

***THIRD US – INDIA WORKING GROUP MEETING ON COAL***

***ORGANISED BY***

***MINISTRY OF COAL***

***COLLABORATIVE PROPOSAL***

***FOR***

***INTEGRATED CBM STUDIES IN TALCHER***

***COALFIELD, INDIA***

***Submitted by***

***Coal Wing***

***Geological Survey of India***

## *GEOLOGICAL SURVEY OF INDIA -*

*the custodian of rich and robust database on geology and solid fossil fuel resource of the country - generated through more than 150 years of survey and exploration*

*THE ORGANISATION IS ENGAGED IN  
CBM STUDIES IN COURSE OF COAL  
EXPLORATION SINCE LATE NINETIES*

**14** BLOCKS AWARDED FOR CBM DEVELOPMENT

**10** BLOCKS UNDER BIDDING IN DIFFERENT COAL AND LIGNITE FIELDS

***GSI PROVIDED CUSTOMISED DATA PACKAGES / DATABASE FOR A CONSIDERABLE NUMBER OF BLOCKS IN PHASES (1997 – 2005)***

***COVERING GEOLOGY AND COAL RESOURCES ALONG WITH LIMITED INFORMATION ON IN-SITU GAS CONTENT***

***PROGNOSTICATION OF CBM POTENTIAL WAS ON EMPIRICAL BASIS***

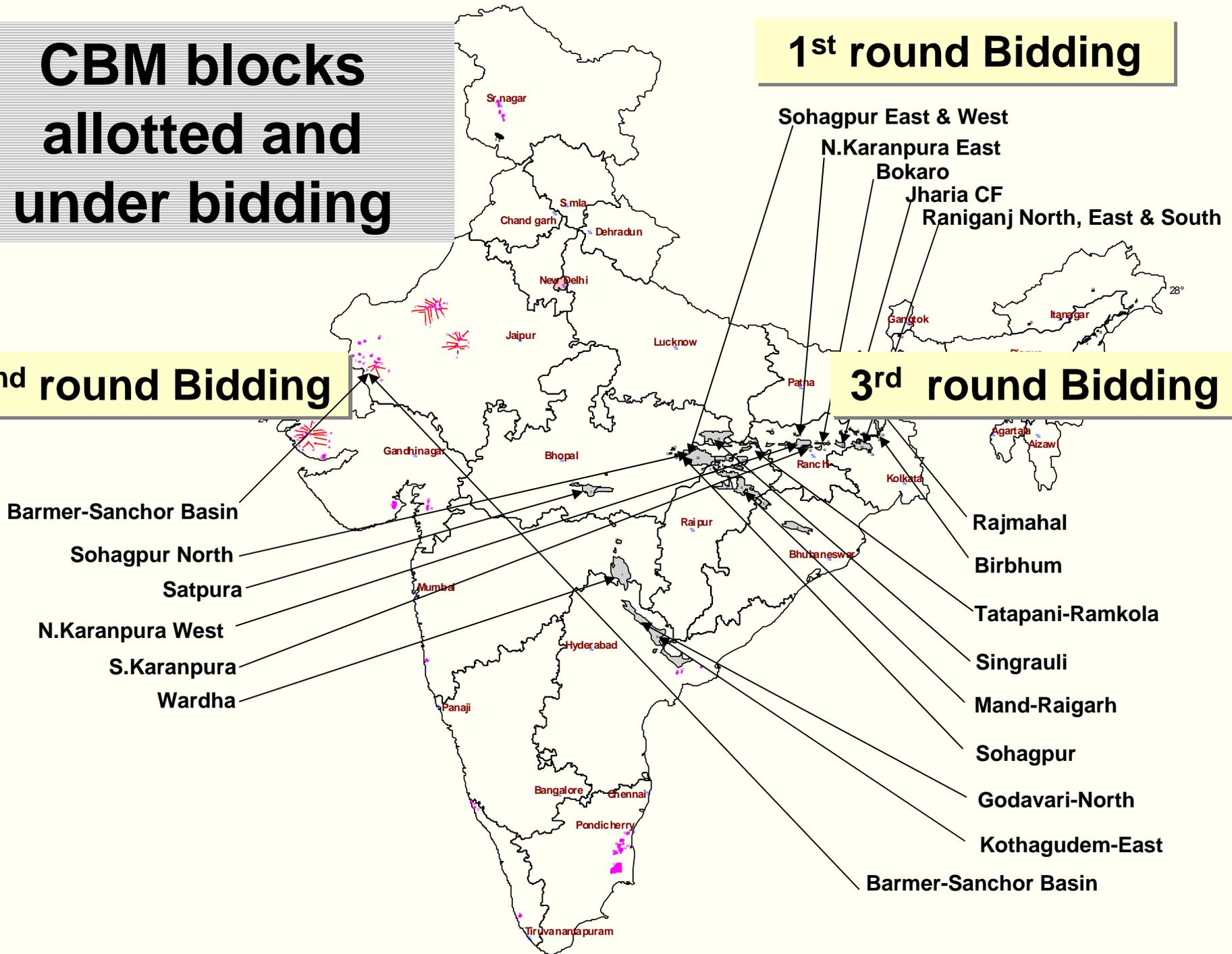
***RECENT SUCCESS IN CBM DEVELOPMENT IN SOHAGPUR, JHARIA AND RANIGANJ BEARS TESTIMONY TO GSI'S PROGNOSTICATION***

# CBM blocks allotted and under bidding

## 1<sup>st</sup> round Bidding

## 2<sup>nd</sup> round Bidding

## 3<sup>rd</sup> round Bidding



- **HIGH RANK COAL BEARING AREAS MOSTLY ALLOTTED**
- **GLOBAL EXPERIENCE PROMPTS CBM EVALUATION FOR DEEP SEATED THICK COAL SEAMS OF GONDWANA BASINS EVEN WITH LOW RANK BUT WITH FAVOURABLE PERMEABILITY**
- **RECENT FIND OF GAS CONTENT TO THE TUNE OF 5 - 8 CU.M/TON IN BIRBHUM COALFIELD WITHIN A FEW 6-8M SECTIONS OF A 100M THICK INTERBANDED COAL HORIZON IS SIGNIFICANT IN THE ABOVE CONTEXT**

# **FUTURE CHALLENGES FOR CBM DEVELOPMENT IN REMAINING INDIAN COALFIELDS**

## **COAL BASIN WISE INTEGRATION OF -**

- **FUNDAMENTAL BASELINE INFORMATION ON GAS CONTENT AND THEIR GEOLOGICAL CONTROL**
- **CHEMICAL AND PHYSICAL PROPERTIES OF COAL**
- **PERMEABILITY**
- **GEOTECHNICAL PROPERTIES**

**TO MAKE A POWERFUL GEOECONOMIC TOOL**

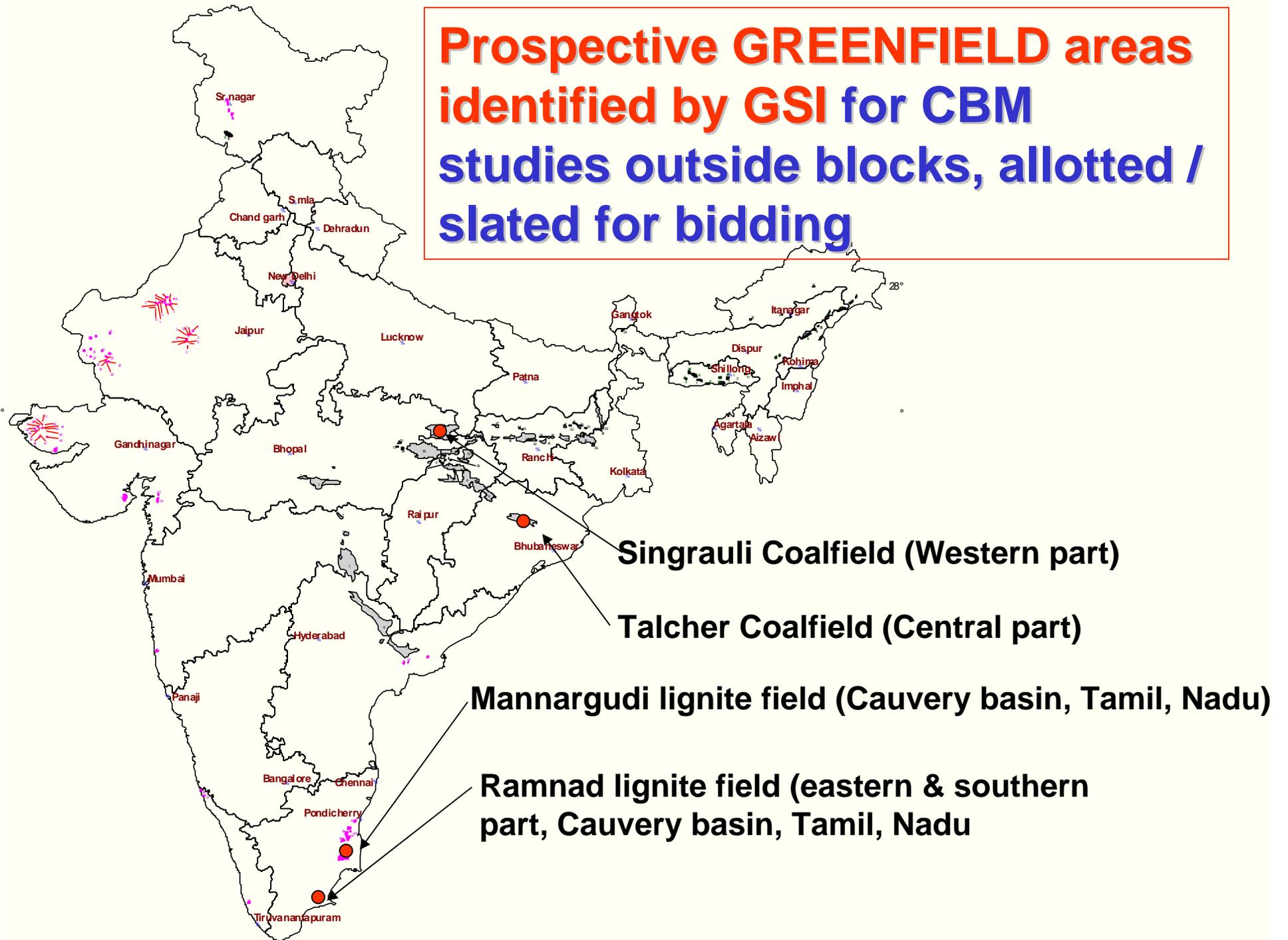
# ONGOING ACTIVITY OF GSI

IN COURSE OF EXPLORATION FOR COAL AND LIGNITE  
FUNDAMENTAL BASELINE INFORMATION GENERATED

*ON*

- **COAL SEAM BEHAVIOURAL PATTERN**
- **GAS CONTENT**
  - in collaboration with DGH, CMRI
  - Indigenously through in-house infrastructure
- **CHEMICAL AND PHYSICAL PROPERTIES OF COAL**
- **DETAILED PETROGRAPHIC AND MICRO-CLEAT STUDIES**

**Prospective GREENFIELD areas  
identified by GSI for CBM  
studies outside blocks, allotted /  
slated for bidding**



# PROPOSAL DRAWN UP FOR INTEGRATED CBM STUDIES

*Under Ind0-US collaborative programme*

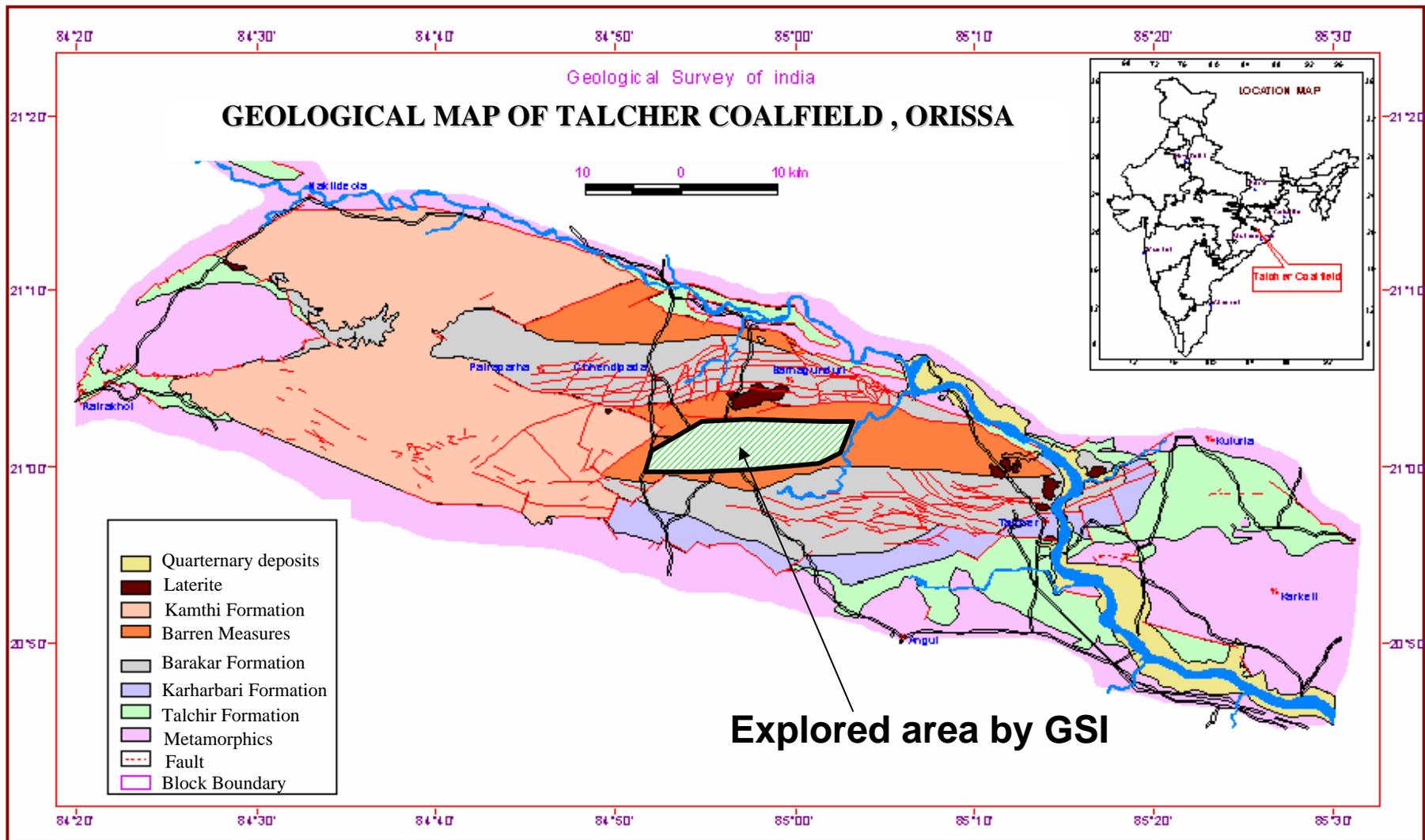
**Target area: West central part of Talcher Coalfield**

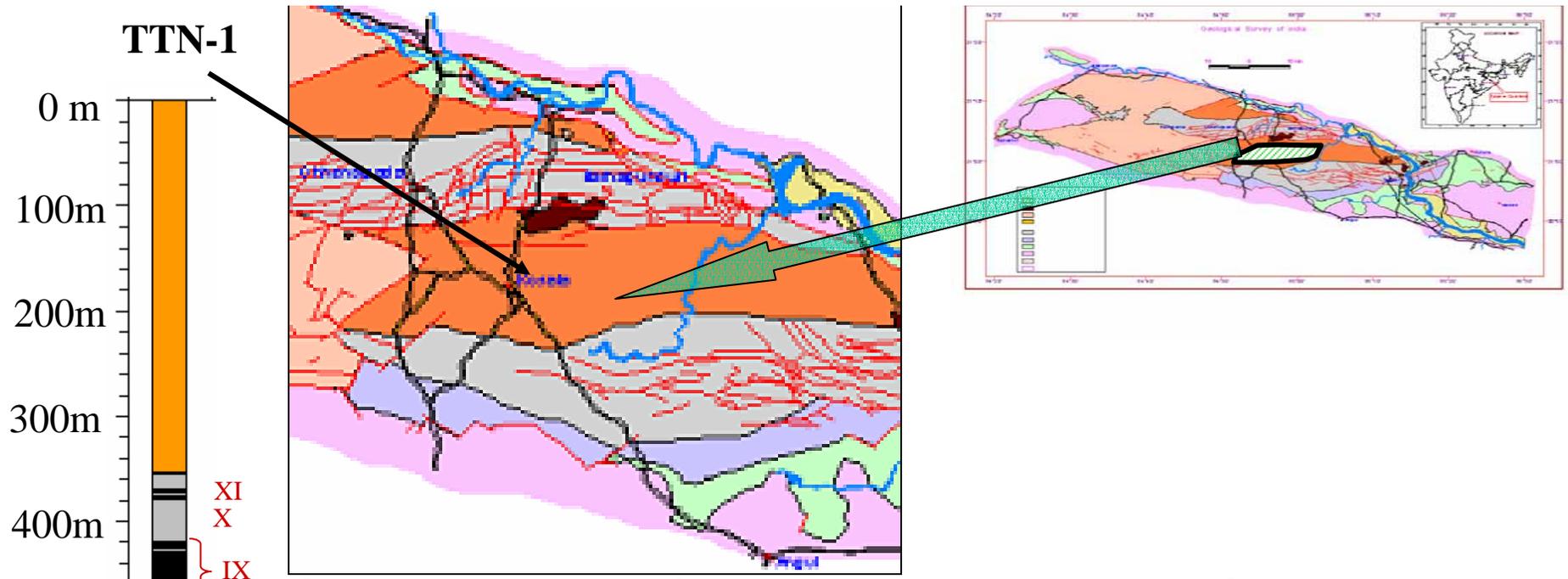
**Size of block: 150 sqkm**

**Pilot boreholes: 5-6**

**Envisaged depth: 700-800m**

**Envisaged total meterage: 4000m – 5000m**





**Coal seams: 9 (regionally persistent )**

**Control points: > 40 (spacing <1km – 1km apart)**

**Depth of overburden: Max. 350m**

**Ind. Seam thickness: 1m - >80m**

**Cum. Coal thickness: 80m – 160m**

**Quality: M% - 4% to 7%, A% - 20% - 40%**

**Maceral**

**Vitrinite (60%) Inertinite (30%) Exinite (10%)**

**Ro.(max): 0.45% to 0.61%**

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## Work Schedule:

*GSI*

Subsurface probing - Coal geology

Structure and Tectonics

Determination of Desorbed gas content

Coal petrography

*CMRI*

Geotechnical studies

In-situ permeability and porosity

*Foreign  
Agency*

Adsorption Isotherm

Hydrogeology & Reservoir permeability  
applicable to CBM development

Basinal history ; Geological control of '**SWEET SPOTS**'  
for predictive models

Reservoir simulation and Modelling