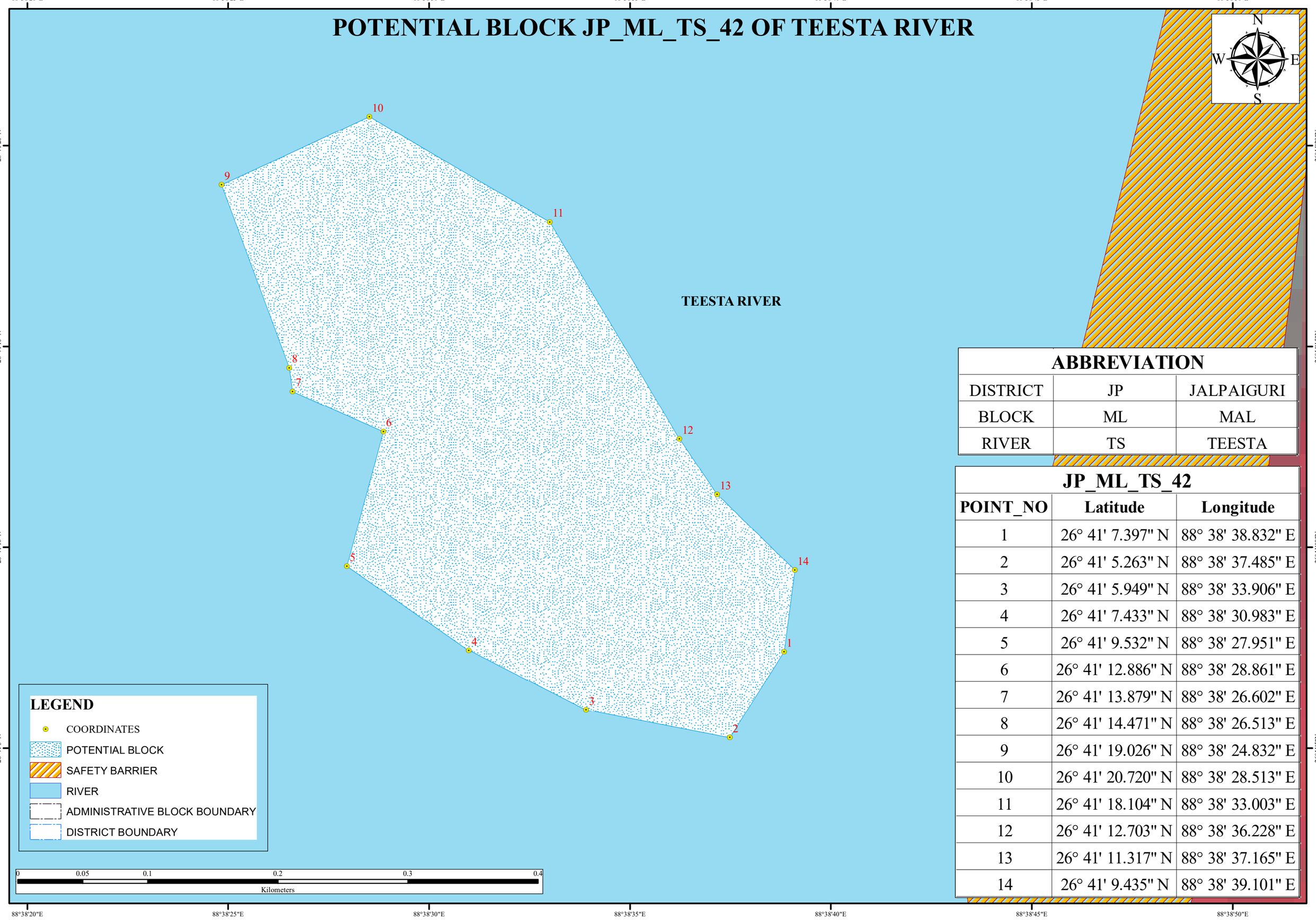
LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.04 0.08 0.16 0.24 0.32

Kilometers

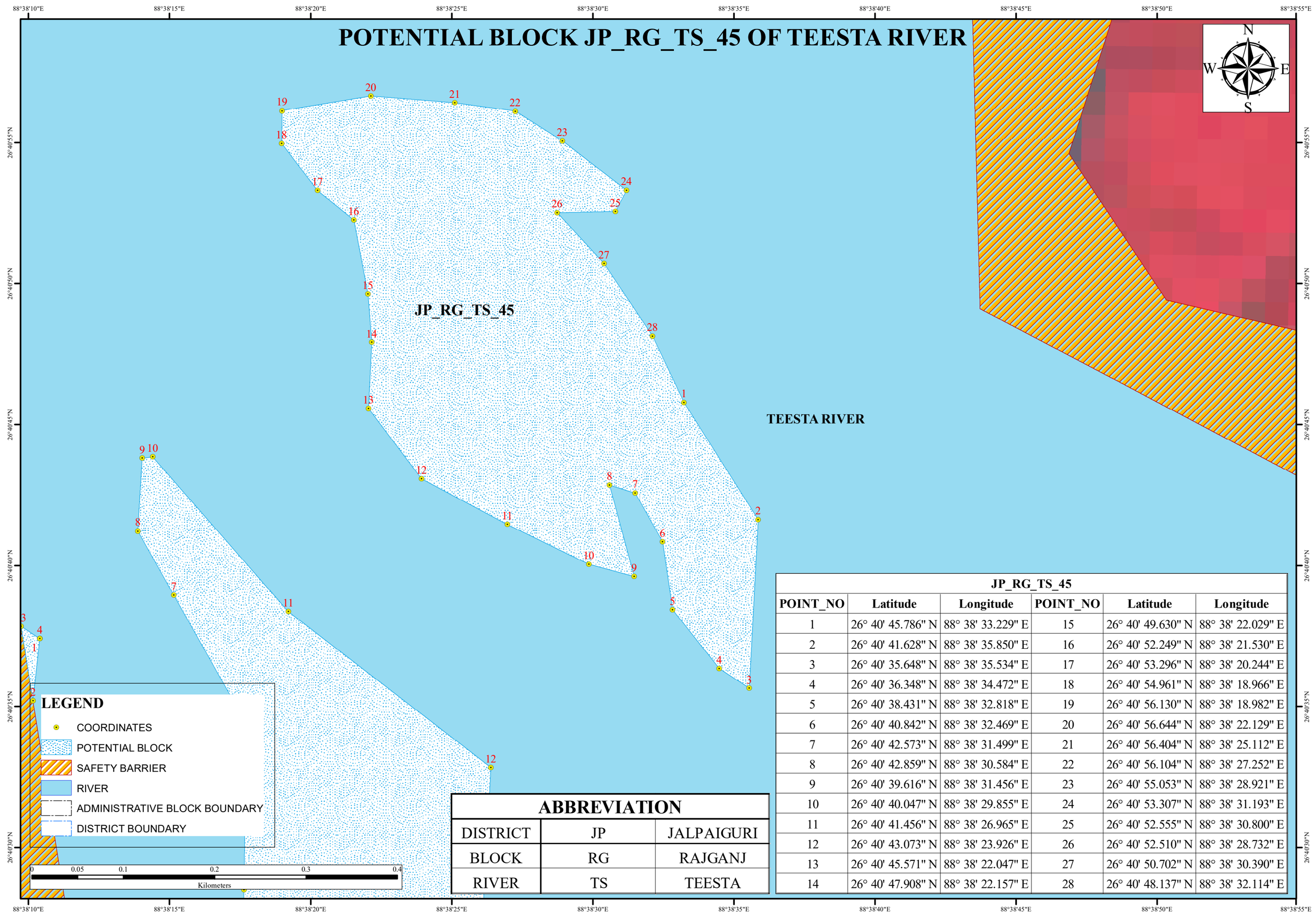
POTENTIAL BLOCK JP_ML_TS_42 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	TS	TEESTA

JP_ML_TS_42		
POINT_NO	Latitude	Longitude
1	26° 41' 7.397" N	88° 38' 38.832" E
2	26° 41' 5.263" N	88° 38' 37.485" E
3	26° 41' 5.949" N	88° 38' 33.906" E
4	26° 41' 7.433" N	88° 38' 30.983" E
5	26° 41' 9.532" N	88° 38' 27.951" E
6	26° 41' 12.886" N	88° 38' 28.861" E
7	26° 41' 13.879" N	88° 38' 26.602" E
8	26° 41' 14.471" N	88° 38' 26.513" E
9	26° 41' 19.026" N	88° 38' 24.832" E
10	26° 41' 20.720" N	88° 38' 28.513" E
11	26° 41' 18.104" N	88° 38' 33.003" E
12	26° 41' 12.703" N	88° 38' 36.228" E
13	26° 41' 11.317" N	88° 38' 37.165" E
14	26° 41' 9.435" N	88° 38' 39.101" E

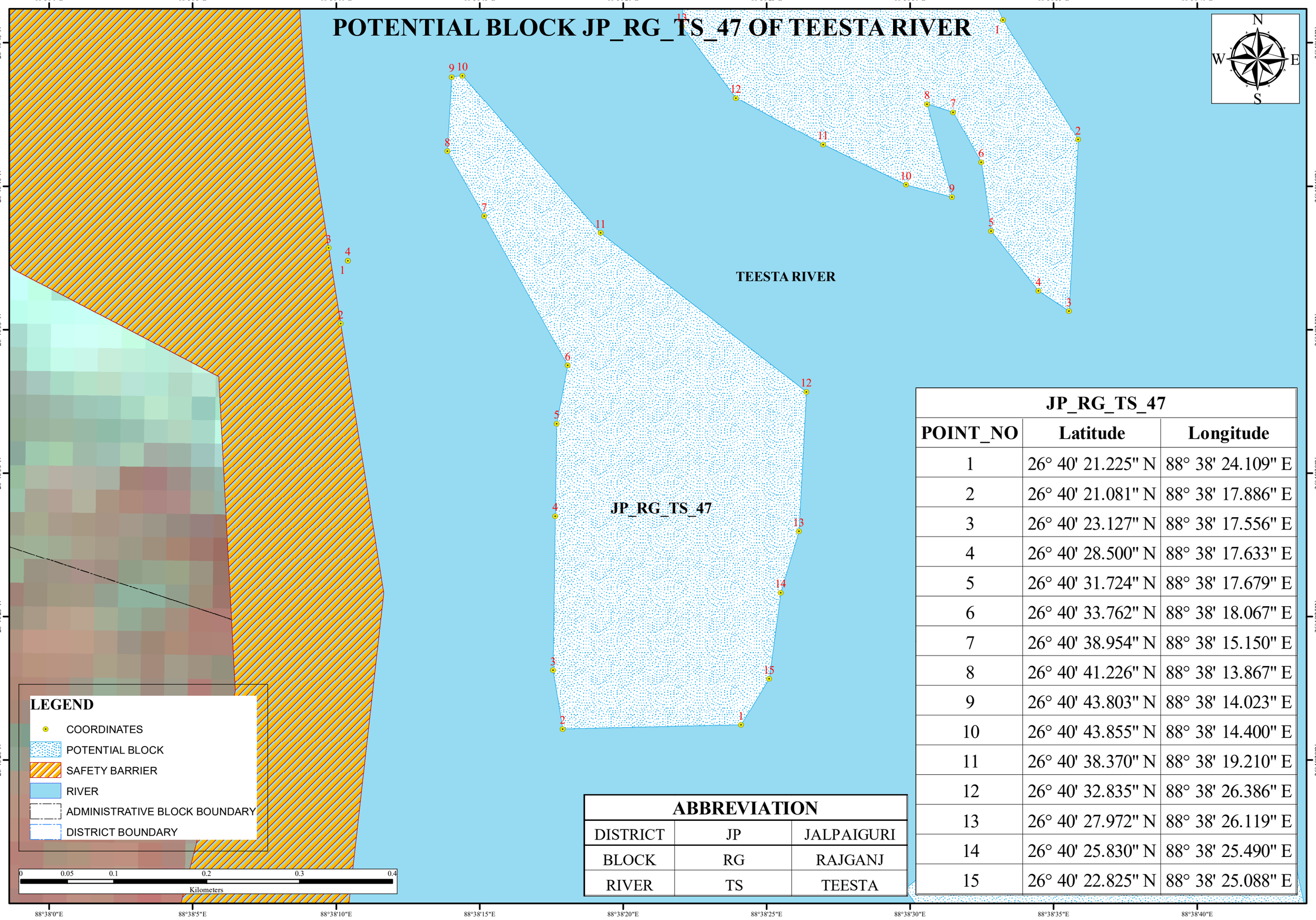
POTENTIAL BLOCK JP_RG_TS_45 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

JP_RG_TS_45					
POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 40' 45.786" N	88° 38' 33.229" E	15	26° 40' 49.630" N	88° 38' 22.029" E
2	26° 40' 41.628" N	88° 38' 35.850" E	16	26° 40' 52.249" N	88° 38' 21.530" E
3	26° 40' 35.648" N	88° 38' 35.534" E	17	26° 40' 53.296" N	88° 38' 20.244" E
4	26° 40' 36.348" N	88° 38' 34.472" E	18	26° 40' 54.961" N	88° 38' 18.966" E
5	26° 40' 38.431" N	88° 38' 32.818" E	19	26° 40' 56.130" N	88° 38' 18.982" E
6	26° 40' 40.842" N	88° 38' 32.469" E	20	26° 40' 56.644" N	88° 38' 22.129" E
7	26° 40' 42.573" N	88° 38' 31.499" E	21	26° 40' 56.404" N	88° 38' 25.112" E
8	26° 40' 42.859" N	88° 38' 30.584" E	22	26° 40' 56.104" N	88° 38' 27.252" E
9	26° 40' 39.616" N	88° 38' 31.456" E	23	26° 40' 55.053" N	88° 38' 28.921" E
10	26° 40' 40.047" N	88° 38' 29.855" E	24	26° 40' 53.307" N	88° 38' 31.193" E
11	26° 40' 41.456" N	88° 38' 26.965" E	25	26° 40' 52.555" N	88° 38' 30.800" E
12	26° 40' 43.073" N	88° 38' 23.926" E	26	26° 40' 52.510" N	88° 38' 28.732" E
13	26° 40' 45.571" N	88° 38' 22.047" E	27	26° 40' 50.702" N	88° 38' 30.390" E
14	26° 40' 47.908" N	88° 38' 22.157" E	28	26° 40' 48.137" N	88° 38' 32.114" E

POTENTIAL BLOCK JP_RG_TS_47 OF TEESTA RIVER



JP_RG_TS_47		
POINT_NO	**Latitude**	**Longitude**
1	26° 40' 21.225" N	88° 38' 24.109" E
2	26° 40' 21.081" N	88° 38' 17.886" E
3	26° 40' 23.127" N	88° 38' 17.556" E
4	26° 40' 28.500" N	88° 38' 17.633" E
5	26° 40' 31.724" N	88° 38' 17.679" E
6	26° 40' 33.762" N	88° 38' 18.067" E
7	26° 40' 38.954" N	88° 38' 15.150" E
8	26° 40' 41.226" N	88° 38' 13.867" E
9	26° 40' 43.803" N	88° 38' 14.023" E
10	26° 40' 43.855" N	88° 38' 14.400" E
11	26° 40' 38.370" N	88° 38' 19.210" E
12	26° 40' 32.835" N	88° 38' 26.386" E
13	26° 40' 27.972" N	88° 38' 26.119" E
14	26° 40' 25.830" N	88° 38' 25.490" E
15	26° 40' 22.825" N	88° 38' 25.088" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	RG	RAJGANJ
RIVER	TS	TEESTA

POTENTIAL BLOCK JP_JP_TS_48 OF TEESTA RIVER



88°38'30"E 88°38'35"E 88°38'40"E 88°38'45"E

26°40'25"N 26°40'20"N 26°40'15"N

JP_JP_TS_48

TEESTA RIVER

1 2 3 4 5 12 13 14

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_48

POINT_NO	Latitude	Longitude
1	26° 40' 18.891" N	88° 38' 42.995" E
2	26° 40' 19.377" N	88° 38' 34.056" E
3	26° 40' 23.816" N	88° 38' 36.506" E
4	26° 40' 25.814" N	88° 38' 40.243" E
5	26° 40' 22.129" N	88° 38' 42.942" E

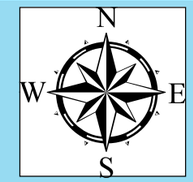
LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.03 0.06 0.12 0.18 0.24

Kilometers

POTENTIAL BLOCK JP_JP_TS_49 OF TEESTA RIVER



88°38'25"E 88°38'30"E 88°38'35"E 88°38'40"E 88°38'45"E 88°38'50"E 88°38'55"E 88°39'0"E 88°39'5"E

26°40'20"N 26°40'15"N 26°40'10"N 26°40'5"N 26°40'0"N 26°39'55"N

JP_JP_TS_49

TEESTA RIVER

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4
Kilometers

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_49

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 40' 18.891" N	88° 38' 42.995" E	8	26° 40' 3.513" N	88° 38' 36.617" E
2	26° 40' 18.259" N	88° 38' 43.006" E	9	26° 40' 8.328" N	88° 38' 32.953" E
3	26° 40' 8.962" N	88° 38' 45.021" E	10	26° 40' 13.559" N	88° 38' 31.215" E
4	26° 40' 5.341" N	88° 38' 45.830" E	11	26° 40' 15.510" N	88° 38' 29.807" E
5	26° 40' 1.532" N	88° 38' 48.867" E	12	26° 40' 18.476" N	88° 38' 33.558" E
6	26° 39' 58.097" N	88° 38' 47.736" E	13	26° 40' 19.377" N	88° 38' 34.056" E
7	26° 40' 1.367" N	88° 38' 43.763" E			

POTENTIAL BLOCK JP_JP_TS_50 OF TEESTA RIVER





TEESTA RIVER

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_50		
POINT_NO	Latitude	Longitude
1	26° 39' 42.571" N	88° 38' 35.873" E
2	26° 39' 42.131" N	88° 38' 34.301" E
3	26° 39' 42.925" N	88° 38' 32.590" E
4	26° 39' 43.720" N	88° 38' 30.735" E
5	26° 39' 46.291" N	88° 38' 30.184" E
6	26° 39' 46.732" N	88° 38' 29.233" E
7	26° 39' 48.319" N	88° 38' 31.409" E
8	26° 39' 51.427" N	88° 38' 31.310" E
9	26° 39' 53.604" N	88° 38' 34.752" E
10	26° 39' 54.199" N	88° 38' 39.067" E
11	26° 39' 50.381" N	88° 38' 40.217" E
12	26° 39' 47.269" N	88° 38' 38.572" E
13	26° 39' 45.135" N	88° 38' 37.225" E
14	26° 39' 44.070" N	88° 38' 36.373" E

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

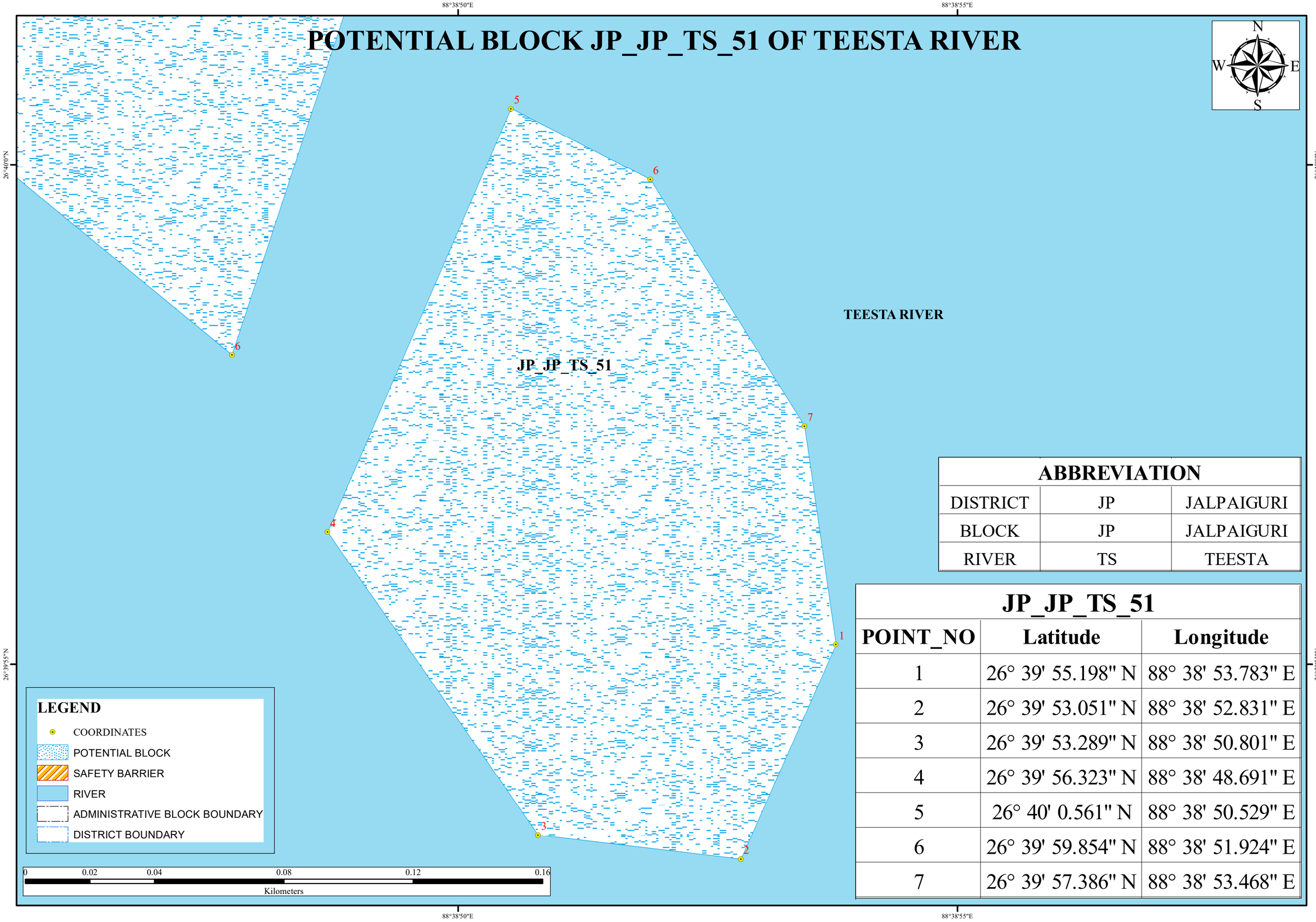
0 0.04 0.08 0.16 0.24 0.32

Kilometers

88°38'25"E 88°38'30"E 88°38'35"E 88°38'40"E 88°38'45"E

26°39'55"N 26°39'50"N 26°39'45"N 26°39'40"N

POTENTIAL BLOCK JP_JP_TS_51 OF TEESTA RIVER

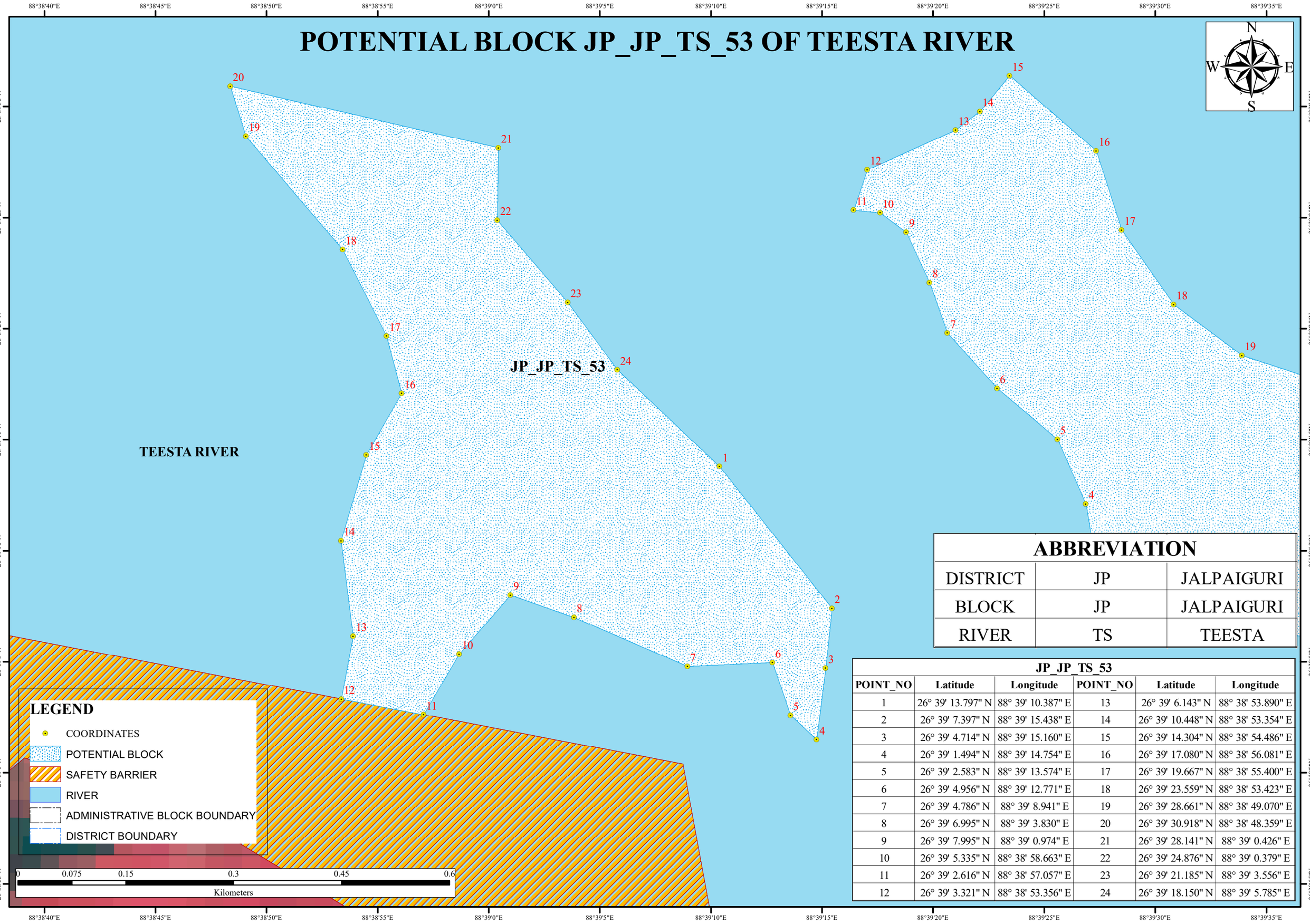


ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_51

POINT_NO	Latitude	Longitude
1	26° 39' 55.198" N	88° 38' 53.783" E
2	26° 39' 53.051" N	88° 38' 52.831" E
3	26° 39' 53.289" N	88° 38' 50.801" E
4	26° 39' 56.323" N	88° 38' 48.691" E
5	26° 40' 0.561" N	88° 38' 50.529" E
6	26° 39' 59.854" N	88° 38' 51.924" E
7	26° 39' 57.386" N	88° 38' 53.468" E

POTENTIAL BLOCK JP_JP_TS_53 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_53

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 39' 13.797" N	88° 39' 10.387" E	13	26° 39' 6.143" N	88° 38' 53.890" E
2	26° 39' 7.397" N	88° 39' 15.438" E	14	26° 39' 10.448" N	88° 38' 53.354" E
3	26° 39' 4.714" N	88° 39' 15.160" E	15	26° 39' 14.304" N	88° 38' 54.486" E
4	26° 39' 1.494" N	88° 39' 14.754" E	16	26° 39' 17.080" N	88° 38' 56.081" E
5	26° 39' 2.583" N	88° 39' 13.574" E	17	26° 39' 19.667" N	88° 38' 55.400" E
6	26° 39' 4.956" N	88° 39' 12.771" E	18	26° 39' 23.559" N	88° 38' 53.423" E
7	26° 39' 4.786" N	88° 39' 8.941" E	19	26° 39' 28.661" N	88° 38' 49.070" E
8	26° 39' 6.995" N	88° 39' 3.830" E	20	26° 39' 30.918" N	88° 38' 48.359" E
9	26° 39' 7.995" N	88° 39' 0.974" E	21	26° 39' 28.141" N	88° 39' 0.426" E
10	26° 39' 5.335" N	88° 38' 58.663" E	22	26° 39' 24.876" N	88° 39' 0.379" E
11	26° 39' 2.616" N	88° 38' 57.057" E	23	26° 39' 21.185" N	88° 39' 3.556" E
12	26° 39' 3.321" N	88° 38' 53.356" E	24	26° 39' 18.150" N	88° 39' 5.785" E

POTENTIAL BLOCK JP_JP_TS_55 OF TEESTA RIVER



88°39'25"E 88°39'30"E 88°39'35"E 88°39'40"E 88°39'45"E

26°39'45"N 26°39'40"N 26°39'35"N 26°39'30"N

JP_JP_TS_55

TEESTA RIVER

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_55		
POINT_NO	Latitude	Longitude
1	26° 39' 40.325" N	88° 39' 43.933" E
2	26° 39' 35.245" N	88° 39' 39.350" E
3	26° 39' 39.346" N	88° 39' 30.510" E
4	26° 39' 43.278" N	88° 39' 25.112" E
5	26° 39' 43.101" N	88° 39' 29.272" E
6	26° 39' 42.930" N	88° 39' 32.858" E
7	26° 39' 42.050" N	88° 39' 41.889" E
8	26° 39' 40.350" N	88° 39' 43.874" E

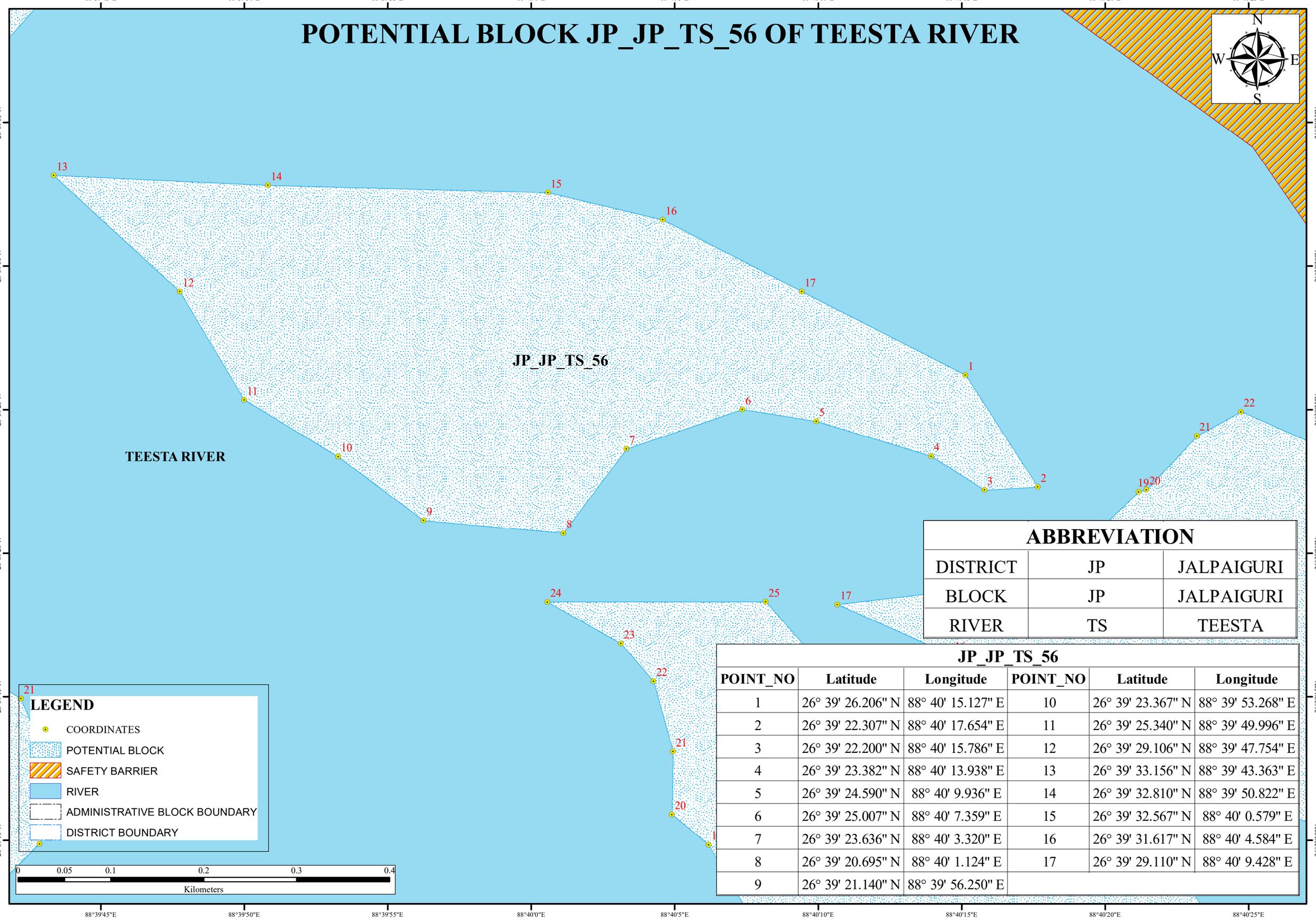
LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.04 0.08 0.16 0.24 0.32

Kilometers

POTENTIAL BLOCK JP_JP_TS_56 OF TEESTA RIVER

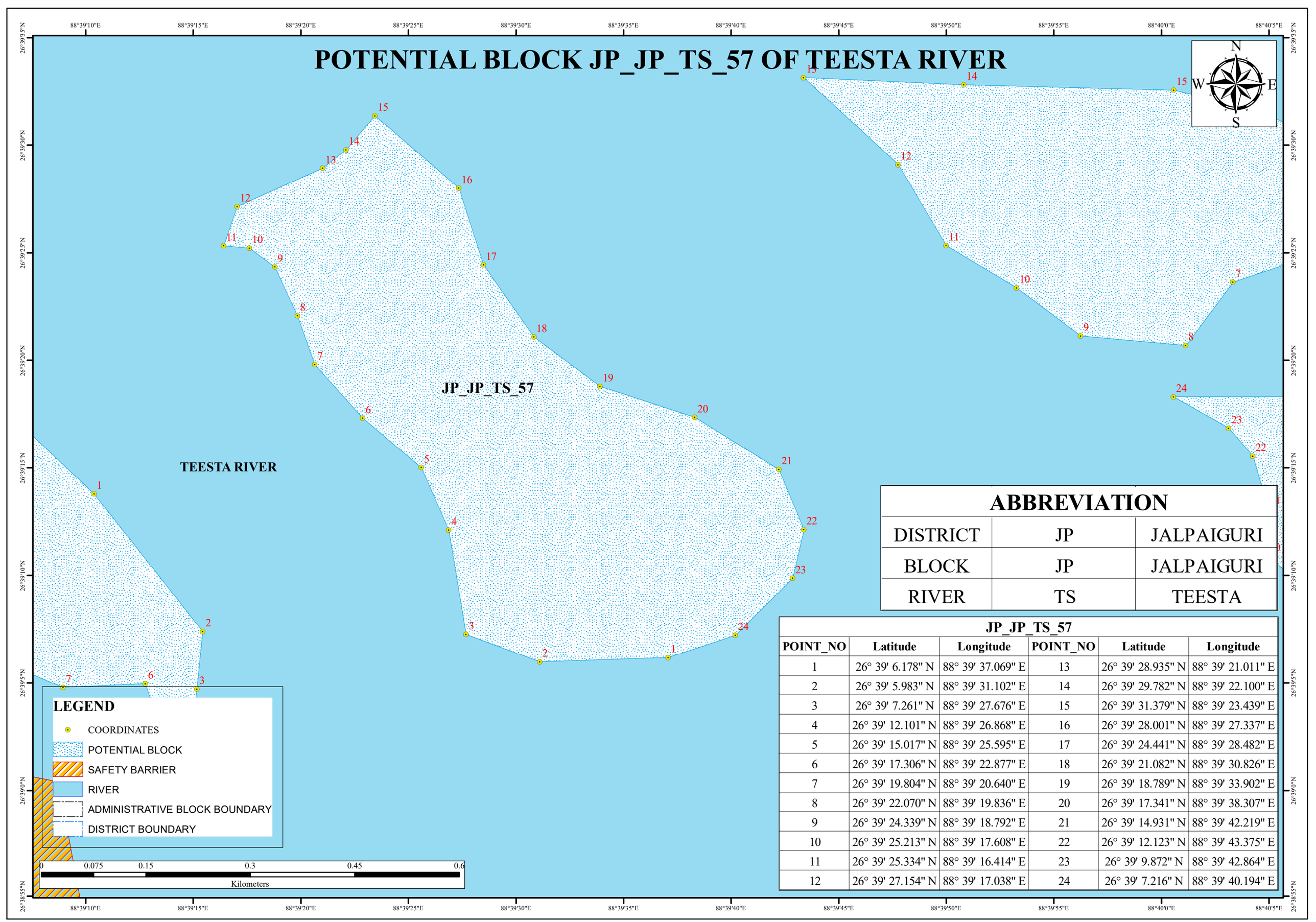


ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_56

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 39' 26.206" N	88° 40' 15.127" E	10	26° 39' 23.367" N	88° 39' 53.268" E
2	26° 39' 22.307" N	88° 40' 17.654" E	11	26° 39' 25.340" N	88° 39' 49.996" E
3	26° 39' 22.200" N	88° 40' 15.786" E	12	26° 39' 29.106" N	88° 39' 47.754" E
4	26° 39' 23.382" N	88° 40' 13.938" E	13	26° 39' 33.156" N	88° 39' 43.363" E
5	26° 39' 24.590" N	88° 40' 9.936" E	14	26° 39' 32.810" N	88° 39' 50.822" E
6	26° 39' 25.007" N	88° 40' 7.359" E	15	26° 39' 32.567" N	88° 40' 0.579" E
7	26° 39' 23.636" N	88° 40' 3.320" E	16	26° 39' 31.617" N	88° 40' 4.584" E
8	26° 39' 20.695" N	88° 40' 1.124" E	17	26° 39' 29.110" N	88° 40' 9.428" E
9	26° 39' 21.140" N	88° 39' 56.250" E			

POTENTIAL BLOCK JP_JP_TS_57 OF TEESTA RIVER

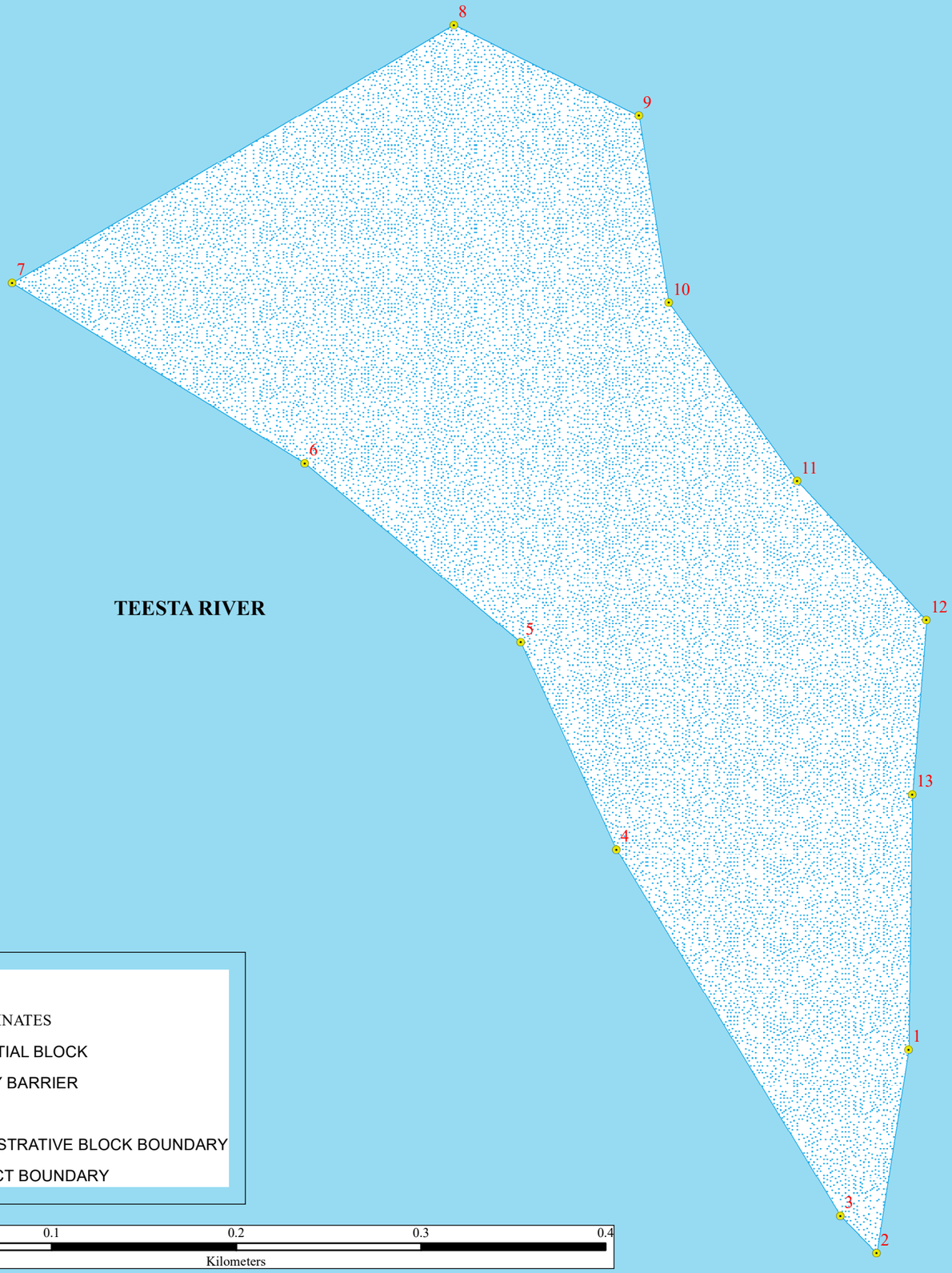


ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_57

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 39' 6.178" N	88° 39' 37.069" E	13	26° 39' 28.935" N	88° 39' 21.011" E
2	26° 39' 5.983" N	88° 39' 31.102" E	14	26° 39' 29.782" N	88° 39' 22.100" E
3	26° 39' 7.261" N	88° 39' 27.676" E	15	26° 39' 31.379" N	88° 39' 23.439" E
4	26° 39' 12.101" N	88° 39' 26.868" E	16	26° 39' 28.001" N	88° 39' 27.337" E
5	26° 39' 15.017" N	88° 39' 25.595" E	17	26° 39' 24.441" N	88° 39' 28.482" E
6	26° 39' 17.306" N	88° 39' 22.877" E	18	26° 39' 21.082" N	88° 39' 30.826" E
7	26° 39' 19.804" N	88° 39' 20.640" E	19	26° 39' 18.789" N	88° 39' 33.902" E
8	26° 39' 22.070" N	88° 39' 19.836" E	20	26° 39' 17.341" N	88° 39' 38.307" E
9	26° 39' 24.339" N	88° 39' 18.792" E	21	26° 39' 14.931" N	88° 39' 42.219" E
10	26° 39' 25.213" N	88° 39' 17.608" E	22	26° 39' 12.123" N	88° 39' 43.375" E
11	26° 39' 25.334" N	88° 39' 16.414" E	23	26° 39' 9.872" N	88° 39' 42.864" E
12	26° 39' 27.154" N	88° 39' 17.038" E	24	26° 39' 7.216" N	88° 39' 40.194" E

POTENTIAL BLOCK JP_JP_TS_58 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_58		
POINT_NO	Latitude	Longitude
1	26° 38' 25.264" N	88° 39' 34.856" E
2	26° 38' 21.705" N	88° 39' 34.294" E
3	26° 38' 22.354" N	88° 39' 33.666" E
4	26° 38' 28.763" N	88° 39' 29.740" E
5	26° 38' 32.393" N	88° 39' 28.071" E
6	26° 38' 35.533" N	88° 39' 24.289" E
7	26° 38' 38.688" N	88° 39' 19.168" E
8	26° 38' 43.197" N	88° 39' 26.901" E
9	26° 38' 41.612" N	88° 39' 30.132" E
10	26° 38' 38.338" N	88° 39' 30.658" E
11	26° 38' 35.217" N	88° 39' 32.910" E
12	26° 38' 32.783" N	88° 39' 35.171" E
13	26° 38' 29.734" N	88° 39' 34.921" E

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4
Kilometers

88°39'20"E 88°39'25"E 88°39'30"E 88°39'35"E 88°39'40"E 88°39'45"E 88°39'50"E

26°38'40"N 26°38'35"N 26°38'30"N 26°38'25"N

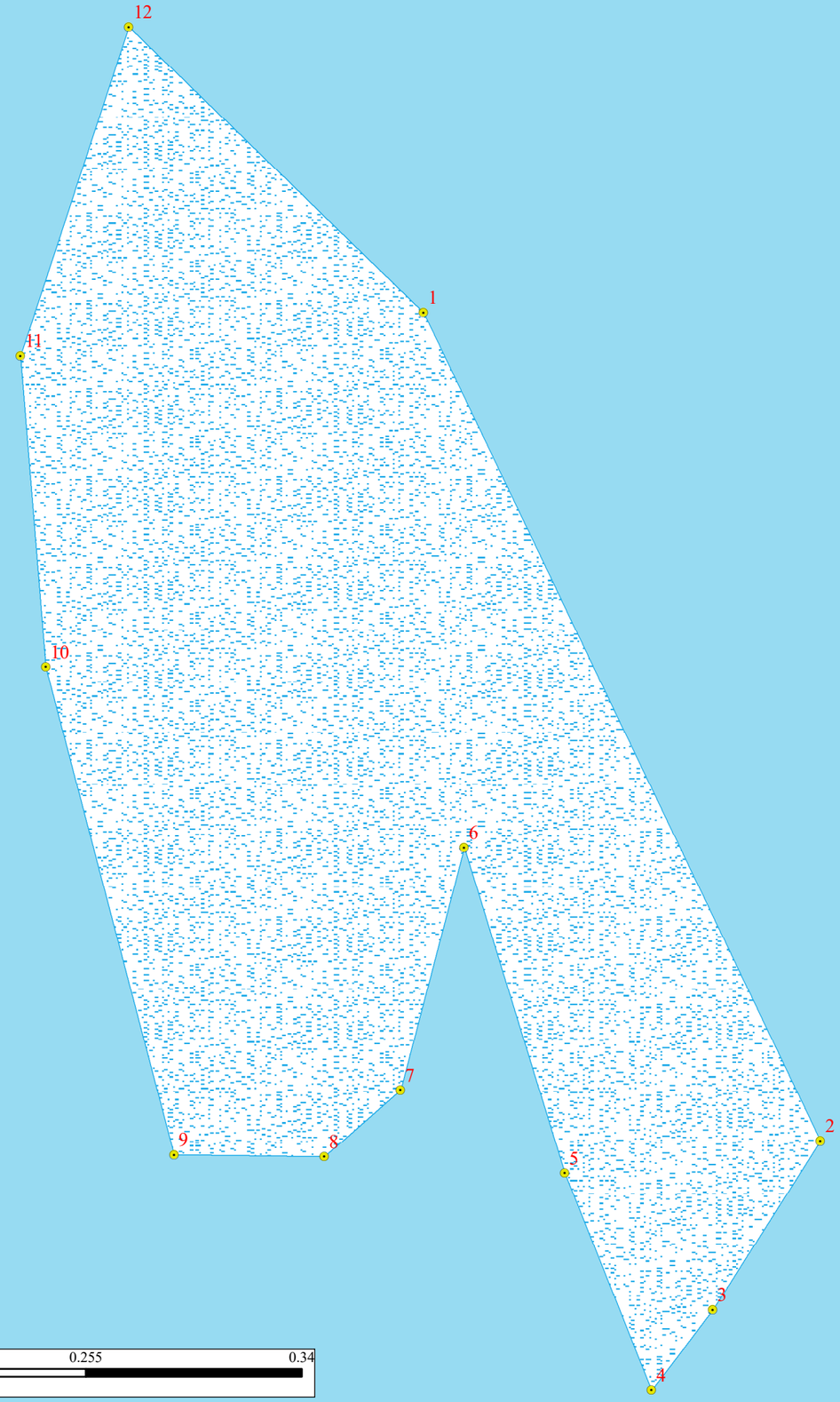
POTENTIAL BLOCK JP_JP_TS_59 OF TEESTA RIVER



88°39'40"E 88°39'45"E 88°39'50"E 88°39'55"E 88°40'0"E 88°40'5"E

26°38'20"N 26°38'15"N 26°38'10"N 26°38'5"N

TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

LEGEND

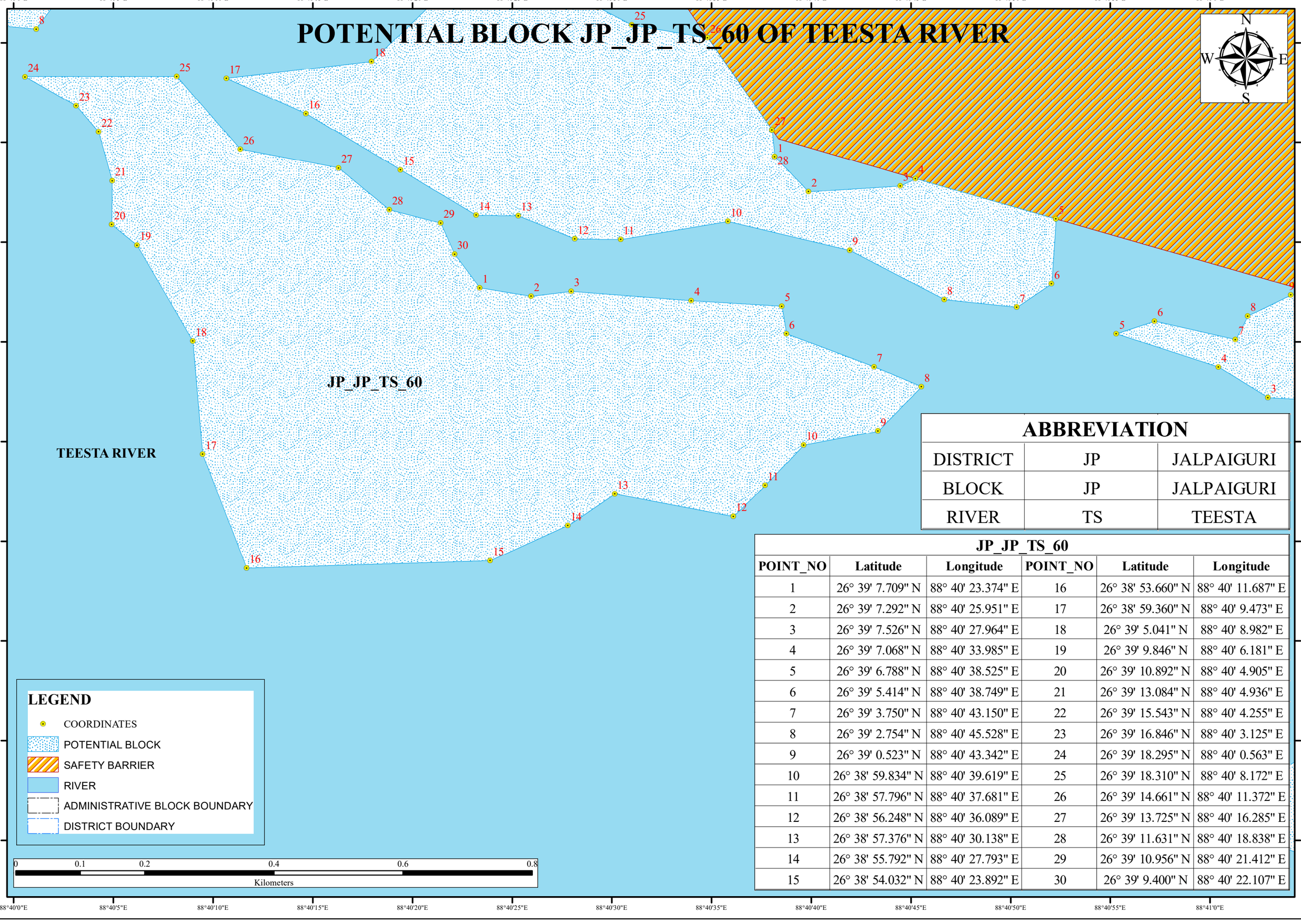
- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.0425 0.085 0.17 0.255 0.34

Kilometers

JP_JP_TS_59		
POINT_NO	Latitude	Longitude
1	26° 38' 17.946" N	88° 39' 50.975" E
2	26° 38' 7.407" N	88° 39' 56.028" E
3	26° 38' 5.257" N	88° 39' 54.658" E
4	26° 38' 4.234" N	88° 39' 53.878" E
5	26° 38' 6.998" N	88° 39' 52.770" E
6	26° 38' 11.140" N	88° 39' 51.491" E
7	26° 38' 8.055" N	88° 39' 50.681" E
8	26° 38' 7.206" N	88° 39' 49.712" E
9	26° 38' 7.229" N	88° 39' 47.798" E
10	26° 38' 13.438" N	88° 39' 46.166" E
11	26° 38' 17.397" N	88° 39' 45.841" E
12	26° 38' 21.584" N	88° 39' 47.223" E

POTENTIAL BLOCK JP_JP_TS_60 OF TEESTA RIVER



ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

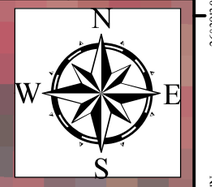
LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

JP_JP_TS_60

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 39' 7.709" N	88° 40' 23.374" E	16	26° 38' 53.660" N	88° 40' 11.687" E
2	26° 39' 7.292" N	88° 40' 25.951" E	17	26° 38' 59.360" N	88° 40' 9.473" E
3	26° 39' 7.526" N	88° 40' 27.964" E	18	26° 39' 5.041" N	88° 40' 8.982" E
4	26° 39' 7.068" N	88° 40' 33.985" E	19	26° 39' 9.846" N	88° 40' 6.181" E
5	26° 39' 6.788" N	88° 40' 38.525" E	20	26° 39' 10.892" N	88° 40' 4.905" E
6	26° 39' 5.414" N	88° 40' 38.749" E	21	26° 39' 13.084" N	88° 40' 4.936" E
7	26° 39' 3.750" N	88° 40' 43.150" E	22	26° 39' 15.543" N	88° 40' 4.255" E
8	26° 39' 2.754" N	88° 40' 45.528" E	23	26° 39' 16.846" N	88° 40' 3.125" E
9	26° 39' 0.523" N	88° 40' 43.342" E	24	26° 39' 18.295" N	88° 40' 0.563" E
10	26° 38' 59.834" N	88° 40' 39.619" E	25	26° 39' 18.310" N	88° 40' 8.172" E
11	26° 38' 57.796" N	88° 40' 37.681" E	26	26° 39' 14.661" N	88° 40' 11.372" E
12	26° 38' 56.248" N	88° 40' 36.089" E	27	26° 39' 13.725" N	88° 40' 16.285" E
13	26° 38' 57.376" N	88° 40' 30.138" E	28	26° 39' 11.631" N	88° 40' 18.838" E
14	26° 38' 55.792" N	88° 40' 27.793" E	29	26° 39' 10.956" N	88° 40' 21.412" E
15	26° 38' 54.032" N	88° 40' 23.892" E	30	26° 39' 9.400" N	88° 40' 22.107" E

POTENTIAL BLOCK JP_JP_TS_61 OF TEESTA RIVER



JP_JP_TS_61

TEESTA RIVER

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

LEGEND

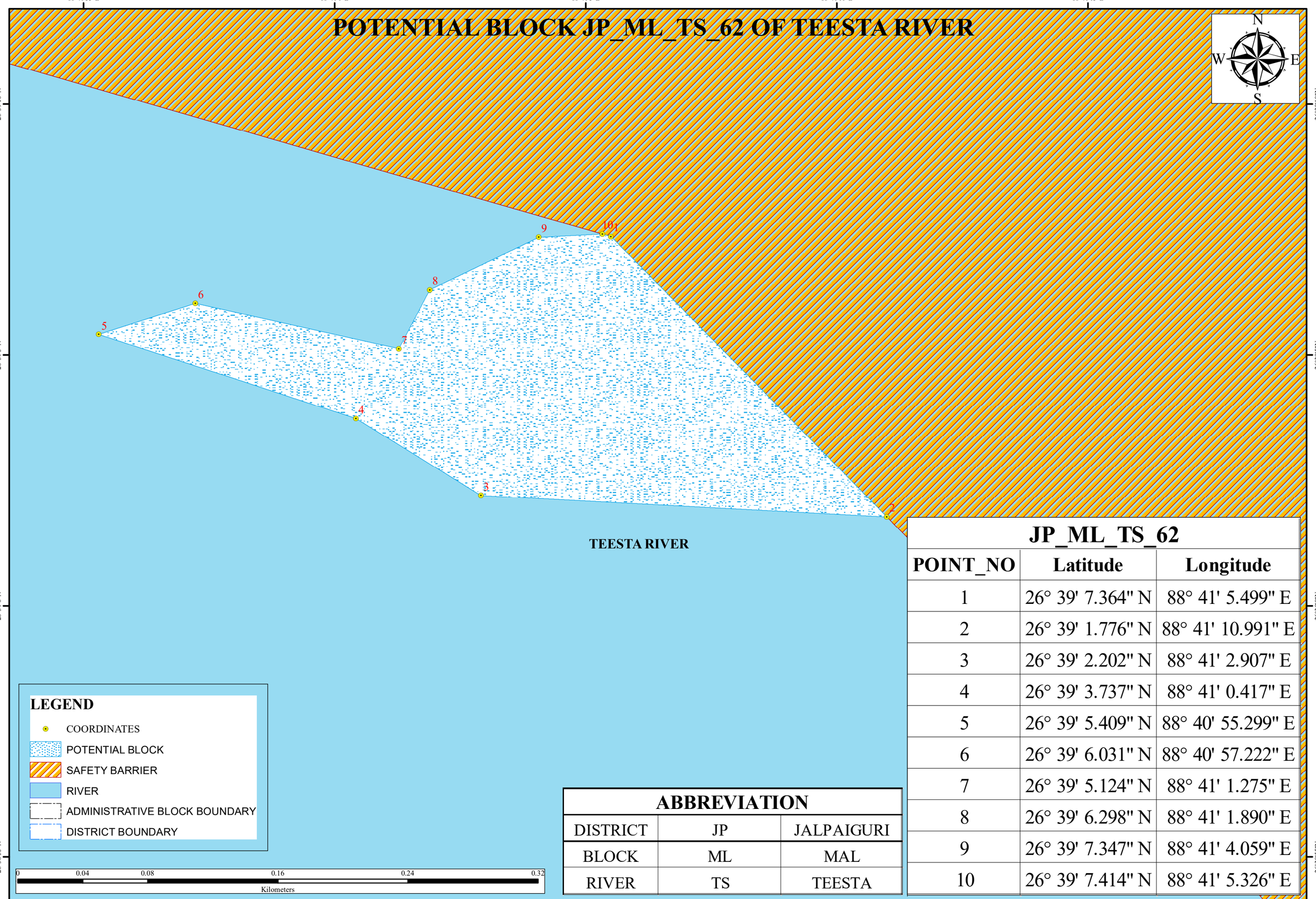
- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.1 0.2 0.4 0.6 0.8
Kilometers

JP_JP_TS_61

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 39' 14.274" N	88° 40' 38.169" E	15	26° 39' 13.635" N	88° 40' 19.405" E
2	26° 39' 12.535" N	88° 40' 39.866" E	16	26° 39' 16.443" N	88° 40' 14.661" E
3	26° 39' 12.824" N	88° 40' 44.463" E	17	26° 39' 18.209" N	88° 40' 10.668" E
4	26° 39' 13.188" N	88° 40' 45.228" E	18	26° 39' 19.055" N	88° 40' 17.943" E
5	26° 39' 11.166" N	88° 40' 52.266" E	19	26° 39' 22.134" N	88° 40' 21.160" E
6	26° 39' 7.920" N	88° 40' 52.046" E	20	26° 39' 22.209" N	88° 40' 21.444" E
7	26° 39' 6.736" N	88° 40' 50.307" E	21	26° 39' 24.080" N	88° 40' 23.193" E
8	26° 39' 7.123" N	88° 40' 46.676" E	22	26° 39' 24.922" N	88° 40' 24.737" E
9	26° 39' 9.587" N	88° 40' 41.928" E	23	26° 39' 23.508" N	88° 40' 27.970" E
10	26° 39' 11.035" N	88° 40' 35.825" E	24	26° 39' 21.773" N	88° 40' 29.284" E
11	26° 39' 10.137" N	88° 40' 30.444" E	25	26° 39' 20.893" N	88° 40' 30.993" E
12	26° 39' 10.165" N	88° 40' 28.148" E	26	26° 39' 20.258" N	88° 40' 34.798" E
13	26° 39' 11.331" N	88° 40' 25.304" E	27	26° 39' 15.626" N	88° 40' 38.022" E
14	26° 39' 11.355" N	88° 40' 23.199" E			

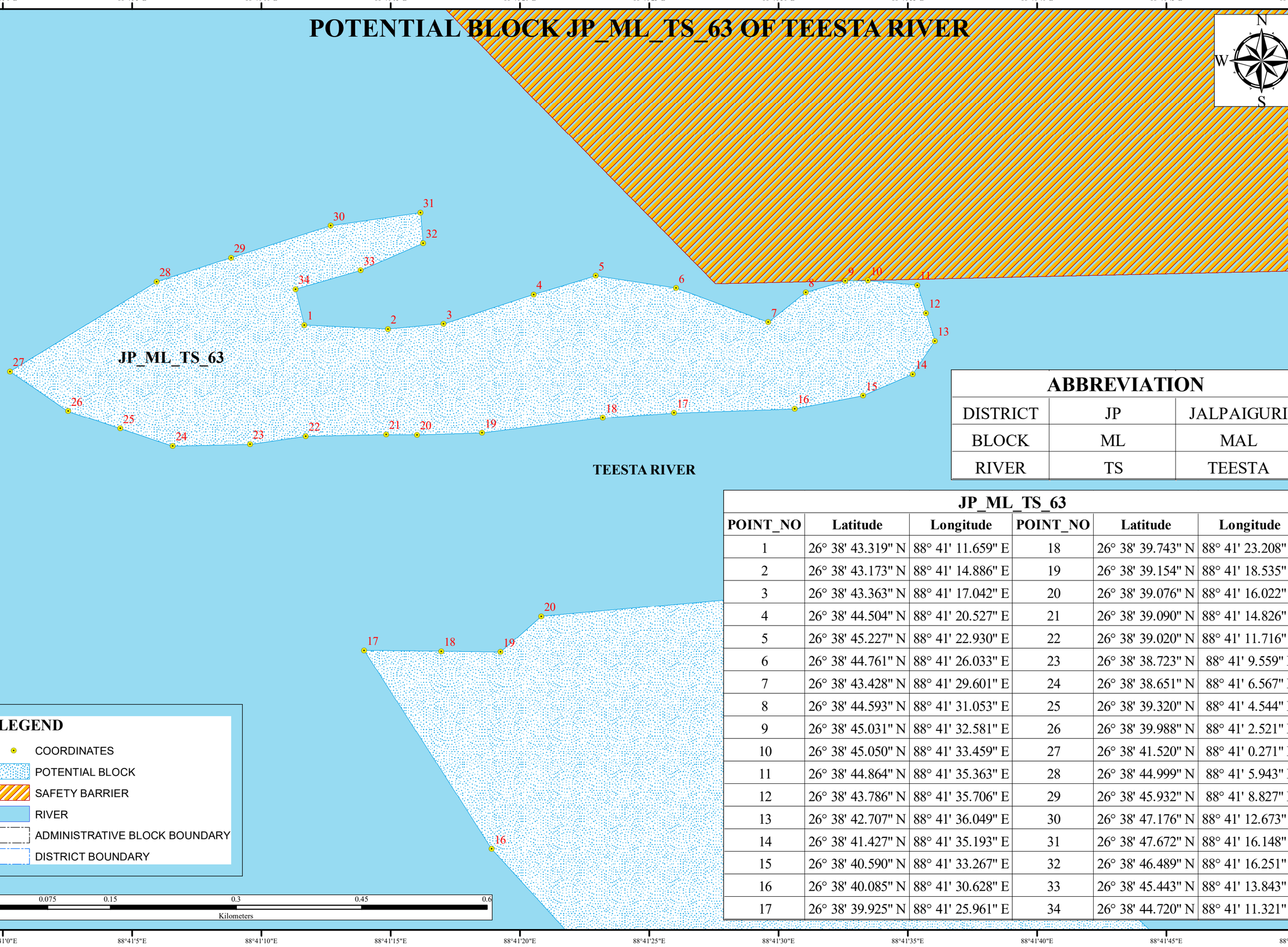
POTENTIAL BLOCK JP_ML_TS_62 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	TS	TEESTA

JP_ML_TS_62		
POINT_NO	Latitude	Longitude
1	26° 39' 7.364" N	88° 41' 5.499" E
2	26° 39' 1.776" N	88° 41' 10.991" E
3	26° 39' 2.202" N	88° 41' 2.907" E
4	26° 39' 3.737" N	88° 41' 0.417" E
5	26° 39' 5.409" N	88° 40' 55.299" E
6	26° 39' 6.031" N	88° 40' 57.222" E
7	26° 39' 5.124" N	88° 41' 1.275" E
8	26° 39' 6.298" N	88° 41' 1.890" E
9	26° 39' 7.347" N	88° 41' 4.059" E
10	26° 39' 7.414" N	88° 41' 5.326" E

POTENTIAL BLOCK JP_ML_TS_63 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	TS	TEESTA

JP_ML_TS_63

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 38' 43.319" N	88° 41' 11.659" E	18	26° 38' 39.743" N	88° 41' 23.208" E
2	26° 38' 43.173" N	88° 41' 14.886" E	19	26° 38' 39.154" N	88° 41' 18.535" E
3	26° 38' 43.363" N	88° 41' 17.042" E	20	26° 38' 39.076" N	88° 41' 16.022" E
4	26° 38' 44.504" N	88° 41' 20.527" E	21	26° 38' 39.090" N	88° 41' 14.826" E
5	26° 38' 45.227" N	88° 41' 22.930" E	22	26° 38' 39.020" N	88° 41' 11.716" E
6	26° 38' 44.761" N	88° 41' 26.033" E	23	26° 38' 38.723" N	88° 41' 9.559" E
7	26° 38' 43.428" N	88° 41' 29.601" E	24	26° 38' 38.651" N	88° 41' 6.567" E
8	26° 38' 44.593" N	88° 41' 31.053" E	25	26° 38' 39.320" N	88° 41' 4.544" E
9	26° 38' 45.031" N	88° 41' 32.581" E	26	26° 38' 39.988" N	88° 41' 2.521" E
10	26° 38' 45.050" N	88° 41' 33.459" E	27	26° 38' 41.520" N	88° 41' 0.271" E
11	26° 38' 44.864" N	88° 41' 35.363" E	28	26° 38' 44.999" N	88° 41' 5.943" E
12	26° 38' 43.786" N	88° 41' 35.706" E	29	26° 38' 45.932" N	88° 41' 8.827" E
13	26° 38' 42.707" N	88° 41' 36.049" E	30	26° 38' 47.176" N	88° 41' 12.673" E
14	26° 38' 41.427" N	88° 41' 35.193" E	31	26° 38' 47.672" N	88° 41' 16.148" E
15	26° 38' 40.590" N	88° 41' 33.267" E	32	26° 38' 46.489" N	88° 41' 16.251" E
16	26° 38' 40.085" N	88° 41' 30.628" E	33	26° 38' 45.443" N	88° 41' 13.843" E
17	26° 38' 39.925" N	88° 41' 25.961" E	34	26° 38' 44.720" N	88° 41' 11.321" E

POTENTIAL BLOCK JP_ML_TS_64 OF TEESTA RIVER



JP_ML_TS_64

TEESTA RIVER

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.125 0.25 0.5 0.75 1
Kilometers

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	TS	TEESTA

JP_ML_TS_64

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 38' 26.121" N	88° 41' 37.782" E	12	26° 38' 10.237" N	88° 41' 37.318" E
2	26° 38' 11.600" N	88° 41' 53.154" E	13	26° 38' 13.392" N	88° 41' 32.313" E
3	26° 38' 8.172" N	88° 41' 59.417" E	14	26° 38' 19.625" N	88° 41' 28.731" E
4	26° 38' 10.354" N	88° 42' 5.731" E	15	26° 38' 19.080" N	88° 41' 22.523" E
5	26° 38' 7.386" N	88° 42' 8.733" E	16	26° 38' 23.043" N	88° 41' 18.908" E
6	26° 38' 3.642" N	88° 42' 11.203" E	17	26° 38' 30.737" N	88° 41' 13.969" E
7	26° 38' 0.734" N	88° 42' 12.767" E	18	26° 38' 30.702" N	88° 41' 16.954" E
8	26° 38' 0.376" N	88° 42' 8.170" E	19	26° 38' 30.674" N	88° 41' 19.250" E
9	26° 38' 0.467" N	88° 42' 0.594" E	20	26° 38' 32.050" N	88° 41' 20.822" E
10	26° 38' 1.565" N	88° 41' 55.100" E	21	26° 38' 33.749" N	88° 41' 39.714" E
11	26° 38' 6.208" N	88° 41' 46.443" E	22	26° 38' 29.804" N	88° 41' 40.362" E

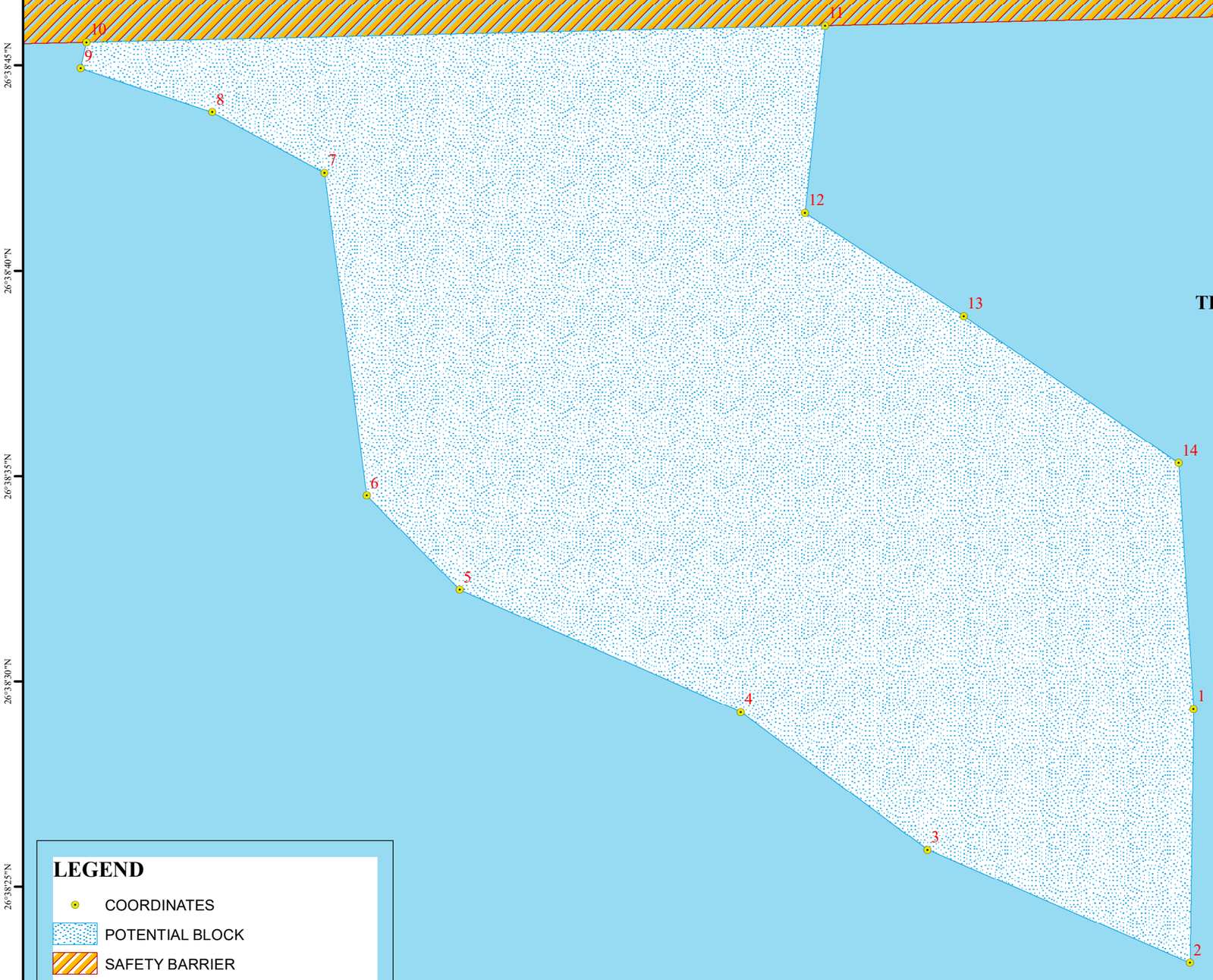
POTENTIAL BLOCK JP_ML_TS_65 OF TEESTA RIVER



88°42'0"E 88°42'5"E 88°42'10"E 88°42'15"E 88°42'20"E 88°42'25"E 88°42'30"E 88°42'35"E 88°42'40"E

26°38'45"N
26°38'40"N
26°38'35"N
26°38'30"N
26°38'25"N
26°38'20"N

TEESTA RIVER



JP_ML_TS_65		
POINT_NO	Latitude	Longitude
1	26° 38' 29.333" N	88° 42' 24.041" E
2	26° 38' 23.144" N	88° 42' 23.949" E
3	26° 38' 25.903" N	88° 42' 17.561" E
4	26° 38' 29.259" N	88° 42' 13.018" E
5	26° 38' 32.230" N	88° 42' 6.174" E
6	26° 38' 34.527" N	88° 42' 3.912" E
7	26° 38' 42.380" N	88° 42' 2.880" E
8	26° 38' 43.858" N	88° 42' 0.146" E
9	26° 38' 44.928" N	88° 41' 56.947" E
10	26° 38' 45.574" N	88° 41' 57.092" E
11	26° 38' 45.971" N	88° 42' 15.067" E
12	26° 38' 41.415" N	88° 42' 14.577" E
13	26° 38' 38.892" N	88° 42' 18.443" E
14	26° 38' 35.322" N	88° 42' 23.671" E

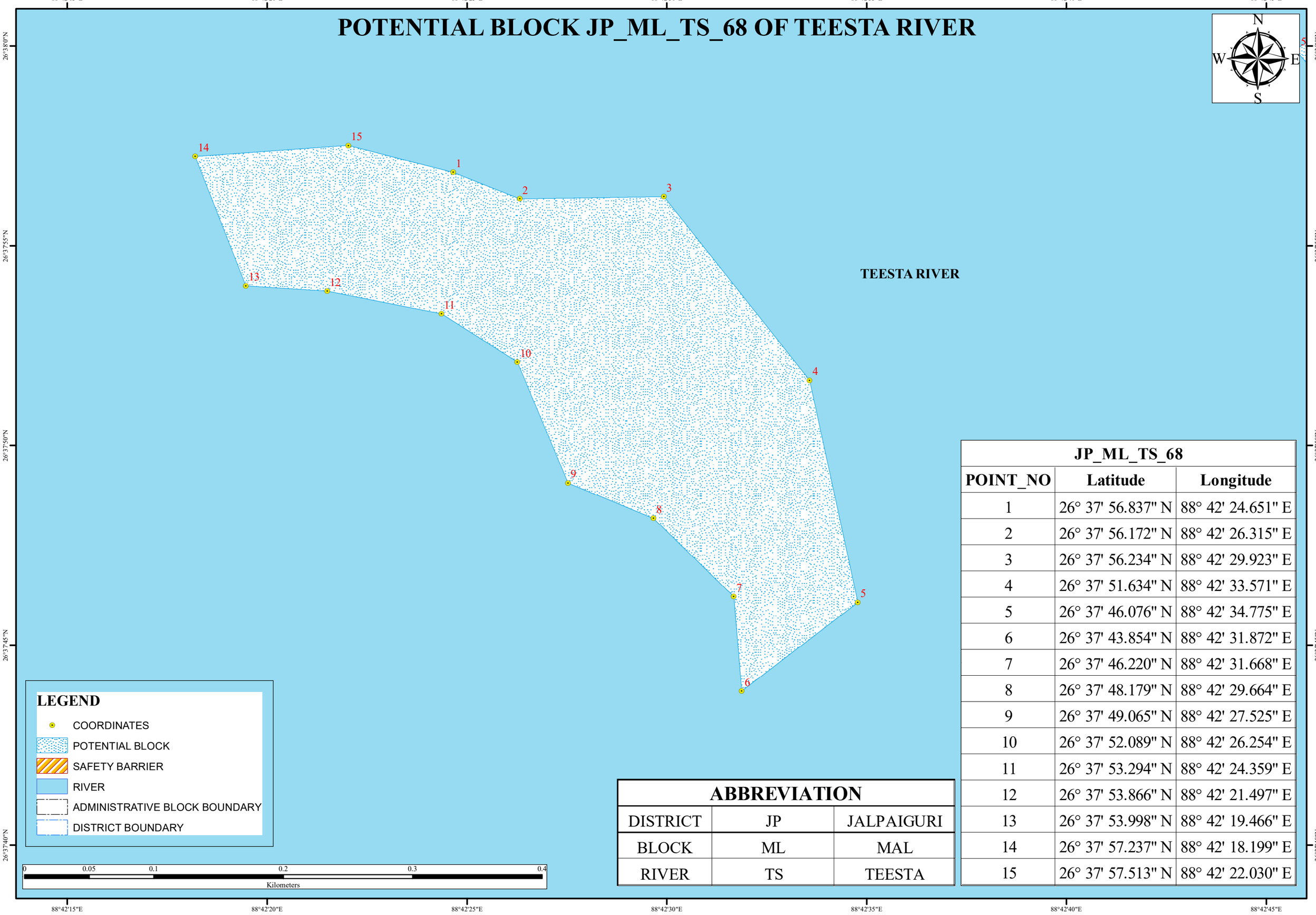
LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4
Kilometers

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	TS	TEESTA

POTENTIAL BLOCK JP_ML_TS_68 OF TEESTA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	TS	TEESTA

JP_ML_TS_68		
POINT_NO	Latitude	Longitude
1	26° 37' 56.837" N	88° 42' 24.651" E
2	26° 37' 56.172" N	88° 42' 26.315" E
3	26° 37' 56.234" N	88° 42' 29.923" E
4	26° 37' 51.634" N	88° 42' 33.571" E
5	26° 37' 46.076" N	88° 42' 34.775" E
6	26° 37' 43.854" N	88° 42' 31.872" E
7	26° 37' 46.220" N	88° 42' 31.668" E
8	26° 37' 48.179" N	88° 42' 29.664" E
9	26° 37' 49.065" N	88° 42' 27.525" E
10	26° 37' 52.089" N	88° 42' 26.254" E
11	26° 37' 53.294" N	88° 42' 24.359" E
12	26° 37' 53.866" N	88° 42' 21.497" E
13	26° 37' 53.998" N	88° 42' 19.466" E
14	26° 37' 57.237" N	88° 42' 18.199" E
15	26° 37' 57.513" N	88° 42' 22.030" E

POTENTIAL BLOCK JP_JP_TS_70 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_70

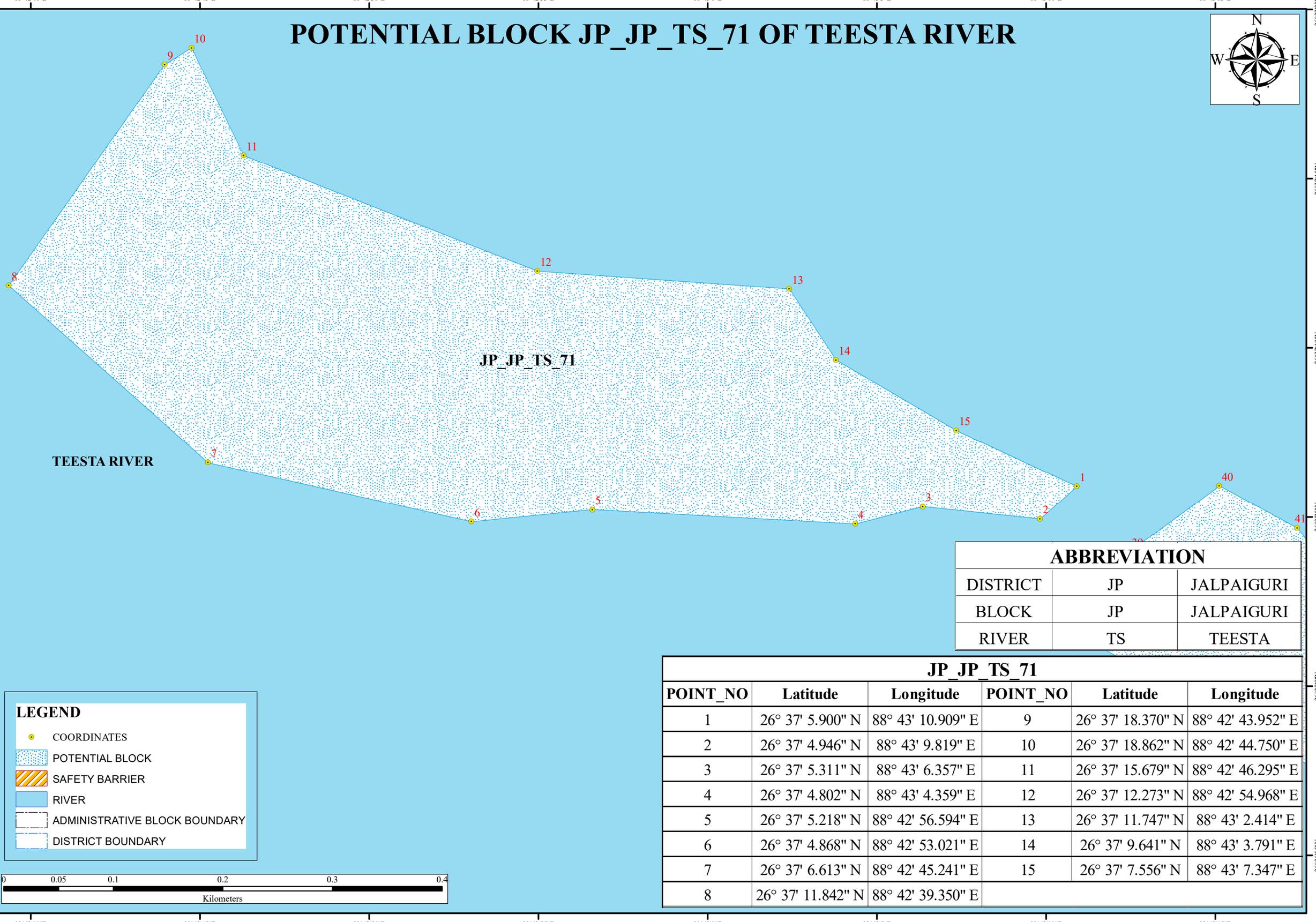
POINT_NO	Latitude	Longitude
1	26° 37' 14.593" N	88° 42' 36.363" E
2	26° 37' 13.335" N	88° 42' 33.714" E
3	26° 37' 13.737" N	88° 42' 27.023" E
4	26° 37' 14.402" N	88° 42' 25.359" E
5	26° 37' 17.328" N	88° 42' 23.370" E
6	26° 37' 24.105" N	88° 42' 22.873" E
7	26° 37' 25.628" N	88° 42' 21.341" E
8	26° 37' 26.044" N	88° 42' 21.028" E
9	26° 37' 25.836" N	88° 42' 25.324" E
10	26° 37' 19.630" N	88° 42' 36.712" E
11	26° 37' 18.683" N	88° 42' 35.826" E
12	26° 37' 17.071" N	88° 42' 35.802" E
13	26° 37' 14.807" N	88° 42' 36.366" E

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4
Kilometers

POTENTIAL BLOCK JP_JP_TS_71 OF TEESTA RIVER



ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

LEGEND

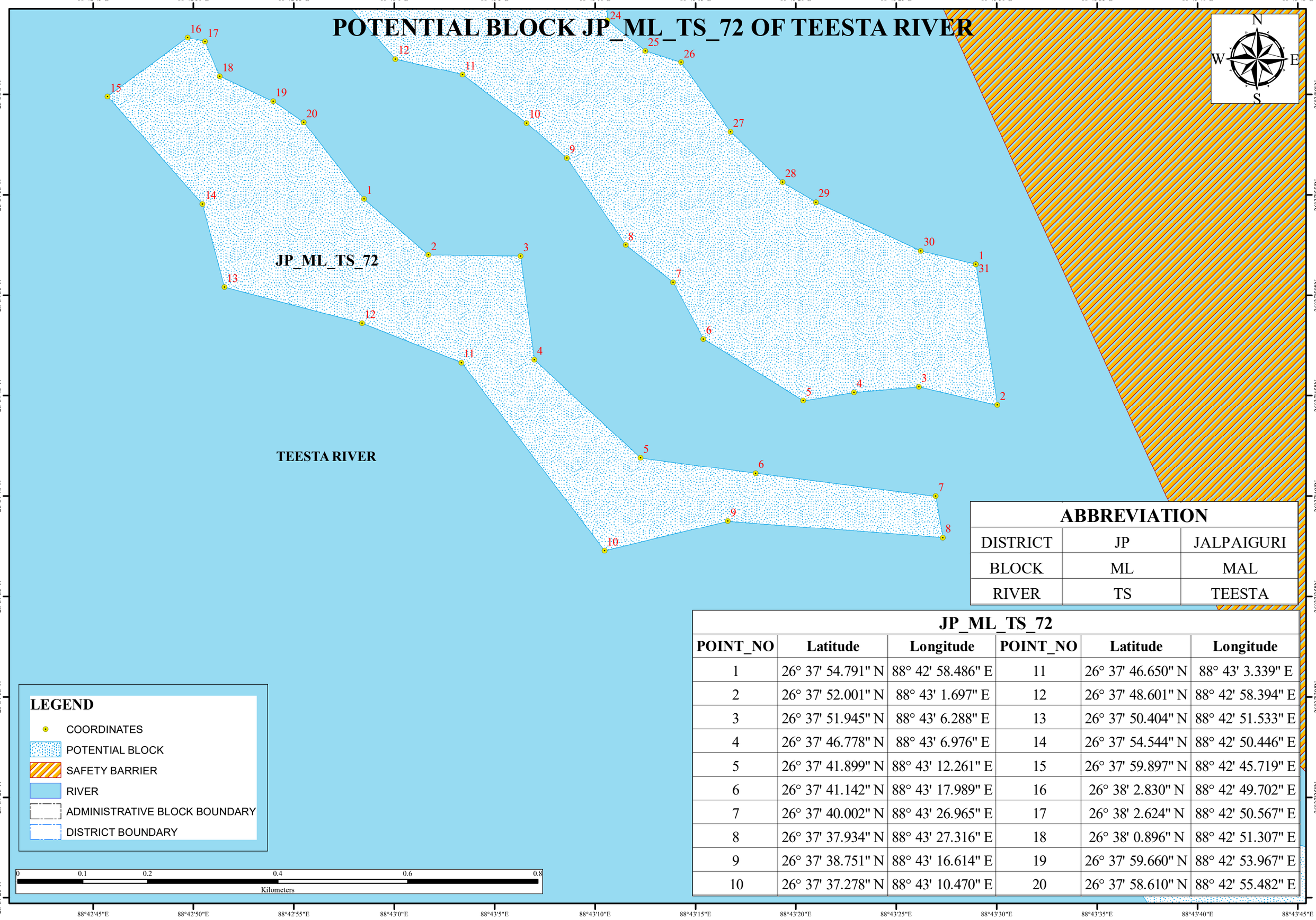
- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4
Kilometers

JP_JP_TS_71

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 37' 5.900" N	88° 43' 10.909" E	9	26° 37' 18.370" N	88° 42' 43.952" E
2	26° 37' 4.946" N	88° 43' 9.819" E	10	26° 37' 18.862" N	88° 42' 44.750" E
3	26° 37' 5.311" N	88° 43' 6.357" E	11	26° 37' 15.679" N	88° 42' 46.295" E
4	26° 37' 4.802" N	88° 43' 4.359" E	12	26° 37' 12.273" N	88° 42' 54.968" E
5	26° 37' 5.218" N	88° 42' 56.594" E	13	26° 37' 11.747" N	88° 43' 2.414" E
6	26° 37' 4.868" N	88° 42' 53.021" E	14	26° 37' 9.641" N	88° 43' 3.791" E
7	26° 37' 6.613" N	88° 42' 45.241" E	15	26° 37' 7.556" N	88° 43' 7.347" E
8	26° 37' 11.842" N	88° 42' 39.350" E			

POTENTIAL BLOCK JP_ML_TS_72 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	TS	TEESTA

LEGEND

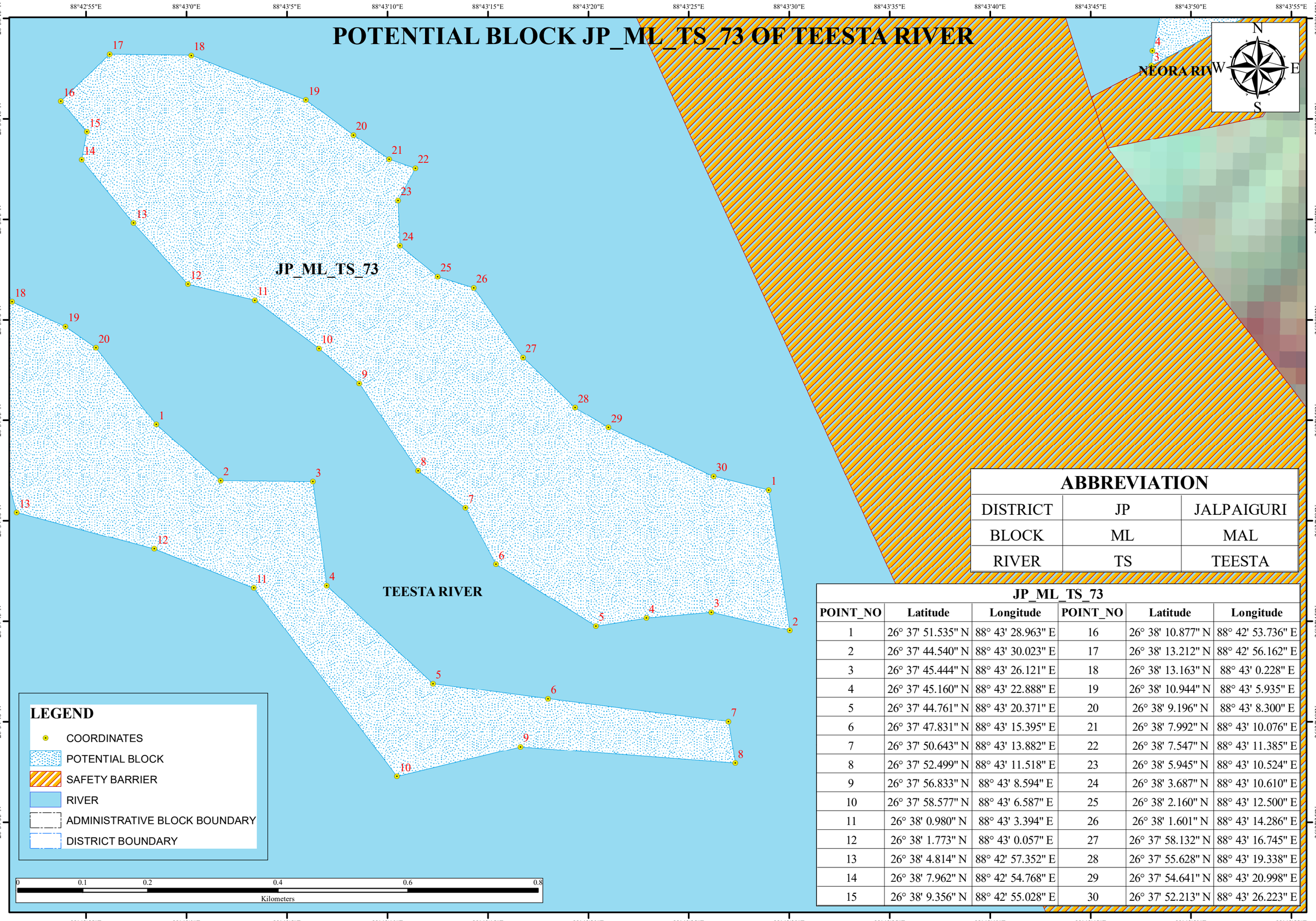
- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.1 0.2 0.4 0.6 0.8
Kilometers

JP_ML_TS_72

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 37' 54.791" N	88° 42' 58.486" E	11	26° 37' 46.650" N	88° 43' 3.339" E
2	26° 37' 52.001" N	88° 43' 1.697" E	12	26° 37' 48.601" N	88° 42' 58.394" E
3	26° 37' 51.945" N	88° 43' 6.288" E	13	26° 37' 50.404" N	88° 42' 51.533" E
4	26° 37' 46.778" N	88° 43' 6.976" E	14	26° 37' 54.544" N	88° 42' 50.446" E
5	26° 37' 41.899" N	88° 43' 12.261" E	15	26° 37' 59.897" N	88° 42' 45.719" E
6	26° 37' 41.142" N	88° 43' 17.989" E	16	26° 38' 2.830" N	88° 42' 49.702" E
7	26° 37' 40.002" N	88° 43' 26.965" E	17	26° 38' 2.624" N	88° 42' 50.567" E
8	26° 37' 37.934" N	88° 43' 27.316" E	18	26° 38' 0.896" N	88° 42' 51.307" E
9	26° 37' 38.751" N	88° 43' 16.614" E	19	26° 37' 59.660" N	88° 42' 53.967" E
10	26° 37' 37.278" N	88° 43' 10.470" E	20	26° 37' 58.610" N	88° 42' 55.482" E

POTENTIAL BLOCK JP_ML_TS_73 OF TEESTA RIVER



ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	TS	TEESTA

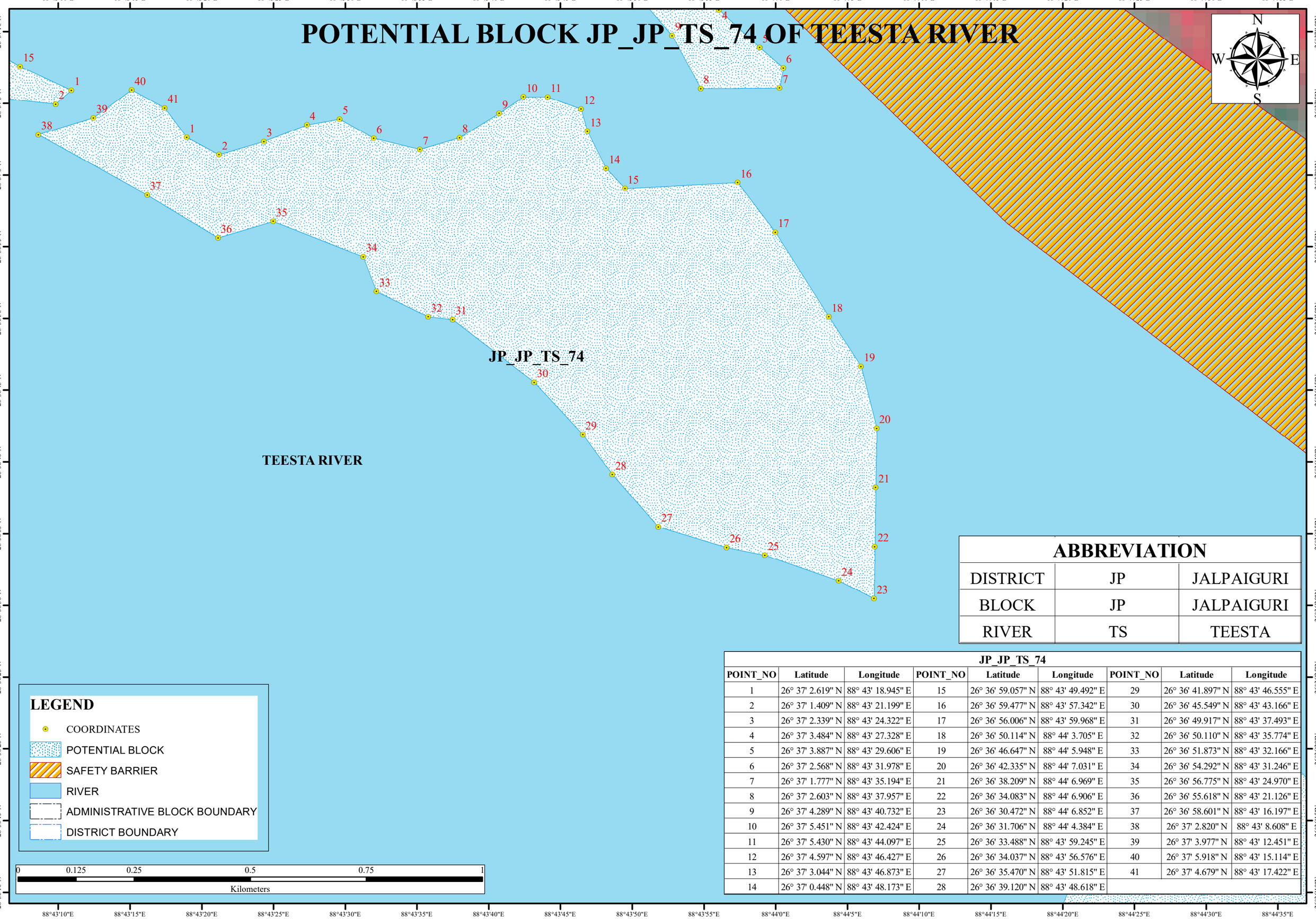
LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

JP_ML_TS_73

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 37' 51.535" N	88° 43' 28.963" E	16	26° 38' 10.877" N	88° 42' 53.736" E
2	26° 37' 44.540" N	88° 43' 30.023" E	17	26° 38' 13.212" N	88° 42' 56.162" E
3	26° 37' 45.444" N	88° 43' 26.121" E	18	26° 38' 13.163" N	88° 43' 0.228" E
4	26° 37' 45.160" N	88° 43' 22.888" E	19	26° 38' 10.944" N	88° 43' 5.935" E
5	26° 37' 44.761" N	88° 43' 20.371" E	20	26° 38' 9.196" N	88° 43' 8.300" E
6	26° 37' 47.831" N	88° 43' 15.395" E	21	26° 38' 7.992" N	88° 43' 10.076" E
7	26° 37' 50.643" N	88° 43' 13.882" E	22	26° 38' 7.547" N	88° 43' 11.385" E
8	26° 37' 52.499" N	88° 43' 11.518" E	23	26° 38' 5.945" N	88° 43' 10.524" E
9	26° 37' 56.833" N	88° 43' 8.594" E	24	26° 38' 3.687" N	88° 43' 10.610" E
10	26° 37' 58.577" N	88° 43' 6.587" E	25	26° 38' 2.160" N	88° 43' 12.500" E
11	26° 38' 0.980" N	88° 43' 3.394" E	26	26° 38' 1.601" N	88° 43' 14.286" E
12	26° 38' 1.773" N	88° 43' 0.057" E	27	26° 37' 58.132" N	88° 43' 16.745" E
13	26° 38' 4.814" N	88° 42' 57.352" E	28	26° 37' 55.628" N	88° 43' 19.338" E
14	26° 38' 7.962" N	88° 42' 54.768" E	29	26° 37' 54.641" N	88° 43' 20.998" E
15	26° 38' 9.356" N	88° 42' 55.028" E	30	26° 37' 52.213" N	88° 43' 26.223" E

POTENTIAL BLOCK JP_JP_TS_74 OF TEESTA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.125 0.25 0.5 0.75 1
Kilometers

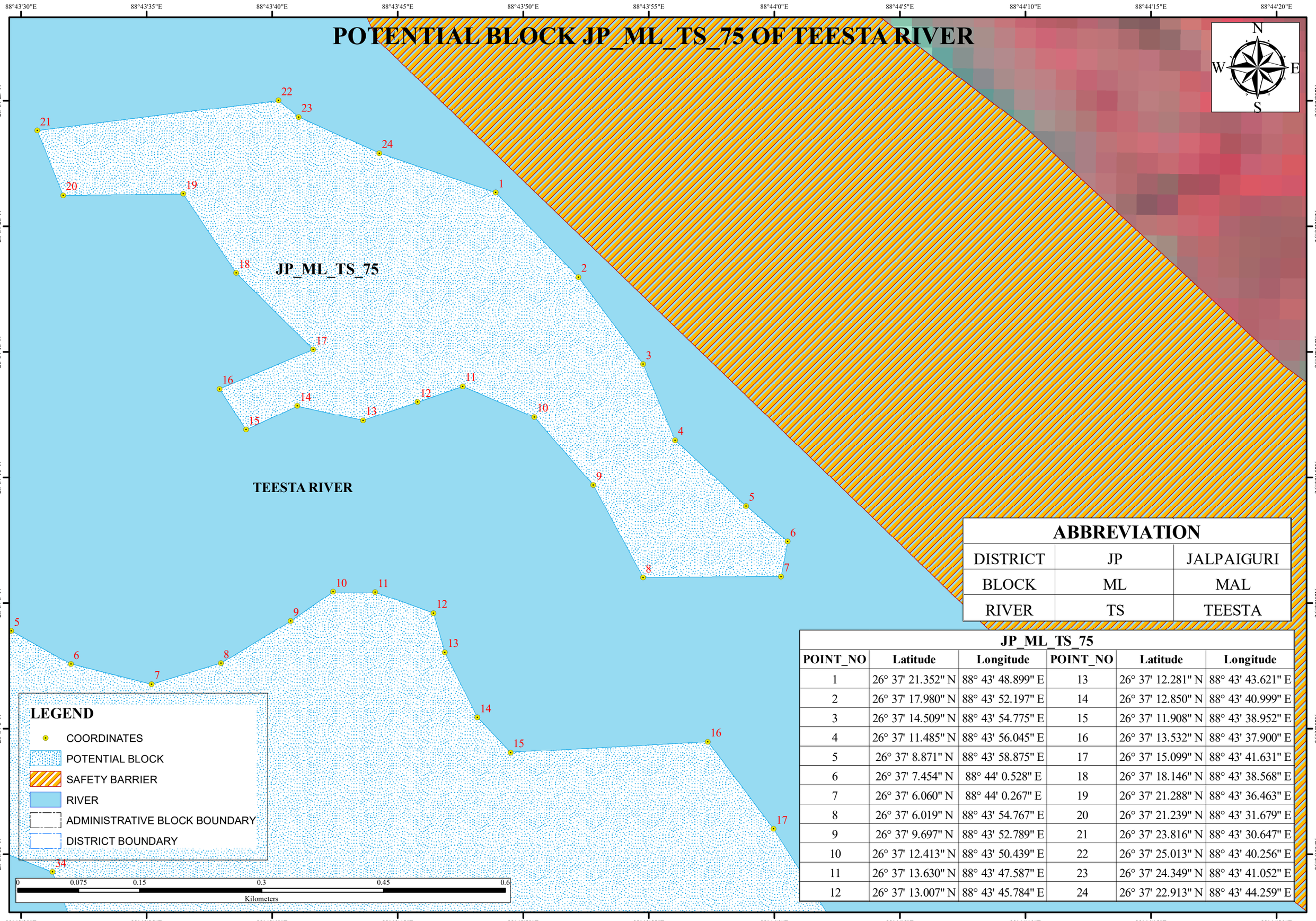
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_74

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 37' 2.619" N	88° 43' 18.945" E	15	26° 36' 59.057" N	88° 43' 49.492" E	29	26° 36' 41.897" N	88° 43' 46.555" E
2	26° 37' 1.409" N	88° 43' 21.199" E	16	26° 36' 59.477" N	88° 43' 57.342" E	30	26° 36' 45.549" N	88° 43' 43.166" E
3	26° 37' 2.339" N	88° 43' 24.322" E	17	26° 36' 56.006" N	88° 43' 59.968" E	31	26° 36' 49.917" N	88° 43' 37.493" E
4	26° 37' 3.484" N	88° 43' 27.328" E	18	26° 36' 50.114" N	88° 44' 3.705" E	32	26° 36' 50.110" N	88° 43' 35.774" E
5	26° 37' 3.887" N	88° 43' 29.606" E	19	26° 36' 46.647" N	88° 44' 5.948" E	33	26° 36' 51.873" N	88° 43' 32.166" E
6	26° 37' 2.568" N	88° 43' 31.978" E	20	26° 36' 42.335" N	88° 44' 7.031" E	34	26° 36' 54.292" N	88° 43' 31.246" E
7	26° 37' 1.777" N	88° 43' 35.194" E	21	26° 36' 38.209" N	88° 44' 6.969" E	35	26° 36' 56.775" N	88° 43' 24.970" E
8	26° 37' 2.603" N	88° 43' 37.957" E	22	26° 36' 34.083" N	88° 44' 6.906" E	36	26° 36' 55.618" N	88° 43' 21.126" E
9	26° 37' 4.289" N	88° 43' 40.732" E	23	26° 36' 30.472" N	88° 44' 6.852" E	37	26° 36' 58.601" N	88° 43' 16.197" E
10	26° 37' 5.451" N	88° 43' 42.424" E	24	26° 36' 31.706" N	88° 44' 4.384" E	38	26° 37' 2.820" N	88° 43' 8.608" E
11	26° 37' 5.430" N	88° 43' 44.097" E	25	26° 36' 33.488" N	88° 43' 59.245" E	39	26° 37' 3.977" N	88° 43' 12.451" E
12	26° 37' 4.597" N	88° 43' 46.427" E	26	26° 36' 34.037" N	88° 43' 56.576" E	40	26° 37' 5.918" N	88° 43' 15.114" E
13	26° 37' 3.044" N	88° 43' 46.873" E	27	26° 36' 35.470" N	88° 43' 51.815" E	41	26° 37' 4.679" N	88° 43' 17.422" E
14	26° 37' 0.448" N	88° 43' 48.173" E	28	26° 36' 39.120" N	88° 43' 48.618" E			

POTENTIAL BLOCK JP_ML_TS_75 OF TEESTA RIVER



LEGEND

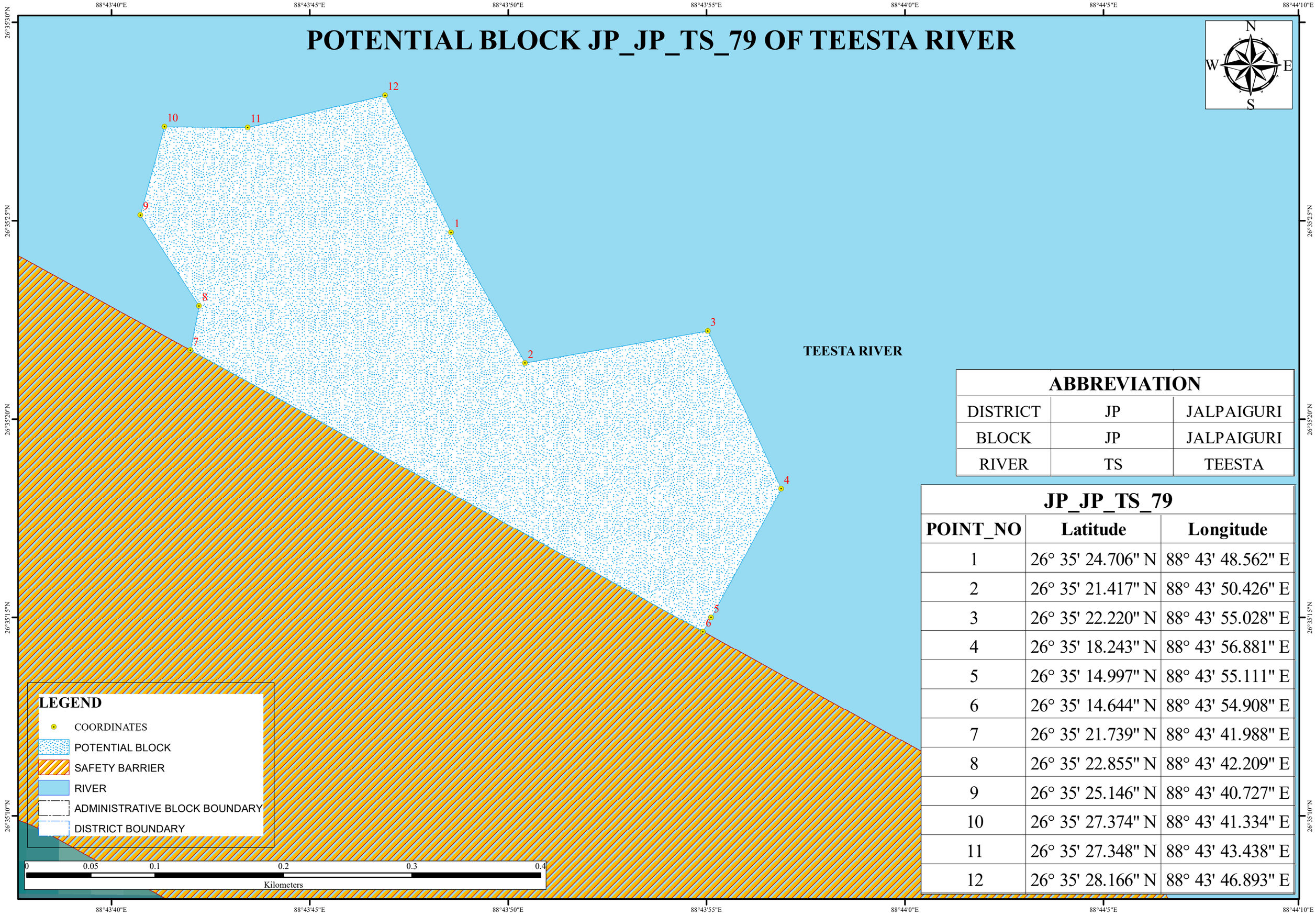
- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	ML	MAL
RIVER	TS	TEESTA

JP_ML_TS_75

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 37' 21.352" N	88° 43' 48.899" E	13	26° 37' 12.281" N	88° 43' 43.621" E
2	26° 37' 17.980" N	88° 43' 52.197" E	14	26° 37' 12.850" N	88° 43' 40.999" E
3	26° 37' 14.509" N	88° 43' 54.775" E	15	26° 37' 11.908" N	88° 43' 38.952" E
4	26° 37' 11.485" N	88° 43' 56.045" E	16	26° 37' 13.532" N	88° 43' 37.900" E
5	26° 37' 8.871" N	88° 43' 58.875" E	17	26° 37' 15.099" N	88° 43' 41.631" E
6	26° 37' 7.454" N	88° 44' 0.528" E	18	26° 37' 18.146" N	88° 43' 38.568" E
7	26° 37' 6.060" N	88° 44' 0.267" E	19	26° 37' 21.288" N	88° 43' 36.463" E
8	26° 37' 6.019" N	88° 43' 54.767" E	20	26° 37' 21.239" N	88° 43' 31.679" E
9	26° 37' 9.697" N	88° 43' 52.789" E	21	26° 37' 23.816" N	88° 43' 30.647" E
10	26° 37' 12.413" N	88° 43' 50.439" E	22	26° 37' 25.013" N	88° 43' 40.256" E
11	26° 37' 13.630" N	88° 43' 47.587" E	23	26° 37' 24.349" N	88° 43' 41.052" E
12	26° 37' 13.007" N	88° 43' 45.784" E	24	26° 37' 22.913" N	88° 43' 44.259" E

POTENTIAL BLOCK JP_JP_TS_79 OF TEESTA RIVER

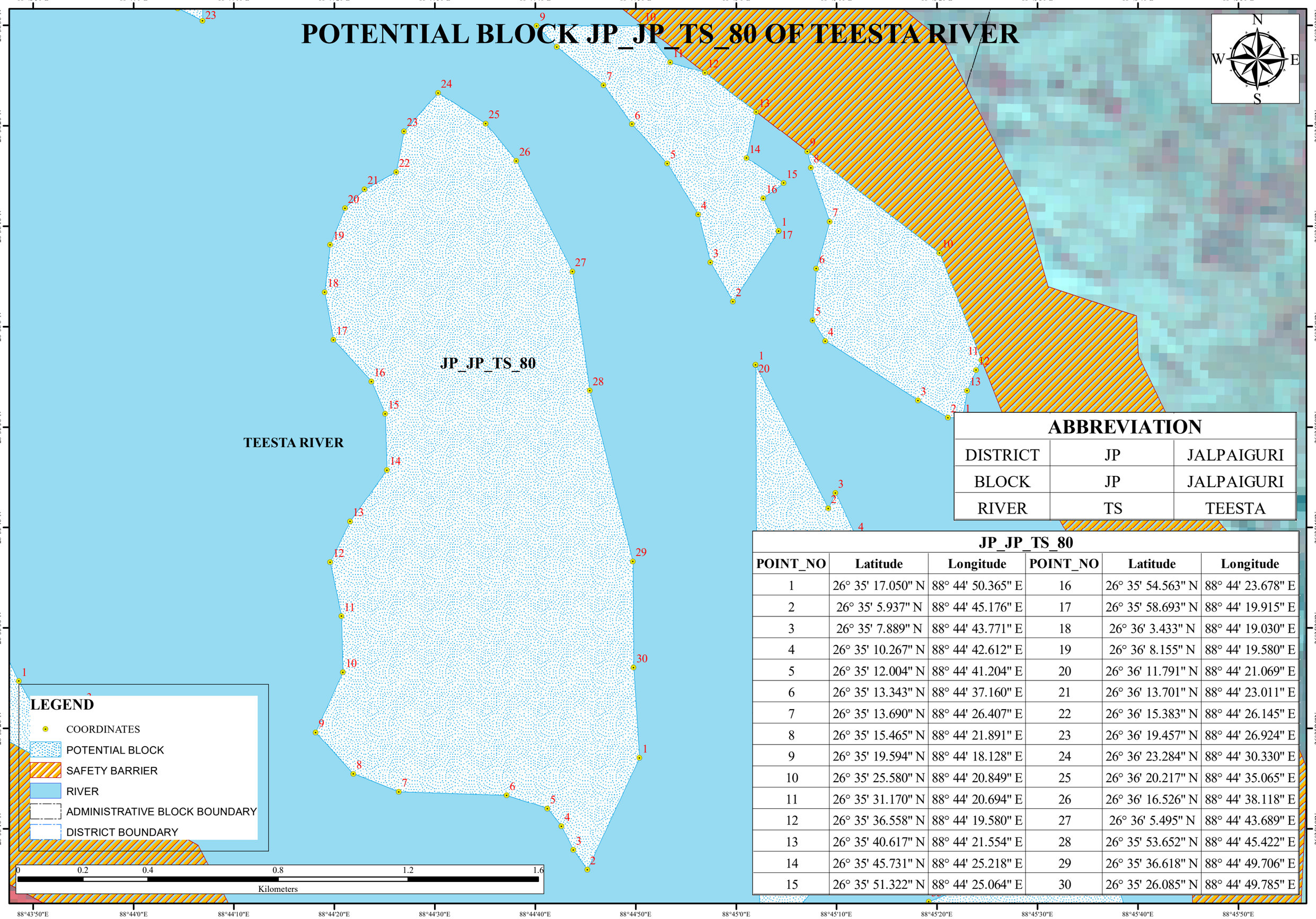


ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_79

POINT_NO	Latitude	Longitude
1	26° 35' 24.706" N	88° 43' 48.562" E
2	26° 35' 21.417" N	88° 43' 50.426" E
3	26° 35' 22.220" N	88° 43' 55.028" E
4	26° 35' 18.243" N	88° 43' 56.881" E
5	26° 35' 14.997" N	88° 43' 55.111" E
6	26° 35' 14.644" N	88° 43' 54.908" E
7	26° 35' 21.739" N	88° 43' 41.988" E
8	26° 35' 22.855" N	88° 43' 42.209" E
9	26° 35' 25.146" N	88° 43' 40.727" E
10	26° 35' 27.374" N	88° 43' 41.334" E
11	26° 35' 27.348" N	88° 43' 43.438" E
12	26° 35' 28.166" N	88° 43' 46.893" E

POTENTIAL BLOCK JP_JP_TS_80 OF TEESTA RIVER

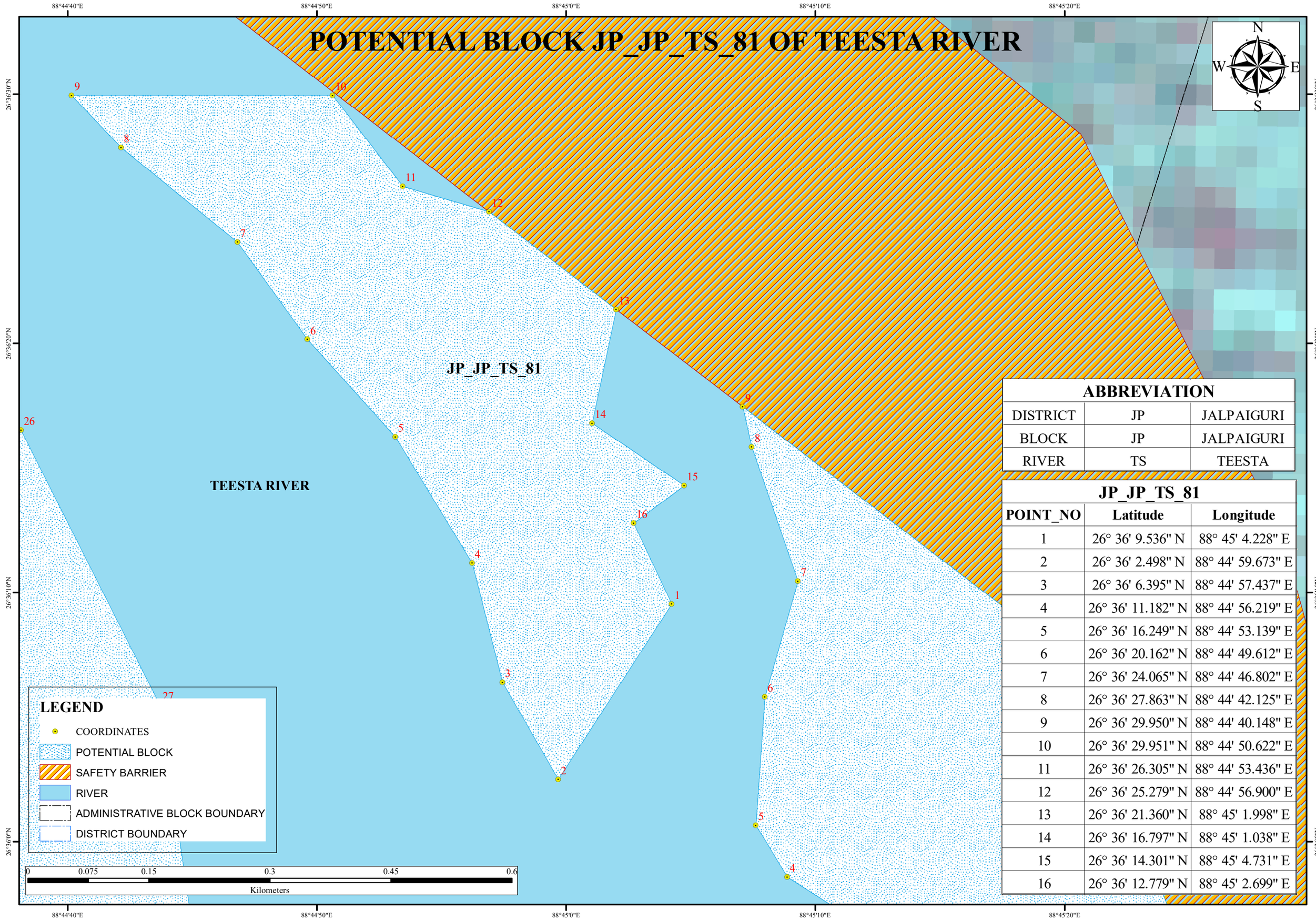


ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_80

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 35' 17.050" N	88° 44' 50.365" E	16	26° 35' 54.563" N	88° 44' 23.678" E
2	26° 35' 5.937" N	88° 44' 45.176" E	17	26° 35' 58.693" N	88° 44' 19.915" E
3	26° 35' 7.889" N	88° 44' 43.771" E	18	26° 36' 3.433" N	88° 44' 19.030" E
4	26° 35' 10.267" N	88° 44' 42.612" E	19	26° 36' 8.155" N	88° 44' 19.580" E
5	26° 35' 12.004" N	88° 44' 41.204" E	20	26° 36' 11.791" N	88° 44' 21.069" E
6	26° 35' 13.343" N	88° 44' 37.160" E	21	26° 36' 13.701" N	88° 44' 23.011" E
7	26° 35' 13.690" N	88° 44' 26.407" E	22	26° 36' 15.383" N	88° 44' 26.145" E
8	26° 35' 15.465" N	88° 44' 21.891" E	23	26° 36' 19.457" N	88° 44' 26.924" E
9	26° 35' 19.594" N	88° 44' 18.128" E	24	26° 36' 23.284" N	88° 44' 30.330" E
10	26° 35' 25.580" N	88° 44' 20.849" E	25	26° 36' 20.217" N	88° 44' 35.065" E
11	26° 35' 31.170" N	88° 44' 20.694" E	26	26° 36' 16.526" N	88° 44' 38.118" E
12	26° 35' 36.558" N	88° 44' 19.580" E	27	26° 36' 5.495" N	88° 44' 43.689" E
13	26° 35' 40.617" N	88° 44' 21.554" E	28	26° 35' 53.652" N	88° 44' 45.422" E
14	26° 35' 45.731" N	88° 44' 25.218" E	29	26° 35' 36.618" N	88° 44' 49.706" E
15	26° 35' 51.322" N	88° 44' 25.064" E	30	26° 35' 26.085" N	88° 44' 49.785" E

POTENTIAL BLOCK JP_JP_TS_81 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_81		
POINT_NO	Latitude	Longitude
1	26° 36' 9.536" N	88° 45' 4.228" E
2	26° 36' 2.498" N	88° 44' 59.673" E
3	26° 36' 6.395" N	88° 44' 57.437" E
4	26° 36' 11.182" N	88° 44' 56.219" E
5	26° 36' 16.249" N	88° 44' 53.139" E
6	26° 36' 20.162" N	88° 44' 49.612" E
7	26° 36' 24.065" N	88° 44' 46.802" E
8	26° 36' 27.863" N	88° 44' 42.125" E
9	26° 36' 29.950" N	88° 44' 40.148" E
10	26° 36' 29.951" N	88° 44' 50.622" E
11	26° 36' 26.305" N	88° 44' 53.436" E
12	26° 36' 25.279" N	88° 44' 56.900" E
13	26° 36' 21.360" N	88° 45' 1.998" E
14	26° 36' 16.797" N	88° 45' 1.038" E
15	26° 36' 14.301" N	88° 45' 4.731" E
16	26° 36' 12.779" N	88° 45' 2.699" E

POTENTIAL BLOCK JP_MG_TS_81A OF TEESTA RIVER

88°45'0"E 88°45'10"E 88°45'20"E 88°45'30"E 88°45'40"E

26°36'10"N 26°35'50"N

N W E S

JP_MG_TS_81A

TEESTA RIVER

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	TS	TEESTA

JP_MG_TS_81A

POINT_NO	Latitude	Longitude
1	26° 35' 50.932" N	88° 45' 22.516" E
2	26° 35' 50.950" N	88° 45' 21.082" E
3	26° 35' 52.663" N	88° 45' 18.095" E
4	26° 35' 58.580" N	88° 45' 8.861" E
5	26° 36' 0.659" N	88° 45' 7.601" E
6	26° 36' 5.813" N	88° 45' 7.967" E
7	26° 36' 10.460" N	88° 45' 9.296" E
8	26° 36' 15.844" N	88° 45' 7.443" E
9	26° 36' 17.454" N	88° 45' 7.078" E
10	26° 36' 7.338" N	88° 45' 20.234" E
11	26° 35' 56.658" N	88° 45' 24.418" E
12	26° 35' 55.687" N	88° 45' 23.880" E
13	26° 35' 53.634" N	88° 45' 22.988" E

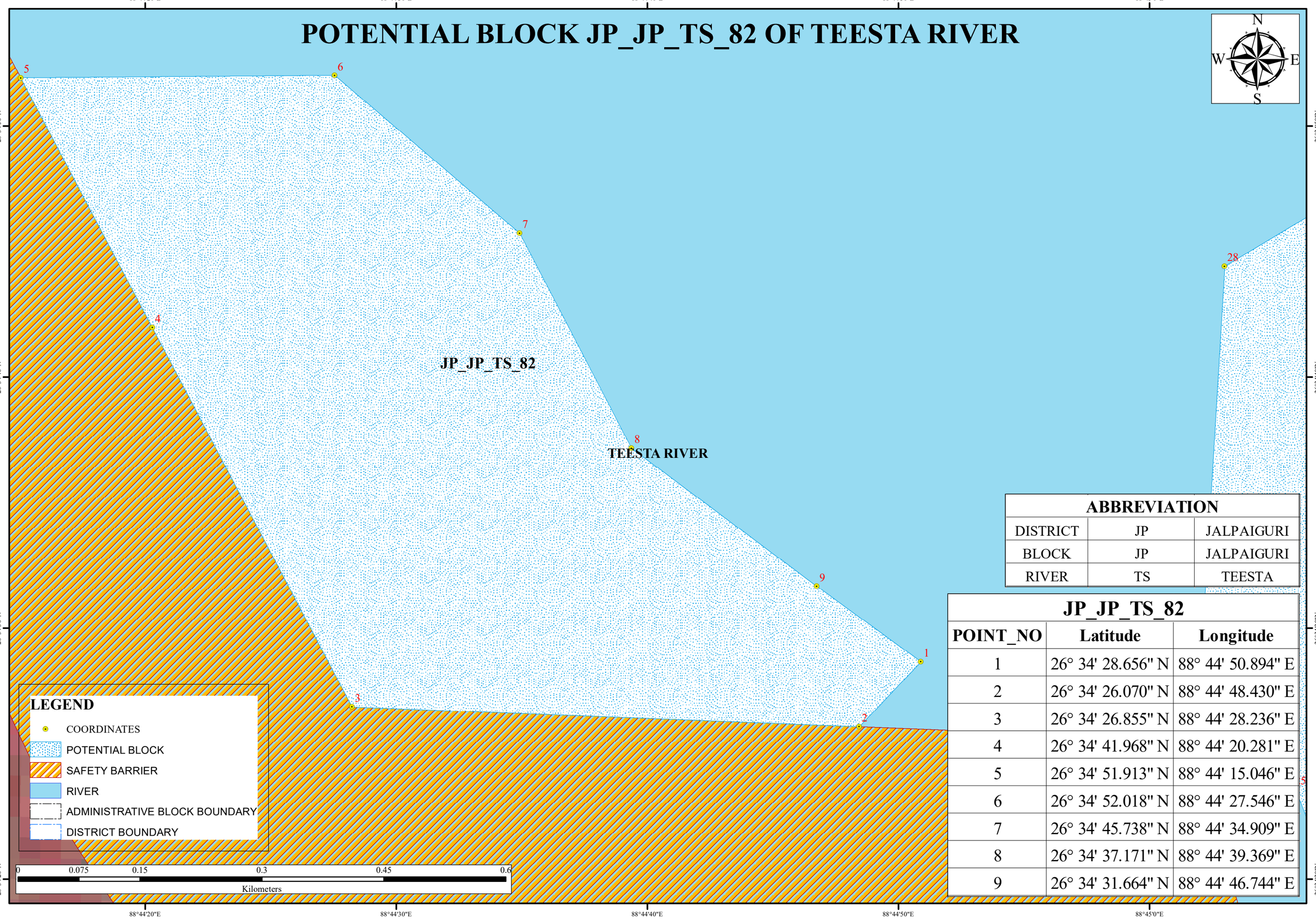
LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4

Kilometers

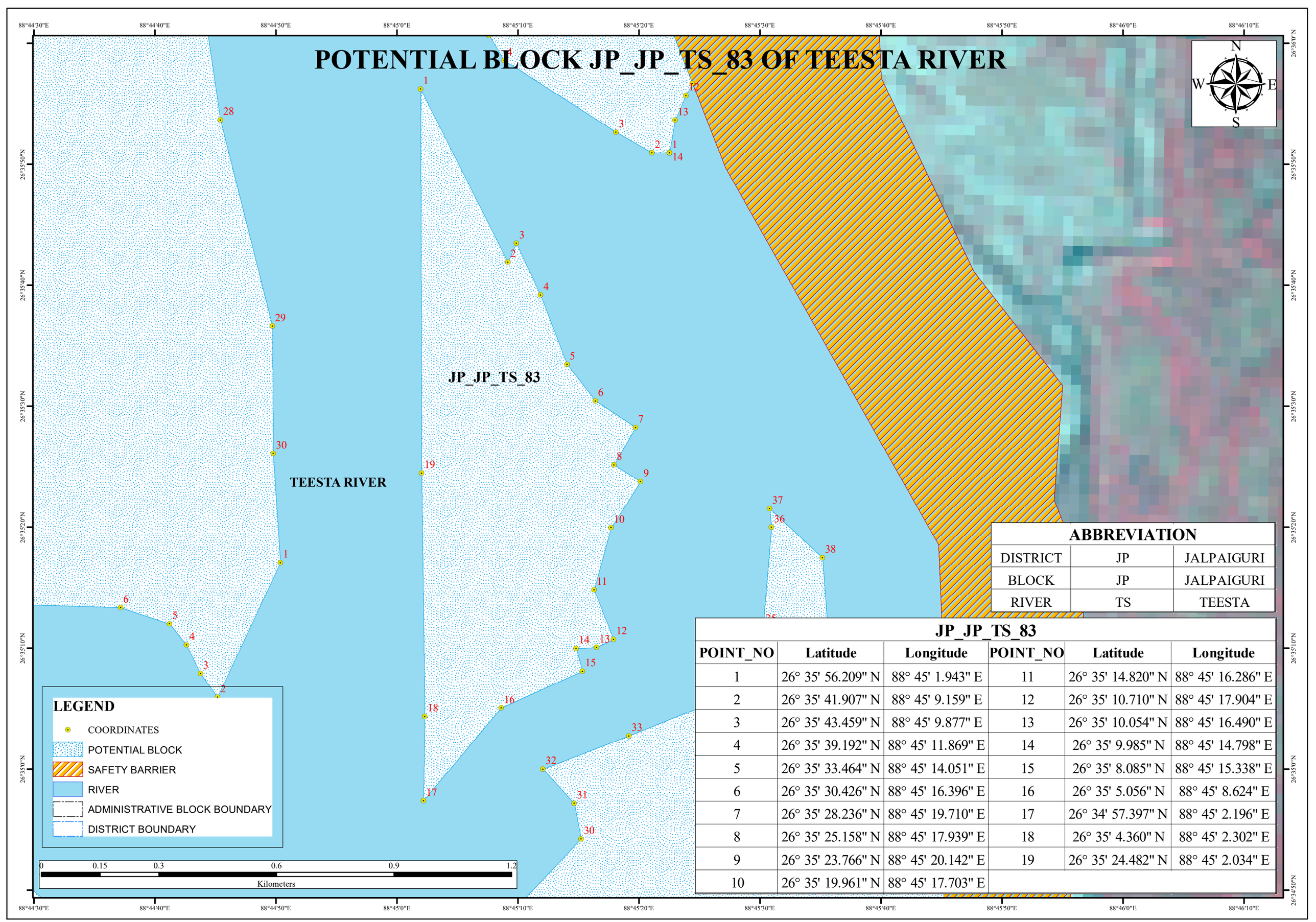
POTENTIAL BLOCK JP_JP_TS_82 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_82		
POINT_NO	Latitude	Longitude
1	26° 34' 28.656" N	88° 44' 50.894" E
2	26° 34' 26.070" N	88° 44' 48.430" E
3	26° 34' 26.855" N	88° 44' 28.236" E
4	26° 34' 41.968" N	88° 44' 20.281" E
5	26° 34' 51.913" N	88° 44' 15.046" E
6	26° 34' 52.018" N	88° 44' 27.546" E
7	26° 34' 45.738" N	88° 44' 34.909" E
8	26° 34' 37.171" N	88° 44' 39.369" E
9	26° 34' 31.664" N	88° 44' 46.744" E

POTENTIAL BLOCK JP_JP_TS_83 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_83

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 35' 56.209" N	88° 45' 1.943" E	11	26° 35' 14.820" N	88° 45' 16.286" E
2	26° 35' 41.907" N	88° 45' 9.159" E	12	26° 35' 10.710" N	88° 45' 17.904" E
3	26° 35' 43.459" N	88° 45' 9.877" E	13	26° 35' 10.054" N	88° 45' 16.490" E
4	26° 35' 39.192" N	88° 45' 11.869" E	14	26° 35' 9.985" N	88° 45' 14.798" E
5	26° 35' 33.464" N	88° 45' 14.051" E	15	26° 35' 8.085" N	88° 45' 15.338" E
6	26° 35' 30.426" N	88° 45' 16.396" E	16	26° 35' 5.056" N	88° 45' 8.624" E
7	26° 35' 28.236" N	88° 45' 19.710" E	17	26° 34' 57.397" N	88° 45' 2.196" E
8	26° 35' 25.158" N	88° 45' 17.939" E	18	26° 35' 4.360" N	88° 45' 2.302" E
9	26° 35' 23.766" N	88° 45' 20.142" E	19	26° 35' 24.482" N	88° 45' 2.034" E
10	26° 35' 19.961" N	88° 45' 17.703" E			

POTENTIAL BLOCK JP_MG_TS_84_85_86 OF TEESTA RIVER

TEESTA RIVER

JP_MG_TS_84_85_86

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	TS	TEESTA

JP_MG_TS_84_85_86

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 34' 55.998" N	88° 45' 40.858" E	21	26° 34' 9.510" N	88° 45' 6.582" E
2	26° 34' 52.865" N	88° 45' 43.966" E	22	26° 34' 10.057" N	88° 45' 6.406" E
3	26° 34' 55.065" N	88° 45' 45.409" E	23	26° 34' 10.404" N	88° 45' 6.752" E
4	26° 34' 39.596" N	88° 45' 44.713" E	24	26° 34' 17.091" N	88° 45' 8.288" E
5	26° 34' 31.991" N	88° 45' 33.983" E	25	26° 34' 23.570" N	88° 45' 5.805" E
6	26° 34' 28.186" N	88° 45' 28.762" E	26	26° 34' 28.041" N	88° 45' 5.291" E
7	26° 34' 11.957" N	88° 45' 27.079" E	27	26° 34' 28.527" N	88° 45' 2.027" E
8	26° 33' 51.270" N	88° 45' 31.353" E	28	26° 34' 44.421" N	88° 45' 2.986" E
9	26° 33' 34.418" N	88° 45' 38.266" E	29	26° 34' 48.545" N	88° 45' 9.857" E
10	26° 33' 29.944" N	88° 45' 41.658" E	30	26° 34' 54.217" N	88° 45' 15.225" E
11	26° 33' 28.987" N	88° 45' 41.872" E	31	26° 34' 57.174" N	88° 45' 14.655" E
12	26° 33' 25.653" N	88° 45' 38.031" E	32	26° 35' 0.000" N	88° 45' 12.068" E
13	26° 33' 25.694" N	88° 45' 34.754" E	33	26° 35' 2.747" N	88° 45' 19.162" E
14	26° 33' 27.312" N	88° 45' 29.042" E	34	26° 35' 6.112" N	88° 45' 27.574" E
15	26° 33' 29.968" N	88° 45' 22.773" E	35	26° 35' 11.753" N	88° 45' 30.242" E
16	26° 33' 35.165" N	88° 45' 19.697" E	36	26° 35' 19.999" N	88° 45' 30.942" E
17	26° 33' 43.771" N	88° 45' 12.084" E	37	26° 35' 21.523" N	88° 45' 30.784" E
18	26° 33' 48.904" N	88° 45' 14.170" E	38	26° 35' 17.477" N	88° 45' 35.162" E
19	26° 33' 55.390" N	88° 45' 11.113" E	39	26° 35' 11.023" N	88° 45' 35.637" E
20	26° 34' 0.167" N	88° 45' 6.875" E	40	26° 35' 1.439" N	88° 45' 38.933" E

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.3 0.6 1.2 1.8 2.4

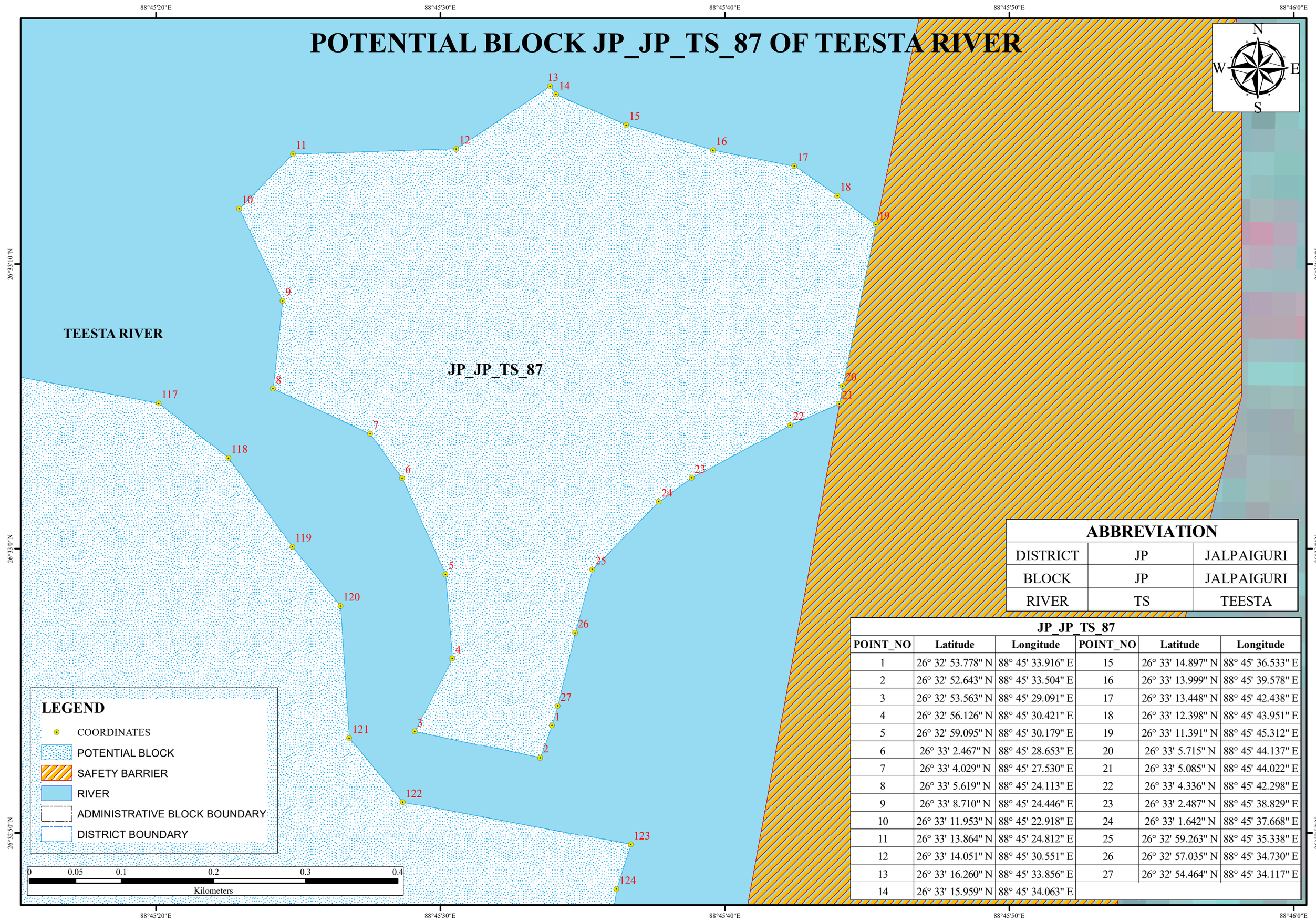
Kilometers

N W E S

88°44'10"E 88°44'20"E 88°44'30"E 88°44'40"E 88°44'50"E 88°45'0"E 88°45'10"E 88°45'20"E 88°45'30"E 88°45'40"E 88°45'50"E 88°46'0"E 88°46'10"E 88°46'20"E 88°46'30"E 88°46'40"E 88°46'50"E 88°47'0"E 88°47'10"E

26°35'30"N 26°35'20"N 26°35'10"N 26°35'0"N 26°34'50"N 26°34'40"N 26°34'30"N 26°34'20"N 26°34'10"N 26°34'0"N 26°33'50"N 26°33'40"N 26°33'30"N

POTENTIAL BLOCK JP_JP_TS_87 OF TEESTA RIVER



LEGEND

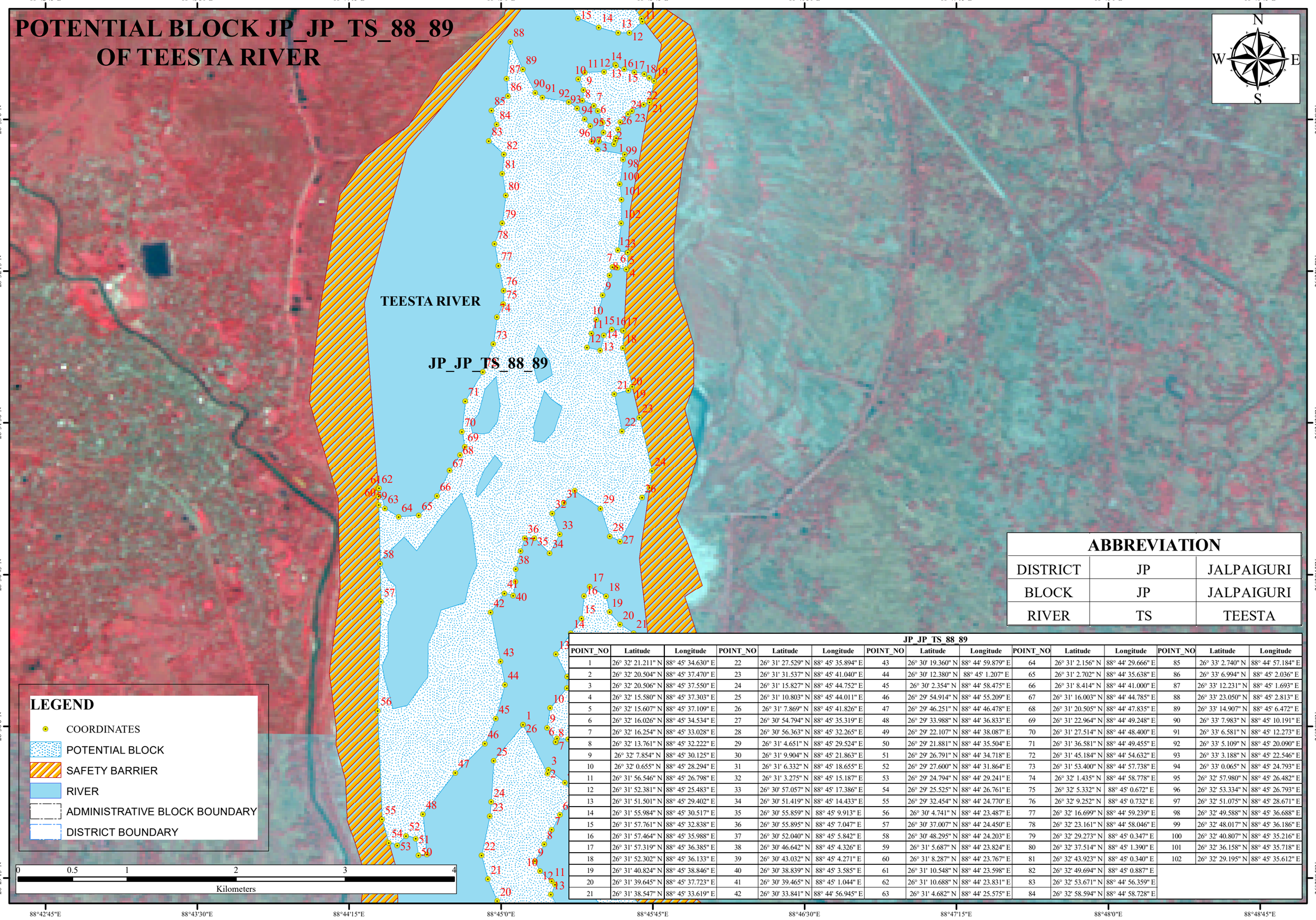
- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_87

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 32' 53.778" N	88° 45' 33.916" E	15	26° 33' 14.897" N	88° 45' 36.533" E
2	26° 32' 52.643" N	88° 45' 33.504" E	16	26° 33' 13.999" N	88° 45' 39.578" E
3	26° 32' 53.563" N	88° 45' 29.091" E	17	26° 33' 13.448" N	88° 45' 42.438" E
4	26° 32' 56.126" N	88° 45' 30.421" E	18	26° 33' 12.398" N	88° 45' 43.951" E
5	26° 32' 59.095" N	88° 45' 30.179" E	19	26° 33' 11.391" N	88° 45' 45.312" E
6	26° 33' 2.467" N	88° 45' 28.653" E	20	26° 33' 5.715" N	88° 45' 44.137" E
7	26° 33' 4.029" N	88° 45' 27.530" E	21	26° 33' 5.085" N	88° 45' 44.022" E
8	26° 33' 5.619" N	88° 45' 24.113" E	22	26° 33' 4.336" N	88° 45' 42.298" E
9	26° 33' 8.710" N	88° 45' 24.446" E	23	26° 33' 2.487" N	88° 45' 38.829" E
10	26° 33' 11.953" N	88° 45' 22.918" E	24	26° 33' 1.642" N	88° 45' 37.668" E
11	26° 33' 13.864" N	88° 45' 24.812" E	25	26° 32' 59.263" N	88° 45' 35.338" E
12	26° 33' 14.051" N	88° 45' 30.551" E	26	26° 32' 57.035" N	88° 45' 34.730" E
13	26° 33' 16.260" N	88° 45' 33.856" E	27	26° 32' 54.464" N	88° 45' 34.117" E
14	26° 33' 15.959" N	88° 45' 34.063" E			

POTENTIAL BLOCK JP_JP_TS_88_89 OF TEESTA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

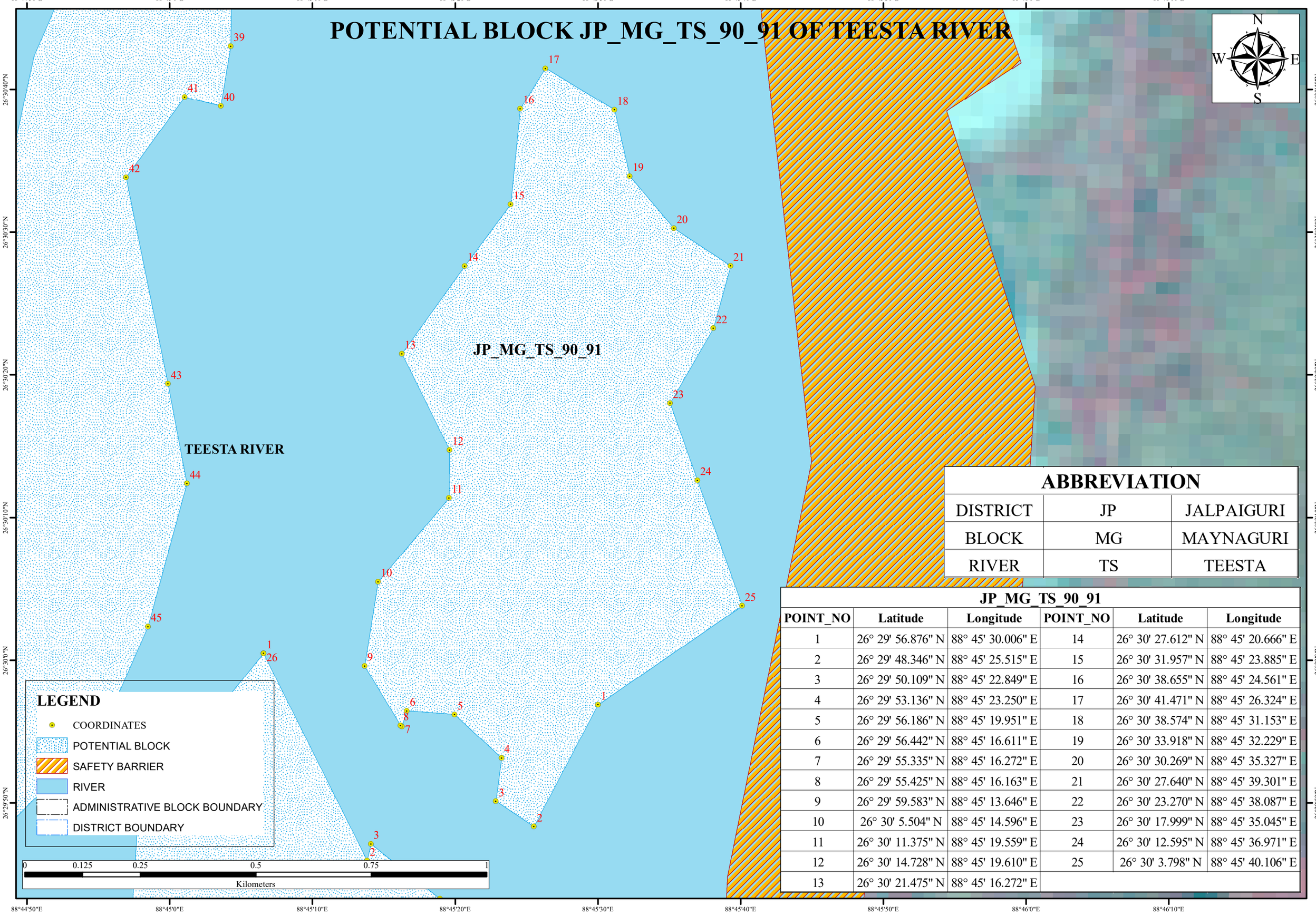
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_88_89

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 32' 21.211" N	88° 45' 34.630" E	22	26° 31' 27.529" N	88° 45' 35.894" E	43	26° 30' 19.360" N	88° 44' 59.879" E	64	26° 31' 2.156" N	88° 44' 29.666" E	85	26° 33' 2.740" N	88° 44' 57.184" E
2	26° 32' 20.504" N	88° 45' 37.470" E	23	26° 31' 31.537" N	88° 45' 41.040" E	44	26° 30' 12.380" N	88° 45' 1.207" E	65	26° 31' 2.702" N	88° 44' 35.638" E	86	26° 33' 6.994" N	88° 45' 2.036" E
3	26° 32' 20.506" N	88° 45' 37.550" E	24	26° 31' 15.827" N	88° 45' 44.752" E	45	26° 30' 2.354" N	88° 44' 58.475" E	66	26° 31' 8.414" N	88° 44' 41.000" E	87	26° 33' 12.231" N	88° 45' 1.693" E
4	26° 32' 15.580" N	88° 45' 37.303" E	25	26° 31' 10.803" N	88° 45' 44.011" E	46	26° 29' 54.914" N	88° 44' 55.209" E	67	26° 31' 16.003" N	88° 44' 44.785" E	88	26° 33' 23.050" N	88° 45' 2.813" E
5	26° 32' 15.607" N	88° 45' 37.109" E	26	26° 31' 7.869" N	88° 45' 41.826" E	47	26° 29' 46.251" N	88° 44' 46.478" E	68	26° 31' 20.505" N	88° 44' 47.835" E	89	26° 33' 14.907" N	88° 45' 6.472" E
6	26° 32' 16.026" N	88° 45' 34.534" E	27	26° 30' 54.794" N	88° 45' 35.319" E	48	26° 29' 33.988" N	88° 44' 36.833" E	69	26° 31' 22.964" N	88° 44' 49.248" E	90	26° 33' 7.983" N	88° 45' 10.191" E
7	26° 32' 16.254" N	88° 45' 33.028" E	28	26° 30' 56.363" N	88° 45' 32.265" E	49	26° 29' 22.107" N	88° 44' 38.087" E	70	26° 31' 27.514" N	88° 44' 48.400" E	91	26° 33' 6.581" N	88° 45' 12.273" E
8	26° 32' 13.761" N	88° 45' 32.222" E	29	26° 31' 4.651" N	88° 45' 29.524" E	50	26° 29' 21.881" N	88° 44' 35.504" E	71	26° 31' 36.581" N	88° 44' 49.455" E	92	26° 33' 5.109" N	88° 45' 20.090" E
9	26° 32' 7.854" N	88° 45' 30.125" E	30	26° 31' 9.904" N	88° 45' 21.863" E	51	26° 29' 26.791" N	88° 44' 34.718" E	72	26° 31' 45.184" N	88° 44' 54.632" E	93	26° 33' 3.188" N	88° 45' 22.546" E
10	26° 32' 0.655" N	88° 45' 28.294" E	31	26° 31' 6.332" N	88° 45' 18.655" E	52	26° 29' 27.600" N	88° 44' 31.864" E	73	26° 31' 53.400" N	88° 44' 57.738" E	94	26° 33' 0.065" N	88° 45' 24.793" E
11	26° 31' 56.546" N	88° 45' 26.798" E	32	26° 31' 3.275" N	88° 45' 15.187" E	53	26° 29' 24.794" N	88° 44' 29.241" E	74	26° 32' 1.435" N	88° 44' 58.778" E	95	26° 32' 57.980" N	88° 45' 26.482" E
12	26° 31' 52.381" N	88° 45' 25.483" E	33	26° 30' 57.057" N	88° 45' 17.386" E	54	26° 29' 25.525" N	88° 44' 26.761" E	75	26° 32' 5.332" N	88° 45' 0.672" E	96	26° 32' 53.334" N	88° 45' 26.793" E
13	26° 31' 51.501" N	88° 45' 29.402" E	34	26° 30' 51.419" N	88° 45' 14.433" E	55	26° 29' 32.454" N	88° 44' 24.770" E	76	26° 32' 9.252" N	88° 45' 0.732" E	97	26° 32' 51.075" N	88° 45' 28.671" E
14	26° 31' 55.984" N	88° 45' 30.517" E	35	26° 30' 55.859" N	88° 45' 9.913" E	56	26° 30' 4.741" N	88° 44' 23.487" E	77	26° 32' 16.699" N	88° 44' 59.239" E	98	26° 32' 49.588" N	88° 45' 36.688" E
15	26° 31' 57.761" N	88° 45' 32.838" E	36	26° 30' 55.895" N	88° 45' 7.047" E	57	26° 30' 37.007" N	88° 44' 24.450" E	78	26° 32' 23.161" N	88° 44' 58.046" E	99	26° 32' 48.017" N	88° 45' 36.186" E
16	26° 31' 57.464" N	88° 45' 35.988" E	37	26° 30' 52.040" N	88° 45' 5.842" E	58	26° 30' 48.295" N	88° 44' 24.203" E	79	26° 32' 29.273" N	88° 45' 0.347" E	100	26° 32' 40.807" N	88° 45' 35.216" E
17	26° 31' 57.319" N	88° 45' 36.385" E	38	26° 30' 46.642" N	88° 45' 4.326" E	59	26° 31' 5.687" N	88° 44' 23.824" E	80	26° 32' 37.514" N	88° 45' 1.390" E	101	26° 32' 36.158" N	88° 45' 35.718" E
18	26° 31' 52.302" N	88° 45' 36.133" E	39	26° 30' 43.032" N	88° 45' 4.271" E	60	26° 31' 8.287" N	88° 44' 23.767" E	81	26° 32' 43.923" N	88° 45' 0.340" E	102	26° 32' 29.195" N	88° 45' 35.612" E
19	26° 31' 40.824" N	88° 45' 38.846" E	40	26° 30' 38.839" N	88° 45' 3.585" E	61	26° 31' 10.548" N	88° 44' 23.598" E	82	26° 32' 49.694" N	88° 45' 0.887" E			
20	26° 31' 39.645" N	88° 45' 37.723" E	41	26° 30' 39.465" N	88° 45' 1.044" E	62	26° 31' 10.688" N	88° 44' 23.831" E	83	26° 32' 53.671" N	88° 44' 56.359" E			
21	26° 31' 38.547" N	88° 45' 33.619" E	42	26° 30' 33.841" N	88° 44' 56.945" E	63	26° 31' 4.682" N	88° 44' 25.575" E	84	26° 32' 58.594" N	88° 44' 58.728" E			

POTENTIAL BLOCK JP_MG_TS_90_91 OF TEESTA RIVER



ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	TS	TEESTA

JP_MG_TS_90_91

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 29' 56.876" N	88° 45' 30.006" E	14	26° 30' 27.612" N	88° 45' 20.666" E
2	26° 29' 48.346" N	88° 45' 25.515" E	15	26° 30' 31.957" N	88° 45' 23.885" E
3	26° 29' 50.109" N	88° 45' 22.849" E	16	26° 30' 38.655" N	88° 45' 24.561" E
4	26° 29' 53.136" N	88° 45' 23.250" E	17	26° 30' 41.471" N	88° 45' 26.324" E
5	26° 29' 56.186" N	88° 45' 19.951" E	18	26° 30' 38.574" N	88° 45' 31.153" E
6	26° 29' 56.442" N	88° 45' 16.611" E	19	26° 30' 33.918" N	88° 45' 32.229" E
7	26° 29' 55.335" N	88° 45' 16.272" E	20	26° 30' 30.269" N	88° 45' 35.327" E
8	26° 29' 55.425" N	88° 45' 16.163" E	21	26° 30' 27.640" N	88° 45' 39.301" E
9	26° 29' 59.583" N	88° 45' 13.646" E	22	26° 30' 23.270" N	88° 45' 38.087" E
10	26° 30' 5.504" N	88° 45' 14.596" E	23	26° 30' 17.999" N	88° 45' 35.045" E
11	26° 30' 11.375" N	88° 45' 19.559" E	24	26° 30' 12.595" N	88° 45' 36.971" E
12	26° 30' 14.728" N	88° 45' 19.610" E	25	26° 30' 3.798" N	88° 45' 40.106" E
13	26° 30' 21.475" N	88° 45' 16.272" E			

POTENTIAL BLOCK JP_MG_TS_93_94 OF TEESTA RIVER

JP_MG_TS_93_94

TEESTA RIVER

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	TS	TEESTA

JP_MG_TS_93_94

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 30' 0.458" N	88° 45' 6.576" E	14	26° 29' 5.645" N	88° 45' 17.210" E
2	26° 29' 45.944" N	88° 45' 13.824" E	15	26° 29' 2.264" N	88° 45' 19.452" E
3	26° 29' 47.116" N	88° 45' 14.093" E	16	26° 28' 59.427" N	88° 45' 19.409" E
4	26° 29' 43.282" N	88° 45' 18.928" E	17	26° 28' 54.569" N	88° 45' 15.895" E
5	26° 29' 39.121" N	88° 45' 21.732" E	18	26° 28' 54.679" N	88° 45' 7.012" E
6	26° 29' 33.794" N	88° 45' 17.460" E	19	26° 28' 57.000" N	88° 45' 7.047" E
7	26° 29' 29.306" N	88° 45' 15.078" E	20	26° 29' 8.191" N	88° 44' 58.904" E
8	26° 29' 25.064" N	88° 45' 12.827" E	21	26° 29' 14.673" N	88° 44' 56.136" E
9	26° 29' 19.943" N	88° 45' 10.109" E	22	26° 29' 21.661" N	88° 44' 54.235" E
10	26° 29' 17.011" N	88° 45' 11.514" E	23	26° 29' 33.326" N	88° 44' 56.673" E
11	26° 29' 14.079" N	88° 45' 15.036" E	24	26° 29' 37.618" N	88° 44' 57.056" E
12	26° 29' 13.035" N	88° 45' 16.024" E	25	26° 29' 49.732" N	88° 44' 57.813" E
13	26° 29' 10.083" N	88° 45' 14.832" E			

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.175 0.35 0.7 1.05 1.4

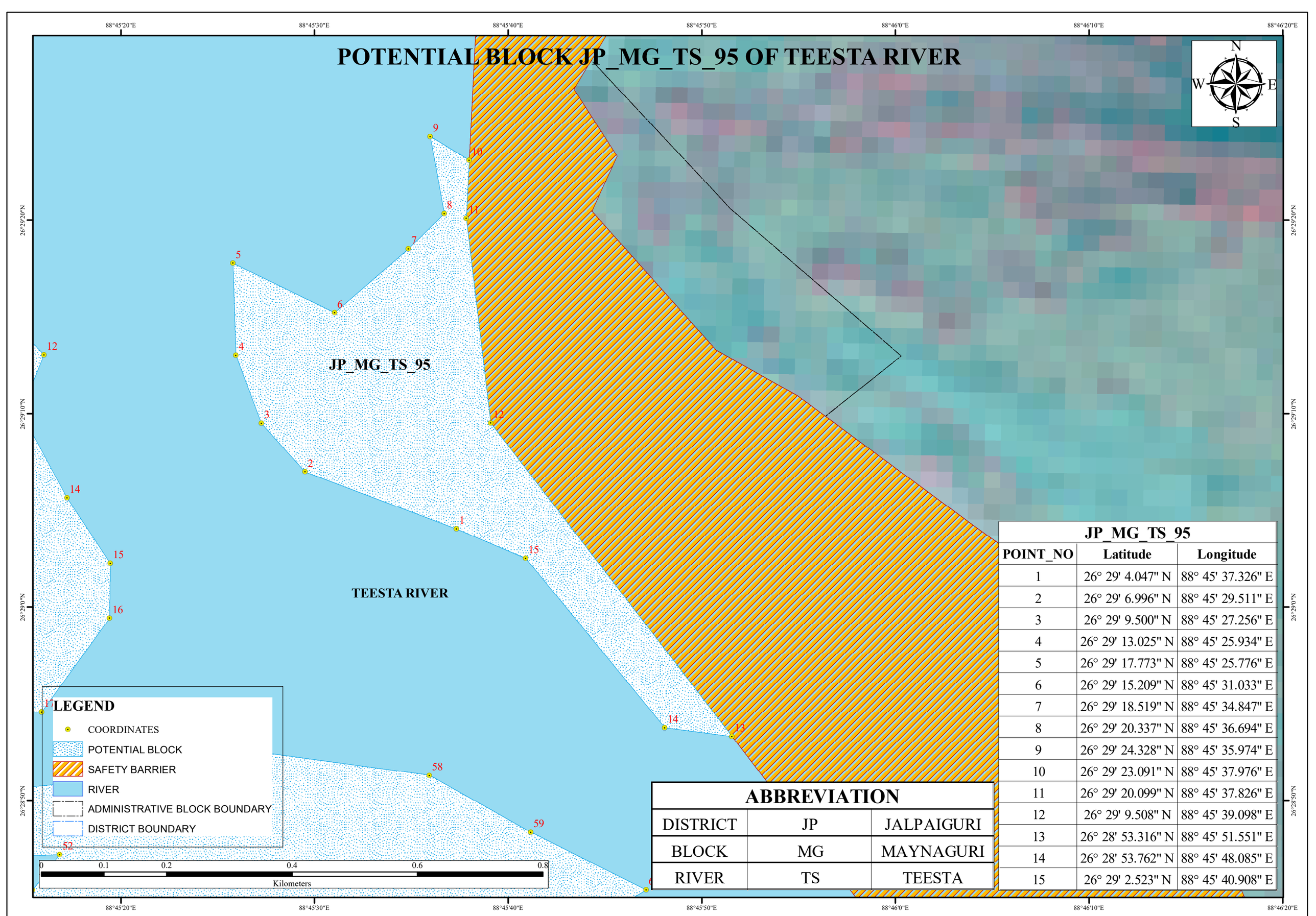
Kilometers

N W E S

88°44'30"E 88°44'40"E 88°44'50"E 88°45'0"E 88°45'10"E 88°45'20"E 88°45'30"E 88°45'40"E 88°45'50"E 88°46'0"E 88°46'10"E

26°30'0"N 26°29'50"N 26°29'40"N 26°29'30"N 26°29'20"N 26°29'10"N 26°29'0"N 26°28'50"N

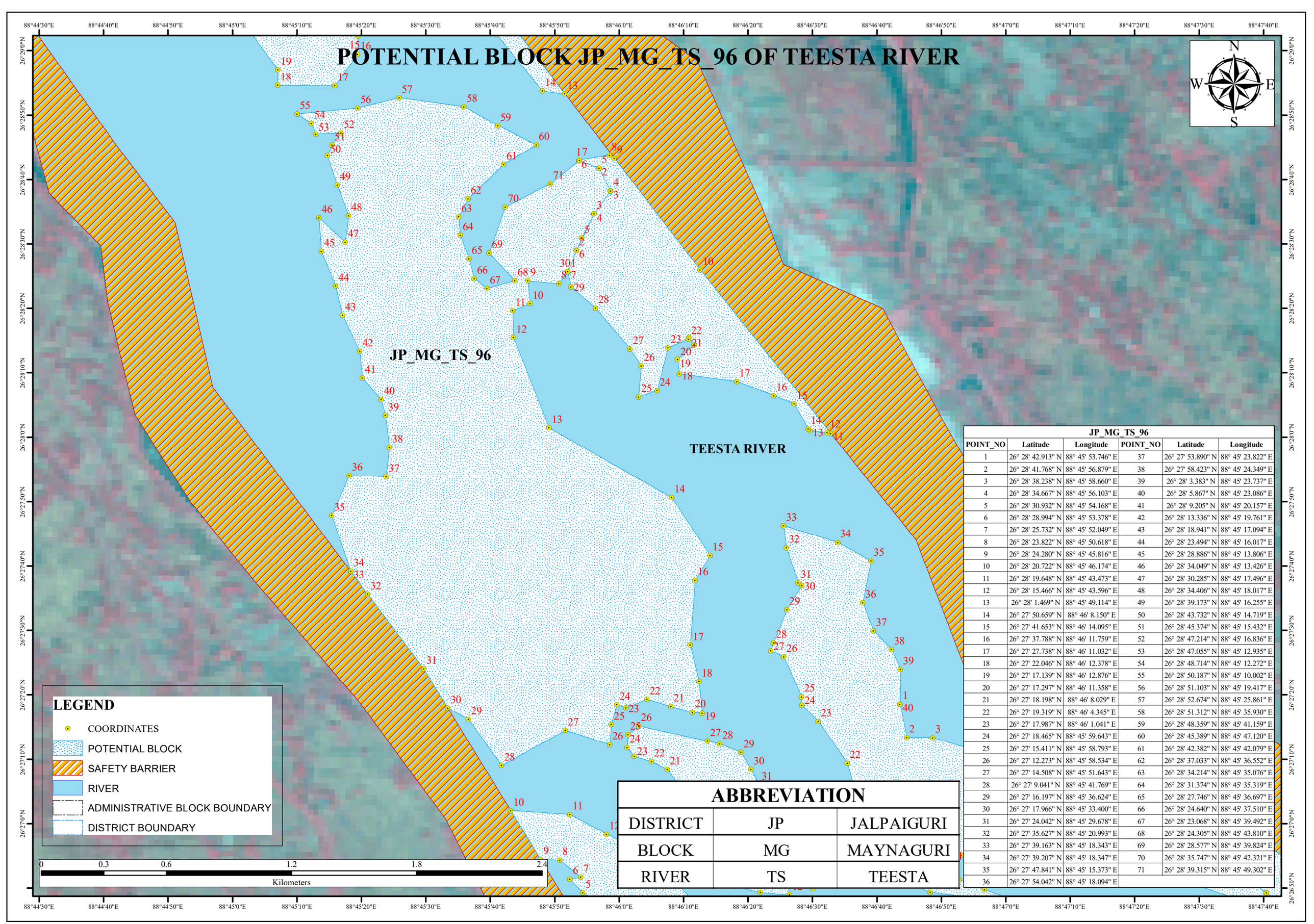
POTENTIAL BLOCK JP_MG_TS_95 OF TEESTA RIVER



JP_MG_TS_95		
POINT_NO	Latitude	Longitude
1	26° 29' 4.047" N	88° 45' 37.326" E
2	26° 29' 6.996" N	88° 45' 29.511" E
3	26° 29' 9.500" N	88° 45' 27.256" E
4	26° 29' 13.025" N	88° 45' 25.934" E
5	26° 29' 17.773" N	88° 45' 25.776" E
6	26° 29' 15.209" N	88° 45' 31.033" E
7	26° 29' 18.519" N	88° 45' 34.847" E
8	26° 29' 20.337" N	88° 45' 36.694" E
9	26° 29' 24.328" N	88° 45' 35.974" E
10	26° 29' 23.091" N	88° 45' 37.976" E
11	26° 29' 20.099" N	88° 45' 37.826" E
12	26° 29' 9.508" N	88° 45' 39.098" E
13	26° 28' 53.316" N	88° 45' 51.551" E
14	26° 28' 53.762" N	88° 45' 48.085" E
15	26° 29' 2.523" N	88° 45' 40.908" E

ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	TS	TEESTA

POTENTIAL BLOCK JP_MG_TS_96 OF TEESTA RIVER



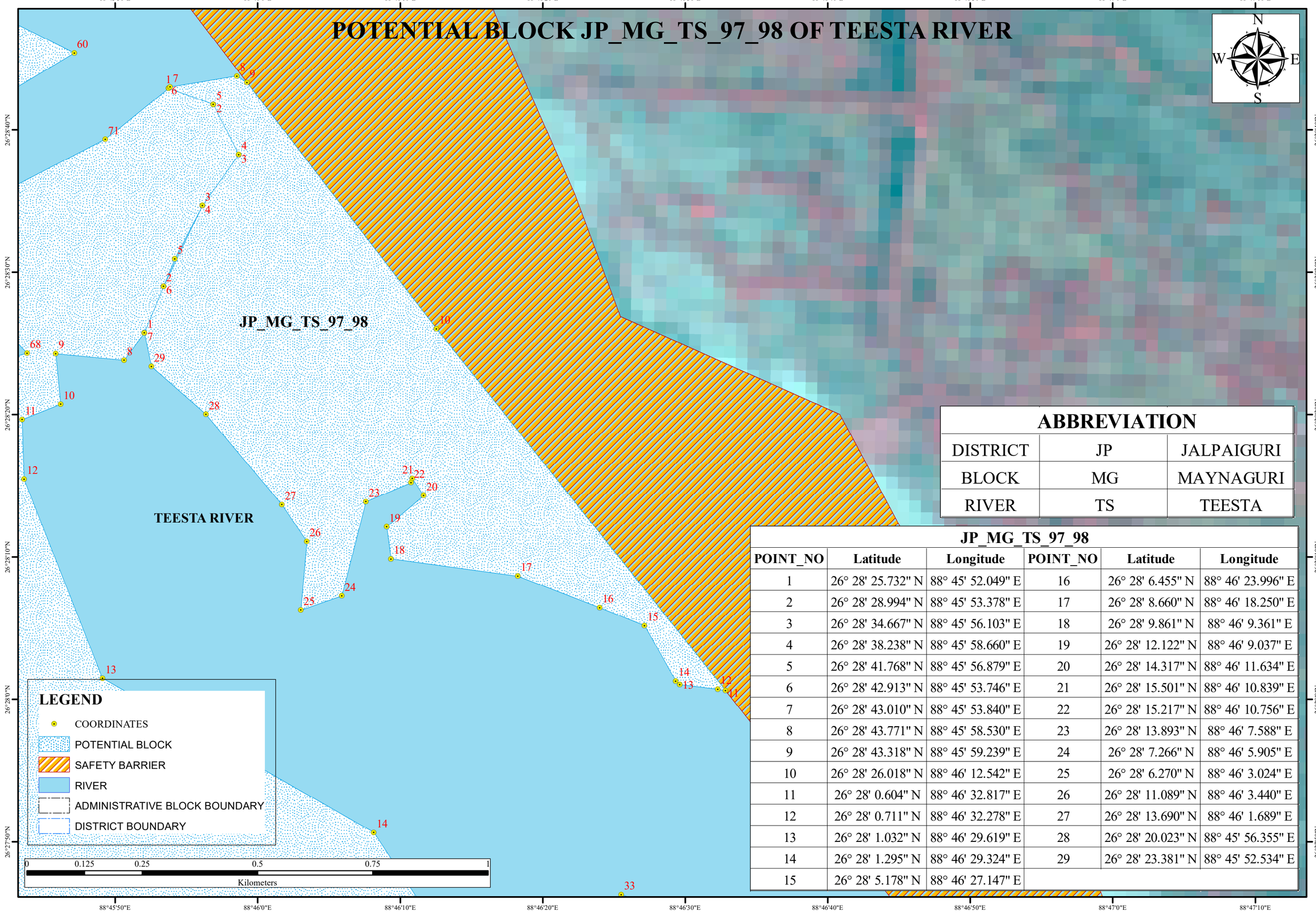
JP_MG_TS_96

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 28' 42.913" N	88° 45' 53.746" E	37	26° 27' 53.890" N	88° 45' 23.822" E
2	26° 28' 41.768" N	88° 45' 56.879" E	38	26° 27' 58.423" N	88° 45' 24.349" E
3	26° 28' 38.238" N	88° 45' 58.660" E	39	26° 28' 3.383" N	88° 45' 23.737" E
4	26° 28' 34.667" N	88° 45' 56.103" E	40	26° 28' 5.867" N	88° 45' 23.086" E
5	26° 28' 30.932" N	88° 45' 54.168" E	41	26° 28' 9.205" N	88° 45' 20.157" E
6	26° 28' 28.994" N	88° 45' 53.378" E	42	26° 28' 13.336" N	88° 45' 19.761" E
7	26° 28' 25.732" N	88° 45' 52.049" E	43	26° 28' 18.941" N	88° 45' 17.094" E
8	26° 28' 23.822" N	88° 45' 50.618" E	44	26° 28' 23.494" N	88° 45' 16.017" E
9	26° 28' 24.280" N	88° 45' 45.816" E	45	26° 28' 28.886" N	88° 45' 13.806" E
10	26° 28' 20.722" N	88° 45' 46.174" E	46	26° 28' 34.049" N	88° 45' 13.426" E
11	26° 28' 19.648" N	88° 45' 43.473" E	47	26° 28' 30.285" N	88° 45' 17.496" E
12	26° 28' 15.466" N	88° 45' 43.596" E	48	26° 28' 34.406" N	88° 45' 18.017" E
13	26° 28' 1.469" N	88° 45' 49.114" E	49	26° 28' 39.173" N	88° 45' 16.255" E
14	26° 27' 50.659" N	88° 46' 8.150" E	50	26° 28' 43.732" N	88° 45' 14.719" E
15	26° 27' 41.653" N	88° 46' 14.095" E	51	26° 28' 45.374" N	88° 45' 15.432" E
16	26° 27' 37.788" N	88° 46' 11.759" E	52	26° 28' 47.214" N	88° 45' 16.836" E
17	26° 27' 27.738" N	88° 46' 11.032" E	53	26° 28' 47.055" N	88° 45' 12.935" E
18	26° 27' 22.046" N	88° 46' 12.378" E	54	26° 28' 48.714" N	88° 45' 12.272" E
19	26° 27' 17.139" N	88° 46' 12.876" E	55	26° 28' 50.187" N	88° 45' 10.002" E
20	26° 27' 17.297" N	88° 46' 11.358" E	56	26° 28' 51.103" N	88° 45' 19.417" E
21	26° 27' 18.198" N	88° 46' 8.029" E	57	26° 28' 52.674" N	88° 45' 25.861" E
22	26° 27' 19.319" N	88° 46' 4.345" E	58	26° 28' 51.312" N	88° 45' 35.930" E
23	26° 27' 17.987" N	88° 46' 1.041" E	59	26° 28' 48.359" N	88° 45' 41.159" E
24	26° 27' 18.465" N	88° 45' 59.643" E	60	26° 28' 45.389" N	88° 45' 47.120" E
25	26° 27' 15.411" N	88° 45' 58.793" E	61	26° 28' 42.382" N	88° 45' 42.079" E
26	26° 27' 12.273" N	88° 45' 58.534" E	62	26° 28' 37.033" N	88° 45' 36.552" E
27	26° 27' 14.508" N	88° 45' 51.643" E	63	26° 28' 34.214" N	88° 45' 35.076" E
28	26° 27' 9.041" N	88° 45' 41.769" E	64	26° 28' 31.374" N	88° 45' 35.319" E
29	26° 27' 16.197" N	88° 45' 36.624" E	65	26° 28' 27.746" N	88° 45' 36.697" E
30	26° 27' 17.966" N	88° 45' 33.400" E	66	26° 28' 24.640" N	88° 45' 37.510" E
31	26° 27' 24.042" N	88° 45' 29.678" E	67	26° 28' 23.068" N	88° 45' 39.492" E
32	26° 27' 35.627" N	88° 45' 20.993" E	68	26° 28' 24.305" N	88° 45' 43.810" E
33	26° 27' 39.163" N	88° 45' 18.343" E	69	26° 28' 28.577" N	88° 45' 39.824" E
34	26° 27' 39.207" N	88° 45' 18.347" E	70	26° 28' 35.747" N	88° 45' 42.321" E
35	26° 27' 47.841" N	88° 45' 15.373" E	71	26° 28' 39.315" N	88° 45' 49.302" E
36	26° 27' 54.042" N	88° 45' 18.094" E			

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	TS	TEESTA

POTENTIAL BLOCK JP_MG_TS_97_98 OF TEESTA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

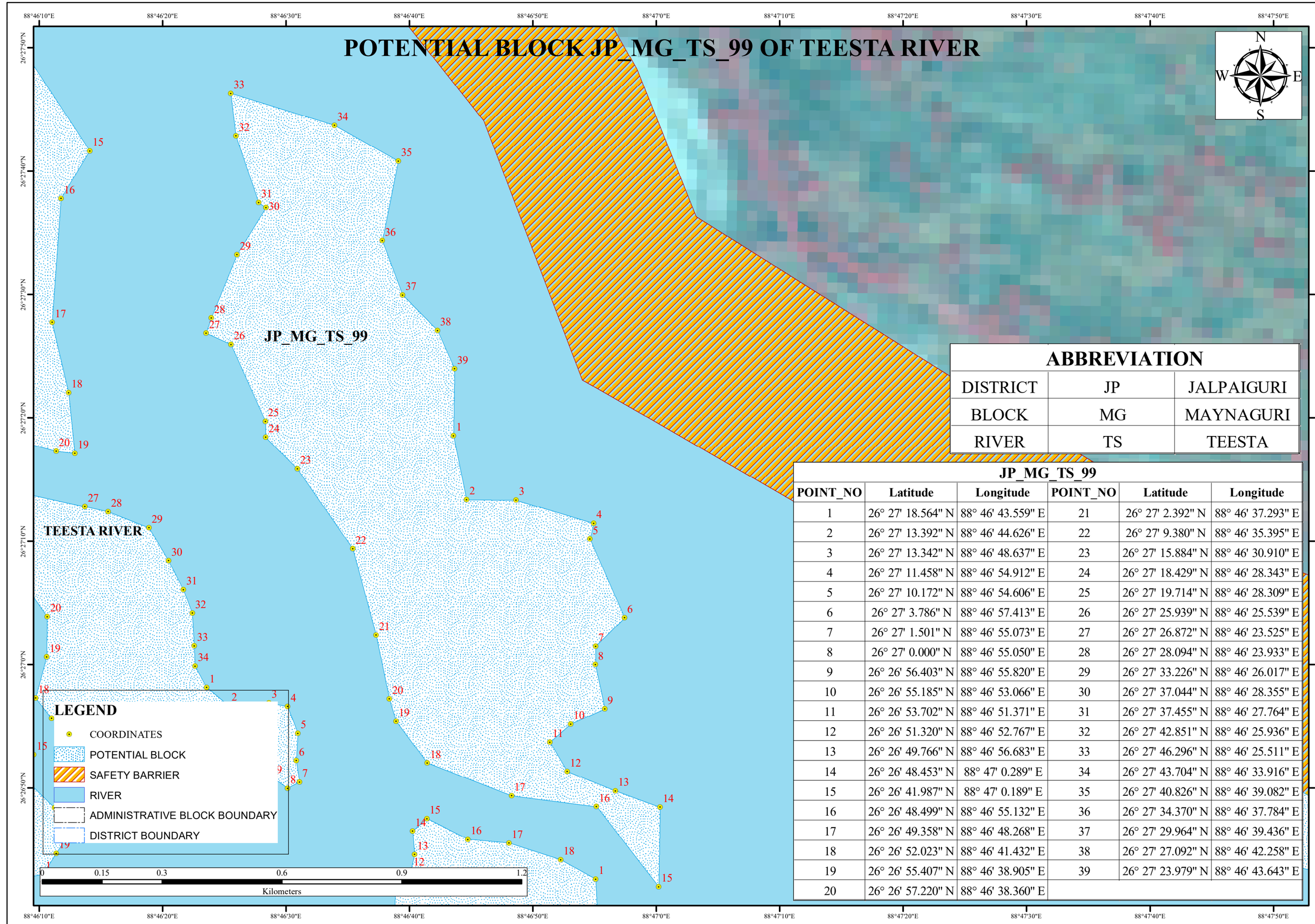
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	TS	TEESTA

JP_MG_TS_97_98

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 28' 25.732" N	88° 45' 52.049" E	16	26° 28' 6.455" N	88° 46' 23.996" E
2	26° 28' 28.994" N	88° 45' 53.378" E	17	26° 28' 8.660" N	88° 46' 18.250" E
3	26° 28' 34.667" N	88° 45' 56.103" E	18	26° 28' 9.861" N	88° 46' 9.361" E
4	26° 28' 38.238" N	88° 45' 58.660" E	19	26° 28' 12.122" N	88° 46' 9.037" E
5	26° 28' 41.768" N	88° 45' 56.879" E	20	26° 28' 14.317" N	88° 46' 11.634" E
6	26° 28' 42.913" N	88° 45' 53.746" E	21	26° 28' 15.501" N	88° 46' 10.839" E
7	26° 28' 43.010" N	88° 45' 53.840" E	22	26° 28' 15.217" N	88° 46' 10.756" E
8	26° 28' 43.771" N	88° 45' 58.530" E	23	26° 28' 13.893" N	88° 46' 7.588" E
9	26° 28' 43.318" N	88° 45' 59.239" E	24	26° 28' 7.266" N	88° 46' 5.905" E
10	26° 28' 26.018" N	88° 46' 12.542" E	25	26° 28' 6.270" N	88° 46' 3.024" E
11	26° 28' 0.604" N	88° 46' 32.817" E	26	26° 28' 11.089" N	88° 46' 3.440" E
12	26° 28' 0.711" N	88° 46' 32.278" E	27	26° 28' 13.690" N	88° 46' 1.689" E
13	26° 28' 1.032" N	88° 46' 29.619" E	28	26° 28' 20.023" N	88° 45' 56.355" E
14	26° 28' 1.295" N	88° 46' 29.324" E	29	26° 28' 23.381" N	88° 45' 52.534" E
15	26° 28' 5.178" N	88° 46' 27.147" E			

POTENTIAL BLOCK JP_MG_TS_99 OF TEESTA RIVER



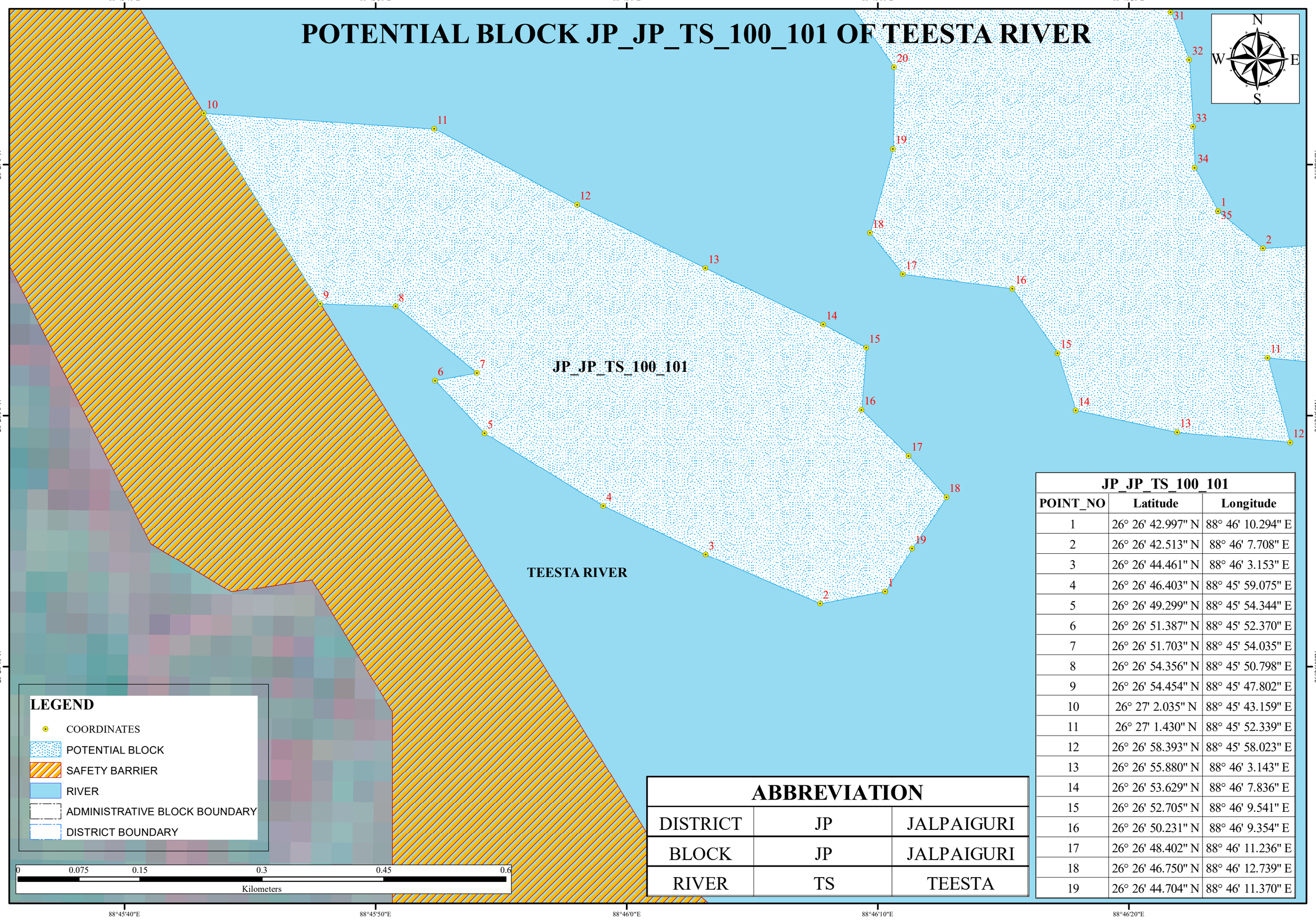
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	TS	TEESTA

JP_MG_TS_99

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 27' 18.564" N	88° 46' 43.559" E	21	26° 27' 2.392" N	88° 46' 37.293" E
2	26° 27' 13.392" N	88° 46' 44.626" E	22	26° 27' 9.380" N	88° 46' 35.395" E
3	26° 27' 13.342" N	88° 46' 48.637" E	23	26° 27' 15.884" N	88° 46' 30.910" E
4	26° 27' 11.458" N	88° 46' 54.912" E	24	26° 27' 18.429" N	88° 46' 28.343" E
5	26° 27' 10.172" N	88° 46' 54.606" E	25	26° 27' 19.714" N	88° 46' 28.309" E
6	26° 27' 3.786" N	88° 46' 57.413" E	26	26° 27' 25.939" N	88° 46' 25.539" E
7	26° 27' 1.501" N	88° 46' 55.073" E	27	26° 27' 26.872" N	88° 46' 23.525" E
8	26° 27' 0.000" N	88° 46' 55.050" E	28	26° 27' 28.094" N	88° 46' 23.933" E
9	26° 26' 56.403" N	88° 46' 55.820" E	29	26° 27' 33.226" N	88° 46' 26.017" E
10	26° 26' 55.185" N	88° 46' 53.066" E	30	26° 27' 37.044" N	88° 46' 28.355" E
11	26° 26' 53.702" N	88° 46' 51.371" E	31	26° 27' 37.455" N	88° 46' 27.764" E
12	26° 26' 51.320" N	88° 46' 52.767" E	32	26° 27' 42.851" N	88° 46' 25.936" E
13	26° 26' 49.766" N	88° 46' 56.683" E	33	26° 27' 46.296" N	88° 46' 25.511" E
14	26° 26' 48.453" N	88° 47' 0.289" E	34	26° 27' 43.704" N	88° 46' 33.916" E
15	26° 26' 41.987" N	88° 47' 0.189" E	35	26° 27' 40.826" N	88° 46' 39.082" E
16	26° 26' 48.499" N	88° 46' 55.132" E	36	26° 27' 34.370" N	88° 46' 37.784" E
17	26° 26' 49.358" N	88° 46' 48.268" E	37	26° 27' 29.964" N	88° 46' 39.436" E
18	26° 26' 52.023" N	88° 46' 41.432" E	38	26° 27' 27.092" N	88° 46' 42.258" E
19	26° 26' 55.407" N	88° 46' 38.905" E	39	26° 27' 23.979" N	88° 46' 43.643" E
20	26° 26' 57.220" N	88° 46' 38.360" E			

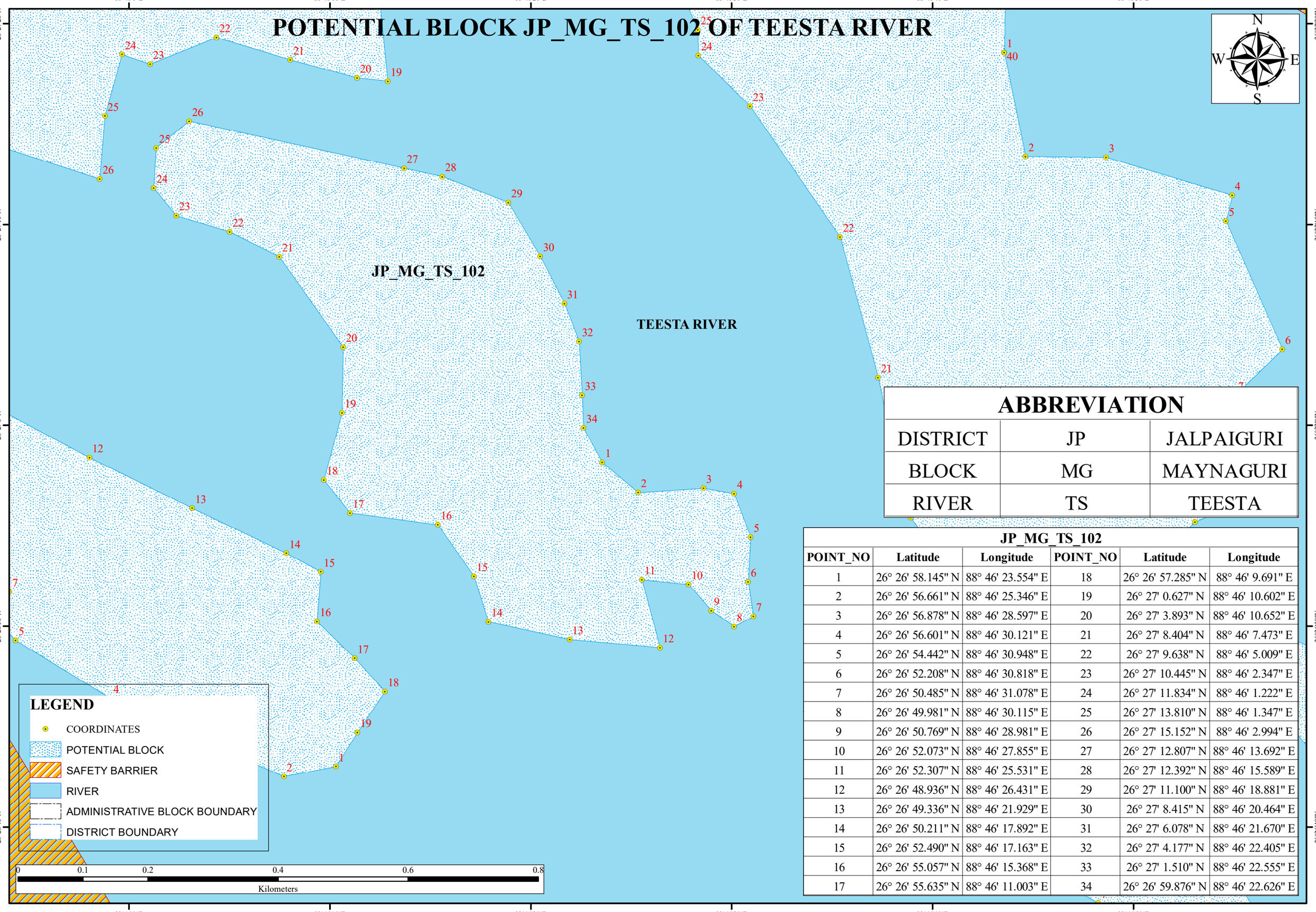
POTENTIAL BLOCK JP_JP_TS_100_101 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_100_101		
POINT_NO	Latitude	Longitude
1	26° 26' 42.997" N	88° 46' 10.294" E
2	26° 26' 42.513" N	88° 46' 7.708" E
3	26° 26' 44.461" N	88° 46' 3.153" E
4	26° 26' 46.403" N	88° 45' 59.075" E
5	26° 26' 49.299" N	88° 45' 54.344" E
6	26° 26' 51.387" N	88° 45' 52.370" E
7	26° 26' 51.703" N	88° 45' 54.035" E
8	26° 26' 54.356" N	88° 45' 50.798" E
9	26° 26' 54.454" N	88° 45' 47.802" E
10	26° 27' 2.035" N	88° 45' 43.159" E
11	26° 27' 1.430" N	88° 45' 52.339" E
12	26° 26' 58.393" N	88° 45' 58.023" E
13	26° 26' 55.880" N	88° 46' 3.143" E
14	26° 26' 53.629" N	88° 46' 7.836" E
15	26° 26' 52.705" N	88° 46' 9.541" E
16	26° 26' 50.231" N	88° 46' 9.354" E
17	26° 26' 48.402" N	88° 46' 11.236" E
18	26° 26' 46.750" N	88° 46' 12.739" E
19	26° 26' 44.704" N	88° 46' 11.370" E

POTENTIAL BLOCK JP_MG_TS_102 OF TEESTA RIVER



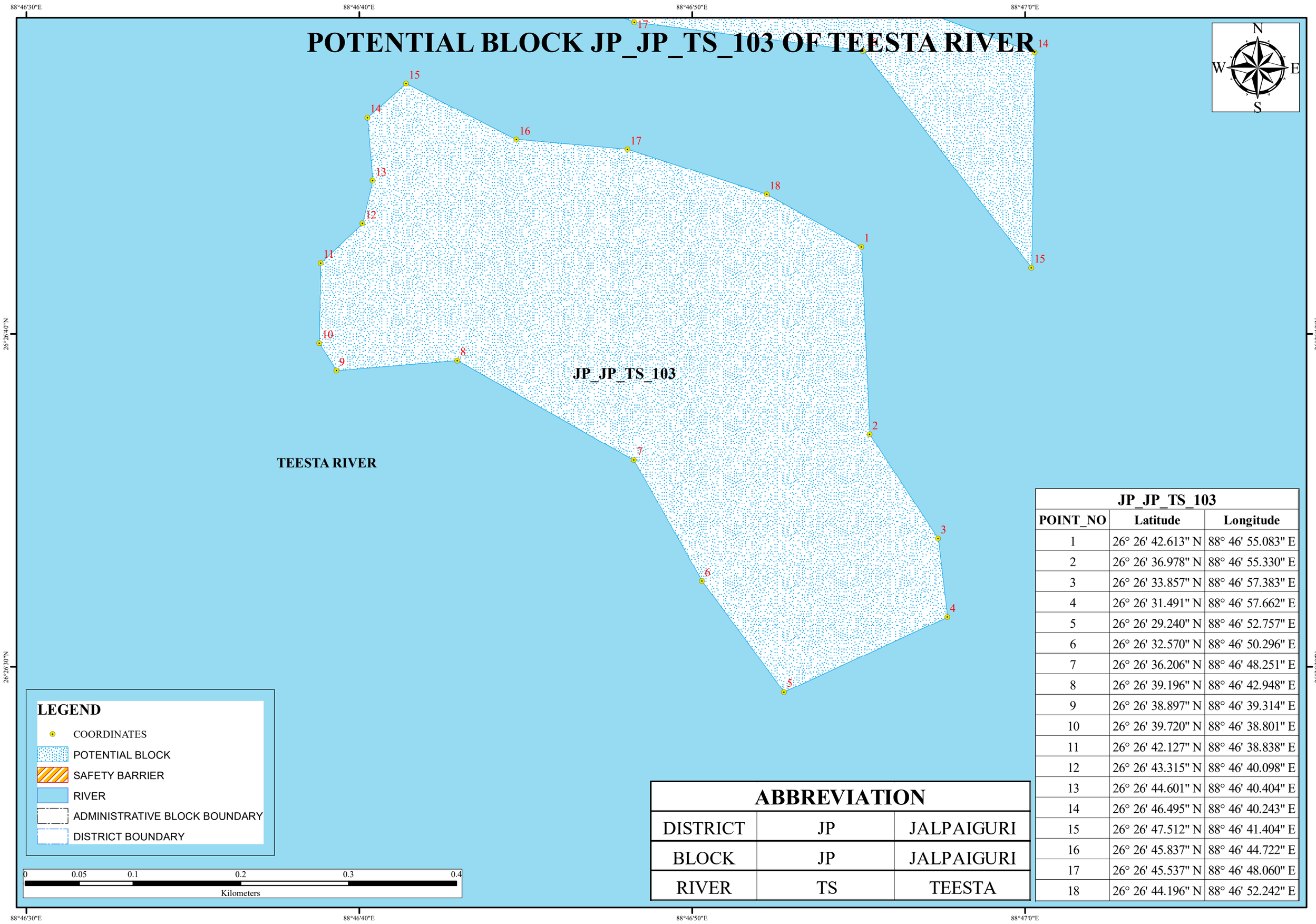
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	TS	TEESTA

JP_MG_TS_102

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 26' 58.145" N	88° 46' 23.554" E	18	26° 26' 57.285" N	88° 46' 9.691" E
2	26° 26' 56.661" N	88° 46' 25.346" E	19	26° 27' 0.627" N	88° 46' 10.602" E
3	26° 26' 56.878" N	88° 46' 28.597" E	20	26° 27' 3.893" N	88° 46' 10.652" E
4	26° 26' 56.601" N	88° 46' 30.121" E	21	26° 27' 8.404" N	88° 46' 7.473" E
5	26° 26' 54.442" N	88° 46' 30.948" E	22	26° 27' 9.638" N	88° 46' 5.009" E
6	26° 26' 52.208" N	88° 46' 30.818" E	23	26° 27' 10.445" N	88° 46' 2.347" E
7	26° 26' 50.485" N	88° 46' 31.078" E	24	26° 27' 11.834" N	88° 46' 1.222" E
8	26° 26' 49.981" N	88° 46' 30.115" E	25	26° 27' 13.810" N	88° 46' 1.347" E
9	26° 26' 50.769" N	88° 46' 28.981" E	26	26° 27' 15.152" N	88° 46' 2.994" E
10	26° 26' 52.073" N	88° 46' 27.855" E	27	26° 27' 12.807" N	88° 46' 13.692" E
11	26° 26' 52.307" N	88° 46' 25.531" E	28	26° 27' 12.392" N	88° 46' 15.589" E
12	26° 26' 48.936" N	88° 46' 26.431" E	29	26° 27' 11.100" N	88° 46' 18.881" E
13	26° 26' 49.336" N	88° 46' 21.929" E	30	26° 27' 8.415" N	88° 46' 20.464" E
14	26° 26' 50.211" N	88° 46' 17.892" E	31	26° 27' 6.078" N	88° 46' 21.670" E
15	26° 26' 52.490" N	88° 46' 17.163" E	32	26° 27' 4.177" N	88° 46' 22.405" E
16	26° 26' 55.057" N	88° 46' 15.368" E	33	26° 27' 1.510" N	88° 46' 22.555" E
17	26° 26' 55.635" N	88° 46' 11.003" E	34	26° 26' 59.876" N	88° 46' 22.626" E

POTENTIAL BLOCK JP_JP_TS_103 OF TEESTA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_103

POINT_NO	Latitude	Longitude
1	26° 26' 42.613" N	88° 46' 55.083" E
2	26° 26' 36.978" N	88° 46' 55.330" E
3	26° 26' 33.857" N	88° 46' 57.383" E
4	26° 26' 31.491" N	88° 46' 57.662" E
5	26° 26' 29.240" N	88° 46' 52.757" E
6	26° 26' 32.570" N	88° 46' 50.296" E
7	26° 26' 36.206" N	88° 46' 48.251" E
8	26° 26' 39.196" N	88° 46' 42.948" E
9	26° 26' 38.897" N	88° 46' 39.314" E
10	26° 26' 39.720" N	88° 46' 38.801" E
11	26° 26' 42.127" N	88° 46' 38.838" E
12	26° 26' 43.315" N	88° 46' 40.098" E
13	26° 26' 44.601" N	88° 46' 40.404" E
14	26° 26' 46.495" N	88° 46' 40.243" E
15	26° 26' 47.512" N	88° 46' 41.404" E
16	26° 26' 45.837" N	88° 46' 44.722" E
17	26° 26' 45.537" N	88° 46' 48.060" E
18	26° 26' 44.196" N	88° 46' 52.242" E

POTENTIAL BLOCK JP_MG_TS_104 OF TEESTA RIVER

88°47'20"E 88°47'30"E 88°47'40"E 88°47'50"E

26°27'0"N 26°26'50"N 26°26'40"N

N W E S

JP_MG_TS_104

TEESTA RIVER

8 5 9 4 3 7 6 6 7 2 5 4 8 1

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4

Kilometers

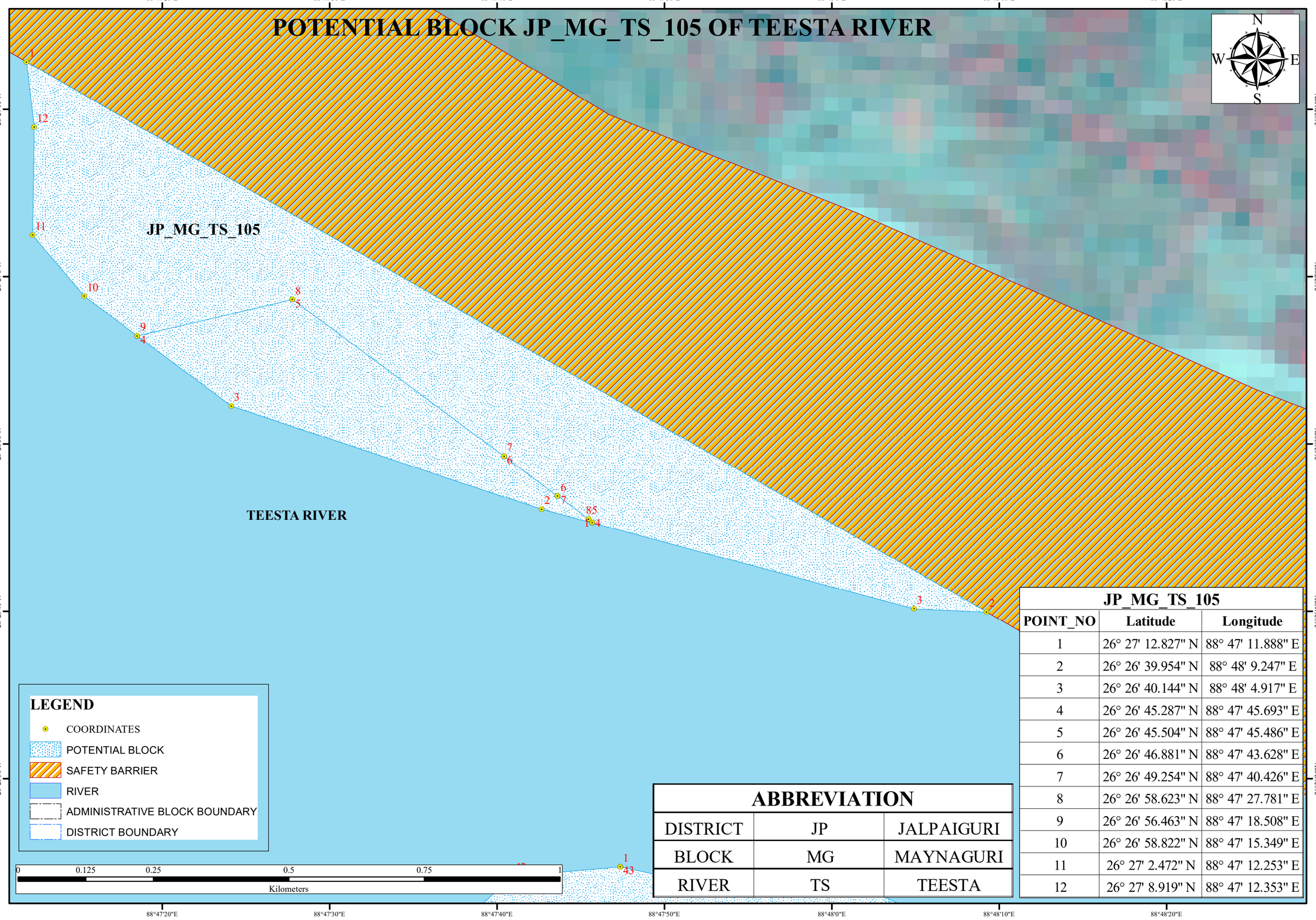
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	TS	TEESTA

JP_MG_TS_104

POINT_NO	Latitude	Longitude
1	26° 26' 45.287" N	88° 47' 45.693" E
2	26° 26' 46.098" N	88° 47' 42.660" E
3	26° 26' 52.263" N	88° 47' 24.130" E
4	26° 26' 56.463" N	88° 47' 18.508" E
5	26° 26' 58.623" N	88° 47' 27.781" E
6	26° 26' 49.254" N	88° 47' 40.426" E
7	26° 26' 46.881" N	88° 47' 43.628" E
8	26° 26' 45.504" N	88° 47' 45.486" E

POTENTIAL BLOCK JP_MG_TS_105 OF TEESTA RIVER



LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

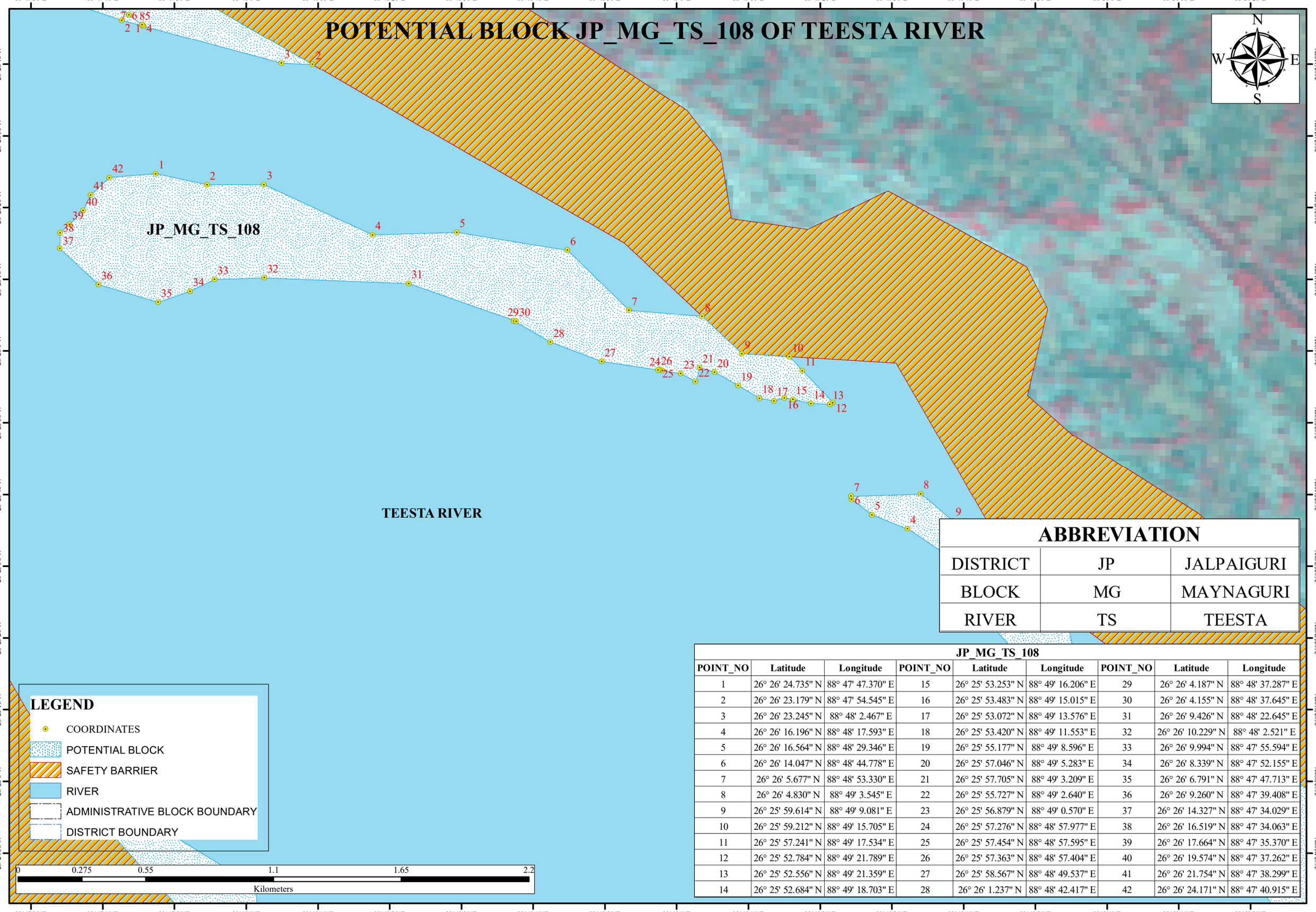
ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	TS	TEESTA

JP_MG_TS_105

POINT_NO	Latitude	Longitude
1	26° 27' 12.827" N	88° 47' 11.888" E
2	26° 26' 39.954" N	88° 48' 9.247" E
3	26° 26' 40.144" N	88° 48' 4.917" E
4	26° 26' 45.287" N	88° 47' 45.693" E
5	26° 26' 45.504" N	88° 47' 45.486" E
6	26° 26' 46.881" N	88° 47' 43.628" E
7	26° 26' 49.254" N	88° 47' 40.426" E
8	26° 26' 58.623" N	88° 47' 27.781" E
9	26° 26' 56.463" N	88° 47' 18.508" E
10	26° 26' 58.822" N	88° 47' 15.349" E
11	26° 27' 2.472" N	88° 47' 12.253" E
12	26° 27' 8.919" N	88° 47' 12.353" E

POTENTIAL BLOCK JP_MG_TS_108 OF TEESTA RIVER



ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	TS	TEESTA

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.275 0.55 1.1 1.65 2.2

Kilometers

JP_MG_TS_108

POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude	POINT_NO	Latitude	Longitude
1	26° 26' 24.735" N	88° 47' 47.370" E	15	26° 25' 53.253" N	88° 49' 16.206" E	29	26° 26' 4.187" N	88° 48' 37.287" E
2	26° 26' 23.179" N	88° 47' 54.545" E	16	26° 25' 53.483" N	88° 49' 15.015" E	30	26° 26' 4.155" N	88° 48' 37.645" E
3	26° 26' 23.245" N	88° 48' 2.467" E	17	26° 25' 53.072" N	88° 49' 13.576" E	31	26° 26' 9.426" N	88° 48' 22.645" E
4	26° 26' 16.196" N	88° 48' 17.593" E	18	26° 25' 53.420" N	88° 49' 11.553" E	32	26° 26' 10.229" N	88° 48' 2.521" E
5	26° 26' 16.564" N	88° 48' 29.346" E	19	26° 25' 55.177" N	88° 49' 8.596" E	33	26° 26' 9.994" N	88° 47' 55.594" E
6	26° 26' 14.047" N	88° 48' 44.778" E	20	26° 25' 57.046" N	88° 49' 5.283" E	34	26° 26' 8.339" N	88° 47' 52.155" E
7	26° 26' 5.677" N	88° 48' 53.330" E	21	26° 25' 57.705" N	88° 49' 3.209" E	35	26° 26' 6.791" N	88° 47' 47.713" E
8	26° 26' 4.830" N	88° 49' 3.545" E	22	26° 25' 55.727" N	88° 49' 2.640" E	36	26° 26' 9.260" N	88° 47' 39.408" E
9	26° 25' 59.614" N	88° 49' 9.081" E	23	26° 25' 56.879" N	88° 49' 0.570" E	37	26° 26' 14.327" N	88° 47' 34.029" E
10	26° 25' 59.212" N	88° 49' 15.705" E	24	26° 25' 57.276" N	88° 48' 57.977" E	38	26° 26' 16.519" N	88° 47' 34.063" E
11	26° 25' 57.241" N	88° 49' 17.534" E	25	26° 25' 57.454" N	88° 48' 57.595" E	39	26° 26' 17.664" N	88° 47' 35.370" E
12	26° 25' 52.784" N	88° 49' 21.789" E	26	26° 25' 57.363" N	88° 48' 57.404" E	40	26° 26' 19.574" N	88° 47' 37.262" E
13	26° 25' 52.556" N	88° 49' 21.359" E	27	26° 25' 58.567" N	88° 48' 49.537" E	41	26° 26' 21.754" N	88° 47' 38.299" E
14	26° 25' 52.684" N	88° 49' 18.703" E	28	26° 26' 1.237" N	88° 48' 42.417" E	42	26° 26' 24.171" N	88° 47' 40.915" E

POTENTIAL BLOCK JP_MG_TS_110 OF TEESTA RIVER

88°49'30"E 88°49'40"E 88°49'50"E

26°25'40"N 26°25'30"N 26°25'20"N

N W E S

JP_MG_TS_110

TEESTA RIVER

LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4

Kilometers

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	TS	TEESTA

JP_MG_TS_110

POINT_NO	Latitude	Longitude
1	26° 25' 28.765" N	88° 49' 47.600" E
2	26° 25' 28.545" N	88° 49' 43.327" E
3	26° 25' 30.314" N	88° 49' 39.535" E
4	26° 25' 35.222" N	88° 49' 32.164" E
5	26° 25' 37.177" N	88° 49' 27.229" E
6	26° 25' 39.277" N	88° 49' 24.397" E
7	26° 25' 39.771" N	88° 49' 24.301" E
8	26° 25' 40.080" N	88° 49' 34.021" E
9	26° 25' 36.345" N	88° 49' 38.484" E
10	26° 25' 35.101" N	88° 49' 43.943" E

POTENTIAL BLOCK JP_MG_TS_111 OF TEESTA RIVER

88°49'40"E 88°49'50"E 88°50'0"E 88°50'10"E

26°25'20"N 26°25'10"N

N W E S

TEESTA RIVER

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	TS	TEESTA

JP_MG_TS_111

POINT_NO	Latitude	Longitude
1	26° 25' 27.927" N	88° 49' 40.731" E
2	26° 25' 27.115" N	88° 49' 45.373" E
3	26° 25' 27.093" N	88° 49' 48.801" E
4	26° 25' 23.094" N	88° 49' 54.336" E
5	26° 25' 22.900" N	88° 49' 54.262" E
6	26° 25' 6.205" N	88° 49' 57.990" E
7	26° 25' 6.589" N	88° 49' 55.103" E
8	26° 25' 17.310" N	88° 49' 47.924" E
9	26° 25' 23.400" N	88° 49' 42.291" E

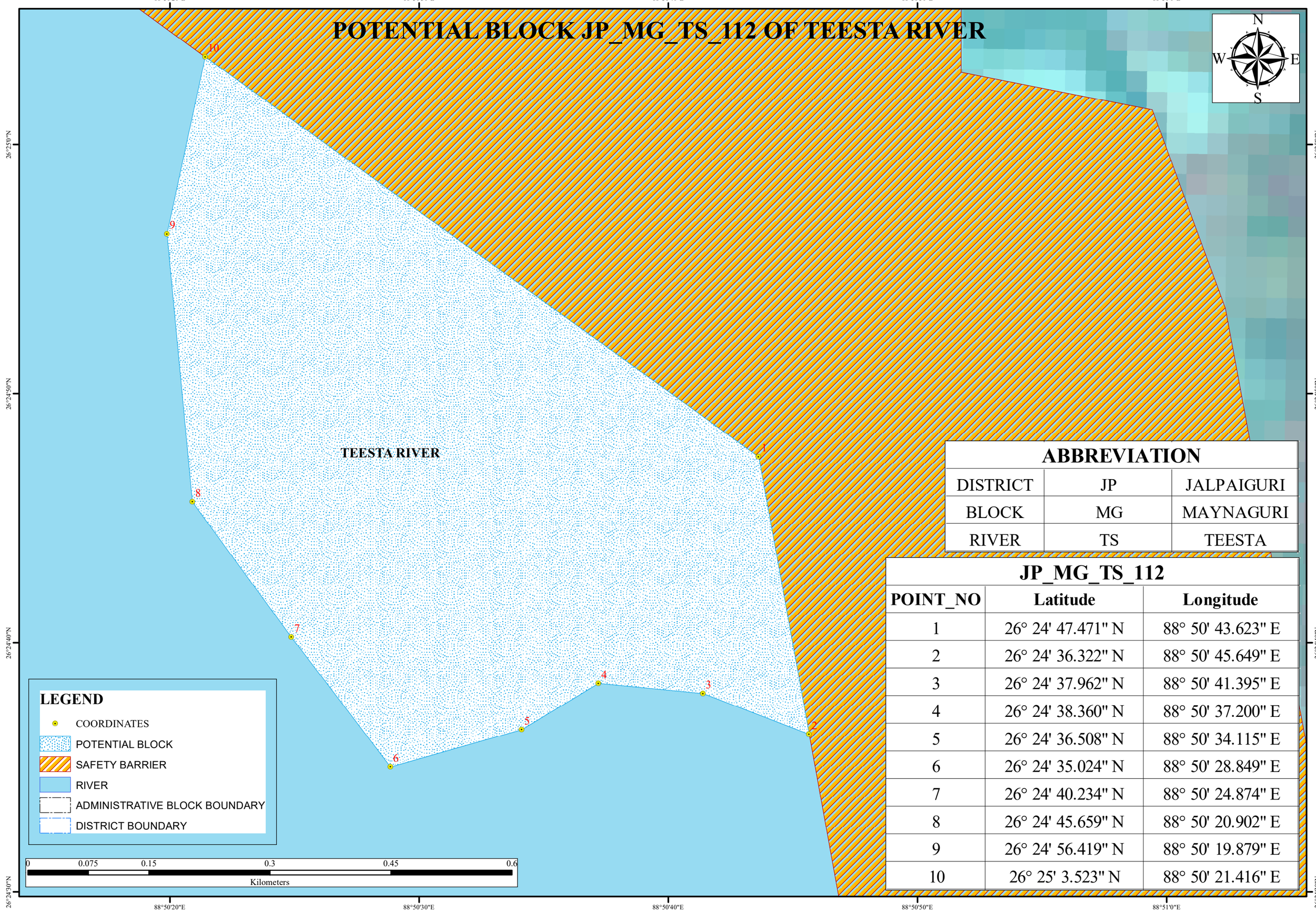
LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4

Kilometers

POTENTIAL BLOCK JP_MG_TS_112 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	TS	TEESTA

JP_MG_TS_112

POINT_NO	Latitude	Longitude
1	26° 24' 47.471" N	88° 50' 43.623" E
2	26° 24' 36.322" N	88° 50' 45.649" E
3	26° 24' 37.962" N	88° 50' 41.395" E
4	26° 24' 38.360" N	88° 50' 37.200" E
5	26° 24' 36.508" N	88° 50' 34.115" E
6	26° 24' 35.024" N	88° 50' 28.849" E
7	26° 24' 40.234" N	88° 50' 24.874" E
8	26° 24' 45.659" N	88° 50' 20.902" E
9	26° 24' 56.419" N	88° 50' 19.879" E
10	26° 25' 3.523" N	88° 50' 21.416" E

POTENTIAL BLOCK JP_MG_TS_112A OF TEESTA RIVER

88°50'30"E 88°50'40"E 88°50'50"E 88°51'0"E

26°24'20"N 26°24'10"N

N W E S

1 2 3 4 5 6 7 8 9

TEESTA RIVER

ABBREVIATION

DISTRICT	JP	JALPAIGURI
BLOCK	MG	MAYNAGURI
RIVER	TS	TEESTA

JP_MG_TS_112A

POINT_NO	Latitude	Longitude
1	26° 24' 26.418" N	88° 50' 47.449" E
2	26° 24' 1.374" N	88° 50' 52.000" E
3	26° 24' 3.142" N	88° 50' 51.017" E
4	26° 24' 8.395" N	88° 50' 43.702" E
5	26° 24' 11.290" N	88° 50' 35.871" E
6	26° 24' 15.167" N	88° 50' 35.217" E
7	26° 24' 22.053" N	88° 50' 34.610" E
8	26° 24' 25.804" N	88° 50' 32.730" E
9	26° 24' 23.391" N	88° 50' 44.833" E

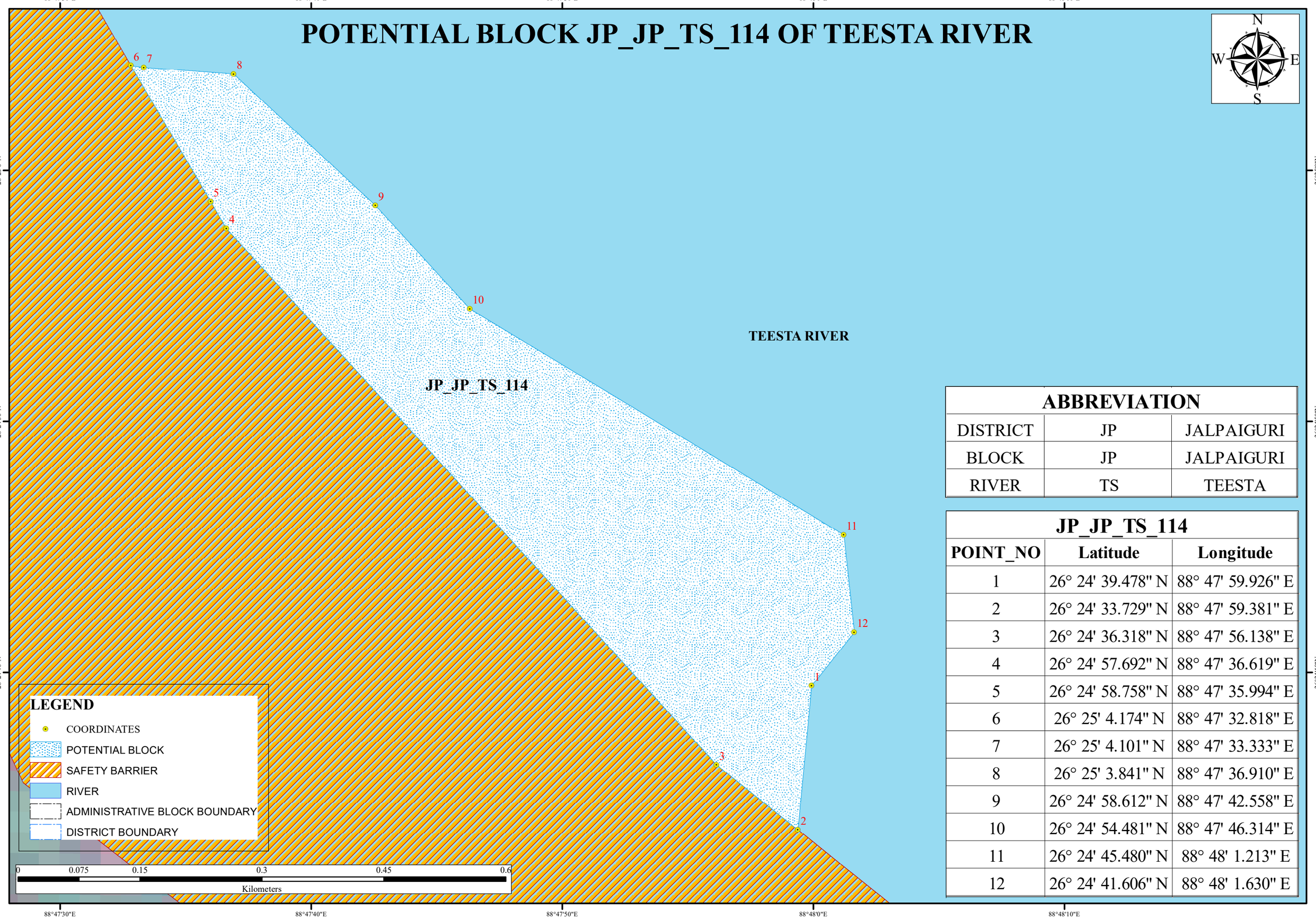
LEGEND

- COORDINATES
- POTENTIAL BLOCK
- SAFETY BARRIER
- RIVER
- ADMINISTRATIVE BLOCK BOUNDARY
- DISTRICT BOUNDARY

0 0.05 0.1 0.2 0.3 0.4

Kilometers

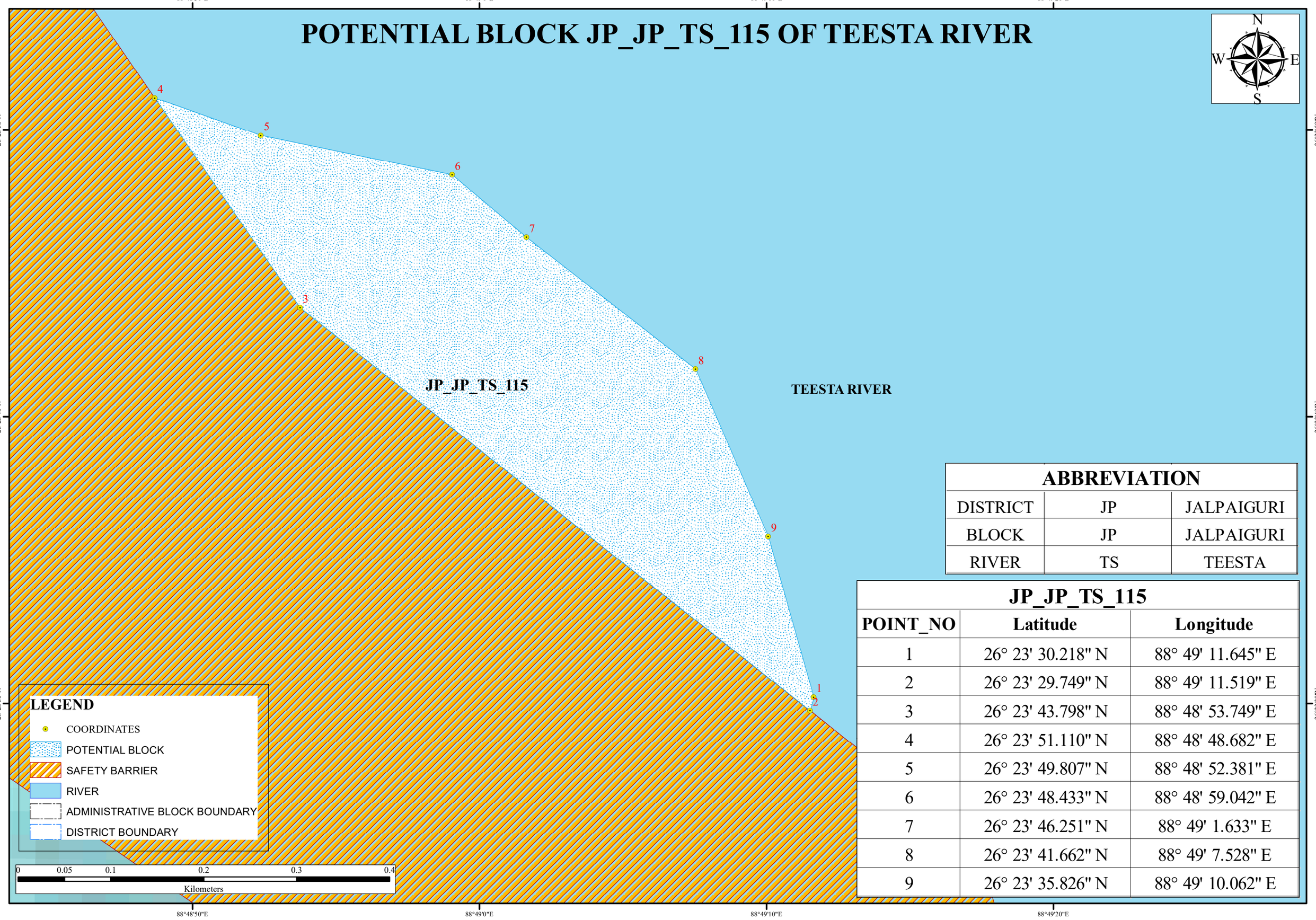
POTENTIAL BLOCK JP_JP_TS_114 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_114		
POINT_NO	**Latitude**	**Longitude**
1	26° 24' 39.478" N	88° 47' 59.926" E
2	26° 24' 33.729" N	88° 47' 59.381" E
3	26° 24' 36.318" N	88° 47' 56.138" E
4	26° 24' 57.692" N	88° 47' 36.619" E
5	26° 24' 58.758" N	88° 47' 35.994" E
6	26° 25' 4.174" N	88° 47' 32.818" E
7	26° 25' 4.101" N	88° 47' 33.333" E
8	26° 25' 3.841" N	88° 47' 36.910" E
9	26° 24' 58.612" N	88° 47' 42.558" E
10	26° 24' 54.481" N	88° 47' 46.314" E
11	26° 24' 45.480" N	88° 48' 1.213" E
12	26° 24' 41.606" N	88° 48' 1.630" E

POTENTIAL BLOCK JP_JP_TS_115 OF TEESTA RIVER



ABBREVIATION		
DISTRICT	JP	JALPAIGURI
BLOCK	JP	JALPAIGURI
RIVER	TS	TEESTA

JP_JP_TS_115		
POINT_NO	**Latitude**	**Longitude**
1	26° 23' 30.218" N	88° 49' 11.645" E
2	26° 23' 29.749" N	88° 49' 11.519" E
3	26° 23' 43.798" N	88° 48' 53.749" E
4	26° 23' 51.110" N	88° 48' 48.682" E
5	26° 23' 49.807" N	88° 48' 52.381" E
6	26° 23' 48.433" N	88° 48' 59.042" E
7	26° 23' 46.251" N	88° 49' 1.633" E
8	26° 23' 41.662" N	88° 49' 7.528" E
9	26° 23' 35.826" N	88° 49' 10.062" E

ANNEXURE 5.1

Compliance to the Observations
Government of West Bengal
Office of the District Land & Land Reforms Officer, Jalpaiguri
District Survey Report, Jalpaiguri, West Bengal
Memo No. 1856/MM/DLLRO/JAL/2021, dated 04.09.2021

SL NO	OBSERVATIONS	COMPLIANCE
1	No comments/ objections/ suggestions have been received	Not Applicable

ANNEXURE 5.2

Compliance to the Minutes of the twenty-eighth meeting of the reconstituted State Level Expert Appraisal Committee, West Bengal held on 08.01.2022 at 10:30 a.m. at the Conference Room, Paribesh Bhawan, Kolkata

Sl. No.	Observations	Compliance
1	In the drainage map watersheds and micro-watersheds should be marked	The watershed level up to 3rd order streams are marked in the drainage map and is depicted in Plate No. 3A
2	Hydrographs at key intersections along the entire stretch of the river falling in the particular district along with a discussion on the runoff of the river in the upstream and downstream within the district.	Given in section 3.6 page no 25 to 27. Depth of mining has been selected in accordance with the depth to water level depicting from the Hydrographs.
3	A separate map showing locations of dams, barrages, bridge, river bed tube wells, river bed collector wells and infiltration galleries.	Given as Plate no 1B. All major bridges, Barrages, river bed wells, and other hydraulic structures are marked in the drainage map of the district and also labelled.
4	Depth to base flow in the riverbed sand mining areas, present and proposed, in pre-monsoon and post-monsoon periods.	Depth of the base flow is below proposed mining depth as observed from the field study. During study period, no mining activity commenced.
5	Field photographs showing activities of replenishment study.	Representative photographs of survey of the river bed profile used for replenishment and aggradation measurement study is being furnished in Plate No. 4.
6	A map showing long-term (10-year or more) erosion-accretion areas on both the banks of the rivers which would help to identify no-mining zone on the river bed along with a discussion.	Given in Plate no 5. Though all the rivers of the district doesn't shows much difference when studied the image archives from 2010 to 2022, however, a stretch of Chel River is depicted and is furnished as one of the representative image detection study.
7	In each proposed block, the RL of the sand surface (pre and post Monsoon) will be useful and the suggested mining depth corresponds to a particular RL of the deepest layer mined (not depth on absolute terms in case replenished quantity is different)	Elevation levels for each potential zone are furnished as Annexure-2. However, DGPS survey of each block shall be carried while preparation of the Mining Plans and final adjustment of depth parameters shall be done accordingly. In no circumstances, mining depth shall be increased beyond the depth suggested for each potential zone in this DSR.
8	Depth of mining considered for calculation of potential reserve. It presumes that base flow depth is more than the mining depth in pre-monsoon period. That needs to be substantiated with data for each block.	Depths of Mining Considered for each potential zone are furnished on the basis of average and are given in Table no 7.11, Page no 84. However, after finalization of the sand Blocks, each block shall be surveyed again during the course of Mining Plan preparation and final depths shall be suggested accordingly.
9	Ground water level pre and post monsoon in the watershed (of district) may be put in a map.	Complied with. The same has been furnished as Plate no 3B and 3C.
10	It was also suggested to show in maps the approach roads (accessibility plan complying with guidelines) for the blocks.	The major transport networks for the district are depicted in Figure no 10.2. The accessibility from each block shall be detailed in the Mining Plan.
11	Sand mining in designated upstream blocks may affect the replenishment in blocks downstream and this consideration may be relevant for estimating the percentage of replenishment. What should be the percentage for minable reserve with respect to potential	This study shall be undertaken by the Mines Branch, Dep. of Industry, Commerce & Enterprise, GoWB in subsequent years and annual reports shall be generated covering these points. However, as per the EMGSM, 2020, not more than 60% of the area will be covered under extraction plan.

Sl. No.	Observations	Compliance
	reserve of sand?	
12	Data on river flow on all seasons and the sediment load data (especially during seasons of replenishment) will constitute a baseline condition to judge any effect of increased mining on the river flow characteristics.	This study shall be undertaken by the Mines Branch, Dep. of Industry, Commerce & Enterprise, GoWB in subsequent years and annual reports shall be generated covering these points.
13	Existing mining leases may be shown on river map along with potential blocks	Existing Mining Leases having Environmental Clearance as on 31st January, 2022 are furnished in Plate no 2A and 2B.
14	On the river map, potential new blocks and existing blocks may also be designated by serial or code number so that it matches with the tables.	Furnished in Plate no 2A and 2B
15	It will be appropriate if the methodology adopted (not only the available theory) for annual replenishment estimation is clearly and objectively narrated with applicable data and sample calculations.	Change detection through satellite imagery study, Field evidences and empirical formulae are utilized for replenishment study. Detail discussions are done in chapter 7 of this report.
16	Representative satellite and/or drone photography, if used for surveying, may also be produced in DSR.	All the plates are satellite imagery based and are furnished in Plate no 2A and 2B.
17	The suggested mining depth should be indicated for each block in the table (not done for Purba Bardhaman).	Complied with. Suggested mining depths are furnished in Table no 7.10.
18	Order of sections in the report is not logical in some reports.	Corrected as per specified format of DSR.
19	A table showing all general compliances in DSR as per the Mining Rules may be furnished.	Complied with. Given as Annexure-1.
20	For existing mines (sand and other minerals), minable reserve has not been mentioned.	Details of the mining leases given in Table no 8.1, Page no 91-106.
21	All the documents leave much to be desired in respect of reserve assessment and replenishments estimations.	Given in section 7.2/V.
22	Reserve assessment has been rudimentary and the replenishment estimation needs to be carried out using accepted methods and models available for the purpose.	No attempt has been done for mineable reserve assessment in this DSR. Efforts have been restricted to define the potential sand resources in each rivers of the district. Mineable reserve estimation shall be done once the Blocks are demarcated as per West Bengal Minor Mineral Concession Rules, 2016 and based on EMGSM 2020.

Sl. No.	Observations	Compliance
23	Rivers are one of the main sources to supply sand for construction projects. Depending on river morphology and hydraulic characteristics, its sediment transport capacity, and mining operation method, the extraction of river bed materials may affect its ecosystem through bank and bed erosion. This needs to be incorporated in the DSR.	Mining impact given in Chapter 11, page no 119-122.
24	To advance the mechanisms of river pit infilling, the effects of various parameters (i.e., the distance between pits, the pit plan shape, the pit depth, sediment size, and approaching flow velocity) needs to be investigated.	This study shall be undertaken by the Mines Branch, Dep. of Industry, Commerce & Enterprise, GoWB in subsequent years and annual reports shall be generated covering these points.
25	Monitoring should provide data to evaluate the upstream and downstream effects of sand and gravel extraction activities, and long-term changes. A brief report summarizing the annual results of the physical and biological monitoring should document the evolution of the sites over time, and the cumulative effects of sand and gravel extraction. The summary should also recommend any maintenance or modification of extraction rates needed to minimize impacts of extraction.	This study shall be undertaken by the Mines Branch, Dep. of Industry, Commerce & Enterprise, GoWB in subsequent years and annual reports shall be generated covering these points.
26	Sand Replenishment, Geomorphology and Hydrology Physical monitoring requirements of sand and gravel extraction activities should include surveyed channel cross-sections, longitudinal profiles, bed material measurements, geomorphic maps, and discharge and sediment transport measurements. The physical data will illustrate bar replenishment and any changes in channel morphology, bank erosion, or particle size.	Explained in detailed in Chapter no 7.
27	With reference to (point no 4.1.1 g) of enforcement guidelines 2020 read with Standard environmental conditions for sand mining (point no 8 page 73) of SSMMG-2016, all DSRs so prepared, should contain a chapter on NO MINING ZONE with name of mouza, dag no and geo references along with areas of sensitivity. Appraisal of the DSRs should NOT be taken for consideration without the chapter on NO MINING ZONE and AREAS of SENSITIVITY.	Section on No mining zone is given in Page no 88-89.

Sl. No.	Observations	Compliance
28	The areas of sensitivity should contain those NON-FOREST AREAS which are in excellent line of habitat for wild animals, birds, turtles, dolphins and other aquatic life, which need be excluded from the list of mining areas on ecological and environmental grounds. This is utmost necessary and has to be done to avoid conflict about wetland use in near future.	ENVIS centre on Wildlife and Protection areas map as published in August 2020, shows wildlife habitat in the potential sand mining areas.
29	For example, low lying swamps by the side of river Ajay in Paschim Midnapur and Ahiran lake, pathanbeel, Bishnupur beel area in Murshidabad District provide an excellent nitche for migratory birds in the winter. Part of river Damodar and the confluence of Damodar and Hooghly in East Barddhaman District house one of the last surviving habitats of endangered gangetic dolphin (Platinista gangeticus), should be identified in consultation with the concerned forest circles of the Department of Forests and to be excluded from the list of mining areas.	Part of comment 30.
30	Though all the DSRs so prepared, have not followed the same format yet it is felt that necessary remedial measures to mitigate the effect of mining and a reclamation plan in mined out areas should be included, especially in those DSRs which have not yet mentioned the same.	DSR Format Compliance under Notification S. O. 3611 (E), Dated 25th July 2018, Appendix-X (I).
31	Data, satellite imageries and allied information in respect of flora, fauna and their habitat biological environment, if collected from ENVIS centre may be included in the DSRs for ready reference.	Source of all the secondary figures and tables included in the DSR.
32	DSR comprises of secondary data which are required to be endorsed by concerned Departments.	References for secondary data are furnished in the DSR under references.
33	Revision should be done every year and actual survey should be done.	This study shall be undertaken by the Mines Branch, Dep. of Industry, Commerce & Enterprise, GoWB in subsequent years and annual reports shall be generated covering these points.
34	It is to be clearly mentioned that there are no other minerals than sand in this district.	Noted.
35	Dates of NIC database and other data should be provided	Noted and given in page no 14-15.
36	Outcome / response to the public consultation should be mentioned	Given as compliance statements in the DSR.

Sl. No.	Observations	Compliance
37	No-Mining-Zone should be clearly mentioned with special mention to the ecologically and otherwise sensitive zones. Bridges and river-bed tubewells should also be clearly demarcated. Wildlife should also be considered	Restricted zone given as Plate no 2A and 2B. Location of bridges, dam given in 1B
38	Hydrographs of the rivers and volume of rain should be studied to correlate with the minable sand reserve	Incorporated in the Replenishment study section 7.2/V, page no 58-82.
39	Text parts (as in Chapter 6) should be provided with proper reference and citation of authentic books. Sources of Tables and figures should be mentioned. Some are very old data – those should be replaced by latest data	Source of all the secondary figures and tables included in the DSR.
40	Depth of mining and distance from banks should be clearly mentioned and highlighted	Given in Table no 7.10.
41	Secondary (Collected) data/ map from other departments should be certified from the respective departments (e.g., Forest and wildlife data, demography, aquifer, transportation route to the blocks)	References used from Public Domain/ Websites are furnished in the Reference section in this DSR.
42	Evidence (like dated photographs) of surveying, collection of primary data to be provided	Field photographs are furnished in Plate 4.
43	Sample calculation and methodology for calculation for minable resource and replenishment data to be provided with proper units	Given in Table no 7.8 and Table no 7.12.
44	If any predictive model is used, its validity should be established	Predictive Model has been carried out based on EMGSM 2020. The validity checking requires consecutive study which needs to be undertaken by the concerned department.
45	Evidence for 4 times physical survey to be provided	Field photographs are furnished in Plate 4. Field registers are available at office and can be furnished on demand.
46	Land utilization and forests data are upto 2013/2014 – should be updated	Latest available data incorporated in the DSR.

ANNEXURE 5.3

Compliance to the SEAC members' comments received through mail on 25th March 2022

Sr. No.	Observations	Compliance
1	Inclusion executive summary at the beginning	Executive summary included in page no 2.
2	Compliance table of the DM/SEAC members' observations may be placed at the end. Instead, a table of compliance with the guidelines to be placed at the beginning indicating the page number	Complied with and given as separate document.
3	DSR specific observation should not be included in all in the compliance table of all theDSR.	Complied with.
4	DSR compliance table should come just after the executive summary	Complied with and given as Annexure-1.
5	Need to mention page number in the DSR compliance table.	Modified table furnished as Annexure-1.
6	Legend should be given for sand bar coding	Complied with and furnished as abbreviation in page 71.
7	Citation of reference should be given for Empirical formula by which Replenishment calculated.	Complied with and given in page no 75 to 79.
8	Map Source to be given for each map such as Watershed, Transport, Location, Drainage etc.	Complied with and given in Plate no 1 and 3.
9	Mention conclusion and Recommendation instead Summary	Complied with and given in page no 126-129.
10	Reference should be in a standard referencing format	Complied with and given in page no 130.
11	Source and date of collecting data for satellite imagery should be given.	Complied with and given in Plate no 2.

ANNEXURE 5.4

Compliance to the Minutes of the 61st meeting of the SEIAA, West Bengal held on 23.05.2022 at Kolkata

Sl. No.	Observations	Compliance
1	List of definitions of technical terms used in the DSR to be included.	Complied with.
2	Each potential zone should have a unique code no. and area bearing all the coordinates of all the points defining the boundary.	Complied with. Please refer Annexure 3.
3	A map showing the potential zone with the legend, mentioning all the coordinates of the polygon, defining the zone to be attached as annexure in the DSR.	Complied with. Please refer Annexure 4.
4	Dept. of Industry, Commerce & Enterprises will issue unique code with reference to the original coding of potential zones to each lessee. This unique code issued to lessee should be reflected in the LoI.	Shall be complied with.
5	Dept. of Industry, Commerce & Enterprises will upload the updated map showing the location of the LoI issued against the area and sand mining lease areas in different colour coding.	Shall be complied with.
6	Date of approval should be mentioned in all the pages of the annexure of DSRs.	Noted.
7	The consultant is further requested to refer the DSRs prepared by other states in order to confirm that no relevant point is missed out in any of our DSRs.	Complied with.
8	The consultant may also refer to the baseline data available with Irrigation Dept.	At present Replenishment Study is being conducted for all the sand producing Districts of West Bengal. This will be covered in the relevant reports.

ANNEXURE 5.5

Compliance to the Minutes of the 66th meeting of the SEIAA, West Bengal held on 06.07.2022 at Kolkata

Sl. No.	Observations	Compliance
1	The format of all the DSRs should be uniform.	Complied with.
2	The corrections required to be done regarding Annexure-3.	Complied with. Please refer Annexure 3.
3	List of existing lease is attached with the documents in Chapter 8.2. The list should contain the date of issue and validity.	Complied with. The details of the existing leases updated as per the data provided from concern department.
4	Sequence of meetings and observation given by SEAC and SEIAA should be mentioned in chronological order and be a part of the whole document.	Complied with. Please refer Annexure-5.

Annexure 6
SEIAA 72nd Meeting (2nd September, 2022) Minutes of Meeting

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State Environment Impact Assessment Authority
Pranisampad Bhawan, 5th Floor, Sector-III, Salt Lake, Kolkata - 700106
(West Bengal)
Minutes of SEIAA Meeting

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Subject:- 72nd meeting of SEIAA

Venue:- Conference Room of Environment Department, Prani Sampad Bhavan, 5th Floor, LB Block, Sector III, Salt Lake, Kolkata 700106.

From :- 02 Sep 2022

To :- 02 Sep 2022

CONSIDERATION/RECONSIDERATION OF TOR PROPOSAL (Extension/Amendment/Corrigendum)

1. Proposal No. :- **SIA/WB/IND2/277592/2022** File No- **EN/T-II-1/019/2022** Proposed amendment in Terms of Reference for the Ethanol/Extra Natural Alcohol (ENA) Manufacturing Plant at Plot No- 35(P), 42(P),45(P), 46(P),47(P), 48(P), 49(P), 50(P), 51, 52, 53, 54(P), 55(P), 56(P), 57(P), 93(P), 128(P), 422(P), 426(P), J.L No. 93, Malda Industrial Growth Centre, Phase II, Opp. Jubilee Petrol Pump , Vill – Mandilpur, P. O. – Narayanpur, P. S. – Malda, PIN– 732141, West Bengal by **M/s. Gujarat Ambuja Exports Ltd.**

Type Of Project : **Amendement**

INTRODUCTION

This has reference to the online application vide proposal no. **SIA/WB/IND2/277592/2022** dated **20 Jun 2022** along with the copies of EIA/EMP seeking Modification of Terms of reference (TOR) under the provisions of the EIA Notification, 2006 for the above mentioned proposed project. The proposed project activity is listed under Category **B** of EIA Notification, 2006 and the proposal is appraised at state level.

The ToR was approved by SEIAA during its 58th meeting held on 11.05.2022. Accordingly the project proponent (PP) had obtained ToR vide no. 889/EN/T-II-1/019/2022 dated 18.05.2022 from SEIAA. Now the PP had applied for amendment in the ToR for addition of 4.9 MW Captive Power Plant along with the proposed ENA plant.

SEAC recommended for amendment in Terms of Reference with the condition that ESP should be provided as emission control device.

PROJECT DETAILS

The project of M/s **GUJARAT AMBUJA EXPORTS LTD** located in as follows :

State of the project			
S. No.	**State**	**District**	**Tehsil**
(1.)	West Bengal	Malda	Maldah (old)

The salient features of the project submitted by the project proponent is available at Report under online proposal no. **SIA/WB/IND2/277592/2022**

DELIBERATION IN SEIAA

SEIAA considered the recommendation of SEAC and accepted the same.

RECOMMENDATIONS OF SEIAA

Approved for amendment in Terms of Reference.

Conclusion :

Recommended

2. Proposal No. :- **SIA/WB/MIS/278136/2022** File No- **EN/T-II-1/030/2018**
Validity extension of Terms of Reference for the residential complex 'SANKALPA II' at Premises No. 36, MAR (Plot No. BF/1, BF/2, BF/3), SANKALPA SITE – II, Action Area – I, New Town, Rajarhat, Kolkata - 700156, West Bengal by **M/s. West Bengal Infrastructure Development Finance Corporation Ltd.**

Type Of Project : **Extension**

INTRODUCTION

This has reference to the online application vide proposal no. **SIA/WB/MIS/278136/2022** dated **22 Jun 2022** along with the copies of EIA/EMP seeking Modification of Terms of reference (TOR) under the provisions of the EIA Notification, 2006 for the above mentioned proposed project. The proposed project activity is listed under Category **B** of EIA Notification, 2006 and the proposal is appraised at state level.

The ToR was issued by SEAC vide Memo No. 674-2N-100/2010(E) dated 03.12.2018. Now the PP had applied for extension of validity of ToR.

SEAC recommended validity extension of Terms of Reference up to 02.12.2022 as per the provision of Notification vide No. S.O. 751(E) dated 17.02.2020 issued by MoEF&CC.

PROJECT DETAILS

The project of M/s **WEST BENGAL INFRASTRUCTURE DEVELOPMENT FINANCE CORPORATION LIMITED** located in as follows :

State of the project			
S. No.	**State**	**District**	**Tehsil**
(1.)	West Bengal	North 24 Parganas	Rajarhat

The salient features of the project submitted by the project proponent is available at Report under online proposal no. **SIA/WB/MIS/278136/2022**

DELIBERATION IN SEIAA

SEIAA considered the recommendation of SEAC and accepted the same.

RECOMMENDATIONS OF SEIAA

Approved extension of validity of Terms of Reference.

Conclusion :

Recommended

3. Proposal No. :- **SIA/WB/MIS/278503/2022** File No- **EN/T-II-1/031/2018**
Validity extension of Terms of Reference for the residential complex 'SANKALPA III' at Premises No. 23, MAR (Plot No. CA/12 to CA/17), SANKALPA SITE – III, Action Area-I, New Town, Rajarhat, Kolkata - 700156, West Bengal by **M/s. West Bengal Infrastructure Development Finance Corporation Ltd.**

Type Of Project : **Extension**

INTRODUCTION

This has reference to the online application vide proposal no. **SIA/WB/MIS/278503/2022** dated **22 Jun 2022** along with the copies of EIA/EMP seeking Modification of Terms of reference (TOR) under the provisions of the EIA Notification, 2006 for the above mentioned proposed project. The proposed project activity is listed under Category **B** of EIA Notification, 2006 and the proposal is appraised at state level.

The ToR was issued by SEAC vide Memo No. 715-2N-103/2010(E) dated 10.12.2018. Now the PP had applied for extension of validity of ToR.

SEAC recommended validity extension of Terms of Reference up to 09.12.2022 as per the provision of Notification vide No. S.O. 751(E) dated 17.02.2020 issued by MoEF&CC.

PROJECT DETAILS

The project of M/s **WEST BENGAL INFRASTRUCTURE DEVELOPMENT FINANCE CORPORATION LIMITED** located in as follows :

State of the project			
S. No.	**State**	**District**	**Tehsil**
(1.)	West Bengal	North 24 Parganas	Rajarhat

The salient features of the project submitted by the project proponent is available at Report under online proposal no. **SIA/WB/MIS/278503/2022**

DELIBERATION IN SEIAA

SEIAA considered the recommendation of SEAC and accepted the same.

RECOMMENDATIONS OF SEIAA

Approved extension of validity of Terms of Reference.

Conclusion :

Recommended

MISCELLANEOUS

1. Discussion on draft DSRs of Darjeeling, Jalpaiguri and Kalimpong.

   The DSRs of Darjeeling, Jalpaiguri and Kalimpong are approved.

2. Complaint received from Ankur Sharma about flouting of environmental norms at "Mayfair Tea Resort" at New Chumta Tea Garden, Siliguri, PIN : 734001, West Bengal by M/s. Lotus Projects Private Limited on about 26 acres of vested property.

   A complaint regarding construction activities in the name of "Mayfair Tea Resort" within the New Chumta Tea Garden, Siliguri, PIN : 734001 by M/s. Lotus Projects Private Limited without obtaining Environment Clearance nor the requisite permissions from the WBPCB. It is observed that the area also falls within the Designated Eco Sensitive Zone of Mahananda Wild Life Sanctuary.

   The following actions are suggested :-

   a) **An inquiry into the project activities by WBPCB and submission of a report thereof.**
   b) **A letter may be sent to the PCCF(Wild Life) and Chief Wild Life Warden, West Bengal to obtain his comments on the project.**

3. Reply received from M/s. Larica Estates Limited to show cause notice vide no. 1250/EN/T-/II-1/077/2012(Pt.-1) dated 30.06.2022 in respect of Premises no. 295/A, Ward No. 5, Mouza – Baluria, JL No. 37, Baluria Road, PS – Barasat, Dist. - North 24 Parganas, PIN: 700126, West Bengal.

   In the reply received from M/s. Larica Estates Limited, it is observed that they have refuted the inquiry conducted by WBPCB regarding the total built up area of the Larica Township Project. It is therefore decided that an assessment of the total built up area of the project be made by a Registered Surveyor to ascertain the fact. The Surveyor is also required to check from the land records of the project area for presence of any designated water body and the present status of the same. Member Secretary may arrange for engaging a Registered Surveyor for the purpose.

4. Reply received from M/s. Manya Dealtrade Pvt. Ltd. & Ors. to show cause notice vide no. 1669/EN/T-II-1/063/2018 dated 29.07.2022 in respect of "Srijan Botanica" at Holding No. 336, Dr. B. C. Roy Road, Ward No. 25, P.S. – Sonarpur, Rajpur-Sonarpur Municipality, Dist. – South 24 Parganas, PIN : 700152, West Bengal.

   On the basis of a complain received regarding filling up of water body in the project "Srijan Botanica" a show cause notice was sent to M/s. Srijan Realty Pvt. Ltd. However, the reply has been received from M/s. Manya Dealtrade Pvt. Ltd. & Ors. on the subject claiming that M/s. Srijan Realty Pvt. Ltd. is not the land owner of the project and M/s. Manya Dealtrade Pvt. Ltd. & Ors. are the land owners of the project. The project proponent claims to have received Consent to Establish from WBPCB and Sanctioned Building Plan from Rajpur-Sonarpur Municipality having a total built up area of 16,349.77 sq.m.

   In the light of above an inquiry into the project may please be conducted by WBPCB and submit a report.