

Report No: GG/RP/2015-16/TS/043

**Report On
DGPS SURVEY OF 132 KV DCSS LINE FROM 220/132 KV
S/S BARSOOR TO PROPOSED 132/33 KV S/S BIJAPUR
(TR-170)**



During
DECEMBER 2015

For

Chhattisgarh State Power Transmission Co Ltd
(A Govt. of Chhattisgarh Undertaking)

Report Submitted to
Office of the Executive Director (EHT: C&M)
Dagania, Raipur (CG)

By

GAVESHANA GEOSCIENCES PRIVATE LIMITED

132, First Floor, US Complex, opp Apollo Hospital, Mathura Road, New Delhi - 110076
Tel: 011-2639 7059 / 7061; Email: info@gaveshanageo.com; Web: www.gaveshanageo.com

REPORT ON DGPS SURVEY OF 132 KV DCSS LINE FROM 220/132 KV S/S BARSOOR TO PROPOSED 132/33 KV S/S BIJAPUR (TR-170)

1.0 INTRODUCTION

132 KV DCSS line from 220/132 KV S/S Barsoor to proposed 132/33 KV S/s Bijapur was awarded by Chhattisgarh State Power Transmission Company Limited (A CG Govt Undertaking) to M/S Gaveshana Geosciences Pvt Ltd, New Delhi (India) vide contract agreement dated 11 Aug 2015. The proposed transmission line will be utilized to evacuate power from 220 kV Barsoor Sub Station.

The scope of work include the identification of route, the detail survey on identified route, the tree enumeration and doing ground work in order to finalize the route.

This present report summarize the detail survey using DGPS, which has been used for fixing all angle points and locate the exact position of forest area on ground in order to prepare forest proposal.

2.0 SURVEY AREA

A route from Barsoor S/S to Bijapur S/S was finalized in our preliminary surveys and detail survey has been conducted on this route. The survey area falls in Dantewada and Bijapur Districts comprising of two legislative constituencies – Dantewada and Bijapur. The survey area lies in UTM North Zone 44: from 18° 50' N to 19° 07' N latitude and 80° 45' E to 81° 25' E longitude. It is covered in the Survey of India Topo Sheet Nos E44D4, E44D8, E44C16, E44I13, and E44J1.

The proposed line passing through forest and revenue land. The total forest area falling in this line is 99.419 hec, whereas the revenue land is 139.18 hec. As per district wise, in Dantewara district the forest area is 28.799 hec and revenue area is 60.666 hec, whereas in Bijapur district forest area is 70.62 hec and revenue land is 78.514 hec. As per forest division, the Dantewara division occupy 71.705 hec. forest area and 95.858 hec revenue area.

The starting point of the line is located at Barsoor which is a village panchayat of Geedam Tehsil, District Dantewada. The population of Barsoor panchayat is approximately fifty thousand. The end point of the line is about 8 km East of Bijapur town. The population of Bijapur town is about one lakh. There is a proposed airstrip opposite the Bijapur Substation. Another thickly populated area is Bhairamgarh with a population of about one lakh. In general, the population density of the survey area is very thin.

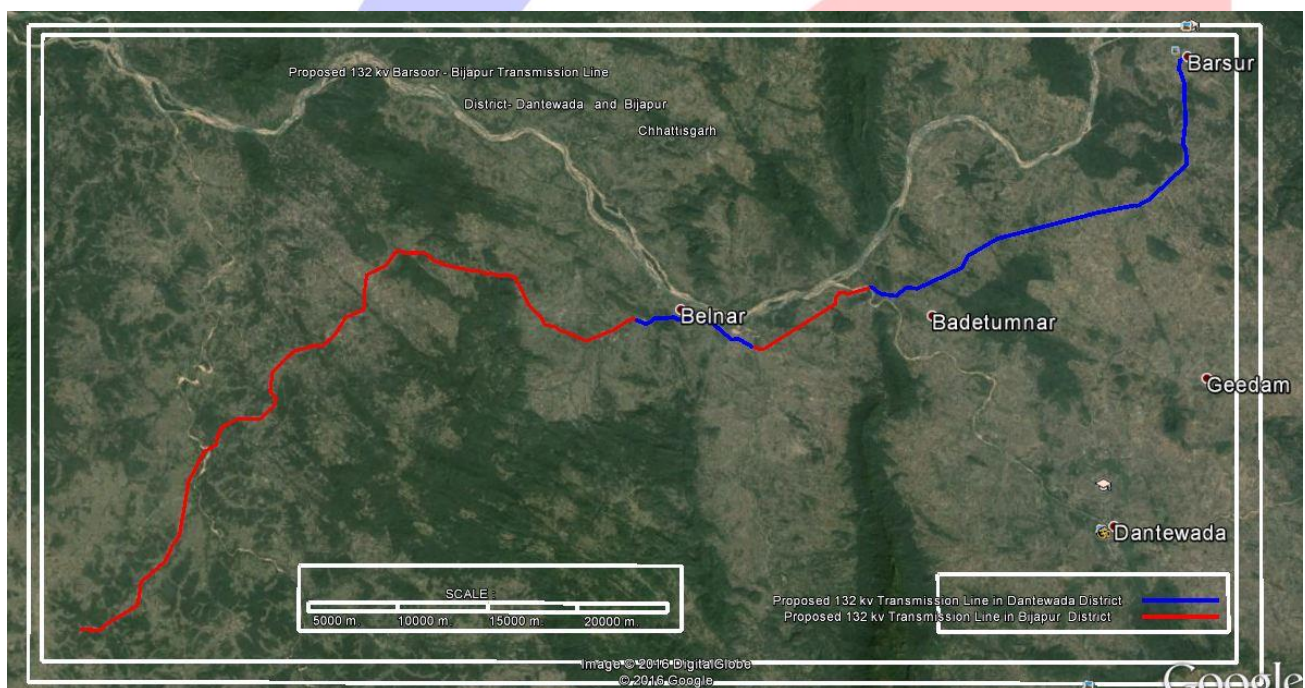
The survey route is easily accessible through NH-16 and SH-5 which provide good connectivity to the whole survey area.

The major occupation of the area is farming and forest products. The inhabitants speak Hindi, Halbi and Gondi. The major river of the survey area is River Indravati and its tributaries Mingachal and Shankhani.

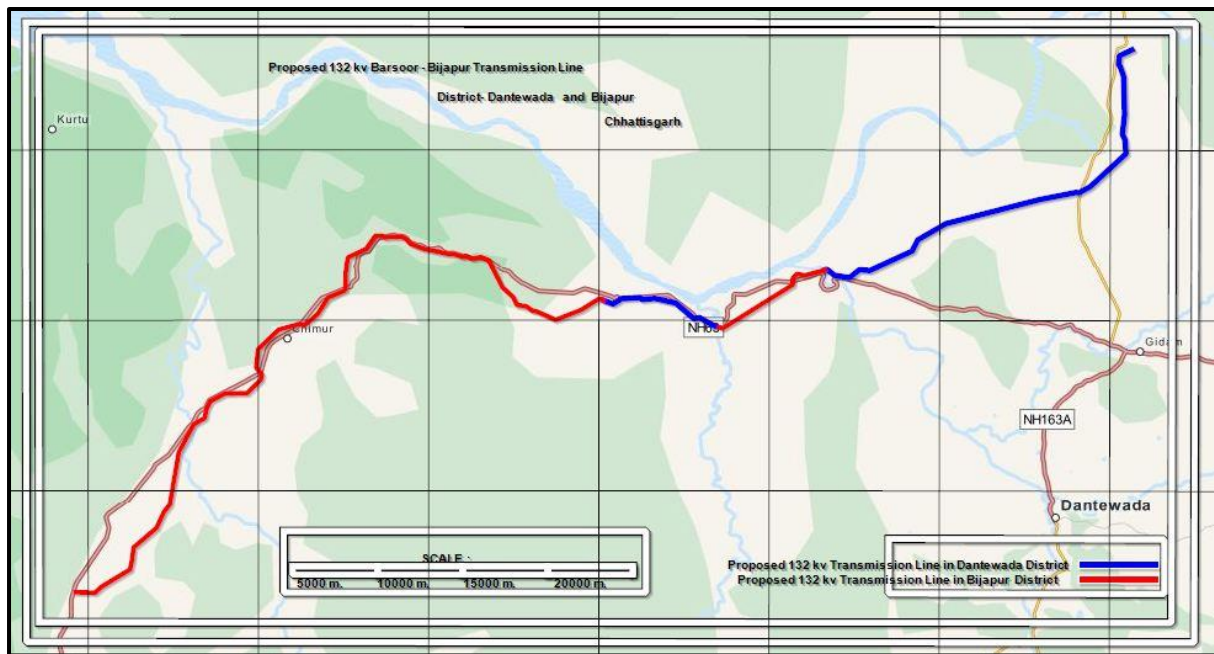
On almost entire route, the top soil consists of red sandy soil. However, major portion of the land is uncultivable barren land.

The google imagery and Satellite imagery for finalize route is given below:

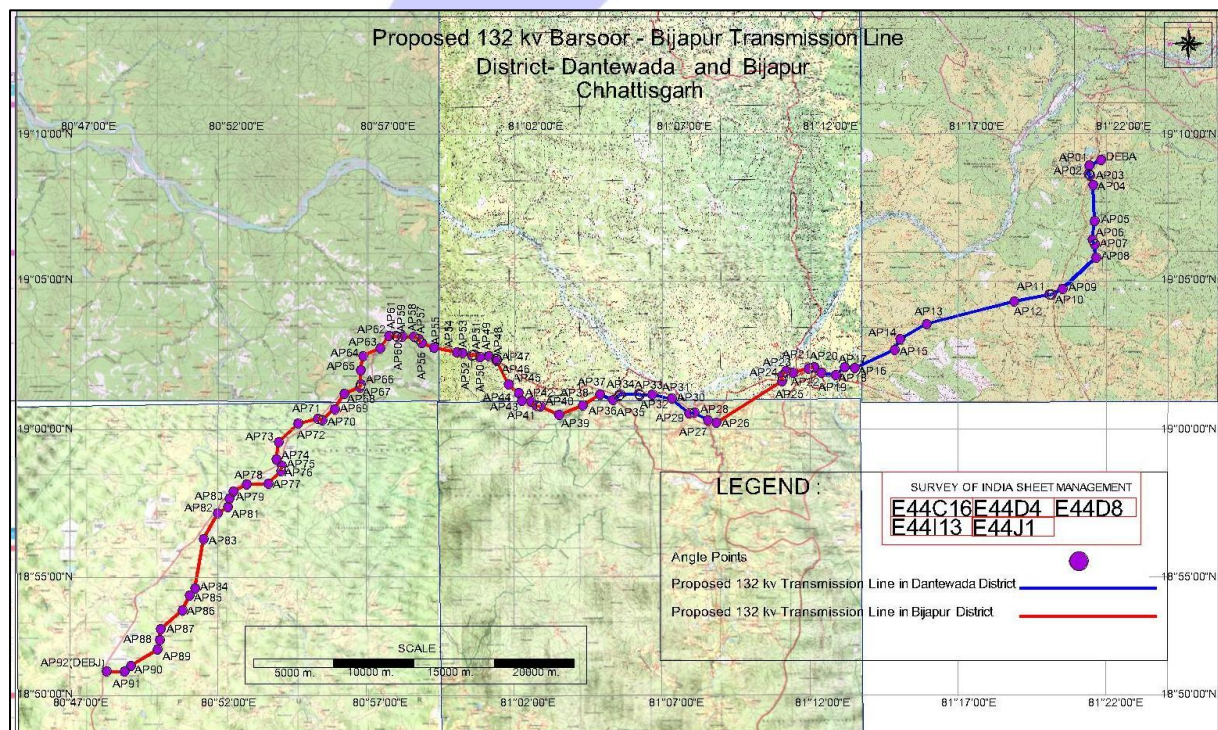
LOCATION MAP:



Google Imagery of Finalized route

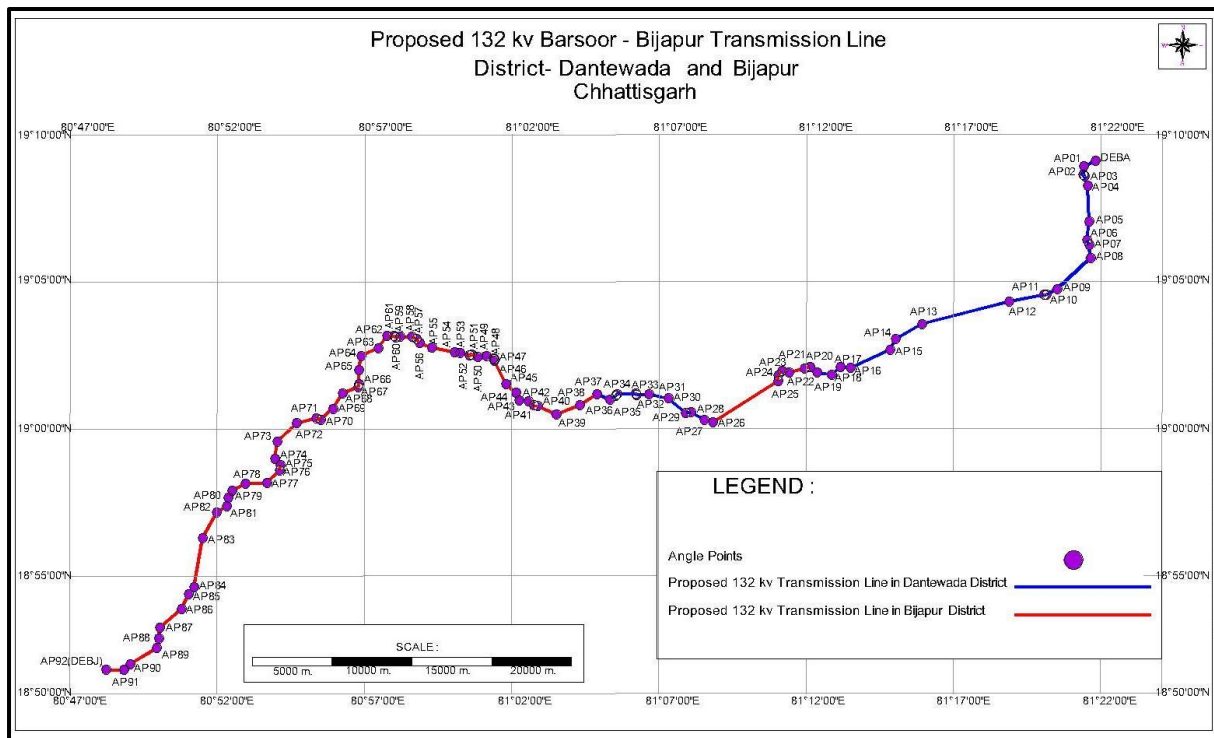


Satellite Imagery of Finalized route



Finalized route on Topo-sheet

The survey area is comprises with 92 Angle points, the list is given below in Table 1, whereas Table 2 contain the discrimination of area in respect of revenue and forest.



Map showing angle points

TABLE 1					
FINAL CO-ORDINATES OF PROPOSED ROUTE OF 132KV BARSOOR-BIJAPUR TRANSMISSION LINE					
SR.NO.	BENDING POINT'S PILLAR	EASTING (IN UTM-44N)	NORTHING (IN UTM-44N)	LATITUDE (WGS-84)	LONGITUDE (WGS-84)
1	DEBA	541246.562	2115899.868	19°08'08.882"N	81°23'31.951"E
2	AP01	540522.282	2115552.862	19°07'57.645"N	81°23'07.132"E
3	AP02	540473.145	2115037.705	19°07'40.888"N	81°23'05.411"E
4	AP03	540554.277	2114952.368	19°07'38.106"N	81°23'08.181"E
5	AP04	540763.398	2114339.111	19°07'18.100"N	81°23'15.300"E
6	AP05	540830.938	2112096.668	19°06'05.200"N	81°23'17.400"E
7	AP06	540701.458	2110953.108	19°05'27.981"N	81°23'12.917"E
8	AP07	540850.255	2110634.988	19°05'17.620"N	81°23'17.985"E
9	AP08	540916.185	2109809.955	19°04'50.813"N	81°23'19.511"E
10	AP09	538821.737	2107873.818	19°03'47.929"N	81°22'08.367"E
11	AP10	538159.885	2107511.872	19°03'36.198"N	81°21'45.695"E
12	AP11	537999.202	2107539.089	19°03'37.094"N	81°21'40.199"E
13	AP12	535820.749	2107106.429	19°03'23.160"N	81°20'25.632"E
14	AP13	530368.199	2105696.113	19°02'37.593"N	81°17'18.992"E
15	AP14	528710.138	2104740.076	19°02'06.574"N	81°16'22.214"E
16	AP15	528376.100	2104079.478	19°01'45.098"N	81°16'10.752"E
17	AP16	525903.489	2102939.722	19°01'08.134"N	81°14'46.109"E
18	AP17	525277.530	2102983.248	19°01'09.578"N	81°14'24.698"E
19	AP18	524705.834	2102515.455	19°00'54.384"N	81°14'05.120"E

20	AP19	523819.503	2102655.994	19°00'58.994"N	81°13'34.808"E
21	AP20	523375.464	2103013.681	19°01'10.650"N	81°13'19.634"E
22	AP21	523008.856	2102899.882	19°01'06.962"N	81°13'07.088"E
23	AP22	522059.435	2102642.968	19°00'58.641"N	81°12'34.600"E
24	AP23	521624.080	2102740.733	19°01'01.839"N	81°12'19.711"E
25	AP24	521375.034	2102474.774	19°00'53.195"N	81°12'11.182"E
26	AP25	521377.921	2102101.981	19°00'41.066"N	81°12'11.266"E
27	AP26	517283.171	2099539.352	18°59'17.829"N	81°09'51.117"E
28	AP27	516737.632	2099700.998	18°59'23.104"N	81°09'32.464"E
29	AP28	515907.957	2100164.701	18°59'38.215"N	81°09'04.101"E
30	AP29	515572.204	2100102.854	18°59'36.212"N	81°08'52.615"E
31	AP30	514495.364	2101021.336	19°00'06.124"N	81°08'15.809"E
32	AP31	513266.842	2101285.689	19°00'14.754"N	81°07'33.794"E
33	AP32	512505.520	2101220.558	19°00'12.653"N	81°07'07.751"E
34	AP33	512430.331	2101334.435	19°00'16.359"N	81°07'05.182"E
35	AP34	511261.527	2101269.440	19°00'14.269"N	81°06'25.202"E
36	AP35	511181.150	2101169.449	19°00'11.017"N	81°06'22.450"E
37	AP36	510820.000	2100955.000	19°00'04.047"N	81°06'10.093"E
38	AP37	510029.307	2101283.122	19°00'14.737"N	81°05'43.054"E
39	AP38	508946.020	2100606.157	18°59'52.730"N	81°05'05.989"E
40	AP39	507464.000	2100028.999	18°59'33.973"N	81°04'15.290"E
41	AP40	506309.000	2100532.000	18°59'50.352"N	81°03'35.792"E
42	AP41	506063.212	2100579.740	18°59'51.908"N	81°03'27.385"E
43	AP42	505728.000	2100827.000	18°59'59.956"N	81°03'15.922"E
44	AP43	505169.999	2100907.000	19°00'02.565"N	81°02'56.837"E
45	AP44	504959.000	2101369.000	19°00'17.598"N	81°02'49.624"E
46	AP45	504337.000	2101925.000	19°00'35.693"N	81°02'28.353"E
47	AP46	503586.823	2103383.383	19°01'23.148"N	81°02'02.702"E
48	AP47	503592.739	2103478.348	19°01'26.237"N	81°02'02.905"E
49	AP48	503532.303	2103526.197	19°01'27.794"N	81°02'00.838"E
50	AP49	503084.795	2103696.595	19°01'33.341"N	81°01'45.530"E
51	AP50	502564.169	2103616.737	19°01'30.745"N	81°01'27.719"E
52	AP51	502161.939	2103786.751	19°01'36.279"N	81°01'13.959"E
53	AP52	502048.958	2103704.954	19°01'33.618"N	81°01'10.094"E
54	AP53	501455.514	2103888.697	19°01'39.598"N	81°00'49.793"E
55	AP54	501116.895	2103900.497	19°01'39.982"N	81°00'38.209"E
56	AP55	499675.000	2104203.000	19°01'49.825"N	80°59'48.882"E
57	AP56	498929.000	2104486.000	19°01'59.032"N	80°59'23.360"E
58	AP57	498700.000	2104762.000	19°02'08.011"N	80°59'15.525"E
59	AP58	498422.000	2104896.000	19°02'12.370"N	80°59'06.014"E
60	AP59	497687.000	2104891.000	19°02'12.205"N	80°58'40.868"E
61	AP60	497418.000	2104850.000	19°02'10.870"N	80°58'31.665"E
62	AP61	497288.000	2104961.000	19°02'14.481"N	80°58'27.217"E
63	AP62	496868.000	2104951.000	19°02'14.153"N	80°58'12.848"E
64	AP63	496327.000	2104183.000	19°01'49.163"N	80°57'54.345"E

65	AP64	495255.499	2103681.339	19°01'32.833"N	80°57'17.693"E
66	AP65	495131.945	2102786.319	19°01'03.712"N	80°57'13.474"E
67	AP66	495121.258	2101910.935	19°00'35.231"N	80°57'13.116"E
68	AP67	495063.829	2101730.807	19°00'29.370"N	80°57'11.153"E
69	AP68	494088.562	2101338.466	19°00'16.495"N	80°56'37.798"E
70	AP69	493498.245	2100381.264	18°59'45.446"N	80°56'17.617"E
71	AP70	492717.012	2099696.062	18°59'23.143"N	80°55'50.906"E
72	AP71	492458.012	2099794.061	18°59'26.328"N	80°55'42.046"E
73	AP72	491206.012	2099459.061	18°59'15.411"N	80°54'59.230"E
74	AP73	489994.012	2098311.062	18°58'38.040"N	80°54'17.799"E
75	AP74	489871.012	2097232.062	18°58'02.931"N	80°54'13.612"E
76	AP75	490205.012	2096832.061	18°57'49.923"N	80°54'25.042"E
77	AP76	490144.012	2096519.062	18°57'39.738"N	80°54'22.961"E
78	AP77	489344.012	2095732.061	18°57'14.118"N	80°53'55.620"E
79	AP78	488026.099	2095697.816	18°57'12.978"N	80°53'10.555"E
80	AP79	487186.241	2095254.559	18°56'58.538"N	80°52'41.846"E
81	AP80	486953.949	2094793.746	18°56'43.540"N	80°52'33.914"E
82	AP81	486848.012	2094264.062	18°56'26.304"N	80°52'30.305"E
83	AP82	486208.013	2093900.061	18°56'14.445"N	80°52'08.431"E
84	AP83	485329.012	2092270.062	18°55'21.390"N	80°51'38.421"E
85	AP84	484798.859	2089207.464	18°53'41.732"N	80°51'20.381"E
86	AP85	484457.963	2088774.546	18°53'27.637"N	80°51'08.741"E
87	AP86	484013.212	2087820.622	18°52'56.588"N	80°50'53.566"E
88	AP87	482663.213	2086672.306	18°52'19.188"N	80°50'07.459"E
89	AP88	482584.217	2085988.307	18°51'56.931"N	80°50'04.781"E
90	AP89	482452.076	2085378.304	18°51'37.080"N	80°50'00.285"E
91	AP90	480801.012	2084383.061	18°51'04.645"N	80°49'03.893"E
92	AP91	480393.012	2084019.062	18°50'52.789"N	80°48'49.963"E
93	AP92(DEBJ)	479277.012	2084050.061	18°50'53.758"N	80°48'11.825"E

TABLE 2

AREA DETAILS

TOTAL AREA UNDER FOREST (hec.)		TOTAL AREA UNDER REVENUE (hec.)	
99.419 Hectare		139.18 Hectare	
AREA DETAILS OF DISTRICT WISE			
DANTEWADA DISTRICT		BIJAPPOOR DISTRICT	
FOREST LAND	REVENUE LAND	FOREST LAND	REVENUE LAND
28.799 hec	60.666 hec	70.62 hec	78.514 hec
AREA DETAILS OF FOREST DIVISION WISE			
DANTEWADA DIVISION		BIJAPPOOR DIVISION	
FOREST LAND	REVENUE LAND	FOREST LAND	REVENUE LAND
71.705 hec	95.858 hec	27.714 hec	43.322 hec

RANGEWISE FOREST DETAIL OF 132KV BARSOOR - BIJAPUR TRANSMISSION LINE		
DANTEWADA DIVISON FOREST COMPARTMENT		
RANGE	COMPARTMENT NO.	AREA REQ. TO BE DIVERT. IN HACTARE
GIDAM	PF 1241	4.807
	RF1252	0.211
	RF1262	3.736
	RF1261	3.08
	RF 1254	4.92
	PF 1320	0.346
NELASNAR	PF 1990	0.63
	PF 1978	4.947
	PF 1977	3.7
	PF 1973	9.146
	PF 1972	0.565
	RF 1965	7.801
	RF 1966	4.853
Revenue forest		22.963
Non forest		95.858
Total		167.563 HACTARE
BIJAPUR DIVISON FOREST COMPARTMENT		
RANGE	COMPARTMENT NO.	AREA REQ. TO BE DIVERT. IN HACTARE
BHAIRAMGARH	RF 65	5.941
	RF 66	0.766
	RF 67	4.676
BIJAPUR	OA 1093	3.345
Revenue forest		12.986
Non forest		43.322
Total		71.036 HACTARE

3.0 DGPS (Differential Global Positioning System):

The survey using DGPS (Differential Global Positioning system) was the purpose to enhance location accuracy as compare to hand GPS from 7 – 10 m to 10 cm.

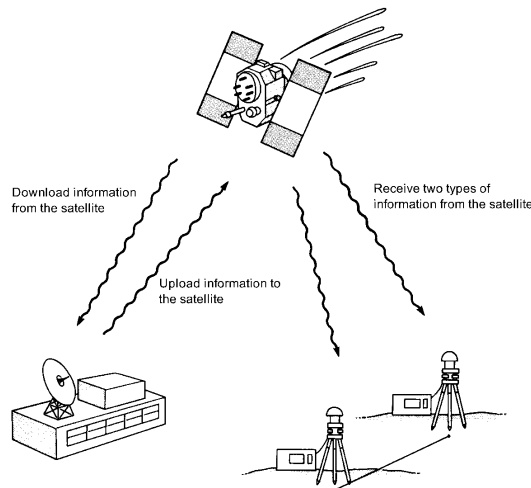
The real time DGPS occurs when the base station calculates and broadcasts corrections for each satellite as it receives the data. The correction is received by the roving receiver via a radio signal if the source is land based or via satellite signal if it is satellite based and applied to the position it is calculating. As a result, the position displayed and logged to the data file of the roving GPS receiver is a differential corrected position.

Another method for obtaining real – time differential correction data in the field is by using geostationary satellites. This system obtains corrections from more than one reference station. Reference stations collect the base station GPS data and relay this data in RTCM SC-104 format to a network control center, which sends the information to a geostationary satellite for verification. The verified information is sent to the roving GPS receiver to ensure it obtains GPS positions in real time.

3.1. ABOUT GPS (GLOBAL POSITIONING SYSTEM)

There are three segment of GPS system:

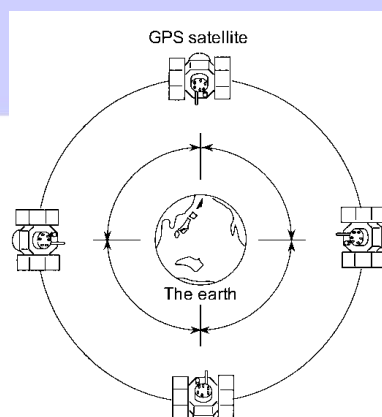
1. **Space segments:** Comprised of 24 satellites which transmit information to the user by means of various signals.
2. **Control Segments:** Monitor all GPS satellites and transmit data (new ephemerides, clock corrections, etc.)
3. **User Segments:** Compute the user position from GPS signals received from the satellites.



GPS SATELLITE ORBIT:

- Orbit plane: Circular
- Altitude: 20,000 km
- Orbital period: Approx. 12 hours
- Number of satellites: 24
- Number of orbital planes: 6

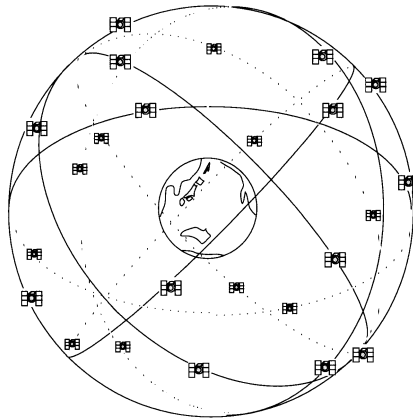
Relative Satellite Position on One Orbital plane



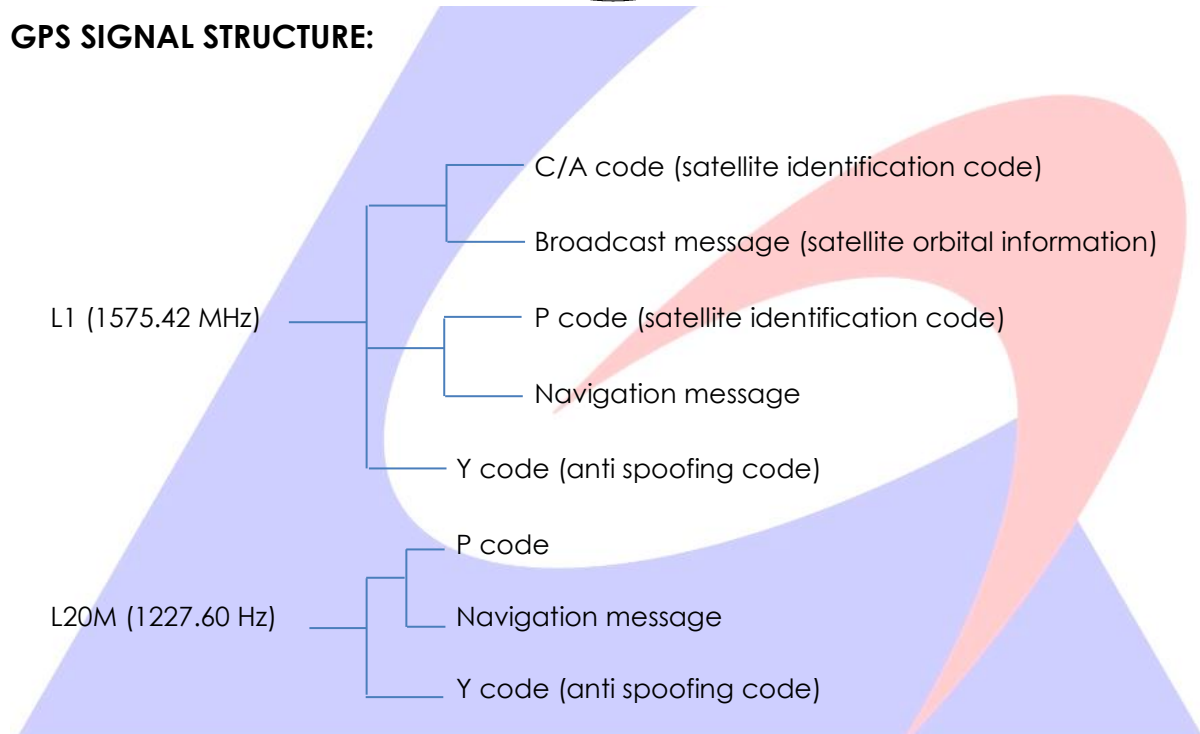
GPS Constellation

Twenty-four satellites (four satellites each in six orbital planes) circle the earth once every 12 hours (sidereal time: 11 hours 58 minutes) at an altitude of 20,000 km.

With this constellation, at least four satellites can be visible simultaneously from anywhere in the world.

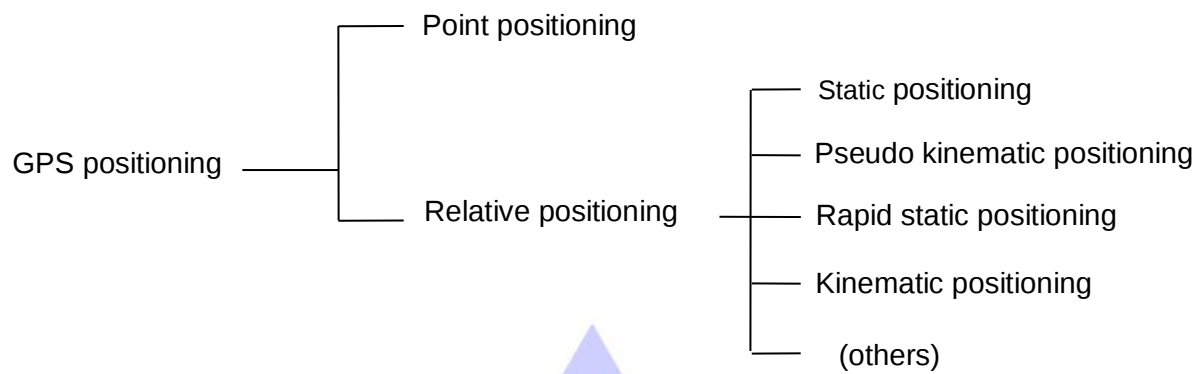


GPS SIGNAL STRUCTURE:



- Different C/A code and P code are assigned to each GPS satellite in order to isolate the signals of the satellites from each other.
- Navigation message provides information about the satellite position and the GPS time.
- You should calibrate the given distance at L1-band by measuring propagation delay of the satellite signal across the ionosphere for L1- and L2-bands.

TYPES OF POSITIONING:



4.0 EQUIPMENT DEPLOYED:

Specific Surveying equipment was used for fixing the control points on ground for this project. The present work was performed by using GRX-1 dual frequency GNSS base receiver in RTK model.



The GRX1 receiver is a multi-frequency, GNSS receiver built to be the most advanced and compact receiver for the surveying market. The receiver is a multi-function, multi-purpose receiver intended for survey and construction markets.

The GRX1 receivers and processes multiple signal types (including GPS L1, L2, C/A, L2C GLONASS L1, L2, C/A Signals) improving the accuracy and reliability of the survey points and positions, especially under difficult jobsite conditions. The receiver provides the functionality, accuracy, availability, and integrity needed for fast and easy data collection.

PRINCIPLES OF OPERATION:

Surveying with the right GPS receiver can provide users accurate and precise positioning; a requirement for any surveying project. This section gives an overview of existing and proposed Global Navigation Satellite Systems (GNSS) and receiver functions so that basic operating principles can be applied.

GNSS OVERVIEW:

Currently the following two global navigation satellite systems (GNSS) offer line of site radio navigation and positioning, velocity, and time services on a global, all – weather scale to any user equipped with a GNSS tracking receiver on or near the earth surface:

- **GPS:** The Global Positioning System maintained and operated by the United States Department of Defence. For information on the status of this system, visit the US Naval Observatory website (<http://tycho.usno.navy.mil/>) or the US Coast Guard website (<http://www.navy.mil/naval/uscg.gov/>).
- **GLONASS:** The Global Navigation Satellite system maintained and operated by the Russian Federation Ministry of Defence. For information on the status of this system, visit the Coordination Scientific Information Center Website (<http://www.glonas-ianc.rsa.ru/>).

Despite numerous technical differences in the implementation of these systems, satellite positioning systems have three essential components:

- **SPACE:** GPS and GLONASS satellites orbit approximately 12,000 nautical miles above Earth and are equipped with a clock and radio. These

satellites broadcast ranging signals and various digital information (ephemerides, almanacs, time and frequency corrections, and so forth).

- **CONTROL:** Ground stations located around the Earth that monitor the satellites and upload data, including clock corrections and new ephemerides (satellite positions as a function of time), to ensure the satellites transmit data properly.
- **USER:** the community and military that use GNSS receivers to calculate positions.

CALCULATING ABSOLUTE POSITIONS:

When calculating an absolute position, a stationary or moving receiver determines its three – dimensional position with respect to the origin of an Earth-Center Earth-Fixed coordinate system. To calculate this position, the receiver measures the distance (called pseudoranges) between it and at least four satellites. The measured pseudoranges are corrected for clock differences (receiver and satellites) and signal propagation delays due to atmospheric effects. The positions of the satellites are computed from the ephemeris data transmitted to the receiver in navigation messages. When using a single satellite system, the minimum number of satellites needed to compute a position is four. In a mixed satellite scenario (GPS and GLONASS), the receiver must lock onto five or more satellites to account for the different time scales used in these systems and to obtain an absolute position.

CALCULATING DIFFERENTIAL POSITIONS:

DGPS (Differential GPS) is a relative positioning technique where the measurements from two or more remote receivers are combined and processed using sophisticated algorithms to calculate the receivers relative coordinates with high accuracy. DGPS accommodates various implementation techniques that can be classified according to the following criteria:

- The type of GNSS measurements used, either code-phase differential measurements or carrier – phase differential measurements
- If real – time or post-mission results are required. Real-time applications can be further divided according to the source of differential data and communication link used.

With DGPS in its most traditional approach, one receiver is placed at a known, surveyed location and is referred to as the reference receiver or base station. Another receiver is placed at an unknown location and is referred to as the

remote receiver or rover. The reference station collects the code-phase and carrier –phase measurements from each GNSS satellite in view.

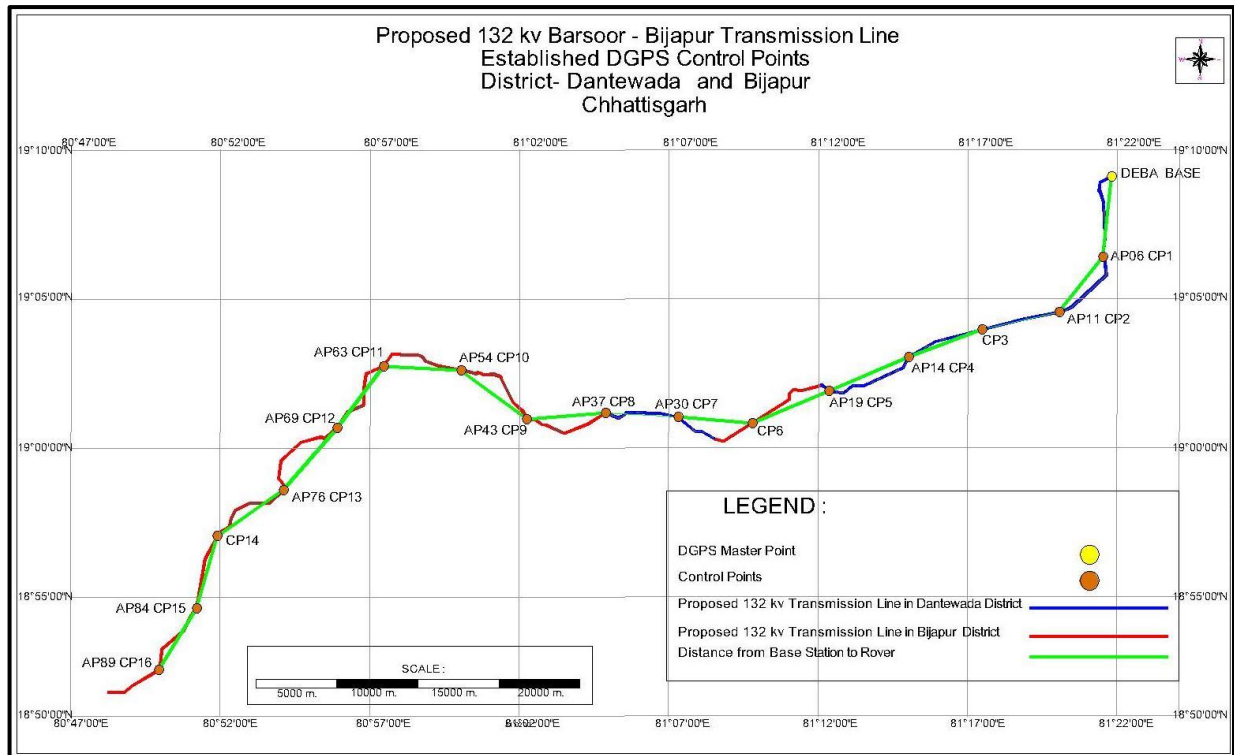
5.0 SURVEY WORK PROGRESS:

WORK SCHEDULE FOR CARRIED OUT DGPS SURVEY FOR 132 KV BARSOOR TO BIJAPOOR TRANSMISSION LINE		
SL.No.	SURVEY DATE	SURVEY TIME
1	12/15/2015	10:00am to 5:10pm
2	12/16/2015	8:00am to 5:30pm
3	12/17/2015	8:00am to 5:30pm
4	12/18/2015	8:00am to 5:30pm
5	12/19/2015	8:00am to 5:30pm
6	12/20/2015	8:00am to 5:30pm
7	12/21/2015	8:00am to 5:30pm
8	12/22/2015	8:00am to 5:30pm
9	12/23/2015	8:00am to 5:30pm
10	12/24/2015	8:00am to 5:30pm
11	12/25/2015	8:00am to 5:30pm

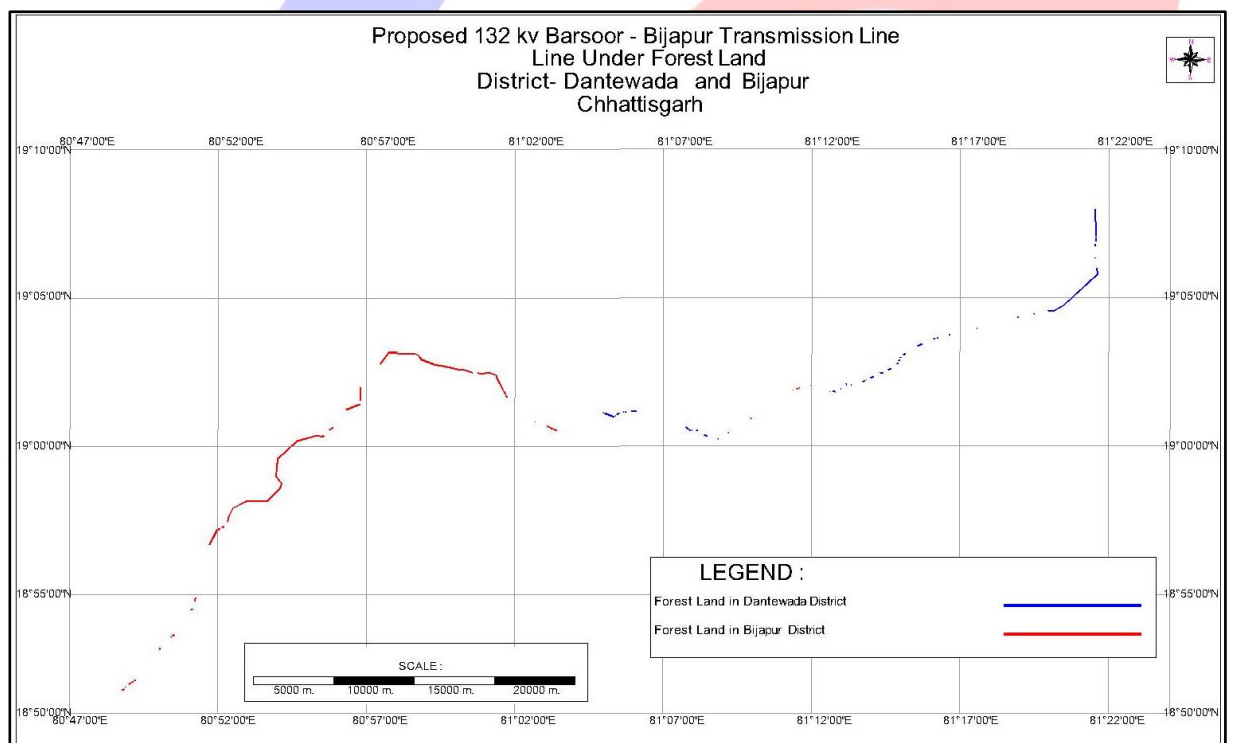
6.0 DISCUSSION ON RESULTS:

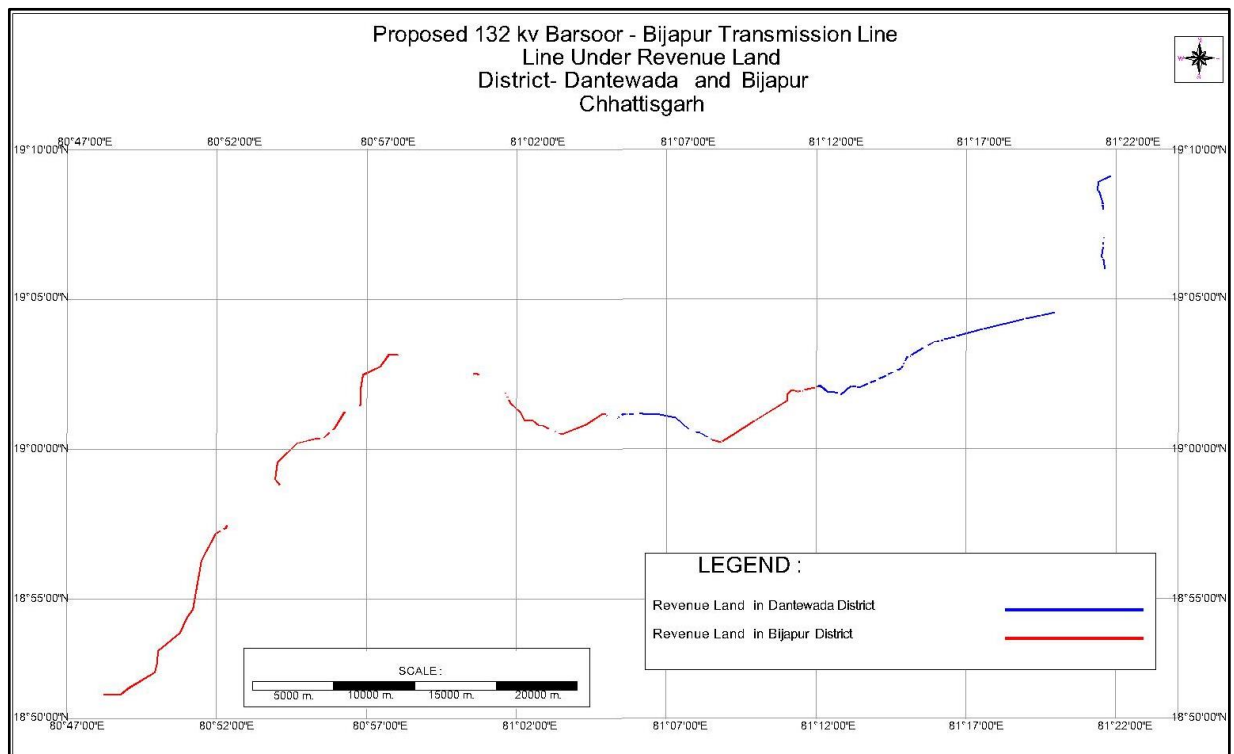
The DGPS survey is conducted for 132 KV DCSS line from 220/132 KV S/S Barsoor to proposed 132/33 KV S/s Bijapur. Total 17 nos. Control points (CP) have been established to complete the survey work. The list of Control points and other maps are given below:

TABLE 3							
Sl.No.	Co-Ordinates in UTM-44N		Co-Ordinates in WGS-84(DMS)		Co-Ordinates in WGS-84(DD)		Remarks
	Easting(E)	Northing(N)	Latitude	Longitude	Latitude	Longitude	
1	541246.560	2115899.870	N 19°08'08.882"	E 81°23'31.951"	19.1358005	81.3922086	DEBA
2	540701.460	2110953.110	N 19°05'27.981"	E 81°23'12.917"	19.0911058	81.3869213	CP1
3	537999.200	2107539.090	N 19°03'37.094"	E 81°21'40.199"	19.0603040	81.3611663	AP06 CP2
4	533251.060	2106441.770	N 19°03'01.691"	E 81°18'57.668"	19.0504698	81.3160190	CP3
5	528710.140	2104740.080	N 19°02'06.574"	E 81°16'22.214"	19.0351595	81.2728372	AP14 CP4
6	523819.530	2102656.250	N 19°00'59.002"	E 81°13'34.809"	19.0163895	81.2263358	AP19 CP5
7	519086.970	2100668.230	N 18°59'54.499"	E 81°10'52.849"	18.9984721	81.1813471	CP6
8	514495.360	2101021.340	N 19°00'06.123"	E 81°08'15.809"	19.0017010	81.1377246	AP30 CP7
9	510029.310	2101283.120	N 19°00'14.737"	E 81°05'43.054"	19.0040937	81.0952927	AP37 CP8
10	505170.000	2100907.000	N 19°00'02.564"	E 81°02'56.837"	19.0007124	81.0491214	AP43 CP9
11	501116.890	2103900.500	N 19°01'39.982"	E 81°00'38.209"	19.0277729	81.0106136	AP54 CP10
12	496327.000	2104183.000	N 19°01'49.163"	E 80°57'54.345"	19.0303230	80.9650958	AP63 CP11
13	493455.970	2100344.180	N 18°59'44.238"	E 80°56'16.172"	18.9956219	80.9378255	AP69 CP12
14	490144.010	2096519.060	N 18°57'39.738"	E 80°54'22.961"	18.9610384	80.9063781	AP76 CP13
15	486078.240	2093659.420	N 18°56'06.612"	E 80°52'04.000"	18.9351702	80.8677779	CP14
16	484798.860	2089207.460	N 18°53'41.732"	E 80°51'20.381"	18.8949256	80.8556614	AP84 CP15
17	482452.080	2085378.300	N 18°51'37.079"	E 80°50'08.285"	18.8602999	80.8334124	AP89 CP16

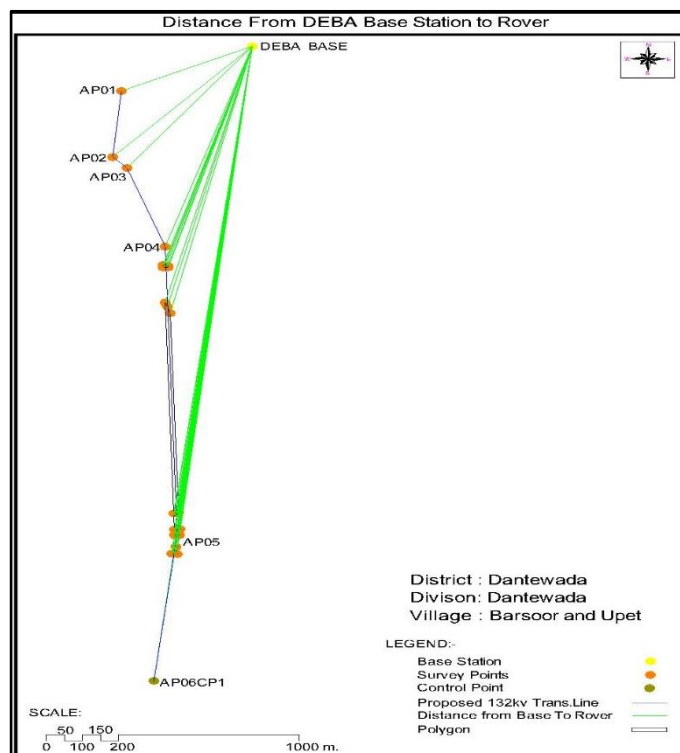


MAP SHOWING DISTRICT WISE DISTRIBUTION OF AREA UNDER FOREST AND REVENUE LAND:



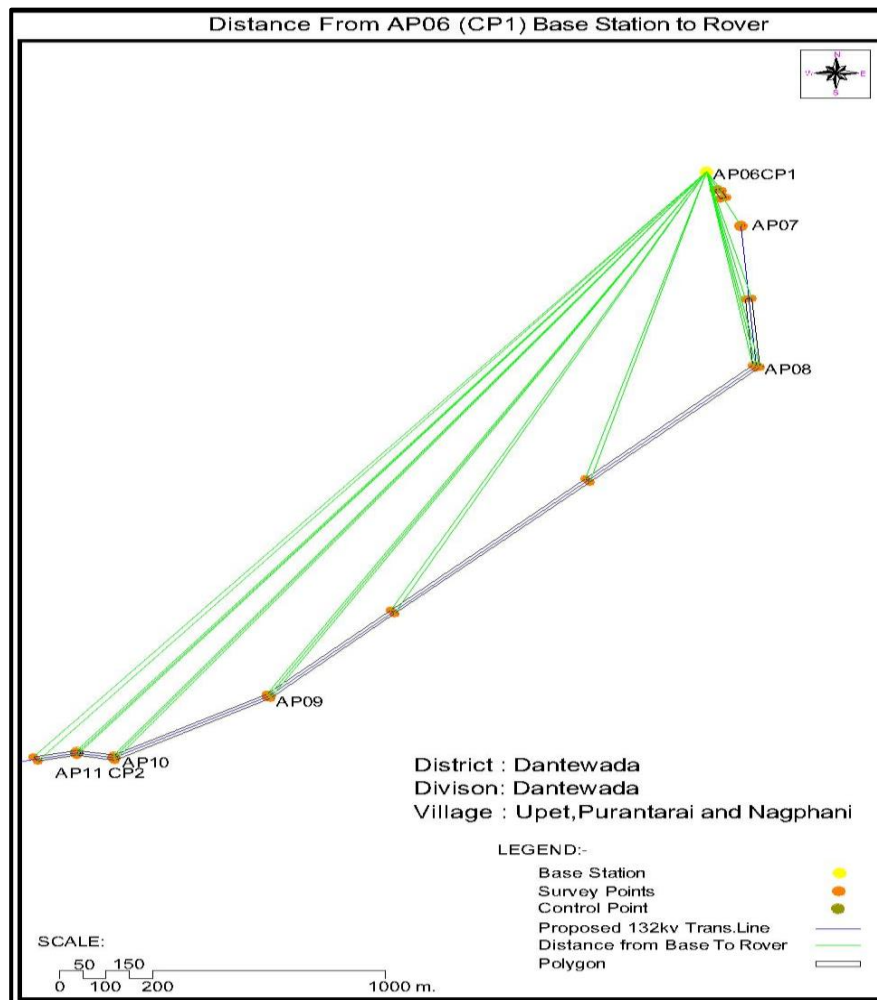


MAP SHOWING DISTANCE FROM BASE STATION ROVER (BASE STATION – DEBA)



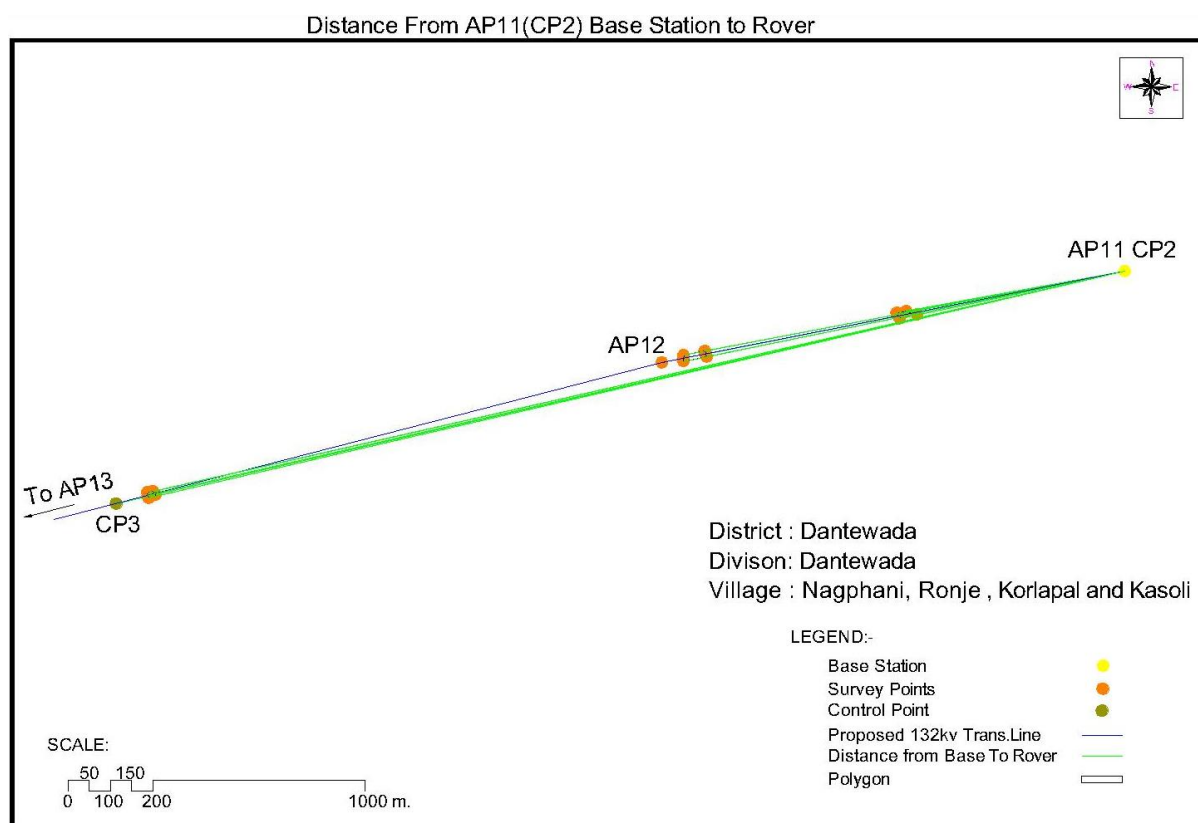
GROUND OBSERVATION POINTS WITH RESPECT TO BASE POINT (DEBA)							
POINT	EASTING (UTM)	NORTHING (UTM)	LATTITUDE (DMS)	LONGITUDE (DMS)	LATTITUDE (D)	LONGITUDE (D)	Remarks
DEBA BASE	541246.560	2115899.870	19°08'08.882"N	81°23'31.951"E	19.1358	81.3922	Starting Point
AP01	540522.280	2115552.860	19°07'57.645"N	81°23'07.132"E	19.1327	81.3853	Angle point
AP02	540473.140	2115037.700	19°07'40.888"N	81°23'05.411"E	19.1280	81.3848	Angle point
AP03	540554.280	2114952.370	19°07'38.106"N	81°23'08.181"E	19.1273	81.3856	Angle point
AP04	540763.400	2114339.110	19°07'18.139"N	81°23'15.293"E	19.1217	81.3876	Angle point
1	540754.190	2114196.290	19°07'13.492"N	81°23'14.967"E	19.1204	81.3875	PF1241
2	540759.590	2114194.240	19°07'13.425"N	81°23'15.152"E	19.1204	81.3875	PF1241
3	540769.920	2114188.450	19°07'13.236"N	81°23'15.505"E	19.1203	81.3876	PF1241
4	540781.460	2114187.850	19°07'13.216"N	81°23'15.900"E	19.1203	81.3878	PF1241
5	540781.800	2114176.680	19°07'12.852"N	81°23'15.911"E	19.1202	81.3878	PF1241
6	540758.050	2114177.140	19°07'12.869"N	81°23'15.098"E	19.1202	81.3875	PF1241
7	540754.730	2114178.620	19°07'12.918"N	81°23'14.984"E	19.1203	81.3875	PF1241
8	540763.000	2113904.050	19°07'03.984"N	81°23'15.246"E	19.1178	81.3876	PF1242
9	540777.530	2113869.830	19°07'02.870"N	81°23'15.741"E	19.1175	81.3877	PF1243
10	540792.530	2113820.420	19°07'01.261"N	81°23'16.251"E	19.1170	81.3878	PF1244
11	540839.340	2112266.170	19°06'10.691"N	81°23'17.735"E	19.1030	81.3883	PF1245
12	540825.960	2112261.840	19°06'10.551"N	81°23'17.277"E	19.1029	81.3881	PF1246
13	540812.530	2112259.500	19°06'10.476"N	81°23'16.817"E	19.1029	81.3880	PF1247
14	540812.990	2112244.030	19°06'09.973"N	81°23'16.832"E	19.1028	81.3880	KH.21
15	540819.630	2112244.450	19°06'09.986"N	81°23'17.059"E	19.1028	81.3881	KH.21
16	540839.910	2112247.330	19°06'10.078"N	81°23'17.753"E	19.1028	81.3883	KH.21
17	540843.210	2112137.780	19°06'06.514"N	81°23'17.858"E	19.1018	81.3883	KH.4
18	540816.310	2112134.030	19°06'06.394"N	81°23'16.937"E	19.1018	81.3880	KH.4
19	540816.390	2112088.150	19°06'04.901"N	81°23'16.936"E	19.1014	81.3880	KH.76
20	540843.780	2112090.110	19°06'04.963"N	81°23'17.874"E	19.1014	81.3883	KH.76
21	540833.070	2111995.540	19°06'01.886"N	81°23'17.500"E	19.1005	81.3882	KH.76
22	540824.480	2111997.650	19°06'01.956"N	81°23'17.206"E	19.1005	81.3881	KH.76
23	540815.530	2112080.600	19°06'04.655"N	81°23'16.906"E	19.1013	81.3880	KH.76
24	540800.320	2111946.280	19°06'00.286"N	81°23'16.375"E	19.1001	81.3879	KH.62
25	540805.810	2111945.370	19°06'00.256"N	81°23'16.563"E	19.1001	81.3879	KH.62
26	540815.970	2111946.310	19°06'00.286"N	81°23'16.911"E	19.1001	81.3880	KH.62
27	540827.510	2111946.440	19°06'00.289"N	81°23'17.306"E	19.1001	81.3881	KH.62
28	540818.490	2111866.730	19°05'57.697"N	81°23'16.991"E	19.0994	81.3881	KH.63
29	540791.780	2111870.780	19°05'57.831"N	81°23'16.077"E	19.0994	81.3878	KH.63
30	540773.890	2111712.770	19°05'52.691"N	81°23'15.453"E	19.0980	81.3876	KH.63
31	540799.420	2111698.350	19°05'52.220"N	81°23'16.326"E	19.0978	81.3879	KH.63
32	540784.010	2111562.180	19°05'47.791"N	81°23'15.788"E	19.0966	81.3877	KH.58
33	540757.520	2111568.270	19°05'47.991"N	81°23'14.882"E	19.0967	81.3875	KH.58
AP06CP1	540701.460	2110953.110	19°05'27.981"N	81°23'12.917"E	19.0911	81.3869	Angle point

Base Station CP01 (AP06)



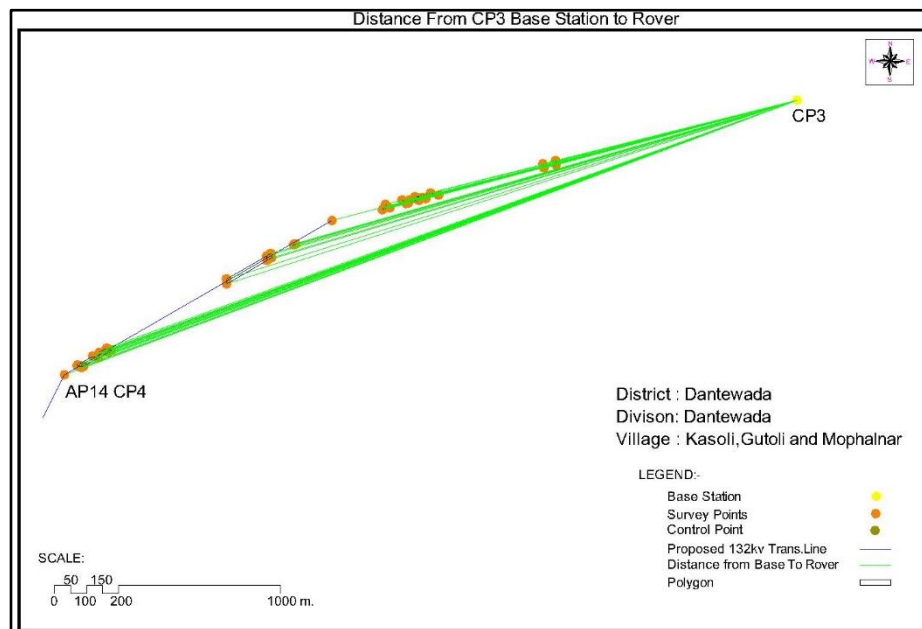
GROUND OBSERVATION POINTS WITH RESPECT TO BASE POINT (CP1-AP06)							
POINT	EASTING (UTM)	NORTHING (UTM)	LATITUDE (DMS)	LONGITUDE (DMS)	LATITUDE (D)	LONGITUDE (D)	Remarks
AP06CP1	540701.460	2110953.110	19°05'27.981"N	81°23'12.917"E	19.09110580	81.38692130	Angle point
34	540736.270	2110846.820	19°05'24.520"N	81°23'14.100"E	19.09014460	81.38725000	RF1252
35	540747.680	2110854.290	19°05'24.762"N	81°23'14.491"E	19.09021180	81.38735860	RF1252
36	540767.940	2110842.840	19°05'24.389"N	81°23'15.184"E	19.09010790	81.38755100	RF1252
37	540787.260	2110801.520	19°05'23.043"N	81°23'15.842"E	19.08973420	81.38773380	RF1252
38	540761.430	2110793.030	19°05'22.769"N	81°23'14.957"E	19.08965790	81.38748800	RF1252
AP07	540850.260	2110634.990	19°05'17.620"N	81°23'17.985"E	19.08822790	81.38832910	Angle point
39	540871.060	2110205.150	19°05'03.634"N	81°23'18.664"E	19.08434280	81.38851780	RF1262
40	540897.860	2110208.750	19°05'03.749"N	81°23'19.582"E	19.08437480	81.38877270	RF1262
41	540930.160	2109804.490	19°04'50.595"N	81°23'20.656"E	19.08072070	81.38907120	RF1262
AP08	540916.180	2109809.960	19°04'50.773"N	81°23'20.178"E	19.08077040	81.38893840	Angle point
42	540902.210	2109815.420	19°04'50.952"N	81°23'19.700"E	19.08082000	81.38880570	RF1262
43	540183.320	2109150.870	19°04'29.383"N	81°22'55.050"E	19.07482850	81.38195850	RF1262
44	540201.440	2109130.850	19°04'28.730"N	81°22'55.669"E	19.07464720	81.38213030	RF1262
45	539364.470	2108357.150	19°04'03.617"N	81°22'26.972"E	19.06767130	81.37415900	RF1261
46	539345.690	2108376.550	19°04'04.249"N	81°22'26.331"E	19.06784700	81.37398090	RF1261
47	538813.800	2107884.860	19°03'48.289"N	81°22'08.096"E	19.06341360	81.36891550	RF1254
AP09	538821.740	2107873.820	19°03'47.929"N	81°22'08.367"E	19.06331360	81.36899070	Angle point
48	538829.680	2107862.770	19°03'47.569"N	81°22'08.638"E	19.06321360	81.36906600	RF1254
49	538162.250	2107497.780	19°03'35.739"N	81°21'45.775"E	19.05992760	81.36271520	RF1254
AP10	538159.890	2107511.870	19°03'36.198"N	81°21'45.695"E	19.06005500	81.36269300	Angle point
50	538157.520	2107525.970	19°03'36.657"N	81°21'45.615"E	19.06018240	81.36267080	RF1254
51	537999.010	2107552.810	19°03'37.541"N	81°21'40.193"E	19.06042800	81.36116480	RF1254
52	537999.400	2107525.360	19°03'36.648"N	81°21'40.204"E	19.06018000	81.36116790	RF1254
AP11 CP2	537999.200	2107539.090	19°03'37.094"N	81°21'40.199"E	19.06030400	81.36116630	Angle point
54	537813.970	2107516.060	19°03'36.358"N	81°21'33.859"E	19.06009940	81.35940530	RF1254
53	537834.110	2107492.540	19°03'35.591"N	81°21'34.547"E	19.05988630	81.35959630	RF1254

BASE STATION CP02 (AP11):



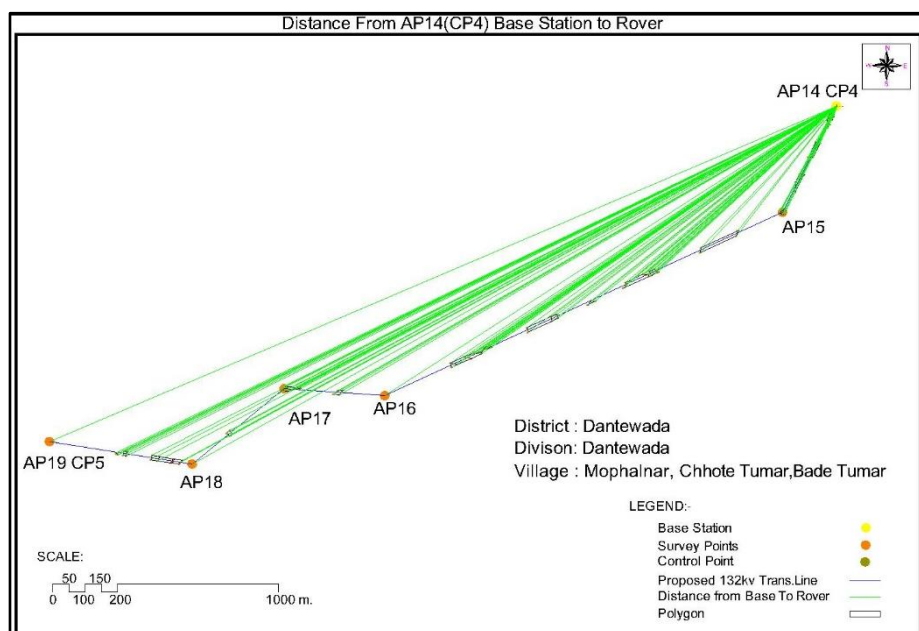
GROUND OBSERVATION POINTS WITH RESPECT TO BASE POINT (CP2-AP11)							
POINT	EASTING (UTM)	NORTHING (UTM)	LATITUDE (DMS)	LONGITUDE (DMS)	LATITUDE (D)	LONGITUDE (D)	Remarks
65	537999.200	2107539.090	19°03'37.094"N	81°21'40.199"E	19.06030400	81.36116630	Angle point
66	537020.620	2107330.970	19°03'30.388"N	81°21'06.701"E	19.05844110	81.35186150	KH.85
67	536970.500	2107348.540	19°03'30.963"N	81°21'04.988"E	19.05860080	81.35138550	KH.85
68	536925.650	2107339.640	19°03'30.676"N	81°21'03.453"E	19.05852110	81.35095900	KH.85
69	536933.350	2107327.400	19°03'30.278"N	81°21'03.715"E	19.05841040	81.35103190	KH.85
70	536944.520	2107315.860	19°03'29.901"N	81°21'04.096"E	19.05830590	81.35113790	KH.85
71	536030.620	2107134.350	19°03'24.055"N	81°20'32.815"E	19.05668180	81.34244850	KH.6
72	536025.540	2107147.100	19°03'24.470"N	81°20'32.642"E	19.05679720	81.34240050	KH.6
73	536021.390	2107160.040	19°03'24.891"N	81°20'32.501"E	19.05691420	81.34236130	KH.6
74	535925.610	2107141.020	19°03'24.278"N	81°20'29.222"E	19.05674400	81.34145060	KH.6
75	535923.190	2107126.770	19°03'23.815"N	81°20'29.138"E	19.05661530	81.34142730	KH.6
76	535921.400	2107112.660	19°03'23.356"N	81°20'29.076"E	19.05648770	81.34141010	KH.6
AP12	535820.750	2107106.430	19°03'23.160"N	81°20'25.632"E	19.05643320	81.34045340	Angle point
77	533439.890	2106476.670	19°03'02.816"N	81°19'04.131"E	19.05078210	81.31781430	KH.263
78	533433.770	2106489.030	19°03'03.218"N	81°19'03.923"E	19.05089390	81.31775630	KH.263
79	533424.160	2106500.490	19°03'03.592"N	81°19'03.595"E	19.05099770	81.31766520	KH.263
80	533398.960	2106493.970	19°03'03.381"N	81°19'02.732"E	19.05093910	81.31742550	KH.263
81	533404.730	2106467.580	19°03'02.522"N	81°19'02.928"E	19.05070050	81.31748000	KH.263
CP3	533251.060	2106441.770	19°03'01.691"N	81°18'57.668"E	19.05046980	81.31601900	Control Point

BASE STATION CP03:



GROUND OBSERVATION POINTS WITH RESPECT TO BASE POINT (CP3)							
POINT	EASTING (UTM)	NORTHING (UTM)	LATITUDE (DMS)	LONGITUDE (DMS)	LATITUDE (D)	LONGITUDE (D)	Remarks
CP3	533251.060	2106441.770	19°03'01.691"N	81°18'57.668"E	19.0504698	81.3160190	Control Point
82	531754.630	2106068.660	19°02'49.638"N	81°18'06.448"E	19.0471216	81.3017910	KH.228
83	531757.030	2106041.390	19°02'48.751"N	81°18'06.528"E	19.0468751	81.3018133	KH.228
84	531681.480	2106021.850	19°02'48.119"N	81°18'03.942"E	19.0466997	81.3010950	KH.228
85	531675.060	2106048.080	19°02'48.973"N	81°18'03.724"E	19.0469369	81.3010344	KH.228
86	530979.350	2105868.130	19°02'43.157"N	81°17'39.911"E	19.0453212	81.2944197	KH.214
87	531028.830	2105853.040	19°02'42.663"N	81°17'41.603"E	19.0451841	81.2948897	KH.214
88	530949.550	2105832.540	19°02'42.000"N	81°17'38.889"E	19.0450000	81.2941359	KH.214
89	530929.410	2105841.270	19°02'42.285"N	81°17'38.201"E	19.0450792	81.2939446	KH.214
90	530883.600	2105843.370	19°02'42.356"N	81°17'36.634"E	19.0450989	81.2935093	KH.214
91	530906.400	2105821.380	19°02'41.639"N	81°17'37.412"E	19.0448998	81.2937256	KH.281
92	530852.940	2105824.440	19°02'41.742"N	81°17'35.583"E	19.0449283	81.2932176	KH.281
93	530840.100	2105804.230	19°02'41.085"N	81°17'35.143"E	19.0447458	81.2930953	KH.281
94	530827.270	2105800.910	19°02'40.978"N	81°17'34.704"E	19.0447160	81.2929733	KH.281
95	530801.480	2105822.130	19°02'41.669"N	81°17'33.823"E	19.0449082	81.2927286	KH.281
96	530699.420	2105795.730	19°02'40.816"N	81°17'30.330"E	19.0446711	81.2917582	KH.207
97	530705.220	2105783.280	19°02'40.411"N	81°17'30.527"E	19.0445586	81.2918131	KH.207
98	530715.760	2105777.230	19°02'40.213"N	81°17'30.887"E	19.0445036	81.2919132	KH.207
99	530726.740	2105774.910	19°02'40.137"N	81°17'31.263"E	19.0444825	81.2920175	KH.207
100	530704.520	2105769.160	19°02'39.951"N	81°17'30.502"E	19.0444309	81.2918062	KH.206
101	530686.240	2105772.250	19°02'40.053"N	81°17'29.877"E	19.0444591	81.2916326	KH.206
102	530680.050	2105762.830	19°02'39.747"N	81°17'29.665"E	19.0443741	81.2915736	KH.206
AP13	530368.200	2105696.110	19°02'37.593"N	81°17'18.992"E	19.0437758	81.2886088	Angle Point
103	530143.580	2105551.010	19°02'32.884"N	81°17'11.299"E	19.0424678	81.2864719	KH.169
104	530131.590	2105550.910	19°02'32.881"N	81°17'10.889"E	19.0424670	81.2863580	KH.169
105	530118.810	2105537.920	19°02'32.459"N	81°17'10.451"E	19.0423498	81.2862363	KH.169
106	530118.340	2105536.460	19°02'32.412"N	81°17'10.435"E	19.0423366	81.2862319	KH.169
107	529994.390	2105464.990	19°02'30.093"N	81°17'06.190"E	19.0416925	81.2850527	KH.150
108	529988.420	2105492.720	19°02'30.995"N	81°17'05.987"E	19.0419432	81.2849965	KH.150
109	529962.480	2105477.760	19°02'30.510"N	81°17'05.099"E	19.0418084	81.2847497	KH.150
110	529964.740	2105447.900	19°02'29.539"N	81°17'05.175"E	19.0415385	81.2847708	KH.150
111	529714.110	2105303.380	19°02'24.850"N	81°16'56.592"E	19.0402361	81.2823866	KH.149
112	529713.340	2105334.100	19°02'25.849"N	81°16'56.567"E	19.0405137	81.2823798	KH.149
113	529002.760	2104893.230	19°02'11.542"N	81°16'32.233"E	19.0365395	81.2756203	KH.177
114	528979.780	2104879.970	19°02'11.112"N	81°16'31.446"E	19.0364200	81.2754018	KH.177
115	528986.020	2104899.130	19°02'11.735"N	81°16'31.661"E	19.0365931	81.2754613	KH.177
116	528969.260	2104905.070	19°02'11.929"N	81°16'31.088"E	19.0366470	81.2753021	KH.104
117	528925.960	2104880.070	19°02'11.118"N	81°16'29.605"E	19.0364216	81.2748903	KH.104
118	528926.020	2104872.700	19°02'10.878"N	81°16'29.607"E	19.0363551	81.2748907	KH.104
119	528917.050	2104845.020	19°02'09.978"N	81°16'29.298"E	19.0361050	81.2748051	KH.104
120	528900.490	2104849.830	19°02'10.136"N	81°16'28.732"E	19.0361488	81.2746478	KH.104
121	528884.940	2104856.450	19°02'10.352"N	81°16'28.201"E	19.0362088	81.2745001	KH.104
122	528790.980	2104802.270	19°02'08.594"N	81°16'24.983"E	19.0357205	81.2736064	KH.104
123	528808.640	2104796.870	19°02'08.417"N	81°16'25.587"E	19.0356714	81.2737741	KH.104
124	528828.740	2104792.880	19°02'08.286"N	81°16'26.275"E	19.0356351	81.2739651	KH.104
125	528815.140	2104785.040	19°02'08.032"N	81°16'25.809"E	19.0355644	81.2738358	KH.103
126	528783.560	2104797.990	19°02'08.455"N	81°16'24.729"E	19.0356819	81.2735358	KH.103
AP14	528710.140	2104740.080	19°02'06.574"N	81°16'22.214"E	19.0351595	81.2728372	Angle Point

BASE STATION CP04 (AP14):



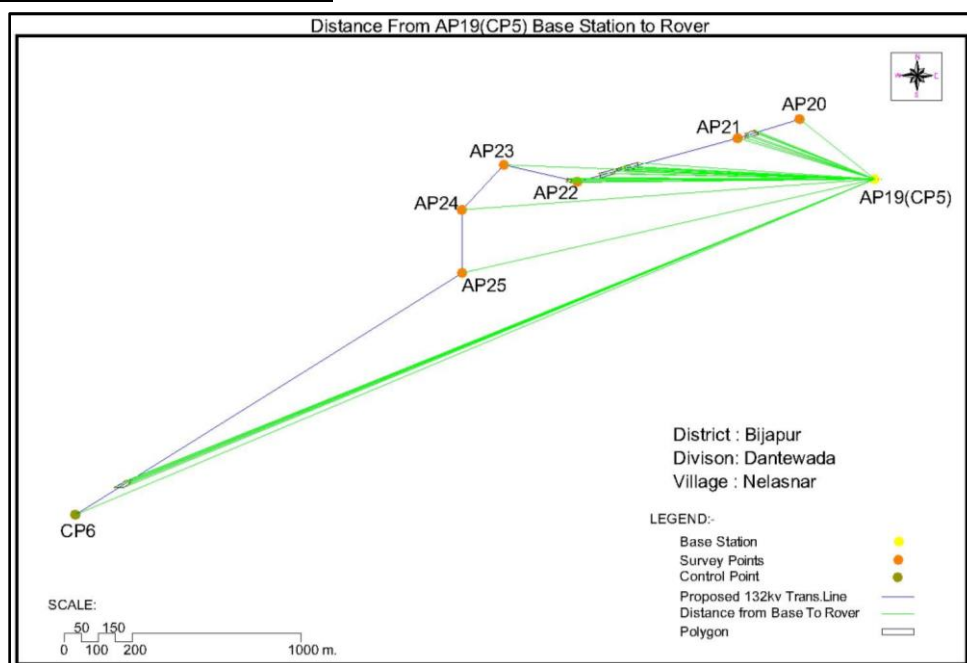
GROUND OBSERVATION POINTS WITH RESPECT TO BASE POINT (CP4-AP14)

POINT	EASTING (UTM)	NORTHING (UTM)	LATTITUDE (DMS)	LONGITUDE (DMS)	LATTITUDE (D)	LONGITUDE (D)	Remarks
AP14(CP4)	528710.140	2104740.080	19°02'06.574"N	81°16'22.214"E	19.03515950	81.27283720	Angle Point
127	528674.930	2104700.360	19°02'05.284"N	81°16'21.007"E	19.03480110	81.27250200	KH.95
128	528691.830	2104673.960	19°02'04.424"N	81°16'21.584"E	19.03456220	81.27266230	KH.95
129	528682.260	2104655.030	19°02'03.809"N	81°16'21.256"E	19.03439130	81.27257110	KH.95
130	528661.130	2104673.070	19°02'04.397"N	81°16'20.534"E	19.03455460	81.27237050	KH.95
131	528664.650	2104650.110	19°02'03.650"N	81°16'20.653"E	19.03434710	81.27240360	KH.184
132	528665.080	2104621.050	19°02'02.704"N	81°16'20.666"E	19.03408440	81.27240730	KH.184
133	528656.390	2104603.870	19°02'02.146"N	81°16'20.368"E	19.03392930	81.27232450	KH.184
134	528652.560	2104656.130	19°02'03.846"N	81°16'20.240"E	19.03440160	81.27228880	KH.184
135	528580.920	2104514.460	19°01'59.240"N	81°16'17.782"E	19.03312230	81.27160600	KH.93
136	528594.090	2104501.800	19°01'58.828"N	81°16'18.231"E	19.03300770	81.27173090	KH.93
137	528606.590	2104505.380	19°01'58.944"N	81°16'18.659"E	19.03303990	81.27184980	KH.93
138	528564.630	2104422.400	19°01'56.246"N	81°16'17.219"E	19.03229050	81.27144980	KH.93
139	528534.250	2104422.160	19°01'56.240"N	81°16'16.180"E	19.03228880	81.27116110	KH.93
140	528480.970	2104316.780	19°01'52.814"N	81°16'14.351"E	19.03133710	81.27065320	KH.190
141	528501.770	2104315.110	19°01'52.758"N	81°16'15.063"E	19.03132170	81.27085080	KH.190
142	528508.550	2104311.490	19°01'52.640"N	81°16'15.295"E	19.03128890	81.27091520	KH.190
143	528454.270	2104204.140	19°01'49.150"N	81°16'13.432"E	19.03031960	81.27039780	KH.190
144	528455.810	2104267.030	19°01'51.196"N	81°16'13.488"E	19.03088790	81.27041340	KH.190
145	528371.990	2104101.270	19°01'45.807"N	81°16'10.612"E	19.02939100	81.26961450	KH.211
146	528395.460	2104087.840	19°01'45.369"N	81°16'11.414"E	19.02926930	81.26983730	KH.211
147	528366.180	2104089.770	19°01'45.434"N	81°16'10.413"E	19.02928710	81.26955900	KH.211
AP15	528376.100	2104079.480	19°01'45.098"N	81°16'10.752"E	19.02919400	81.26965320	Angle Point
148	528386.020	2104069.190	19°01'44.763"N	81°16'11.091"E	19.02910080	81.26974740	KH.211

149	528357.860	2104085.940	19°01'45.309"N	81°16'10.128"E	19.02925260	81.26948000	KH.211
150	528376.320	2104064.720	19°01'44.618"N	81°16'10.758"E	19.02906060	81.26965510	KH.212
151	528356.460	2104080.130	19°01'45.121"N	81°16'10.080"E	19.02920020	81.26946660	KH.212
152	528371.130	2104062.320	19°01'44.540"N	81°16'10.581"E	19.02903900	81.26960570	KH.212
153	528087.440	2103931.550	19°01'40.300"N	81°16'00.869"E	19.02786110	81.26690800	KH.760
154	528094.460	2103964.520	19°01'41.372"N	81°16'01.111"E	19.02815900	81.26697520	KH.760
155	527869.400	2103860.780	19°01'38.008"N	81°15'53.406"E	19.02722440	81.26483500	KH.760
156	527862.280	2103827.770	19°01'36.934"N	81°15'53.161"E	19.02692620	81.26476690	KH.760
157	527599.840	2103706.790	19°01'33.011"N	81°15'44.177"E	19.02583640	81.26227130	KH.778
158	527593.310	2103712.760	19°01'33.206"N	81°15'43.954"E	19.02589040	81.26220930	KH.778
159	527588.210	2103716.630	19°01'33.332"N	81°15'43.779"E	19.02592550	81.26216090	KH.778
160	527581.670	2103725.830	19°01'33.631"N	81°15'43.556"E	19.02600870	81.26209890	KH.778
161	527547.750	2103712.510	19°01'33.200"N	81°15'42.395"E	19.02588880	81.26177640	KH.778
162	527556.680	2103686.900	19°01'32.366"N	81°15'42.699"E	19.02565720	81.26186090	KH.778
163	527545.180	2103681.600	19°01'32.194"N	81°15'42.305"E	19.02560950	81.26175150	KH.797
164	527536.520	2103692.470	19°01'32.548"N	81°15'42.010"E	19.02570780	81.26166940	KH.797
165	527516.610	2103693.950	19°01'32.597"N	81°15'41.329"E	19.02572150	81.26148020	KH.797
166	527514.760	2103695.780	19°01'32.657"N	81°15'41.266"E	19.02573800	81.26146270	KH.797
167	527512.110	2103696.090	19°01'32.667"N	81°15'41.175"E	19.02574090	81.26143750	KH.797
168	527398.860	2103643.880	19°01'30.974"N	81°15'37.298"E	19.02527060	81.26036060	KH.797
169	527408.490	2103635.990	19°01'30.717"N	81°15'37.627"E	19.02519920	81.26045200	KH.797
170	527400.470	2103622.040	19°01'30.263"N	81°15'37.352"E	19.02507310	81.26037560	KH.797
171	527383.610	2103607.120	19°01'29.779"N	81°15'36.775"E	19.02493850	81.26021520	KH.797
172	527209.470	2103526.850	19°01'27.176"N	81°15'30.813"E	19.02421540	81.25855930	KH.793
173	527182.980	2103527.350	19°01'27.193"N	81°15'29.907"E	19.02422030	81.25830760	KH.793
174	527161.720	2103504.840	19°01'26.462"N	81°15'29.179"E	19.02401720	81.25810530	KH.793
175	526980.320	2103421.230	19°01'23.750"N	81°15'22.969"E	19.02326390	81.25638030	KH.789
176	526971.130	2103446.720	19°01'24.580"N	81°15'22.656"E	19.02349440	81.25629330	KH.789
177	526937.980	2103431.440	19°01'24.084"N	81°15'21.521"E	19.02335670	81.25597820	KH.789
178	526941.000	2103403.100	19°01'23.162"N	81°15'21.623"E	19.02310060	81.25600640	KH.789
179	526793.330	2103335.030	19°01'20.954"N	81°15'16.568"E	19.02248730	81.25460220	KH.623
180	526787.330	2103362.000	19°01'21.832"N	81°15'16.364"E	19.02273110	81.25454570	KH.623
181	526556.500	2103255.590	19°01'18.381"N	81°15'08.463"E	19.02177250	81.25235070	KH.616
182	526563.210	2103238.720	19°01'17.832"N	81°15'08.691"E	19.02161990	81.25241430	KH.616
183	526554.040	2103234.970	19°01'17.710"N	81°15'08.378"E	19.02158610	81.25232710	KH.616
184	526535.720	2103231.150	19°01'17.587"N	81°15'07.750"E	19.02155180	81.25215290	KH.616
185	526523.300	2103230.000	19°01'17.550"N	81°15'07.326"E	19.02154160	81.25203490	KH.616
186	526516.880	2103237.330	19°01'17.789"N	81°15'07.106"E	19.02160800	81.25197400	KH.616
187	526456.340	2103209.430	19°01'16.884"N	81°15'05.034"E	19.02135660	81.25139840	KH.616
188	526458.630	2103197.360	19°01'16.491"N	81°15'05.112"E	19.02124750	81.25142000	KH.616
189	526482.500	2103204.920	19°01'16.736"N	81°15'05.929"E	19.02131550	81.25164690	KH.616
190	526504.200	2103210.900	19°01'16.929"N	81°15'06.671"E	19.02136920	81.25185320	KH.616
191	526505.040	2103202.140	19°01'16.644"N	81°15'06.700"E	19.02129010	81.25186110	KH.616
192	526436.880	2103170.720	19°01'15.625"N	81°15'04.367"E	19.02100700	81.25121290	KH.616

193	526397.030	2103182.090	19°01'15.997"N	81°15'03.004"E	19.02111020	81.25083440	KH.616
194	526310.910	2103142.390	19°01'14.709"N	81°15'00.056"E	19.02075250	81.25001550	PF1320
195	526357.400	2103134.090	19°01'14.437"N	81°15'01.646"E	19.02067700	81.25045720	PF1320
196	526317.250	2103115.580	19°01'13.837"N	81°15'00.272"E	19.02051020	81.25007540	KH.153
AP16	525903.490	2102939.720	19°01'08.134"N	81°14'46.109"E	19.01892610	81.24614140	Angle Point
197	525638.520	2102971.680	19°01'09.186"N	81°14'37.047"E	19.01921830	81.24362410	KH.143
198	525619.840	2102945.910	19°01'08.348"N	81°14'36.406"E	19.01898570	81.24344620	KH.143
199	525582.410	2102948.520	19°01'08.435"N	81°14'35.126"E	19.01900960	81.24309050	KH.143
200	525611.600	2102973.550	19°01'09.248"N	81°14'36.126"E	19.01923560	81.24336820	KH.143
201	525376.090	2102989.930	19°01'09.791"N	81°14'28.070"E	19.01938650	81.24113060	KH.124
202	525375.410	2102982.730	19°01'09.557"N	81°14'28.047"E	19.01932140	81.24112400	KH.124
203	525360.670	2102984.450	19°01'09.614"N	81°14'27.543"E	19.01933720	81.24098400	KH.124
204	525342.280	2102982.450	19°01'09.549"N	81°14'26.913"E	19.01931930	81.24080920	KH.124
205	525322.080	2102976.750	19°01'09.365"N	81°14'26.222"E	19.01926810	81.24061720	KH.124
206	525301.710	2102968.030	19°01'09.082"N	81°14'25.525"E	19.01918950	81.24042350	KH.124
207	525281.970	2102969.410	19°01'09.128"N	81°14'24.850"E	19.01920220	81.24023600	KH.124
AP17	525277.530	2102983.250	19°01'09.578"N	81°14'24.698"E	19.01932730	81.24019400	Angle Point
208	525262.950	2102988.760	19°01'09.758"N	81°14'24.200"E	19.01937730	81.24005550	KH.124
209	525273.120	2102997.090	19°01'10.029"N	81°14'24.548"E	19.01945250	81.24015230	KH.124
210	524939.660	2102724.230	19°01'01.166"N	81°14'13.129"E	19.01699050	81.23698010	KH.99
211	524918.920	2102707.260	19°01'00.615"N	81°14'12.418"E	19.01683740	81.23678290	KH.99
212	524938.920	2102688.740	19°01'00.011"N	81°14'13.102"E	19.01666980	81.23697270	KH.99
213	524955.320	2102702.160	19°01'00.447"N	81°14'13.663"E	19.01679090	81.23712870	KH.99
AP18	524705.830	2102515.450	19°00'54.384"N	81°14'05.120"E	19.01510660	81.23475570	Angle Point
214	524647.460	2102538.380	19°00'55.132"N	81°14'03.125"E	19.01531450	81.23420130	KH.94
215	524631.490	2102525.000	19°00'54.697"N	81°14'02.578"E	19.01519370	81.23404930	KH.94
216	524625.580	2102514.510	19°00'54.357"N	81°14'02.375"E	19.01509900	81.23399310	KH.94
217	524579.200	2102521.870	19°00'54.598"N	81°14'00.789"E	19.01516600	81.23355250	KH.94
218	524585.920	2102528.700	19°00'54.820"N	81°14'01.019"E	19.01522770	81.23361640	KH.94
219	524596.380	2102546.480	19°00'55.398"N	81°14'01.378"E	19.01538830	81.23371600	KH.94
220	524588.190	2102547.780	19°00'55.440"N	81°14'01.098"E	19.01540010	81.23363830	KH.45
221	524571.030	2102523.160	19°00'54.640"N	81°14'00.510"E	19.01517790	81.23347490	KH.45
222	524490.590	2102535.920	19°00'55.059"N	81°13'57.758"E	19.01529410	81.23271070	KH.45
223	524504.100	2102561.110	19°00'55.878"N	81°13'58.222"E	19.01552160	81.23283940	KH.45
224	524456.110	2102568.720	19°00'56.128"N	81°13'56.581"E	19.01559100	81.23238350	KH.44
225	524448.550	2102542.580	19°00'55.277"N	81°13'56.321"E	19.01535480	81.23231130	KH.44
226	524296.470	2102566.700	19°00'56.068"N	81°13'51.120"E	19.01557460	81.23086660	KH.41
227	524301.640	2102593.210	19°00'56.931"N	81°13'51.298"E	19.01581420	81.23091600	KH.41
228	524282.260	2102596.290	19°00'57.032"N	81°13'50.635"E	19.01584220	81.23073190	KH.41
229	524276.460	2102569.870	19°00'56.173"N	81°13'50.435"E	19.01560350	81.23067650	KH.41
230	524245.020	2102574.850	19°00'56.336"N	81°13'49.360"E	19.01564890	81.23037780	KH.41
231	524230.350	2102584.380	19°00'56.647"N	81°13'48.859"E	19.01573510	81.23023850	KH.41
232	524233.680	2102576.650	19°00'56.395"N	81°13'48.972"E	19.01566530	81.23027010	KH.41
AP19(CP5)	523819.500	2102655.990	19°00'58.994"N	81°13'34.808"E	19.01638720	81.22633550	Angle Point

BASE STATION CP05 (AP19):

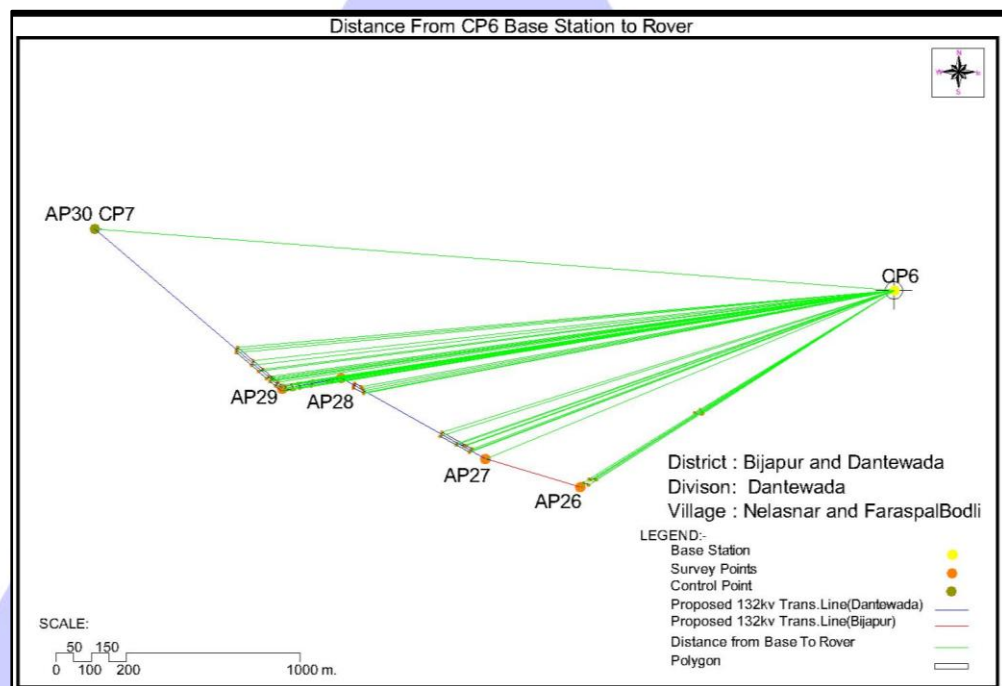


GROUND OBSERVATION POINTS WITH RESPECT TO BASE POINT (CP5-AP19)

POINT	EASTING (UTM)	NORTHING (UTM)	LATITUDE (DMS)	LONGITUDE (DMS)	LATITUDE (D)	LONGITUDE (D)	Remarks
AP19(CP5)	523819.500	2102655.990	19°00'58.994"N	81°13'34.808"E	19.01638720	81.22633550	Angle Point
AP20	523375.460	2103013.680	19°01'10.650"N	81°13'19.634"E	19.01962500	81.22212050	KH.691
233	523109.150	2102945.150	19°01'08.431"N	81°13'10.521"E	19.01900860	81.21958910	KH.691
234	523117.210	2102933.520	19°01'08.052"N	81°13'10.796"E	19.01890340	81.21966560	KH.691
235	523132.680	2102924.180	19°01'07.748"N	81°13'11.325"E	19.01881890	81.21981240	KH.691
236	523054.710	2102899.980	19°01'06.964"N	81°13'08.657"E	19.01860100	81.21907130	KH.691
237	523060.460	2102915.900	19°01'07.481"N	81°13'08.854"E	19.01874480	81.21912610	KH.691
238	523056.520	2102928.810	19°01'07.902"N	81°13'08.720"E	19.01886160	81.21908880	KH.691
AP21	523008.860	2102899.880	19°01'06.962"N	81°13'07.088"E	19.01860070	81.21863560	Angle Point
239	522416.870	2102753.670	19°01'02.229"N	81°12'46.831"E	19.01728590	81.21300870	KH.680/1
240	522421.090	2102726.850	19°01'01.356"N	81°12'46.975"E	19.01704340	81.21304850	KH.680/1
241	522345.520	2102706.400	19°01'00.694"N	81°12'44.389"E	19.01685940	81.21233020	KH.680/1
242	522339.820	2102732.830	19°01'01.554"N	81°12'44.195"E	19.01709830	81.21227640	KH.680/1
243	522322.150	2102728.040	19°01'01.399"N	81°12'43.590"E	19.01705520	81.21210840	KH.678
244	522304.140	2102720.260	19°01'01.146"N	81°12'42.974"E	19.01698510	81.21193720	KH.678
245	522286.140	2102704.320	19°01'00.628"N	81°12'42.357"E	19.01684120	81.21176600	KH.678
246	522274.190	2102687.090	19°01'00.068"N	81°12'41.948"E	19.01668570	81.21165220	KH.678
247	522196.950	2102666.190	19°00'59.392"N	81°12'39.305"E	19.01649760	81.21091800	KH.678
248	522190.740	2102692.480	19°01'00.247"N	81°12'39.093"E	19.01673530	81.21085930	KH.678
AP22	522059.430	2102642.970	19°00'58.641"N	81°12'34.600"E	19.01628920	81.20961110	Angle Point
249	522024.890	2102636.890	19°00'58.445"N	81°12'33.418"E	19.01623470	81.20928280	KH.670
249	522028.080	2102650.480	19°00'58.887"N	81°12'33.527"E	19.01635740	81.20931320	KH.670
250	522013.310	2102655.870	19°00'59.063"N	81°12'33.023"E	19.01640640	81.20917290	KH.670
251	521998.540	2102642.810	19°00'58.638"N	81°12'32.517"E	19.01628840	81.20903250	KH.670

252	522002.220	2102661.300	19°00'59.240"N	81°12'32.643"E	19.01645550	81.20906760	KH.670
AP23	521624.080	2102740.730	19°01'01.839"N	81°12'19.711"E	19.01717740	81.20547540	Angle Point
AP24	521375.030	2102474.770	19°00'53.195"N	81°12'11.182"E	19.01477640	81.20310600	Angle Point
AP25	521377.920	2102101.980	19°00'41.066"N	81°12'11.266"E	19.01140720	81.20312940	Angle Point
253	519409.330	2100854.050	19°00'00.534"N	81°11'03.883"E	19.00014850	81.18441180	KH.458
254	519407.340	2100861.240	19°00'00.768"N	81°11'03.814"E	19.00021340	81.18439290	KH.458
255	519396.520	2100867.790	19°00'00.982"N	81°11'03.445"E	19.00027280	81.18429020	KH.458
256	519383.980	2100870.030	19°00'01.055"N	81°11'03.016"E	19.00029320	81.18417110	KH.458
257	519320.910	2100830.560	18°59'59.773"N	81°11'00.857"E	18.99993700	81.18357150	KH.458
258	519374.140	2100832.020	18°59'59.819"N	81°11'02.678"E	18.99994970	81.18407720	KH.458
CP6	519086.970	2100668.230	18°59'54.500"N	81°10'52.850"E	18.99847210	81.18134710	Control Point

BASE STATION CP06 (AP19):



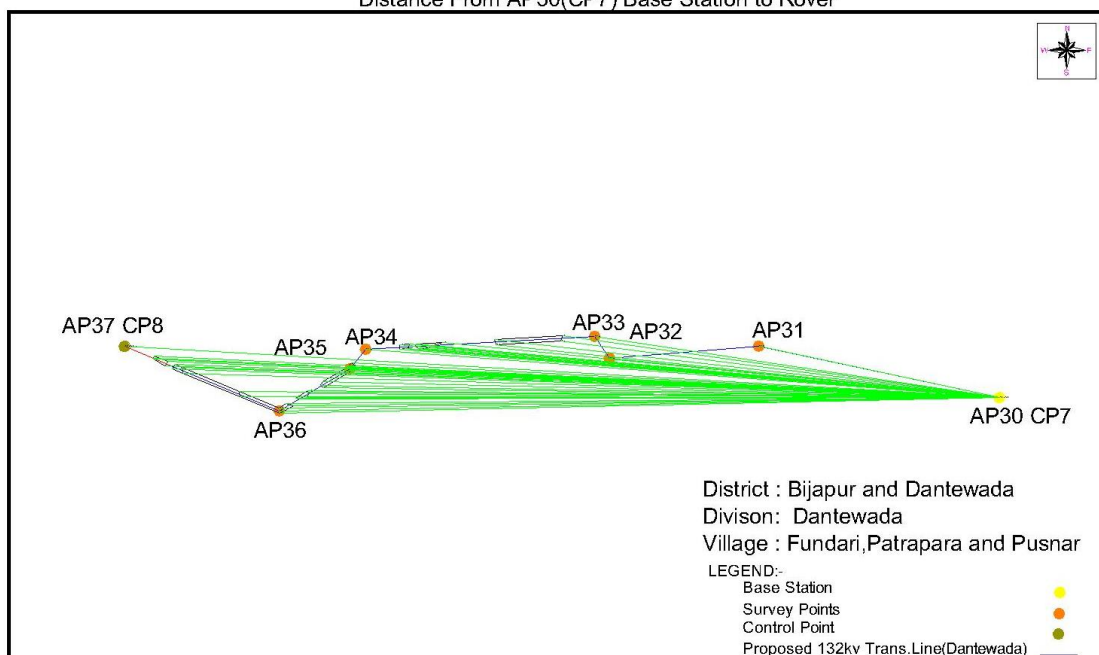
GROUND OBSERVATION POINTS WITH RESPECT TO BASE POINT (CP6)							
POINT	EASTING (UTM)	NORTHING (UTM)	LATTITUDE (DMS)	LONGITUDE (DMS)	LATTITUDE (D)	LONGITUDE (D)	Remarks
CP6	519086.970	2100668.230	18°59'54.500"N	81°10'52.850"E	18.99847210	81.18134710	Control Point
259	517971.830	2099986.260	18°59'32.348"N	81°10'14.685"E	18.99231880	81.17074580	KH.128
260	517986.190	2099963.400	18°59'31.604"N	81°10'15.176"E	18.99211210	81.17088210	KH.128
261	517979.680	2099959.320	18°59'31.471"N	81°10'14.953"E	18.99207530	81.17082020	KH.128
262	517938.140	2099965.180	18°59'31.663"N	81°10'13.532"E	18.99212860	81.17042560	KH.128
263	517333.930	2099587.040	18°59'19.379"N	81°09'52.854"E	18.98871630	81.16468180	KH.117
264	517344.280	2099583.690	18°59'19.269"N	81°09'53.208"E	18.98868600	81.16478010	KH.117

265	517367.620	2099586.800	18°59'19.370"N	81°09'54.007"E	18.98871380	81.16500190	KH.117
266	517375.970	2099581.500	18°59'19.197"N	81°09'54.292"E	18.98866590	81.16508110	KH.117
267	517328.960	2099552.090	18°59'18.242"N	81°09'52.684"E	18.98840040	81.16463430	KH.117
268	517296.650	2099563.710	18°59'18.621"N	81°09'51.579"E	18.98850580	81.16432740	KH.117
AP26	517283.170	2099539.350	18°59'17.829"N	81°09'51.117"E	18.98828570	81.16419920	Angle Point
AP27	516737.630	2099701.000	18°59'23.104"N	81°09'32.464"E	18.98975120	81.15901770	Angle Point
269	516660.150	2099759.770	18°59'25.018"N	81°09'29.815"E	18.99028290	81.15828200	KH.252
270	516654.430	2099747.500	18°59'24.620"N	81°09'29.619"E	18.99017210	81.15822760	KH.252
271	516644.740	2099737.450	18°59'24.293"N	81°09'29.288"E	18.99008130	81.15813550	KH.252
272	516568.310	2099780.170	18°59'25.685"N	81°09'26.675"E	18.99046800	81.15740960	KH.252
273	516574.380	2099789.490	18°59'25.988"N	81°09'26.883"E	18.99055230	81.15746740	KH.252
274	516614.970	2099778.790	18°59'25.639"N	81°09'28.271"E	18.99045530	81.15785300	KH.252
275	516627.960	2099777.760	18°59'25.605"N	81°09'28.715"E	18.99044580	81.15797640	KH.252
276	516487.260	2099856.390	18°59'28.167"N	81°09'23.905"E	18.99115760	81.15664030	KH.253
277	516475.830	2099831.850	18°59'27.369"N	81°09'23.513"E	18.99093590	81.15653150	KH.253
278	516038.900	2100076.050	18°59'35.327"N	81°09'08.576"E	18.99314640	81.15238230	KH.218
279	516041.620	2100081.870	18°59'35.516"N	81°09'08.670"E	18.99319890	81.15240820	KH.218
280	516040.450	2100090.650	18°59'35.802"N	81°09'08.630"E	18.99327830	81.15239720	KH.218
281	516031.060	2100104.470	18°59'36.252"N	81°09'08.309"E	18.99340330	81.15230820	KH.218
282	516024.320	2100115.130	18°59'36.599"N	81°09'08.079"E	18.99349970	81.15224420	KH.218
283	515984.780	2100135.380	18°59'37.259"N	81°09'06.727"E	18.99368290	81.15186870	KH.218
284	515981.050	2100123.850	18°59'36.884"N	81°09'06.599"E	18.99357880	81.15183310	KH.218
285	515980.290	2100108.810	18°59'36.394"N	81°09'06.573"E	18.99344290	81.15182580	KH.218
AP28	515907.960	2100164.700	18°59'38.215"N	81°09'04.101"E	18.99394860	81.15113900	Angle Point
286	515857.720	2100141.720	18°59'37.469"N	81°09'02.382"E	18.99374120	81.15066160	KH.170
287	515853.810	2100154.730	18°59'37.892"N	81°09'02.248"E	18.99385880	81.15062450	KH.170
288	515832.030	2100150.710	18°59'37.762"N	81°09'01.503"E	18.99382270	81.15041750	KH.170
289	515830.140	2100136.640	18°59'37.304"N	81°09'01.438"E	18.99369550	81.15039950	KH.170
290	515736.970	2100119.480	18°59'36.748"N	81°08'58.251"E	18.99354120	81.14951420	KH.166
291	515744.850	2100148.380	18°59'37.688"N	81°08'58.521"E	18.99380230	81.14958920	KH.166
292	515660.680	2100132.880	18°59'37.186"N	81°08'55.642"E	18.99366280	81.14878940	KH.166
293	515672.760	2100107.650	18°59'36.365"N	81°08'56.054"E	18.99343480	81.14890400	KH.166
294	515637.370	2100101.130	18°59'36.154"N	81°08'54.844"E	18.99337610	81.14856770	KH.107
295	515625.710	2100126.440	18°59'36.978"N	81°08'54.446"E	18.99360490	81.14845720	KH.107
296	515590.290	2100119.910	18°59'36.766"N	81°08'53.234"E	18.99354620	81.14812060	KH.107
297	515588.760	2100101.380	18°59'36.164"N	81°08'53.181"E	18.99337880	81.14810590	KH.107
298	515621.680	2100098.240	18°59'36.060"N	81°08'54.307"E	18.99335010	81.14841860	KH.107
299	515583.490	2100091.210	18°59'35.833"N	81°08'53.001"E	18.99328680	81.14805580	KH.108
300	515569.480	2100088.620	18°59'35.749"N	81°08'52.521"E	18.99326360	81.14792260	KH.108
AP29	515572.200	2100102.850	18°59'36.212"N	81°08'52.615"E	18.99339220	81.14794860	Angle Point
301	515576.080	2100117.290	18°59'36.682"N	81°08'52.748"E	18.99352260	81.14798550	KH.132
302	515545.320	2100143.520	18°59'37.536"N	81°08'51.697"E	18.99375990	81.14769360	KH.132
303	515533.020	2100118.530	18°59'36.723"N	81°08'51.275"E	18.99353410	81.14757650	KH.132
304	515500.030	2100146.670	18°59'37.639"N	81°08'50.148"E	18.99378870	81.14726330	KH.133

305	515503.650	2100152.200	18°59'37.819"N	81°08'50.272"E	18.99383870	81.14729770	KH.133
306	515514.240	2100152.290	18°59'37.822"N	81°08'50.634"E	18.99383940	81.14739830	KH.133
307	515518.280	2100165.210	18°59'38.242"N	81°08'50.772"E	18.99395610	81.14743670	KH.133
308	515496.130	2100172.380	18°59'38.476"N	81°08'50.015"E	18.99402110	81.14722640	KH.133
309	515481.070	2100162.840	18°59'38.166"N	81°08'49.500"E	18.99393500	81.14708320	KH.133
310	515434.760	2100202.340	18°59'39.452"N	81°08'47.917"E	18.99429230	81.14664360	KH.133
311	515460.870	2100215.560	18°59'39.882"N	81°08'48.810"E	18.99441160	81.14689180	KH.133
312	515404.810	2100263.370	18°59'41.439"N	81°08'46.894"E	18.99484410	81.14635950	KH.135
313	515394.060	2100237.060	18°59'40.583"N	81°08'46.526"E	18.99460640	81.14625710	KH.135
314	515306.310	2100311.910	18°59'43.021"N	81°08'43.526"E	18.99528350	81.14542400	KH.137
315	515308.680	2100327.620	18°59'43.532"N	81°08'43.608"E	18.99542550	81.14544670	KH.137
316	515313.320	2100341.410	18°59'43.981"N	81°08'43.767"E	18.99555010	81.14549090	KH.137
AP30(CP7)	514495.360	2101021.340	19°00'06.124"N	81°08'15.809"E	19.00170100	81.13772460	Angle Point

BASE STATION CP07 (AP30):

Distance From AP30(CP7) Base Station to Rover

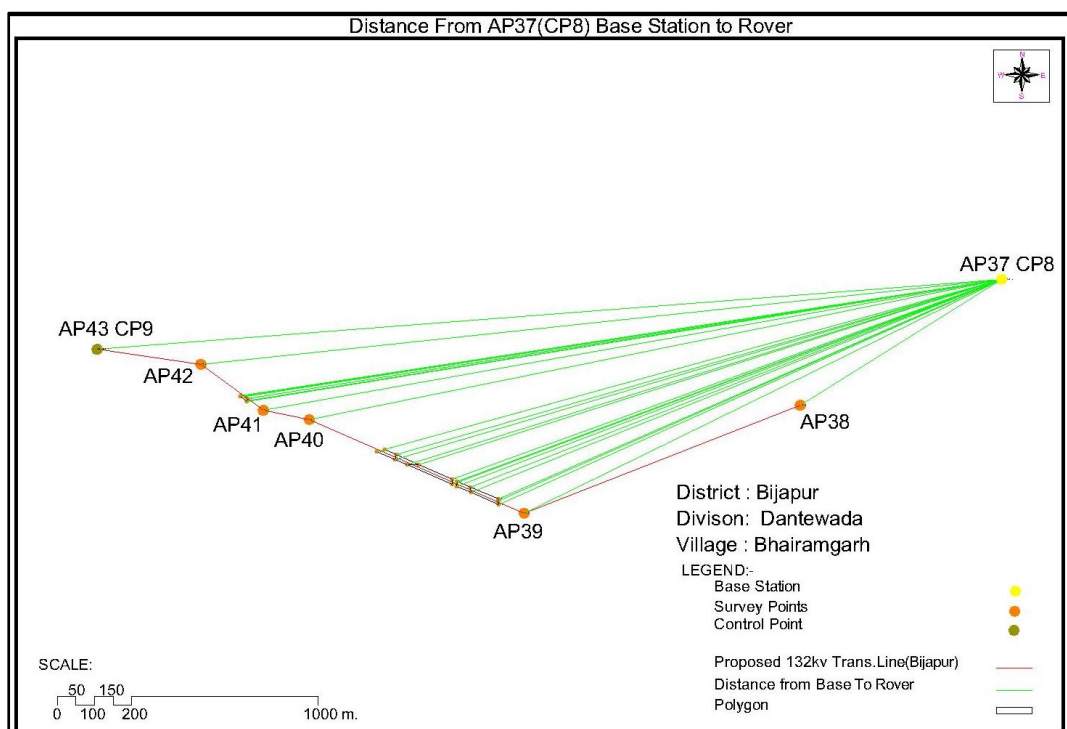


GROUND OBSERVATION POINTS WITH RESPECT TO BASE POINT (CP7-AP30)

POINT	EASTING (UTM)	NORTHING (UTM)	LATTITUDE (DMS)	LONGITUDE (DMS)	LATTITUDE (D)	LONGITUDE (D)	Remarks
AP30(CP7)	514495.360	2101021.340	19°00'06.124"N	81°08'15.809"E	19.00170100	81.13772460	Angle Point
AP31	513266.890	2101285.660	19°00'14.753"N	81°07'33.796"E	19.00409810	81.12605430	Angle Point
AP32	512505.520	2101220.560	19°00'12.653"N	81°07'7.751 "E	19.00351460	81.11881990	Angle Point
AP33	512430.330	2101334.440	19°00'16.359"N	81°07'5.182 "E	19.00454420	81.11810620	Angle Point
317	512265.730	2101338.800	19°00'16.505"N	81°06'59.552"E	19.00458470	81.11654220	KH.22
318	512255.370	2101311.190	19°00'15.607"N	81°06'59.197"E	19.00433520	81.11644360	KH.22
319	511926.990	2101292.920	19°00'15.019"N	81°06'47.964"E	19.00417210	81.11332340	KH.22
320	511918.130	2101319.470	19°00'15.883"N	81°06'47.662"E	19.00441210	81.11323940	KH.22
321	511653.590	2101304.760	19°00'15.410"N	81°06'38.613"E	19.00428060	81.11072580	KH.22

322	511596.930	2101282.820	19°00'14.698"N	81°06'36.674"E	19.00408270	81.11018730	KH.22
323	511561.710	2101272.610	19°00'14.366"N	81°06'35.469"E	19.00399060	81.10985260	KH.22
324	511528.690	2101270.780	19°00'14.307"N	81°06'34.340"E	19.00397420	81.10953890	KH.22
325	511513.940	2101283.480	19°00'14.721"N	81°06'33.836"E	19.00408910	81.10939880	KH.22
326	511519.470	2101297.310	19°00'15.170"N	81°06'34.025"E	19.00421400	81.10945150	KH.22
327	511485.340	2101295.410	19°00'15.109"N	81°06'32.858"E	19.00419700	81.10912710	KH.22
328	511473.380	2101274.040	19°00'14.414"N	81°06'32.448"E	19.00400400	81.10901340	KH.22
329	511459.760	2101271.930	19°00'14.346"N	81°06'31.982"E	19.00398510	81.10888400	KH.22
330	511433.000	2101270.170	19°00'14.289"N	81°06'31.067"E	19.00396920	81.10862980	KH.22
331	511432.770	2101292.480	19°00'15.015"N	81°06'31.059"E	19.00417090	81.10862760	KH.22
AP34	511261.530	2101269.440	19°00'14.269"N	81°06'25.202"E	19.00396360	81.10700050	Angle Point
332	511187.800	2101199.270	19°00'11.987"N	81°06'22.678"E	19.00332980	81.10629960	PF1990
333	511209.990	2101183.780	19°00'11.483"N	81°06'23.437"E	19.00318970	81.10651030	PF1990
334	511190.140	2101159.090	19°00'10.680"N	81°06'22.758"E	19.00296670	81.10632160	PF1990
335	511172.160	2101179.810	19°00'11.355"N	81°06'22.143"E	19.00315400	81.10615080	PF1990
AP35	511181.150	2101169.450	19°00'11.017"N	81°06'22.450"E	19.00306040	81.10623620	Angle Point
336	511039.910	2101101.280	19°00'08.802"N	81°06'17.618"E	19.00244500	81.10489380	PF1990
337	511029.790	2101084.200	19°00'08.247"N	81°06'17.271"E	19.00229080	81.10479760	PF1990
338	511045.450	2101073.170	19°00'07.887"N	81°06'17.807"E	19.00219100	81.10494630	PF1990
339	510965.710	2101057.220	19°00'07.370"N	81°06'15.079"E	19.00204720	81.10418860	KH.33
340	510967.980	2101042.870	19°00'06.903"N	81°06'15.156"E	19.00191750	81.10421010	KH.33
341	510960.010	2101022.430	19°00'06.238"N	81°06'14.883"E	19.00173290	81.10413420	KH.33
342	510947.860	2101015.220	19°00'06.004"N	81°06'14.468"E	19.00166780	81.10401880	KH.33
343	510934.780	2101013.460	19°00'05.947"N	81°06'14.020"E	19.00165190	81.10389450	KH.33
344	510909.480	2101014.540	19°00'05.982"N	81°06'13.155"E	19.00166180	81.10365410	KH.33
345	510903.720	2101020.410	19°00'06.174"N	81°06'12.958"E	19.00171490	81.10359940	KH.33
346	510853.610	2100990.660	19°00'05.207"N	81°06'11.243"E	19.00144630	81.10312310	KH.47
347	510892.020	2100982.060	19°00'04.926"N	81°06'12.557"E	19.00136840	81.10348800	KH.47
348	510821.070	2100939.940	19°00'03.557"N	81°06'10.129"E	19.00098810	81.10281370	KH.47
349	510818.920	2100970.060	19°00'04.537"N	81°06'10.056"E	19.00126030	81.10279350	KH.47
AP36	510820.000	2100955.000	19°00'04.047"N	81°06'10.093"E	19.00112420	81.10280360	Angle Point
350	510616.820	2101053.930	19°00'07.270"N	81°06'3.145 "E	19.00201930	81.10087370	KH.47
351	510617.270	2101024.510	19°00'06.312"N	81°06'3.160 "E	19.00175350	81.10087780	KH.47
352	510326.650	2101145.110	19°00'10.242"N	81°05'53.222"E	19.00284490	81.09811720	KH.46
353	510324.010	2101175.440	19°00'11.229"N	81°05'53.132"E	19.00311900	81.09809220	KH.46
354	510287.450	2101190.610	19°00'11.723"N	81°05'51.882"E	19.00325630	81.09774500	KH.37
355	510273.520	2101167.160	19°00'10.960"N	81°05'51.405"E	19.00304440	81.09761250	KH.37
356	510236.930	2101182.350	19°00'11.455"N	81°05'50.154"E	19.00318190	81.09726490	KH.53
357	510248.980	2101206.580	19°00'12.243"N	81°05'50.566"E	19.00340080	81.09737950	KH.53
358	510181.720	2101234.490	19°00'13.152"N	81°05'48.266"E	19.00365340	81.09674070	KH.53
359	510176.330	2101222.110	19°00'12.750"N	81°05'48.081"E	19.00354150	81.09668930	KH.53
360	510176.750	2101218.270	19°00'12.624"N	81°05'48.096"E	19.00350680	81.09669330	KH.53
AP37(CP8)	510029.310	2101283.120	19°00'14.737"N	81°05'43.054"E	19.00409370	81.09529270	Angle Point

BASE STATION CP08 (AP37):

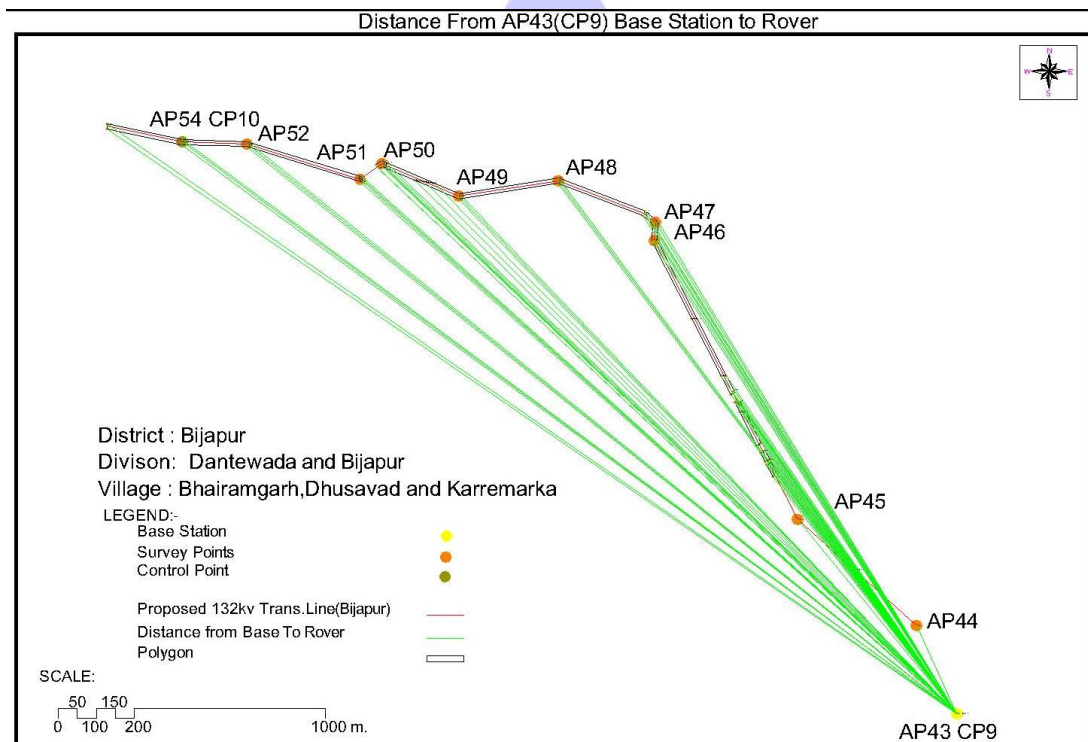


GROUND OBSERVATION POINTS WITH RESPECT TO BASE POINT (CP8-AP37)

POINT	EASTING (UTM)	NORTHING (UTM)	LATITUDE (DMS)	LONGITUDE (DMS)	LATITUDE (D)	LONGITUDE (D)	Remarks
AP37(CP8)	510029.310	2101283.120	19°00'14.737"N	81°05'43.054"E	19.00409370	81.09529270	Angle Point
AP38	508946.020	2100606.160	18°59'52.730"N	81°05'05.989"E	18.99798050	81.08499680	Angle Point
AP39	507464.000	2100029.000	18°59'33.973"N	81°04'15.290"E	18.99277030	81.07091390	Angle Point
361	507324.860	2100104.320	18°59'36.425"N	81°04'10.532"E	18.99345150	81.06959220	KH.1636
362	507322.080	2100094.270	18°59'36.098"N	81°04'10.437"E	18.99336060	81.06956580	KH.1636
363	507326.650	2100074.090	18°59'35.442"N	81°04'10.593"E	18.99317830	81.06960910	KH.1636
364	507176.320	2100139.560	18°59'37.574"N	81°04'05.452"E	18.99377050	81.06818110	KH.1636
365	507176.060	2100169.120	18°59'38.536"N	81°04'05.443"E	18.99403770	81.06817870	KH.1636
366	507103.710	2100200.630	18°59'39.562"N	81°04'02.969"E	18.99432270	81.06749150	KH.1459
367	507100.960	2100172.380	18°59'38.643"N	81°04'02.875"E	18.99406740	81.06746520	KH.1459
368	507076.630	2100182.980	18°59'38.988"N	81°04'02.043"E	18.99416320	81.06723410	KH.1459
369	507078.640	2100211.550	18°59'39.917"N	81°04'02.112"E	18.99442140	81.06725330	KH.1459
370	506898.950	2100289.800	18°59'42.465"N	81°03'55.967"E	18.99512930	81.06554640	KH.1459
371	506835.430	2100288.020	18°59'42.408"N	81°03'53.794"E	18.99511340	81.06494280	KH.1459
372	506770.360	2100316.350	18°59'43.331"N	81°03'51.569"E	18.99536970	81.06432480	KH.1457
373	506777.280	2100342.790	18°59'44.191"N	81°03'51.806"E	18.99560860	81.06439060	KH.1457
374	506714.360	2100370.190	18°59'45.083"N	81°03'49.654"E	18.99585640	81.06379290	KH.1380
375	506672.230	2100359.090	18°59'44.722"N	81°03'48.213"E	18.99575620	81.06339260	KH.1380
AP40	506309.000	2100532.000	18°59'50.352"N	81°03'35.792"E	18.99732010	81.05994210	Angle Point
AP41	506063.210	2100579.740	18°59'51.908"N	81°03'27.385"E	18.99775230	81.05760700	Angle Point

376	505974.630	2100628.300	18°59'53.489"N	81°03'24.356"E	18.99819140	81.05676560	KH.1193
377	505977.820	2100632.350	18°59'53.621"N	81°03'24.465"E	18.99822800	81.05679580	KH.1193
378	505977.730	2100644.810	18°59'54.026"N	81°03'24.462"E	18.99834060	81.05679500	KH.1193
379	505965.300	2100656.370	18°59'54.402"N	81°03'24.037"E	18.99844510	81.05667700	KH.1193
380	505942.630	2100657.790	18°59'54.449"N	81°03'23.262"E	18.99845800	81.05646150	KH.1193
381	505938.120	2100655.230	18°59'54.366"N	81°03'23.108"E	18.99843490	81.05641880	KH.1193
AP42	505728.000	2100827.000	18°59'59.956"N	81°03'15.922"E	18.99998790	81.05442290	Angle Point
AP43(CP9)	505170.000	2100907.000	19°00'02.565"N	81°02'56.837"E	19.00071240	81.04912140	Angle Point

BASE STATION CP09 (AP43):

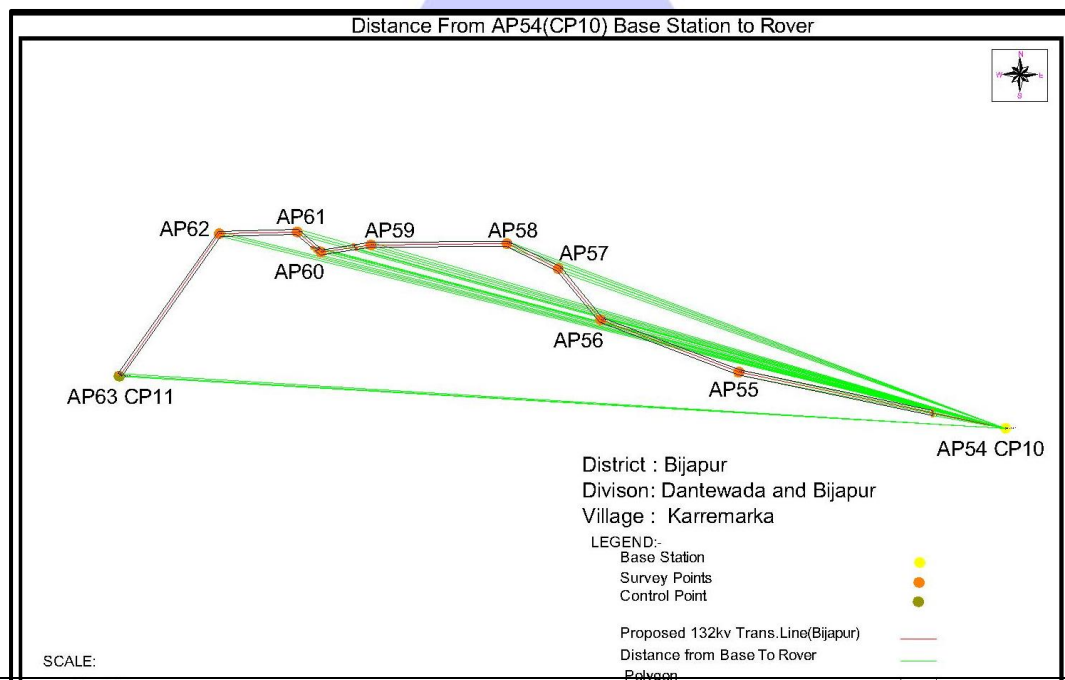


GROUND OBSERVATION POINTS WITH RESPECT TO BASE POINT (CP9-AP43)							
POINT	EASTING (UTM)	NORTHING (UTM)	LATITUDE (DMS)	LONGITUDE (DMS)	LATITUDE (D)	LONGITUDE (D)	Remarks
AP43(CP9)	505170.000	2100907.000	19°00'02.565"N	81°02'56.837"E	19.4274000	81.2947280	Angle Point
AP44	504959.000	2101369.000	19°00'17.598"N	81°02'49.624"E	19.2933000	81.2827070	Angle Point
382-3	504643.850	2101663.420	19°00'27.180"N	81°02'38.847"E	19.4530000	81.2647450	KH.773
382-2	504634.260	2101641.170	19°00'26.456"N	81°02'38.519"E	19.4409400	81.2641984	KH.773
382-1	504644.160	2101632.320	19°00'26.168"N	81°02'38.857"E	19.4361300	81.2647623	KH.773
AP45	504337.000	2101925.000	19°00'35.693"N	81°02'28.353"E	19.5948800	81.2472558	Angle Point
382	504224.880	2102172.490	19°00'43.746"N	81°02'24.519"E	19.7291000	81.2408660	KH.629
383	504206.120	2102149.930	19°00'43.012"N	81°02'23.878"E	19.7168700	81.2397967	KH.629
384	504173.850	2102212.660	19°00'45.053"N	81°02'22.774"E	19.7508900	81.2393429	KH.629
385	504198.130	2102224.490	19°00'45.438"N	81°02'23.605"E	19.7573000	81.2379570	KH.629

386	504190.250	2102239.800	19°00'45.936"N	81°02'23.336"E	19.7656000	81.2388930	KH.629
387	504166.010	2102227.900	19°00'45.549"N	81°02'22.506"E	19.7591500	81.23751 5	KH.629
388	504141.710	2102275.150	19°00'47.087"N	81°02'21.675"E	19.7847800	81.2375368	KH.629
389	504166.450	2102286.070	19°00'47.442"N	81°02'22.522"E	19.7907000	81.2361250	KH.629
390	504146.710	2102324.450	19°00'48.691"N	81°02'21.847"E	19.8115100	81.2364111	KH.627
391	504123.010	2102311.500	19°00'48.269"N	81°02'21.036"E	19.8044900	81.23506 9	KH.627
392	504033.570	2102485.360	19°00'53.927"N	81°02'17.978"E	19.8987800	81.2316758	KH.627
393	504063.590	2102486.030	19°00'53.948"N	81°02'19.005"E	19.8991400	81.2299634	KH.627
394	504035.580	2102540.490	19°00'55.720"N	81°02'18.047"E	19.9286700	81.2300787	KH.625
395	504028.900	2102532.070	19°00'55.447"N	81°02'17.818"E	19.9241100	81.2296971	KH.625
396	504006.210	2102538.560	19°00'55.658"N	81°02'17.042"E	19.9276300	81.2284043	KH.625
397	503986.350	2102577.170	19°00'56.914"N	81°02'16.363"E	19.9485700	81.2282917	KH.625
398	503997.250	2102585.490	19°00'57.185"N	81°02'16.736"E	19.9530800	81.2278948	KH.625
399	504004.220	2102601.450	19°00'57.704"N	81°02'16.975"E	19.9617300	81.2272723	KH.625
400	503965.440	2102676.850	19°01'00.158"N	81°02'15.649"E	19.1002630	81.2260816	KH.625
401	503935.210	2102676.580	19°01'00.149"N	81°02'14.615"E	19.1002480	81.2243584	KH.625
402	503782.370	2102973.720	19°01'09.818"N	81°02'09.388"E	19.1163630	81.2173366	KH.16
403	503811.990	2102975.160	19°01'09.864"N	81°02'10.402"E	19.1164410	81.2156474	KH.16
404	503600.530	2103386.250	19°01'23.241"N	81°02'03.171"E	19.1387350	81.2052843	PF1978
405	503573.120	2103380.510	19°01'23.054"N	81°02'02.233"E	19.1384240	81.2037212	PF1978
AP46	503586.820	2103383.380	19°01'23.148"N	81°02'02.702"E	19.1385790	81.2045037	Angle Point
406	503578.830	2103472.140	19°01'26.035"N	81°02'02.429"E	19.1433920	81.2056359	PF1978
407	503606.650	2103484.550	19°01'26.439"N	81°02'03.381"E	19.1440650	81.2040486	PF1978
408	503539.050	2103538.070	19°01'28.181"N	81°02'01.069"E	19.1469680	81.2017816	PF1978
409	503525.550	2103514.320	19°01'27.408"N	81°02'00.607"E	19.1456800	81.2010118	PF1978
AP47	503592.740	2103478.350	19°01'26.237"N	81°02'02.905"E	19.1437290	81.2048412	Angle Point
AP48	503532.300	2103526.200	19°01'27.794"N	81°02'00.838"E	19.1463240	81.2013962	Angle Point
AP49	503084.800	2103696.590	19°01'33.341"N	81°01'45.530"E	19.1555680	81.1758836	Angle Point
410	503083.320	2103682.710	19°01'32.889"N	81°01'45.479"E	19.1548150	81.1759671	PF1978
411	503086.270	2103710.480	19°01'33.793"N	81°01'45.580"E	19.1563210	81.1757992	PF1978
412	502565.900	2103630.660	19°01'31.198"N	81°01'27.778"E	19.1519970	81.1460999	PF1978
413	502562.440	2103602.810	19°01'30.292"N	81°01'27.659"E	19.1504870	81.1462978	PF1978
AP50	502564.170	2103616.740	19°01'30.745"N	81°01'27.719"E	19.1512420	81.1461984	Angle Point
414	502333.720	2103699.490	19°01'33.439"N	81°01'19.836"E	19.1557310	81.1389013	PF1978
415	502384.950	2103692.490	19°01'33.211"N	81°01'21.588"E	19.1553510	81.13598 5	PF1978
416	502436.170	2103685.500	19°01'32.983"N	81°01'23.340"E	19.1549720	81.1330597	PF1978
416-1	502189.720	2103789.660	19°01'36.373"N	81°01'14.910"E	19.02583	81.02249	KH.11
416-2	502180.090	2103764.420	19°01'35.552"N	81°01'14.580"E	19.02560	81.02239	KH.11
416-3	502160.190	2103802.150	19°01'36.780"N	81°01'13.900"E	19.02595	81.02220	KH.8
416-4	502163.690	2103771.350	19°01'35.778"N	81°01'14.019"E	19.02567	81.02224	KH.8
416-5	502127.690	2103778.620	19°01'36.014"N	81°01'12.788"E	19.02573	81.02190	KH.8
416-6	502144.920	2103757.760	19°01'35.335"N	81°01'13.377"E	19.02554	81.02206	KH.8
AP51	502161.940	2103786.750	19°01'36.279"N	81°01'13.959"E	19.1604640	81.1232666	Angle Point
AP52	502048.960	2103704.950	19°01'33.618"N	81°01'10.094"E	19.1560290	81.1169712	Angle Point

417	502051.550	2103723.500	19°01'34.221"N	81°01'10.183"E	19.1570350	81.1163163	PF1978
418	502061.080	2103697.070	19°01'33.361"N	81°01'10.509"E	19.1556020	81.1175150	PF1978
419	502051.410	2103690.060	19°01'33.133"N	81°01'10.178"E	19.1552220	81.1169632	PF1978
420	502040.060	2103721.840	19°01'34.167"N	81°01'09.790"E	19.1569450	81.1168234	PF1978
421	501457.790	2103902.130	19°01'40.035"N	81°00'49.871"E	19.1667240	81.8311824	PF1977
422	501453.240	2103875.270	19°01'39.161"N	81°00'49.715"E	19.1652680	81.8285968	PF1977
AP53	501455.510	2103888.700	19°01'39.598"N	81°00'49.793"E	19.1659960	81.8298996	PF1977
AP54(CP10)	501116.890	2103900.500	19°01'39.982"N	81°00'38.209"E	19.1666370	81.6368237	Control Point
423	501115.260	2103887.050	19°01'39.545"N	81°00'38.153"E	19.1659080	81.6377508	PF1977
424	501118.530	2103913.950	19°01'40.420"N	81°00'38.265"E	19.1673670	81.6358867	PF1977
425	500723.910	2103996.740	19°01'43.114"N	81°00'24.765"E	19.1718570	81.4127557	PF1977
426	500723.670	2103969.200	19°01'42.218"N	81°00'24.757"E	19.1703640	81.4126164	PF1977

BASE STATION CP10 (AP54):

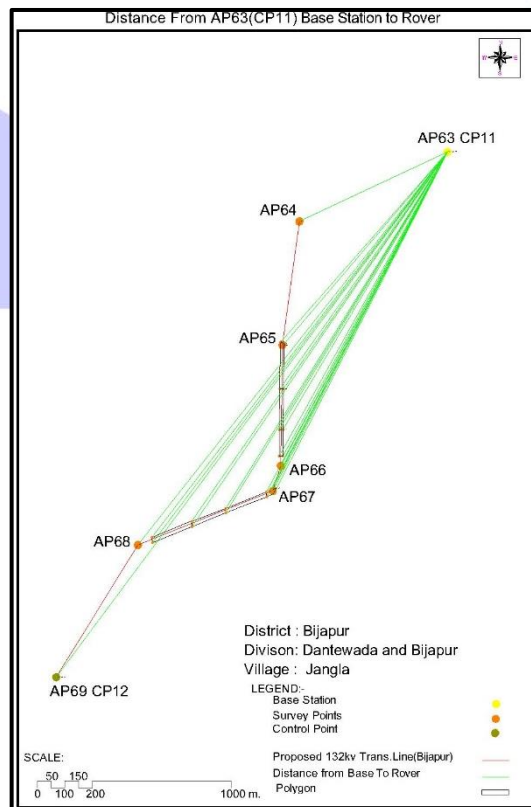


GROUND OBSERVATION POINTS WITH RESPECT TO BASE POINT (CP10-AP54)

POINT	EASTING (UTM)	NORTHING (UTM)	LATITUDE (DMS)	LONGITUDE (DMS)	LATITUDE (D)	LONGITUDE (D)	Remarks
AP54(CP10)	501116.890	2103900.500	19°01'39.982"N	81°00'38.209"E	19.0268400	81.0122900	Angle Point
427	500723.910	2103996.740	19°01'43.114"N	81°00'24.765"E	19.0277100	81.0085500	PF1973
428	500723.670	2103969.200	19°01'42.218"N	81°00'24.757"E	19.0274600	81.0085500	PF1973
429	499671.200	2104190.000	19°01'49.403"N	80°59'48.751"E	19.0294500	80.9985500	PF1973
430	499678.800	2104216.000	19°01'50.248"N	80°59'49.012"E	19.0296900	80.9986200	PF1973
AP55	499675.000	2104203.000	19°01'49.825"N	80°59'48.882"E	19.0295700	80.9985900	Angle Point
431	498937.120	2104497.360	19°01'59.402"N	80°59'23.638"E	19.0322300	80.9915700	PF1973
432	498920.880	2104474.640	19°01'58.662"N	80°59'23.082"E	19.0320300	80.9914200	PF1973
AP56	498929.000	2104486.000	19°01'59.032"N	80°59'23.360"E	19.0321300	80.9914900	Angle Point
433	498691.490	2104751.120	19°02'07.657"N	80°59'15.234"E	19.0345200	80.9892400	PF1973

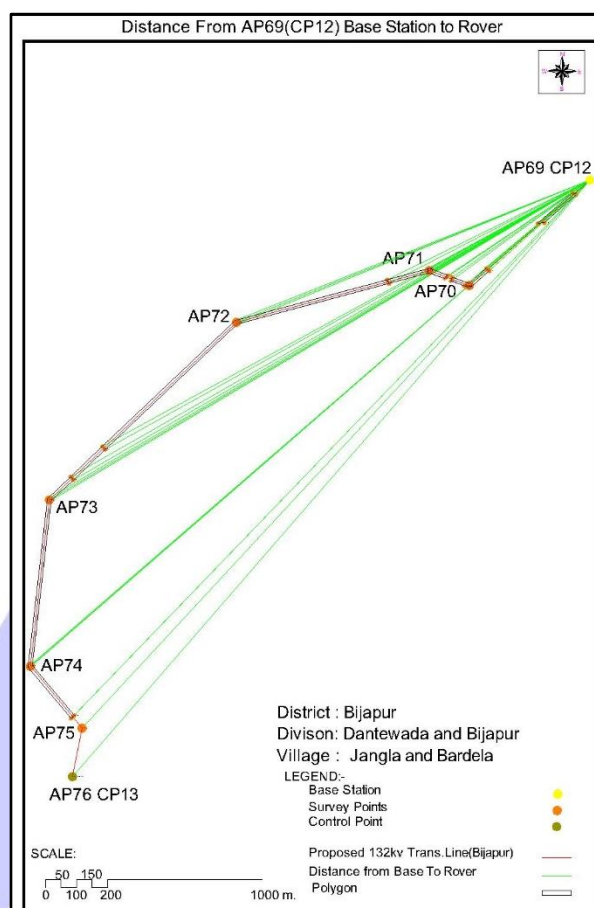
434	498708.510	2104772.880	19°02'08.366"N	80°59'15.816"E	19.0347200	80.9894000	PF1973
AP57	498700.000	2104762.000	19°02'08.011"N	80°59'15.525"E	19.0346200	80.9893200	Angle Point
435	498425.040	2104909.520	19°02'12.810"N	80°59'06.118"E	19.0359600	80.9867000	PF1973
436	498418.960	2104882.480	19°02'11.931"N	80°59'05.910"E	19.0357100	80.9866500	PF1973
AP58	498422.000	2104896.000	19°02'12.370"N	80°59'06.014"E	19.0358300	80.9866800	Angle Point
437	497688.070	2104877.510	19°02'11.766"N	80°58'40.905"E	19.0356700	80.9797000	PF1973
438	497685.930	2104904.490	19°02'12.644"N	80°58'40.831"E	19.0359100	80.9796800	PF1973
AP59	497687.000	2104891.000	19°02'12.205"N	80°58'40.868"E	19.0357900	80.9796900	Angle Point
439	497594.040	2104890.490	19°02'12.188"N	80°58'37.688"E	19.0357800	80.9788100	PF1973
440	497608.860	2104865.430	19°02'11.373"N	80°58'38.195"E	19.0355600	80.9789500	PF1973
441	497413.930	2104835.720	19°02'10.406"N	80°58'31.526"E	19.0352900	80.9770900	PF1972
442	497422.070	2104864.280	19°02'11.335"N	80°58'31.804"E	19.0355500	80.9771700	PF1972
AP60	497418.000	2104850.000	19°02'10.870"N	80°58'31.665"E	19.0354200	80.9771300	Angle Point
443	497414.710	2104870.560	19°02'11.539"N	80°58'31.552"E	19.0356000	80.9771000	PF1972
444	497384.950	2104860.470	19°02'11.211"N	80°58'30.535"E	19.0355100	80.9768200	PF1972
445	497368.980	2104874.110	19°02'11.654"N	80°58'29.988"E	19.0356300	80.9766700	KH.ZZ
446	497410.200	2104874.420	19°02'11.665"N	80°58'31.398"E	19.0356400	80.9770600	KH.ZZ
447	497292.840	2104974.620	19°02'14.924"N	80°58'27.383"E	19.0365400	80.9759400	KH.ZZ
448	497283.160	2104947.380	19°02'14.038"N	80°58'27.052"E	19.0363000	80.9758500	KH.ZZ
AP61	497288.000	2104961.000	19°02'14.481"N	80°58'27.217"E	19.0364200	80.9759000	Angle Point
449	496875.120	2104937.670	19°02'13.720"N	80°58'13.092"E	19.0362100	80.9719700	KH.ZZ
450	496860.880	2104964.330	19°02'14.587"N	80°58'12.605"E	19.0364500	80.9718400	KH.ZZ
AP62	496868.000	2104951.000	19°02'14.153"N	80°58'12.848"E	19.0363300	80.9719100	Angle Point
451	496320.190	2104196.770	19°01'49.611"N	80°57'54.112"E	19.0295100	80.9667000	KH.ZZ
452	496343.730	2104183.300	19°01'49.173"N	80°57'54.917"E	19.0293900	80.9669200	KH.ZZ
AP63(CP11)	496327.000	2104183.000	19°01'49.163"N	80°57'54.345"E	19.0293900	80.9667700	Angle Point

BASE STATION CP11 (AP63):



GROUND OBSERVATION POINTS WITH RESPECT TO BASE POINT (CP11-AP63)							
POINT	EASTING (UTM)	NORTHING (UTM)	LATTITUDE (DMS)	LONGITUDE (DMS)	LATTITUDE (D)	LONGITUDE (D)	Remarks
AP63(CP11)	496327.000	2104183.000	19°01'49.163"N	80°57'54.345"E	19.0293900	80.9667700	Angle Point
AP64	495255.500	2103681.340	19°01'32.833"N	80°57'17.693"E	19.0248500	80.9565800	Angle Point
453	495121.180	2102807.090	19°01'04.388"N	80°57'13.106"E	19.0169500	80.9553100	KH.10
454	495147.030	2102796.910	19°01'04.057"N	80°57'13.990"E	19.0168600	80.9555500	KH.10
455	495145.430	2102785.310	19°01'03.679"N	80°57'13.935"E	19.0167500	80.9555400	KH.10
AP65	495131.950	2102786.320	19°01'03.712"N	80°57'13.474"E	19.0167600	80.9554100	Angle Point
456	495118.460	2102787.330	19°01'03.745"N	80°57'13.012"E	19.0167700	80.9552800	KH.10
457	495114.560	2102468.180	19°00'53.361"N	80°57'12.882"E	19.0138800	80.9552500	KH.10
458	495141.560	2102468.180	19°00'53.361"N	80°57'13.806"E	19.0138800	80.9555000	KH.10
459	495137.950	2102172.490	19°00'43.741"N	80°57'13.685"E	19.0112100	80.9554700	KH.11
460	495110.950	2102172.390	19°00'43.737"N	80°57'12.761"E	19.0112100	80.9552100	KH.11
461	495108.630	2101982.070	19°00'37.545"N	80°57'12.683"E	19.0094900	80.9551900	KH.12
462	495135.630	2101982.390	19°00'37.556"N	80°57'13.607"E	19.0094900	80.9554500	KH.12
AP66	495121.260	2101910.930	19°00'35.231"N	80°57'13.116"E	19.0088500	80.9553100	Angle Point
462/1	495084.870	2101748.200	19°00'29.936"N	80°57'11.873"E	19.0073800	80.9549700	KH.129/1
463	495053.950	2101742.180	19°00'29.740"N	80°57'10.816"E	19.0073200	80.9546700	KH.129/1
464	495072.750	2101710.160	19°00'28.698"N	80°57'11.459"E	19.0070300	80.9548500	KH.129/1
AP67	495063.830	2101730.810	19°00'29.370"N	80°57'11.153"E	19.0072200	80.9547700	Angle Point
462/2	495050.880	2101730.470	19°00'29.359"N	80°57'10.711"E	19.0072200	80.9546400	KH.129/1
465	495016.320	2101723.240	19°00'29.123"N	80°57'09.528"E	19.0071500	80.9543100	KH.129/1
466	495018.710	2101688.420	19°00'27.990"N	80°57'09.610"E	19.0068400	80.9543400	KH.129/1
467	494724.560	2101570.090	19°00'24.138"N	80°56'59.550"E	19.0057700	80.9515400	KH.130/1
468	494723.990	2101603.640	19°00'25.229"N	80°56'59.530"E	19.0060700	80.9515400	KH.130/1
469	494477.990	2101511.300	19°00'22.223"N	80°56'51.116"E	19.0052300	80.9492000	KH.146/1
470	494480.410	2101471.870	19°00'20.940"N	80°56'51.200"E	19.0048800	80.9492200	KH.146/1
471	494193.170	2101356.310	19°00'17.177"N	80°56'41.376"E	19.0038300	80.9464900	KH.147/1
472	494190.870	2101392.220	19°00'18.346"N	80°56'41.297"E	19.0041600	80.9464700	KH.147/1
AP68	494088.560	2101338.470	19°00'16.595"N	80°56'37.798"E	19.0036700	80.9455000	Angle Point
AP69(CP12)	493498.250	2100381.260	18°59'45.446"N	80°56'17.617"E	18.9950200	80.9398900	Angle Point

BASE STATION CP12 (AP69):

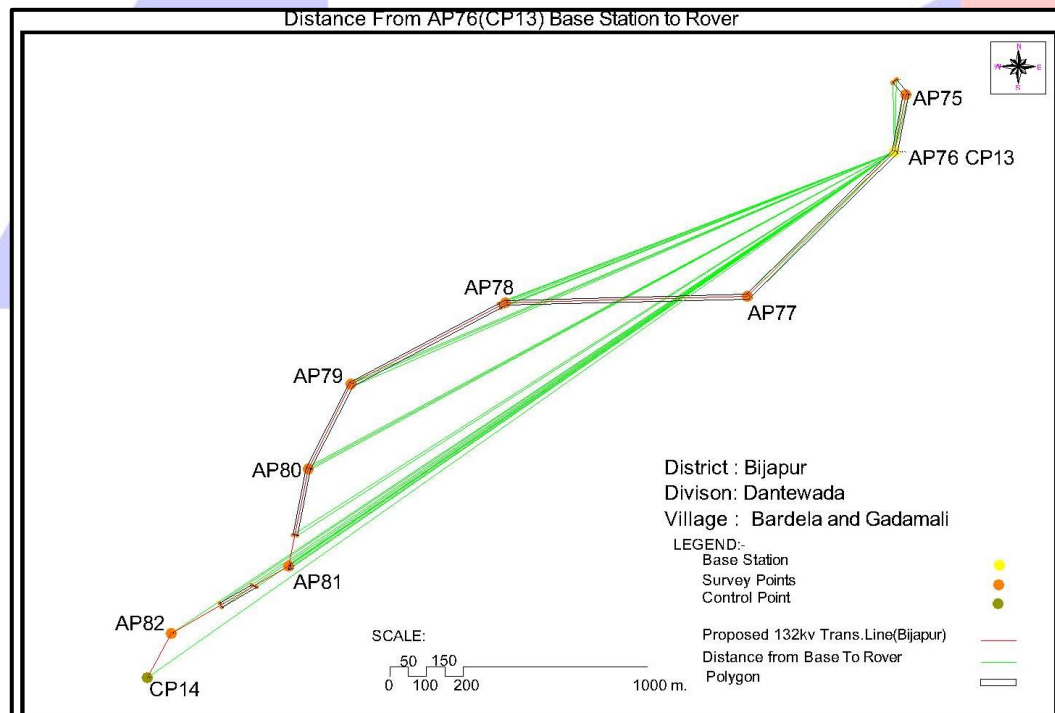


GROUND OBSERVATION POINTS WITH RESPECT TO BASE POINT (CP12-AP69)

POINT	EASTING (UTM)	NORTHING (UTM)	LATITUDE (DMS)	LONGITUDE (DMS)	LATITUDE (D)	LONGITUDE (D)	Remarks
AP69(CP12)	493498.250	2100381.260	18°59'45.446"N	80°56'17.617"E	18.99502	80.93989	Angle Point
473	493384.190	2100299.190	18°59'42.774"N	80°56'13.717"E	18.99428	80.93881	KH.82
474	493408.280	2100284.400	18°59'42.293"N	80°56'14.541"E	18.99414	80.93904	KH.82
475	493202.010	2100103.490	18°59'36.405"N	80°56'07.489"E	18.99251	80.93708	KH.82
476	493159.450	2100102.080	18°59'36.358"N	80°56'06.033"E	18.99249	80.93667	KH.82
477	492825.610	2099809.270	18°59'26.828"N	80°55'54.619"E	18.98985	80.93350	KH.79
478	492847.150	2099792.240	18°59'26.274"N	80°55'55.355"E	18.98969	80.93371	KH.79
479	492732.080	2099691.330	18°59'22.989"N	80°55'51.421"E	18.98878	80.93262	KH.79
480	492714.210	2099711.560	18°59'23.647"N	80°55'50.810"E	18.98896	80.93245	KH.79
AP70	492717.010	2099696.060	18°59'23.143"N	80°55'50.906"E	18.98882	80.93247	Angle Point
481	492719.820	2099680.570	18°59'22.639"N	80°55'51.002"E	18.98868	80.93250	KH.77/1
482	492684.510	2099693.930	18°59'23.073"N	80°55'49.794"E	18.98880	80.93216	KH.79
483	492595.420	2099727.640	18°59'24.169"N	80°55'46.746"E	18.98911	80.93132	KH.79
484	492606.880	2099752.170	18°59'24.967"N	80°55'47.138"E	18.98933	80.93143	KH.79
485	492576.330	2099763.730	18°59'25.343"N	80°55'46.093"E	18.98943	80.93113	KH.74
486	492556.210	2099742.470	18°59'24.651"N	80°55'45.405"E	18.98924	80.93094	KH.74

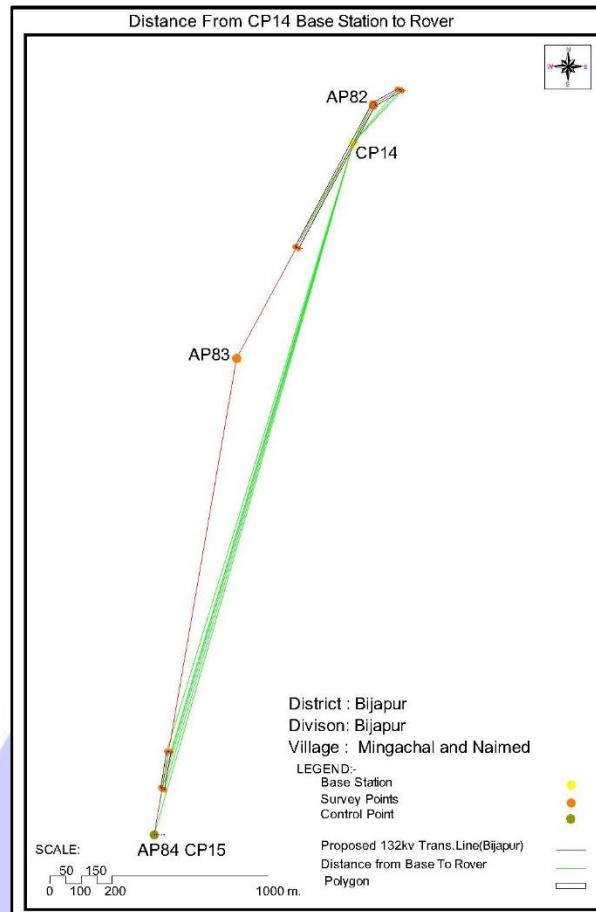
487	492457.300	2099779.900	18°59'25.867"N	80°55'42.022"E	18.98958	80.93000	KH.74
AP71	492458.010	2099794.060	18°59'26.328"N	80°55'42.046"E	18.98971	80.93001	Angle Point
488	492458.730	2099808.230	18°59'26.789"N	80°55'42.070"E	18.98984	80.93002	KH.74
489	492448.670	2099805.540	18°59'26.701"N	80°55'41.726"E	18.98981	80.92992	KH.74
490	492449.450	2099777.790	18°59'25.799"N	80°55'41.753"E	18.98956	80.92993	KH.74
491	492196.540	2099710.120	18°59'23.593"N	80°55'33.104"E	18.98895	80.92753	KH.73
492	492182.560	2099734.330	18°59'24.381"N	80°55'32.626"E	18.98917	80.92739	KH.73
493	491199.210	2099471.220	18°59'15.806"N	80°54'58.997"E	18.98678	80.91805	RF65
AP72	491206.010	2099459.060	18°59'15.411"N	80°54'59.230"E	18.98667	80.91812	Angle Point
494	491212.810	2099446.910	18°59'15.015"N	80°54'59.463"E	18.98656	80.91818	RF65
495	490357.360	2098636.630	18°58'48.638"N	80°54'30.219"E	18.97924	80.91006	RF65
496	490338.260	2098655.720	18°58'49.259"N	80°54'29.566"E	18.97941	80.90987	RF65
497	490132.170	2098460.520	18°58'42.905"N	80°54'22.521"E	18.97764	80.90792	RF66
498	490150.620	2098440.810	18°58'42.264"N	80°54'23.152"E	18.97747	80.90809	RF66
499	490006.870	2098304.640	18°58'37.831"N	80°54'18.238"E	18.97623	80.90673	RF67
AP73	489994.010	2098311.060	18°58'38.040"N	80°54'17.799"E	18.97629	80.90661	Angle Point
500	489981.160	2098317.480	18°58'38.248"N	80°54'17.359"E	18.97635	80.90648	RF67
501	489856.940	2097227.850	18°58'02.794"N	80°54'13.131"E	18.96650	80.90531	RF67
AP74	489871.010	2097232.060	18°58'02.931"N	80°54'13.612"E	18.96654	80.90544	Angle Point
502	489885.080	2097236.280	18°58'03.069"N	80°54'14.093"E	18.96658	80.90558	RF67
503	490154.160	2096914.020	18°57'52.589"N	80°54'23.301"E	18.96367	80.90813	RF67
504	490133.810	2096896.270	18°57'52.011"N	80°54'22.606"E	18.96351	80.90794	RF67
AP75	490205.010	2096832.060	18°57'49.923"N	80°54'25.042"E	18.96293	80.90862	Angle Point
AP76(CP13)	490144.010	2096519.060	18°57'39.738"N	80°54'22.961"E	18.96010	80.90804	Angle Point

BASE STATION CP13 (AP76):



GROUND OBSERVATION POINTS WITH RESPECT TO BASE POINT (CP13-AP76)							
POINT	EASTING (UTM)	NORTHING (UTM)	LATITUDE (DMS)	LONGITUDE (DMS)	LATITUDE (D)	LONGITUDE (D)	Remarks
503	490154.160	2096914.020	18°57'52.589"N	80°54'23.301"E	18.96367	80.90813	RF1965
504	490133.810	2096896.270	18°57'52.011"N	80°54'22.606"E	18.96351	80.90794	RF1965
505	490190.530	2096828.340	18°57'49.802"N	80°54'24.546"E	18.96289	80.90848	RF1965
506	490219.490	2096835.780	18°57'50.044"N	80°54'25.537"E	18.96296	80.90875	RF1965
AP75	490205.010	2096832.060	18°57'49.923"N	80°54'25.042"E	18.96293	80.90862	Angle Point
507	490156.460	2096512.370	18°57'39.521"N	80°54'23.387"E	18.96004	80.90816	RF1965
508	490131.560	2096525.750	18°57'39.956"N	80°54'22.535"E	18.96016	80.90792	RF1965
AP76(CP13)	490144.010	2096519.060	18°57'39.738"N	80°54'22.961"E	18.96010	80.90804	Angle Point
509	489349.680	2095718.700	18°57'13.684"N	80°53'55.814"E	18.95286	80.90050	RF1965
510	489338.340	2095745.420	18°57'14.553"N	80°53'55.425"E	18.95310	80.90039	RF1965
AP77	489344.010	2095732.060	18°57'14.118"N	80°53'55.620"E	18.95298	80.90044	Angle Point
511	488022.590	2095711.230	18°57'13.414"N	80°53'10.434"E	18.95278	80.88789	RF1965
512	488029.610	2095684.400	18°57'12.542"N	80°53'10.675"E	18.95254	80.88796	RF1965
AP78	488026.100	2095697.820	18°57'12.978"N	80°53'10.555"E	18.95266	80.88792	Angle Point
513	488002.440	2095670.070	18°57'12.075"N	80°53'09.746"E	18.95241	80.88770	RF1965
514	487988.850	2095693.420	18°57'12.834"N	80°53'09.281"E	18.95262	80.88757	RF1965
515	487176.130	2095264.490	18°56'58.861"N	80°52'41.500"E	18.94874	80.87985	RF1966
AP79	487186.240	2095254.560	18°56'58.538"N	80°52'41.846"E	18.94865	80.87995	Angle Point
516	487196.360	2095244.630	18°56'58.215"N	80°52'42.192"E	18.94856	80.88004	RF1966
517	486966.830	2094789.300	18°56'43.395"N	80°52'34.355"E	18.94444	80.87787	RF1966
518	486941.070	2094798.190	18°56'43.684"N	80°52'33.474"E	18.94453	80.87762	RF1966
AP80	486953.950	2094793.750	18°56'43.540"N	80°52'33.914"E	18.94448	80.87774	Angle Point
519	486868.850	2094437.080	18°56'31.933"N	80°52'31.013"E	18.94126	80.87694	RF1966
520	486895.360	2094431.980	18°56'31.768"N	80°52'31.920"E	18.94121	80.87719	RF1966
521	486860.070	2094281.450	18°56'26.869"N	80°52'30.717"E	18.93985	80.87686	KH.11
522	486860.040	2094255.370	18°56'26.021"N	80°52'30.716"E	18.93962	80.87686	KH.11
523	486845.650	2094247.190	18°56'25.755"N	80°52'30.224"E	18.93954	80.87672	KH.11
524	486843.070	2094250.390	18°56'25.859"N	80°52'30.136"E	18.93957	80.87669	KH.11
AP81	486848.010	2094264.060	18°56'26.304"N	80°52'30.305"E	18.93970	80.87674	Angle Point
525	486645.210	2094164.250	18°56'23.051"N	80°52'23.373"E	18.93879	80.87482	KH.2
526	486674.520	2094149.860	18°56'22.584"N	80°52'24.375"E	18.93866	80.87509	KH.2
527	486482.780	2094040.800	18°56'19.031"N	80°52'17.822"E	18.93768	80.87327	KH.2
528	486471.500	2094065.450	18°56'19.833"N	80°52'17.436"E	18.93790	80.87317	KH.2
AP82	486208.010	2093900.060	18°56'14.445"N	80°52'08.431"E	18.93640	80.87066	Angle Point
CP14	486078.240	2093659.420	18°56'06.613"N	80°52'04.000"E	18.93423	80.86943	Control Point

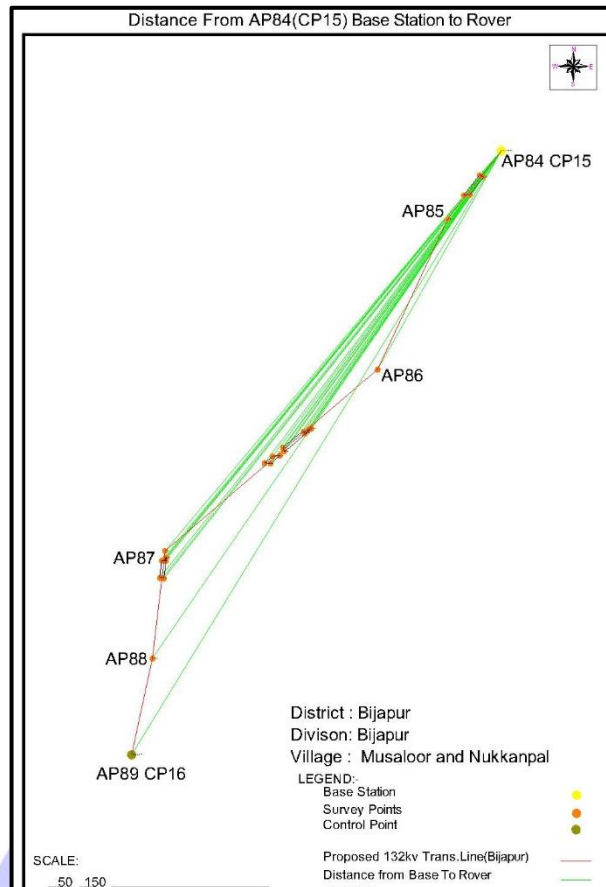
BASE STATION CP14:



GROUND OBSERVATION POINTS WITH RESPECT TO BASE POINT (CP14)

POINT	EASTING (UTM)	NORTHING (UTM)	LATTITUDE (DMS)	LONGITUDE (DMS)	LATTITUDE (D)	LONGITUDE (D)	Remarks
529	486361.900	2094003.760	18°56'17.823"N	80°52'13.690"E	18.93734	80.87213	OA1093
530	486386.850	2093997.170	18°56'17.609"N	80°52'14.543"E	18.93728	80.87236	OA1093
531	486393.880	2093990.890	18°56'17.405"N	80°52'14.784"E	18.93722	80.87243	OA1093
532	486219.550	2093891.740	18°56'14.175"N	80°52'08.826"E	18.93633	80.87077	OA1093
AP82	486208.010	2093900.060	18°56'14.445"N	80°52'08.431"E	18.93640	80.87066	Angle Point
CP14	486078.240	2093659.420	18°56'6.613 "N	80°52'04.000"E	18.93423	80.86943	Angle Point
533	486199.470	2093911.380	18°56'14.814"N	80°52'08.139"E	18.93650	80.87058	OA1093
534	485702.410	2092989.650	18°55'44.812"N	80°51'51.168"E	18.92817	80.86587	OA1093
535	485726.030	2092976.570	18°55'44.387"N	80°51'51.976"E	18.92805	80.86609	OA1093
AP83	485329.010	2092270.060	18°55'21.390"N	80°51'38.421"E	18.92166	80.86233	Angle Point
536	484905.910	2089739.540	18°53'59.047"N	80°51'24.026"E	18.89879	80.85833	KH.272
537	484879.500	2089745.290	18°53'59.233"N	80°51'23.123"E	18.89884	80.85808	KH.272
538	484838.850	2089510.440	18°53'51.591"N	80°51'21.740"E	18.89672	80.85769	KH.272
539	484848.330	2089500.380	18°53'51.263"N	80°51'22.064"E	18.89663	80.85778	KH.272
540	484863.930	2089497.050	18°53'51.156"N	80°51'22.597"E	18.89660	80.85793	KH.272
AP84(CP15)	484798.860	2089207.460	18°53'41.732"N	80°51'20.381"E	18.89398	80.85732	Angle Point

BASE STATION CP15 (AP84)

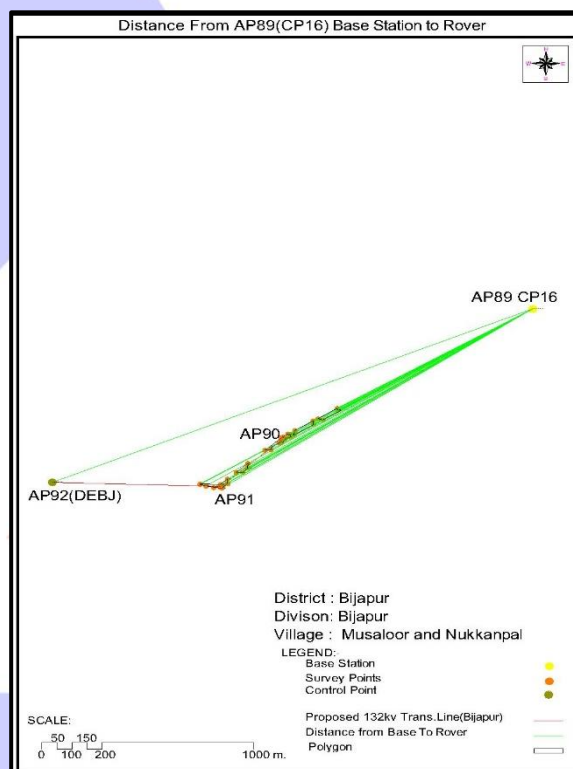


GROUND OBSERVATION POINTS WITH RESPECT TO BASE POINT (CP15-AP84)

POINT	EASTING (UTM)	NORTHING (UTM)	LATITUDE (DMS)	LONGITUDE (DMS)	LATITUDE (D)	LONGITUDE (D)	Remarks
AP84(CP15)	484798.860	2089207.460	18°53'41.732"N	80°51'20.381"E	18.89398	80.85732	Angle Point
541	484660.550	2089053.230	18°53'36.710"N	80°51'15.658"E	18.89258	80.85600	KH.284
542	484686.470	2089042.500	18°53'36.362"N	80°51'16.544"E	18.89249	80.85625	KH.284
543	484596.530	2088928.290	18°53'32.643"N	80°51'13.473"E	18.89145	80.85540	KH.284
544	484559.870	2088925.370	18°53'32.547"N	80°51'12.220"E	18.89143	80.85505	KH.284
AP85	484457.960	2088774.550	18°53'27.637"N	80°51'08.741"E	18.89006	80.85408	Angle Point
AP86	484013.210	2087820.620	18°52'56.588"N	80°50'53.566"E	18.88144	80.84987	Angle Point
545	483593.450	2087446.080	18°52'44.390"N	80°50'39.230"E	18.87805	80.84588	KH.43
546	483590.720	2087454.480	18°52'44.664"N	80°50'39.136"E	18.87813	80.84586	KH.43
547	483572.400	2087439.590	18°52'44.179"N	80°50'38.511"E	18.87799	80.84568	KH.43
548	483570.650	2087428.510	18°52'43.818"N	80°50'38.451"E	18.87789	80.84567	KH.43
549	483550.480	2087413.600	18°52'43.332"N	80°50'37.762"E	18.87776	80.84548	KH.43
550	483543.000	2087428.290	18°52'43.810"N	80°50'37.506"E	18.87789	80.84540	KH.43
551	483530.740	2087428.190	18°52'43.807"N	80°50'37.087"E	18.87789	80.84529	KH.43
552	483411.470	2087326.730	18°52'40.502"N	80°50'33.014"E	18.87697	80.84416	KH.43
553	483418.590	2087302.370	18°52'39.710"N	80°50'33.258"E	18.87675	80.84422	KH.65
554	483391.780	2087274.530	18°52'38.803"N	80°50'32.342"E	18.87650	80.84397	KH.65
555	483345.320	2087270.470	18°52'38.670"N	80°50'30.754"E	18.87646	80.84353	KH.65

556	483294.710	2087227.410	18°52'37.267"N	80°50'29.026"E	18.87607	80.84305	KH.65
557	483334.250	2087225.600	18°52'37.210"N	80°50'30.377"E	18.87605	80.84342	KH.65
AP87	482663.210	2086672.310	18°52'19.188"N	80°50'07.459"E	18.87105	80.83706	Angle Point
558	482671.620	2086627.390	18°52'17.726"N	80°50'07.748"E	18.87064	80.83714	KH.277
559	482664.370	2086626.460	18°52'17.696"N	80°50'07.500"E	18.87063	80.83707	KH.277
560	482663.310	2086608.190	18°52'17.101"N	80°50'07.465"E	18.87047	80.83706	KH.277
561	482642.490	2086610.570	18°52'17.178"N	80°50'06.753"E	18.87049	80.83686	KH.277
562	482629.830	2086500.920	18°52'13.610"N	80°50'06.324"E	18.86950	80.83674	KH.277
563	482646.970	2086500.900	18°52'13.610"N	80°50'06.910"E	18.86950	80.83690	KH.277
564	482656.520	2086496.650	18°52'13.472"N	80°50'07.236"E	18.86946	80.83699	KH.277
AP88	482584.220	2085988.310	18°51'56.931"N	80°50'04.781"E	18.86487	80.83631	Angle Point
AP89(CP16)	482452.080	2085378.300	18°51'37.080"N	80°50'00.285"E	18.85935	80.83506	Angle Point

BASE STATION CP16 (AP89)



GROUND OBSERVATION POINTS WITH RESPECT TO BASE POINT (CP16-AP89)							
POINT	EASTING (UTM)	NORTHING (UTM)	LATITUDE (DMS)	LONGITUDE (DMS)	LATITUDE (D)	LONGITUDE (D)	Remarks
AP89(CP16)	482452.080	2085378.300	18°51'37.080"N	80°50'00.285"E	18.85934	80.83496	Angle Point
565	481160.730	2084615.660	18°51'12.225"N	80°49'16.178"E	18.85244	80.82270	KH.374
566	481165.070	2084600.700	18°51'11.739"N	80°49'16.327"E	18.85230	80.82274	KH.374
567	481187.380	2084600.790	18°51'11.742"N	80°49'17.090"E	18.85230	80.82296	KH.374
568	481066.860	2084528.140	18°51'09.375"N	80°49'12.973"E	18.85164	80.82181	KH.374
569	481029.770	2084537.310	18°51'09.672"N	80°49'11.706"E	18.85173	80.82146	KH.374
570	481000.840	2084519.280	18°51'09.084"N	80°49'10.718"E	18.85156	80.82119	KH.374

571	481001.860	2084488.960	18°51'08.098"N	80°49'10.753"E	18.85129	80.82120	KH.374
572	480867.880	2084412.050	18°51'05.591"N	80°49'06.178"E	18.85059	80.81993	KH.374
573	480880.220	2084446.570	18°51'06.715"N	80°49'06.598"E	18.85091	80.82004	KH.374
574	480834.290	2084418.880	18°51'05.812"N	80°49'05.029"E	18.85065	80.81961	KH.7
575	480847.340	2084415.530	18°51'05.703"N	80°49'05.475"E	18.85062	80.81973	KH.7
576	480849.560	2084397.160	18°51'05.106"N	80°49'05.552"E	18.85046	80.81975	KH.7
577	480793.550	2084358.480	18°51'03.845"N	80°49'03.639"E	18.85011	80.81922	KH.7
AP90	480801.010	2084383.060	18°51'04.645"N	80°49'03.893"E	18.85033	80.81929	Angle Point
578	480792.960	2084393.970	18°51'05.000"N	80°49'03.618"E	18.85043	80.81921	KH.7
579	480724.810	2084318.700	18°51'02.549"N	80°49'01.292"E	18.84975	80.81857	KH.7
580	480721.280	2084298.390	18°51'01.888"N	80°49'01.172"E	18.84956	80.81853	KH.7
581	480681.800	2084294.960	18°51'01.775"N	80°48'59.823"E	18.84953	80.81816	KH.7
582	480569.040	2084194.360	18°50'58.498"N	80°48'55.973"E	18.84862	80.81709	KH.7
583	480565.270	2084154.810	18°50'57.211"N	80°48'55.845"E	18.84827	80.81705	KH.7
584	480533.430	2084126.410	18°50'56.286"N	80°48'54.758"E	18.84801	80.81675	KH.7
585	480491.160	2084124.870	18°50'56.235"N	80°48'53.314"E	18.84799	80.81635	KH.7
586	480433.770	2084073.680	18°50'54.567"N	80°48'51.354"E	18.84753	80.81581	KH.20
587	480435.480	2084039.020	18°50'53.439"N	80°48'51.414"E	18.84722	80.81582	KH.20
588	480399.500	2084006.920	18°50'52.394"N	80°48'50.185"E	18.84693	80.81548	KH.20
AP91	480393.010	2084019.060	18°50'52.789"N	80°48'49.963"E	18.84704	80.81542	Angle Point
589	480389.520	2084034.200	18°50'53.281"N	80°48'49.844"E	18.84717	80.81539	KH.20
590	480253.290	2084037.990	18°50'53.400"N	80°48'45.188"E	18.84721	80.81409	KH.20
591	480251.390	2084032.740	18°50'53.229"N	80°48'45.123"E	18.84716	80.81408	KH.20
592	480292.560	2084019.180	18°50'52.789"N	80°48'46.531"E	18.84704	80.81447	KH.20
593	480343.110	2084008.480	18°50'52.443"N	80°48'48.259"E	18.84694	80.81495	KH.20
AP92(DEBJ)	479277.010	2084050.060	18°50'53.758"N	80°48'11.825"E	18.84731	80.80483	Angle Point

for Gaveshana Geosciences Pvt Ltd


 Authorized Signatory

PHOTOGRAPHS:

