



OPEN SERIES
MAP

No. F45C1

Scale 1:50,000

G45T16 (72H16)	G45U4 (72L4)	G45U8 (72R8)
Hazaribag JHARKHAND	Girdih JHARKHAND	
F45B13 (73E13)	F45C1 (73U1)	F45C5 (73I5)
Bokaro JHARKHAND	Dhanbad JHARKHAND	
F45B14 (73E14)	F45C2 (73U2)	F45C6 (73I6)
Kodarma, JHARKHAND. Jamtara, JHARKHAND.	Deoghar, JHARKHAND. Purulia, WEST BENGAL.	

भारतीय सर्वेक्षण विभाग SURVEY OF INDIA

1st Edition 2009.

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CONVENTIONAL SYMBOLS

Express highway with toll, with bridge with distance stone	
Roads, metalled, according to importance	
Roads, disused, according to importance	
Unmetalled road, Cart track, High-way with pass, Foot-path	
Streams, with bank in bed, unmetalled, Canal	
Dam, reservoir or rock-filled, waterway, Weir	
River dry with water channel, with island & rocks, Tidal River	
Submerged rocks, Shoal, Swamp, Flood	
Well, lined, unlined, Tube-well, Spring, Tank, perennial, dry	
Embankment, road or rail, bank, Broken ground	
Railways, broad gauge, double, single with station, under constn.	
Railways, other gauges, double, single with distance stone, do.	
Mineral line or tramway, K.M. Cutting with tunnel	
Contours with spot heights, Rocky slopes, Cliffs	
Sand features (1) dune, (2) dune-like, (3) dune-like, (4) dune-like	
Towns or Villages, inhabited, deserted, Fort	
Ruler permanent, temporary, Tower, Antiquities	
Temples, Churches, Mosques, Igars, Tubs, Graves	
Lighthouse, Lighted, Buoy, lighted, unlighted, Anchorage	
Mine, mine on hill, Glass, Solid	
Palm, palm, other, Palm, Cactus, Bamboo, Other trees	
Area, cultivated, wooded, Surveyed tree	
Boundary, international	
State boundary, undemarcated	
Boundary, international, solid or black, forest	
Boundary, international, unmetalled	
Height, trigonometric station, spot, approximate	
Spot height, trigonometric station, spot, approximate	
Post office, Telegraph office, Overhead tank	
Rail station, telegraph station, Police station	
Camping ground, Forest, reserved, unreserved	
Special reserve, administrative, locality, or tribal	
Hospital, Dispensary, Veterinary Hospital / Dispensary	
Annexment, Helipad, Tourist site	
Power line, with poles surveyed, with poles unsurveyed	

REFERENCES
NSI/2 National Highway No. 2. NSI/3 Public Works Department.
S.E.N. South Eastern Railway. S.E.N. Block Development Office.
NSI/6 Hindustan Steel Limited Colony.

NOTES

Heights are in metres and above Indian mean sea level.
Contours are approximate.
A spot height, in parentheses, represents the approximate height, in metres, between the top and bottom of a steep slope.
Submarine and intertidal depths are shown only in the important ones have been shown.
Unmetalled roads and cart tracks in this sheet are generally metalled in the season.
The unmetalled roads and cart tracks in this sheet are generally metalled in the season.
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COMPILED INDEX
A. Surveys during 1973-74. Updated for major details during 2004-05.

Projection - UTM Datum - WGS 84

Magnetic Variation from True North about 1° West in 2005.
(Increasing by about 1° annually)

1:50,000

500 m to 1 cm
Metres 1000 500 0 1 2 3 Kilometres
CONTOUR INTERVAL 20 METRES

For further details about this map, please contact

Director

Jharkhand Geo-Spatial Data Centre

Survey of India, Dhanbad

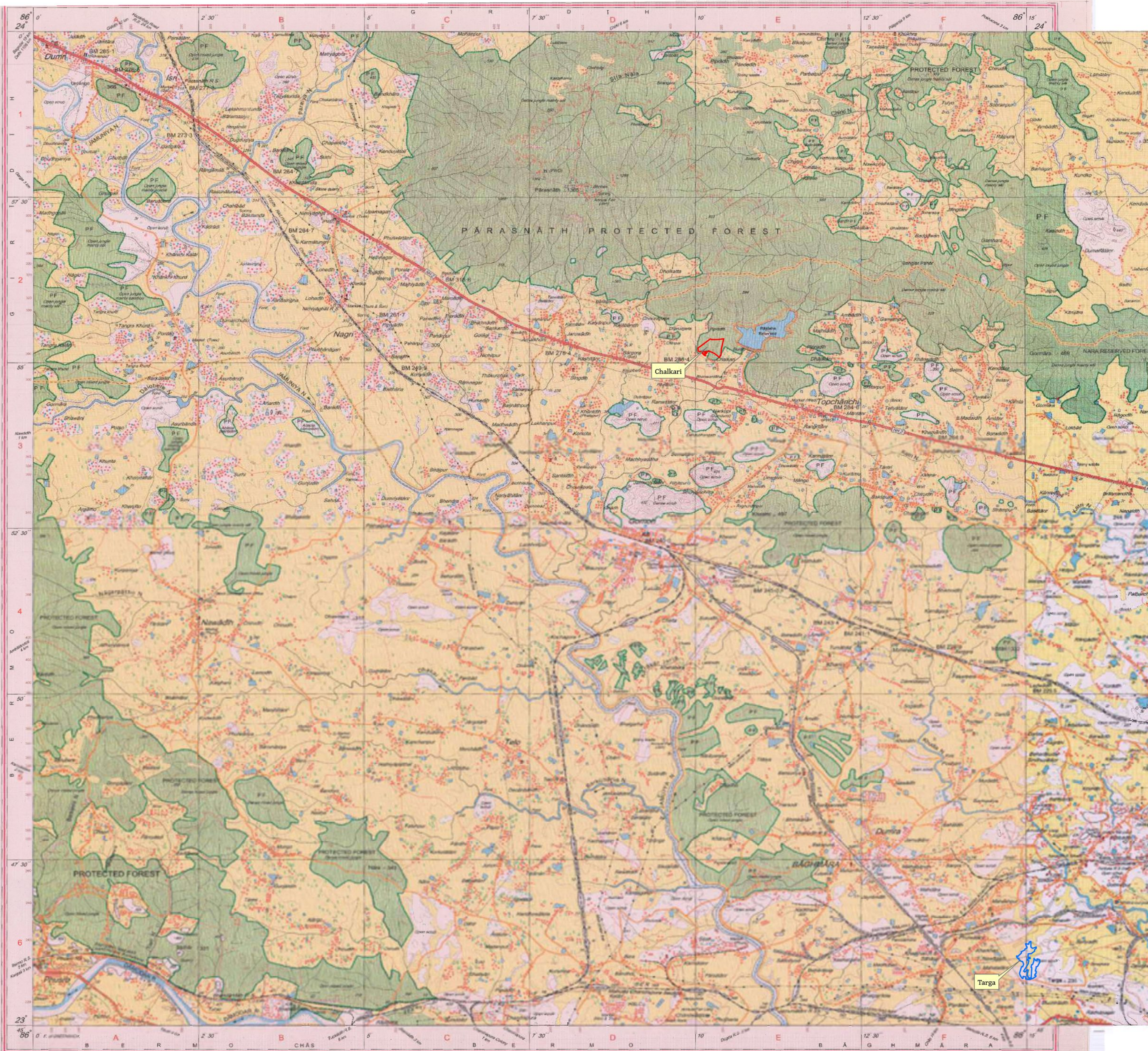
Phone : 0651-2482789

Fax : 0651-2482789

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No. F45C5
Scale 1:50,000



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CONVENTIONAL SYMBOLS

[illegible]

REFERENCES

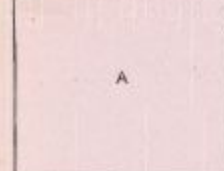
REF 2 National highway No. 2. City Chennai.
S.E.R. South Eastern Railway. PWD Public Works Department.
BCCB Bharat Cooking Coal Limited.

NOTES :-

[illegible]

COMPILED BY J. H. HARRIS, JR.

A. Surveyed during 1973-74. Updated for major details during 2001-06



Projection - UTM Datum - WGS 84

Magnetic Variation from True North about $\frac{1}{4}^{\circ}$ West in 2005.

1:50,000

CONTOUR INTERVAL 20 METRES

For further details about this map, please contact:

Director
Harkhand Geo-Spatial Data Ce

Survey of India, Canada
 Ottawa - K1H 8S9

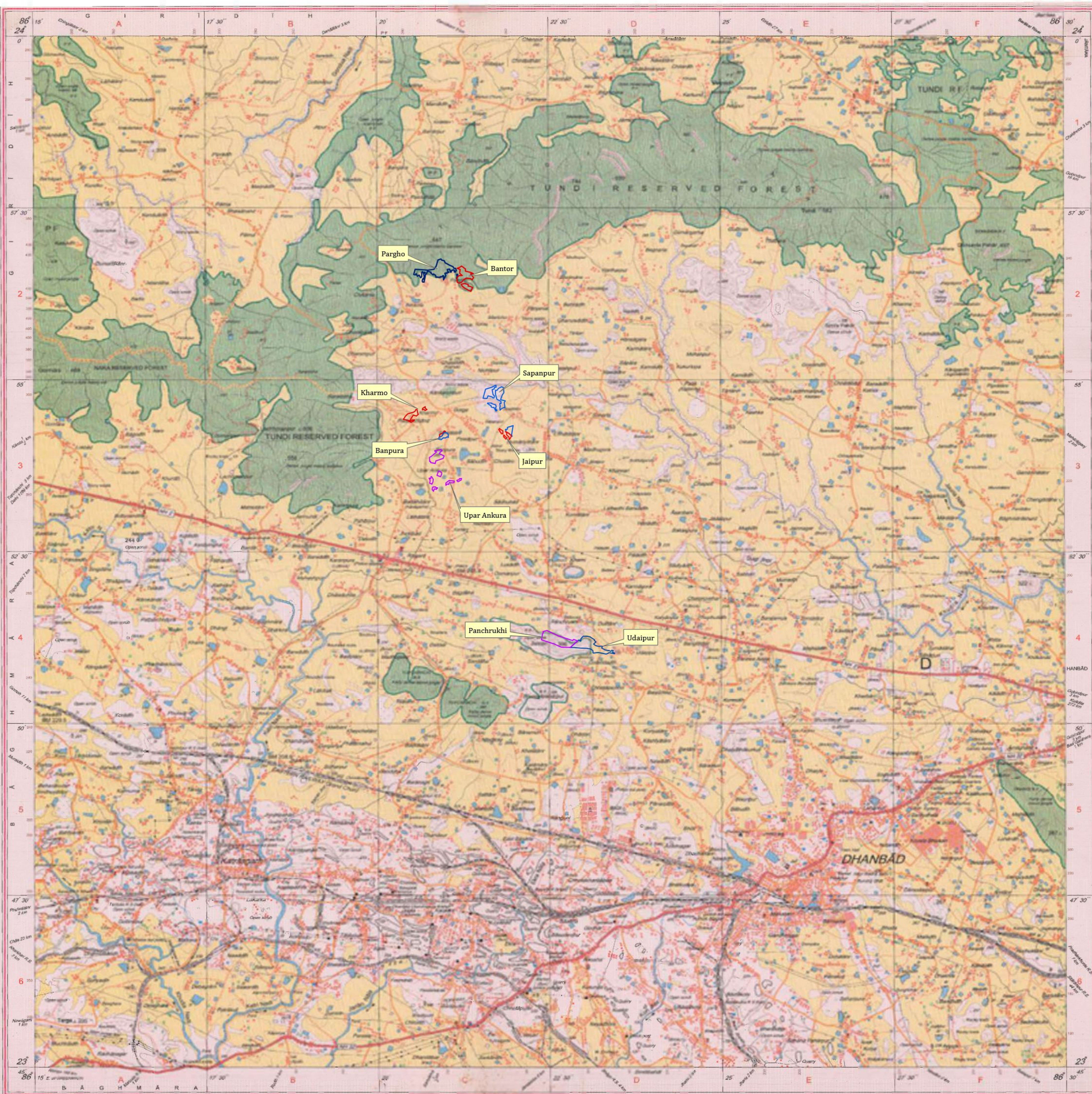
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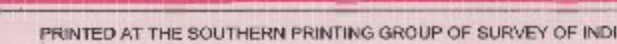


REG. No: 8510-SPG D'09 (Barkhad GDC- :50,000)-101

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Department of Science & Technology, Government of India

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OPEN SERIES
MAP

No. G45U8

Scale 1:50,000

G45U3 (72.4)	G45U7 (72.6)	G45U11 (72.8)
G45U4 (72.4)	G45U8 (72.6)	G45U12 (72.8)
F45C1 (72.4)	F45C5 (72.6)	F45C9 (72.8)

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SURVEY OF INDIA

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CONVENTIONAL SYMBOLS

Express highway with toll, with bridge, with distance stone		
Roads, metalled, according to importance		
Roads, double carriageway, according to importance		
Unmetalled roads, metalled with pass, footpath		
Streams, with rock in bed, underpass, culvert		
Open reservoir or lake, dam, waterfalls, weir		
River, dry with water channel, with island & rocks, tidal river		
Submerged water, Strait, Swamp, Reeds		
Wells, hand-dug, tube-well, spring, tank, perennial dry		
Entertainment, road or rail, tank, broken ground		
Railways, broad gauge, double single with station, under construction		
Railways, other gauges, double, single with distance stone, do.		
Electric line or tramway, cable, cutting with tunnel		
Contours with sub-features, rocky slopes, cliffs		
Spot features: (1) Hill (2) Island (3) Permanent (4) Shifting		
Towers or masts, inhabited, deserted, fort		
Hill permanent, temporary, tower, antiquities		
Temple, shrine, church, mosque, pagoda, tomb, graves		
Lighthouse, lightship, buoy, lighted, unlighted, anchorage		
Mine, vine on trellis, grass, scrub		
Palms, palms, other, plantation, conifer, bamboo, other trees		
Areas: cultivated, wooded, surveyed tree		
Boundary, international		
State, demarcated, undemarcated		
district, subdivision, land or sea, forest		
Boundary pillars, surveyed, uncoloured		
Height, triangulation station, point, approximate		
Barometrical, geodetic, tertiary, normal		
Post office, telegraph office, overhead tank		
Rail house or inspection langar, cinema house, police station		
Campground, forest, reserved, protected		
Special reserve, administrative, locally, in forest		
Hospital, dispensary, veterinary, hospital, dispensary		
Airport, helipad, tourist site		
Power line, with pylons surveyed, with poles unsurveyed		

PDW Public Works Department City, Chennai

NOTES :-

Contours are approximate.
Heights are in metres and above Indian mean sea level.
A section height, as indicated, the approximate height, in metres, between the top and bottom of a water stream.
The approximate approximate along main and railways are shown in short type e.g., '5' whereas individual numbers are shown in upright type e.g., '5'.

COMPILATION INDEX

A. Surveyed during 1976-77. Updated for major details from Satellite imagery of 2007 during 2008-09.

Projection - UTM Datum - WGS 84
Magnetic Variation from True North about 1° West in 2005.
(Decreasing by about 1° annually).

500 m to 1 km
1:50,000
2 km to 1 km
Metres 1000 500 0 1 2 3 Kilometres

CONTOUR INTERVAL 10 METRES

For further details about this map, please contact
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