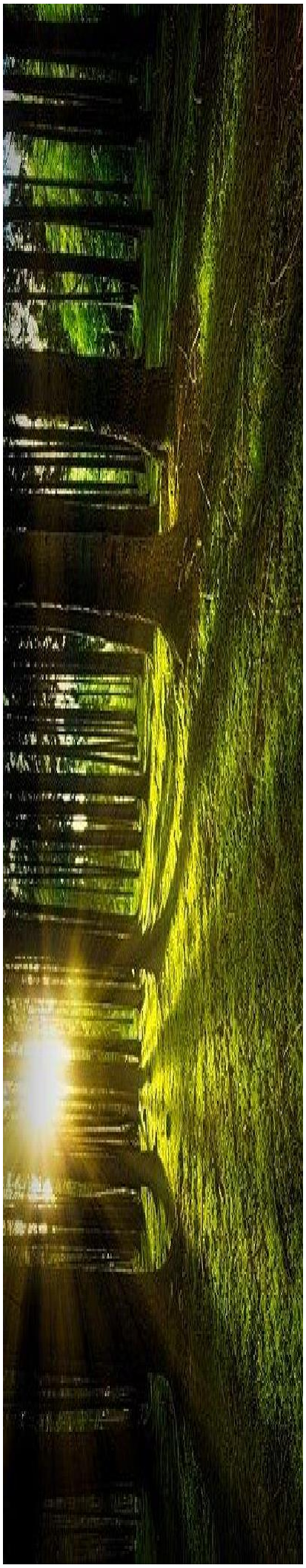

DGPS SURVEY REPORT

OF

FOREST AREA DEMARCATION

FOR

CONSTRUCTION OF APPROACH ROAD

IN RESERVE FOREST LAND

AT

VILLAGE-LOHRAKOT

RANGE- SAKTI

DIVISION-JANJGIR-CHAMPA

SURVEYED AREA-1.18 HACTARE

APPLICANT

M/S GUPTA STONE MINES,
Near Agrasen Chowk, Main Road, Bilha, Distt-Bilaspur (C.G.)-495224

PREPARED BY

AVI CONSULTANCY SERVICES
34/945, Dr. Rajendra Nagar,
Raipur-492001 (C.G.)
Email - avi_csrpr@rediffmail.com

ACS

CONTENTS

LIST OF MAPS

1.

INTRODUCTION

M/s Gupta Stone Mines District Bilaspur, Chhattisgarh has need to submit proposal for diversion of forest land for non – forestry purpose, under forest conservation Act 1980 to construct and use approach road for transportation of dolomite mineral.

The area proposed to be diverted for non forestry purpose is over an area of **1.18** ha of village Lohrakot, compartment no. 44, under Range- Sakti, Division- Janjgir-Champa.

As per directives of **Ministry of Environment & Forests** dated **8th July 2011**; all Applications seeking diversion of forest land for non-forest purpose under **Forest Conservation Act, 1980** must be accompanied with Geo-referenced map (both soft copy and hard copy) along with shape file of the forest land proposed for diversion prepared using Differential GPS (DGPS)

As per Online Submission and Monitoring of Forests Clearances Proposals of MoEF & CC, the following maps and files are required to be uploaded-

- Survey of India Toposheet in 1:50,000 scale indicating location of the forest land proposed to be diverted or compensate.
- Copy of the geo-referenced map of the forest/revenue land proposed to be diverted or compensate by using DGPS or Total Station.
- KML & Shape file of the geo-referenced forest/revenue land proposed to be diverted or compensate.

****

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2.

LOCATION & ACCESSIBILITY

The DGPS surveyed area proposed to be diverted for non forestry purpose is situated at village Lohrakot, located at 13Km. (aerial distance) SE Direction from tehsil Sakti, **J**anjgir-Champa (C.G.). It falls in Survey of India Toposheet no. – **64 K/13.** The surveyed area is bounded by Longitudes **82° 52' 00.1741" to 82° 52' 46.0560"** & Latitudes **21° 56' 25.4401" to 21° 56' 49.2432".** The surveyed area comes under Reserve Forest land, comp. no. –44, under Range- Sakti, Division-Janjgir-Champa, and The total DGPS surveyed area proposed to be diverted for non forestry purpose is **1.18 ha**.

****

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3.

LAND SCHEDULE OF THE SURVEYED AREA

District/ Forest Division	Tehsil / Range	Village	Type of Land	Compartment Number	Length X Width (in mtr)	Surveyed Area (In Hect.)
Janjgir-Champa	Sakti	Lohrakot	Reserve forest land	44	1966.66X6	1.18
TOTAL SURVEYED AREA						**1.18**

****

For, Gupta Stone Mines

Proprietor

वनमंडलाधिकारी
जांजगीर-चांपा वनमंडल

उपवन मण्डलाधिकारी
जांजगीर-चांपा (छ.ग.)

Forest Range Officer
Champa Range

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4.

FEATURES & METHODOLOGY OF DGPS SURVEY

DGPS INTRODUCTION

The advanced version or the enhancement to Global positioning System or the GPS is DGPS ***i.e.*** Differential Global positioning System or DGPS. DGPS was developed to meet the needs of positioning and distance measuring. It provides better and improved location accuracy than GPS.

The underlying premise of differential GPS (DGPS) requires that a two DGPS receiver unit operated sequentially, one is stationary called as Base unit and other is moving called as Rover unit.

Fig. 4.1 A DGPS Base and Rover station Equipment

A GPS receiver must acquire signals from at least four satellites to reliably calculate a three-dimensional position. Ideally, these satellites should be distributed across the sky. The receiver performs mathematical calculations to establish the distance from a satellite, which in turn is used to determine its position. The GPS receiver knows where each satellite is the instant its distance is measured. This position is displayed on the data logger and saved along with any other descriptive information entered in the field software.

CONCEPT OF DGPS

A typical DGPS architecture is shown in figure below

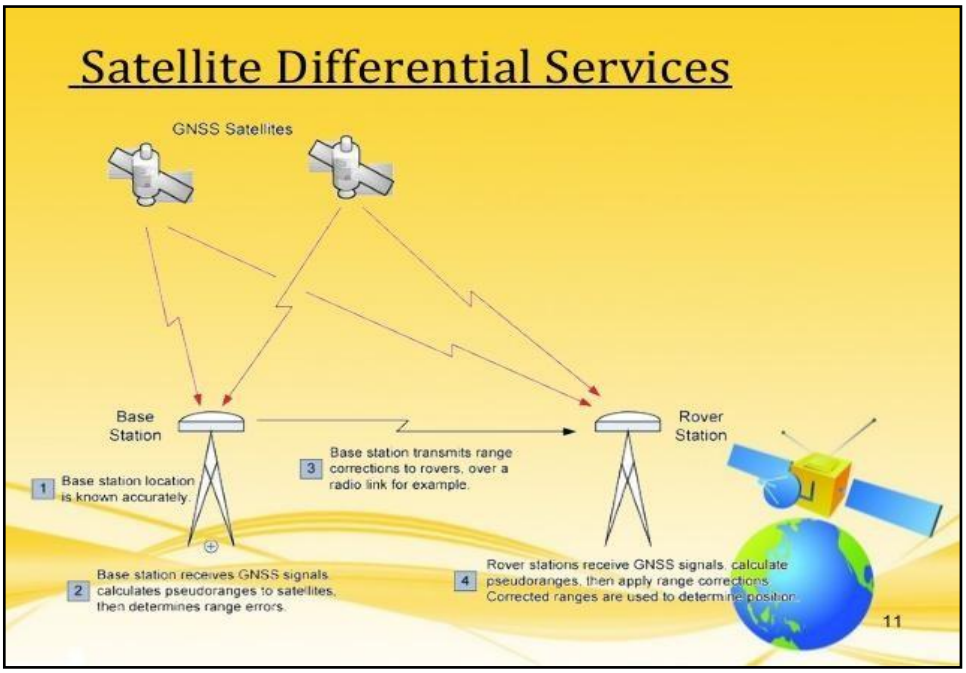

Fig. 4.2 A DGPS Base station and Rover station setup

The DGPS equipment work on GPS/GNSS satellite signal to find out exact position where they are on the global scale. The GPS Operational Constellation consists of 24 satellites that orbit the Earth in very precise orbits twice a day. GPS satellites emit continuous navigation signals. Each GPS satellite transmits data that indicates its location and the current time. All GPS satellites synchronize operations so that these repeating signals are transmitted at the same instant.

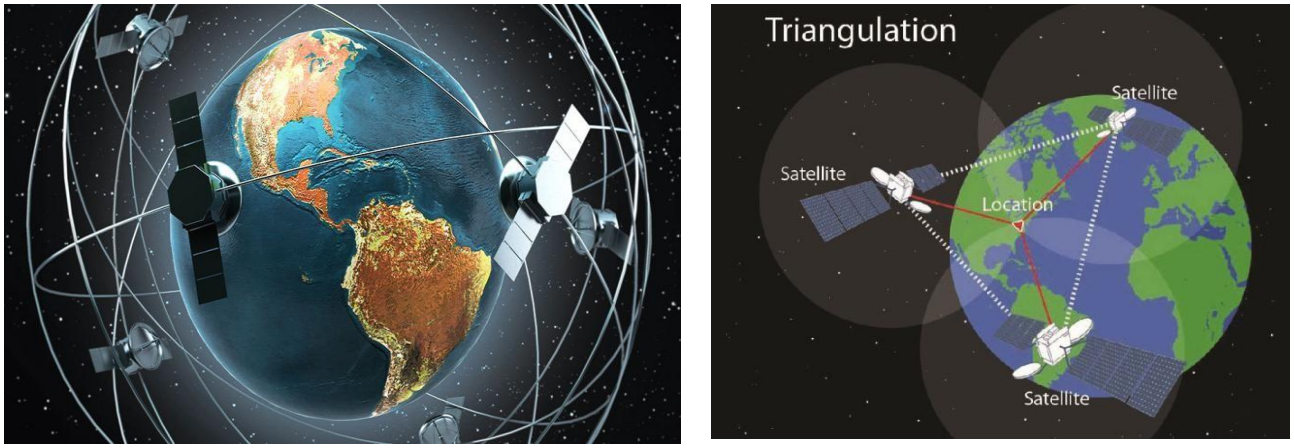

Fig. 4.3 A GPS Satellite orbit the Earth, Location acquired by Satellite system

Measurement of Travel time of the signals from a constellation of GPS Satellites orbiting the earth for enabling the position in the earth.

The GPS satellites are in orbits such that one can be able to receive signals from at least four satellites to enable for the determination of latitude, longitude, altitude and time.

Latitude and Longitude are spherical coordinates on the surface of the earth. Latitude is measured North or South of the Equator. Longitude is measured East or West of Greenwich. DGPS uses Latitudes and Longitudes to reference locations.

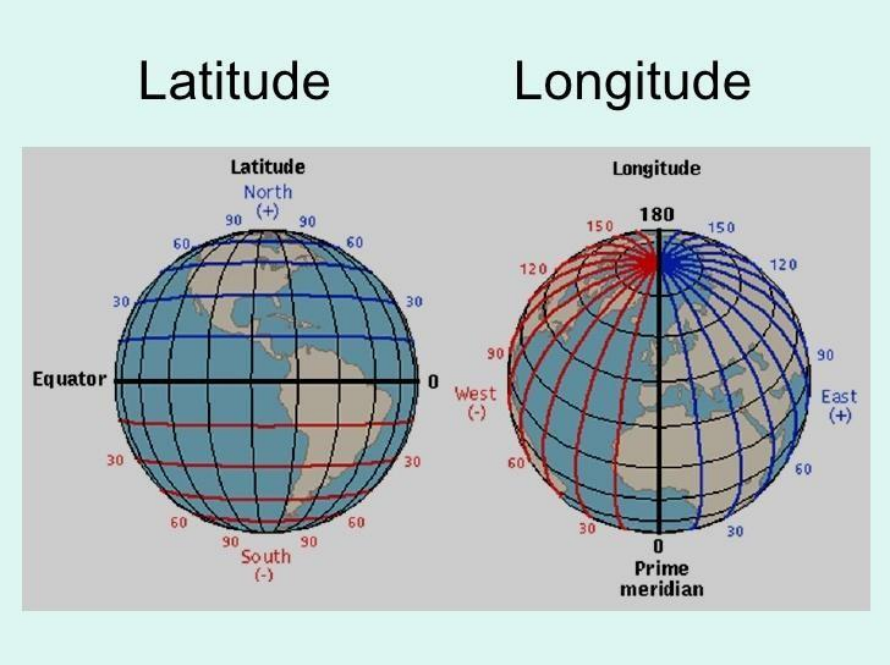

Fig. 4.4 Latitude & Longitude

Differential GPS(DGPS) is a system in which differences between observed and computed co-ordinates ranges(known as differential corrections) at a particular known point are transmitted to users(GPS receivers at other points) to upgrade the accuracy of the users receivers position.

Differential positioning user finds the point position derived from the satellite signals and applies correction to that position. These corrections, difference of the determined position and the known position are generated by a Reference Receiver, whose position is known and is fed to the instrument and are used by the second Receiver to correct its internally generated position. This is known as Differential GPS positioning.

Differential correction is a technique that greatly increases the accuracy of the collected DGPS data. It involves using a receiver at a known location - the "base

station“- and comparing that data with DGPS positions collected from unknown locations with "roving receivers.

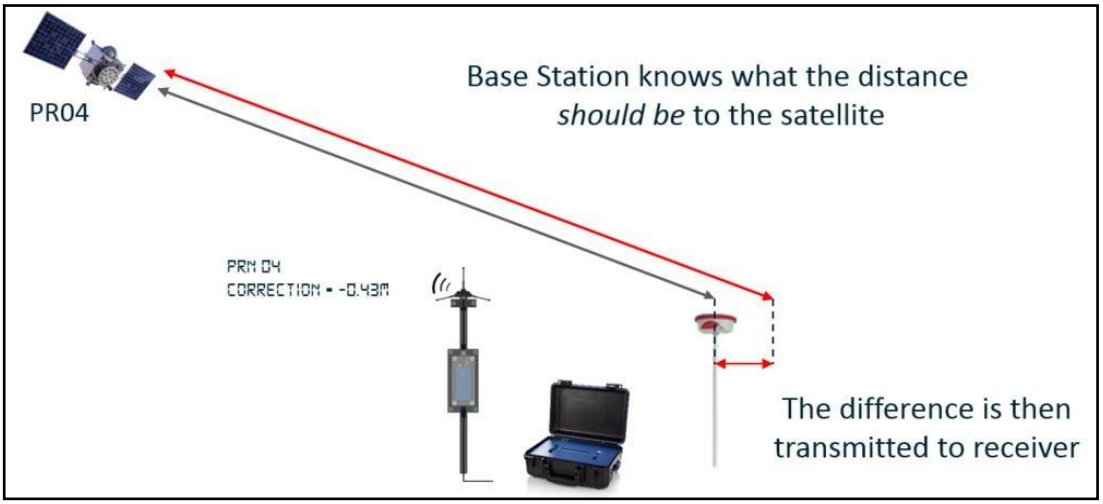

Fig. 4.5 Differential correction of error by DGPS

Differential correction can be applied in real-time directly in the field or when post processing data in the office. Although both methods are based on the same underlying principles, each accesses different data sources and achieves different levels of accuracy. Combining both methods provides flexibility during data collection and improves data integrity.

METHODOLOGY

The survey work has done with the help of ***Differential Global Positioning System survey.*** Firstly the site visit was done and the location for base station was finalized. Then one Base station (permanent reference point) is setting up, initialization of all the parameters of BASE Unit and Initialization of the ROVER Unit in the same manner. The Base unit is collect position data at a stationary location. Simultaneously the Rover unit is moves around the field for collecting field positions.

For the calculation of lease boundary area and fixation of boundary point by coordinates lease area is mark by a several boundary point joining this boundary point by a close line it give the total area of the lease boundary, for carried survey point Rover unit is install on every boundary point and fixed after 15 minutes of reading and further move to another boundary point and repeat this process in the same manner that’s how 80boundary points covered the hole area is surveyed.

For the fixation of Base point two ground control points has been marked around the surveyed area and fixed as a survey point by Rover unit. This survey point is used as a reference for post processing for eliminating data errors and obtaining more precise readings. This point is not directly related to the surveyed area, it is only for reference.

After the successful completion of the survey, all the RAW data collected from the field by Base and Rover unit will be post processed in the GNSS software after that the post processed data is used for area calculation and fix up position of survey points. For drafting of the map firstly Cadastral map in which survey area falls is Geo-referencing using GIS software and then Superimposition of output files on Geo-referenced Vectorized cadastral maps. Finally on the basis of survey result survey report and all the standard format of maps is prepared and also a soft copy of digitize map in shape file and Kml file format is prepare. The methodological flow chart of this work is shown in fig. 4.6 next page.

For, Gupta Stone Mines
Proprietor

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Forest Range Officer
Champa Range

Flow chart-

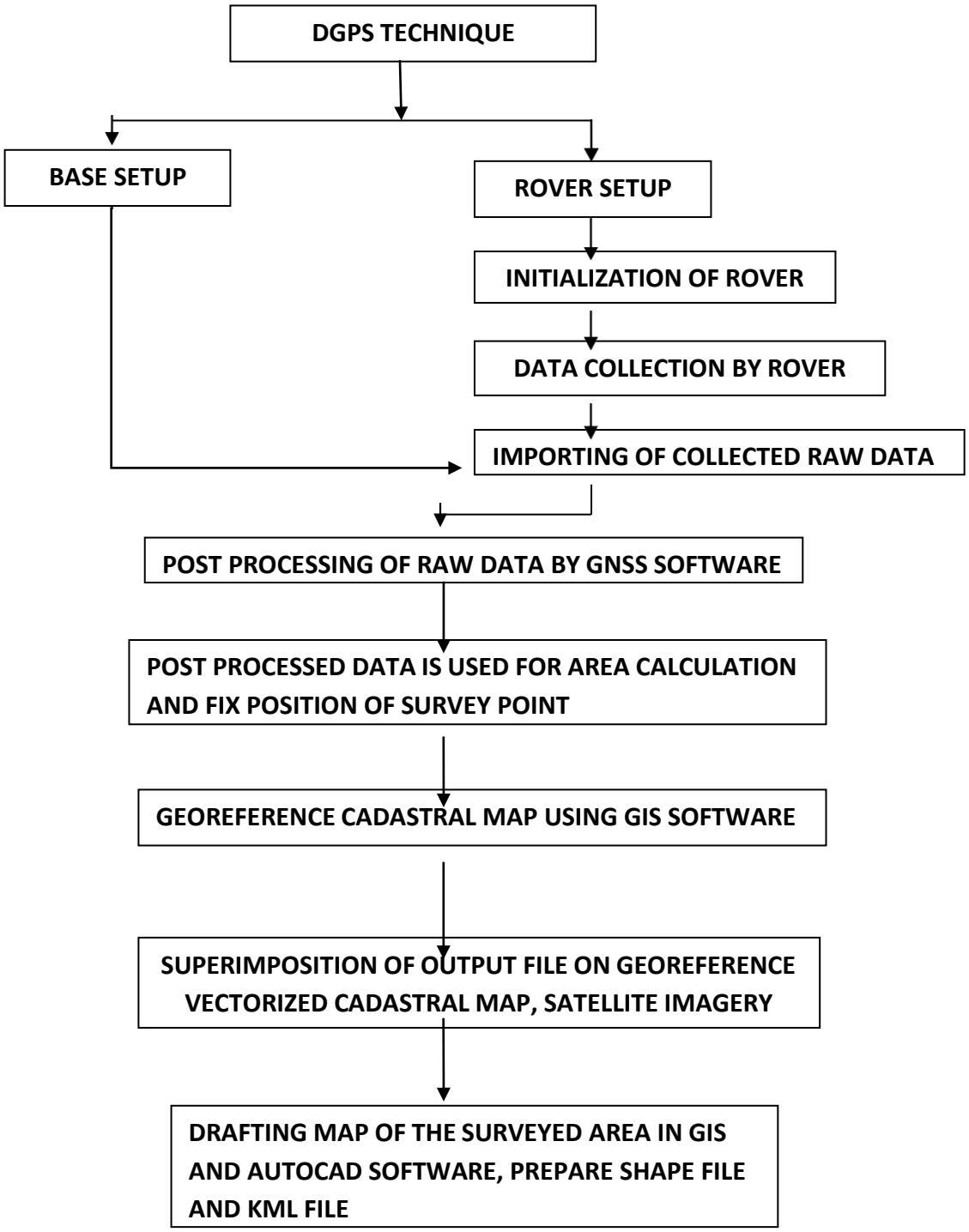

Fig. 4.6 – Flow chart of the methodology adopted

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5.

SCOPE OF WORK

We had to carry out DGPS survey and other related work of forest land diversion for construction of approach road for dolomite transportation from village lohrakot to Chhitapandariya, Dolomite mines is located at Village- Lohrakot of Tehsil- Sakti, District - Janjgir-Champa, Chhattisgarh as per **Ministry of Environment and Forest, Govt. of India vide their circular no. 11-9/98-FC dated 08/07/2011** have stipulated that to ensure accurate delineation of forest area proposed to be diverted for non – forestry purposed under Section -2 of forest conservation Act 1980 the diversion proposal under forest conservation act shall be accompanied by DGPS surveyed maps of the forest land proposed for diversion.

The envisaged scopes of the assignments are described below

1. Computation of Geo-referenced forest land through digitization and comparison with area indicated in the land schedule.
    - Establishment of Base Station by taking DGPS long Observation and fixing the coordinate by processing with IGS (International GNSS Services) data.
    - DGPS observation at the change point of the forest land.
2. Processing of DGPS observation and geo-referencing of the Forest land based on DGPS Surveyed co-ordinates.
3. Generation of the shape file and kml file of the Forest land.
4. On the basis of generated coordinates survey area is marked and area is calculated.
5. Printing of Hard copy maps and report.

****

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6.

POST PROCESSING

Post-processing is used in Differential GPS to obtain precise positions of unknown points by relating them to known points such as survey markers.

The DGPS measurements are usually stored in computer memory in the DGPS receivers, and are subsequently transferred to a computer running the DGPS post-processing software (GNSS Solution). The software computes baselines using simultaneous measurement data from two or more DGPS receivers.

The baselines represent a three-dimensional line drawn between the two points occupied by each pair of DGPS antennas. The post-processed measurements allow more precise positioning, because most DGPS errors affect each receiver nearly equally, and therefore can be cancelled out in the calculations.

After survey of the area, accumulated raw data are processed by GNSS post-processing software and it generate a post processing report in which it show the location of the point i.e. Coordinates, its elevation, date and time of taking survey, satellite error etc. the pictorial of data processing is as shown below-

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Forest Range Officer
Champa Range

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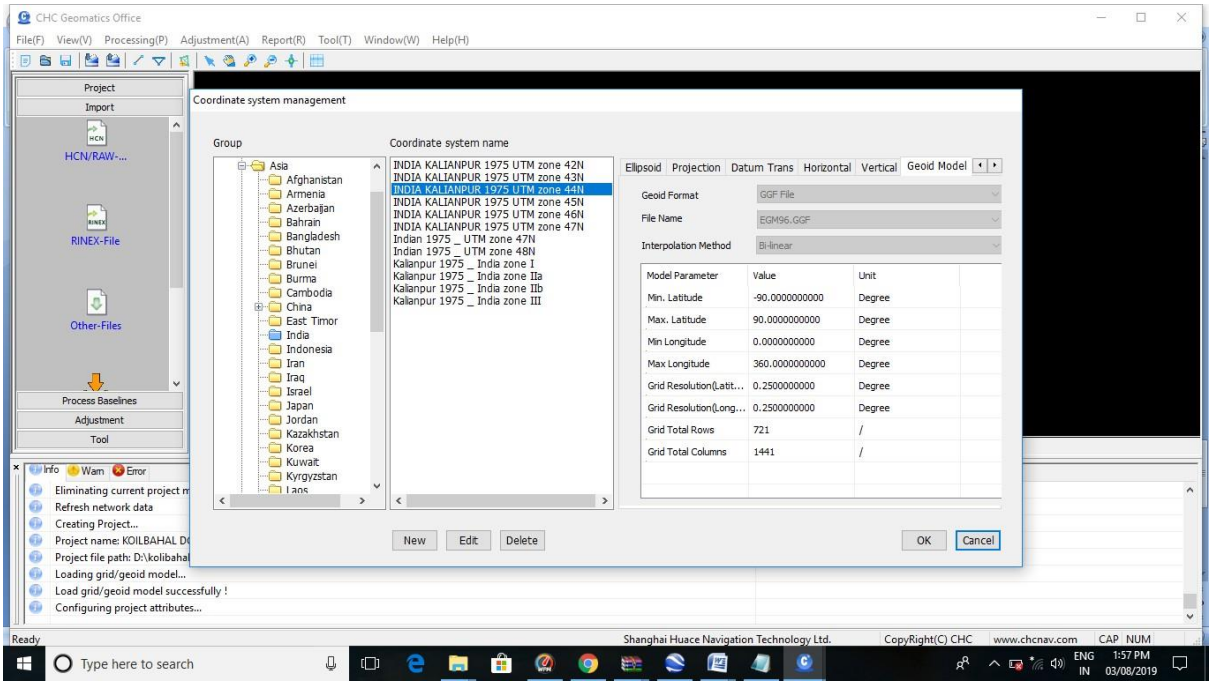

Fig. 6.1 CREATE PROJECT FILE

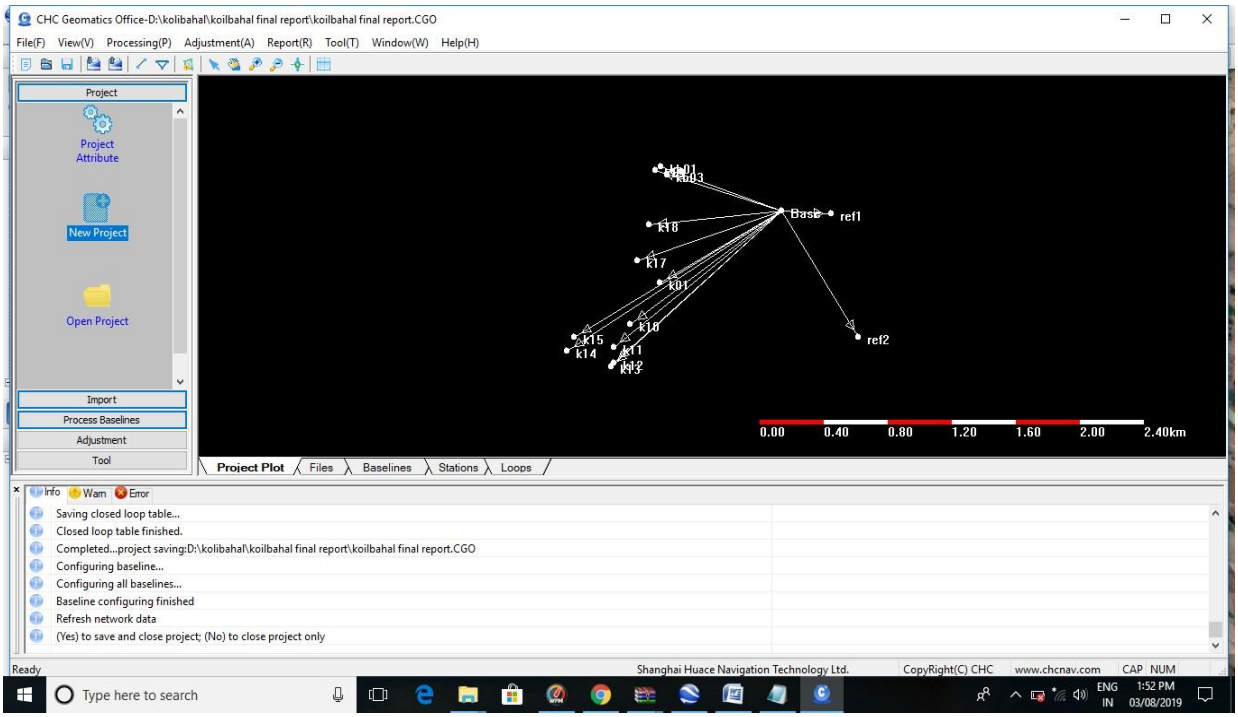

Fig. 6.2 - Raw Data Import and Processing

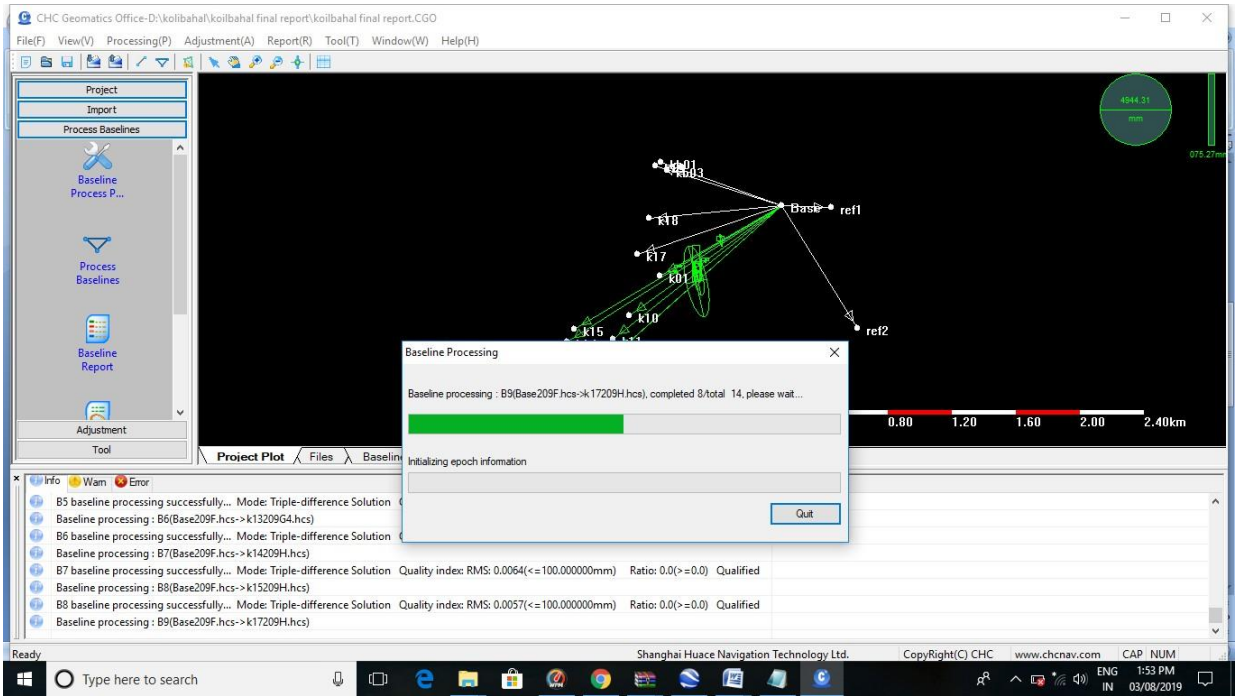

Fig. 6.3 - Base line Processing

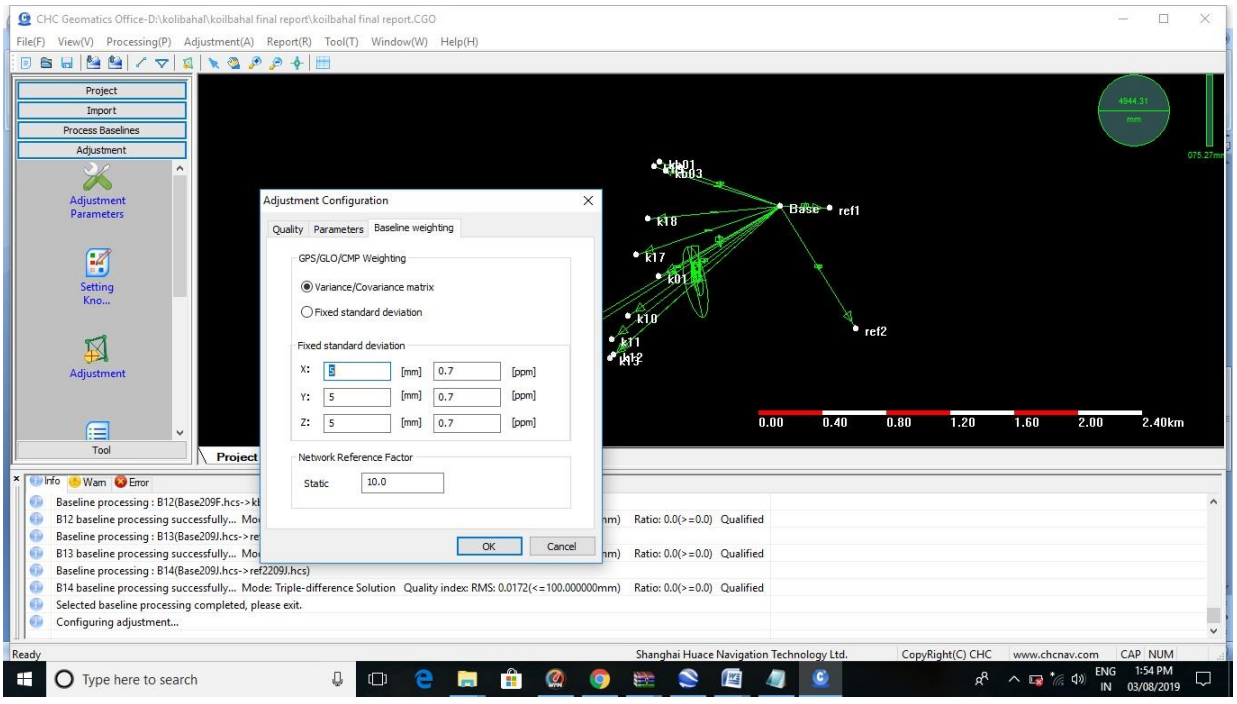

Fig. 6.4 - Configuration Adjustment

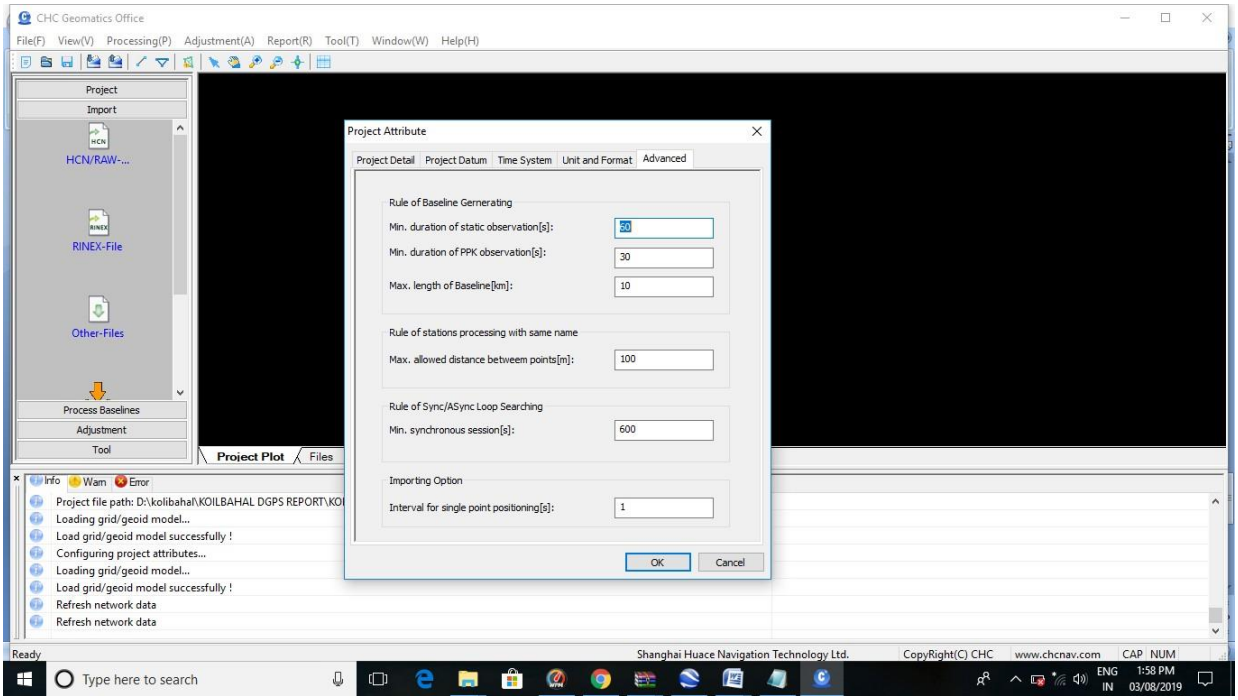

Fig. 6.5 -Project attribute setup

For, Gupta Stone Mines
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Champa Range

उपवन मण्डलाधिकारी
जांजगीर-चांपा (छ.ग.)

Baseline Summary Report

DGPS REPORT

User Name	DESKTOP-IOHM6TO	**Date & Time**	13:02:00 2020-03-04
Project Datum	INDIA KALIANPUR 1975 UTM zone 44N	**Geoid Model**	EGM96.GGF
Project Name	Transverse Mercator Projection	**Zone**	
Distance Units	m		
Height Units	m		

Baseline Summary List

Number of baselines: 14
The longest baseline(m): 1507.850562
The shortest baseline(m): 293.891139
worst baseline: B6(Base209F.hcs->k13209G4.hcs)
Relative error of worst baseline: 1/452

Baseline ID	Start Point	End Point	Solution Type	Horizontal Precision HDOP(m)	Vertical Precision VDOP(m)	Azimuth	Ellipsoid Dist.(m)	Δ Ellipsoid Height (m)
B1 (Base209F.hcs->k01209G.hcs)	Base	B01	Triple-difference Solution	30.2547	4.4788	237°31'30.92232"	830.436177	-14.499032
B2 (Base209F.hcs->k10209G.hcs)	Base	B10	Triple-difference Solution	22.4797	3.8883	231°22'26.79768"	1118.174799	-12.908904
B3 (Base209F.hcs->k11209G.hcs)	Base	B11	Triple-difference Solution	32.6687	4.7142	228°55'01.98412"	1281.095955	-14.432851

B4 (Base209F.hcs->k11209G4.hcs)	Base	B11	Triple-difference Solution	53.9491	8.6227	225°40'27.09933"	1337.399858	-14.432851
B5 (Base209F.hcs->k12209G.hcs)	Base	B12	Triple-difference Solution	35.4344	5.9151	225°34'27.97697"	1336.120622	-7.454315
B6 (Base209F.hcs->k13209G4.hcs)	Base	B13	Triple-difference Solution	34.3019	6.3754	224°51'18.35811"	1357.547960	-0.700212
B7 (Base209F.hcs->k14209H.hcs)	Base	B14	Triple-difference Solution	18.2740	4.9546	235°02'48.83725"	1507.850562	-4.508992
B8 (Base209F.hcs->k15209H.hcs)	Base	B15	Triple-difference Solution	14.1330	4.2829	236°43'33.89492"	1425.731083	-1.871947
B9 (Base209F.hcs->k17209H.hcs)	Base	B17	Triple-difference Solution	9.9292	3.6694	249°21'09.29981"	890.193745	-6.172074
B10 (Base209F.hcs->k18209H.hcs)	Base	B18	Triple-difference Solution	13.0422	4.3190	263°15'29.89201"	772.216392	-4.307358
B11 (Base209F.hcs->k19209I.hcs)	Base	B19	Triple-difference Solution	10.6289	3.1443	287°41'54.55834"	773.845307	-2.217600
B12 (Base209F.hcs->kb01209I.hcs)	Base	B01	Triple-difference Solution	21.9025	4.9683	290°18'42.44540"	752.471157	-4.948832
B13 (Base209J.hcs->ref1209J3.hcs)	Base	ref1	Triple-difference Solution	13.4653	3.3185	091°52'56.99811"	293.891139	5.309138
B14 (Base209J.hcs->ref2209J.hcs)	Base	ref2	Triple-difference Solution	11.4004	3.1229	149°13'05.37531"	880.246915	0.408458

B1 Baseline Report

1 Baseline Summary

Baseline ID(Star->End)	B1(Base209F.hcs->k01209G.hcs)
Solution Type	Triple-difference Solution
Ephemeris Used	Broadcast
Ellipsoid Dist.(m)	830.436177
Height Mask	5 Degree
RMS(m)	0.014938
Horizontal Precision HDOP(m)	30.254688
Vertical Precision VDOP(m)	4.478803
Start Time (GPST)	2020/03/04 06:08:50.0 (week 2064 22130.0 s)
Stop Time (GPST)	2019/04/04 06:12:15.0 (week 2064 22335.0 s)
Duration time	00:03:25

2 Occupations Data

Station	Start Point	End Point
Data File	D:\DMERA\base\20190728\hcn\Base209F.HCN	D:DAMERA\rover\20190728\hcn\B1209G.HCN
Receiver Type	CHC I70	CHC I70
Receiver Serial	1059786	1059853
Antenna Type	CHCI70	CHCI70
Survey Type	Bottom Of Antenna Mount	Bottom Of Antenna Mount
Antenna Height(m)	1.800000	1.800000

3 Baseline Components

Start Station Base

Grid		**Local**		**WGS84**	
North(m)	2364954.618368	**Latitude**	22° 48' 15.4533" N	**Latitude**	22° 48' 15.4533"N
East(m)	729406.674473	84° 05' 51.7030"E	84° 05' 51.7030"E	**Longitude**	84° 05' 51.7030"E
Height(m)	275.277153	**Ellipsoid Height(m)**	212.599193	**Ellipsoid Height(m)**	212.599193

End Station B01

Grid		Local		WGS84	
North(m)	2364508.705715	Latitude	22° 48' 15.3864"N	Latitude	22° 48' 15.3864"N
East(m)	728706.050474	Longitude	84° 05' 50.3448"E	Longitude	84° 05' 50.3448"E
Height(m)	260.794359	Ellipsoid Height(m)	198.100161	Ellipsoid Height(m)	198.100161

Baseline B1

Δ North(m)	-445.912575	NS Fwd Azimuth	238°19'54.54194"	Δ X(m)	718.898269
Δ East(m)	-700.623876	Ellipsoid Dist.(m)	830.436177	Δ Y(m)	60.765413
Δ Height(m)	-14.482942	Δ Ellipsoid Height(m)	-14.499180	Δ Z(m)	-411.238481

Standard Errors

Std. Δ North(m)	0.086654	Std.NS Fwd Azimuth(s)	34.7137	Std. Δ X(m)	0.390077
Std. Δ East(m)	0.412812	Std.Ellipsoid Dist.(m)	0.000000	Std. Δ Y(m)	0.228257
Std. Δ Height(m)	0.176163	Std. Δ Ellipsoid Height(m)	0.176163	Std. Δ Z(m)	0.066906

Aposteriori Covariance Matrix(см^2)

	X	Y	Z
X	1521.597677		
Y	-803.269371	521.011172	
Z	-27.533997	9.331051	44.763466

For, Gupta Stone Mines
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Champa Range

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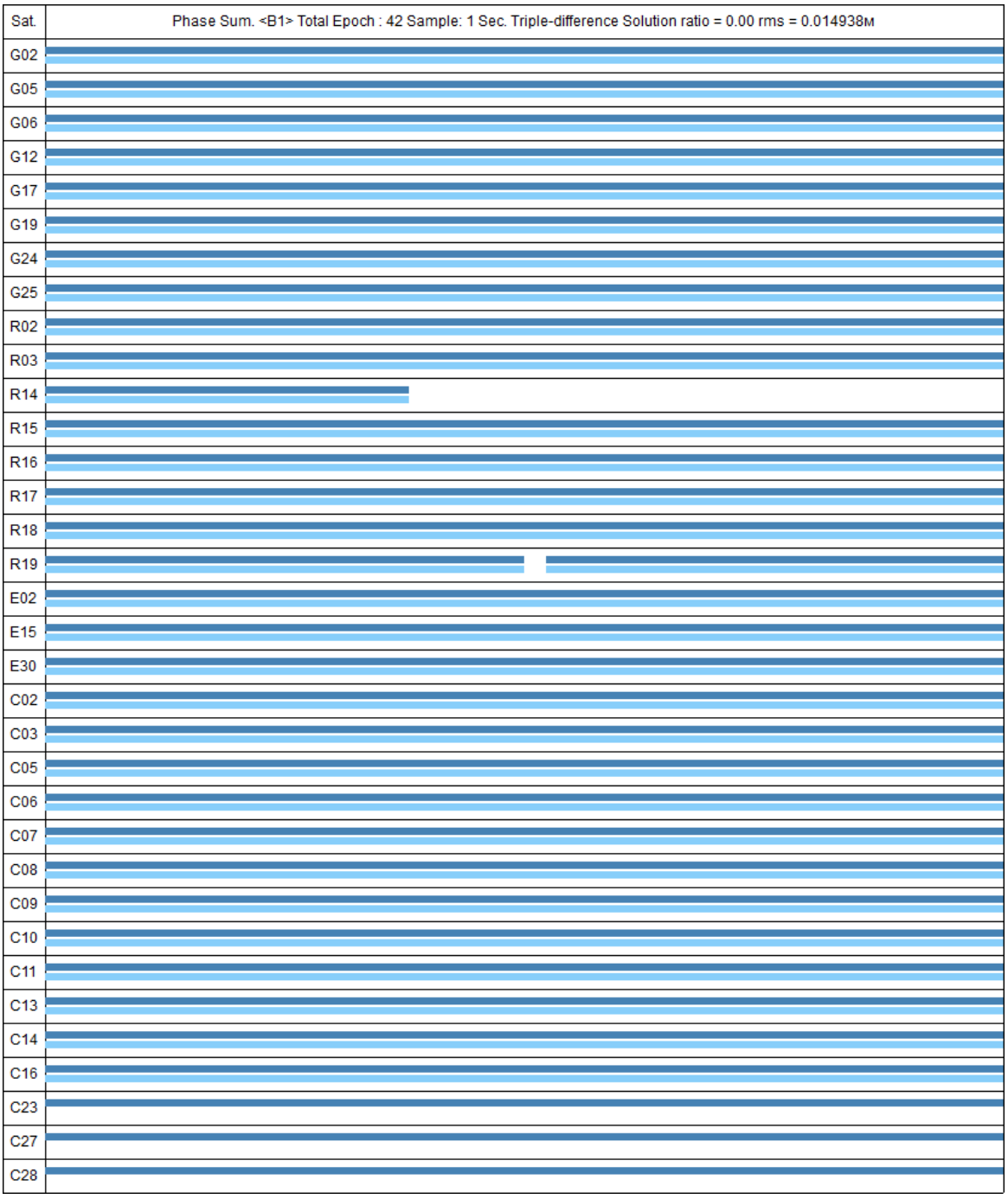
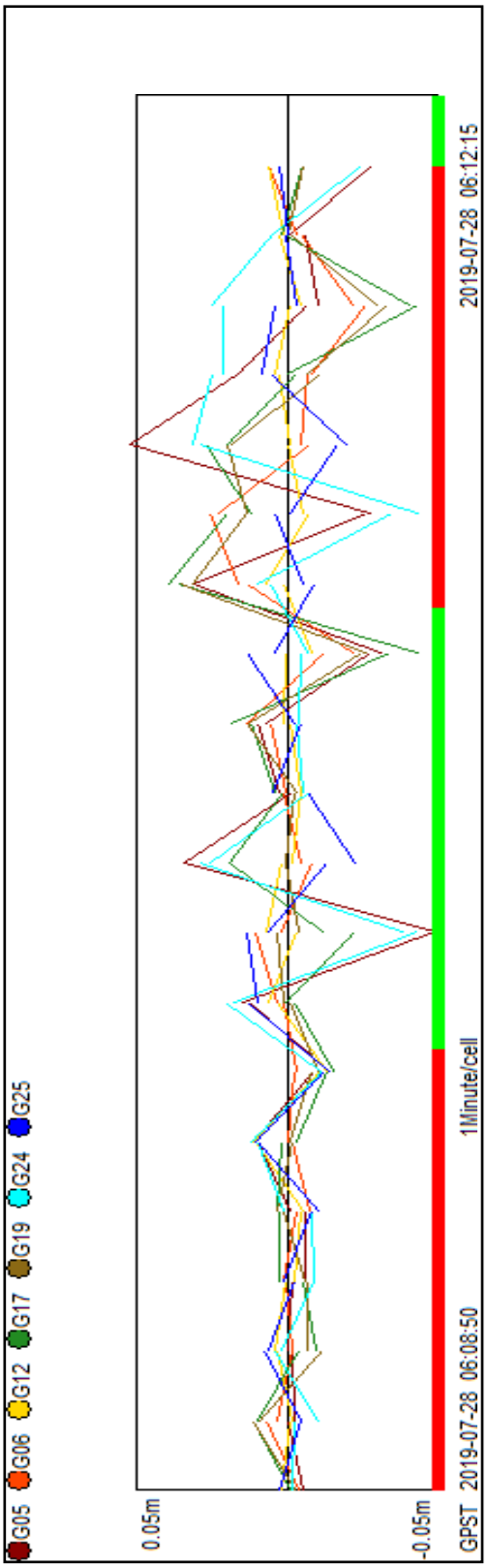
4 Tracking Summary



5 Residuals


G05
G06
G12
G17
G19
G24
G25
0.05m
-0.05m
GPST 2019-07-28 06:08:50
1Minute/cell
2019-07-28 06:12:15

6 Processing Style

6.1 Static

Minimum Obs. Time	10min
Using Broadcast Ephemeris	200.000000km
Using Precise Ephemeris	2000.000000km

6.2 Basic Setting

Height Mask	5 Degree
Ephemeris	Broadcast
Sampling Interval	10s
Solution Type	Triple-difference Solution

6.3 Troposphere

Model	Saastamoinen
Minimum Zenith Delay Interval	2 Hours
Use Observed Met. Data	Enabled

6.4 Ionosphere

Model	Klobuchar
Ambiguity Resolution Pass	Enabled

6.5 Ambiguity

Search Mode	LAMBDA

6.6 Quality

RMS Tolerance	0.100000m
RATIO Tolerance	0.000
Gross Error Tolerance	3.500

7.

SPECIFICATIONS OF EQUIPMENTS

DGPS MODEL - TOPCON CHC i70

Technical Specifications

GNSS Characteristics

- 220 channels with all in view simultaneously tracked satellite signals
  - GPS: L1C/A, L2, L2E, L5
  - GLONASS: L1C/A, L1P, L2C/A, L2P, L3
  - SBAS: WAAS, EGNOS, MSAS
  - Galileo: E1, E5A, E5B
  - BDS: B1, B2
- Advanced multipath mitigation technology
- Low noise carrier phase measurement

GNSS Accuracies (1)

- Real Time Kinematics (RTK):
  - Horizontal: 8 mm + 1 ppm RMS
  - Vertical: 15 mm + 1 ppm RMS
  - Initialization Time: Tipically < 10 s
  - Initialization Reliability: Tipically > 99.9%
- Post-processing Static:
  - Horizontal: 3 mm + 0.1 ppm RMS
  - Vertical: 5 mm + 0.4 ppm RMS
  - Baseline Length: ≤ 300 km

Hardware

- Size (H × W): 135 mm × 116 mm (5.3 in x 4.6 in)
- Weight: 1.1 kg (2.4 lb)
- Environment
  - Operating: -40°C to +85°C (-40°F to +185°F)
  - Storage: -55°C to +85°C (-67°F to +185°F)
- Humidity: 100% condensation
- Dust and Water Proof: IP67
- Shock and Vibration: 2 m (6.56 ft) fall onto concrete
- LCD: 128 x 64 dpi sunlight readable with function/accept buttons

Certifications and Calibrations

- FCC Part 15 (class B Device), FCC Part 22, 24, 90; CE Mark; C-Tick; Bluetooth EPL; IGS & NGS Antenna Calibration; MIL-STD-810G.

Communications and Data Recording

- Serial:
  - 1 x 7-pin LEMO port (external power, RS-232)
  - 1 x USB 2.0 port (USB data download, USB update)
- Network Modem: Internally integrated 3.75G modem
  - HSPA+ 21 Mbps (download), 5.76 Mbps (upload)
  - WCDMA 900/1700/1900/2100
  - EDGE/GPRS/GSM 850/900/1800/1900
- Bluetooth®: Internally integrated multimode system compatible with Android, Windows Mobile and Windows desktop operating systems
- WiFi: 802.11 b/g/n, access point mode
- UHF Radios(2): Protected TNC Female
  - Standard Internal Rx/Tx: 410 MHz to 470 MHz
    Transmit Power: 0.5 W to 2 W
    Protocol: CHC, Trimble, Pacific Crest
    Range: 5 km under optimal conditions
- Protocols:
  - CMR, CMR+, SCMRX input and output
  - RTCM 2.x, RTCM 3.x input and output
  - NMEA 0183 output
  - HCN, HRC and RINEX static formats
  - NTRIP Client, NTRIP Caster
- Data Storage:
  - 32 GB high-speed memory

Electrical

- Power Consumption: 3.8 W (depending on user settings)
- Li-ion Battery Capacity: 2 × 3400 mAh, 7.4 V
- Operating Time(3):
  - RTK UHF Base: 6 h
  - RTK Rover: 8 h to 10 h
  - Static: 12 h
- External Power: 12 V DC to 36 V DC

(1) Accuracy and reliability specifications may be affected by multipath, satellite geometry and atmospheric conditions. Performances assume minimum of 5 satellites, follow up of recommended general GPS practices. (2) UHF is an option and UHF type approvals are country specific. (3) Operating time varies based on temperature.

Specifications are subject to change without notice.

8.

CO-ORDINATES OF THE DGPS SURVEYED POINTS OF APPROACH ROAD,LOHRAKOT SAKTI, JANJGIR-CHAMPA

POINT ID	Degree, Minute, Second		UTM		Degree, Decimal	
	Latitude	Longitude	Easting	Northing	Latitude	Longitude
BASE	21° 56' 36.2005"N	82° 52' 07.0801"E	692983.2007	2427737.2108	21.94338903	82.86863336
BP01	21° 56' 41.3340"N	82° 52' 00.9660"E	692805.8341	2427892.9674	21.94481500	82.86693500
BP02	21° 56' 41.2116"N	82° 52' 01.1244"E	692810.4252	2427889.2580	21.94478100	82.86697900
BP03	21° 56' 40.4808"N	82° 52' 00.2712"E	692786.2168	2427866.4820	21.94457800	82.86674200
BP04	21° 56' 40.4016"N	82° 52' 00.4620"E	692791.7214	2427864.1127	21.94455600	82.86679500
BP05	21° 56' 40.1892"N	82° 52' 00.1741"E	692783.5400	2427857.4792	21.94449700	82.86671503
BP06	21° 56' 40.1892"N	82° 52' 00.3864"E	692789.6316	2427857.5534	21.94449700	82.86677400
BP07	21° 56' 39.2784"N	82° 52' 00.2892"E	692787.1837	2427829.5052	21.94424400	82.86674700
BP08	21° 56' 39.2928"N	82° 52' 00.4980"E	692793.1698	2427830.0211	21.94424800	82.86680500
BP09	21° 56' 38.5621"N	82° 52' 00.2352"E	692785.9025	2427807.4548	21.94404503	82.86673200
BP10	21° 56' 38.5728"N	82° 52' 00.4441"E	692791.8931	2427807.8567	21.94404800	82.86679003
BP11	21° 56' 38.1120"N	82° 52' 00.3756"E	692790.0999	2427793.6596	21.94392000	82.86677100
BP12	21° 56' 38.2128"N	82° 52' 00.5592"E	692795.3305	2427796.8241	21.94394800	82.86682200
BP13	21° 56' 37.8924"N	82° 52' 00.6780"E	692798.8595	2427787.0109	21.94385900	82.86685500
BP14	21° 56' 38.1048"N	82° 52' 00.6924"E	692799.1931	2427793.5489	21.94391800	82.86685900
BP15	21° 56' 37.9968"N	82° 52' 00.9301"E	692806.0545	2427790.3101	21.94388800	82.86692503
BP16	21° 56' 38.1912"N	82° 52' 00.9012"E	692805.1522	2427796.2793	21.94394200	82.86691700
BP17	21° 56' 38.0184"N	82° 52' 01.5960"E	692825.1541	2427791.2072	21.94389400	82.86711000
BP18	21° 56' 38.2128"N	82° 52' 01.6104"E	692825.4944	2427797.1916	21.94394800	82.86711400
BP19	21° 56' 37.6802"N	82° 52' 04.2708"E	692902.0336	2427781.7407	21.94380006	82.86785300
BP20	21° 56' 37.8708"N	82° 52' 04.3068"E	692902.9952	2427787.6152	21.94385300	82.86786300
BP21	21° 56' 37.1184"N	82° 52' 06.4632"E	692965.1548	2427765.2273	21.94364400	82.86846200
BP22	21° 56' 37.2984"N	82° 52' 06.5388"E	692967.2566	2427770.7901	21.94369400	82.86848300
BP23	21° 56' 36.7404"N	82° 52' 07.3056"E	692989.4691	2427753.8955	21.94353900	82.86869600
BP24	21° 56' 36.8916"N	82° 52' 07.4424"E	692993.3378	2427758.5940	21.94358100	82.86873400
BP25	21° 56' 36.2472"N	82° 52' 07.5648"E	692997.0918	2427738.8165	21.94340200	82.86876800
BP26	21° 56' 36.3696"N	82° 52' 07.7304"E	693001.7977	2427742.6392	21.94343600	82.86881400
BP27	21° 56' 36.0852"N	82° 52' 07.8781"E	693006.1429	2427733.9434	21.94335700	82.86885503
BP28	21° 56' 36.2472"N	82° 52' 07.9932"E	693009.3846	2427738.9664	21.94340200	82.86888700
BP29	21° 56' 35.7396"N	82° 52' 08.3641"E	693020.2182	2427723.4835	21.94326100	82.86899003
BP30	21° 56' 35.8801"N	82° 52' 08.5116"E	693024.3978	2427727.8568	21.94330003	82.86903100
BP31	21° 56' 35.1672"N	82° 52' 08.9184"E	693036.3383	2427706.0717	21.94310200	82.86914400
BP32	21° 56' 35.2752"N	82° 52' 09.0948"E	693041.3595	2427709.4553	21.94313200	82.86919300
BP33	21° 56' 34.7676"N	82° 52' 09.1704"E	693043.7193	2427693.8691	21.94299100	82.86921400
BP34	21° 56' 34.8360"N	82° 52' 09.3684"E	693049.3752	2427696.0422	21.94301000	82.86926900

BP35	21° 56' 33.8028"N	82° 52' 09.5088"E	693053.7916	2427664.3124	21.94272300	82.86930800
BP36	21° 56' 33.8964"N	82° 52' 09.6960"E	693059.1282	2427667.2569	21.94274900	82.86936000
BP37	21° 56' 32.9604"N	82° 52' 10.5024"E	693082.6190	2427638.7498	21.94248900	82.86958400
BP38	21° 56' 33.1152"N	82° 52' 10.6321"E	693086.2829	2427643.5566	21.94253200	82.86962003
BP39	21° 56' 32.2728"N	82° 52' 11.7192"E	693117.7932	2427618.0267	21.94229800	82.86992200
BP40	21° 56' 32.4564"N	82° 52' 11.7948"E	693119.8937	2427623.7003	21.94234900	82.86994300
BP41	21° 56' 31.8840"N	82° 52' 12.9396"E	693152.9587	2427606.4954	21.94219000	82.87026100
BP42	21° 56' 32.0676"N	82° 52' 13.0116"E	693154.9558	2427612.1677	21.94224100	82.87028100
BP43	21° 56' 30.8581"N	82° 52' 15.3264"E	693221.8334	2427575.7771	21.94190503	82.87092400
BP44	21° 56' 31.0308"N	82° 52' 15.4128"E	693224.2479	2427581.1189	21.94195300	82.87094800
BP45	21° 56' 29.7312"N	82° 52' 17.5944"E	693287.3374	2427541.9104	21.94159200	82.87155400
BP46	21° 56' 29.9041"N	82° 52' 17.6916"E	693290.0617	2427547.2627	21.94164003	82.87158100
BP47	21° 56' 29.0364"N	82° 52' 19.4664"E	693341.3160	2427521.1958	21.94139900	82.87207400
BP48	21° 56' 29.2236"N	82° 52' 19.5241"E	693342.9016	2427526.9739	21.94145100	82.87209003
BP49	21° 56' 28.6044"N	82° 52' 21.1008"E	693388.3780	2427508.4813	21.94127900	82.87252800
BP50	21° 56' 28.7952"N	82° 52' 21.1476"E	693389.6493	2427514.3663	21.94133200	82.87254100
BP51	21° 56' 28.4676"N	82° 52' 22.4652"E	693427.5814	2427504.7520	21.94124100	82.87290700
BP52	21° 56' 28.6620"N	82° 52' 22.4940"E	693428.3347	2427510.7414	21.94129500	82.87291500
BP53	21° 56' 28.3524"N	82° 52' 23.0268"E	693443.7400	2427501.4056	21.94120900	82.87306300
BP54	21° 56' 28.5360"N	82° 52' 23.0988"E	693445.7371	2427507.0780	21.94126000	82.87308300
BP55	21° 56' 28.2372"N	82° 52' 23.3220"E	693452.2542	2427497.9658	21.94117700	82.87314500
BP56	21° 56' 28.4136"N	82° 52' 23.4084"E	693454.6672	2427503.4218	21.94122600	82.87316900
BP57	21° 56' 27.6936"N	82° 52' 24.3876"E	693483.0363	2427481.6196	21.94102600	82.87344100
BP58	21° 56' 27.8628"N	82° 52' 24.4884"E	693485.8652	2427486.8591	21.94107300	82.87346900
BP59	21° 56' 26.7684"N	82° 52' 26.4504"E	693542.5772	2427453.8860	21.94076900	82.87401400
BP60	21° 56' 26.9412"N	82° 52' 26.5368"E	693544.9915	2427459.2313	21.94081700	82.87403800
BP61	21° 56' 25.9332"N	82° 52' 28.2576"E	693594.7498	2427428.8311	21.94053700	82.87451600
BP62	21° 56' 26.1168"N	82° 52' 28.3261"E	693596.6466	2427434.5023	21.94058800	82.87453503
BP63	21° 56' 25.4401"N	82° 52' 29.8561"E	693640.8054	2427414.2257	21.94040003	82.87496003
BP64	21° 56' 25.6308"N	82° 52' 29.9028"E	693642.0735	2427420.1074	21.94045300	82.87497300
BP65	21° 56' 25.5516"N	82° 52' 30.3132"E	693653.8799	2427417.8154	21.94043100	82.87508700
BP66	21° 56' 25.6741"N	82° 52' 30.1440"E	693648.9786	2427421.5241	21.94046503	82.87504000
BP67	21° 56' 27.4812"N	82° 52' 31.4256"E	693685.0748	2427477.5562	21.94096700	82.87539600
BP68	21° 56' 27.5820"N	82° 52' 31.2492"E	693679.9750	2427480.5947	21.94099500	82.87534700
BP69	21° 56' 30.4584"N	82° 52' 33.7296"E	693750.0684	2427569.9375	21.94179400	82.87603600
BP70	21° 56' 30.5484"N	82° 52' 33.5461"E	693744.7691	2427572.6413	21.94181900	82.87598503
BP71	21° 56' 36.1716"N	82° 52' 35.7528"E	693805.9732	2427746.3740	21.94338100	82.87659800
BP72	21° 56' 36.2364"N	82° 52' 35.5548"E	693800.2672	2427748.2976	21.94339900	82.87654300
BP73	21° 56' 39.0876"N	82° 52' 37.4988"E	693854.9762	2427836.6775	21.94419100	82.87708300
BP74	21° 56' 39.2101"N	82° 52' 37.3332"E	693850.1782	2427840.3874	21.94422503	82.87703700
BP75	21° 56' 41.6040"N	82° 52' 40.5228"E	693940.8010	2427915.1396	21.94489000	82.87792300
BP76	21° 56' 41.7624"N	82° 52' 40.4004"E	693937.2291	2427919.9686	21.94493400	82.87788900
BP77	21° 56' 44.4948"N	82° 52' 44.7960"E	694062.3291	2428005.5575	21.94569300	82.87911000
BP78	21° 56' 44.5992"N	82° 52' 44.6196"E	694057.2280	2428008.7066	21.94572200	82.87906100
BP79	21° 56' 49.1928"N	82° 52' 46.2576"E	694102.4968	2428150.5725	21.94699800	82.87951600

BP80	21° 56' 49.2432"N	82° 52' 46.0560"E	694096.6930	2428152.0517	21.94701200	82.87946000
CP01	21° 57' 02.8212"N	82° 52' 07.8801"E	692996.1710	2428556.2844	21.95078367	82.86885558
CP02	21° 57' 15.8803"N	82° 51' 44.1220"E	692309.5889	2428949.6514	21.95441119	82.86225611

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AVI CONSULTANCY SERVICES • RAIPUR CG

For, Gupta Stone Mines

Proprietor

वनमंडलाधिकारी
जांजगीर-चांपा वनमंडल

उपवन मण्डलाधिकारी
जांजगीर-चांपा (छ.ग.)

Forest Range Officer
Champa Range

Fixation of ground control points

AVI CONSULTANCY SERVICES
RAIPUR CG

Fixation of boundary points

AVI CONSULTANCY SERVICES
RAIPUR CG

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