

MAHARASHTRA STATE POWER GENERATION COMPANY LIMITED

2nd Floor Prakashgadh Building, G-9

Prof. Anantkanekar Marg Bandra (E) Mumbai-400051

DGPS REPORT
ON
COMPENSATORY AFFORESTATION AREA
IDENTIFIED FOR FOREST CLEARANCE
GARE PALMA SECTOR-II, COAL MINE , TAMNAR,
RAIGARH C.G.



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1.0 INTRODUCTION:

Background :

Maharashtra State Power Generation Company Limited (hereinafter referred to as MAHAGENCO) is a State owned Public Sector Unit of Government of Maharashtra engaged in power generation having its registered office situated Plot No. G-9, Prof Anant Kanekar Marg, Bandra (East), Mumbai. Maharashtra State Power Generation Co Ltd. has been incorporated under Indian Companies Act 1956 pursuant to decision of Govt. of Maharashtra to reorganize erstwhile Maharashtra State Electricity Board (herein after referred to as "MSEB"). The said reorganization of the MSEB has been done by Govt. of Maharashtra pursuant to Part XIII read with section 131 of The Electricity Act 2003. MAHAGENCO has been incorporated on 31.5.2005 with The Registrar of Companies, Maharashtra, Mumbai and has obtained Certificate of Commencement of Business on 15.09.2005. MAHAGENCO is engaged in the business of generation and supply of electricity and has been vested with generation assets, interest in property, rights and liabilities of MSEB.

MAHAGENCO has the highest overall generation capacity and the highest thermal installed capacity amongst all the state power generation utilities in India. In terms of installed capacity, it is the second highest generation company after NTPC. The company has a generation capacity of 13186 MW comprising of 9750 MW Thermal Power Plants, 2580 MW Hydel Power Plant, 672 MW Gas Turbine and 184 MWp Solar. The details of the power plants are given below.

Table 1.0 : Installed Capacity of MAHAGENCO Plants

Sr. No.	Power Station	Units & Size (MW)	Installed Capacity (MW)
A : Thermal Power Stations			
1	Koradi Units 6 To 10	2 x 210 + 3 x 660	2400
2	Nashik Units 3 To 5	3x210	630
3	Bhusawal Units 3 To 5	1x210 + 2x500	1210
4	Paras Units 3 & 4	2x250	500
5	Parli Units 6 to 8	3x250	750
6	Khaparkheda Units 1 To 5	4x210 + 1x500	1340

Sr. No.	Power Station	Units & Size (MW)	Installed Capacity (MW)
7	Chandrapur Units 3 To 9	2x210 + 5x500	2920
Total Installed Capacity of TPPs			9750
B : Gas Turbine Power Station			
	Uran Gas Turbine.	4x108	432
	W.H.R. Units 1&2	2x120	240
Total Installed Capacity of Gas-based Plants			672
C Hydro Power Stations			
	Koyna Hydro	St I&II- 4x70 + 4x80, St III- 4x80, St. IV- 4x250 & Koyna Dam Foot- 2x18	1956
	Small Hydropower projects		374
	Ghatghar Pump Storage	2x125	250
Total Installed Capacity of Hydel Plants			2580
D : Solar			184
Total Installed Capacity (A+B+C+D)			13186

The Project : The Gare Palma Sector II coal Mines has been allocated to Maharashtra State Power Generation Company Limited (MAHAGENCO) by Ministry of Coal, Govt. of India for end-use at its own plants in Maharashtra. The Gare Palma Sector II Coal Mines spread over an area of 25.83 sq.km (2583.486 ha) is part of the Mand Raigarh Coalfield in Tamnar Tehsil of Raigarh District, Chhattisgarh. The mine lease area is located in the 14 villages of Bhalumura, Chitwahi, Dholnara, Dholesara, Gare, Jhinkabahal, Kunjemura, Libra, Murogaon, Pata, Radopali, Saraitola, Sarasmal, and Tihlirampur. The peak capacity of the mines will be 23.6 MTPA with both Opencast (22.0 MTPA) and Underground (1.6 MTPA) operations with a mine life of 69 years.

The area is covered in the Survey of India Toposheet No. 64 N/8 & 12 (R.F. 1:50,000) and is bounded by the coordinates shown in table below.

Site Coordinates

Point	Latitude	Longitude
A	22° 08' 51.495" N	83° 26' 15.580" E
B	22° 10' 05.178" N	83° 26' 15.433" E
C	22° 10' 49.891" N	83° 27' 26.624" E
D	22° 09' 09.892" N	83° 28' 57.871" E
E	22° 08' 03.774" N	83° 29' 49.271" E
F	22° 06' 24.215" N	83° 31' 12.632" E
G	22° 07' 18.066" N	83° 29' 13.857" E
H	22° 06' 50.059" N	83° 29' 15.318" E

The Raigarh - Sundargarh road is 9 km away in south east direction and Ambikapur Highway (SH-1) is 6 km in west direction from Phase-II site. The District headquarter is Raigarh which is aerially about 35km from the site and the nearest town is Tamnar at a distance of about 10 km to the south. The nearest railway station is also at Raigarh while the nearest airport is Raipur at a distance of 290 km in the south west direction. The inter-state boundary with Odisha is almost adjacent to the block on the eastern side, 10 km to the east. The details of the project site are given in Table below

S.No.	Aspect	Description
1.	Project	Gare Palma Sector-II Coal Mine
2.	Location	
(i)	State	Chhattisgarh
(ii)	District	Raigarh
(iii)	Taluka	Tamnar
(iv)	Villages	Bhalumura, Chitwahi, Dholnara, Dholesara, Gare, Jhinkabahal, Kunjemura, Libra, Murogaon, Pata, Radopali, Saraitola, Sarasmal, Tihlirampur
(vi)	Latitude	22° 6' 24.215" N to 22° 10' 49.891" N
(vii)	Longitude	83° 26' 15.433" E to 83° 31' 12.632" E
3.	Distance	
(i)	Nearest Town	Tamnar, 10 km, S
(ii)	District Headquarters	Raigarh, 35 km, S
(iii)	Major Roads	Raigarh-Ambikapur Highway (SH-1), 6 km, W Raigarh-Gharghoda Road via Tamnar
(iv)	Railway Station	Raigarh, 35 km, S
(v)	Airport	Raipur, 290 km, SW

1.1 General

The Gare Palma-II Coal Mine comprising total lease area of 25.83 km² has been allotted to Maharashtra State Power Generation Company Limited (MAHAGENCO) in the district of Raigarh of Chhattisgarh state. The location map is given in Figure 1.1. M/s Maharashtra State Power Generation Company Limited (MAHAGENCO) is in process of obtaining Forest Clearance for Gare Palma-II Coal Mine which requires Compensatory Afforestation (CA). In context of above, the need for identifying the Land suitable for CA has been envisaged.

Accordingly, M/s Learn Nature Consultants, Raipur who is already working on the process of obtaining Forest Clearance for Gare Palma-II Coal Mine have been entrusted the Job vide Order Dated 11.11.2020 to carry out the work for Search of land for proposed Forest Land firstly search for 429.74 Ha of Govt land and if Govt land is not available then search for 214.869 Ha of Private Land for CA purpose for getting forest clearance of Gare Palma-II Coal Mine.



LNC has visited to various places for search of Govt. land 430 Ha and private land of 214.869 Ha. in the Chhattisgarh state for Compensatory afforestation purpose. After through due diligence the encumbrance free Govt land was not available due to which consultant has identified private land of 214.869 Ha. for CA purpose.

After getting the data from the land owners LNC had submitted three proposals of private land of 214.869 Ha for CA purpose. And as per the instruction from the officials of the MSPGCL, we have done DGPS survey of the most suitable land as per the proposal Number 2 mention in the report for Search of Land Submitted earlier.

2. INTRODUCTION TO DGPS

- Differential Global Positioning System (DGPS) is an enhancement to Global Positioning System that provides improved location accuracy, from the 15-meter nominal GPS accuracy to about 10 cm in case of the best implementations.
- DGPS refers to using a combination of receivers and satellites to reduce/eliminate common receiver based and satellite based errors reduce orbit errors reduce ionospheric and tropospheric errors reduce effects of SA eliminate satellite and receiver clock errors.
- Improve accuracy significantly 100's of meters to meters to centimeters to millimeters
 1. DGPS uses one or several (network) fixed ground based reference stations (in known locations).
 2. The base station compares its own known location, to that computed from a GPS receiver.
 3. Any difference is then broadcast as a correction to the user.

Correction signals can be broadcast either from ground stations, or via additional satellites. These services are privately owned and usually require a user subscription.

By using DGPS we can improve our positional accuracy from around 1.5m with standard GPS to around 40cm with DGPS, without the need for post processing. In the case of the road survey van (top right), users can measure the amount of road wear and judge whether the road should be resurfaced just by driving over it. Just one day's driving can replace a month's manual work using traditional methods. There are many other applications like this. The labour saving is immense but at the same time, previously impossible tasks are made possible such as the prediction of earthquakes before they occur.

DGPS Summary

- Term refers to simple C/A code differential
- Available on GPS receivers from low cost to high cost
- Produces accuracies from sub-meter to meters
- Many real-time DGPS correction providers - Coast guard, EGNOS, OmniSTAR
- Used for many different applications including marine navigation, precision farming and vehicle testing applications.

2.1 Real Time Kinematic:

Real Time Kinematic is an advanced form of DGPS which uses the satellites carrier wave to compare 2 observations from different receivers within the system, to fine tune the satellite and receiver clock errors, thus improving positional accuracy.

The GPS signal is made up of 3 distinct components:

- Carrier wave
- GPS Code
- Navigation message

Typical GPS receivers will use the GPS navigation message to calculate its position. RTK uses the carrier wave of the GPS signal, which is 19.02cm long. By counting the number of cycles (and phase of the carrier), the travel time and distance can be measured more accurately.

2.2 RTK Summary

- Similar technique as DGPS that uses the carrier phase to provide more accurate positioning
- Cost is higher compared to DGPS receivers
- Produces accuracies from 20 cm to sub-centimeters
- RTK corrections provided via a local base station or by a private correction provider - OmniSTAR, Leica, Trimble
- Used for many different applications including machine control (construction, container ports, farming), vehicle testing applications, surveying (land, marine, hydrographic, aerial)


3. Survey Site:


The Private land of 214.938 Ha. Comes under four villages Natwarpur, Chakradharpur, and Bangursaria in Raigarh District. The area is situated around 15 km towards north-east from Raigarh Township, which is also the nearest railway station on Mumbai-Howrah main line of SE Railway and 37 KM from the Coal Block Area. The area is also surrounded by forest area which makes the land more suitable for the compensatory Afforestation.

TOTAL AREA

S.N.	Village	Area
1	Chakradharpur	115.207 Ha
2	Natwarpur	95.483 Ha
3	Bangursiya	4.248 Ha
TOTAL AREA		214.938


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रायगढ़ परिक्षेत्र


उप वन मण्डलाधिकारी
रायगढ़ (छ.ग.)


वन मण्डलाधिकारी
रायगढ़, कल्याण

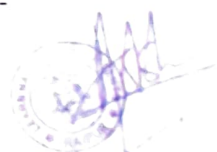
4. PILLAR COORDINATES

Chakradharpur Area

Point Name	Point No.	Latitude	Longitude
CP-B	1	21° 58' 42.437"	83° 29' 24.078"
CP-B	2	21° 58' 44.194"	83° 29' 22.939"
CP-B	3	21° 58' 44.959"	83° 29' 21.975"
CP-B	4	21° 58' 45.991"	83° 29' 19.582"
CP-B	5	21° 58' 47.189"	83° 29' 16.52"
CP-B	6	21° 58' 49.237"	83° 29' 13.574"
CP-B	7	21° 58' 50.527"	83° 29' 11.135"
CP-B	8	21° 58' 50.641"	83° 29' 10.436"
CP-B	9	21° 58' 52.788"	83° 29' 6.974"
CP-B	10	21° 58' 54.441"	83° 29' 4.65"
CP-B	11	21° 58' 55.915"	83° 29' 3.335"
CP-B	12	21° 58' 57.68"	83° 29' 0.492"
CP-B	13	21° 58' 58.936"	83° 29' 0.258"
CP-B	14	21° 59' 1.278"	83° 28' 59.579"
CP-B	15	21° 59' 4.309"	83° 28' 59.435"
CP-B	16	21° 59' 6.072"	83° 28' 58.992"
CP-B	17	21° 59' 9.403"	83° 28' 58.524"
CP-B	18	21° 59' 10.949"	83° 28' 55.439"
CP-B	19	21° 59' 11.969"	83° 28' 53.565"
CP-B	20	21° 59' 12.98"	83° 28' 52.002"
CP-B	21	21° 59' 10.885"	83° 28' 51.085"
CP-B	22	21° 59' 9.694"	83° 28' 53.389"
CP-B	23	21° 59' 8.821"	83° 28' 54.923"
CP-B	24	21° 59' 7.904"	83° 28' 54.995"
CP-B	25	21° 59' 7.347"	83° 28' 56.227"
CP-B	26	21° 59' 5.07"	83° 28' 56.274"
CP-B	27	21° 59' 2.817"	83° 28' 56.313"
CP-B	28	21° 59' 0.299"	83° 28' 56.249"
CP-B	29	21° 58' 59.968"	83° 28' 56.21"
CP-B	30	21° 58' 58.582"	83° 28' 56.037"
CP-B	31	21° 58' 52.985"	83° 28' 56.907"
CP-B	32	21° 58' 50.712"	83° 28' 57.052"
CP-B	33	21° 58' 49.236"	83° 28' 57.225"
CP-B	34	21° 58' 46.793"	83° 28' 57.53"
CP-B	35	21° 58' 44.614"	83° 28' 57.737"
CP-B	36	21° 58' 41.737"	83° 28' 57.819"
CP-B	37	21° 58' 37.524"	83° 28' 57.92"
CP-B	38	21° 58' 32.984"	83° 28' 58.541"
CP-B	39	21° 58' 29.174"	83° 28' 58.822"
CP-B	40	21° 58' 23.234"	83° 28' 59.222"



Point Name	Point No.	Latitude	Longitude
CP-B	41	21° 58' 18.192"	83° 28' 59.834"
CP-B	42	21° 58' 16.089"	83° 28' 59.899"
CP-B	43	21° 58' 14.683"	83° 29' 0.189"
CP-B	44	21° 58' 11.854"	83° 29' 0.632"
CP-B	45	21° 58' 7.767"	83° 29' 1.385"
CP-B	46	21° 58' 7.798"	83° 29' 4.825"
CP-B	47	21° 58' 7.707"	83° 29' 9.434"
CP-B	48	21° 58' 10.935"	83° 29' 10.045"
CP-B	49	21° 58' 13.339"	83° 29' 9.575"
CP-B	50	21° 58' 13.279"	83° 29' 7.855"
CP-B	51	21° 58' 13.482"	83° 29' 6.41"
CP-B	52	21° 58' 16.484"	83° 29' 6.199"
CP-B	53	21° 58' 19.598"	83° 29' 5.823"
CP-B	54	21° 58' 21.388"	83° 29' 5.885"
CP-B	55	21° 58' 21.835"	83° 29' 5.92"
CP-B	56	21° 58' 21.513"	83° 29' 10.445"
CP-B	57	21° 58' 20.555"	83° 29' 13.083"
CP-B	58	21° 58' 23.717"	83° 29' 14.025"
CP-B	59	21° 58' 27.99"	83° 29' 14.735"
CP-B	60	21° 58' 31.443"	83° 29' 15.932"
CP-B	61	21° 58' 34.32"	83° 29' 17.125"
CP-B	62	21° 58' 34.307"	83° 29' 17.163"
CP-B	63	21° 58' 34.834"	83° 29' 17.361"
CP-B	64	21° 58' 35.888"	83° 29' 18.225"
CP-B	65	21° 58' 36.429"	83° 29' 18.991"
CP-B	66	21° 58' 33.956"	83° 29' 20.333"
CP-B	67	21° 58' 32.548"	83° 29' 20.538"
CP-B	68	21° 58' 30.557"	83° 29' 20.093"
CP-B	69	21° 58' 28.093"	83° 29' 19.337"
CP-B	70	21° 58' 25.601"	83° 29' 18.78"
CP-B	71	21° 58' 23.558"	83° 29' 18.954"
CP-B	72	21° 58' 22.495"	83° 29' 18.753"
CP-B	73	21° 58' 20.269"	83° 29' 20.449"
CP-B	74	21° 58' 18.854"	83° 29' 21.434"
CP-B	75	21° 58' 17.01"	83° 29' 21.615"
CP-B	76	21° 58' 13.807"	83° 29' 20.606"
CP-B	77	21° 58' 12.64"	83° 29' 22.891"
CP-B	78	21° 58' 11.074"	83° 29' 25.469"
CP-B	79	21° 58' 9.123"	83° 29' 28.593"
CP-B	80	21° 58' 6.739"	83° 29' 32.781"
CP-B	81	21° 58' 7.258"	83° 29' 35.549"
CP-B	82	21° 58' 7.646"	83° 29' 36.209"
CP-B	83	21° 58' 7.883"	83° 29' 37.529"
CP-B	84	21° 58' 10.347"	83° 29' 39.176"




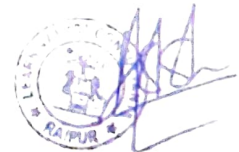
Point Name	Point No.	Latitude	Longitude
CP-B	85	21° 58' 15.972"	83° 29' 42.067"
CP-B	86	21° 58' 19.454"	83° 29' 43.781"
CP-B	87	21° 58' 22.363"	83° 29' 45.539"
CP-B	88	21° 58' 25.741"	83° 29' 46.896"
CP-B	89	21° 58' 27.127"	83° 29' 46.129"
CP-B	90	21° 58' 28.647"	83° 29' 44.663"
CP-B	91	21° 58' 29.861"	83° 29' 42.406"
CP-B	92	21° 58' 31.054"	83° 29' 39.854"
CP-B	93	21° 58' 31.001"	83° 29' 37.941"
CP-B	94	21° 58' 30.853"	83° 29' 35.243"
CP-B	95	21° 58' 30.515"	83° 29' 32.819"
CP-B	96	21° 58' 33.797"	83° 29' 29.758"
CP-B	97	21° 58' 36.18"	83° 29' 28.261"
CP-B	98	21° 58' 38.519"	83° 29' 26.87"
CP-B	99	21° 58' 39.935"	83° 29' 25.724"

Natwarpur Area

Point Name	Point No.	Latitude	Longitude
NP-B	100	21° 57' 53.723"	83° 29' 59.961"
NP-B	101	21° 57' 53.53"	83° 30' 2.89"
NP-B	102	21° 57' 53.086"	83° 30' 9.653"
NP-B	103	21° 57' 52.47"	83° 30' 19.022"
NP-B	104	21° 57' 51.538"	83° 30' 33.186"
NP-B	105	21° 57' 50.783"	83° 30' 41.961"
NP-B	106	21° 57' 55.056"	83° 30' 42.772"
NP-B	107	21° 58' 7.074"	83° 30' 45.163"
NP-B	108	21° 58' 12.503"	83° 30' 47.196"
NP-B	109	21° 58' 18.651"	83° 30' 28.985"
NP-B	110	21° 58' 25.686"	83° 30' 6.466"
NP-B	112	21° 58' 15.782"	83° 30' 9.415"
NP-B	113	21° 58' 7.998"	83° 30' 5.7"
NP-B	114	21° 58' 2.04"	83° 30' 2.637"
NP-B	115	21° 57' 57.229"	83° 30' 1.881"


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रायगढ़ परिक्षेत्र


वन मण्डलाधिकारी
रायगढ़, वनमण्डल



Garre palma Coal Block 2 Palgrave Chhatisgarh

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Chakradha

NATWARPUR AREA 95.483 HA

S G Farms

COORDINATES



वन परिक्षेत्राधिकारी
रायगड परिक्षेत्र

राधाबाई (ज. रा.)

सर्वप्रथम

ANNEXURES 1

MAP of Boundary of CA LAND SURVEYED

Map of the Boundary of CA LAND Surveyed Gare palma Coal Block 2 Raigarh Chhattisgarh

COORDINATES

Sl. No.	Point No.	X (Easting)	Y (Northing)
1	1	492500.00	187500.00
2	2	492500.00	187500.00
3	3	492500.00	187500.00
4	4	492500.00	187500.00
5	5	492500.00	187500.00
6	6	492500.00	187500.00
7	7	492500.00	187500.00
8	8	492500.00	187500.00
9	9	492500.00	187500.00
10	10	492500.00	187500.00
11	11	492500.00	187500.00
12	12	492500.00	187500.00
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87	87	492500.00	187500.00
88	88	492500.00	187500.00
89	89	492500.00	187500.00
90	90	492500.00	187500.00
91	91	492500.00	187500.00
92	92	492500.00	187500.00
93	93	492500.00	187500.00
94	94	492500.00	187500.00
95	95	492500.00	187500.00
96	96	492500.00	187500.00
97	97	492500.00	187500.00
98	98	492500.00	187500.00
99	99	492500.00	187500.00
100	100	492500.00	187500.00



LEGEND

IDENTIFIED CA LAND BOUNDARY : XXXXXXXXXX
 CP-B : CHANDRAPUR AREA BOUNDARY
 NP-B : NATWARPUR AREA BOUNDARY
 AREA : 214.938 Hectare



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 रायगढ़ परिक्षेत्र

[Signature]
 वन प्रणाल्याधिकारी
 रायगढ़, बल्लभपुर

ANNEXURES 2

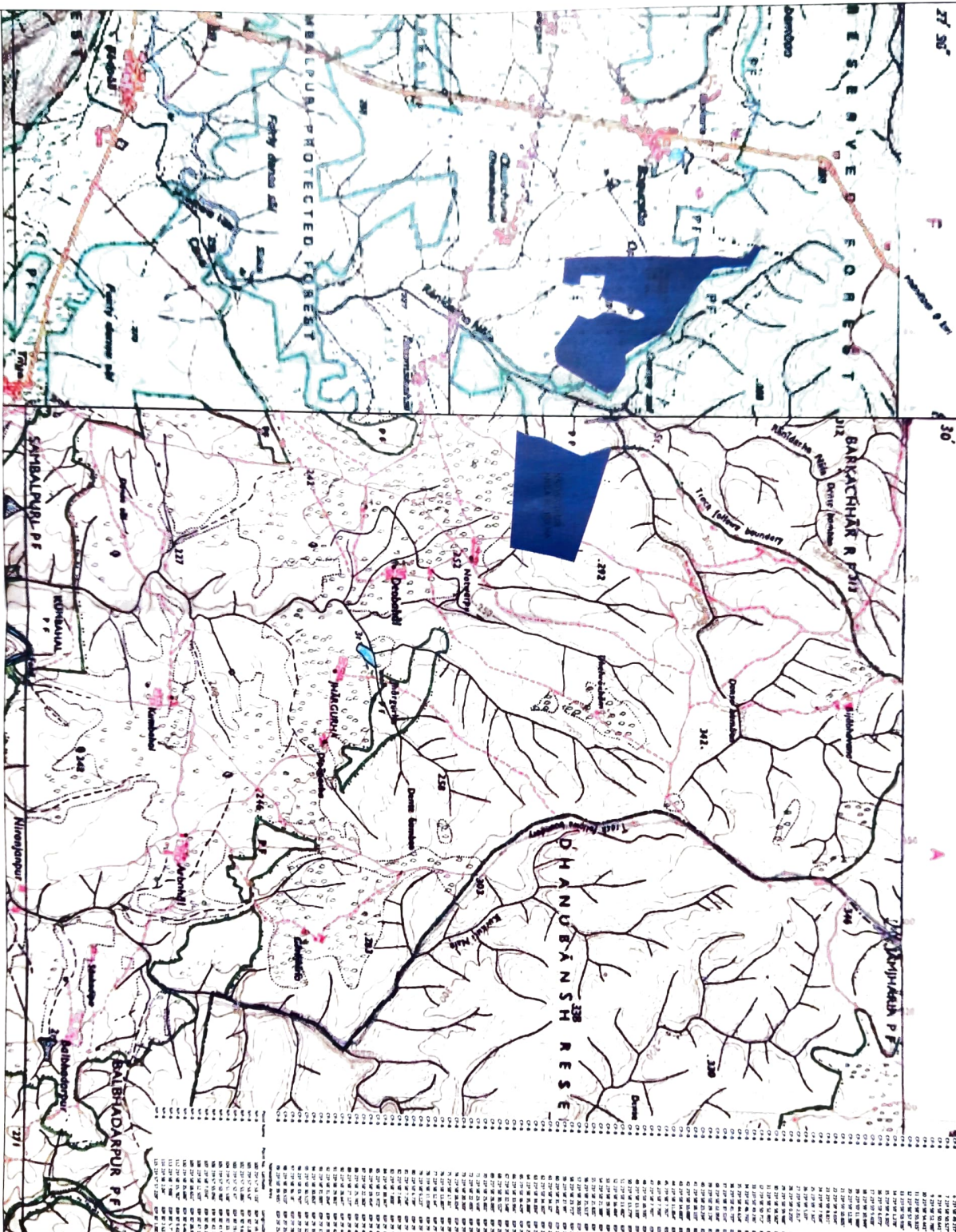
GEOREFERENCED MAP

Geo-Referenced Map of the Boundary of CA LAND Identified Superimposed on Toposheet (Scale 1:50000) Gare palma Coal Block 2 Raigarh Chhattisgarh

SAMBALPUR & SUNDARGARH DISTRICTS.

COORDINATES

Surveyed
(LAMB)



LEGEND

IDENTIFIED CA LAND BOUNDARY :

AREA : 214.938 Hectare

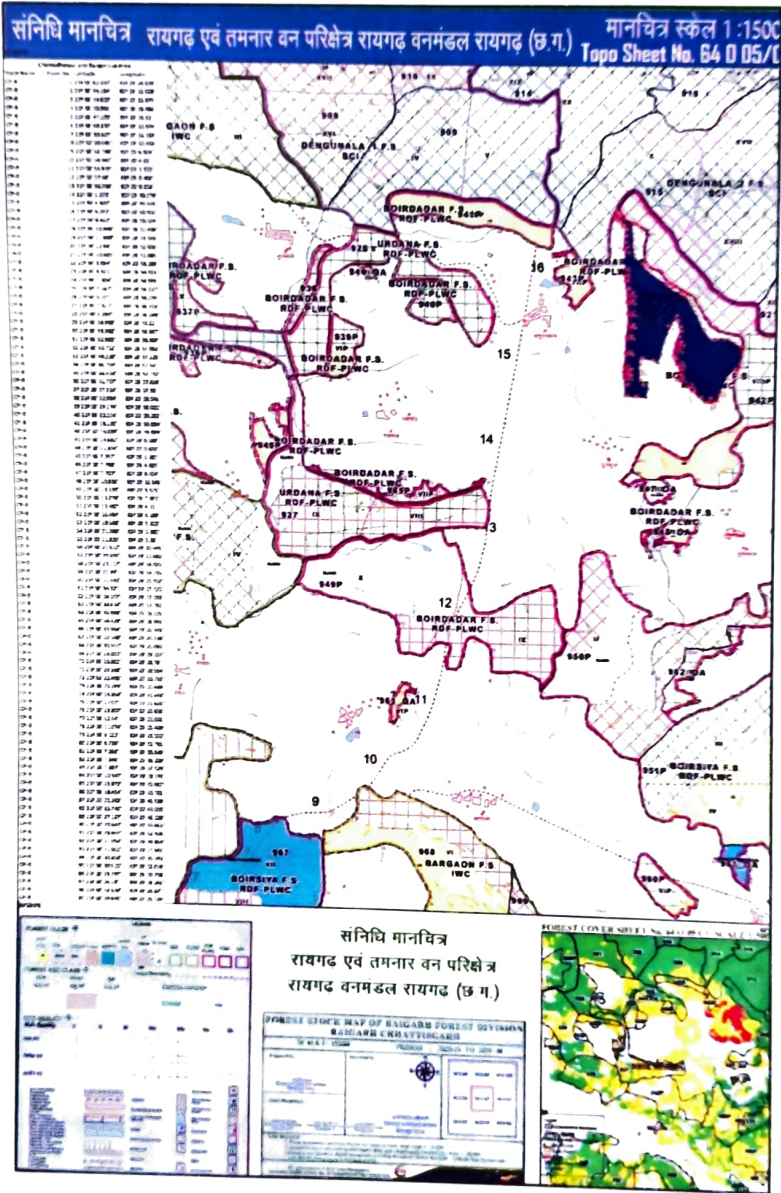


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रायगढ़ (छ.ग.)

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रायगढ़ परिक्षेत्र

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रायगढ़, छत्तागढ़

Geo-Referenced Map of the Boundary of CA LAND Identified Superimposed on Toposheet (Scale 1:15000) Gare palma Coal Block 2 Raigarh Chhattisgarh



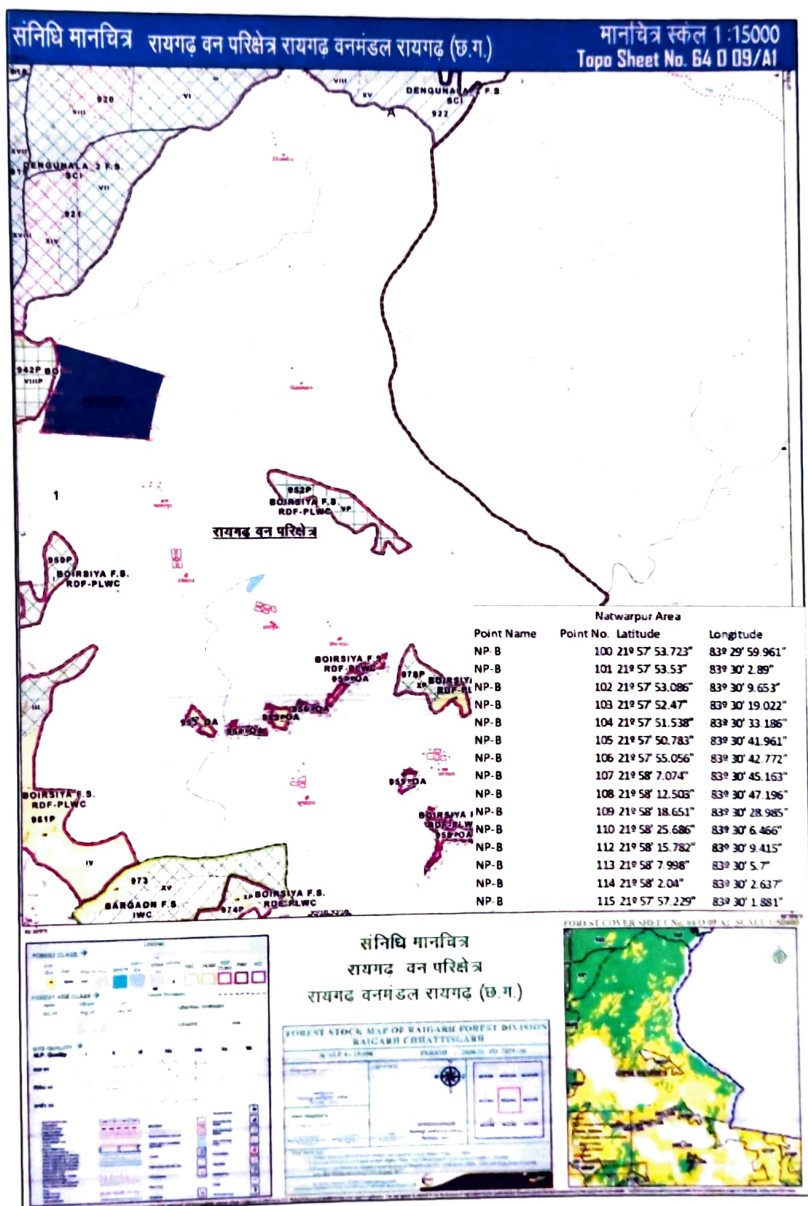
LEGEND
IDENTIFIED CA LAND BOUNDARY : AREA : 119.455 Hectare

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रायगढ़ परिक्षेत्र

उप वन मण्डलाधिकारी
रायगढ़ (छ.ग.)

वन मण्डलाधिकारी
रायगढ़, वनमण्डल

**Geo-Referenced Map of the Boundary of CA LAND Identified Superimposed
on Toposheet (Scale 1:15000)
Gare palma Coal Block 2 Raigarh Chhattisgarh**



वन परिक्षेत्राधिकारी
रायगढ़ परिक्षेत्र

उप वन मण्डलाधिकारी
रायगढ़ (छ.ग.)

वन मण्डलाधिकारी
रायगढ़, वनमण्डल

Geo-Referenced Map of the Boundary of CA LAND Identified Superimposed on Toposheet (Scale 1:15000)

Gare palma Coal Block 2 Raigarh Chhattisgarh

Chakradharpur and Bangursiya Area

Point Name	Point No.	Latitude	Longitude
CP-B	1	21° 58' 42.437"	83° 29' 24.078"
CP-B	2	21° 58' 44.194"	83° 29' 22.939"
CP-B	3	21° 58' 44.959"	83° 29' 21.975"
CP-B	4	21° 58' 45.991"	83° 29' 19.582"
CP-B	5	21° 58' 47.189"	83° 29' 16.52"
CP-B	6	21° 58' 49.237"	83° 29' 13.574"
CP-B	7	21° 58' 50.527"	83° 29' 11.135"
CP-B	8	21° 58' 50.641"	83° 29' 10.436"
CP-B	9	21° 58' 52.788"	83° 29' 6.974"
CP-B	10	21° 58' 54.441"	83° 29' 4.65"
CP-B	11	21° 58' 55.915"	83° 29' 3.335"
CP-B	12	21° 58' 57.68"	83° 29' 0.492"
CP-B	13	21° 58' 58.936"	83° 29' 0.258"
CP-B	14	21° 59' 1.278"	83° 28' 59.579"
CP-B	15	21° 59' 4.309"	83° 28' 59.435"
CP-B	16	21° 59' 6.072"	83° 28' 58.992"
CP-B	17	21° 59' 9.403"	83° 28' 58.524"
CP-B	18	21° 59' 10.949"	83° 28' 55.439"
CP-B	19	21° 59' 11.969"	83° 28' 53.565"
CP-B	20	21° 59' 12.98"	83° 28' 52.002"
CP-B	21	21° 59' 10.885"	83° 28' 51.085"
CP-B	22	21° 59' 9.694"	83° 28' 53.389"
CP-B	23	21° 59' 8.821"	83° 28' 54.923"
CP-B	24	21° 59' 7.904"	83° 28' 54.995"
CP-B	25	21° 59' 7.347"	83° 28' 56.227"
CP-B	26	21° 59' 5.07"	83° 28' 56.274"
CP-B	27	21° 59' 2.817"	83° 28' 56.313"
CP-B	28	21° 59' 0.299"	83° 28' 56.249"
CP-B	29	21° 58' 59.968"	83° 28' 56.21"
CP-B	30	21° 58' 58.582"	83° 28' 56.037"
CP-B	31	21° 58' 52.985"	83° 28' 56.907"
CP-B	32	21° 58' 50.712"	83° 28' 57.052"
CP-B	33	21° 58' 49.236"	83° 28' 57.225"
CP-B	34	21° 58' 46.793"	83° 28' 57.53"
CP-B	35	21° 58' 44.614"	83° 28' 57.737"
CP-B	36	21° 58' 41.737"	83° 28' 57.819"
CP-B	37	21° 58' 37.524"	83° 28' 57.92"
CP-B	38	21° 58' 32.984"	83° 28' 58.541"
CP-B	39	21° 58' 29.174"	83° 28' 58.822"
CP-B	40	21° 58' 23.234"	83° 28' 59.222"
CP-B	41	21° 58' 18.192"	83° 28' 59.834"
CP-B	42	21° 58' 16.089"	83° 28' 59.899"
CP-B	43	21° 58' 14.683"	83° 29' 0.189"
CP-B	44	21° 58' 11.854"	83° 29' 0.632"
CP-B	45	21° 58' 7.767"	83° 29' 1.385"
CP-B	46	21° 58' 7.798"	83° 29' 4.825"
CP-B	47	21° 58' 7.707"	83° 29' 9.434"
CP-B	48	21° 58' 10.935"	83° 29' 10.045"
CP-B	49	21° 58' 13.339"	83° 29' 9.575"

CP-B	50	21° 58' 13.279"	83° 29' 7.855"
CP-B	51	21° 58' 13.482"	83° 29' 6.41"
CP-B	52	21° 58' 16.484"	83° 29' 6.199"
CP-B	53	21° 58' 19.598"	83° 29' 5.823"
CP-B	54	21° 58' 21.388"	83° 29' 5.885"
CP-B	55	21° 58' 21.835"	83° 29' 5.92"
CP-B	56	21° 58' 21.513"	83° 29' 10.445"
CP-B	57	21° 58' 20.555"	83° 29' 13.083"
CP-B	58	21° 58' 23.717"	83° 29' 14.025"
CP-B	59	21° 58' 27.99"	83° 29' 14.735"
CP-B	60	21° 58' 31.443"	83° 29' 15.932"
CP-B	61	21° 58' 34.32"	83° 29' 17.125"
CP-B	62	21° 58' 34.307"	83° 29' 17.163"
CP-B	63	21° 58' 34.834"	83° 29' 17.361"
CP-B	64	21° 58' 35.888"	83° 29' 18.225"
CP-B	65	21° 58' 36.429"	83° 29' 18.991"
CP-B	66	21° 58' 33.956"	83° 29' 20.333"
CP-B	67	21° 58' 32.548"	83° 29' 20.538"
CP-B	68	21° 58' 30.557"	83° 29' 20.093"
CP-B	69	21° 58' 28.093"	83° 29' 19.337"
CP-B	70	21° 58' 25.601"	83° 29' 18.78"
CP-B	71	21° 58' 23.558"	83° 29' 18.954"
CP-B	72	21° 58' 22.495"	83° 29' 18.753"
CP-B	73	21° 58' 20.269"	83° 29' 20.449"
CP-B	74	21° 58' 18.854"	83° 29' 21.434"
CP-B	75	21° 58' 17.01"	83° 29' 21.615"
CP-B	76	21° 58' 13.807"	83° 29' 20.606"
CP-B	77	21° 58' 12.64"	83° 29' 22.891"
CP-B	78	21° 58' 11.074"	83° 29' 25.469"
CP-B	79	21° 58' 9.123"	83° 29' 28.593"
CP-B	80	21° 58' 6.739"	83° 29' 32.781"
CP-B	81	21° 58' 7.258"	83° 29' 35.549"
CP-B	82	21° 58' 7.646"	83° 29' 36.209"
CP-B	83	21° 58' 7.883"	83° 29' 37.529"
CP-B	84	21° 58' 10.347"	83° 29' 39.176"
CP-B	85	21° 58' 15.972"	83° 29' 42.067"
CP-B	86	21° 58' 19.454"	83° 29' 43.781"
CP-B	87	21° 58' 22.363"	83° 29' 45.539"
CP-B	88	21° 58' 25.741"	83° 29' 46.896"
CP-B	89	21° 58' 27.127"	83° 29' 46.129"
CP-B	90	21° 58' 28.647"	83° 29' 44.663"
CP-B	91	21° 58' 29.861"	83° 29' 42.406"
CP-B	92	21° 58' 31.054"	83° 29' 39.854"
CP-B	93	21° 58' 31.001"	83° 29' 37.941"
CP-B	94	21° 58' 30.853"	83° 29' 35.243"
CP-B	95	21° 58' 30.515"	83° 29' 32.819"
CP-B	96	21° 58' 33.797"	83° 29' 29.758"
CP-B	97	21° 58' 36.18"	83° 29' 28.261"
CP-B	98	21° 58' 38.519"	83° 29' 26.87"
CP-B	99	21° 58' 39.935"	83° 29' 25.724"

LATITUDE LONGITUDE CART



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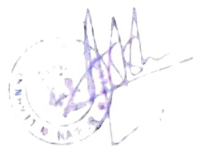
Geo-Referenced Map of the Boundary of CA LAND Identified Superimposed on Toposheet
(Scale 1:15000)
Gare palma Coal Block 2 Raigarh Chhattisgarh

Natwarpur Area

Point Name	Point No.	Latitude	Longitude
NP-B	100	21° 57' 53.723"	83° 29' 59.961"
NP-B	101	21° 57' 53.53"	83° 30' 2.89"
NP-B	102	21° 57' 53.086"	83° 30' 9.653"
NP-B	103	21° 57' 52.47"	83° 30' 19.022"
NP-B	104	21° 57' 51.538"	83° 30' 33.186"
NP-B	105	21° 57' 50.783"	83° 30' 41.961"
NP-B	106	21° 57' 55.056"	83° 30' 42.772"
NP-B	107	21° 58' 7.074"	83° 30' 45.163"
NP-B	108	21° 58' 12.503"	83° 30' 47.196"
NP-B	109	21° 58' 18.651"	83° 30' 28.985"
NP-B	110	21° 58' 25.686"	83° 30' 6.466"
NP-B	112	21° 58' 15.782"	83° 30' 9.415"
NP-B	113	21° 58' 7.998"	83° 30' 5.7"
NP-B	114	21° 58' 2.04"	83° 30' 2.637"
NP-B	115	21° 57' 57.229"	83° 30' 1.881"

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रायगढ़ (छ.ग.)



ATITUDE LONGITUDE CART

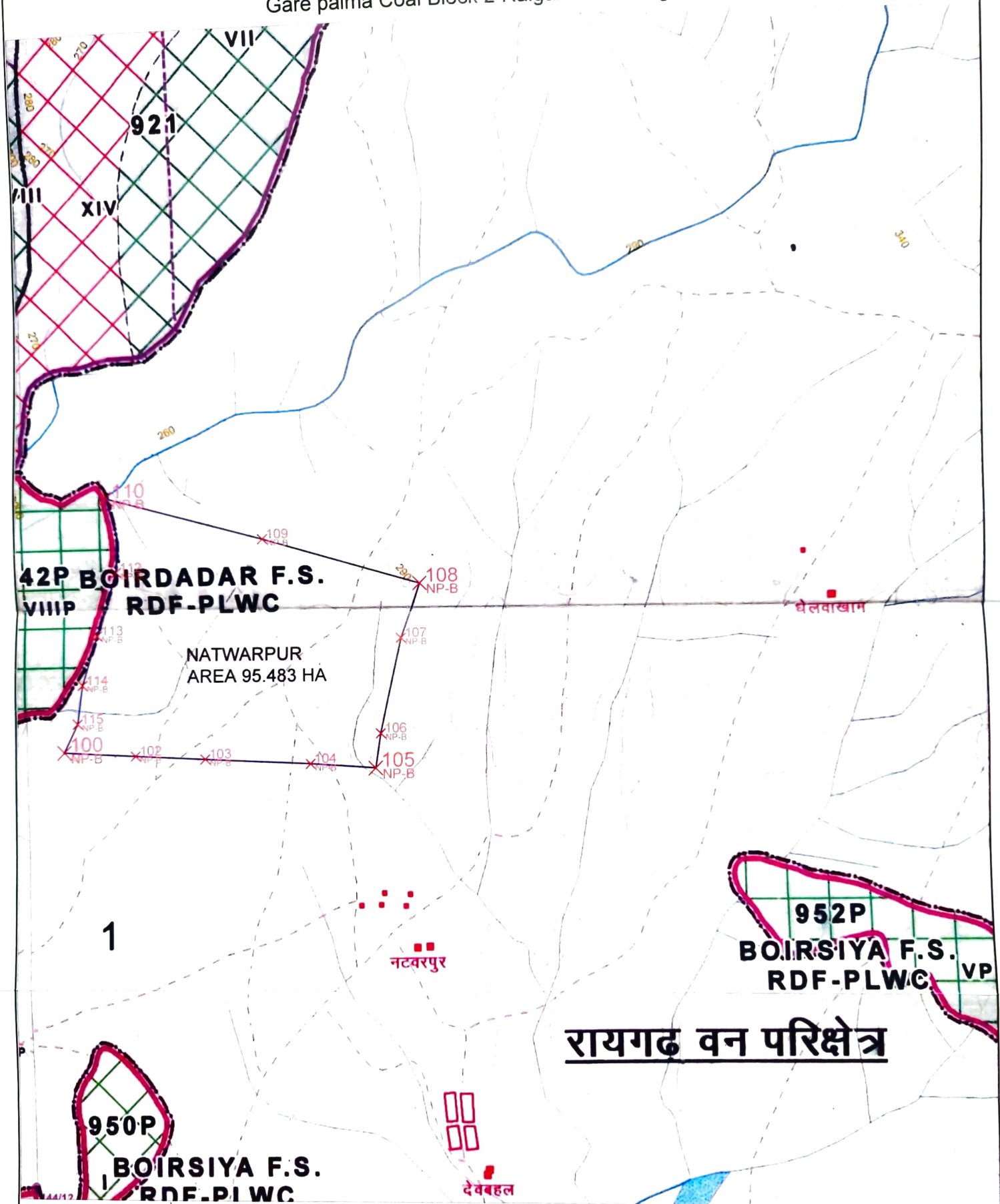
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Geo-Referenced Map of the Boundary of CA LAND Identified Superimposed on Toposheet
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Gare palma Coal Block 2 Raigarh Chhattisgarh



LEGEND

IDENTIFIED CA LAND BOUNDARY : AREA : 95.483 Hec



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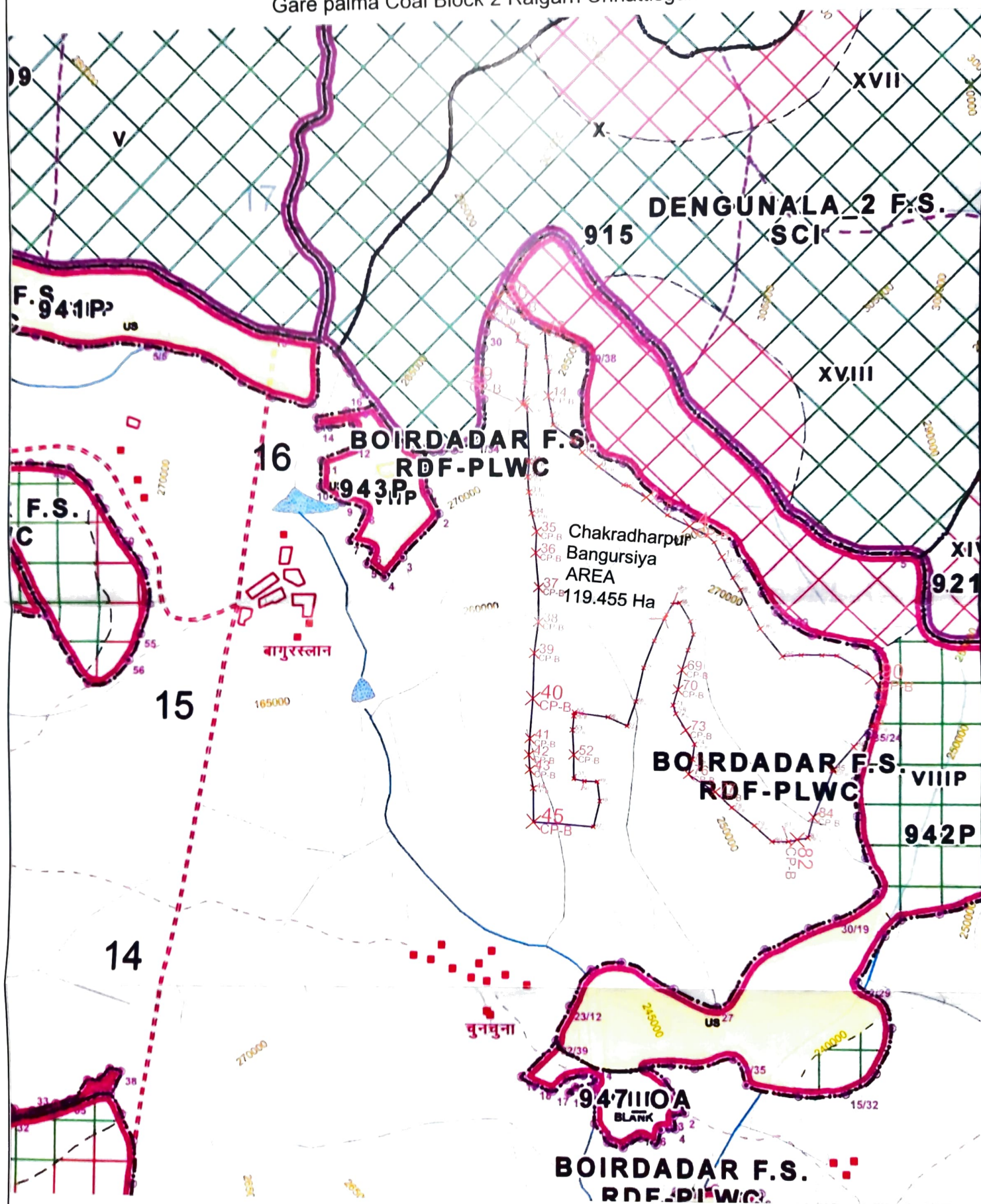
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वन मण्डलाधिकारी

Gare palma Coal Block 2 Raigarh Chhattisgarh



LEGEND

IDENTIFIED CA LAND BOUNDARY : AREA : 119.455 Hectare

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रायगढ़ जगिश्चैन

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रायगढ़ (छ.ग.)

वन मण्डलाधिकार
रायगढ़, वनमण्डल

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