

CHHATTISGARH BHARATNET PHASE-II PROJECT

LiDAR/DGPS SURVEY REPORT FOR BILASPUR FOREST DIVISION FOR DIVERSION OF PROPOSED OFC ROUTES

District	Forest Division	Applied Area
Bilaspur (C.G.)	Bilaspur Forest Division (RF+PF+OA)	4.563 Ha.
Bilaspur (C.G.)	Bilaspur Forest Division (Revenue Forest)	0.428 Ha.
Bilaspur (C.G.)	Kota Project Division, Chhattisgarh Forest Development Corp. Limited, Bilaspur	1.906 Ha
Total		6.897 Ha.

Applicant -



**Chhattisgarh Infotech Promotion Society (CHiPS)
Raipur (Chhattisgarh)**

Submitted By –



TATA PROJECTS

Tata Projects Limited, Raipur (Chhattisgarh)



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1. Introduction and Background

1.1. Background

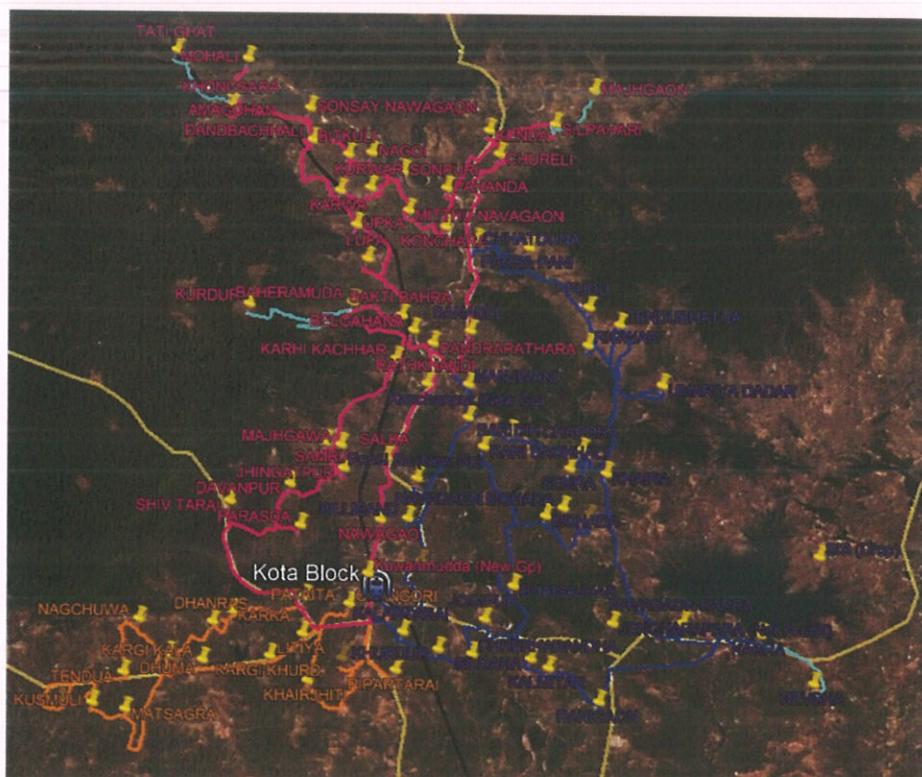
The Government of Chhattisgarh intends to setup an Optical Fibre Cable Network from the Block Head Quarters to Gram Panchayats to provide high speed broadband connectivity by connecting the 85 Blocks, 5987 Gram Panchayats across the State. The proposed network architecture for BharatNet Phase-II project follows ring architecture with Internet Protocol – Multi Protocol Label Switching (IP-MPLS) technology. The network shall be leveraged to deliver scalable bandwidth to households, institutions and enterprises. It is planned to have an IP-MPLS ring at GP level with provisioning of 6 dedicated core of fibre as mandated by Government of India.

The Chhattisgarh Infotech Promotion Society (CHiPS), a Registered Society promoted by the Government of Chhattisgarh, is the nodal agency and prime mover for propelling IT growth and implementation of IT plans in the State.

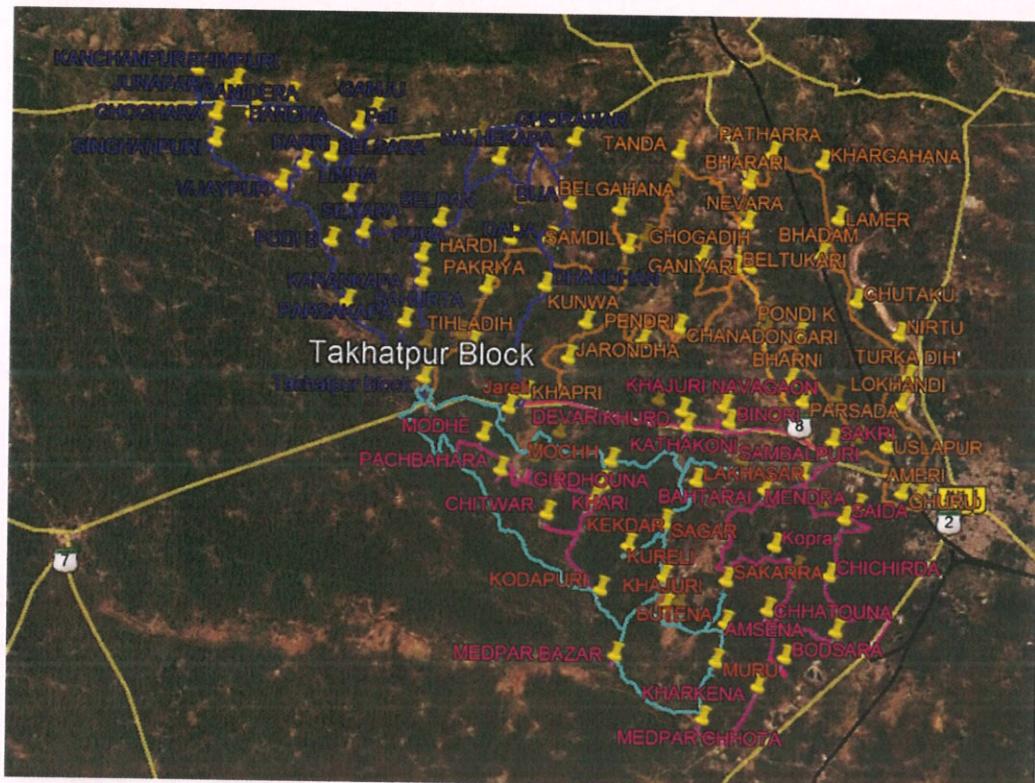
The Chhattisgarh Infotech Promotion Society (CHiPS) has selected an implementation partner “**Tata Project Limited**” for BharatNet Phase-II Project. The project has been conceived with the ambitious vision of providing connectivity to the yet unreachd blocks in Chhattisgarh and entails massive investment on the infrastructure creation across the state which would serve as the information highway for decades to come.

1.2. Proposed Routes

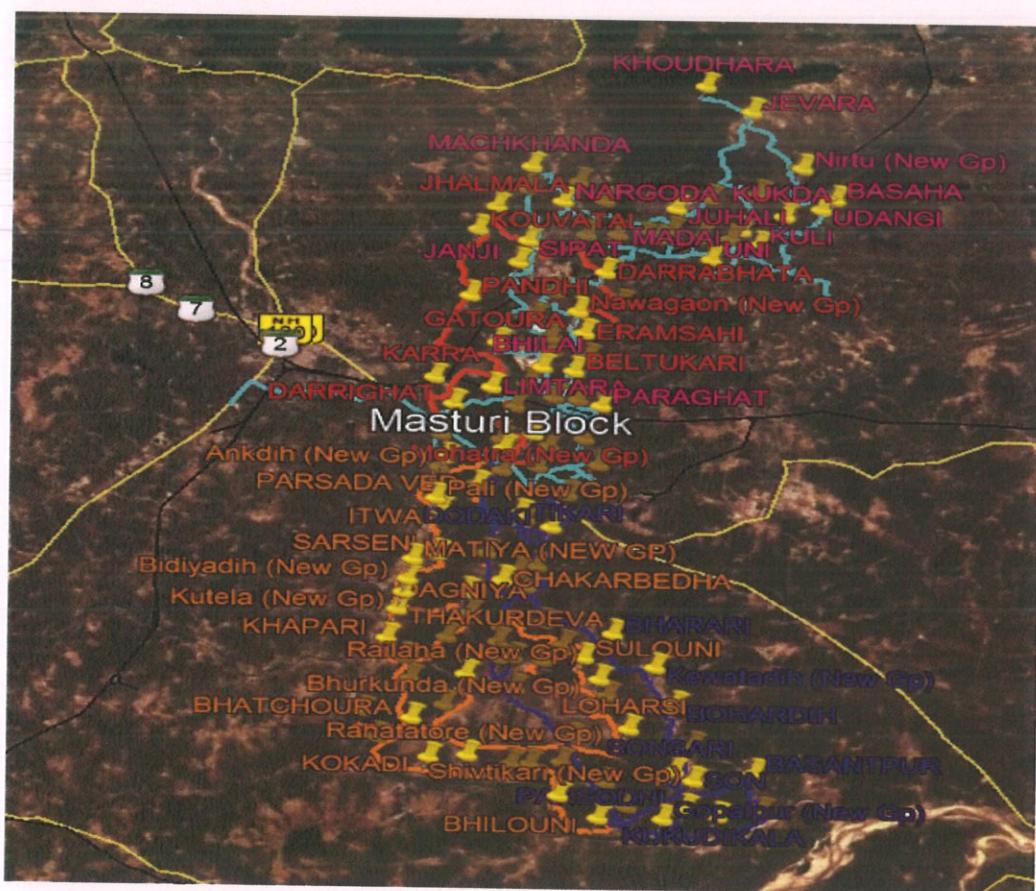
The proposed routes in Kota, Takhatpur and Masturi block with in Bilaspur Forest Division.



OFC Cable Proposed Routes in Kota block in Bilaspur Forest Division.



OFC Cable Proposed Routes in Takhatpurr block in Bilaspur Forest Division.



OFC Cable Proposed Routes in Masturi block in Bilaspur Forest Division.

1.3. Location

The proposed OFC Cable route in Bilaspur Forest Division (The OFC route Kota, Takhatpurr and Masturi Block; District: Bilaspur). The Proposed OFC route length is approx. 439.525 in Kota Block, 501.610 km in Takhatpurr Block and 583.287 km in Masturi Block hence Total route length is 1524.422 km. The survey site passes through forest ranges Bilaspur, Kota, Ratanpur, Belgahna, Belgahna Project Range, Bhaisajhar Project Range, Kota Project Range of Bilaspur Forest Division. The OFC Cable route is covered under Survey of India Toposheets 64F11, 64F12, 64F14, 64F15, 64G16 and 64G13, and 64J02, 64J03, 64J04, 64J7, and 64J8 on RF 1:50000.

1.4. Objective

As per directives of Ministry of Environment & Forests (MoEF) dated 8th July 2011; all applications for Forest Diversion, under Forest Conservation Act, 1980 must be accompanied with Geo-referenced shape file, showing the boundary of the proposed area (both soft copy and hard copy maps), prepared using LiDAR/Differential GPS (DGPS) and the same should be uploaded to MoEF website along with the online application.

To meet this requirement, **Tata Project Limited** entrusted the DGPS survey work to **Genesys International Corporation Limited, Mumbai** through Mobile LiDAR Technology.

2. Scope of Work

1. Establishment of Ground Control Pointy with 72 Hours observation which covering approx. 15 km radios of the proposed route.
2. DGPS Survey for collection of ground coordinates along the proposed OFC Cable trench at every 200 m interval and/or at every turn/bend along the proposed trench. The DGPS data is collected at forest patches only.
3. Data processing and Interpretation
 - I. Geo-referencing of SOI Toposheet (scale 1:50000).
 - II. Creation of OFC Cable trench boundary vector map using the DGPS Surveyed data
 - III. Computation of Forest area and preparation of Forest Area Statement for proposed diversion. It includes Reserved/Protected Forest/ Orange Area & Revenue Forest Land.
 - IV. Preparation of Geo-referenced map showing proposed OFC Route.
 - V. Superimposition of cable route layer on Geo-referenced SOI Toposheet (scale 1:50000).
 - VI. Preparation of DGPS survey report along with soft copy of maps including shapefile format and kml file.
4. Preparation of Desired report, Geo-referenced maps and Technical compliance in Hard copy and soft copy.

3. Deliverables

The deliverables envisaged for the assignment are described below -

1. Proposed Forest Diversion area statement as per LiDAR / DGPS Survey of proposed OFC route.
2. Geo-referenced map showing proposed OFC route in forest area and superimposed on SOI maps based on LiDAR / DGPS observations – Hard and Soft Copy (Maps in PDF format, SHP and KML formats).
3. LiDAR / DGPS Survey and Mapping Reports containing Ground Control Points report as the primary Control Points.
4. DGPS Survey and mapping report on hard copy and soft copy in CD.

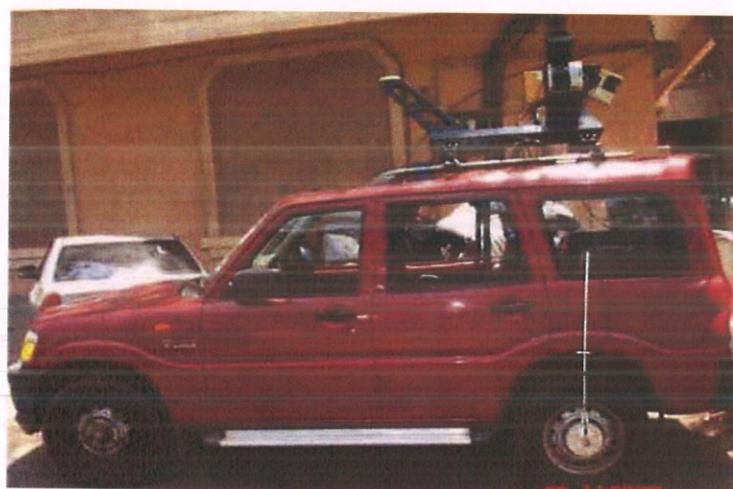
4. Technical Approach

4.1. GCP Establishment for LiDAR (DGPS) Survey:

DGPS Survey with high precision equipment was used in blocks to bring mapping in to a single co-ordinates system. These Ground Control Point (GCPs) were connected to the Mobile LiDAR Mapping for accuracy purpose. The Ground Control Point required for eliminates the traditional mapping. The system can achieve millimeter accuracy of vehicle positioning, 3-D coordinates, and objects measured from the Geo-referenced image sequences. The Ground Control Point with 72 Hours of DGPS observation for Post Processing the GCP data with International GNSS Service (IGS) stations.

4.2. Mobile LiDAR (DGPS) data collection:

DGPS based Mobile LiDAR data was collected along with 360 degree panoramic view of the OFC route corridor (25 meter on each side along the center of the road).



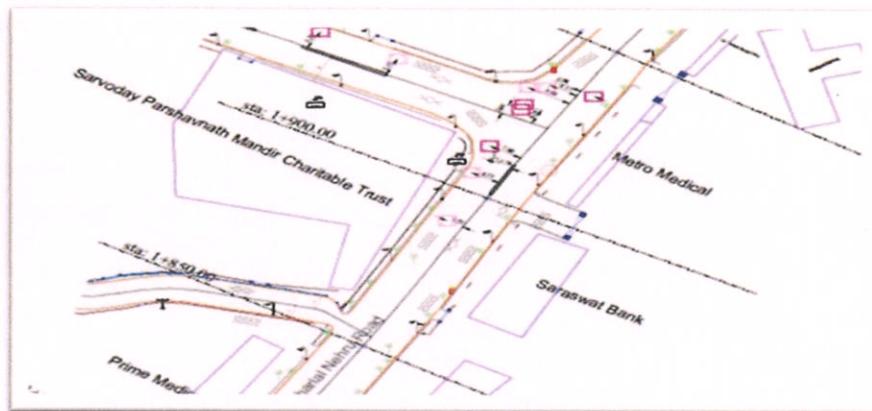
Mobile LiDAR Van

4.3. DRS / GIS Map Creation Using LiDAR data:

All the features along the route are captured using LiDAR data and Panoramic Imagery to create the DRS / GIS Map.



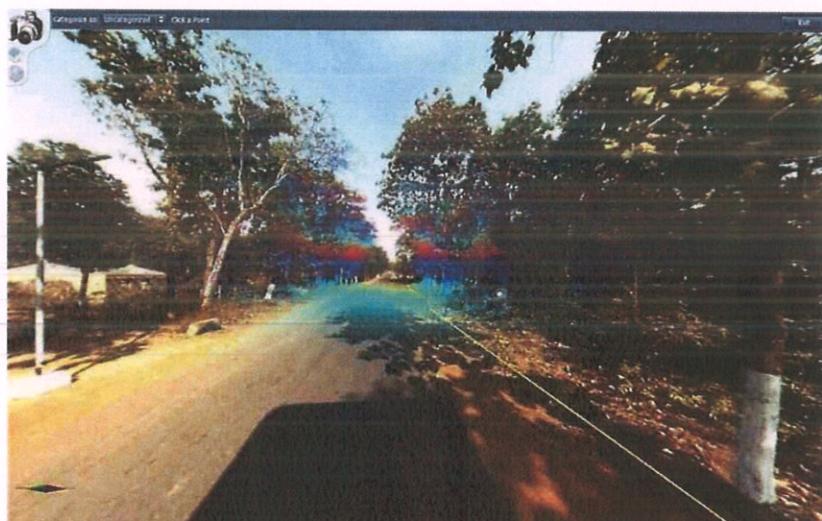
Feature Extraction on LiDAR



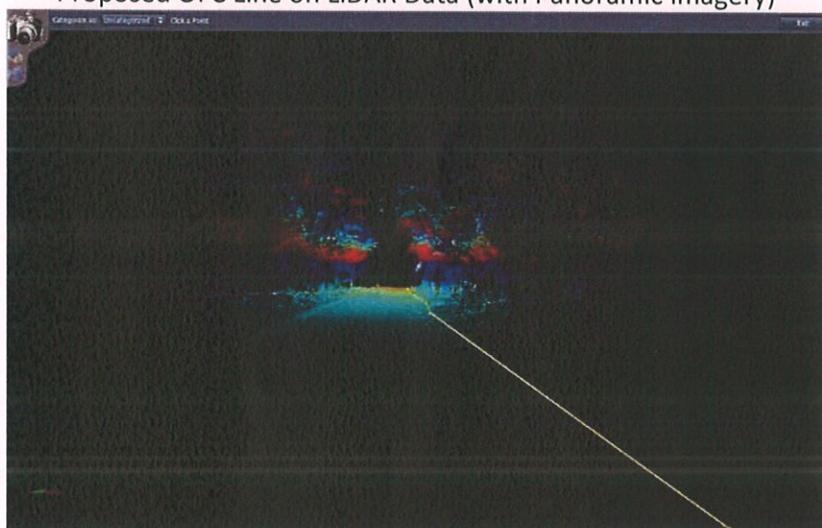
Final DRS / GIS Map

4.4. Demarcation of Proposed OFC on LiDAR data:

Proposed OFC line is demarcated based on the feasibility of trenching to be done on ground by referring the LiDAR data with the panoramic imagery.



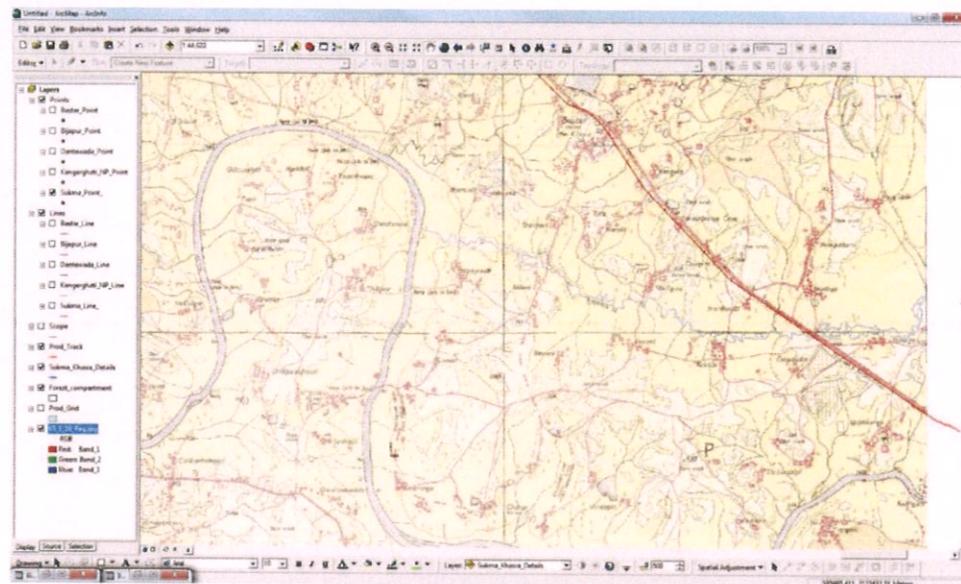
Proposed OFC Line on LiDAR Data (with Panoramic Imagery)



Proposed OFC Line on LiDAR Data only

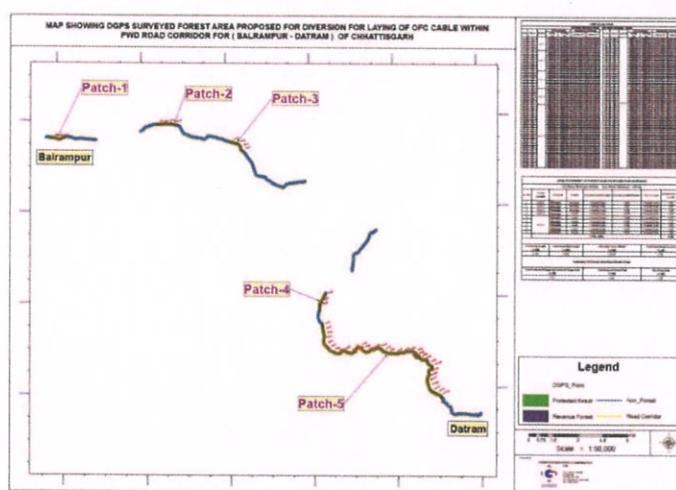
4.5. Geo-referencing of Maps:

Geo-referencing of Revenue Village Maps and SOI Toposheets are to be done. SOI Toposheets would be geo-referenced based on the coordinates provided on the maps whereas Revenue Village Maps would be geo-referenced with the help of GCPs collected on field. (At least 5 GCPs for a village having Government Forest Land are to be collected)



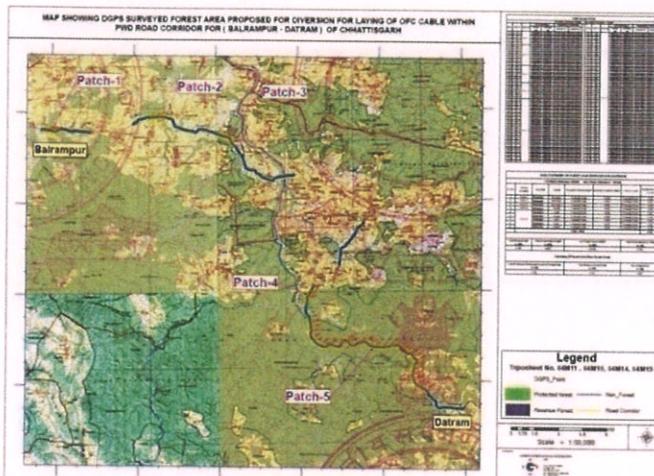
4.6. Creation of Vector Data for Forest Diversion:

Different Layers such as Polygon of Reserved Forest /Protected Forest /Orange Area Patch, Centerline of Proposed OFC Trench, Non-Forest Trench line, Polygons showing Revenue Forest patches etc. are to be created using the Lidar based GDPS Observation, Geo-referenced maps and the information provided by the forest department and Revenue department.



4.7. Generation of Map and Survey Reports for Forest Diversion

A map is created by overlaying the created vector data for the forest patches on the Geo-referenced SOI Toposheets. The reports are generated for DGPS Points (with Lat/long) placed at the regular intervals of 100 m on the proposed OFC route in the forest area. Another report is generated having area calculation for the proposed trench area in different type of Forest Lands. Samples of these are as below.



Geo-referenced Map

JASPUR DIVISION - REVENUE FOREST AREA STATEMENT SCHEDULE OF FOREST LAND - REVENUE FOREST (CJ + BLJ)								
SPAN NAME	S.R. NO.	PATCH NO.	DISTRICT	TEHSIL	VILLAGE NAME	KHAIRA NUMBER & DIVERSION AREA (in HA)		
Haridipga-Bagicha	1	Patch-1_1	Jaspur	Bagicha	Ganhar Kora	287 0.000		
	2	Patch-1_2			Karidipga	271 0.0006		
	3	Patch-2_1			Bagicha	1087 0.000		
	4	Patch-2_2			Rajpara	184 0.0007		
	5	Patch-2_3			Bonda	4992 0.0009		
	6	Patch-2_4			Mahadevkh	1372 0.0015		
	7	Patch-2_5			Saripara	5291 0.0001		
	8	Patch-2_6				628 0.0003		
	9	Patch-2_7						
	10	Patch-2_8			Oshighar	3173 0.0006		
Bagicha-Kansabed	11	Patch-2_9				1153 0.0027		
	12	Patch-2_10				1138 0.0009		
	13	Patch-2_11				589 0.0112		
	14	Patch-2_12			Khuhra	79571 0.0003		
	15	Patch-2_13			Khuhra	369571 0.0003		
	16	Patch-2_14				206 0.0001		
	17	Patch-2_15			Kusumrat	481 0.0005		
	18	Patch-2_16						
	19	Patch-2_17			White Bull	37873 0.0006		
	20	Patch-2_18				37373 0.0011		
Kansabed-Kalabana	21	Patch-3_2	Manora	Manora	Timpore	17772 0.0004		
	22	Patch-4_10						
	23	Patch-4_11			Simra	13984 0.0008		
	24	Patch-4_12			Ankaripore	17864/2278 0.0006		
	25	Patch-4_13				90671 0.0213		
Kansabed-Tapkara	26	Patch-5_4		Pakarsak		126 0.0003		
	27	Patch-5_5				14273 0.0006		
	28	Patch-5_6				103 0.0006		
	29	Patch-6_1				4121 0.011		
	30	Patch-6_2				12673 0.011		
Tapkara-Kothemharpur	31	Patch-6_3	Pakarsak	Pakarsak	Jamutra	20973 0.0008		
	32	Patch-6_4			Hajira	13373 0.0007		
	33	Patch-6_5			Peggashwar	139973 0.0012		
	34	Patch-7_1			Ganjipurh	199973 0.0008		
TOTAL REVENUE AREA						6.365		
Manora						Kanchi		
						23773 0.010		

Forest Area Statement

5. DGPS Survey Results

The total OFC route length is approx. 1524.422 km. covered Kota, Takhatpur and Masturi block of Bilaspur District. Out of this 1386.479 km OFC route length is passing through non-forest Land and 137.943 km OFC route length is passing through Forest Patches hence the proposed forest area for diversion is 6.897 Ha. Forest Area Statement Report is in Annexure-1, and DGPS coordinates and forest patch boundary coordinates is in Annexure-2. The geo-referenced maps are in Annexure -3.

5.1. Forest Area Statement (Annexure-1)

Forest Area Statement – Bilaspur Forest Division, District - Bilaspur						
Total Route Length (In km.)	Length of Non Forest Land (In km.)	Width of Non Forest Land (In Km.)	Area of Non-Forest Land (In Ha.)	Length of Forest Land (in km.)	Width of Forest Land (in km.)	Area of Proposed Forest Land (in Ha.)
1524.422	1386.479	0.0005	69.324	137.943	0.0005	6.897

Bilaspur Forest Division- Reserve Forest Statement								
S. No.	Patch	Forest Range	Village	Forest Type	Comp. No.	Length (in Ha.)	Width (in m.)	Area (in Ha.)
1	18	Bilaspur	West Khondra	RF	25	1837.376	0.5	0.092
2	18	Bilaspur	West Khondra	RF	26	209.594	0.5	0.010
3	19	Bilaspur	Labadar	RF	9	1154.015	0.5	0.057
4	19	Bilaspur	Labadar	RF	12	535.955	0.5	0.027
5	19	Bilaspur	Labadar	RF	13	548.525	0.5	0.028
6	19	Bilaspur	Labadar	RF	14	1732.742	0.5	0.086
7	19	Bilaspur	Labadar	RF	15	258.754	0.5	0.013
8	19	Bilaspur	Labadar	RF	23	650.043	0.5	0.033
9	20	Bilaspur	Ardali	RF	52	650.719	0.5	0.033
10	21	Bilaspur	Karichhapar	RF	2	1226.472	0.5	0.061
11	21	Bilaspur	Karichhapar	RF	3	812.959	0.5	0.041
					11	9617.154	0.5	0.481
12	23	Kota	Koripar	RF	2494	379.092	0.5	0.019
Total					1	379.092	0.5	0.019
Total of Reserve Forest Land					12	9996.246	0.5	0.500



Bilaspur Forest Division- Protected Forest Statement								
S. No.	Patch	Forest Range	Village	Forest Type	Comp. No.	Length (in Ha.)	Width (in m.)	Area (in Ha.)
1	1	Belgahna	Bargawan	PF	P1057	386.619	0.5	0.019
2	2	Belgahna	Belgahna	PF	P1046	686.188	0.5	0.034
3	2	Belgahna	Silpahri	PF	P1056	1920.508	0.5	0.097
4	3	Belgahna	Semra	PF	P1055	2545.474	0.5	0.127
5	4	Belgahna	Silpahri	PF	P1058	705.800	0.5	0.035
6	4	Belgahna	Semra	PF	P1069	6683.742	0.5	0.335
7	5	Belgahna	Chulpahri	PF	P1053	568.206	0.5	0.028
8	6	Belgahna	Mohali	PF	P1106	1169.157	0.5	0.058
9	9	Belgahna	Belgahna	PF	P1137	1512.560	0.5	0.076
10	11	Belgahna	Karba	PF	P1109	1144.406	0.5	0.057
11	12	Belgahna	Belgahna	PF	P1199	1120.515	0.5	0.056
12	13	Belgahna	Belgahna	PF	P1204	3066.035	0.5	0.153
13	14	Belgahna	Belgahna	PF	P1111	282.158	0.5	0.014
14	14	Belgahna	Belgahna	PF	P1203	822.607	0.5	0.041
15	15	Belgahna	Belgahna	PF	P1202	1190.111	0.5	0.060
Total					15	23804.086	0.5	1.190
16	15	Kota	Majhgawan	PF	P2482	939.683	0.5	0.047
17	16	Kota	Belgahna	PF	P2483	1399.038	0.5	0.070
18	19	Kota	Karka	PF	P2488	1460.962	0.5	0.073
19	22	Kota	Kota	PF	P2485	699.726	0.5	0.035
20	25	Kota	Salka	PF	P2475	681.835	0.5	0.034
Total					5	5181.244	0.5	0.259
21	18	Bilaspur	jevra	PF	P1640	1438.837	0.5	0.072
22	19	Bilaspur	Bitkuli	PF	P1648	2513.318	0.5	0.126
23	20	Bilaspur	Jevra	PF	P1645	787.074	0.5	0.039
24	27	Bilaspur	Manpahri	PF	P1539	1161.012	0.5	0.058
Total					4	5900.241	0.5	0.295
25	27	Ratanpur	Belgahna	PF	P2525	388.082	0.5	0.019
26	28	Ratanpur	Kanchanpur	PF	P2523	2259.675	0.5	0.113

27	31	Ratanpur	Bhaisajhar	PF	Ratanpur Procted Forest	364.745	0.5	0.018
28	31	Ratanpur	Sildaha	PF	Ratanpur Procted Forest	2547.463	0.5	0.127
29	32	Ratanpur	Bhaisajhar	PF	Kunwajati Forest	1998.813	0.5	0.100
30	32	Ratanpur	bachhalikhurd	PF	Ramchandro & Ratanpur	510.615	0.5	0.026
31	33	Ratanpur	Ranibachhali	PF	Rani bachhali	786.713	0.5	0.039
32	33	Ratanpur	Kuajati	PF	Rani bachhali	2241.742	0.5	0.113
33	34	Ratanpur	Belgahna	PF	P2528	1191.510	0.5	0.059
34	39	Ratanpur	Belgahna	PF	P2530	2213.858	0.5	0.110
35	42	Ratanpur	Belgahna	PF	P2536	400.979	0.5	0.020
36	42	Ratanpur	Belgahna	PF	P2540	1080.767	0.5	0.054
37	42	Ratanpur	Belgahna	PF	P2548	2088.143	0.5	0.104
38	42	Ratanpur	Belgahna	PF	P2549	5637.652	0.5	0.282
39	42	Ratanpur	Belgahna	PF	P2551	772.898	0.5	0.038
40	43	Ratanpur	Belgahna	PF	P2538	4699.813	0.5	0.236
41	45	Ratanpur	Belgahna	PF	P2553	2266.303	0.5	0.114
Total					17	31449.771	0.5	1.572
Total of Protected Forest Land					41	66335.342	0.5	3.316

Bilaspur Forest Division- Orange Area Statement								
S. No.	Patch	Forest Range	Village	Forest Type	Comp. No.	Length (in Ha.)	Width (in m.)	Area (in Ha.)
1	18	Kota	saraipali	OA	2519	697.699	0.5	0.035
2	20	Kota	Dhanras	OA	2502	765.81	0.5	0.038
3	21	Kota	Kopida	OA	2506	778.957	0.5	0.039
4	23	Kota	Kuwarimuda	OA	2509	202.409	0.5	0.010
5	23	Kota	Putyata	OA	2518	816.838	0.5	0.041
6	24	Kota	Lalpur	OA	2510	129.565	0.5	0.006
7	27	Kota	Manpahri	OA	2513	89.248	0.5	0.004
8	29	Kota	Kota	OA	2508	1314.293	0.5	0.066

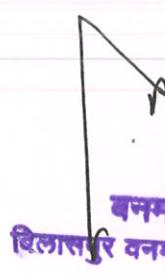
9	30	Kota	Chherkabandha	OA	2501	1432.226	0.5	0.072
Total					9	6227.045	0.5	0.311
10	26	Ratanpur	Retkhandi	OA	2575	261.513	0.5	0.013
11	33	Ratanpur	Ratanpur	OA	2573	359.984	0.5	0.018
12	34	Ratanpur	Amanuda	OA	2555	40.865	0.5	0.002
13	34	Ratanpur	Baridih	OA	2557	319.965	0.5	0.016
14	35	Ratanpur	Ratanpur	OA	2572	1060.366	0.5	0.053
15	36	Ratanpur	Jali	OA	2560	538.841	0.5	0.027
16	37	Ratanpur	Ghasipur	OA	2559	2204.84	0.5	0.110
17	37	Ratanpur	Khaira	OA	2562	583.62	0.5	0.029
18	38	Ratanpur	Chapora	OA	2558	1460.066	0.5	0.073
19	39	Ratanpur	Tendubhata	OA	2577	805.338	0.5	0.040
20	40	Ratanpur	Podi	OA	2568	182.705	0.5	0.009
21	41	Ratanpur	Kumharkhet	OA	2563	517.358	0.5	0.026
22	41	Ratanpur	Pudu	OA	2569	396.651	0.5	0.020
Total					13	8732.112	0.5	0.436
Total of Orange Area					22	14959.157	0.5	0.747
Total of Forest Land Applied					75	91290.745	0.5	4.563

Bilaspur District- Revenue Forest Area Statement								
Sl No.	Patch	Tehsil	Village	Type	Khasra No	Length (in Ha.)	Width (in m.)	Area (in Ha.)
1	44	Kota	Chhatauna	BJJ	427	321.741	0.5	0.015
2	45	Kota	Chhatauna	BJJ	22	139.217	0.5	0.007
3	8	Kota	Khongsara	BJJ	89	96.271	0.5	0.005
4	33	Kota	Rani bachieli	BJJ	429	13.255	0.5	0.001
5	31	Kota	Sildha	BJJ	18	441.705	0.5	0.022
6	39	Kota	Umariya Dadar	BJJ	29	618.314	0.5	0.031
7	9	Kota	Amagohan	BJJ	16	10.289	0.5	0.001
Total					7	1640.792	0.5	0.082
8	19	Masturi	Jewara	BJJ	1072	169.02	0.5	0.008
9	18	Masturi	Jewara	CJJ	54	292.325	0.5	0.015
10	21	Masturi	Tharakpur	BJJ	253	192.311	0.5	0.01
11	47	Masturi	Udangi	CJJ	43	461.691	0.5	0.022

12	47	Masturi	Udangi	CJJ	112	451.493	0.5	0.023
13	47	Masturi	Udangi	CJJ	168	474.082	0.5	0.024
14	47	Masturi	Udangi	CJJ	345	296.512	0.5	0.015
15	47	Masturi	Udangi	CJJ	173	402.512	0.5	0.02
16	47	Masturi	Udangi	CJJ	176	334.432	0.5	0.017
17	47	Masturi	Udangi	CJJ	278	226.177	0.5	0.011
Total					10	3300.555	0.5	0.165
18	50	Takhatpur	Bija	CJJ	120	131.192	0.5	0.007
19	50	Takhatpur	Bija	CJJ	136	164.572	0.5	0.008
20	50	Takhatpur	Bija	CJJ	126	19.095	0.5	0.001
21	50	Takhatpur	Bija	CJJ	272	607.672	0.5	0.03
22	50	Takhatpur	Ghoramal	CJJ	293	45.884	0.5	0.002
23	50	Takhatpur	Ghoramal	CJJ	295	136.045	0.5	0.007
24	50	Takhatpur	Ghoramal	CJJ	311	406.234	0.5	0.02
25	50	Takhatpur	Ghoramal	CJJ	310	159.473	0.5	0.008
26	49	Takhatpur	Pendri	CJJ	20	409.034	0.5	0.021
27	49	Takhatpur	Pendri	CJJ	56	220.753	0.5	0.011
28	51	Takhatpur	Salhekapa	BJJ	148	397.94	0.5	0.02
29	51	Takhatpur	Salhekapa	BJJ	448	459.663	0.5	0.023
30	49	Takhatpur	Samdil	CJJ	535	458.861	0.5	0.023
Total					13	3616.418	0.5	0.181
Total of Revenue Forest Land					30	8557.765	0.5	0.428

Kota Project Division, Chhattisgarh Forest Development Corp. Limited - Reserve Forest Area Statement								
Sl No.	Patch	Tehsil	Village	Type	Khasra No	Length (in Ha.)	Width (in m.)	Area (in Ha.)
1	16	Kota	Sarasdol	RF	169	1429.184	0.5	0.071
2	17	Kota	Sarasdol	RF	135	2307.645	0.5	0.116
3	17	Kota	Sarasdol	RF	137	2121.237	0.5	0.107
4	18	Kota	Sarasdol	RF	133	3195.015	0.5	0.160
5	18	Kota	Sarasdol	RF	134	962.428	0.5	0.048
Total of Reserve Forest Land					5	10015.509	0.5	0.502
Kota Project Division, Chhattisgarh Forest Development Corp. Limited – Protected Forest Area Statement								
Sl No.	Patch	Tehsil	Village	Type	Khasra No	Length (in Ha.)	Width (in m.)	Area (in Ha.)
1	7	Belgahna	Ringringa	PF	P1193	1055.950	0.5	0.053

2	8	Belgahna	Amagohan	PF	P1191	7865.105	0.5	0.392
3	9	Belgahna	Amagohan	PF	P1138	808.147	0.5	0.040
4	15	Belgahna	Kanchanpur	PF	P1187	1460.616	0.5	0.073
5	22	Belgahna	Baheramuda	PF	P1179	1496.926	0.5	0.075
6	22	Belgahna	BAheramuda	PF	P1180	5399.407	0.5	0.270
Total					6	18086.151	0.5	0.903
7	22	Bhaisajhar	Shivpur	PF	P94	3089.098	0.5	0.155
8	39	Bhaisajhar	Shivpur	PF	P95	2147.010	0.5	0.108
9	37	Bhaisajhar	Shivpur	PF	P84	2912.291	0.5	0.146
Total					3	8148.399	0.5	0.409
10	15	Kota	Majhgawan	PF	P1201	744.111	0.5	0.037
11	28	Kota	Pondi	PF	P1115	400.935	0.5	0.020
12	28	Kota	Pondi	PF	P1116	425.924	0.5	0.021
13	24	Kota	Kota	PF	P1118	274.215	0.5	0.014
Total					4	1845.185	0.5	0.092
Total of Protected Forest Land					13	28079.735	0.5	1.404
Total of FDC Forest Land Applied (Reserve+Protected)					18	38095.244	0.5	1.906


 वनमंडलाधिकारी
 बिलासपुर वनमंडल बिलासपुर (छ.ग.)

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5.2. DAR/DGPS Surveyed coordinates of Forest Patches (Annexure-2)

Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P1	1	22°32'43.80702"	82°07'46.22634"
P2	1	22°32'50.21414"	82°07'46.14931"
P3	1	22°32'56.02875"	82°07'48.00283"
P4	2	22°32'27.69928"	82°06'29.84267"
P5	2	22°32'26.23608"	82°06'36.53655"
P6	2	22°32'23.89304"	82°06'42.61359"
P7	2	22°32'23.62769"	82°06'42.95900"
P8	2	22°32'16.04724"	82°07'21.06461"
P9	2	22°32'14.89520"	82°07'24.09151"
P10	2	22°32'14.89520"	82°07'24.09151"
P11	2	22°32'19.19846"	82°07'27.41991"
P12	2	22°32'24.86342"	82°07'30.79380"
P13	2	22°32'30.05208"	82°07'34.78450"
P14	2	22°32'31.85843"	82°07'37.05372"
P15	2	22°32'23.62909"	82°06'42.96400"
P16	2	22°32'25.50136"	82°06'46.45665"
P17	2	22°32'19.80085"	82°06'49.41230"
P18	2	22°32'16.08827"	82°06'54.04665"
P19	2	22°32'16.91597"	82°07'00.95208"
P20	2	22°32'16.59175"	82°07'07.57306"
P21	2	22°32'18.65340"	82°07'14.02497"
P22	2	22°32'16.28826"	82°07'20.54086"
P23	2	22°32'16.04724"	82°07'21.06461"
P24	3	22°32'15.79133"	82°05'28.61357"
P25	3	22°32'15.74001"	82°05'35.39386"
P26	3	22°32'17.40357"	82°05'42.06377"
P27	3	22°32'19.00494"	82°05'48.83151"
P28	3	22°32'18.84062"	82°05'55.81576"
P29	3	22°32'21.02157"	82°06'02.13989"
P30	3	22°32'25.84372"	82°06'06.63586"
P31	3	22°32'25.86888"	82°06'06.76556"

Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P32	3	22°32'25.86888"	82°06'06.76556"
P33	3	22°32'25.11304"	82°06'13.61916"
P34	3	22°32'25.26283"	82°06'19.40071"
P35	3	22°32'18.29512"	82°06'01.87576"
P36	3	22°32'18.54426"	82°05'55.11148"
P37	3	22°32'18.53856"	82°05'48.13901"
P38	3	22°32'18.35292"	82°05'47.30853"
P39	3	22°32'18.35292"	82°05'47.30853"
P40	3	22°32'16.43578"	82°05'40.65320"
P41	3	22°32'15.07206"	82°05'33.88817"
P42	3	22°32'15.46575"	82°05'28.73483"
P43	4	22°31'46.70103"	82°05'05.04813"
P44	4	22°31'49.04455"	82°04'58.71184"
P45	4	22°31'48.83192"	82°04'51.72186"
P46	4	22°31'49.14214"	82°04'44.82177"
P47	4	22°31'49.18679"	82°04'44.66141"
P48	4	22°31'49.18679"	82°04'44.66141"
P49	4	22°31'43.89020"	82°04'40.61448"
P50	4	22°31'38.86959"	82°04'36.19858"
P51	4	22°31'34.66782"	82°04'30.88118"
P52	4	22°31'29.33180"	82°04'26.91497"
P53	4	22°31'24.41000"	82°04'22.33972"
P54	4	22°31'19.64251"	82°04'17.57871"
P55	4	22°31'21.65419"	82°04'11.65188"
P56	4	22°31'25.36709"	82°04'05.94080"
P57	4	22°31'22.33729"	82°04'01.03135"
P58	4	22°31'19.27276"	82°03'59.00131"
P59	4	22°31'19.27276"	82°03'59.00131"
P60	4	22°31'13.57720"	82°03'55.63855"
P61	4	22°31'07.36632"	82°03'53.74152"
P62	4	22°31'01.14704"	82°03'52.17049"

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Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P63	4	22°30'55.34052"	82°03'49.06375"
P64	4	22°30'49.39032"	82°03'46.29067"
P65	4	22°30'47.53232"	82°03'44.97224"
P66	4	22°31'49.18679"	82°04'44.66141"
P67	4	22°31'55.01470"	82°04'47.76431"
P68	4	22°31'57.36693"	82°04'44.89052"
P69	4	22°31'57.99512"	82°04'37.93972"
P70	4	22°31'58.777818"	82°04'34.60583"
P71	4	22°31'59.06524"	82°04'34.04482"
P72	4	22°31'58.12336"	82°04'40.91585"
P73	4	22°31'57.85516"	82°04'47.83356"
P74	4	22°31'58.20420"	82°04'54.78606"
P75	4	22°31'59.15709"	82°05'01.71069"
P76	4	22°32'00.61877"	82°05'08.52097"
P77	4	22°32'01.11362"	82°05'10.23846"
P78	4	22°32'01.11362"	82°05'10.23846"
P79	4	22°32'03.61367"	82°05'16.69870"
P80	4	22°32'03.94398"	82°05'17.41510"
P81	4	22°32'03.94398"	82°05'17.41510"
P82	4	22°32'09.74582"	82°05'19.89561"
P83	4	22°32'12.76362"	82°05'23.39992"
P84	4	22°32'03.56760"	82°05'17.38638"
P85	4	22°32'00.98188"	82°05'10.96449"
P86	4	22°31'59.19752"	82°05'04.23771"
P87	4	22°31'58.20565"	82°04'57.32009"
P88	4	22°31'57.57925"	82°04'50.36226"
P89	4	22°31'56.04220"	82°04'48.79296"
P90	4	22°32'12.73157"	82°05'23.86046"
P91	4	22°32'08.02877"	82°05'19.69110"
P92	4	22°32'03.56760"	82°05'17.38638"
P93	4	22°31'56.04220"	82°04'48.79296"
P94	4	22°31'50.25021"	82°04'45.61424"
P95	4	22°31'49.18679"	82°04'44.66141"

Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P96	5	22°31'15.74149"	82°05'06.92598"
P97	5	22°31'21.71159"	82°05'06.47195"
P98	5	22°31'24.86420"	82°05'07.67770"
P99	5	22°31'27.82333"	82°05'11.46304"
P100	6	22°31'16.68599"	82°00'06.74484"
P101	6	22°31'17.65007"	82°00'01.11701"
P102	6	22°31'17.65007"	82°00'01.11701"
P103	6	22°31'23.72150"	82°00'01.36812"
P104	6	22°31'27.84102"	82°00'01.66661"
P105	6	22°31'27.84102"	82°00'01.66661"
P106	6	22°31'33.22592"	81°59'57.74329"
P107	6	22°31'38.61111"	81°59'53.83154"
P108	6	22°31'43.51011"	81°59'49.22836"
P109	6	22°31'44.14712"	81°59'48.66193"
P110	6	22°31'17.16549"	82°00'00.49361"
P111	6	22°31'17.65007"	82°00'01.11701"
P112	6	22°31'17.65007"	82°00'01.11701"
P113	6	22°31'17.03799"	82°00'00.68085"
P114	7	22°31'49.71558"	81°58'38.48227"
P115	7	22°31'54.78978"	81°58'34.27524"
P116	7	22°31'50.27477"	81°58'33.78948"
P117	7	22°31'49.32921"	81°58'34.75231"
P118	7	22°32'03.96863"	81°58'48.72663"
P119	7	22°32'08.53555"	81°58'43.75413"
P120	7	22°32'11.36567"	81°58'42.15497"
P121	7	22°32'11.25747"	81°58'41.71341"
P122	7	22°32'06.08534"	81°58'45.69490"
P123	7	22°32'03.52737"	81°58'48.65059"
P124	8	22°32'41.40498"	81°57'29.15801"
P125	8	22°32'41.36658"	81°57'22.21839"
P126	8	22°32'41.36023"	81°57'15.21896"
P127	8	22°32'41.58598"	81°57'08.22229"
P128	8	22°32'42.36568"	81°57'01.37568"



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Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P129	8	22°32'47.23456"	81°56'56.83882"
P130	8	22°32'49.24290"	81°56'50.26311"
P131	8	22°32'49.19164"	81°56'43.26594"
P132	8	22°32'47.70014"	81°56'36.52168"
P133	8	22°32'51.23583"	81°56'31.00632"
P134	8	22°32'53.96972"	81°56'26.86837"
P135	8	22°32'53.96972"	81°56'26.86837"
P136	8	22°32'58.67868"	81°56'25.06852"
P137	8	22°33'00.09768"	81°56'24.50738"
P138	8	22°33'00.09768"	81°56'24.50738"
P139	8	22°33'02.48990"	81°56'18.12545"
P140	8	22°32'57.80291"	81°56'15.66251"
P141	8	22°32'54.08670"	81°56'10.66003"
P142	8	22°32'54.65793"	81°56'08.51880"
P143	8	22°32'54.55620"	81°56'08.26195"
P144	8	22°32'55.81488"	81°56'13.96435"
P145	8	22°33'01.25953"	81°56'16.58053"
P146	8	22°33'00.81089"	81°56'22.69624"
P147	8	22°32'55.34445"	81°56'23.66406"
P148	8	22°32'50.85760"	81°56'27.59148"
P149	8	22°32'45.85435"	81°56'23.53106"
P150	8	22°32'41.09732"	81°56'19.09339"
P151	8	22°32'36.20564"	81°56'14.68329"
P152	8	22°32'34.68873"	81°56'09.80999"
P153	8	22°32'34.42668"	81°56'10.00328"
P154	8	22°32'36.78446"	81°56'16.24072"
P155	8	22°32'42.04888"	81°56'20.17319"
P156	8	22°32'46.48339"	81°56'25.03145"
P157	8	22°32'46.49446"	81°56'25.03956"
P158	8	22°32'46.49446"	81°56'25.03956"
P159	8	22°32'51.85960"	81°56'27.57714"
P160	8	22°32'50.30201"	81°56'31.89765"
P161	8	22°32'47.43885"	81°56'37.53732"

Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P162	8	22°32'48.71779"	81°56'44.31297"
P163	8	22°32'48.65804"	81°56'51.29525"
P164	8	22°32'46.12042"	81°56'57.61861"
P165	8	22°32'41.45519"	81°57'02.32929"
P166	8	22°32'41.10443"	81°57'09.31991"
P167	8	22°32'40.89664"	81°57'16.31692"
P168	8	22°32'40.91844"	81°57'21.56686"
P169	8	22°32'40.91844"	81°57'21.56686"
P170	8	22°32'40.86113"	81°57'28.51778"
P171	8	22°32'40.96219"	81°57'29.41019"
P172	8	22°33'01.31758"	81°56'24.58830"
P173	8	22°33'00.09768"	81°56'24.50738"
P174	8	22°33'00.09768"	81°56'24.50738"
P175	8	22°33'01.25801"	81°56'24.84963"
P176	8	22°32'54.69481"	81°56'08.61194"
P177	8	22°32'56.41296"	81°56'14.17284"
P178	8	22°33'00.97076"	81°56'15.43112"
P179	8	22°32'37.84550"	81°56'03.70616"
P180	8	22°32'37.86052"	81°56'03.53703"
P181	9	22°33'11.46109"	81°55'11.31583"
P182	9	22°33'16.06106"	81°55'06.39294"
P183	9	22°33'20.59524"	81°55'01.37545"
P184	9	22°33'23.83869"	81°54'55.35036"
P185	9	22°33'27.54937"	81°54'49.70626"
P186	9	22°33'27.76024"	81°54'49.53373"
P187	9	22°33'50.66954"	81°54'41.55396"
P188	9	22°33'57.13375"	81°54'41.34154"
P189	9	22°34'01.88628"	81°54'38.17037"
P190	9	22°34'07.51549"	81°54'35.32501"
P191	9	22°34'10.93235"	81°54'30.13494"
P192	9	22°34'12.36532"	81°54'23.37260"
P193	9	22°34'13.51833"	81°54'16.98216"
P194	9	22°34'16.99291"	81°54'11.26033"

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Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P195	9	22°34'19.37079"	81°54'12.76159"
P196	9	22°33'08.35540"	81°55'33.54826"
P197	9	22°33'08.28089"	81°55'33.19717"
P198	11	22°30'00.71905"	81°59'45.05508"
P199	11	22°29'58.34787"	81°59'50.87166"
P200	11	22°29'54.85250"	81°59'56.02794"
P201	11	22°29'49.20813"	81°59'59.24906"
P202	11	22°29'43.55573"	82°00'02.70593"
P203	11	22°29'38.05872"	82°00'06.44086"
P204	11	22°29'33.69570"	82°00'08.15191"
P205	12	22°29'00.76776"	82°00'54.69155"
P206	12	22°28'58.25583"	82°01'01.14319"
P207	12	22°28'55.33823"	82°01'07.38458"
P208	12	22°28'51.53621"	82°01'13.03180"
P209	12	22°28'48.39418"	82°01'16.30553"
P210	12	22°28'48.39418"	82°01'16.30553"
P211	12	22°28'43.14371"	82°01'20.42395"
P212	12	22°28'38.11452"	82°01'23.28680"
P213	13	22°26'33.79097"	82°01'18.44991"
P214	13	22°26'34.89374"	82°01'12.10293"
P215	13	22°26'39.22251"	82°01'06.93980"
P216	13	22°26'43.72339"	82°01'03.23613"
P217	13	22°26'43.72339"	82°01'03.23613"
P218	13	22°26'48.86448"	82°00'59.05939"
P219	13	22°26'51.01418"	82°00'55.85393"
P220	14	22°26'27.75150"	81°59'59.82376"
P221	14	22°26'26.17847"	82°00'06.51541"
P222	14	22°26'24.65740"	82°00'13.07520"
P223	14	22°26'21.69163"	82°00'19.16948"
P224	14	22°26'20.08741"	82°00'25.68970"
P225	14	22°26'18.27375"	82°00'32.12265"
P226	14	22°26'15.67014"	82°00'38.47840"
P227	14	22°26'10.52819"	82°00'41.91365"

Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P228	14	22°26'10.52819"	82°00'41.91365"
P229	14	22°26'05.91255"	82°00'46.46619"
P230	14	22°26'08.29221"	82°00'52.93135"
P231	14	22°26'10.10323"	82°00'59.63537"
P232	14	22°26'11.59042"	82°01'05.56715"
P233	14	22°26'11.59042"	82°01'05.56715"
P234	14	22°26'09.33853"	82°01'12.03848"
P235	14	22°26'07.02804"	82°01'18.55237"
P236	14	22°26'06.19475"	82°01'25.48540"
P237	14	22°26'06.02731"	82°01'32.47065"
P238	14	22°26'06.10728"	82°01'33.25656"
P239	14	22°25'54.58841"	82°01'53.68632"
P240	14	22°25'48.14585"	82°01'52.81581"
P241	14	22°25'45.52404"	82°01'52.27600"
P242	15	22°24'44.46964"	82°01'19.35473"
P243	15	22°24'38.40979"	82°01'16.81757"
P244	15	22°24'32.11811"	82°01'15.71903"
P245	15	22°24'26.03350"	82°01'14.90137"
P246	15	22°24'22.50080"	82°01'09.04119"
P247	15	22°24'19.24932"	82°01'04.07438"
P248	15	22°24'19.24932"	82°01'04.07438"
P249	15	22°24'14.39693"	82°00'59.41811"
P250	15	22°24'14.08758"	82°00'59.09442"
P251	15	22°24'14.08758"	82°00'59.09442"
P252	15	22°24'11.36700"	82°00'52.93863"
P253	15	22°24'10.83758"	82°00'45.96927"
P254	15	22°24'09.95176"	82°00'39.06200"
P255	15	22°24'07.31453"	82°00'32.68239"
P256	15	22°24'04.86393"	82°00'26.20419"
P257	15	22°24'02.42430"	82°00'19.72161"
P258	15	22°23'58.48885"	82°00'14.17062"
P259	15	22°23'57.22895"	82°00'12.54074"
P260	15	22°22'54.90108"	81°59'41.13112"

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Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P261	15	22°22'54.47951"	81°59'40.87441"
P262	15	22°23'39.61330"	81°59'55.48429"
P263	15	22°23'34.54145"	81°59'51.11246"
P264	15	22°23'28.82720"	81°59'48.16282"
P265	15	22°23'22.32637"	81°59'47.95941"
P266	15	22°23'15.82585"	81°59'47.82742"
P267	15	22°23'11.60783"	81°59'46.54650"
P268	15	22°22'54.47951"	81°59'40.87441"
P269	15	22°22'48.55149"	81°59'38.01964"
P270	15	22°22'42.19077"	81°59'38.02685"
P271	15	22°22'36.60477"	81°59'34.90040"
P272	15	22°22'32.78665"	81°59'33.02642"
P273	16	22°21'15.01907"	81°58'49.77880"
P274	16	22°21'11.81869"	81°58'43.84048"
P275	16	22°21'09.34417"	81°58'37.43323"
P276	16	22°21'09.03235"	81°58'31.75267"
P277	16	22°21'09.03235"	81°58'31.75267"
P278	16	22°21'13.41722"	81°58'27.91945"
P279	16	22°21'15.45967"	81°58'21.31625"
P280	16	22°21'16.92644"	81°58'14.50568"
P281	16	22°21'17.38921"	81°58'07.54893"
P282	16	22°21'16.78762"	81°58'05.64800"
P283	16	22°21'36.90796"	81°59'21.19386"
P284	16	22°21'36.89785"	81°59'20.56787"
P285	16	22°21'36.89785"	81°59'20.56787"
P286	16	22°21'38.88360"	81°59'14.00618"
P287	16	22°21'35.94731"	81°59'08.90235"
P288	16	22°21'29.78608"	81°59'06.66571"
P289	16	22°21'23.62087"	81°59'04.44051"
P290	16	22°21'17.82273"	81°59'01.74369"
P291	16	22°21'17.91343"	81°58'54.90108"
P292	16	22°21'15.01913"	81°58'49.77885"
P293	17	22°20'20.68832"	81°56'09.53273"

Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P294	17	22°20'21.75390"	81°56'07.71837"
P295	17	22°20'21.75390"	81°56'07.71837"
P296	17	22°20'15.81213"	81°56'08.04636"
P297	17	22°20'09.91443"	81°56'07.41994"
P298	17	22°20'06.11499"	81°56'02.10793"
P299	17	22°20'00.37757"	81°55'58.82488"
P300	17	22°19'54.26199"	81°55'56.85086"
P301	17	22°19'47.84261"	81°55'57.65856"
P302	17	22°19'46.29699"	81°55'58.29616"
P303	17	22°19'46.29699"	81°55'58.29616"
P304	17	22°19'40.54515"	81°56'00.92133"
P305	17	22°19'34.31407"	81°56'02.87508"
P306	17	22°19'28.80005"	81°56'06.48316"
P307	17	22°19'26.72583"	81°56'07.53588"
P308	17	22°20'21.75390"	81°56'07.71837"
P309	17	22°20'23.79994"	81°56'07.32156"
P310	17	22°20'23.86786"	81°56'06.95157"
P311	17	22°20'21.75390"	81°56'07.71837"
P312	17	22°20'05.00352"	81°57'20.80464"
P313	17	22°20'00.03857"	81°57'16.56977"
P314	17	22°19'58.16218"	81°57'10.17540"
P315	17	22°19'59.08655"	81°57'04.15622"
P316	17	22°20'02.22891"	81°56'58.09089"
P317	17	22°20'04.73035"	81°56'51.64297"
P318	17	22°20'07.47685"	81°56'45.30721"
P319	17	22°20'10.20627"	81°56'38.96230"
P320	17	22°20'12.53691"	81°56'32.44510"
P321	17	22°20'13.15500"	81°56'30.07881"
P322	17	22°20'13.15500"	81°56'30.07881"
P323	17	22°20'14.88083"	81°56'23.33853"
P324	17	22°20'16.70470"	81°56'16.63002"
P325	17	22°20'20.06136"	81°56'10.64979"
P326	17	22°20'20.68832"	81°56'09.53273"

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Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P327	18	22°15'15.74847"	82°24'27.49623"
P328	18	22°15'22.02164"	82°24'26.22960"
P329	18	22°15'26.75851"	82°24'21.46910"
P330	18	22°15'29.81440"	82°24'15.38607"
P331	18	22°15'32.59330"	82°24'09.21693"
P332	18	22°15'34.81699"	82°24'06.80728"
P333	18	22°15'42.92044"	82°23'50.31775"
P334	18	22°15'48.72911"	82°23'47.82552"
P335	18	22°15'52.45876"	82°23'42.73990"
P336	18	22°15'52.96034"	82°23'35.81983"
P337	18	22°15'55.43612"	82°23'29.42737"
P338	18	22°15'56.49559"	82°23'23.43684"
P339	18	22°15'55.37596"	82°23'16.74485"
P340	18	22°16'00.03180"	82°23'12.96523"
P341	18	22°16'00.07171"	82°23'12.46557"
P342	18	22°15'34.81699"	82°24'06.80728"
P343	18	22°15'37.87616"	82°24'00.66778"
P344	18	22°15'41.13848"	82°23'54.64529"
P345	18	22°15'42.92044"	82°23'50.31775"
P346	18	22°15'58.65792"	82°22'58.01946"
P347	18	22°16'01.14754"	82°22'54.52081"
P348	18	22°16'00.89668"	82°22'54.32165"
P349	18	22°16'00.07171"	82°23'12.46557"
P350	18	22°15'59.46957"	82°23'05.56749"
P351	18	22°15'58.31626"	82°22'58.71268"
P352	18	22°15'58.65792"	82°22'58.01946"
P353	18	22°18'39.16376"	81°56'29.40550"
P354	18	22°18'33.71475"	81°56'32.80454"
P355	18	22°18'29.60604"	81°56'37.96832"
P356	18	22°18'26.18688"	81°56'43.91353"
P357	18	22°18'22.73073"	81°56'49.83396"
P358	18	22°18'19.31709"	81°56'55.78304"
P359	18	22°18'15.86503"	81°57'01.70304"

Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P360	18	22°18'13.13421"	81°57'07.88711"
P361	18	22°18'13.41604"	81°57'13.25893"
P362	18	22°18'14.70491"	81°57'42.67118"
P363	18	22°18'14.96582"	81°57'49.65379"
P364	18	22°18'15.32624"	81°57'56.63219"
P365	18	22°18'15.51359"	81°58'03.61801"
P366	18	22°18'15.76856"	81°58'10.60166"
P367	18	22°18'13.74439"	81°57'20.30178"
P368	18	22°18'13.41604"	81°57'13.25893"
P369	18	22°18'13.73880"	81°57'20.14230"
P370	18	22°19'26.72583"	81°56'07.53588"
P371	18	22°19'20.48647"	81°56'07.40446"
P372	18	22°18'48.39478"	81°56'20.07095"
P373	18	22°18'48.39478"	81°56'20.07095"
P374	18	22°18'43.14369"	81°56'24.18579"
P375	18	22°18'39.16376"	81°56'29.40550"
P376	18	22°18'13.73880"	81°57'20.14230"
P377	18	22°18'13.74206"	81°57'20.23530"
P378	18	22°18'13.73880"	81°57'20.14230"
P379	18	22°18'13.74206"	81°57'20.23530"
P380	18	22°15'00.80264"	82°24'33.34140"
P381	18	22°15'06.99249"	82°24'31.22961"
P382	18	22°15'09.65894"	82°24'29.75178"
P383	19	22°11'30.11088"	82°23'00.50251"
P384	19	22°11'36.25090"	82°23'02.70190"
P385	19	22°11'42.65620"	82°23'03.67074"
P386	19	22°11'47.73368"	82°23'07.86938"
P387	19	22°11'52.39112"	82°23'12.60025"
P388	19	22°11'57.53101"	82°23'16.75361"
P389	19	22°12'00.71663"	82°23'20.72992"
P390	19	22°12'00.71663"	82°23'20.72992"
P391	19	22°12'02.73408"	82°23'27.26871"
P392	19	22°12'02.77460"	82°23'27.32908"

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Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P393	19	22°12'02.77460"	82°23'27.32908"
P394	19	22°12'07.79599"	82°23'31.71693"
P395	19	22°12'12.44806"	82°23'36.05872"
P396	19	22°12'27.29853"	82°23'50.21454"
P397	19	22°12'31.43707"	82°23'52.31797"
P398	19	22°12'37.63956"	82°23'50.30150"
P399	19	22°12'42.03948"	82°23'49.92837"
P400	19	22°12'42.03948"	82°23'49.92837"
P401	19	22°12'48.42437"	82°23'48.80424"
P402	19	22°12'54.44014"	82°23'46.35039"
P403	19	22°12'54.68961"	82°23'46.10636"
P404	19	22°12'12.44806"	82°23'36.05872"
P405	19	22°12'17.17538"	82°23'40.83020"
P406	19	22°12'21.88694"	82°23'45.62683"
P407	19	22°12'27.09535"	82°23'49.77971"
P408	19	22°12'27.29853"	82°23'50.21454"
P409	19	22°12'57.90830"	82°23'42.74286"
P410	19	22°13'03.04301"	82°23'39.08071"
P411	19	22°13'04.94747"	82°23'39.04086"
P412	19	22°13'04.94747"	82°23'39.04086"
P413	19	22°13'11.40903"	82°23'38.65790"
P414	19	22°13'17.36348"	82°23'38.91080"
P415	19	22°13'23.32288"	82°23'36.77555"
P416	19	22°13'29.08785"	82°23'34.33273"
P417	19	22°13'35.47743"	82°23'34.83304"
P418	19	22°13'40.71655"	82°23'38.38434"
P419	19	22°13'44.16307"	82°23'44.26881"
P420	19	22°13'45.24837"	82°23'49.46156"
P421	19	22°12'54.68961"	82°23'46.10636"
P422	19	22°12'57.90830"	82°23'42.74286"
P423	19	22°13'47.67976"	82°23'54.87413"
P424	19	22°13'51.04297"	82°24'00.35760"
P425	19	22°13'53.12830"	82°24'05.80986"

Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P426	19	22°13'56.71199"	82°24'11.53722"
P427	19	22°13'57.84518"	82°24'12.79124"
P428	19	22°13'45.24837"	82°23'49.46156"
P429	19	22°13'47.67976"	82°23'54.87413"
P430	19	22°12'02.27665"	82°24'18.11944"
P431	19	22°12'03.69199"	82°24'12.27555"
P432	19	22°12'03.02479"	82°24'05.52382"
P433	19	22°12'04.99834"	82°23'58.93135"
P434	19	22°12'07.33866"	82°23'54.21323"
P435	19	22°12'07.33866"	82°23'54.21323"
P436	19	22°12'07.82841"	82°23'47.28776"
P437	19	22°12'10.17134"	82°23'40.81505"
P438	19	22°12'12.44806"	82°23'36.05872"
P439	19	22°17'38.13570"	81°57'33.85994"
P440	19	22°17'41.20458"	81°57'28.03530"
P441	19	22°17'41.27739"	81°57'21.07968"
P442	19	22°17'43.23982"	81°57'14.46437"
P443	19	22°17'44.45153"	81°57'07.60665"
P444	19	22°17'44.06191"	81°57'00.67895"
P445	19	22°17'42.49118"	81°56'54.03265"
P446	19	22°17'42.08354"	81°56'47.08131"
P447	19	22°17'42.01170"	81°56'46.66214"
P448	19	22°17'42.01170"	81°56'46.66214"
P449	19	22°17'41.77742"	81°56'45.68388"
P450	19	22°17'41.77742"	81°56'45.68388"
P451	19	22°17'40.39312"	81°56'38.88187"
P452	19	22°17'38.12154"	81°56'32.34651"
P453	19	22°17'35.48505"	81°56'25.96361"
P454	19	22°17'31.50758"	81°56'20.54275"
P455	19	22°17'31.24803"	81°56'18.72946"
P456	19	22°13'59.34266"	82°24'19.26624"
P457	19	22°13'59.02493"	82°24'18.90286"
P458	20	22°13'54.90945"	82°25'13.63677"

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Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P459	20	22°13'53.48839"	82°25'12.79484"
P460	20	22°13'53.48839"	82°25'12.79484"
P461	20	22°13'48.75355"	82°25'17.57078"
P462	20	22°13'44.12636"	82°25'22.47514"
P463	20	22°13'41.24727"	82°25'28.67448"
P464	20	22°13'38.93828"	82°25'32.29582"
P465	20	22°13'12.35043"	82°25'57.07851"
P466	20	22°13'08.16644"	82°25'57.90014"
P467	20	22°13'08.16644"	82°25'57.90014"
P468	20	22°13'01.70422"	82°25'58.67479"
P469	20	22°12'55.28980"	82°25'59.81492"
P470	20	22°12'51.82396"	82°26'01.35516"
P471	20	22°17'23.28485"	81°56'06.24727"
P472	20	22°17'23.07664"	81°55'59.37490"
P473	20	22°17'21.34706"	81°55'57.88572"
P474	20	22°17'21.04130"	81°56'00.66476"
P475	20	22°17'20.77435"	81°56'04.93380"
P476	20	22°17'14.36983"	81°56'03.91588"
P477	20	22°17'08.00970"	81°56'02.56700"
P478	20	22°17'02.46563"	81°55'58.92784"
P479	20	22°17'01.61010"	81°55'54.42136"
P480	20	22°17'21.04130"	81°56'00.66476"
P481	20	22°17'20.77435"	81°56'04.93380"
P482	21	22°10'36.30844"	82°19'53.08829"
P483	21	22°10'32.21090"	82°19'58.50838"
P484	21	22°10'28.12302"	82°20'03.93472"
P485	21	22°10'24.45712"	82°20'09.64936"
P486	21	22°10'21.79331"	82°20'16.01772"
P487	21	22°10'21.42335"	82°20'22.57610"
P488	21	22°10'23.44184"	82°20'29.21102"
P489	21	22°10'23.37624"	82°20'30.11389"
P490	21	22°10'44.23135"	82°19'41.33633"
P491	21	22°10'40.73895"	82°19'47.08878"

Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P492	21	22°10'36.70377"	82°19'52.55930"
P493	21	22°10'36.30844"	82°19'53.08829"
P494	21	22°10'44.97807"	82°19'27.88233"
P495	21	22°10'44.61098"	82°19'34.59397"
P496	21	22°10'44.23135"	82°19'41.33633"
P497	21	22°16'47.05603"	81°55'10.49072"
P498	21	22°16'48.41646"	81°55'03.94034"
P499	21	22°16'52.17650"	81°54'58.31380"
P500	21	22°16'50.57772"	81°54'52.99923"
P501	21	22°16'45.43454"	81°54'50.35948"
P502	21	22°10'39.58226"	82°19'20.22205"
P503	21	22°10'37.80885"	82°19'19.14834"
P504	22	22°16'27.01926"	81°52'34.54700"
P505	22	22°16'20.69750"	81°52'35.53731"
P506	22	22°16'14.74988"	81°52'38.35890"
P507	22	22°16'08.48139"	81°52'40.20690"
P508	22	22°16'05.89693"	81°52'41.74753"
P509	22	22°26'12.86640"	81°58'59.93389"
P510	22	22°26'12.94918"	81°58'52.94362"
P511	22	22°26'11.54139"	81°58'46.38668"
P512	22	22°26'12.75581"	81°58'40.42623"
P513	22	22°26'13.54535"	81°58'33.61670"
P514	22	22°26'14.05494"	81°58'30.58033"
P515	22	22°26'14.05494"	81°58'30.58033"
P516	22	22°26'14.22694"	81°58'23.77570"
P517	22	22°26'16.47143"	81°58'26.74422"
P518	22	22°26'16.31192"	81°58'33.44416"
P519	22	22°26'15.64742"	81°58'40.17800"
P520	22	22°26'15.94625"	81°58'47.00155"
P521	22	22°26'21.84816"	81°58'48.72699"
P522	22	22°26'27.23570"	81°58'46.15497"
P523	22	22°26'24.38689"	81°58'41.95777"
P524	22	22°26'25.41405"	81°58'36.82710"

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Point	Patch	Longitude in D:M:S	Latitude in D:M:S	Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P525	22	22°26'25.70558"	81°58'32.79198"	P558	23	22°17'32.26893"	81°59'42.54353"
P526	22	22°26'25.70558"	81°58'32.79198"	P559	23	22°17'34.37038"	81°59'36.31684"
P527	22	22°26'27.47730"	81°58'27.56289"	P560	23	22°17'34.46576"	81°59'29.40262"
P528	22	22°26'28.25085"	81°58'22.24810"	P561	23	22°17'33.64145"	81°59'24.87155"
P529	22	22°26'29.30898"	81°58'16.91627"	P562	23	22°17'33.64145"	81°59'24.87155"
P530	22	22°26'30.55342"	81°58'12.61871"	P563	23	22°17'29.20259"	81°59'19.87409"
P531	22	22°26'32.51643"	81°58'07.16507"	P564	23	22°17'27.42927"	81°59'17.95456"
P532	22	22°26'35.59956"	81°58'06.18227"	P565	24	22°19'29.27168"	82°00'56.02000"
P533	22	22°26'35.20585"	81°58'00.15142"	P566	24	22°19'35.45927"	82°00'57.35268"
P534	22	22°26'35.42155"	81°57'54.87679"	P567	24	22°19'37.81947"	82°00'57.16367"
P535	22	22°26'37.85402"	81°57'50.28030"	P568	24	22°19'01.38171"	82°00'48.72212"
P536	22	22°26'38.53983"	81°57'45.77246"	P569	24	22°19'05.40591"	82°00'48.44893"
P537	22	22°26'38.53983"	81°57'45.77246"	P570	25	22°22'04.43156"	82°01'19.84839"
P538	22	22°26'42.44772"	81°57'41.32958"	P571	25	22°22'10.60492"	82°01'20.84367"
P539	22	22°26'43.87503"	81°57'35.65704"	P572	25	22°22'16.29331"	82°01'24.22640"
P540	22	22°26'43.37009"	81°57'32.53125"	P573	25	22°22'22.23146"	82°01'27.06816"
P541	22	22°26'43.74461"	81°57'32.33512"	P574	25	22°22'24.65226"	82°01'28.18265"
P542	22	22°26'43.74461"	81°57'32.33512"	P575	26	22°23'54.22877"	82°02'16.00238"
P543	22	22°26'42.82697"	81°57'29.43506"	P576	26	22°23'57.14763"	82°02'22.23504"
P544	22	22°26'36.59965"	81°57'29.93900"	P577	26	22°23'58.27941"	82°02'23.93451"
P545	22	22°26'31.52882"	81°57'27.96995"	P578	27	22°23'54.96570"	82°03'59.93189"
P546	22	22°26'28.91796"	81°57'22.08062"	P579	27	22°23'48.49987"	82°03'59.20350"
P547	22	22°26'30.55577"	81°57'15.54105"	P580	27	22°23'42.58314"	82°03'59.39011"
P548	22	22°26'31.31512"	81°57'08.61103"	P581	27	22°14'47.19645"	81°50'37.76114"
P549	22	22°26'32.03691"	81°57'03.88804"	P582	27	22°14'49.67226"	81°50'39.24942"
P550	22	22°26'32.03691"	81°57'03.88804"	P583	27	22°15'43.65737"	81°50'21.87174"
P551	22	22°26'32.82996"	81°56'58.37964"	P584	27	22°15'38.57421"	81°50'18.77605"
P552	23	22°18'11.20627"	82°00'30.92593"	P585	27	22°15'35.14599"	81°50'12.87478"
P553	23	22°18'10.75914"	82°00'23.95609"	P586	27	22°15'31.20699"	81°50'08.43966"
P554	23	22°18'10.74972"	82°00'23.87252"	P587	27	22°15'31.39848"	81°50'08.25808"
P555	23	22°18'10.74972"	82°00'23.87252"	P588	27	22°15'35.83525"	81°50'13.34337"
P556	23	22°18'07.04950"	82°00'20.49226"	P589	27	22°15'39.36729"	81°50'19.16894"
P557	23	22°18'04.02332"	82°00'15.17560"	P590	27	22°15'43.88197"	81°50'21.49423"

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Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P591	28	22°22'39.91575"	82°03'27.78609"
P592	28	22°22'33.53212"	82°03'26.68875"
P593	28	22°22'27.23499"	82°03'28.30670"
P594	28	22°22'22.11586"	82°03'24.42220"
P595	28	22°22'17.90409"	82°03'19.10707"
P596	28	22°22'13.55369"	82°03'13.92504"
P597	28	22°22'08.39095"	82°03'09.70872"
P598	28	22°22'05.94089"	82°03'08.47407"
P599	28	22°22'05.94089"	82°03'08.47407"
P600	28	22°22'00.28478"	82°03'05.02624"
P601	28	22°21'54.74076"	82°03'01.49293"
P602	28	22°21'49.75197"	82°02'57.05957"
P603	28	22°21'44.89589"	82°02'52.48283"
P604	28	22°21'41.35198"	82°02'49.57437"
P605	28	22°21'41.35027"	82°02'49.57445"
P606	28	22°21'35.42878"	82°02'47.84074"
P607	28	22°21'31.24735"	82°02'42.71314"
P608	28	22°21'30.48081"	82°02'42.33654"
P609	28	22°21'30.48081"	82°02'42.33654"
P610	28	22°21'24.36265"	82°02'40.05594"
P611	28	22°21'18.22572"	82°02'37.85717"
P612	28	22°21'18.19536"	82°02'37.85882"
P613	29	22°18'35.72739"	82°01'59.03040"
P614	29	22°18'32.83020"	82°02'03.65917"
P615	29	22°18'31.44963"	82°02'10.29465"
P616	29	22°18'25.67706"	82°02'13.22098"
P617	29	22°18'21.37987"	82°02'17.55609"
P618	29	22°18'19.00111"	82°02'23.93532"
P619	29	22°18'12.52147"	82°02'23.65760"
P620	29	22°18'08.48719"	82°02'23.95826"
P621	30	22°16'10.95254"	82°04'03.50497"
P622	30	22°16'17.29111"	82°04'05.06751"
P623	30	22°16'23.60042"	82°04'06.72903"

Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P624	30	22°16'29.94004"	82°04'08.28520"
P625	30	22°16'36.28832"	82°04'08.88035"
P626	30	22°16'37.25400"	82°04'08.50553"
P627	30	22°16'37.25400"	82°04'08.50553"
P628	30	22°16'43.37470"	82°04'06.14443"
P629	30	22°16'49.49875"	82°04'03.79430"
P630	30	22°16'55.49767"	82°04'01.10687"
P631	30	22°16'57.78438"	82°03'59.95716"
P632	31	22°16'54.16481"	82°05'39.59525"
P633	31	22°17'00.64819"	82°05'39.63716"
P634	31	22°17'07.13404"	82°05'39.14554"
P635	31	22°17'13.07815"	82°05'41.68320"
P636	31	22°17'16.17437"	82°05'46.84966"
P637	31	22°17'21.43814"	82°05'48.17330"
P638	31	22°17'25.23460"	82°05'52.91236"
P639	31	22°17'30.48139"	82°05'56.63839"
P640	31	22°17'36.66935"	82°05'58.56652"
P641	31	22°17'42.47496"	82°05'55.91603"
P642	31	22°17'46.66918"	82°05'50.64130"
P643	31	22°17'51.38262"	82°05'45.82804"
P644	31	22°17'54.76750"	82°05'40.02965"
P645	31	22°17'56.80654"	82°05'35.45649"
P646	31	22°16'52.95655"	82°05'41.24400"
P647	31	22°16'50.69006"	82°05'47.49973"
P648	31	22°16'50.74434"	82°05'54.48740"
P649	31	22°16'50.26852"	82°05'55.82526"
P650	32	22°18'21.70062"	82°05'10.99871"
P651	32	22°18'23.33416"	82°05'07.73661"
P652	32	22°18'23.33416"	82°05'07.73661"
P653	32	22°18'27.87691"	82°05'02.74131"
P654	32	22°18'29.05059"	82°05'01.72825"
P655	32	22°19'24.59757"	82°05'26.70406"
P656	32	22°19'29.30207"	82°05'23.00580"

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Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P657	32	22°19'35.21576"	82°05'21.04788"
P658	32	22°19'38.59145"	82°05'19.75905"
P659	32	22°19'24.50476"	82°05'26.69376"
P660	32	22°19'18.07512"	82°05'26.56854"
P661	32	22°19'11.75004"	82°05'24.95292"
P662	32	22°19'05.86856"	82°05'22.87286"
P663	32	22°19'03.06607"	82°05'16.56642"
P664	32	22°18'59.61267"	82°05'10.70551"
P665	32	22°18'54.54096"	82°05'06.38842"
P666	32	22°18'48.58702"	82°05'03.59900"
P667	32	22°18'42.28927"	82°05'02.64816"
P668	32	22°18'35.78964"	82°05'02.54586"
P669	32	22°18'29.38372"	82°05'01.70304"
P670	33	22°20'18.72408"	82°05'50.54773"
P671	33	22°20'19.40261"	82°05'43.61453"
P672	33	22°20'19.99017"	82°05'38.24504"
P673	33	22°20'44.36889"	82°05'32.45648"
P674	33	22°20'49.94077"	82°05'29.10062"
P675	33	22°20'52.53006"	82°05'27.51231"
P676	33	22°20'52.53006"	82°05'27.51231"
P677	33	22°20'58.16045"	82°05'24.01954"
P678	33	22°21'02.96701"	82°05'19.43858"
P679	33	22°21'07.36967"	82°05'14.30266"
P680	33	22°21'11.95743"	82°05'09.34790"
P681	33	22°21'16.39001"	82°05'04.24330"
P682	33	22°21'20.52834"	82°04'58.84972"
P683	33	22°21'24.56804"	82°04'53.38313"
P684	33	22°21'29.06860"	82°04'48.34719"
P685	33	22°21'34.05110"	82°04'49.34605"
P686	33	22°21'38.73954"	82°04'47.95796"
P687	33	22°21'38.73954"	82°04'47.95796"
P688	33	22°21'45.20550"	82°04'47.28172"
P689	33	22°21'51.70475"	82°04'47.31243"

Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P690	33	22°21'58.18938"	82°04'46.89429"
P691	33	22°22'03.26096"	82°04'45.98931"
P692	33	22°22'03.26096"	82°04'45.98931"
P693	33	22°22'03.31156"	82°04'45.53022"
P694	34	22°22'53.83468"	82°05'14.34699"
P695	34	22°22'50.88348"	82°05'18.36990"
P696	34	22°22'50.88348"	82°05'18.36990"
P697	34	22°22'51.16403"	82°05'21.11176"
P698	34	22°22'50.64551"	82°05'47.91115"
P699	34	22°22'49.59352"	82°05'54.81117"
P700	34	22°22'48.58725"	82°06'01.71960"
P701	34	22°22'48.47258"	82°06'02.69291"
P702	34	22°22'48.47258"	82°06'02.69291"
P703	34	22°22'47.91514"	82°06'09.62690"
P704	34	22°22'44.37491"	82°06'15.36802"
P705	34	22°22'43.13287"	82°06'22.23116"
P706	34	22°22'42.05299"	82°06'27.82534"
P707	34	22°22'33.82078"	82°07'01.05337"
P708	34	22°22'32.93979"	82°07'02.12280"
P709	35	22°20'06.69971"	82°07'41.85115"
P710	35	22°20'07.02600"	82°07'40.74832"
P711	35	22°20'07.02600"	82°07'40.74832"
P712	35	22°20'03.20633"	82°07'36.21649"
P713	35	22°19'57.15222"	82°07'33.76095"
P714	35	22°19'50.99350"	82°07'31.53189"
P715	35	22°19'49.26903"	82°07'30.81043"
P716	35	22°20'12.68480"	82°07'39.45253"
P717	35	22°20'07.02600"	82°07'40.74832"
P718	35	22°20'07.02600"	82°07'40.74832"
P719	35	22°20'12.77338"	82°07'39.71006"
P720	36	22°16'42.60716"	82°14'15.74312"
P721	36	22°16'41.47889"	82°14'22.62391"
P722	36	22°16'38.77747"	82°14'28.94798"

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Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P723	36	22°16'36.45619"	82°14'33.51037"
P724	37	22°18'38.03254"	82°09'12.47383"
P725	37	22°18'44.31683"	82°09'10.67929"
P726	37	22°18'50.45666"	82°09'08.40314"
P727	37	22°18'56.53275"	82°09'05.91143"
P728	37	22°19'02.56722"	82°09'03.31192"
P729	37	22°19'06.80866"	82°08'58.07240"
P730	37	22°19'11.83936"	82°08'53.97223"
P731	37	22°19'18.33003"	82°08'53.61409"
P732	37	22°19'24.82497"	82°08'53.25825"
P733	37	22°19'24.84077"	82°08'53.25716"
P734	37	22°19'24.84077"	82°08'53.25716"
P735	37	22°19'31.33659"	82°08'52.92143"
P736	37	22°19'37.81576"	82°08'52.35949"
P737	37	22°19'44.15843"	82°08'52.97436"
P738	37	22°21'02.75072"	82°08'35.29214"
P739	37	22°21'09.20835"	82°08'35.05323"
P740	37	22°21'15.63087"	82°08'36.14866"
P741	37	22°21'21.52883"	82°08'35.88047"
P742	37	22°19'44.15843"	82°08'52.97436"
P743	37	22°19'50.52549"	82°08'54.25355"
P744	37	22°19'56.42068"	82°08'52.01865"
P745	37	22°20'02.24094"	82°08'48.91013"
P746	37	22°20'08.26228"	82°08'46.26991"
P747	37	22°20'14.14585"	82°08'43.29828"
P748	37	22°20'20.25327"	82°08'41.10041"
P749	37	22°20'25.18206"	82°08'40.97289"
P750	37	22°20'25.18206"	82°08'40.97289"
P751	37	22°20'31.68277"	82°08'40.81232"
P752	37	22°20'37.81696"	82°08'38.76844"
P753	37	22°20'42.04046"	82°08'36.86575"
P754	37	22°20'42.04046"	82°08'36.86575"
P755	37	22°20'40.63990"	82°08'30.08428"

Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P756	37	22°20'38.57907"	82°08'24.17817"
P757	37	22°20'42.04046"	82°08'36.86575"
P758	37	22°20'48.52806"	82°08'36.48803"
P759	37	22°20'55.02045"	82°08'36.08453"
P760	37	22°21'01.49614"	82°08'35.47383"
P761	37	22°21'02.75072"	82°08'35.29214"
P762	38	22°22'14.29402"	82°08'02.45798"
P763	38	22°22'08.57145"	82°08'00.31019"
P764	38	22°22'02.97558"	82°08'00.30253"
P765	38	22°22'00.94248"	82°08'06.77399"
P766	38	22°22'00.79341"	82°08'13.76119"
P767	38	22°22'02.35140"	82°08'20.04016"
P768	38	22°22'00.76382"	82°08'26.05329"
P769	38	22°22'00.76382"	82°08'26.05329"
P770	38	22°22'07.09941"	82°08'27.40415"
P771	38	22°22'09.05691"	82°08'27.70598"
P772	38	22°22'00.08768"	82°08'26.12050"
P773	38	22°22'00.76382"	82°08'26.05329"
P774	38	22°22'26.83714"	82°07'44.70435"
P775	38	22°22'23.58249"	82°07'49.97433"
P776	38	22°22'19.15491"	82°07'54.99289"
P777	38	22°22'19.15491"	82°07'54.99289"
P778	38	22°22'17.87113"	82°07'56.90178"
P779	38	22°22'17.87113"	82°07'56.90178"
P780	38	22°22'14.29402"	82°08'02.45798"
P781	38	22°22'09.05691"	82°08'27.70598"
P782	38	22°22'15.21070"	82°08'29.36334"
P783	38	22°22'17.79521"	82°08'31.69095"
P784	38	22°22'17.79521"	82°08'31.69095"
P785	38	22°22'23.39616"	82°08'35.18225"
P786	38	22°22'29.23063"	82°08'38.19612"
P787	38	22°22'35.06687"	82°08'41.04628"
P788	38	22°22'41.26748"	82°08'42.75211"

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Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P789	38	22°22'46.70952"	82°08'46.52594"
P790	38	22°22'52.79144"	82°08'48.95560"
P791	38	22°22'59.24695"	82°08'49.43497"
P792	38	22°23'05.69404"	82°08'48.70906"
P793	38	22°23'12.04427"	82°08'47.40167"
P794	38	22°23'16.76408"	82°08'46.09191"
P795	38	22°23'16.76408"	82°08'46.09191"
P796	38	22°23'21.57142"	82°08'44.16840"
P797	38	22°22'18.66587"	82°07'54.64594"
P798	38	22°22'19.15491"	82°07'54.99289"
P799	39	22°24'07.44931"	82°08'49.94446"
P800	39	22°24'13.76018"	82°08'48.34682"
P801	39	22°24'14.54921"	82°08'48.14692"
P802	39	22°24'14.54921"	82°08'48.14692"
P803	39	22°24'20.86269"	82°08'49.40599"
P804	39	22°24'25.86785"	82°08'50.74263"
P805	39	22°24'25.86785"	82°08'50.74263"
P806	39	22°24'32.25746"	82°08'51.92881"
P807	39	22°24'38.68915"	82°08'52.49906"
P808	39	22°24'43.75291"	82°08'54.85023"
P809	39	22°24'43.75291"	82°08'54.85023"
P810	39	22°24'48.90359"	82°08'50.95225"
P811	39	22°24'52.37404"	82°08'45.61257"
P812	39	22°24'57.10148"	82°08'48.56890"
P813	39	22°25'02.49502"	82°08'46.66634"
P814	39	22°25'06.03807"	82°08'43.12422"
P815	39	22°24'25.86785"	82°08'50.74263"
P816	39	22°24'25.68026"	82°08'52.04957"
P817	39	22°24'26.00624"	82°08'52.12194"
P818	39	22°24'25.86785"	82°08'50.74263"
P819	39	22°24'44.38057"	82°08'55.28880"
P820	39	22°24'49.83473"	82°08'56.73960"
P821	39	22°24'56.20183"	82°08'57.48865"

Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P822	39	22°25'02.07390"	82°08'54.55131"
P823	39	22°25'08.43087"	82°08'54.76045"
P824	39	22°25'08.71951"	82°08'54.86161"
P825	39	22°24'43.75291"	82°08'54.85023"
P826	39	22°24'44.38057"	82°08'55.28880"
P827	39	22°24'22.92201"	82°09'01.81528"
P828	39	22°24'17.43511"	82°09'05.56607"
P829	39	22°24'13.74690"	82°09'11.18772"
P830	39	22°24'12.07239"	82°09'17.81666"
P831	39	22°24'13.13296"	82°09'24.70779"
P832	39	22°24'13.56374"	82°09'31.68005"
P833	39	22°24'14.12078"	82°09'34.27834"
P834	39	22°24'14.44244"	82°09'34.17079"
P835	39	22°24'13.69374"	82°09'27.26082"
P836	39	22°24'12.68332"	82°09'20.36343"
P837	39	22°24'13.17128"	82°09'13.55706"
P838	39	22°24'16.09466"	82°09'07.33989"
P839	39	22°24'21.32871"	82°09'03.27499"
P840	39	22°24'23.26218"	82°09'01.94410"
P841	39	22°24'15.74805"	82°09'38.35985"
P842	39	22°24'21.51000"	82°09'50.98884"
P843	39	22°24'18.90585"	82°09'44.64475"
P844	39	22°24'16.04386"	82°09'38.37297"
P845	39	22°24'15.75563"	82°09'37.81262"
P846	40	22°26'12.41791"	82°08'03.63158"
P847	40	22°26'10.90777"	82°08'03.63304"
P848	41	22°26'48.19012"	82°07'41.76622"
P849	41	22°26'42.40461"	82°07'48.95205"
P850	41	22°27'00.40430"	82°07'30.32266"
P851	41	22°27'04.83557"	82°07'25.24609"
P852	41	22°27'09.23888"	82°07'20.12837"
P853	41	22°27'12.23699"	82°07'17.61376"
P854	41	22°26'54.06623"	82°07'35.63239"

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Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P855	41	22°26'59.10488"	82°07'31.85160"
P856	42	22°27'25.91238"	82°07'10.90432"
P857	42	22°27'31.48030"	82°07'07.30969"
P858	42	22°27'35.36429"	82°07'01.99300"
P859	42	22°27'38.66637"	82°06'56.01590"
P860	42	22°27'38.85795"	82°06'55.54036"
P861	42	22°27'38.85795"	82°06'55.54036"
P862	42	22°27'41.29768"	82°06'49.07912"
P863	42	22°27'43.04946"	82°06'42.46423"
P864	42	22°27'42.50817"	82°06'40.23332"
P865	42	22°27'42.50817"	82°06'40.23332"
P866	42	22°27'41.30177"	82°06'33.40876"
P867	42	22°27'41.88022"	82°06'27.33672"
P868	42	22°27'46.09600"	82°06'22.50844"
P869	42	22°27'47.28384"	82°06'15.65934"
P870	42	22°27'50.18317"	82°06'10.11827"
P871	42	22°27'54.69071"	82°06'05.10181"
P872	42	22°27'57.84978"	82°05'59.01172"
P873	42	22°27'58.53225"	82°05'56.17623"
P874	42	22°27'58.53225"	82°05'56.17623"
P875	42	22°27'57.26327"	82°05'49.33003"
P876	42	22°27'57.57148"	82°05'42.55828"
P877	42	22°27'56.92792"	82°05'35.79699"
P878	42	22°27'56.93376"	82°05'35.65080"
P879	42	22°27'56.69510"	82°05'22.02758"
P880	42	22°27'58.55883"	82°05'15.36249"
P881	42	22°28'00.27679"	82°05'08.61786"
P882	42	22°28'01.87661"	82°05'02.24682"
P883	42	22°28'07.40786"	82°05'04.98829"
P884	42	22°28'11.80742"	82°05'06.21803"
P885	42	22°27'56.93376"	82°05'35.65080"
P886	42	22°27'56.41096"	82°05'29.02948"
P887	42	22°27'56.69181"	82°05'22.06162"

Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P888	42	22°27'56.69510"	82°05'22.02758"
P889	42	22°28'11.80742"	82°05'06.21803"
P890	42	22°28'18.15794"	82°05'07.27883"
P891	42	22°28'24.30163"	82°05'09.57123"
P892	42	22°28'26.64909"	82°05'09.13694"
P893	42	22°28'47.21072"	82°04'52.64236"
P894	42	22°28'47.33036"	82°04'50.23993"
P895	42	22°28'47.33036"	82°04'50.23993"
P896	42	22°28'42.56197"	82°04'45.54785"
P897	42	22°28'39.16954"	82°04'40.74101"
P898	42	22°28'26.92647"	82°05'03.35090"
P899	42	22°28'29.48537"	82°04'58.00428"
P900	42	22°28'35.89785"	82°04'57.27010"
P901	42	22°28'42.13463"	82°04'55.29236"
P902	42	22°28'47.21072"	82°04'52.64236"
P903	42	22°28'39.07344"	82°04'39.69414"
P904	42	22°28'38.33946"	82°04'36.78043"
P905	42	22°28'24.87556"	82°05'53.59675"
P906	42	22°28'23.16742"	82°05'47.51166"
P907	42	22°28'21.49370"	82°05'40.77196"
P908	42	22°28'20.22519"	82°05'34.70876"
P909	42	22°28'20.22519"	82°05'34.70876"
P910	42	22°28'22.30538"	82°05'28.08462"
P911	42	22°28'24.45541"	82°05'21.48462"
P912	42	22°28'27.29600"	82°05'15.28036"
P913	42	22°28'26.64909"	82°05'09.13694"
P914	42	22°28'26.64909"	82°05'09.13694"
P915	42	22°28'26.75740"	82°05'15.48371"
P916	42	22°28'24.04464"	82°05'21.76381"
P917	42	22°28'21.94247"	82°05'28.38373"
P918	42	22°28'19.79711"	82°05'34.98731"
P919	42	22°28'21.40842"	82°05'41.67004"
P920	42	22°28'23.16166"	82°05'48.38070"

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Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P921	42	22°28'24.87556"	82°05'53.59675"
P922	43	22°27'58.60370"	82°04'06.85752"
P923	43	22°27'56.12200"	82°04'12.85491"
P924	43	22°27'51.09371"	82°04'17.29046"
P925	43	22°27'45.04657"	82°04'17.18512"
P926	43	22°27'39.31920"	82°04'13.87181"
P927	43	22°27'33.63703"	82°04'10.47049"
P928	43	22°27'27.98013"	82°04'07.01939"
P929	43	22°27'22.34497"	82°04'03.52809"
P930	43	22°27'21.77490"	82°04'03.18453"
P931	43	22°27'21.77490"	82°04'03.18453"
P932	43	22°27'16.16081"	82°03'59.65443"
P933	43	22°27'10.38087"	82°03'56.48415"
P934	43	22°27'04.03577"	82°03'56.85632"
P935	43	22°26'57.84034"	82°03'58.98104"
P936	43	22°26'53.82101"	82°04'00.36890"
P937	43	22°26'53.82153"	82°04'00.36688"
P938	43	22°27'00.01250"	82°03'58.22597"
P939	43	22°27'06.23399"	82°03'56.20599"
P940	43	22°27'09.36724"	82°03'56.19064"
P941	43	22°27'09.36724"	82°03'56.19064"
P942	43	22°27'15.25126"	82°03'59.08728"
P943	43	22°27'20.85483"	82°04'02.63764"
P944	43	22°27'26.49312"	82°04'06.12268"
P945	43	22°27'32.16283"	82°04'09.54947"
P946	43	22°27'37.82428"	82°04'12.99068"
P947	43	22°27'43.53993"	82°04'16.32720"
P948	43	22°27'49.59720"	82°04'18.14440"
P949	43	22°27'54.82342"	82°04'14.04036"
P950	43	22°27'58.54699"	82°04'08.68555"
P951	43	22°27'58.60217"	82°04'06.85597"
P952	44	22°28'34.15937"	82°04'13.79766"
P953	44	22°28'22.98944"	82°04'02.82888"

Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P954	44	22°28'20.02372"	82°04'00.34093"
P955	45	22°29'02.06424"	82°03'57.06269"
P956	45	22°29'08.55046"	82°03'56.55699"
P957	45	22°29'15.00862"	82°03'55.73911"
P958	45	22°29'21.46271"	82°03'54.87962"
P959	45	22°29'23.71009"	82°03'54.54568"
P960	45	22°28'58.81665"	82°03'57.33650"
P961	45	22°28'58.04583"	82°03'57.39576"
P962	46	22°29'48.15854"	82°04'03.48770"
P963	46	22°29'53.95730"	82°04'06.60929"
P964	46	22°29'59.27053"	82°04'10.64405"
P965	46	22°30'01.20464"	82°04'12.14585"
P966	46	22°30'45.39903"	82°04'09.40259"
P967	46	22°30'46.30714"	82°04'16.32620"
P968	46	22°30'51.48117"	82°04'20.42125"
P969	46	22°30'06.33773"	82°04'16.29736"
P970	46	22°30'11.77267"	82°04'20.01382"
P971	46	22°30'16.97819"	82°04'16.02223"
P972	46	22°30'20.88601"	82°04'12.29899"
P973	46	22°30'51.55062"	82°04'20.46749"
P974	46	22°30'57.44940"	82°04'23.38165"
P975	46	22°30'58.70188"	82°04'28.54468"
P976	46	22°31'00.63628"	82°04'34.48551"
P977	46	22°31'00.61923"	82°04'35.61870"
P978	47	22°11'19.21960"	82°26'31.39247"
P979	47	22°11'18.05769"	82°26'24.58936"
P980	47	22°11'15.86780"	82°26'17.81590"
P981	47	22°11'17.30843"	82°26'17.07419"
P982	47	22°11'26.40430"	82°26'39.67028"
P983	47	22°11'31.98487"	82°26'43.23108"
P984	47	22°11'38.32003"	82°26'44.23326"
P985	47	22°11'39.81076"	82°26'44.84503"
P986	47	22°11'40.82777"	82°26'55.53180"

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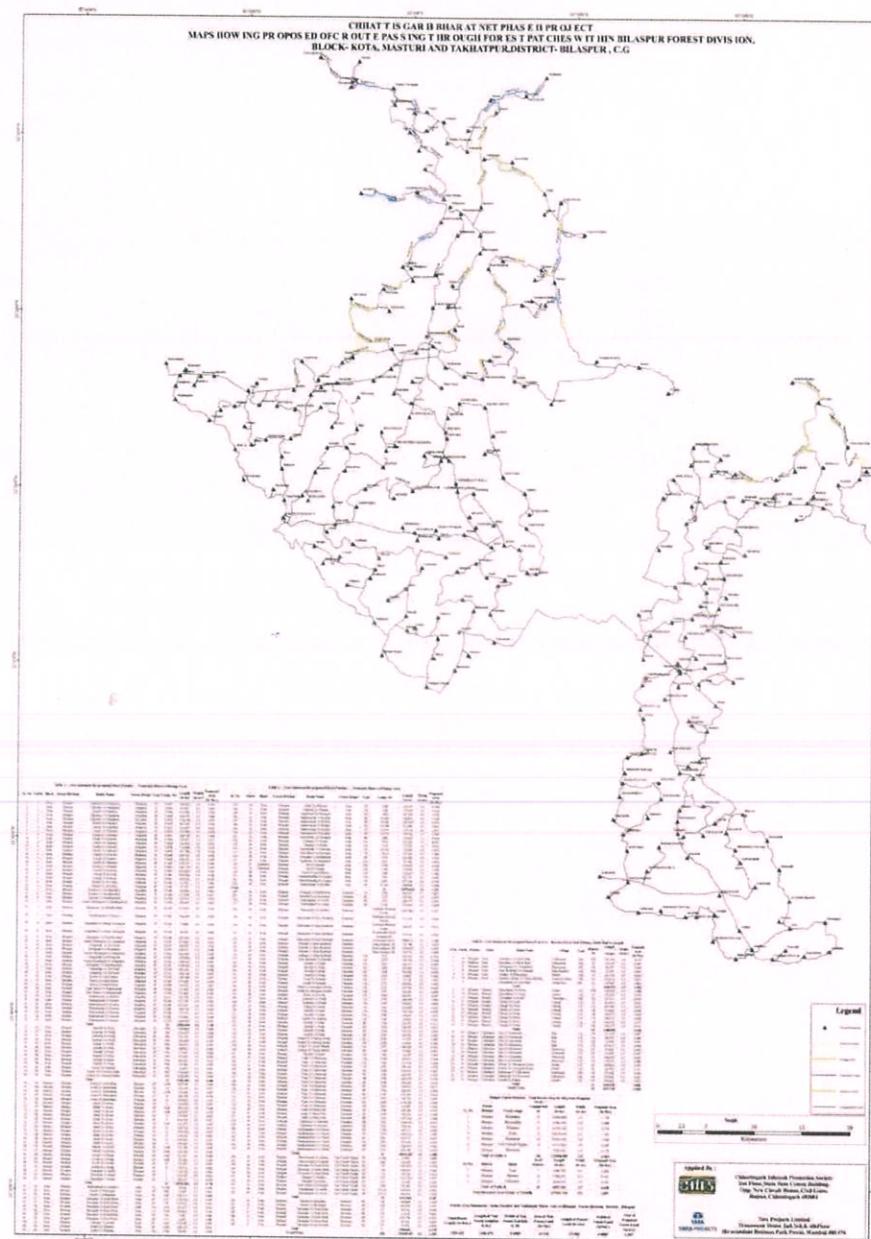
Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P987	47	22°11'43.91233"	82°27'01.53428"
P988	47	22°11'44.25327"	82°27'07.33659"
P989	47	22°11'42.17108"	82°27'08.61137"
P990	47	22°11'21.36673"	82°26'33.88821"
P991	47	22°11'25.34749"	82°26'39.05038"
P992	47	22°11'20.67213"	82°26'32.76102"
P993	47	22°11'38.66424"	82°27'12.38384"
P994	47	22°11'33.71594"	82°27'16.74756"
P995	47	22°11'28.41187"	82°27'14.27259"
P996	47	22°11'28.33763"	82°27'14.23602"
P997	47	22°11'28.33763"	82°27'14.23602"
P998	47	22°11'22.78917"	82°27'11.48274"
P999	47	22°11'23.76895"	82°27'07.14437"
P1000	47	22°11'11.19024"	82°27'02.72488"
P1001	47	22°11'04.71787"	82°27'03.35184"
P1002	47	22°11'03.89400"	82°27'03.57643"
P1003	49	22°10'16.31426"	81°59'06.55297"
P1004	49	22°10'12.61955"	81°59'12.11541"
P1005	49	22°10'10.85218"	81°59'18.66474"
P1006	49	22°10'10.72092"	81°59'18.94692"
P1007	49	22°10'17.29516"	81°58'59.58740"
P1008	49	22°10'16.64607"	81°59'05.92225"
P1009	49	22°10'16.31426"	81°59'06.55297"
P1010	49	22°11'54.91784"	81°58'10.82004"
P1011	49	22°11'50.55732"	81°58'05.64993"
P1012	49	22°11'44.50754"	81°58'04.99895"
P1013	49	22°11'42.62386"	81°58'05.35168"
P1014	50	22°15'05.03768"	81°55'34.81919"
P1015	50	22°15'03.82766"	81°55'35.75702"
P1016	50	22°15'03.39074"	81°55'36.08940"
P1017	50	22°14'57.79293"	81°55'40.35889"
P1018	50	22°14'40.86562"	81°55'53.26087"
P1019	50	22°14'38.48417"	81°55'55.59009"

Point	Patch	Longitude in D:M:S	Latitude in D:M:S
P1020	50	22°14'41.94940"	81°56'00.95248"
P1021	50	22°14'42.04345"	81°56'01.14540"
P1022	50	22°14'32.17735"	81°56'00.00022"
P1023	50	22°14'28.72678"	81°56'02.69513"
P1024	50	22°14'12.53144"	81°56'11.73347"
P1025	50	22°11'16.97164"	82°27'04.32011"
P1026	50	22°14'22.44702"	81°56'07.36552"
P1027	50	22°14'21.93460"	81°56'07.74227"
P1028	50	22°14'36.65786"	81°55'56.53757"
P1029	50	22°14'42.10166"	81°56'01.26232"
P1030	50	22°14'05.81386"	81°56'14.87114"
P1031	50	22°13'59.93136"	81°56'17.83074"
P1032	50	22°13'52.34103"	81°56'19.65934"
P1033	50	22°13'45.85368"	81°56'20.06832"
P1034	50	22°13'45.60472"	81°56'20.08561"
P1035	51	22°14'31.68461"	81°54'18.13487"
P1036	51	22°14'33.10084"	81°54'24.22864"
P1037	51	22°14'32.97867"	81°54'31.11722"
P1038	51	22°14'34.18531"	81°54'34.64470"
P1039	51	22°14'32.78525"	81°54'42.45325"
P1040	51	22°14'26.52483"	81°54'40.66743"
P1041	51	22°14'24.63826"	81°54'40.23432"

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5.3. Geo-Referenced Maps of the Proposed Route (Annexure-3)

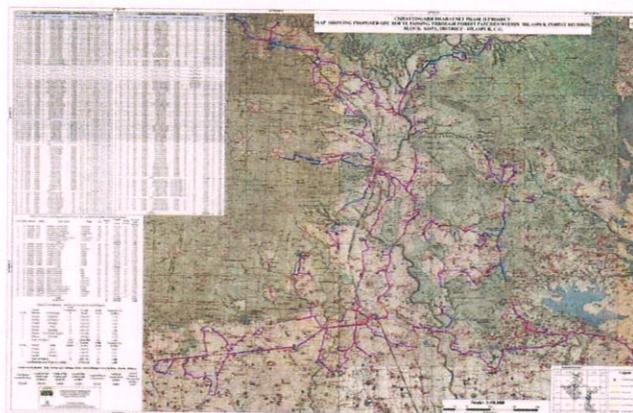
5.3.1. Map showing Geo-reference map of proposed OFC Route.



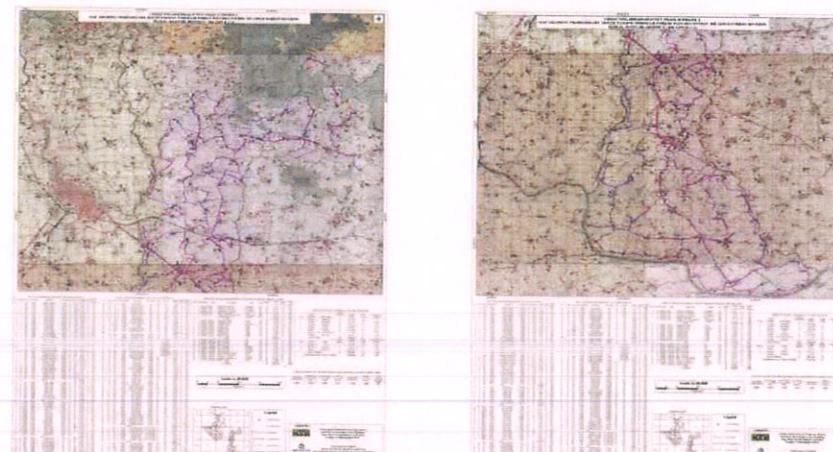
Geo-Referenced Maps of Forest Patched with in Bilaspur Forest Division

Chhattisgarh BharatNet Phase-II Project

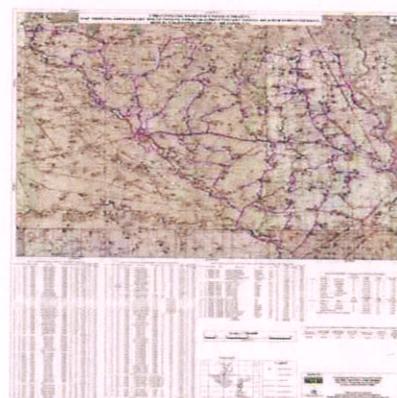
5.3.2. Map showing proposed OFC Route on Toposheet map on 1:50,000 scale.



Geo-Referenced Toposheet Map of Forest Patched of Kota Block in Bilaspur Forest Division.



Geo-Referenced Toposheet Map of Forest Patched of Masturi Block in Bilaspur Forest Division. Toposheet Bakavand



Geo-Referenced Toposheet Map of Forest Patched of Thakhatpur Block in Bilaspur Forest Division. Toposheet Bakavand

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