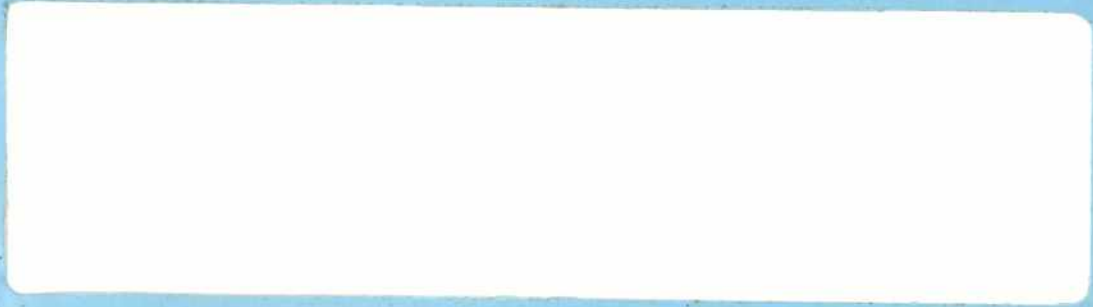


Call - ⁶⁴⁴
BAP-18

2

FINNMAP



BW - 528
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①

A-5
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THE WORLD
OF CONSULTING

2

**BANGLADESH MAPPING FOR DEVELOPMENT 1:10 000
FLOOD ACTION PLAN AREA**

**FINAL TECHNICAL REPORT
Dhaka, 15th December 1994**

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BANGLADESH MAPPING FOR DEVELOPMENT 1:10 000
FLOOD ACTION PLAN AREA

FINAL TECHNICAL REPORT
Dhaka, 15 th December 1994

1. GENERAL

1.1. Original Scope of the Works

According to the original scope of works following work amounts were to be carried out for the North-Central Region:

- establish about 100 2nd order GPS-stations.
- to carry out about 1100 km of 2nd order levelling.
- to carry out Black & White and IRC aerial photography at scale 1:50 000 for an area of 18000 km² covering both banks of Jamuna River.
- to carry out Black & White and IRC aerial photography at scale 1:20 000 for an area of 6000 km² of Jamuna riverine area.
- to prepare rectified photomosaics at scale 1:20 000 with superimposed contours at 50 cm intervals for Jamalpur Pilot Area measuring 800 km² using 1:50 000 aerial photography.
- to prepare rectified photomosaics at scale 1:10 000 with superimposed contours at 25 cm intervals for Sirajgonj and Tangail Pilot Areas measuring 100 km² each using 1:20 000 aerial photography.

1.2. Modifications to Original Scope of Works

- Aerial photography for Coastal Mapping Project in 1990 and the one carried out for Third Flood Control Project for BWDB in 1987 left a gap of about 2400 km² in the area of Irrigation Development of South-east Region (FAP-5). Followed by the request from the World Bank with assurances that the area would be incorporated in the "Terms of Reference for Topographical Mapping, Item No 18" and the approval of National Board of Survey to carry out all aerial photography operations of Flood Action Plan this area was photographed at the scale of 1:30 000 at the end of February and beginning of March 1990.

- IR-Colour photography was reduced to cover only areas of Jamalpur (800 km²), Tangail (100 km²) and Sirajgonj (100 km²) pilot areas on the instructions by the World Bank.
- The amount of second order levelling was increased up to its final length of 2468 km after the request from FPCO in November 1990 and the approval of National Board of Survey in March 1991.
- GPS-survey was extended to cover areas of North-West Regional Study (FAP-2) by the request from FPCO in February 1991. This work was carried out immediately after the approval of National Board of Survey in March 1991. After this addition the number of GPS-stations established was 146.

2. GROUND CONTROL SURVEYS

2.1. GPS-Survey

2.1.1. General

Geodetic control over project area was established using static relative GPS-surveys. Total of 146 stations were observed.

2.1.2. Survey markers

Permanent survey markers were constructed according to specifications of Survey of Bangladesh.

Appendix A: Marker description.

2.1.3. Observations

GPS field surveys were accomplished using four (4) Ashtech L-XII GPS-receivers. Ashtech L-XII is a 12-channel, L1-frequency GPS-receiver. One to three observation sessions per day were made using four to eight satellites. Length of the sessions varied from 75 to 180 minutes.

Total number of successfully observed stations was 146 including:

16	1st order stations
130	2nd order stations

2.1.4. Computations

2.1.4.1. Satellite Signal Processing

Carrier phase observations of the GPS-satellites were processed using double difference observables. Double-difference processing was done using Ashtech Inc.'s Geodetic Post Processing Software (GPPS).

2.1.4.2. Primary Network

Primary stations of Flood Action Plan were adjusted together with the primary network of Coastal Mapping Project. The Coastal Primary Network consists of 82 Baselines and 57 stations. Point positioning solutions of ten stations were used as initial approximate coordinates for the network adjustment. The network was adjusted in a minimum constraint adjustment using free network technique. The WGS-84 coordinate differences solved in baseline computations were used as observations and WGS-84 coordinates of the stations as unknowns. The relative RMS of the network adjustment was 10 ppm. That for the first order specifications is 1:100 000, 10 ppm.

2.1.4.3. Densification Surveys

Densification surveys consist of two networks and several traverses. Relative RMS of the networks and traverses were better than 1:50 000 (20 ppm), which is the tolerance for second order measurements.

2.1.4.4. Transformation to the New Horizontal Datum 1993 of Bangladesh

According to the decision of Survey of Bangladesh, the new datum was to be established based only on one old station, Gulshan point with following coordinates:

LAT	:	23 47 49.547 N
LON	:	90 25 6.742 E
H	:	9.03538 m

Adjustment was first carried out using Everest ellipsoid with following values for the spheroid:

a	:	6377 304 m
1/f	:	300.8

Later in January 1993 Survey of Bangladesh supplied new spheroid values based on different meter-to-foot conversion, which are:

1 foot	=	0.30479947 m
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and consequently this gives new spheroid values:

a : 6377 298.52 m
1/f : 300.8

New adjustment was carried out using these new values. Final mosaics were also transformed after this in to the new system.

In addition levelled heights of 19 stations were used in adjustment to fix the new network relative to the local geoid.

The scale of the new datum is that of GPS. Transformation parameters from WGS-84 to the new datum were solved in a least-squares adjustment. Parameters were solved for Molodensky-Badekas transformation model.

The transformation means, that the coordinates of Gulshan point were held fixed and the coordinate system was rotated so, that the square sum of geoidal undulations, height differences between geodetic heights of the stations determined with GPS and orthometric heights of the stations determined by levelling, reached minimum.

The RMS-error in the parameter adjustment was 0.45 m. This means that geodetic heights of the stations can be considered as orthometric with an accuracy of 0.45 m and that the new datum can be considered to be oriented with respect to local geoid three-dimensionally with same accuracy.

After determination of the transformation parameters WGS-84 coordinates of all stations were transformed to the new Horizontal Datum 1993 of Bangladesh.

2.1.4.5. Projection Coordinates

Geodetic latitudes and longitudes of all GPS-stations in the Horizontal Datum 1993 of Bangladesh were converted to map-projection grid-coordinates as determined in the Technical Specifications:

Projection	:	Universal Transverse Mercator (UTM)
Scale factor of Central Meridian	:	0.9996
Unit	:	Meter
Central Meridian	:	90 E
Grid coordinate value of Central Meridian	:	500 000 m
Argument of Longitude	:	87 E < L < 93 E
Latitude of origin	:	Equator, 0 N
Grid coordinate value of northing at origin	:	0 m

Appendix B: Location diagram of GPS stations
Coordinate lists

2.2. Vertical Ground Control

2.2.1. General

The vertical control network consists of bench marks of second and third order.

In second order levelling check the second order tolerance of $\pm 8.0 \sqrt{K}$ mm (K in kilometres) between forward and backward levelling was always met.

In third order levelling check the third order tolerance of $\pm 12.0 \sqrt{K}$ mm (K in kilometres) in a loop or a line was always met.

In spot height levelling for vertical terrain model the tolerance of $\pm 100 \sqrt{K}$ mm (K in kilometres) was always met.

Third order bench marks were established to serve as starting points in spot height levelling.

Water level stations of the area were connected to the second order lines as second order bench marks.

2.2.2. Recognition of Existing Precise Levelling Network

In all 33 old bench marks were found, 23 west of river Jamuna, 9 east of Jamuna and 1 south of Padma. Only few of them did tally with the neighbouring bench marks within 1st order tolerances.

No previous records about the consistency of the network across river Jamuna existed. Therefore discrepancies between west and east bank of Jamuna rivers could be expected.

Because only few bench marks in the old lines existed, a decision was made to have the old precise levelling lines built and re-levelled to meet the second order standards.

Also levellings across the river Jamuna and Ganges and Padma were required to bring the new levelling networks of different regions in to one uniform system.

2.2.3. Building of Bench Marks

In construction of new bench marks the standards of Survey of Bangladesh were followed.

Following amounts of new bench marks were build:

2nd order	714
3rd	41
Total	755

Sixty of the GPS points were also levelled. GPS markers were build according to Survey of Bangladesh's standards as described earlier.

For river crossing levellings lighter temporary pillars were erected on the river banks.

Appendix A: Specifications for second and third order Bench Marks.

2.2.4. Methods

2.2.4.1. Second Order Levelling

Automatic levels and micro meters were used. Staffs were double reading invar or wooden staffs. For each of the forward and backward levelling four separate readings were taken. Two of the readings came from different staff-scales on the first ground-position, second ground-position providing another two readings.

This method provided 8 independent readings for each levelled distance. Mean of the 8 readings was used as final height difference in computations.

Stability of ground-positions was secured by using heavy metal ground plates.

Equal staff-instrument distances forwards and backwards were measured by tapes. Maximum allowable staff-instrument distance was 50 metres on firm land.

Instrument was always shadowed during observation work.

Staffs were kept in up-right position during observations by build-in bubble-levels.

2.2.4.2. Third Order Levelling

Method was same as in 2nd order levelling with only one ground position in both directions of levelling.

2.2.4.3. River Crossing

Many river divide the project area. 26 separate river crossing measurements were done in order to combine all levellings in to one network.

In river crossings two methods were used. Less than 200 metre-wide rivers were levelled normally. For more than 200 metre-wide rivers simultaneous reciprocal trigonometric method was applied.

Appendix C: Description of the simultaneous reciprocal method.

2.2.4.4. Spot Height Levelling

Spot height levelling was carried out as spirit levelling. All staff and instrument positions were pricked and numbered on pictures during the levelling in the field.

Third and second order bench marks were used as starting and closing bench marks.

Spot height lines were run at 300 m distances with spot height interval of 100 m along the lines.

2.2.5. Equipment

Levelling	Instrument Mark	Amount	Staff Description	Amount
2nd order and 3rd order levelling	Wild NAK-2 Sokkisha B1C	8 4	Invar/wooden double scale	24
spot height levelling	Wild NA-24	12	Wooden single scale	24
River crossing levelling	Wild TC1600	2	Wooden single scale	4

2.2.6. Personnel and Field Works

Personnel used in various kinds of levellings:

Levelling	Teams	Surveyors	Helpers
2nd order	8	8	32
3rd order	4	4	16
spot height	12	12	48
Total	24	24	96

Field observations were commenced in November 1990 and were completed by the end of March 1992.

2.2.7. Existing Bench Marks of Survey of Bangladesh

Before this project no levelling across the river Jamuna had been successfully done in Bangladesh.

For different Flood Action Plan projects it was essential that different parts of the country would be brought in to same datum.

Therefore Jamuna river was crossed at four locations: Ulipur, Badhurabad, Sirajgonj and Aricha. Also a connection across Ganges-Padma to the south was done from Aricha.

The river crossings confirmed that the old bench marks on both sides of river Jamuna could not be adjusted in one network within 2nd order tolerances. They would tally within adjacent bench marks on same side of the river, but could not fit in to same system across the river.

According to instructions of Survey of Bangladesh Flood Action Plan's 2nd order bench marks were adjusted using old bench marks of the western side of Jamuna river.

The present mean sea level datum of Bangladesh comes from India and is likely to be more correct in western parts of Bangladesh. The eastern bench marks are at the end of over one thousand kilometre long hanging line. This also explains well the discrepancies of about 20 cm of the old bench marks in the eastern parts.

2.2.8. Computations and Final Adjustment

2.2.8.1. Datum

According to instructions of Survey of Bangladesh the second order network has been tied to 17 old bench marks on the western side of river Jamuna.

Connection Bench Marks:

Name of bench mark	Number used in adjustment	Height (m)
Rangpur DC Office	108001	31.9897
Karmical Collage	108016	32.1186
Mithapukur	108003	28.5558
Uzipur	108004	24.5394
Dhaperhat	108005	24.4056
Palasbari	108006	22.7643
Gobindagonj	108008	20.9199
Nawdapara	108009	19.9955
Bogra Circuit House	300751	19.1177
Ashekpur	108010	18.1542
Kalico Cotton	108101	12.2572
Dhopa Ghata	108103	11.7488
Ataikula	108105	11.3980
Gang Hati	108106	12.3837
Char Gobindapur	108108	13.6925
Kashinatpur	108109	10.4973
Natuabari	108110	12.6870

2.2.8.2. Final Adjustments

All networks and lines have been adjusted with adjustment program MMH200. In first phase program computes heights for knot-points and in second phase line wise heights for other bench marks in the network.

Adjustment program MMH200 has been developed by the National Board of Survey of Finland.

Appendix D: Program description of MMH200.

2.2.8.2.1 Second Order Lines

26 river crossing measurements were included.

Adjustment statistics:

Fixed points:	17
Adjusted points:	850
St. error of one km levelling	4.39 mm
Length of lines	2468.12 km
Instrument stations	25184

Appendix E: Distribution of reference bench marks used in final adjustment.
Distribution levelled water level stations.
Network diagram.
Second order adjustment.

2.2.8.2.2. Third Order Lines

All third order lines have been connected to second order bench marks or knot points and adjusted in one block.

Adjustment statistics:

Fixed points:	40
Adjusted points:	52
St. error of one station	2.18 mm
St. error of one km levelling	6.59 mm
Length of lines	306.96 km
Instrument stations	2891

Appendix F: Line diagrams.
Third order adjustment.

2.2.8.2.3. Spot Height Levelling

Spot height levellings were adjusted in blocks of about 25 km².

Jamalpur pilot area:

Adjustment statistics:

Blocks:	46
Fixed points:	55
Adjusted points:	48859
Average Standard error of on station	15.93 mm

Sirajgonj pilot area:

Adjustment statistics:

Blocks:	10
Fixed points:	16
Adjusted points:	5505
Average Standard error of on station	12.85 mm

Tangail pilot area:

Adjustment statistics:

Blocks:	13
Fixed points:	21
Adjusted points:	8452
Average Standard error of on station	15.37 mm

Individual adjustments have been submitted to Survey of Bangladesh earlier.

3. AERIAL PHOTOGRAPHY

3.1. Technical

Aircraft : Aero Commander 690 A
 Camera : 2 x Wild RC 10
 Lens : Wild 15 UAG I and Wild 15 UAG II

All photographs were flown in north-south direction. Near Indian border lines were flown following the main direction of the border.

Bangladesh authorities were unable to arrange flying permits nearer than 5 miles from the Indian border. Therefore gaps in the border regions may occur. To minimize these gaps border photographs were shot at higher altitudes.

Following requirements were fulfilled:

Longitudinal overlap : 60% +/- 5%
 Lateral overlap : 25% +/- 10%

Appendix G: Index of Black & White aerial
 photographs.
 Index of Infra Red Colour aerial
 photographs.

3.2. Execution of Photographies

Aerial photographs were initially planned at scale 1:30000 and to be flown in the beginning of 1990 following the photographs of Coastal Mapping Project, which had been being carried out at the time of the planning of photographs for Flood Action Plan. Only an area of about 2400 km² in Noakhali region could be covered within this scope. This area was bordered from west and south by the Coastal Photography Area, by Indian border in the east and Dhaka-Chittagong highway in the north. By mid March 1990 the photography season had passed and no more photographs could be undertaken.

When photographs were resumed in December 1990 also the scope of the works had been changed. It was considered "more adequate" that the aerial coverage should be at scale 1:50 000 for the North-Central Region of 18000 km² and at scale 1:20 000 for the Jamuna riverine area of 6000 km². Also Infra Red Colour photography was not considered necessary for the whole area and it was reduced to cover pilot areas of Jamalpur, Sirajgonj and Tangail only.

All aerial photographs were completed by 24 th of December 1990.

4. AERIAL TRIANGULATION

4.1. Objectives

Aerial triangulation was used to extend ground control to be sufficient for rectification of pictures for mosaic production.

Ground control provides approximately one point for every 6 pictures. In rectification each picture must have 4 known points (xy-coordinates).

4.2. Method

Aerial triangulation was carried out by using the simultaneous bundle block adjustment method and program developed in the National Board of Survey of Finland.

4.3. Ground Control

Ground control was established using GPS as follows:

Area	No of points
Jamalpur pilot area	11
Sirajgonj pilot area	8
Tangail pilot area	8

GPS points used as horizontal ground control for the pilot areas were observed in connection of GPS-survey for the North-West and North-Central regions. Network has been newly adjusted according to instructions of Survey of Bangladesh, also all old Survey of Bangladesh' points.

In addition to heights of GPS points vertical ground control was provided by spot height levelling.

Prior aerial photography the GPS points, which were necessary for pilot areas' aerial triangulation, were pre-marked.

4.4. Aerial Photography

Aerial photography on the scale of 1:50 000 was used in Jamalpur pilot areas and on the scale 1:20 000 for Sirajgonj and Tangail pilot areas. Flight lines were in north-south direction.

Area	Runs used	Scale
Jamalpur pilot area	4	1:50 000
Tangail pilot area	5	1:20 000
Sirajgonj pilot area	4	1:20 000

4.5. Equipment

Observations were done with Leica BC3 analytical stereo plotter.

All adjustments were carried out by using a Bench Mark 486-C25WT computer and MMH850 adjustment program.

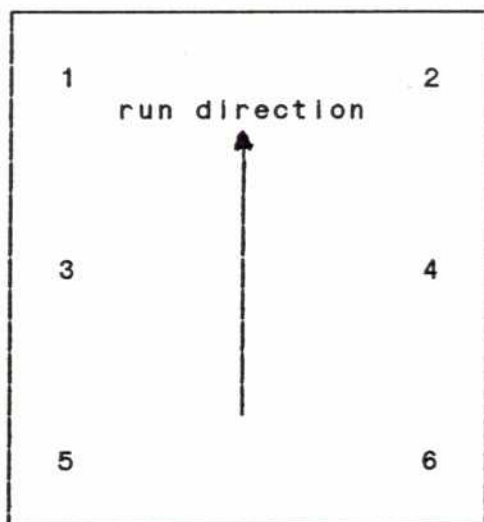
4.6. Selection of Rectification Points

One set of contact prints and diapositives were used in aerial triangulation.

All visible ground points were marked and numbered on the contact prints.

Because the tie points resulting from aerial triangulation are small and seldom visible in dark room conditions during rectifications, separate by bare eyes visible points of higher contrasts were selected. To enable smooth and uninterrupted features across the seam areas on the mosaics, rectification points were also transferred picture wise not only in the run direction but to adjacent strips as well. In normal full picture condition 6 rectification would fall within each picture.

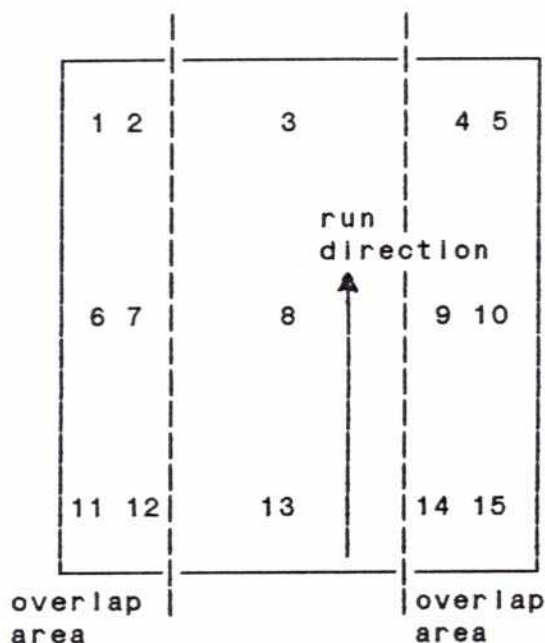
Distribution Index of the rectification points:



4.8. Point Transfer

Tie points were selected so that one row of points was in the centre of the run and to rows of points on the overlapping areas of the adjoining strips.

Distribution index of the tie points:



4.9. Adjustment

Adjustment was carried out using the simultaneous bundle block adjustment program MMH850 developed by National Board of Survey of Finland.

Each of the three pilot areas were adjusted in separate blocks.

1. Jamalpur pilot area:

Statistics of adjustment:

	Total	Rejected
No. of photographs	64	0
No. of additional parameters	12	0
No. of points in adjustment	316	0
xyz-control points	11	0
xy-control points	0	0
z-control points	36	0
tie points	269	0
No. of observations	2345	0
control point coordinates	69	0
image coordinates	2276	0
redundancies	1001	0
Standard error of unit weight on the ground	.429 m	
on the image	14.2 microm	

2. Sirajgonj pilot area:

Statistics of adjustment:

	Total	Rejected
No. of photographs	38	0
No. of additional parameters	12	0
No. of points in adjustment	215	0
xyz-control points	8	0
xy-control points	0	0
z-control points	17	0
tie points	190	0
No. of observations	1467	0
control point coordinates	41	0
image coordinates	1426	0
redundancies	582	0
Standard error of unit weight on the ground	.213 m	
on the image	7.1 microm	

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3. Tangail pilot area:

Statistics of adjustment:

	Total	Rejected
No. of photographs	62	0
No. of additional parameters	12	0
No. of points in adjustment	261	0
xyz-control points	8	0
xy-control points	0	0
z-control points	20	0
tie points	233	0
No. of observations	2044	0
control point coordinates	44	0
image coordinates	2000	0
redundancies	877	0
Standard error of unit weight		
on the ground	.189 m	
on the image	6.3 microm	

Appendix H: Aerial adjustment index.
 Adjustment and coordinate lists of Jamalpur pilot area.
 Adjustment and coordinate lists of Sirajgonj pilot area.
 Adjustment and coordinate lists of Tangail pilot area.

5. CONTROLLED PHOTO MOSAICS WITH CONTOURS

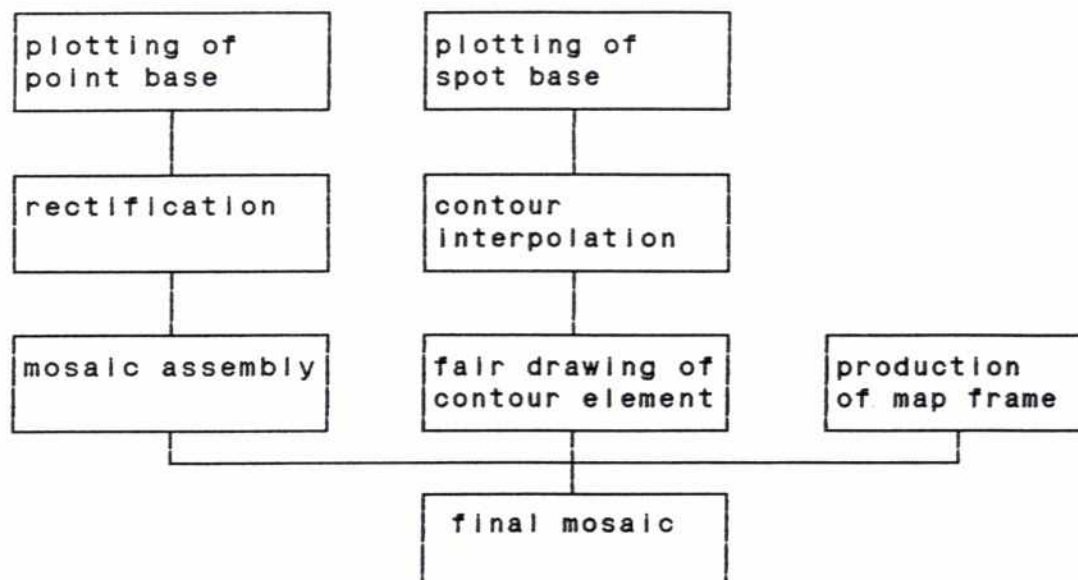
5.1. General

Production of controlled mosaic following aerial triangulation and computation of spot elevations involves following phases:

- plotting of point base for rectification
- rectification
- mosaic assembly
- plotting of spot base for contour interpolation
- contour interpolation
- fair drawing of contour overlay
- combining mosaic assembly and contour overlay

5.1. Mosaic Production

Diagram for mosaic production:



Plotting of point base was carried out using Wild TA10 plotting table with on-line connection with BC3 stereo-plotter.

Rectification was done using Wild E4 rectifier.

Spot base was plotted by transferring spot height locations from field copies and spot heights resulting from levelling adjustments on a transparent stable material.

In manual contour interpolation rectified mosaics and stereoscopic picture-pairs were used.

On final combination copies contours were superimposed in black over the controlled mosaic.

Mosaics were printed on high resolution photographic paper.

Appendix I: Jamalpur sheet index 1:20 000
 Sirajgonj sheet index 1:10 000
 Tangail sheet index 1:10 000

6. CHECKING OF WORKS

6.1. Technical Checking of National Board of Survey of Finland

National Board of Survey of Finland has carried out checking of following phases and approved them:

- aerial photography
- GPS-survey
- aerial triangulation
- second order levelling
- river crossing levelling
- third order levelling
- spot height levelling
- contour interpolation
- final mosaics

6.2. Technical Checking of Survey of Bangladesh

Survey of Bangladesh has carried out checking of following phases and approved them:

- second order levelling
- river crossing levelling
- contour interpolation
- final mosaics

After completion the checking of second order and river crossing levelling a clarification meeting was held in Survey of Bangladesh on the 28th of July 1993. In this meeting Survey of Bangladesh approved all second order levellings including river crossings.

The negligible difference of 3.1 cm over 2.7 km distance across river Padma was considered to be caused either by the long distance or that TBM-8201 was probably disturbed between the two levellings or both these factors together. Bench mark TBM-8201, which Survey of Bangladesh had used in their checking, was a lighter temporary bench mark, which had been build near river bank and had been submerged during the flood between the two levellings.

7. FINAL PRODUCTS

7.1. Ground Control Surveys

7.1.1. GPS-survey

- 3 sets of point description cards

7.1.2. Second order levelling

- 3 sets of bench mark description cards

7.1.3. Third order levelling

- 3 sets of bench mark description cards

7.2. Aerial Photographies

7.2.1. Black and White Photography

- original films
- 3 sets of contact prints

7.2.2. Infra Red Colour Photography

- original films
- 1 set of contact prints

7.3. Controlled Mosaics

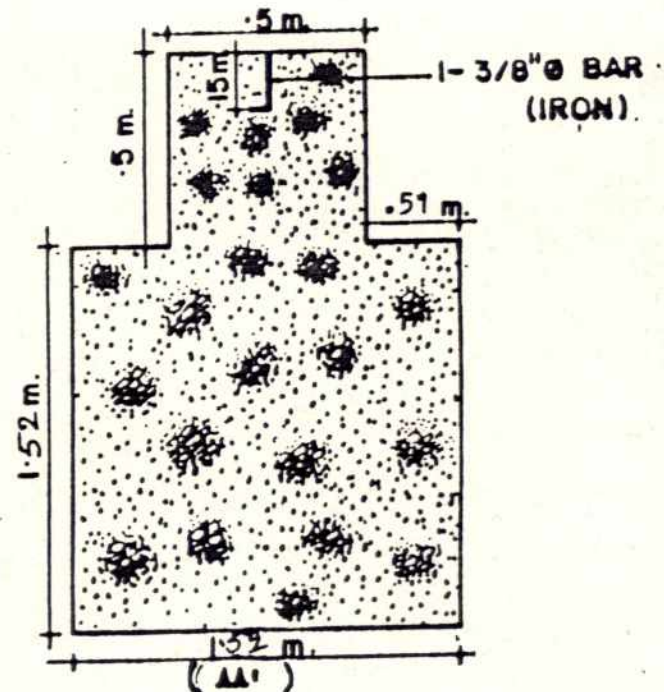
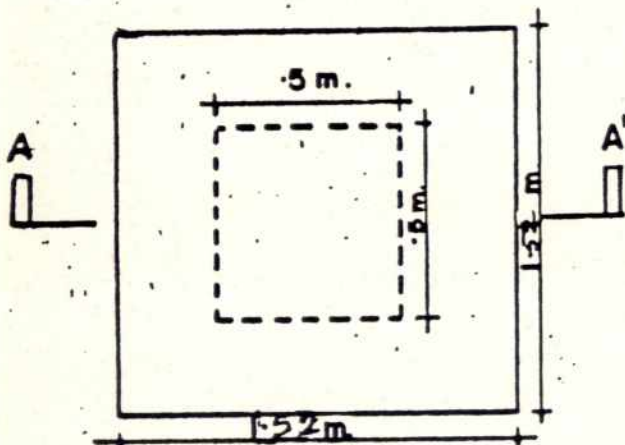
- mosaic negatives
- 1 set of controlled mosaics
- 6 sets of additional copies were printed on request

I. TRAVERSE PILLAR:

Base: 1.52 m x 1.52 m x 1.52 m

Top : 0.50 m x 0.50 m x 0.50 m

To be constructed at the site with standard finishing as per design below including the supply of all materials. Proportion of cement, sand and brick chips will be 1:2:4 respectively.

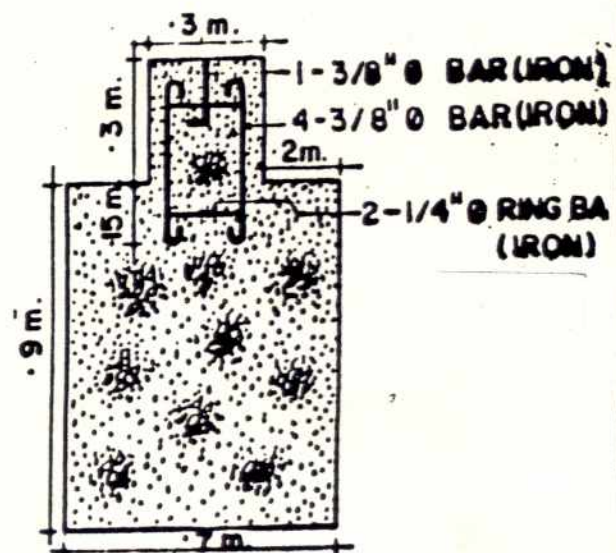
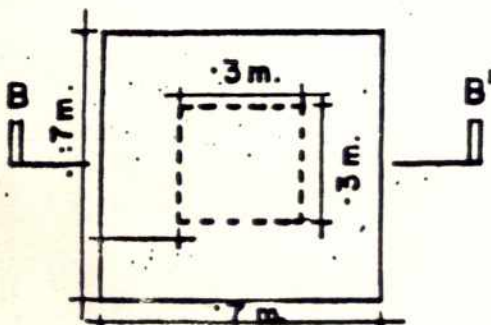


II. BENCH MARK:

Base: 0.7 m x 0.7 m x 0.7 m

Top : 0.3 m x 0.3 m x 0.3 m

To be constructed at the site with standard finishing as per design below including the supply of all materials. Proportion of cement, sand and brick chips will be 1:2:4 respectively.



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FLOOD ACTION PLAN
GPS STATIONS

The map illustrates the Ganges River and its tributaries in Bangladesh, with numerous GPS stations marked by numbers and symbols. Key locations labeled include Panchagarh, Thakurgaon, Dinajpur, Naogaon, Rajshahi, Bogra, Sirajganj, Pabna, Kushtia, Manikganj, and Dhaka. The map also shows the flood action plan and GPS stations.



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T R A N S F O R M A T I O N O N T H E E L L I P S O I D

P A R A M E T E R S O F T H E P R O J E C T I O N

A = 6377298.524

1/F = 300.8017

SCALE FACTOR = .99960

FALSE X OF EQUATOR = .000

FALSE Y OF SOURCE ZONE = 500000.000

FLOOD ACTION PLAN / GPS / PILLAR COORDINATES / 30479947 / 24 FEB 1993

POINT	ID	ZONE LONGIT/LATIT				MERCONV		Y	X
		DEG	DEC	MIN	SEC	MIN	SEC		
1	0	90.0	88 26	21 2	56.9665 12.1347	-43	2.9	336514.999	2880541.312
2	0	90.0	88 26	54 12	15.0003 55.5244	-29	2.9	390543.258	2899770.761
3	0	90.0	88 25	22 44	17.5346 27.5471	-42	26.7	336680.089	2847780.412
4	0	90.0	89 25	15 45	19.5059 6.5402	-19	24.7	425337.022	2848182.386
5	0	90.0	89 25	31 34	25.7366 12.0253	-12	19.9	452178.631	2827925.858
6	0	90.0	89 25	0 16	39.3188 50.1175	-25	20.7	400430.715	2796161.238
7	0	90.0	89 25	32 19	39.5663 39.2217	-11	41.8	454146.479	2801073.244
15	0	90.0	90 24	15 46	32.2801 5.3579	6	30.6	526177.564	2739082.884
17	0	90.0	89 24	15 38	11.4972 47.9782	-18	41.2	424434.803	2725812.309
18	0	90.0	88 24	42 47	10.9206 28.3587	-32	38.1	368913.763	2742232.916
19	0	90.0	88 24	28 30	28.8869 22.4260	-37	58.1	345481.084	2710912.724
20	0	90.0	88 24	46 22	22.8337 51.0763	-30	23.6	375582.134	2696729.126
21	0	90.0	89 24	24 1	39.4257 58.2973	-14	23.7	440109.920	2657779.100
22	0	90.0	89 24	56 21	27.2040 16.3396	-1	27.8	494005.260	2693267.010
23	0	90.0	90 23	13 54	55.1675 34.0090	5	38.5	523609.363	2644010.767
25	0	90.0	89 23	49 58	55.4370 7.1135	-4	5.6	482917.410	2650554.720
701	0	90.0	90 23	3 40	27.8687 23.2426	1	23.5	505886.869	2617831.254
702	0	90.0	89 23	55 44	50.5211 18.6277	-1	40.4	492938.246	2625069.867
703	0	90.0	89 23	50 36	46.7843 29.2308	-3	41.6	484325.108	2610642.684

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FLOOD ACTION PLAN / GPS / PILLAR COORDINATES / 30479947 / 24 FEB 1993

POINT	ID	ZONE LONGIT/LATIT				MERCONV		Y	X
		DEG	DEC	MIN	SEC	MIN	SEC		
704	0	90.0	89 23	38 32	20.4433 30.8415	-8	39.1	463159.571	2603350.278
705	0	90.0	89 23	29 46	1.1049 .0231	-12	29.2	447392.913	2628281.610
706	0	90.0	89 23	45 43	53.1498 28.5017	-5	40.7	476026.450	2623546.571
707	0	90.0	89 23	34 50	34.3585 11.3602	-10	16.6	456847.255	2635979.276
708	0	90.0	89 23	47 50	13.3646 8.9289	-5	9.8	478315.718	2635856.300
709	0	90.0	89 23	38 56	59.6099 58.0487	-8	31.6	464380.910	2648464.917
710	0	90.0	90 23	2 52	2.3845 49.7323		49.5	503460.452	2640785.228
711	0	90.0	90 24	14 2	32.4416 36.8126	5	55.5	524637.550	2658859.343
712	0	90.0	90 24	5 6	45.9981 7.6558	2	21.3	509766.454	2665325.188
713	0	90.0	89 24	57 4	51.1081 41.9007	-52.6		496361.110	2662685.210
714	0	90.0	89 24	40 5	40.0341 37.1107	-7	53.5	467255.496	2664420.121
715	0	90.0	89 24	21 12	59.5810 34.9094	-15	35.2	435683.863	2677376.373
716	0	90.0	89 24	34 17	32.2712 21.2498	-10	28.4	456939.585	2686101.749
717	0	90.0	89 24	42 14	8.6001 20.1277	-7	19.9	469789.830	2680498.463
718	0	90.0	89 24	51 15	19.6141 50.9612	-3	33.8	485329.654	2683267.182
719	0	90.0	89 24	50 12	24.6887 40.5469	-3	55.9	483774.528	2677413.218
720	0	90.0	89 24	52 12	48.3407 43.2134	-2	57.0	487826.013	2677491.163
721	0	90.0	89 24	53 9	5.3519 16.3463	-2	49.7	488300.536	2671129.199
722	0	90.0	89 24	55 8	57.4737 46.4600	-1	39.2	493156.583	2670206.979

FLOOD ACTION PLAN / GPS / PILLAR COORDINATES / 30479947 / 24 FEB 1993

POINT	ID	ZONE LONGIT/LATIT				MERCONV		Y	X
		DEG	DEC	MIN	SEC	MIN	SEC		
723	0	90.0	90	0	21.0761	8.6		500594.518	2674792.919
			24	11	15.6407				
724	0	90.0	89	59	49.0288	-4.5		499690.677	2681841.859
			24	15	4.8597				
725	0	90.0	89	59	57.5387	-1.0		499930.641	2688937.495
			24	18	55.5952				
726	0	90.0	89	55	23.3111	-1	54.0	492204.131	2691128.798
			24	20	6.7814				
727	0	90.0	89	51	33.7755	-3	28.8	485739.976	2694246.026
			24	21	47.9816				
728	0	90.0	90	12	28.1286	5	8.4	521076.771	2692620.866
			24	20	54.8576				
729	0	90.0	90	13	35.8401	5	34.6	523009.020	2677479.590
			24	12	42.4001				
730	0	90.0	89	40	34.2027	-8	3.4	467194.691	2709061.177
			24	29	48.7150				
731	0	90.0	89	42	29.5249	-7	14.4	470423.586	2701339.272
			24	25	37.8578				
732	0	90.0	89	41	3.1595	-7	49.9	467989.028	2700072.308
			24	24	56.4865				
733	0	90.0	89	35	59.6936	-9	55.2	459442.274	2699495.574
			24	24	37.0155				
734	0	90.0	89	32	59.3651	-11	10.2	454371.050	2701582.560
			24	25	44.3710				
735	0	90.0	89	35	49.0090	-10	1.2	459162.291	2706672.411
			24	28	30.3543				
736	0	90.0	89	35	43.7764	-10	4.9	459037.645	2714397.619
			24	32	41.5364				
737	0	90.0	89	34	50.5251	-10	28.6	457560.820	2721336.872
			24	36	27.0284				
738	0	90.0	89	38	59.5178	-8	44.6	464557.586	2719833.971
			24	35	38.7963				
739	0	90.0	89	40	47.5863	-7	59.3	467591.412	2717726.190
			24	34	30.4995				
740	0	90.0	89	32	6.0755	-11	34.9	452907.600	2712572.660
			24	31	41.5681				
741	0	90.0	89	24	59.8288	-14	36.7	440983.910	2728689.539
			24	40	24.1349				



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FLOOD ACTION PLAN / GPS / PILLAR COORDINATES / 30479947 / 24 FEB 1993

POINT	ID	ZONE LONGIT/LATIT				MERCONV		Y	X
		DEG	DEC	MIN	SEC	MIN	SEC		
742	0	90.0	89 24	49 34	45.6901 4.7380	-4	15.4	482723.220	2716906.980
743	0	90.0	89 24	55 37	39.0063 15.9812	-1	48.7	492662.947	2722779.619
744	0	90.0	90 24	1 36	45.9578 18.4460		44.1	502979.064	2721008.588
745	0	90.0	90 24	12 35	33.0216 23.5676	5	13.3	521174.220	2719336.650
746	0	90.0	90 24	11 28	41.3501 19.0140	4	50.5	519739.698	2706278.056
747	0	90.0	90 24	7 40	10.2682 23.2814	2	59.6	512090.690	2728543.130
748	0	90.0	89 24	59 47	25.4305 6.2768	-14.5		499029.455	2740931.650
749	0	90.0	89 24	49 45	12.2191 25.0283	-4	31.3	481809.300	2737829.757
750	0	90.0	89 24	37 47	3.8790 51.7217	-9	37.2	461368.840	2742383.291
751	0	90.0	89 24	22 50	41.6622 50.0124	-15	40.6	437188.737	2747955.687
752	0	90.0	89 25	22 1	14.0236 1.4459	-15	58.3	436500.227	2766764.560
753	0	90.0	89 24	33 59	37.5842 5.5372	-11	8.4	455644.478	2763124.124
754	0	90.0	89 24	42 58	5.8253 46.0985	-7	33.6	469889.393	2762487.530
755	0	90.0	89 24	43 53	21.4920 40.3160	-7	.3	471991.253	2753078.640
756	0	90.0	89 24	53 53	15.7641 48.7953	-2	50.2	488661.180	2753315.560
757	0	90.0	89 25	47 1	37.8441 27.4524	-5	13.9	479203.920	2767432.717
758	0	90.0	89 25	58 2	26.8749 5.2346	-39.4		497390.751	2768579.143
759	0	90.0	90 24	4 51	30.7376 26.9288	1	53.8	507596.600	2748949.920
760	0	90.0	90 24	12 52	20.8393 36.1028	5	11.6	520783.946	2751090.946

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FLOOD ACTION PLAN / GPS / PILLAR COORDINATES / 30479947 / 24 FEB 1993

POINT	ID	ZONE LONGIT/LATIT				MERCONV		Y	X
		DEG	DEC	MIN	SEC	MIN	SEC		
761	0	90.0	90	11	38.0448 25 7 56.7010	4	56.5	519542.860	2779402.470
762	0	90.0	90	5	27.6995 25 12 51.2700	2	19.6	509168.330	2788451.260
763	0	90.0	89	53	11.3076 25 9 32.0165	-2	53.7	488560.492	2782324.745
764	0	90.0	89	42	47.3101 25 7 26.1286	-7	18.5	471086.185	2778478.880
765	0	90.0	89	31	43.9359 25 9 47.7074	-12	1.2	452527.668	2782885.505
766	0	90.0	89	21	19.7082 25 16 51.6895	-16	30.9	435117.823	2795998.398
767	0	90.0	89	47	40.6423 25 19 48.1051	-5	16.3	479333.952	2801284.308
768	0	90.0	89	47	2.2823 25 29 52.8266	-5	34.8	478291.830	2819885.430
769	0	90.0	89	51	19.5441 25 39 46.5684	-3	45.4	485492.600	2838137.800
770	0	90.0	89	42	6.4224 25 40 50.3959	-7	45.2	470079.020	2840126.820
771	0	90.0	89	20	42.8137 25 33 46.9186	-16	57.2	434239.316	2827230.012
772	0	90.0	89	26	37.0366 25 48 13.1133	-14	31.9	444233.757	2853828.153
773	0	90.0	89	26	12.4428 25 54 25.1438	-14	45.9	443598.065	2865274.594
774	0	90.0	89	38	41.5778 25 48 43.3230	-9	16.7	464409.053	2854687.522
775	0	90.0	89	45	5.1561 25 55 1.1664	-6	31.1	475109.820	2866285.090
776	0	90.0	89	47	4.6304 26 4 16.0089	-5	40.8	478461.140	2883345.860
777	0	90.0	89	43	28.0701 25 47 3.9132	-7	11.5	472378.570	2851610.690
778	0	90.0	89	39	45.8166 25 35 5.7874	-8	44.3	466133.269	2829536.723
779	0	90.0	89	35	5.5004 25 6 44.6253	-10	34.3	458152.135	2777236.029

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FLOOD ACTION PLAN / GPS / PILLAR COORDINATES / 30479947 / 24 FEB 1993

POINT	ID	ZONE LONGIT/LATIT				MERCONV		Y	X
		DEG	DEC	MIN	SEC	MIN	SEC		
780	0	90.0	89 48 59.7692 24 28 27.3987			-4	33.5	481417.960	2706534.330
781	0	90.0	89 49 18.0631 23 47 30.9626			-4	19.0	481836.721	2630993.891
782	0	90.0	89 24 12.0239 23 51 25.1230			-14	28.8	439253.713	2638310.956
783	0	90.0	89 20 49.4703 23 55 45.8488			-15	53.4	433562.200	2646354.080
784	0	90.0	89 13 35.3201 23 55 22.9140			-18	49.3	421286.605	2645710.734
785	0	90.0	89 11 46.8426 23 51 55.2392			-19	30.6	418183.897	2639341.277
786	0	90.0	89 7 48.5207 23 55 40.3989			-21	10.2	411486.599	2646305.468
787	0	90.0	89 1 15.8955 24 1 6.7386			-23	54.5	400457.770	2656414.370
788	0	90.0	89 2 56.0025 24 4 48.0005			-23	17.1	403331.617	2663199.710
789	0	90.0	89 14 38.0415 24 6 35.7349			-18	31.9	423170.733	2666392.406
790	0	90.0	89 9 46.3752 24 18 32.8873			-20	40.7	415070.017	2688494.593
791	0	90.0	89 8 30.6304 24 30 10.6222			-21	21.4	413068.084	2709966.470
792	0	90.0	89 7 21.8292 24 38 49.9604			-21	57.1	411233.703	2725951.303
793	0	90.0	88 56 51.6719 24 39 7.0918			-26	20.3	393524.793	2726602.614
794	0	90.0	88 58 1.4388 24 24 30.5278			-25	36.8	395283.998	2699627.632
795	0	90.0	88 50 57.3762 24 31 2.2096			-28	39.2	383441.442	2711768.684
796	0	90.0	88 33 21.0339 24 22 35.6336			-35	46.2	353553.456	2696466.084
797	0	90.0	88 19 30.0663 24 28 4.7807			-41	38.1	330264.722	2706854.233
798	0	90.0	88 34 55.4472 24 35 33.2741			-35	24.7	356458.676	2720358.344

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FLOOD ACTION PLAN / GPS / PILLAR COORDINATES / 30479947 / 24 FEB 1993

POINT	ID	ZONE LONGIT/LATIT				MERCONV		Y	X
		DEG	DEC	MIN	SEC	MIN	SEC		
799	0	90.0	88 24	13.7955		-39	54.9	338454.628	2724198.205
			24 37	31.6780					
800	0	90.0	88 19	35.7486		-42	9.2	330896.965	2745620.951
			24 49	5.0442					
801	0	90.0	88 56	47.6405		-26	31.6	393548.068	2744358.691
			24 48	44.3564					
802	0	90.0	89 10	35.9797		-20	47.1	416845.565	2751607.608
			24 52	45.2394					
803	0	90.0	89 7	22.0120		-22	16.5	411515.492	2768959.453
			25 2	8.2876					
804	0	90.0	88 44	53.2864		-31	39.0	373602.007	2756265.211
			24 55	5.9371					
805	0	90.0	88 45	15.4241		-31	39.0	374355.594	2770700.990
			25 2	55.4289					
806	0	90.0	88 35	48.3066		-35	45.3	358552.931	2779349.694
			25 7	31.5256					
807	0	90.0	89 1	19.0621		-24	58.6	401467.738	2785929.165
			25 11	17.7296					
808	0	90.0	88 59	46.9918		-25	49.6	399062.080	2808805.027
			25 23	40.8163					
809	0	90.0	89 4	32.6213		-23	48.3	407060.032	2811313.177
			25 25	4.2292					
810	0	90.0	89 19	2.8979		-17	34.7	431369.520	2811197.861
			25 25	5.2370					
811	0	90.0	89 16	34.3514		-18	44.7	427312.498	2828182.210
			25 34	16.7054					
812	0	90.0	89 3	33.1407		-24	27.5	405599.681	2839729.442
			25 40	27.6559					
813	0	90.0	88 57	18.5511		-26	59.4	395004.448	2820283.362
			25 29	52.9371					
814	0	90.0	88 45	40.5748		-32	2.9	375563.682	2825177.372
			25 32	26.5960					
815	0	90.0	88 54	53.8765		-28	11.4	391108.611	2837786.088
			25 39	20.8764					
816	0	90.0	88 37	56.2866		-35	28.7	362687.881	2833185.658
			25 36	42.7860					
817	0	90.0	89 7	26.2230		-22	54.1	412209.390	2856662.137
			25 49	39.5748					

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FLOOD ACTION PLAN / GPS / PILLAR COORDINATES / 30479947 / 24 FEB 1993

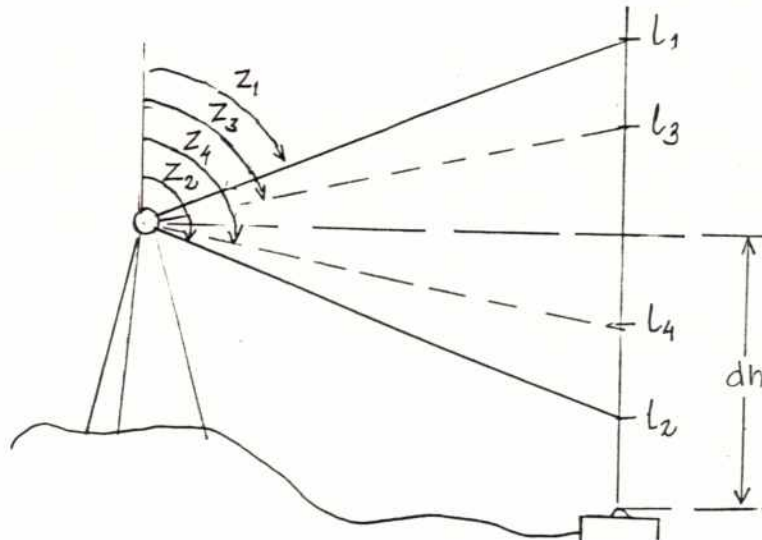
POINT	ID	ZONE LONGIT/LATIT				MERCONV		Y	X
		DEG	DEC	MIN	SEC	MIN	SEC		
818	0	90.0	88 52	47.2034		-29	13.7	387687.350	2850815.780
			25 46	23.4866					
819	0	90.0	88 40	30.7867		-34	32.8	367158.348	2849233.356
			25 45	25.8617					
820	0	90.0	88 32	8.5994		-38	8.2	353125.119	2845463.879
			25 43	18.5244					
821	0	90.0	88 52	.8223		-29	43.6	386540.505	2867636.884
			25 55	29.9338					
822	0	90.0	88 44	6.1305		-33	10.8	373330.726	2867209.432
			25 55	12.1114					
823	0	90.0	88 39	28.5416		-35	7.7	365540.871	2860672.130
			25 51	37.1172					
824	0	90.0	88 22	11.0360		-42	43.0	336700.849	2864067.802
			25 53	16.8643					
825	0	90.0	88 31	31.5602		-38	44.4	352392.784	2872195.048
			25 57	47.0324					
826	0	90.0	88 15	19.9688		-45	43.9	325279.336	2865585.166
			25 54	1.3987					
827	0	90.0	88 28	2.8442		-40	21.1	346666.866	2878957.604
			26 1	24.6696					
828	0	90.0	88 33	31.0844		-38	11.0	356001.336	2897887.402
			26 11	43.3340					
829	0	90.0	88 24	47.6162		-42	.3	341444.217	2895760.748
			26 10	28.7037					
830	0	90.0	88 45	44.6633		-32	41.6	376279.079	2889060.373
			26 7	3.2416					

Simultaneous Reciprocal Trigonometric Method

In simultaneous reciprocal trigonometric method height transfer happens in two phases: First height transfer from bench marks to theodolites at both ends and secondly height transfer across from theodolite to theodolite. In the latter vertical angles are observed from both ends simultaneously to eliminates effects of earth curvature and refraction.

1. Height Transfer from Bench Mark to Theodolite

Four fixed target lines are observed as shown in picture 1.



Picture 1.

Height transfer from bench mark to theodolite.

Height difference dh is computes from observations twice:

$$dh_1 = \frac{l_1 \cot z_4 - l_4 \cot z_1}{\cot z_4 - \cot z_1}$$

$$dh_2 = \frac{l_2 \cot z_3 - l_3 \cot z_2}{\cot z_3 - \cot z_2}$$

$$dh = \frac{dh_1 + dh_2}{2} + h_{cur} + K_{ref}$$

$$h_{cur} = - \frac{s_{st}^2}{2R}$$

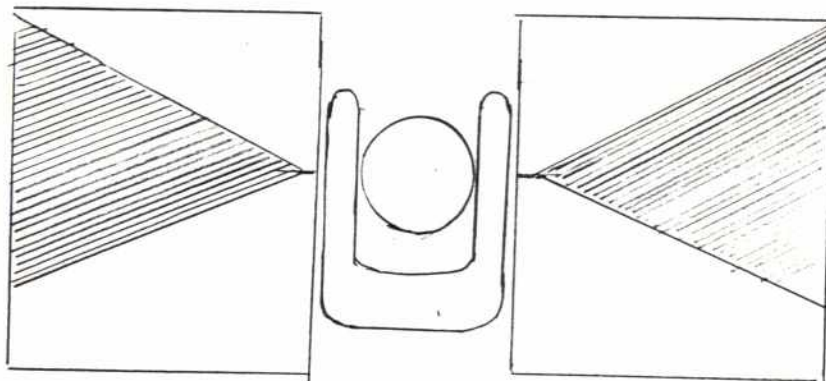
$$K_{ref} = \frac{k s_{st}^2}{2R}$$

where s_{st} = instrument-staff distance
 R = radius of earth
 k = refraction co-efficient

h_{cur} and K_{ref} are negligible.

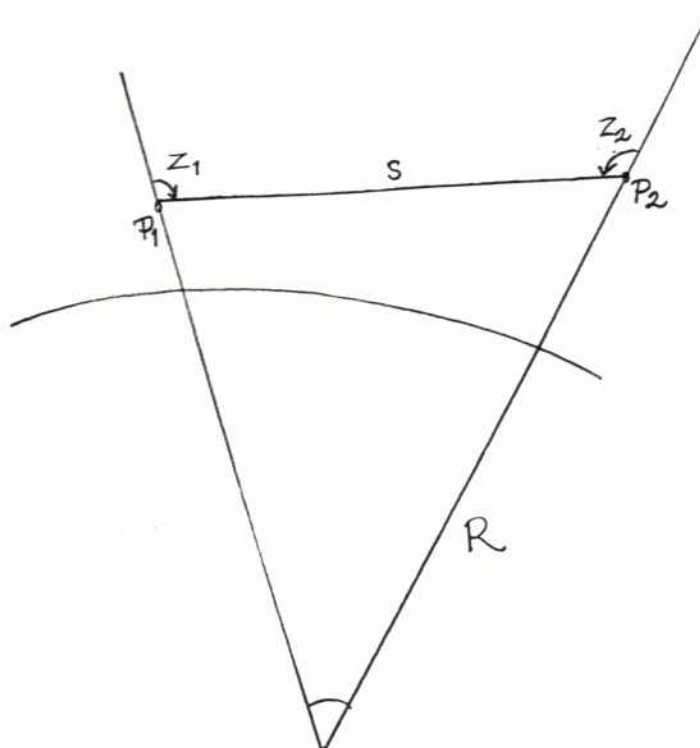
2. Height Transfer from Theodolite to Theodolite

Distance between theodolites is observed only once. For angle measurements of long distances centric targets were attached to the theodolites. The target set-up is shown in picture 2.



Picture 2.
 Centric target.

Following formula for the height difference between theodolites can be derived.



Picture 3.
Height transfer between theodolites.

$$dh = \frac{s}{2} (\cos z_1 - \cos z_2) - K_{ref}$$

$$\text{where } K_{ref} = \frac{s^2 \sin z_2^2}{4R} dK$$

$$dK = K_1 - K_2$$

For sufficiently simultaneous observations $K_{ref} = 0$.

2.10.1981

16)

VERTICAL GROUND CONTROL
ADJUSTMENT

VERTICAL GROUND CONTROL ADJUSTMENT
METHOD DESCRIPTION

Contents:

- 1 Introduction
- 2 Source Data
- 3 Adjustment
- 4 Output
- 5 Formulas



1 Introduction

Vertical ground control adjustment is computed in VAX 11/780. The adjustment is performed by the method of least squares, i.e. the square sum of weighted residuals is minimized.

2 Source Data

As a source data it can be used the data of

- precise levelling,
- photo control point levelling and
- trigonometric levelling.

The input-file consists of

- numbers of junction Bench Marks,
- run constants and
- observation data.

Run constants indicate for example whether the levelling line is

- a double levelled or not and
- a rod coefficient is used or not.

Observation data depends on the run constants, but it always includes the following information:

- numbers of Bench Marks,
- levelling distances,
- number of set-ups in each levelling side and
- observed height differences.

3 Adjustment

The adjustment can be performed according to

- the distances or
- instrument set-ups

between two successive Bench Marks.

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4 (6)

The computation is divided into three different stages.

A Computation of approximate elevations.

Approximate source elevations are computed directly from observations for all junction Bench Marks and other end points in the net.

B Adjustment by the method of least squares.

An observation equation (1) is built up for each leveling line. A line is handled as a single height difference including the orthometric correction (2) between end points and weighted as described above by summarizing the weight units of the whole line. Normal equations in the case there exist junction Bench Marks in the net are solved by inverting the normal equation matrix. If any of the improvements to the source elevation exceeds 1 mm the procedure is repeated employing the improved approximate source elevations. Finally the last improvements are added to the approximate elevations.

C Computation of lines.

As a result of previous stage each line has got the final elevations for end points. Elevations for intermediate points are computed line by line adjusting the closure error in respect to the inverse of the distance or instrument set-ups and taking into account the orthometric correction for each Bench Mark.

4

Output

In the beginning of the output list there are listed the first and last Bench Marks of each section and line with their number, elevation, and especially regarding junction Bench Marks the total correction to the approximation. Standard error in respect to the weight unit is at the end of this list.

Lines are listed in sequence of source data. Output of a line includes following information:

- adjusted elevations for all Bench Marks, observed height differences added by orthometric correction and distances of instrument set-ups which ever are used as weight
- information of the accuracy of the line;
- closing errors and
- mean errors.

5 Formulas

(1) Observation Equations

$$v = -dZ_i + dZ_j + (h_{appr} - h_{obs})$$

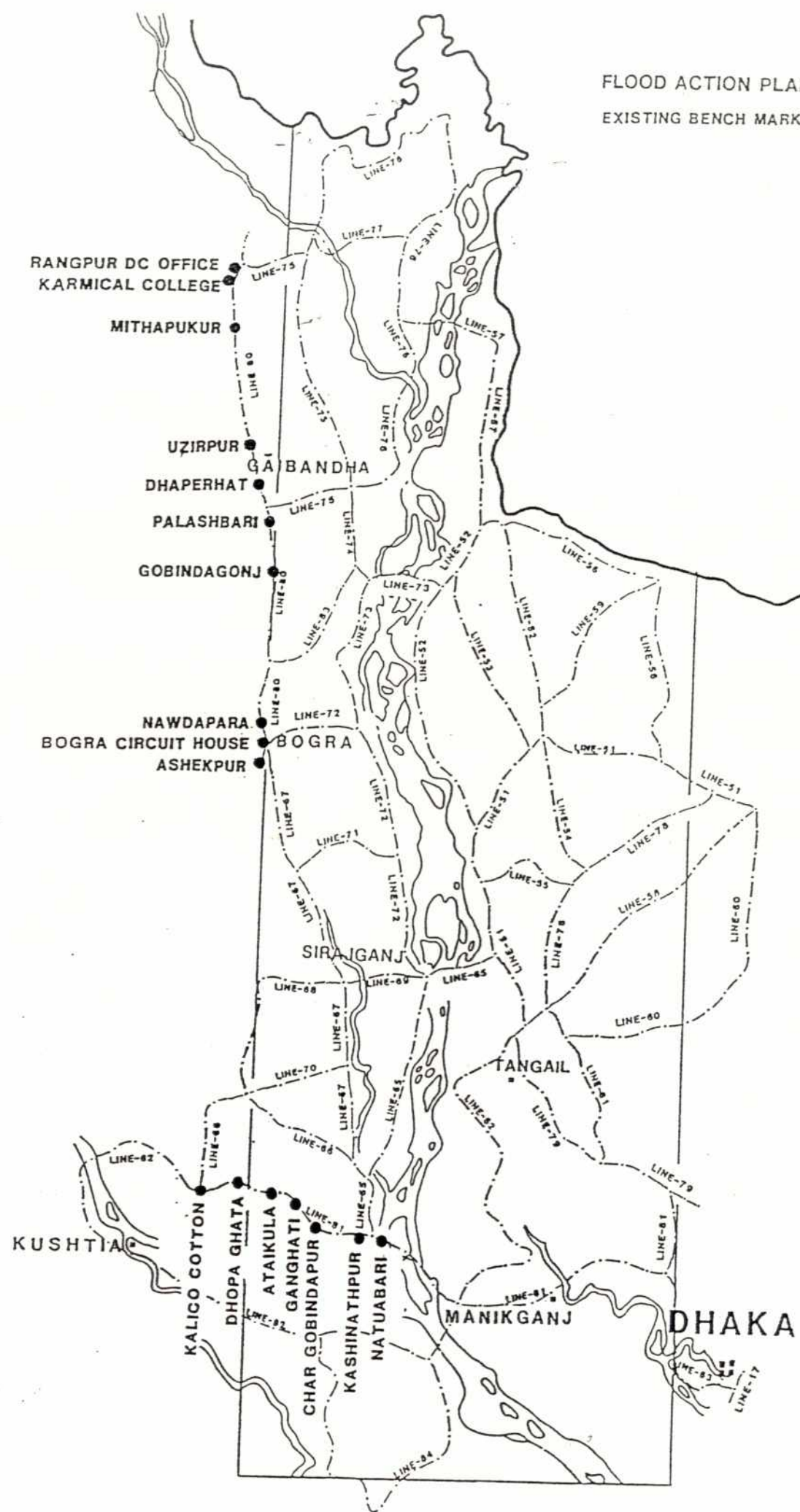
dZ_i, dZ_j unknown corrections of the approximate coordinates of the unknown Bench Marks

h_{appr} height differences between Bench Marks i and j computed with the approximate coordinates of the unknown Bench Marks and with the fixed coordinates of the fixed Bench Marks.

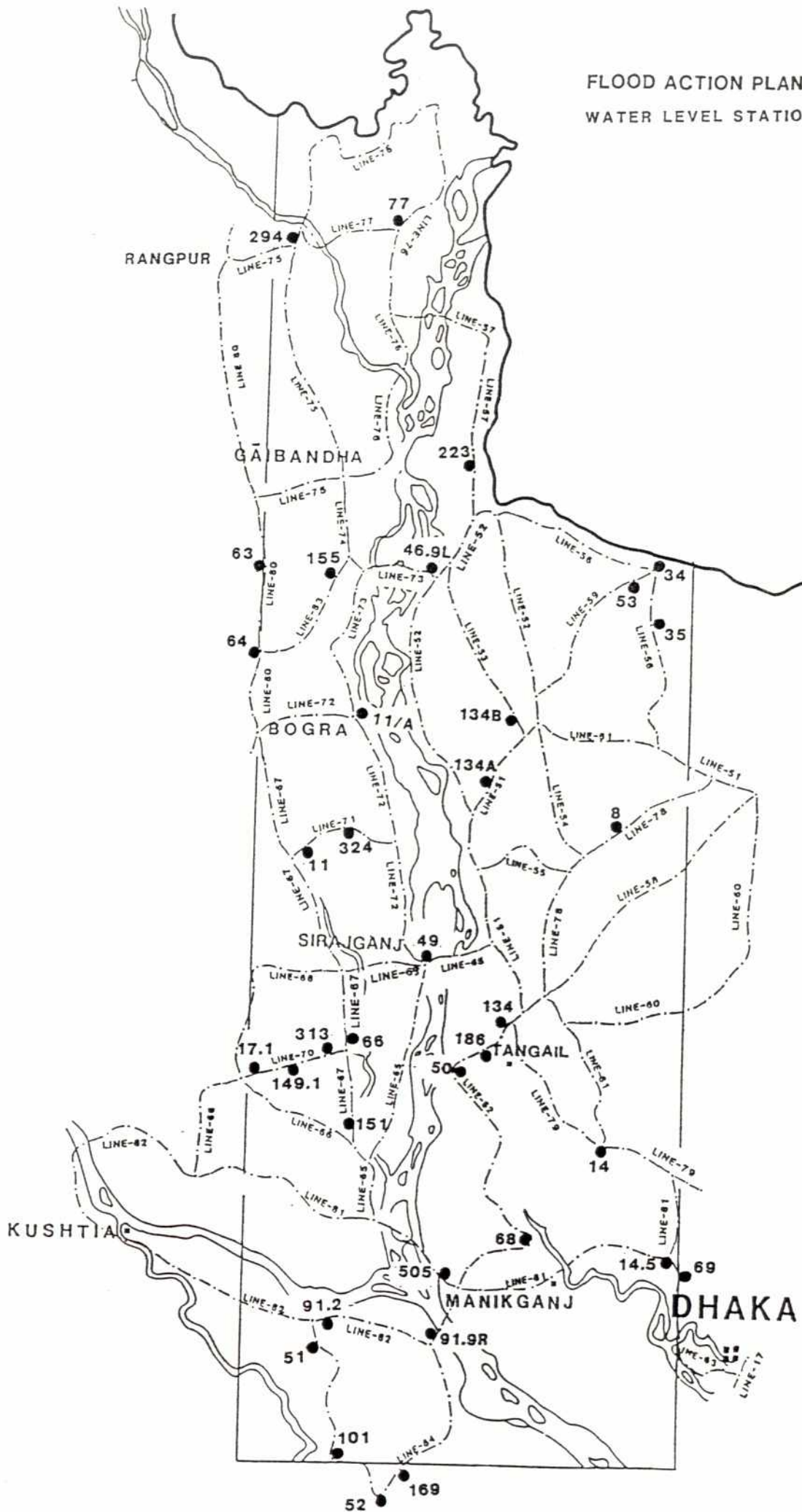
h_{obs} the observed height difference (including the orthometric correction) between Bench Marks i and j

v correction of the observation h_{obs} after the adjustment

FLOOD ACTION PLAN EXISTING BENCH MARKS



FLOOD ACTION PLAN WATER LEVEL STATIONS



VERTICAL GROUND CONTROL ADJUSTMENT

CLIENT FINNIDA

SUPERVISOR NATIONAL BOARD OF SURVEY OF FINLAND
BANGDAESH INLAND WATER TRANSPORT AUTHORITY
SURVEY OF BANGLADESH

CONTRACT BANGLADESH MAPPING FOR DEVELOPMENT 1:10 000,
FIRST PHASE: COASTAL AREA
and extension for
FLOOD ACTION PLAN

2 ND ORDER LEVELLING connection to following Bench Marks:

NAME OF LOCATION	NUMBER IN ADJUSTMENT
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in LINE 80

Rangpur DC Office	108001
Karmical Collage	108016
Mithapukur	108003
Uzirpur	108004
Dhaperhat	108005
Palasbari	108006
Gobindagonj	108008
Nawdapara	108009
Bogra Circuit House	300751
Ashekpur	108010

in LINE 81

Kalico Cotton	108101
Dhopa Ghata	108103
Ataikula	108105
Gang Hati	108106
Char Gobindapur	108108
Kashinatpur	108109
Natuabari	108110

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

FINNMAP ** VERTICAL GROUND CONTROL ADJUSTMENT ** FINNMAP

FLOOD ACTION PLAN, 2ND ORDER LEVELLING

FINAL ELEVATIONS OF THE 1ST AND LAST BM OF EACH SECTION AND LINE

BM	ELEVATION M	CORRECTION M	ST.ERROR M
108001	31.9897		
108003	28.5558		
108004	24.5394		
108005	24.4056		
108006	22.7643		
108008	20.9199		
108009	19.9955		
108010	18.1542		
108016	32.1186		
108101	12.2572		
108103	11.7488		
108105	11.3980		
108106	12.3837		
108108	13.6925		
108109	10.4973		
108110	12.6870		
300751	19.1177		
300004	32.8711	-.0018	.0036
300766	22.7823	.0102	.0018
300752	18.5769	.0067	.0106
7507	21.1633	-.0363	.0142



7524	29.9710	-.0568	.0159
7615	25.8210	-.0444	.0216
300774	28.0932	-.0466	.0217
300772	30.3051	-.0315	.0179
7305	18.0766	-.0071	.0166
300765	19.8977	-.0121	.0154
7218	17.2272	-.0511	.0156
7209	14.6952	-.0546	.0180
7201	13.5159	-.0427	.0169
6721	15.6298	.0260	.0162
300734	12.9317	-.0358	.0167
300716	12.5247	-.0252	.0175
6602	11.5074	-.0021	.0151
6612	11.9968	-.0198	.0164
6524	11.1910	-.0006	.0135
6529	10.5352	-.0021	.0027
300705	10.2896	.0308	.0269
300706	9.2645	.0515	.0232
300708	10.0502	-.0143	.0186
6230	9.1212	-.0152	.0197
8137	12.0469	-.0078	.0281
300711	8.4958	-.0054	.0278

300712	9.7965	-.0027	.0258
300726	12.5542	-.0465	.0218
5101	11.8550	-.0463	.0217
6103	9.8932	-.0256	.0245
5802	11.4594	-.0701	.0224
5109	14.1906	-.0602	.0199
5113	14.6839	-.0803	.0212
5115	15.6931	-.0822	.0218
5125	16.7657	-.0943	.0220
5126	17.2161	-.0947	.0220
5133	15.3970	-.1096	.0248
5138	14.6329	-.1008	.0250
5821	11.1413	-.1048	.0262
5411	12.4659	-.0708	.0231
300744	12.6169	-.0685	.0229
300764	19.8489	.0090	.0196
5219	20.0864	.0161	.0205
5220	20.4120	.0196	.0214
5225	22.0671	.0343	.0224
5226	21.8721	.0365	.0228
5239	18.3415	.0314	.0234
5613	28.0822	.0378	.0262

5314	20.6711	.0196	.0236
105201	21.3985	.0365	.0229
300017	14.8443	.0000	.0200
107501	33.5970	-.0018	.0121
300001	8.7823	-.0078	.0453
300022	11.2089	-.0763	.0221
107905	13.0261	-.0054	.0300
107802	12.5369	-.0828	.0256
107803	13.1000	-.0700	.0230
106401	6.9731	.0469	.0292
7652	30.6997	-.0318	.0168
900294	30.4490	-.0318	.0175
7621	29.1920	-.0463	.0224
900077	26.5868	-.0463	.0227
900063	20.2103	.0000	.0088
8308	22.2928	-.0077	.0162
900155	21.9959	-.0077	.0162
900064	18.2566	.0067	.0146
900111	16.4469	-.0511	.0156
7105	15.0307	-.0613	.0189
900324	14.6893	-.0613	.0189
7109	14.5259	.0279	.0173

900110	13.6482	.0279	.0173
900049	13.0779	-.0427	.0170
6708	14.4628	-.0264	.0178
900066	12.7245	-.0264	.0181
7006	12.3934	-.0235	.0186
900313	13.6043	-.0235	.0191
7003	12.4310	-.0214	.0181
901491	12.0060	-.0214	.0181
7001	11.8602	-.0204	.0173
900171	11.5618	-.0204	.0173
6701	11.1497	-.0031	.0162
900151	11.1232	-.0031	.0162
8213	11.1915	.0487	.0269
900912	10.4394	.0487	.0280
8204	9.0134	-.0180	.0224
900919	9.9559	-.0180	.0232
6403	9.3896	.0326	.0288
900051	9.0774	.0326	.0288
6411	9.9901	.0372	.0317
900101	8.3935	.0372	.0325
6419	8.3913	.0432	.0315
900169	7.1908	.0432	.0315

6417	7.8512	.0420	.0319
900052	7.6306	.0420	.0319
6313	7.5213	-.0078	.0315
900069	7.5192	-.0078	.0315
900145	8.6691	-.0078	.0290
6223	9.0630	-.0227	.0249
900068	9.6581	-.0227	.0249
8122	9.7428	-.0128	.0181
900505	9.4870	-.0128	.0181
900014	8.8732	-.0027	.0261
6205	12.4746	-.0405	.0253
900050	11.8051	-.0405	.0253
6203	12.1484	-.0424	.0244
900186	11.8418	-.0424	.0244
6201	11.3726	-.0448	.0230
901340	13.4229	-.0448	.0263
5119	16.2668	-.0870	.0233
901341	17.6086	-.0870	.0236
900008	13.3851	-.0828	.0260
5302	18.5135	-.0959	.0230
901342	19.9821	-.0959	.0235
5617	17.7926	.0556	.0275

900035	17.2081	.0556	.0276
5614	23.8237	.0413	.0267
900034	23.5268	.0413	.0267
5912	27.0150	.0375	.0264
900053	26.8473	.0375	.0264
5704	22.4825	-.0464	.0240
900223	22.0086	-.0464	.0240
5244	19.3970	.0080	.0195
900469	21.3015	.0080	.0195

ST.ERROR OF ONE KM LEVELLING IN THE NET 4.39 MM

LINE 73A Bahadurabad crossing

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
300764	TIE	19.8489			
			1.010	10	-.4509
5244	TIE	19.3970	.152	2	.1714
205244		19.5682	2.399	1	-4.1045
207301		15.4612	1.636	17	1.9322
207302		17.3917	1.517	1	2.0315
207303		19.4216	2.160	21	-.3806
207304		19.0387	.496	6	.4387
207305		19.4769	1.530	16	-.4111
7303		19.0642	2.320	1	.3475
207306		19.4093	2.212	24	-1.3304
7305	TIE	18.0766			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
1.01	10	.11	1.0
14.42	89	.17	1.0

WHOLE LINE

15.43	99	.16	1.0
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CLOSING ERRORS=
 = 16.1 MM
 4.1 MM/SQRT(KM)

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 73B

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
7305	TIE	18.0766			
			2.884	30	.8694
7306		18.9446			
			3.370	34	.9297
300779		19.8727			
			2.918	30	-.6759
7307		19.1953			
			2.938	31	-.3127
7308		18.8812			
			3.070	32	-1.2295
7309		17.6502			
			2.792	30	.1742
7310		17.8231			
			2.006	22	.5406
7311		18.3627			
			2.920	32	-.2727
7312		18.0886			
			2.784	32	-.7209
300753		17.3663			
			3.570	40	-.5661
7313		16.7985			
			3.384	36	1.1872
7314		17.9841			
			3.350	36	-.4387
7315		17.5437			
			3.554	37	-.3148
7218	TIE	17.2272			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
39.54	422	.05	.5

WHOLE LINE

39.54	422	.05	.5
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CLOSING ERRORS=
= 19.2 MM
3.1 MM/SQRT(KM)

LINE 60

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
6103 TIE	9.8932	3.580	37	-.1780
6001	9.7145	3.700	40	.2299
6002	9.9437	3.090	34	6.5351
6003	16.4783	3.550	41	4.6276
6004	21.1052	2.640	27	-2.0707
6005	19.0340	2.750	28	.0238
300728	19.0573	1.820	19	-.2972
6006	18.7598	3.420	35	-2.2141
6007	16.5450	3.570	36	-.8660
6008	15.6784	3.150	32	-2.3931
6009	13.2847	3.420	35	-3.8114
6010	9.4727	2.660	28	-.3456
6011	9.1266	2.570	25	1.3870
6012	10.5131	2.900	29	-.1548
6013	10.3578	2.810	29	-.3860
6014	9.9713	2.990	30	.1431
6015	10.1138	2.700	27	.7791
6016	10.8924	2.910	30	.1889
6017	11.0808	3.010	31	1.8044
6018	12.8846	3.490	36	.2172
6019	13.1012	3.100	31	-.5352
6020	12.5654	2.730	28	.6656
6021	13.2305	2.960	30	-.8170
6022	12.4130	3.080	32	-.6629
6023	11.7495	2.580	26	1.9555
6024	13.7045	2.680	30	-2.5627
5821 TIE	11.1413			

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
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77.86	806	.02	.2
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WHOLE LINE

77.86	806	.02	.2
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CLOSING ERRORS=	14.3 MM
=	1.6 MM/SQRT(KM)



LINE 52A

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5115	TIE	15.6931			
			1.606	16	-.4516
5201		15.2416			
			2.748	28	-.1510
5202		15.0909			
			4.310	43	.1322
5203		15.2236			
			2.090	22	-.0105
5204		15.2133			
			6.094	65	.8197
5205		16.0336			
			2.096	22	.2165
5206		16.2503			
			3.852	41	.2344
5207		16.4851			
			1.796	18	.2252
5208		16.7105			
			4.378	45	-2.2240
5209		14.4870			
			2.430	25	2.0192
5210		16.5064			
			1.980	21	1.6371
300755		18.1437			
			3.280	34	-.2337
5211		17.9104			
			3.020	32	.5540
5212		18.4647			
			2.562	27	-.3872
5213		18.0777			
			2.210	23	-.3778
300754		17.7002			
			4.450	45	.6925
5214		18.3931			
			2.160	23	.2129
5215		18.6062			
			3.700	38	-.1523
5216		18.4543			
			4.030	44	2.5601
5217		21.0148			
			2.600	26	-1.1662
300764	TIE	19.8489			
			3.230	33	.8116
5218		20.6642			
			2.970	30	-.5812
5219	TIE	20.0864			
			4.040	41	.3221
5220	TIE	20.4120			
			3.940	42	.8734
5221		21.2887			
			3.020	30	-.9572
5222		20.3341			
			3.150	36	1.7849
5223		22.1217			
			4.540	46	-1.5934
5224		20.5322			
			2.570	28	1.5327

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

5225	TIE	22.0671			
5226	TIE	21.8721	2.690	28	-.1972
5227		21.2097	2.600	26	-.6620
5228		21.1105	2.710	29	-.0988
5229		20.2000	2.640	27	-.9102
5230		20.7498	2.850	29	.5502
5231		20.4678	2.810	29	-.2816
300763		17.8404	1.020	10	-2.6273
5232		19.8935	2.280	23	2.0535
5233		19.5490	2.820	28	-.3442
5234		18.6262	2.770	28	-.9224
5235		18.9637	2.850	29	.3379
5236		18.4857	3.110	32	-.4776
5237		17.2024	2.700	28	-1.2829
5238		17.6396	2.530	26	.4375
5239	TIE	18.3415	3.020	31	.7024
5240		16.3477	.940	10	-1.9936
5241		16.1653	1.860	19	-.1818
5242		19.1051	2.070	21	2.9405
5243		16.4873	1.480	15	-2.6174
5126	TIE	17.2161	2.146	22	.7295

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
61.39	638	-.01	-.1
6.20	63	-.11	-1.1
4.04	41	-.08	-.9
17.22	182	-.08	-.9
2.69	28	-.08	-.8
36.71	375	.01	.1
8.50	87	.03	.3

WHOLE LINE

136.75	1414	-.02	-.2
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FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

LINE 52B

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5314	20.6711			
		5.270	55	-.2591
5220 TIE	20.4120			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
5.27	55	.00	.0

WHOLE LINE

5.27	55	.00	.0
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CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 52C

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
105201	21.3985			
		.333	6	.4736
5226 TIE	21.8721			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.33	6	.00	.0

WHOLE LINE

.33	6	.00	.0
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CLOSING ERRORS=
=

.0 MM
.0 MM/SQRT(KM)

Pf

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

LINE 65A Sirajgonj crossing

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5109	TIE	14.1906			
			5.520	57	.1049
300780		14.2998	6.846	70	-.8090
6501		13.4961	1.913	1	-1.0310
206501		12.4666	1.794	18	.7692
6503		13.2372	1.077	1	.7665
6504		14.0046	2.816	29	-.8399
206502		13.1669	1.960	1	1.4975
6506		14.6659	.532	6	-1.1504
7201	TIE	13.5159			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
22.46	183	-.10	-.8

WHOLE LINE

22.46	183	-.10	-.8
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CLOSING ERRORS= -17.5 MM
= -3.7 MM/SQRT(KM)

LINE 65B

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
7201	TIE	13.5159			
			2.164	23	.1634
6507		13.6811	2.372	24	-.0734
300731		13.6097	2.992	32	-.9060
6508		12.7062	2.810	29	.4142
6509		13.1227	2.994	30	.0911
6510		13.2163	3.020	31	.0464
6511		13.2652	3.034	32	-1.4463
6512		11.8214	2.430	27	.3548
6513		12.1782	2.348	24	.9591
6514		13.1393	2.360	24	-.3048
300717		12.8364	2.960	30	-.8306
6515		12.0083	2.916	30	-.8457
6516		11.1650	2.850	29	1.7128
6517		12.8802	1.948	22	-1.9894
6518		10.8924	2.990	29	.1692
6519		11.0641	2.930	30	-.5383
6520		10.5282	2.084	21	.1813
6521		10.7112	2.338	26	-.2774
6522		10.4358	.813	1	1.0625
6523		11.4990	2.350	25	-.3099
6524	TIE	11.1910	2.670	29	-.0610
6525		11.1329	2.868	30	-.0922
6526		11.0439	2.786	27	.0910
6527		11.1380	2.890	30	-.1117
6528		11.0294	2.466	25	-.4969
6529	TIE	10.5352			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT. MM/KM	
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50.70	519	-.08	-.8
13.68	141	-.11	-1.1

WHOLE LINE

64.38	660	-.09	-.9
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CLOSING ERRORS= -57.1 MM
 = -7.1 MM/SQRT(KM)

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 76

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
7507	TIE	21.1633			
			2.730	26	-.8213
7601		20.3416			
			3.104	31	1.1090
7602		21.4501			
			3.501	35	-1.3404
7603		20.1091			
			3.114	35	2.0340
7604		22.1426			
			3.706	32	.2030
7605		22.3450			
			2.888	30	-.1636
7606		22.1809			
			2.894	30	1.3657
7607		23.5461			
			3.636	37	.0623
7608		23.6078			
			3.222	34	-1.0853
7609		22.5220			
			2.810	28	1.1315
7610		23.6530			
			1.581	1	-.7255
7611		22.9273			
			3.120	34	.4949
7612		23.4217			
			3.326	36	.0745
300778		23.4956			
			3.680	37	2.2669
7613		25.7619			
			2.932	30	.2337
7614		25.9951			
			3.068	32	-.1736
7615	TIE	25.8210			
			2.680	27	-.0904
7616		25.7303			
			3.070	31	1.9574
7617		27.6873			
			3.136	32	-.9436
7618		26.7433			
			2.886	29	.4490
7619		27.1920			
			3.110	31	.3236
7620		27.5152			
			3.080	33	.5784
300774	TIE	28.0932			
			2.220	24	1.0985
7621	TIE	29.1920			
			1.562	1	-1.7770
7622		27.4152			
			2.060	21	-.2628
7623		27.1527			
			3.156	33	.0546
7624		27.2077			
			2.510	26	.2843
7625		27.4924			
			2.430	26	.1039

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FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

7626	27.5966	2.762	30	.8511
7627	28.4481	3.146	35	-.4568
300775	27.9917	3.296	33	-.4768
7628	27.5153	4.688	49	.9136
7629	28.4296	3.170	32	-.1638
7630	28.2662	3.110	33	.7507
7631	29.0173	3.020	30	.9838
7632	30.0015	6.592	69	.2165
7633	30.2189	1.686	19	2.3238
7634	32.5430	2.338	24	-1.7687
7635	30.7746	4.924	50	.8519
7636	31.6571	4.864	49	-.1696
7637	31.4882	7.635	78	-.6714
7638	30.8178	2.910	30	-.4078
7639	30.4104	3.230	33	.5987
7640	31.0096	2.760	27	-.1599
7641	30.8500	3.360	37	.2067
7642	31.0572	2.220	22	-1.8837
7643	29.1738	1.141	1	.1210
7644	29.2950	4.014	40	1.8455
7645	31.1410	2.995	30	.4675
7646	31.6089	3.440	34	1.9274
7647	33.5368	2.550	25	-.9962
7648	32.5409	4.830	47	.1467
300773	32.6883	3.700	37	-.2291
7649	32.4597	2.980	28	-.0073
7650	32.4528	3.130	33	-1.2590
7651	31.1942	3.200	32	-.8895
300772 TIE	30.3051	3.068	33	.3949
7652 TIE	30.6997	2.160	22	-.7284
7524 TIE	29.9710			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
49.31	488	.02	.2
17.96	183	.01	.1
2.22	24	-.01	-.1
109.41	1094	-.01	-.1
3.07	33	.01	.1
2.16	22	.01	.1

WHOLE LINE

184.13	1844	.00	.0
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CLOSING ERRORS=
= -4.2 MM
- .3 MM/SQRT(KM)

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LINE 77

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
300772	TIE	30.3051			
			4.180	42	-.7982
7701		29.5080			
			2.482	26	1.4176
7702		30.9263			
			3.580	36	-2.6343
7703		28.2929			
			3.324	32	.6081
7704		28.9019			
			3.165	31	-.7238
7705		28.1789			
			2.968	28	.0233
7706		28.2030			
			3.890	39	-.1108
300774	TIE	28.0932			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
23.59	234	-.03	-.3

WHOLE LINE

23.59	234	-.03	-.3
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CLOSING ERRORS=
= -6.2 MM
-1.3 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 80A

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
108001	FIX	31.9897			
			.874	11	.8832
300004	TIE	32.8711			
			2.798	28	-1.0822
8001		31.7897			
			2.568	26	-1.4890
8032		30.3015			
			3.020	31	-.2968
8002		30.0056			
			2.858	29	.0753
8003		30.0817			
			3.276	33	-.2565
8004		29.8262			
			2.236	23	.7891
108002		30.6159			
			3.194	32	-2.0611
108003	FIX	28.5558			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.87	11	.17	2.1
19.95	202	-.03	-.3

WHOLE LINE

20.82	213	-.02	-.2
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CLOSING ERRORS= -4.1 MM
 = -.9 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 80B

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
108003	FIX	28.5558			
			2.882	29	.0751
8005		28.6340			
			2.906	29	-.8873
8006		27.7497			
			2.906	29	.0815
8007		27.8343			
			2.924	30	-1.2987
8008		26.5387			
			2.336	24	-.6322
8009		25.9090			
			2.350	24	-.8593
8010		25.0522			
			2.162	22	-.5151
108004	FIX	24.5394			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
18.47	187	-.10	-1.1

WHOLE LINE

18.47	187	-.10	-1.1
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CLOSING ERRORS= -19.6 MM
 = -4.6 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 80C

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
108004	FIX	24.5394			
			2.670	27	.7645
8011		25.3066			
			2.460	25	.6883
8012		25.9975			
			2.374	24	-1.5943
108005	FIX	24.4056			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
7.50	76	-.10	-1.0

WHOLE LINE

7.50	76	-.10	-1.0
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CLOSING ERRORS=
=

-7.7 MM
-2.8 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 80D

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
108005	FIX	24.4056			
			2.280	23	-.6966
8013		23.7122			
			2.450	25	-.0913
8014		23.6243			
			2.508	26	-.8456
300766	TIE	22.7823			
			.164	2	-.0181
108006	FIX	22.7643			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

ISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
7.24	74	-.14	-1.4
.16	2	-.06	-.8

WHOLE LINE

7.40	76	-.14	-1.4
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CLOSING ERRORS=	-10.3 MM
=	-3.8 MM/SQRT(KM)

LINE 80E

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
108006	FIX	22.7643			
			2.982	31	-.3076
8015		22.4558			
			3.126	32	-.4192
8016		22.0357			
			3.094	31	-.3947
8017		21.6401			
			3.296	33	2.0494
108007		23.6885			
			4.132	42	-2.7674
108008	FIX	20.9199			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
16.63	169	.03	.3

WHOLE LINE

16.63	169	.03	.3
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CLOSING ERRORS= 4.9 MM
 = 1.2 MM/SQRT(KM)

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 80F

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
108008	FIX	20.9199			
			2.990	30	.1140
8018		21.0355			
			2.308	23	-.8864
8019		20.1503			
			2.500	25	-.3625
8020		19.7891			
			2.360	24	.2920
8021		20.0823			
			2.678	27	-1.5068
300752	TIE	18.5769			
			2.894	29	.0131
8022		18.5933			
			2.686	27	-.0958
8023		18.5007			
			2.688	27	1.2376
8024		19.7414			
			2.640	27	-1.1437
8025		18.6008			
			2.704	27	1.3916
108009	FIX	19.9955			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
12.84	129	-.05	-.5
13.61	137	-.12	-1.2

WHOLE LINE

26.45	266	-.08	-.9
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CLOSING ERRORS= -22.5 MM
= -4.4 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 806

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
108009	FIX	19.9955			
			3.030	31	-.7758
8026		19.2178			
			2.786	28	-.0983
300751	FIX	19.1177			
			3.316	34	-.3090
8027		18.8139			
			1.900	19	-.6627
108010	FIX	18.1542			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

ISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
5.82	59	.06	.6
5.22	53	-.15	-1.6

WHOLE LINE

11.03	112	-.04	-.4
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CLOSING ERRORS=
= -4.5 MM
-1.4 MM/SQRT(KM)

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

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LINE 80I

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
300017	14.8443			
		2.672	27	.0679
8031	14.9122			
		2.780	28	.9091
8030	15.8213			
		1.592	16	.1643
108013	15.9856			
		1.180	12	.1953
108012	16.1809			
		4.460	45	1.0206
108011	17.2015			
		2.562	26	-.0104
8029	17.1911			
		2.652	27	.8651
8028	18.0562			
		2.934	30	.0980
108010 FIX	18.1542			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
20.83	211	.00	.0

WHOLE LINE

20.83	211	.00	.0
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CLOSING ERRORS=	.0 MM
=	.0 MM/SQRT(KM)

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 80J

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
108016	FIX	32.1186			
			3.696	37	.7416
300004	TIE	32.8711			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
3.70	37	-.29	-2.9

WHOLE LINE

3.70	37	-.29	-2.9
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CLOSING ERRORS=
= -10.9 MM
-5.7 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 79A

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5101	TIE	11.8550			
			.418	5	.6994
300726	TIE	12.5542			
			2.508	26	1.2066
7901		13.7587			
			4.334	44	-.9720
7902		12.7831			
			2.494	26	-1.3756
107901		11.4055			
			1.728	20	-.0187
107902		11.3853			
			2.889	32	-.7548
7903		10.6281			
			3.690	40	.6450
107903		11.2701			
			2.508	26	-.0224
7904		11.2456			
			2.492	26	-.6211
300723		10.6224			
			3.420	35	.0065
7905		10.6261			
			2.691	28	-.6682
107904		9.9556			
			2.954	31	.0507
7906		10.0039			
			3.689	38	-.1757
7907		9.8251			
			3.092	30	-.0261
300712	TIE	9.7965			
			2.916	33	.5154
7908		10.3114			
			2.882	29	-.7007
7909		9.6103			
			2.838	29	.7892
7910		10.3991			
			2.250	22	.4718
7911		10.8706			
			2.308	24	-1.4294
7912		9.4408			
			2.242	24	.3316
7913		9.7721			
			2.760	28	-1.2759
300711	TIE	8.4958			

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
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.42	5	.04	.5
38.49	402	.08	.8
18.20	189	.01	.1

WHOLE LINE

57.10	596	.06	.6
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CLOSING ERRORS= 34.8 MM
= 4.6 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 79B

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
107905	13.0261			
		3.234	33	-4.1370
7914	8.8891			
		3.418	35	-.3933
300711 TIE	8.4958			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
6.65	68	.00	.0

WHOLE LINE

6.65	68	.00	.0
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CLOSING ERRORS=
=

.0 MM
.0 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 78A

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5138	TIE	14.6329			
			3.217	33	-.3797
7801		14.2560			
			3.390	36	1.1562
300015		15.4151			
			3.090	32	-1.8988
7802		13.5189			
			2.900	30	.8997
7803		14.4211			
			2.950	30	-.0195
107801		14.4041			
			2.692	27	-.7576
7804		13.6488			
			2.736	28	-1.1143
107802	TIE	12.5369			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
20.98	216	-.08	-.9

WHOLE LINE

20.98	216	-.08	-.9
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CLOSING ERRORS= -17.9 MM
= -3.9 MM/SQRT(KM)

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 78B

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
107802	TIE	12.5369			
			3.714	37	5.2363
300747		17.7763			
			1.986	21	1.0165
7805		18.7945			
			2.604	26	1.3986
7806		20.1954			
			2.436	25	-4.3400
7807		15.8574			
			2.230	23	-2.8867
7808		12.9727			
			1.088	11	-.5077
5411	TIE	12.4659			
			.744	8	.6333
107803	TIE	13.1000			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
14.06	143	-.08	-.9
.74	8	-.10	-1.0

WHOLE LINE

14.80	151	-.08	-.9
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CLOSING ERRORS= -12.8 MM
= -3.3 MM/SQRT(KM)

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 62

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
300726	TIE	12.5542			
			4.558	46	-1.1833
6201	TIE	11.3726			
			4.192	40	.5631
6202		11.9373			
			2.270	27	.2103
6203	TIE	12.1484			
			2.440	26	-.2705
6204		11.8788			
			2.690	30	.5948
6205	TIE	12.4746			
			3.938	42	.1732
6206		12.6493			
			3.120	32	-.2341
300718		12.4164			
			2.370	21	.2208
6207		12.6380			
			3.060	34	-.7339
6208		11.9053			
			1.772	22	-.2622
300720		11.6437			
			3.280	35	.0358
6209		11.6808			
			3.126	36	-.6829
6210		10.9990			
			2.730	30	.5856
6211		11.5856			
			2.820	30	-1.3503
6212		10.2364			
			.468	1	-.1155
6213		10.1211			
			3.386	35	.9841
6214		11.1064			
			3.168	31	-2.3616
6215		8.7460			
			2.720	29	.8739
6216		9.6209			
			3.388	37	.1876
6217		9.8098			
			3.264	36	-.1830
6218		9.6280			
			3.050	34	-2.6497
6219		6.9794			
			3.900	41	3.8221
6220		10.8030			
			3.884	47	-1.9605
6221		8.8439			
			2.033	22	.8648
6222		9.7095			
			2.136	25	-.6473
6223	TIE	9.0630			
			3.290	33	-.0696
6224		8.9946			
			3.004	32	-1.0354
6225		7.9603			
			3.220	34	1.0373

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 78C

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
107803	TIE	13.1000			
			1.454	16	-.4846
300744	TIE	12.6169			
			2.520	25	.8036
7809		13.4203			
			2.592	26	-.1102
7810		13.3100			
			2.368	25	-.8822
7811		12.4276			
			2.378	24	-.0587
7812		12.3688			
			2.818	28	-.2693
7813		12.0993			
			2.686	28	.5004
7814		12.5996			
			2.800	28	-.6085
7815		11.9909			
			2.898	30	-.8305
7816		11.1602			
			2.604	26	.6839
7817		11.8440			
			3.200	32	-.3844
5802	TIE	11.4594			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
1.45	16	-.09	-1.0
26.86	272	.01	.1

WHOLE LINE

28.32	288	.00	.0
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CLOSING ERRORS= .1 MM
 = .0 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

6226	8.9988	2.564	31	-.5818
6227	8.4180	2.728	28	.2980
6228	8.7170	3.130	34	-.5312
6229	8.1870	2.230	24	.9334
6230 TIE	9.1212			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
4.56	46	-.04	-.4
6.46	67	-.04	-.4
5.13	56	-.03	-.4
37.61	620	-.03	-.4
20.17	216	-.03	-.4

WHOLE LINE

93.93	1005	-.03	-.4
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CLOSING ERRORS=
= -35.0 MM
-3.6 MM/SQRT(KM)



LINE 61

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5802	TIE	11.4594			
			3.090	32	-.5578
6101		10.9031			
			3.556	36	-.9225
6102		9.9824			
			3.906	43	-.0912
6103	TIE	9.8932			
			2.738	28	-1.2931
6104		8.6019			
			1.972	21	2.5707
6105		11.1740			
			4.067	44	-2.3362
6106		8.8406			
			2.760	28	-.3936
6107		8.4488			
			3.146	33	2.3137
6108		10.7647			
			2.952	31	-1.2132
6109		9.5535			
			2.712	28	-1.0156
6110		8.5398			
			3.612	39	-1.0105
6111		7.5317			
			2.540	27	3.0714
6112		10.6049			
			2.974	30	-1.8199
6113		8.7870			
			4.070	49	1.0067
300712	TIE	9.7965			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
10.55	111	-.05	-.5
33.54	358	-.06	-.7

WHOLE LINE

44.10	469	-.06	-.6
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CLOSING ERRORS= -28.2 MM
 = -4.2 MM/SQRT(KM)

LINE 59

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5239	TIE	18.3415			
			2.966	30	-1.8085
5901		16.5336			
			2.962	30	-.1414
5902		16.3927			
			2.950	31	1.1470
5903		17.5402			
			3.084	32	.0717
5904		17.6124			
			2.896	30	-.6307
5905		16.9822			
			2.800	28	-.8218
5906		16.1609			
			2.926	30	.9094
5907		17.0708			
			2.877	28	.4191
5908		17.4904			
			2.780	28	2.1338
5909		19.6246			
			2.896	29	1.7159
5910		21.3410			
			3.210	33	3.5543
5911		24.8959			
			3.134	32	2.1186
5912	TIE	27.0150			
			1.572	16	1.0669
5613	TIE	28.0822			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
35.48	361	-.02	-.2
1.57	16	-.02	-.2

WHOLE LINE

37.05	377	-.02	-.2
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CLOSING ERRORS=
 = -6.3 MM
 -1.0 MM/SQRT(KM)

LINE 58

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
300022	TIE	11.2089			
5801		11.9502	2.918	29	.7382
5802	TIE	11.4594	2.800	31	-.4939
5803		11.5109	3.590	39	.0496
5804		11.7205	2.760	30	.2081
5805		21.5491	2.900	33	9.8271
5806		10.4809	2.780	28	-11.0697
5807		11.3518	2.790	28	.8695
5808		11.4436	3.000	32	.0902
5809		11.8060	3.170	34	.3607
5810		18.8063	3.480	37	6.9984
5811		17.8653	3.250	34	-.9427
5812		16.5179	2.860	29	-1.3489
300745		11.9457	3.120	34	-4.5738
5813		14.3237	2.840	29	2.3765
5814		11.3220	2.640	27	-3.0031
5815		11.5693	2.800	30	.2458
5816		11.5173	2.860	30	-.0535
5817		11.5843	2.920	30	.0654
5818		12.4720	2.866	30	.8862
5819		14.2018	2.910	30	1.7283
5820		12.1861	2.758	30	-2.0172
5821	TIE	11.1413	2.326	24	-1.0460

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
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5.72	60	-.10	-1.1
58.62	618	-.05	-.5

WHOLE LINE

64.34	678	-.05	-.6
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CLOSING ERRORS= -37.3 MM
= -4.6 MM/SQRT(KM)

LINE 57 Ulipur crossing (from 5714 to 7615)

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5225 TIE	22.0671			
		2.250	24	-.5192
5701	21.5479			
		2.640	26	-.5252
5702	21.0228			
		2.360	24	2.1913
5703	23.2142			
		2.960	35	-.7318
5704 TIE	22.4825			
		2.742	29	-.4868
5705	21.9959			
		3.130	32	-.6356
5706	21.3604			
		2.820	29	3.2926
5707	24.6531			
		2.894	29	-.4480
5708	24.2052			
		3.350	34	-.4026
5709	23.8027			
		2.730	28	1.4416
5710	25.2444			
		2.760	28	.9031
5711	26.1476			
		2.858	29	-2.0235
5712	24.1242			
		2.690	28	1.2552
5713	25.3795			
		4.760	50	1.5804
5714	26.9601			
		.564	7	-3.1292
205701	23.8309			
		.500	1	.2080
205702	24.0390			
		3.188	32	-.1680
5716	23.8711			
		2.908	2	.9965
205703	24.8677			
		2.106	22	-.8672
5718	24.0006			
		1.625	1	-.3640
5719	23.6366			
		1.523	1	1.2335
5720	24.8702			
		2.854	29	1.0076
5721	25.8779			
		2.974	31	.2820
5722	26.1600			
		3.232	33	-.3391
7615 TIE	25.8210			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
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10.21	109	.00	.0
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52.21	475	.00	.0
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WHOLE LINE

62.42	584	.00	.0
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CLOSING ERRORS=	-2.4 MM
=	-.3 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

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LINE 56A

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5226	TIE	21.8721			
			3.024	31	-.4414
5601		21.4335			
			3.068	35	13.5858
5602		35.0222			
			2.996	36	-6.8591
5603		28.1660			
			2.908	32	-.5714
5604		27.5974			
			3.066	37	.9203
5605		28.5206			
			2.676	29	-2.6864
5606		25.8367			
			2.722	32	13.0518
5607		38.8911			
			2.572	33	1.1854
5608		40.0790			
			2.462	28	-4.5801
5609		35.5012			
			2.620	25	-8.8097
300762		26.6940			
			2.880	29	4.8748
5610		31.5715			
			2.950	28	-.1985
5611		31.3759			
			2.960	36	-.8911
5612		30.4876			
			2.652	26	-2.4079
5613	TIE	28.0822			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
39.56	437	-.09	-1.0

WHOLE LINE

39.56	437	-.09	-1.0
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CLOSING ERRORS= -37.6 MM
 = -6.0 MM/SQRT(KM)

LINE 56B

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5613	TIE	28.0822			
			3.103	34	-4.2620
5614	TIE	23.8237			
			3.410	35	-1.3439
5615		22.4836			
			3.460	34	-2.9492
300761		19.5383			
			2.870	30	-1.3454
5616		18.1961			
			3.048	33	-.4069
5617	TIE	17.7926			
			2.846	29	-1.5366
5618		16.2592			
			3.010	30	-.5318
5619		15.7308			
			3.120	32	-.0514
5620		15.6829			
			2.888	29	-.1129
5621		15.5733			
			2.956	30	-.0382
5622		15.5384			
			2.920	29	1.7116
5623		17.2533			
			2.856	29	-1.9057
5624		15.3508			
			2.514	26	-.7546
5625		14.5990			
			3.604	37	1.9376
5626		16.5406			
			.926	10	-1.1447
5133	TIE	15.3970			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
3.10	34	-.10	-1.1
12.79	132	-.11	-1.1
27.64	281	-.11	-1.1

WHOLE LINE

43.53	447	-.11	-1.1
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CLOSING ERRORS= -48.9 MM
 = -7.4 MM/SQRT(KM)

FINNMAP

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LINE 55

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5113	TIE	14.6839			
			3.126	33	-1.2398
5501		13.4406			
			2.968	30	.7319
5502		14.1693			
			2.334	24	-.0557
5503		14.1110			
			2.956	30	1.1166
5504		15.2244			
			3.270	33	-.1534
5505		15.0674			
			2.510	26	-.4542
5506		14.6104			
			2.880	29	-.4152
5507		14.1921			
			3.080	31	.3428
5508		14.5315			
			3.062	29	.0114
5509		14.5395			
			2.600	28	-1.9198
300744	TIE	12.6169			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
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28.79	293	.11	1.1
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WHOLE LINE

28.79	293	.11	1.1
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CLOSING ERRORS= 31.6 MM
 = 5.9 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

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LINE 54

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5126	TIE	17.2161			
			2.790	28	-.7437
5401		16.4729			
			2.910	30	-.3286
5402		16.1449			
			2.760	29	1.2571
5403		17.4025			
			2.700	28	-.3781
5404		17.0249			
			3.110	32	-1.6430
300748		15.3825			
			2.800	29	-.0928
5405		15.2902			
			2.720	29	-.4635
5406		14.8272			
			2.990	32	6.6437
5407		21.4714			
			2.750	31	.4348
5408		21.9067			
			4.200	43	-6.4884
5409		15.4191			
			2.860	31	-1.6474
5410		13.7722			
			2.910	31	-1.3069
5411	TIE	12.4659			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
35.50	373	-.02	-.2

WHOLE LINE

35.50	373	-.02	-.2
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CLOSING ERRORS= -6.6 MM
 = -1.1 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

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LINE 53

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5125	TIE	16.7657			
			2.181	22	.6629
5301		17.4279			
			3.300	33	1.0865
5302	TIE	18.5135			
			2.900	29	-.9389
5303		17.5737			
			3.308	32	1.0684
5304		18.6411			
			2.242	23	.4113
5305		19.0518			
			2.110	22	.0009
5306		19.0520			
			2.902	30	.0413
5307		19.0925			
			3.746	36	-.7246
5308		18.3668			
			5.188	53	.9486
5309		19.3139			
			3.020	31	.4838
5310		19.7968			
			2.730	28	.1659
5311		19.9619			
			1.772	18	.6673
5312		20.6286			
			2.000	20	-.3914
5313		20.2367			
			2.124	23	-.1496
5219	TIE	20.0864			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
5.48	55	.03	.3
34.04	345	.03	.3

WHOLE LINE

39.52	400	.03	.3
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CLOSING ERRORS=
= 11.7 MM
1.9 MM/SQRT(KM)

LINE 51

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
300022	TIE	11.2089			
			2.924	31	.6493
5101	TIE	11.8550	3.150	32	.8893
5102		12.7423	2.690	28	-.9018
5103		11.8388	2.884	31	.8804
5104		12.7174	2.260	24	.5920
5105		13.3080	2.774	28	-.0360
5106		13.2702	2.290	23	.0249
5107		13.2937	2.762	29	-.0923
5108		13.1996	3.226	35	.9930
5109	TIE	14.1906	3.341	36	-1.1501
5110		13.0358	2.690	29	.8163
5111		13.8483	2.348	24	.9686
300742		14.8136	3.129	32	.5410
5112		15.3502	2.748	28	-.6624
5113	TIE	14.6839	3.296	35	.6483
5114		15.3311	2.814	30	.3628
5115	TIE	15.6931	2.812	29	.9343
5116		16.6262	2.724	28	-.3896
5117		16.2355	3.026	30	-.0179
5118		16.2163	2.864	29	.0517
5119	TIE	16.2668	2.560	26	.4705
5120		16.7362	3.000	30	-1.0299
5121		15.7051	2.976	31	.8741
5122		16.5780	2.732	30	.3345
5123		16.9113	2.986	31	-.3349
5124		16.5752	3.368	34	.1919
5125	TIE	16.7657	2.870	30	.4508
5126	TIE	17.2161	2.976	30	-.1543

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5127		17.0600	3.280	33	.2463
5128		17.3043	2.976	31	-1.8180
5129		15.4845	3.234	31	1.1791
300759		16.6616	3.080	32	-1.3823
5130		15.2774	2.816	29	1.3111
5131		16.5868	2.934	30	-.5534
5132		16.0316	3.064	32	-.6327
5133	TIE	15.3970	2.730	30	1.2470
300760		16.6454	3.608	44	-2.0758
5134		14.5714	3.170	32	1.9130
5135		16.4860	2.740	28	-.6212
5136		15.8662	2.502	26	-.8226
5137		15.0449	2.616	26	-.4133
5138	TIE	14.6329	3.102	36	-.4383
5139		14.1936	2.898	30	-1.2268
5140		12.9658	2.782	28	-.1218
5141		12.8430	2.756	31	-1.7007
5821	TIE	11.1413			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
2.92	31	.10	1.1
22.04	230	.06	.6
14.26	149	.14	1.4
6.11	65	.03	.3
11.43	116	.04	.4
17.62	182	.04	.4
2.87	30	.01	.1
24.36	248	.06	.6
17.37	186	-.05	-.5
11.54	125	.03	.3

WHOLE LINE

130.51 1362 .05 .5

CLOSING ERRORS=
= 61.6 MM
5.4 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 63

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
300001	8.7823			
		3.618	38	-.8191
201705	7.9632			
		3.464	35	.8637
201704	8.8269			
		3.102	31	-2.1273
201703	6.6996			
		3.082	31	2.8184
201702	9.5180			
		2.840	30	-3.6780
201701	5.8400			
		2.314	25	.7233
1701	6.5633			
		3.372	35	.8312
6301	7.3945			
		2.922	39	-2.0290
6302	5.3655			
		2.346	26	.8506
6303	6.2161			
		2.688	31	-1.2523
6304	4.9638			
		3.370	37	1.9072
6305	6.8710			
		2.752	33	-.0260
6306	6.8450			
		2.584	30	1.0518
6307	7.8968			
		3.464	44	-1.3712
6308	6.5256			
		4.119	42	-.0624
6309	6.4632			
		1.446	16	.6775
6310	7.1407			
		1.846	19	-.2832
6311	6.8575			
		2.586	25	.3819
6312	7.2394			
		2.894	30	.2819
6313 TIE	7.5213			
		4.654	46	1.3881
6314	8.9094			
		2.862	29	4.8836
6315	13.7930			
		3.076	32	-1.7461
8137 TIE	12.0469			

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

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LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
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54.81	597	.00	.0
10.59	107	.00	.0

WHOLE LINE

65.40	704	.00	.0
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CLOSING ERRORS=	.0 MM
=	.0 MM/SQRT(KM)

LINE 64A

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
300705	TIE	10.2896			
			2.734	29	-.3472
6401		9.9430			
			2.972	30	.0588
6402		10.0024			
			3.028	31	-.6134
6403	TIE	9.3896			
			2.814	28	.9475
6404		10.3376			
			2.896	30	-.1800
6405		10.1582			
			3.066	31	-.6850
6406		9.4738			
			2.670	29	-.1607
6407		9.3137			
			2.758	30	.4583
6408		9.7725			
			2.950	29	-3.4122
6409		6.3609			
			2.978	32	3.5518
6410		9.9133			
			3.044	32	.0762
6411	TIE	9.9901			
			2.850	29	-.5581
6412		9.4326			
			3.100	31	-.2213
6413		9.2119			
			4.926	50	-.6811
300704		8.5318			
			3.678	37	-.3227
6414		8.2099			
			2.548	25	2.0170
6415		10.2274			
			3.156	32	-2.4360
6416		7.7920			
			3.362	34	.0585
6417	TIE	7.8512			
			2.910	31	-.0849
6418		7.7669			
			2.960	31	.6238
6419	TIE	8.3913			
			2.742	29	-.9110
6420		7.4808			
			3.070	32	.6100
6421		8.0915			
			2.526	26	-.0608
6422		8.0312			
			2.830	29	-.0156
6423		8.0161			
			2.580	27	.5287
6424		8.5454			
			2.420	24	-.7103
6425		7.8355			
			2.220	23	-.8629
106401	TIE	6.9731			

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

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LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
8.73	90	-.02	-.2
23.18	241	-.02	-.2
23.62	238	-.02	-.2
5.87	62	-.02	-.2
18.39	190	-.02	-.2

WHOLE LINE

79.79	821	-.02	-.2
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CLOSING ERRORS=	-16.1 MM
=	-1.8 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 64B

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
106401	TIE	6.9731			
			4.298	43	1.3175
300703		8.2915			
			3.506	35	.4641
6426		8.7563			
			3.034	30	2.3808
6427		11.1377			
			2.874	30	-3.8308
6428		7.3075			
			2.944	32	.0416
6429		7.3496			
			3.032	34	.2943
6430		7.6446			
			3.040	32	1.6193
300706	TIE	9.2645			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
22.73	236	-.02	-.2

WHOLE LINE

22.73	236	-.02	-.2
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CLOSING ERRORS=	-4.6 MM
=	-1.0 MM/SQRT(KM)

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

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LINE 82A Aricha crossing 2 (across Padma river)

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
300708	TIE	10.0502			
			2.558	26	-.9224
8201		9.1270			
			2.642	1	-1.1982
208201		7.9280			
			1.590	16	1.9061
8202		9.8337			
			2.798	28	-1.3902
8203		8.4426			
			2.504	27	.5716
8204	TIE	9.0134			
			3.190	33	.2520
300706	TIE	9.2645			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
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12.09	98	.04	.3
3.19	33	.03	.3

WHOLE LINE

15.28	131	.04	.3
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CLOSING ERRORS= 4.6 MM
= 1.2 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 82B

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
300706	TIE	9.2645			
			2.884	32	-.2725
8205		8.9917	3.320	33	-.2707
8206		8.7206	2.800	28	.6160
8207		9.3364	2.980	30	-.1750
8208		9.1610	2.924	30	.6003
8209		9.7611	2.854	29	-.4977
8210		9.2631	3.204	32	.3952
8211		9.6579	3.110	32	1.0988
8212		10.7564	3.220	32	.4354
8213	TIE	11.1915	2.260	23	-.5295
8214		10.6618	1.454	17	-.3720
300705	TIE	10.2896	3.472	35	.9775
8215		11.2661	2.704	28	.1959
8216		11.4611	3.866	39	-.0662
8217		11.3938	2.310	24	.4611
8218		11.8542	2.930	30	.2251
8219		12.0784	2.540	26	.6735
8220		12.7511	2.918	30	-.0902
8221		12.6600	2.884	29	.1691
8222		12.8282	2.686	27	.3229
8223		13.1503	3.146	32	.2828
8224		13.4322	3.772	39	-.4603
300785		12.9707	3.580	45	7.2614
8225		20.2310	2.898	31	-6.6241
8226		13.6060	2.956	31	.4847
8227		14.0899	3.100	31	-.6971
8228		13.3918	3.168	32	-.4438
8229		12.9470	2.786	29	1.0874

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FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

8230	14.0336	3.024	31	1.1340
8231	15.1667	3.078	31	-1.1868
8232	13.9789	3.056	32	-.4480
8233	13.5300	2.204	23	.8626
300787	14.3920	2.957	31	2.8599
8234	17.2510	2.544	26	-2.7290
8235	14.5212	2.306	30	8.1601
8236	22.6806	1.590	17	-7.9419
300788	14.7382	2.824	29	-.5507
8237	14.1866	2.646	29	.0697
8238	14.2555	3.153	32	.3589
8239	14.6135	3.724	38	-.1318
8240	14.4805	2.742	28	-1.1551
8241	13.3246	2.682	27	.8421
8242	14.1659	2.812	28	-.7801
8243	13.3849	3.010	31	-.3282
8244	13.0558	2.478	25	-.3754
8245	12.6797	2.900	29	-.4216
108101	FIX	12.2572		

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
27.30	278	.01	.1
3.71	40	.01	.1
101.45	1055	.03	.3

WHOLE LINE

132.46	1373	.02	.3
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CLOSING ERRORS= 34.0 MM
= 3.0 MM/SQRT(KM)

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FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

LINE 81A

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
108101	FIX	12.2572			
			.638	7	-.7589
8101		11.4979			
			1.416	15	.0290
108102		11.5259			
			2.324	23	.2245
108103	FIX	11.7488			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
4.38	45	.07	.7

WHOLE LINE

4.38	45	.07	.7
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CLOSING ERRORS= 3.0 MM
= 1.4 MM/SQRT(KM)

LINE 81B

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
108103	FIX	11.7488			
			2.470	25	-.3141
8102		11.4311			
			2.798	29	.4702
8103		11.8971			
			2.502	26	-.4336
108104		11.4699			
			1.740	18	-.0593
108105	FIX	11.3980			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

ISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
9.51	98	.14	1.5

WHOLE LINE

9.51	98	.14	1.5
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CLOSING ERRORS=
= 14.0 MM
4.5 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 81C

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
108105	FIX	11.3980			
			2.939	30	-.4707
8104		10.9219			
			2.248	23	-.1828
8105		10.7350			
			2.320	23	1.6529
108106	FIX	12.3837			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
7.51	76	.18	1.8

WHOLE LINE

7.51	76	.18	1.8
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CLOSING ERRORS=
= 13.7 MM
5.0 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 810

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
108106	FIX	12.3837			
			1.830	19	-1.3738
8106		11.0084			
			1.990	20	.3534
108107		11.3603			
			2.658	27	-.6577
8107		10.7004			
			2.562	26	2.9941
108108	FIX	13.6925			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

ISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
9.04	92	.08	.8

WHOLE LINE

9.04	92	.08	.8
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CLOSING ERRORS= 7.2 MM
 = 2.4 MM/SQRT(KM)

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FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

LINE 81E

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
108108	FIX	13.6925			
			2.608	27	-3.2090
8108		10.4855			
			2.812	29	.1096
8109		10.5972			
			2.718	27	-.1020
108109	FIX	10.4973			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
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8.14	83	-.07	-.8
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WHOLE LINE

8.14	83	-.07	-.8
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CLOSING ERRORS=	-6.2 MM
=	-2.2 MM/SQRT(KM)

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 81F

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
108109	FIX	10.4973			
			.440	6	.0400
6529	TIE	10.5352			
			1.220	13	-.2679
8110		10.2630			
			2.074	21	2.4315
108110	FIX	12.6870			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.44	6	.34	4.7
3.29	34	.35	3.6

WHOLE LINE

3.73	40	.35	3.7
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CLOSING ERRORS= 13.9 MM
= 7.2 MM/SQRT(KM)

LINE 81G Aricha crossing 1 (across Jamuna river)

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
108110	FIX	12.6870			
			1.070	11	-.3892
300709		12.2972			
			3.658	38	-2.7160
8143		9.5793			
			4.400	46	.6285
208111		10.2055			
			.493	1	1.5480
8111		11.7532			
			1.213	1	.0095
8112		11.7621			
			1.211	1	-.0685
8113		11.6929			
			1.211	1	-.2700
8114		11.4223			
			1.211	1	.1310
8115		11.5526			
			1.190	1	5.0555
8116		16.6075			
			1.233	1	-5.1900
8117		11.4169			
			1.212	1	.0795
8118		11.4957			
			1.212	1	.0270
8119		11.5221			
			1.211	1	.0275
8120		11.5489			
			.662	1	-1.9620
8121		9.5866			
			3.039	36	.1578
8122	TIE	9.7428			
			2.731	29	.3089
300708	TIE	10.0502			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
24.23	142	.09	.5
2.73	29	.05	.5

WHOLE LINE

26.96	171	.08	.5
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CLOSING ERRORS= 14.3 MM
 = 2.8 MM/SQRT(KM)

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 81H

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
300708	TIE	10.0502			
			4.019	41	-.9281
6230	TIE	9.1212	3.210	31	-1.3223
8123		7.7994	2.928	29	-.5058
8124		7.2940	3.210	32	-.2455
8125		7.0490	2.694	27	-.1944
8126		6.8550	2.795	28	3.1888
8127		10.0442	3.450	38	-2.5088
8128		7.5359	3.443	35	.9175
8129		8.4539	2.476	25	1.1950
300710		9.6493	3.018	31	-1.3809
8130		8.2688	3.466	36	-.4159
8131		7.8534	2.782	28	-.6457
8132		7.2081	3.150	32	.4521
8133		7.6607	3.097	32	-1.4632
8134		6.1979	2.913	29	.9320
8135		7.1304	3.100	31	-.0832
8136		7.0476	1.491	16	1.6091
300023		8.6569	3.070	32	3.3895
8137	TIE	12.0469	3.142	32	-2.8695
8138		9.1778	3.582	36	.0311
8139		9.2095	2.727	28	1.3994
8140		10.6093	3.013	30	-2.0149
8141		8.5948	1.930	20	2.5801
8142		11.1752	2.115	22	-2.6797
300711	TIE	8.4958			

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
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4.02	41	.02	.2
50.29	512	-.01	-.1
16.51	168	-.01	-.1

WHOLE LINE

70.82	721	-.01	-.1
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CLOSING ERRORS=	-8.9 MM
=	-1.1 MM/SQRT(KM)

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 66

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
6624	TIE	11.1910			
			1.604	17	-1.2484
6601		9.9422			
			4.020	42	1.5663
6602	TIE	11.5074			
			2.100	22	-.8935
6603		10.6140			
			3.472	37	-1.1945
6604		9.4196			
			3.630	37	1.1023
6605		10.5221			
			4.050	41	.9396
6606		11.4618			
			3.360	35	.3534
6607		11.8153			
			3.618	45	-.2925
6608		11.5230			
			3.180	33	1.5598
6609		13.0829			
			2.810	29	-1.7085
6610		11.3745			
			2.590	26	-2.3465
6611		9.0281			
			3.240	34	2.9686
6612	TIE	11.9968			
			3.110	32	-.0297
6613		11.9690			
			2.558	26	-1.0398
6614		10.9307			
			3.250	35	1.4486
6615		12.3812			
			2.934	30	-.9039
6616		11.4790			
			2.530	27	-.8916
6617		10.5889			
			2.030	21	-.2798
6618		10.3103			
			3.358	36	1.4953
6619		11.8076			
			2.760	29	.0711
6620		11.8804			
			2.880	30	-.8624
6621		11.0197			
			4.290	44	2.1105
6622		13.1327			
			3.734	38	-.8777
108101	FIX	12.2572			

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

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LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
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5.62	59	.03	.3
32.05	339	.00	.0
33.43	348	-.06	-.6

WHOLE LINE

71.11	746	-.03	-.3
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CLOSING ERRORS=	-19.5 MM
=	-2.3 MM/SQRT(KM)

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 67

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
6602	TIE	11.5074			
			3.110	30	-.3567
6701	TIE	11.1497			
			3.168	35	-1.3382
6702		9.8106			
			2.970	35	2.1888
6703		11.9984			
			2.896	29	-2.1825
6704		9.8151			
			3.052	31	1.2326
6705		11.0467			
			2.960	30	1.1515
6706		12.1973			
			3.040	30	-.4879
6707		11.7085			
			1.160	12	.8166
300716	TIE	12.5247			
			2.288	24	1.9393
6708	TIE	14.4628			
			2.878	30	-2.4604
6709		12.0009			
			3.190	32	-1.3604
6710		10.6388			
			3.010	30	.0685
6711		10.7057			
			3.830	38	.3103
6712		11.0139			
			2.716	31	1.4360
6713		12.4485			
			1.100	12	.4838
300734	TIE	12.9317			
			3.032	30	.9406
6714		13.8707			
			2.860	29	-1.8190
6715		12.0501			
			3.124	29	1.3881
6716		13.4366			
			3.420	34	-.8507
6717		12.5841			
			2.270	23	1.2656
300740		13.8485			
			6.490	65	.3388
6718		14.1838			
			2.773	28	.7721
6719		14.9545			
			3.250	32	.0679
6720		15.0206			
			2.716	27	.6106
6721	TIE	15.6298			
			2.950	30	.3078
6722		15.9346			
			2.606	29	.1271
300741		16.0590			
			3.144	31	.7347
6723		16.7904			
			2.360	24	-.0192

FINNMAP		COASTAL MAPPING PROJECT: FAP 2ND ORDER			20 APRIL 1994
6724		16.7688			
			3.040	30	.4319
6725		17.1976			
			2.860	29	.3260
6726		17.5206			
			2.920	29	-.9943
6727		16.5233			
			2.460	25	.9981
6728		17.5189			
			2.906	30	1.6018
300751	FIX	19.1177			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS	
		MM/STAT.	MM/KM
3.11	30	.03	.3
19.25	202	.03	.3
2.29	24	.05	.5
16.72	173	.05	.5
29.93	297	.05	.5
25.25	257	.10	1.0

WHOLE LINE

96.55	983	.06	.6
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CLOSING ERRORS=
= 58.9 MM
6.0 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 68

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
6612	TIE	11.9968			
			6.750	64	1.7913
6801		13.7859			
			2.600	27	-2.2891
6802		11.4960			
			3.090	26	2.1916
6803		13.6866			
			2.898	29	.1431
6804		13.8287			
			3.280	33	-.0204
6805		13.8073			
			2.940	30	-.0787
6806		13.7276			
			3.112	31	.1292
6807		13.8558			
			2.792	28	-.3840
6808		13.4709			
			3.080	30	-1.1542
6809		12.3157			
			3.004	31	-.2519
6810		12.0628			
			3.120	31	.1444
6811		12.2062			
			2.992	30	.3390
6812		12.5442			
			2.780	29	-.4551
6813		12.0882			
			3.952	40	.1587
6814		12.2456			
			2.884	31	.6870
300734	TIE	12.9317			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
49.27	490	.03	.3

WHOLE LINE

49.27	490	.03	.3
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CLOSING ERRORS=
= 16.1 MM
2.3 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 70

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
6612	TIE	11.9968			
			1.020	11	.3472
300715		12.3438			
			1.890	22	-.4832
7001	TIE	11.8602			
			2.470	28	-.8462
7002		11.0134			
			1.680	18	1.4180
7003	TIE	12.4310			
			2.910	27	-3.8652
7004		8.5652			
			3.814	36	1.7041
7005		10.2684			
			2.630	27	2.1256
7006	TIE	12.3934			
			2.455	26	-.7686
7007		11.6243			
			3.530	36	-1.1553
7008		10.4682			
			1.610	17	2.0569
300716	TIE	12.5247			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
2.91	33	.02	.2
4.15	46	.02	.2
9.35	90	.02	.2
7.59	79	.02	.2

WHOLE LINE

24.01	248	.02	.2
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CLOSING ERRORS=
= 5.4 MM
1.1 MM/SQRT(KM)

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 69

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
300734	TIE	12.9317			
			2.040	22	-.6995
6901		12.2315			
			2.542	25	.3032
6902		12.5339			
			3.704	40	1.0370
6903		13.5696			
			3.222	32	.2371
6904		13.8057			
			3.530	35	.3229
6905		14.1274			
			5.750	66	-.6096
7201	TIE	13.5159			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
20.79	220	.03	.3

WHOLE LINE

20.79	220	.03	.3
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CLOSING ERRORS=
= 6.8 MM
1.5 MM/SQRT(KM)

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 71

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
7209	TIE	14.6952			
			2.800	28	.6823
7101		15.3761			
			2.966	31	-.8483
7102		14.5263			
			2.740	30	.1027
7103		14.6277			
			2.852	28	-.9096
7104		13.7166			
			1.976	21	1.3151
7105	TIE	15.0307			
			2.860	28	-.3715
7106		14.6578			
			2.916	27	.5557
7107		15.2121			
			2.820	26	-1.6907
7108		13.5200			
			3.420	38	1.0077
7109	TIE	14.5259			
			3.912	40	1.1058
6721	TIE	15.6298			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
13.33	138	.05	.5
12.02	119	.05	.5
3.91	40	.05	.5

WHOLE LINE

29.26	297	.05	.5
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CLOSING ERRORS=
= 14.6 MM
2.7 MM/SQRT(KM)

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 72

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
7201	TIE	13.5159			
			4.650	53	.1814
7202		13.6956			
			3.538	35	.2774
300730		13.9716			
			2.952	32	-.0988
7203		13.8717			
			2.918	34	.2945
7204		14.1651			
			2.728	29	-1.5533
7205		12.6108			
			2.164	22	1.2392
300739		13.8492			
			1.864	20	.1070
7206		13.9554			
			2.132	22	-.0349
300738		13.9197			
			3.096	31	.3768
7207		14.2954			
			3.060	31	.1306
7208		14.4248			
			2.404	25	.2713
7209	TIE	14.6952			
			2.828	28	.1115
7210		14.8070			
			3.830	39	.1069
7211		14.9144			
			3.470	36	1.2594
7212		16.1742			
			3.060	33	-.7798
7213		15.3948			
			3.488	36	.5638
300750		15.9590			
			2.946	30	-.1134
7214		15.8460			
			3.042	32	.4571
7215		16.3034			
			2.594	26	-.0736
7216		16.2301			
			1.668	17	-.2841
7217		15.9462			
			2.226	24	1.2807
7218	TIE	17.2272			
			3.146	33	-1.9497
7219		15.2764			
			2.920	30	-.7556
7220		14.5197			
			2.916	30	2.6699
7221		17.1885			
			3.132	31	-1.6471
7222		15.5403			
			2.960	30	1.2157
7223		16.7549			
			2.890	29	-.0330
7224		16.7208			
			2.496	25	.6522

22

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

7225		17.3721			
			1.462	17	1.7461
300751	FIX	19.1177			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
31.51	334	.04	.4
29.15	301	-.01	-.1
21.92	225	.04	.4

WHOLE LINE

82.58	860	.02	.2
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CLOSING ERRORS=
= 16.4 MM
1.8 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 83

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
300752	TIE	18.5769			
			2.852	30	-.5006
8301		18.0744			
			2.824	29	-.1768
8302		17.8958			
			1.178	12	-.7077
108301		17.1874			
			2.890	29	.5641
8303		17.7496			
			2.844	29	.7647
8304		18.5125			
			2.760	29	-.4866
8305		18.0241			
			2.036	21	1.1458
8306		19.1686			
			3.874	40	.8705
8307		20.0366			
			1.174	12	2.2569
8308	TIE	22.2928			
			2.850	27	-2.9773
8309		19.3136			
			3.950	41	.5866
300765	TIE	19.8977			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
22.43	231	.06	.6
6.80	68	.06	.6

WHOLE LINE

29.23	299	.06	.6
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CLOSING ERRORS= 18.8 MM
 = 3.5 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 74

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
7305	TIE	18.0766			
			3.170	33	.6364
7401		18.7112			
			2.660	29	.4072
7402		19.1169			
			3.080	33	.7825
300765	TIE	19.8977			
			2.990	30	-.9605
7403		18.9336			
			3.280	33	.2681
7404		19.1978			
			2.995	30	1.4919
7405		20.6861			
			3.360	34	-.3712
7406		20.3108			
			4.184	43	1.0596
7407		21.3654			
			2.305	24	.1471
300007		21.5097			
			1.018	10	-.3452
7507	TIE	21.1633			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
8.91	95	.05	.6
20.13	204	.12	1.2

WHOLE LINE

29.04	299	.10	1.0
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CLOSING ERRORS= 29.2 MM
 = 5.4 MM/SQRT(KM)



LINE 75A

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
300766	TIE	22.7823			
			3.134	31	-1.0794
7501		21.7048	2.608	25	-.0090
7502		21.6974	2.888	29	-.6188
7503		21.0804	2.928	29	.3741
7504		21.4563	3.102	31	.8223
7505		22.2806	2.434	26	-.4856
7506		21.7965	2.790	31	-.6349
7507	TIE	21.1633	3.950	40	-.2642
7508		20.8975	2.852	29	-.1878
7509		20.7085	3.006	31	1.9945
7510		22.7017	3.000	30	1.2606
7511		23.9611	2.408	25	-.5799
7512		23.3802	2.824	29	.7605
7513		24.1395	2.932	30	.9964
7514		25.1347	2.652	27	.6888
7515		25.8224	2.809	29	-1.1003
7516		24.7209	3.070	31	1.4583
7517		26.1779	2.952	30	.7839
7518		26.9606	2.494	26	-.1310
7519		26.8286	2.726	28	1.3218
7520		28.1492	2.750	26	-.7207
7521		27.4274	3.376	33	.9239
7522		28.3499	3.034	31	2.4911
7523		30.8397	2.455	25	-.8677
7524	TIE	29.9710	3.900	40	1.6209
7525		31.5898	2.974	29	.0780
7526		31.6662	2.424	24	-.3279
7527		31.3369	3.694	36	.5772

Y29

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

7528		31.9121			
			2.366	24	.3690
7529		32.2799			
			3.674	36	.5932
300004	TIE	32.8711			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
19.88	202	-.06	-.6
49.29	500	.04	.4
19.03	189	.05	.5

WHOLE LINE

88.21	891	.02	.2
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CLOSING ERRORS= 18.5 MM
= 2.0 MM/SQRT(KM)

28

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

LINE 75B

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
107501	33.5970			
		3.490	35	-1.3186
7530	32.2784			
		3.400	35	.5927
300004 TIE	32.8711			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
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6.89	70	.00	.0
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WHOLE LINE

6.89	70	.00	.0
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CLOSING ERRORS=	.0 MM
=	.0 MM/SQRT(KM)

29

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 294

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900294	30.4490			
		1.264	13	.2507
7652 TIE	30.6997			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
1.26	13	.00	.0

WHOLE LINE

1.26	13	.00	.0
------	----	-----	----

CLOSING ERRORS=	.0 MM
=	.0 MM/SQRT(KM)

Y25

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 77

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900077	26.5868			
		.562	7	2.6052
7621 TIE	29.1920			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.56	7	.00	.0

WHOLE LINE

.56	7	.00	.0
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CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

YR2

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 63

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900063		20.2103			
108008	FIX	20.9199	4.038	40	.7096

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
4.04	40	.00	.0

WHOLE LINE

4.04	40	.00	.0
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CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

260

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 155

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900155	21.9959			
		.020	1	.2969
8308 TIE	22.2928			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.02	1	.00	.0

WHOLE LINE

.02	1	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

262

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 64

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900064	18.2566			
		5.280	52	.3203
300752 TIE	18.5769			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
5.28	52	.00	.0

WHOLE LINE

5.28	52	.00	.0
------	----	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

262

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 11/A

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900111	16.4469			
		.028	1	.7803
7218 TIE	17.2272			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.03	1	.00	.0

WHOLE LINE

.03	1	.00	.0
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CLOSING ERRORS= .0 MM
= .0 MM/SQRT(KM)

266

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 324

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900324	14.6893			
		.022	1	.3414
7105 TIE	15.0307			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.02	1	.00	.0

WHOLE LINE

.02	1	.00	.0
-----	---	-----	----

CLOSING ERRORS= .0 MM
= .0 MM/SQRT(KM)

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 11

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900110	13.6482			
		.014	1	.8777
7109 TIE	14.5259			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.01	1	.00	.0

WHOLE LINE

.01	1	.00	.0
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CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

268

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 49

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900049	13.0779			
		.040	1	.4380
7201 TIE	13.5159			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.04	1	.00	.0

WHOLE LINE

.04	1	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

203

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

Connection to water level station 66

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900066	12.7245			
		.490	4	1.7383
6708 TIE	14.4628			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.49	4	.00	.0

WHOLE LINE

.49	4	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

269

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 313

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900313	13.6043			
		1.080	11	-1.2109
7006 TIE	12.3934			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
1.08	11	.00	.0

WHOLE LINE

1.08	11	.00	.0
------	----	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

201

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 149.1

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
901491	12.0060			
		.006	1	.4250
7003 TIE	12.4310			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.01	1	.00	.0

WHOLE LINE

.01	1	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

262

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 17.1

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900171	11.5618			
		.006	1	.2984
7001 TIE	11.8602			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.01	1	.00	.0

WHOLE LINE

.01	1	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

281

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 151

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900151	11.1232			
		.010	1	.0265
6701 TIE	11.1497			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.01	1	.00	.0

WHOLE LINE

.01	1	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

282

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 91.2

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900912	10.4394			
8213 TIE	11.1915	3.106	30	.7521

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
3.11	30	.00	.0

WHOLE LINE

3.11	30	.00	.0
------	----	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

282

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 91.9R

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900919	9.9559			
		1.908	19	-.9425
8204 TIE	9.0134			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
1.91	19	.00	.0

WHOLE LINE

1.91	19	.00	.0
------	----	-----	----

CLOSING ERRORS=	.0 MM
=	.0 MM/SQRT(KM)

28

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

Connection to water level station 51

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900051	9.0774			
		.014	1	.3122
6403 TIE	9.3896			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.01	1	.00	.0

WHOLE LINE

.01	1	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

Connection to water level station 101

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900101	8.3935	2.752	25	1.5966
6411 TIE	9.9901			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
2.75	25	.00	.0

WHOLE LINE

2.75	25	.00	.0
------	----	-----	----

CLOSING ERRORS=
= .0 MM
 .0 MM/SQRT(KM)

284

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 169

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900169	7.1908			
		.042	1	1.2005
6419 TIE	8.3913			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.04	1	.00	.0

WHOLE LINE

.04	1	.00	.0
-----	---	-----	----

CLOSING ERRORS=	.0 MM
=	.0 MM/SQRT(KM)

283

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 52

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900052	7.6306			
		.014	1	.2206
6417 TIE	7.8512			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.01	1	.00	.0

WHOLE LINE

.01	1	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 69

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900069	7.5192			
		.015	1	.0021
6313 TIE	7.5213			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.01	1	.00	.0

WHOLE LINE

.01	1	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

286

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 14.5

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900145	8.6691			
		2.516	26	3.3778
8137 TIE	12.0469			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
2.52	26	.00	.0

WHOLE LINE

2.52	26	.00	.0
------	----	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

287

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 68

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900068	9.6581			
6223 TIE	9.0630	.043	1	-.5951

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.04	1	.00	.0

WHOLE LINE

.04	1	.00	.0
-----	---	-----	----

CLOSING ERRORS=	.0 MM
=	.0 MM/SQRT(KM)

280

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 505

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900505	9.4870			
		.030	1	.2558
8122 TIE	9.7428			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.03	1	.00	.0

WHOLE LINE

.03	1	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

242

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 14

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900014	8.8732			
		.711	9	.9233
300712 TIE	9.7965			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.71	9	.00	.0

WHOLE LINE

.71	9	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

202

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 50

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900050	11.8051			
		.015	1	.6695
6205 TIE	12.4746			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.01	1	.00	.0

WHOLE LINE

.01	1	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

296

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 186

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900186	11.8418			
		.016	1	.3066
6203 TIE	12.1484			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.01	1	.00	.0

WHOLE LINE

.01	1	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

248

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

Connection to water level station 134

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
901340	13.4229			
		8.430	86	-2.0503
6201 TIE	11.3726			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
8.43	86	.00	.0

WHOLE LINE

8.43	86	.00	.0
------	----	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

2 cc

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 134.A

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
901341	17.6086			
		.814	8	-1.3418
5119 TIE	16.2668			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.81	8	.00	.0

WHOLE LINE

.81	8	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)



207

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 8

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900008	13.3851			
		1.026	11	-.8482
107802 TIE	12.5369			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
1.03	11	.00	.0

WHOLE LINE

1.03	11	.00	.0
------	----	-----	----

CLOSING ERRORS= .0 MM
= .0 MM/SQRT(KM)

289

FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

Connection to water level station 134.B

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
901342	19.9821			
		1.318	13	-1.4686
5302 TIE	18.5135			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
1.32	13	.00	.0

WHOLE LINE

1.32	13	.00	.0
------	----	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

258

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 35

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900035	17.2081			
		.016	1	.5845
5617 TIE	17.7926			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.02	1	.00	.0

WHOLE LINE

.02	1	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

2 PA

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 34

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900034	23.5268			
		.018	1	.2969
5614 TIE	23.8237			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.02	1	.00	.0

WHOLE LINE

.02	1	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

230

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 53

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900053	26.8473			
		.036	1	.1677
5912 TIE	27.0150			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.04	1	.00	.0

WHOLE LINE

.04	1	.00	.0
-----	---	-----	----

CLOSING ERRORS= .0 MM
 = .0 MM/SQRT(KM)

292

Connection to water level station 223

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900223	22.0086			
		.018	1	.4739
5704 TIE	22.4825			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.02	1	.00	.0

WHOLE LINE

.02	1	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

22

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

Connection to water level station 46.9L

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
900469	21.3015			
		.062	2	-1.9045
5244 TIE	19.3970			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
.06	2	.00	.0

WHOLE LINE

.06	2	.00	.0
-----	---	-----	----

CLOSING ERRORS=
= .0 MM
.0 MM/SQRT(KM)

22

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994
VERTICAL GROUND CONTROL ADJUSTMENT

SUMMARY OF RESULTS

CLOSING NUMBER	BM:S NUMBER	DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS	
				MM	MM/SQRT(KM)
300764 -	5244	1.01	10	1.1	1.0
5244 -	7305	14.42	89	15.1	4.0
7305 -	7218	39.54	422	19.2	3.1
6103 -	5821	77.86	806	14.3	1.6
5115 -	300764	61.39	638	-6.3	-.8
300764 -	5219	6.20	63	-7.1	-2.9
5219 -	5220	4.04	41	-3.4	-1.7
5220 -	5225	17.22	182	-14.7	-3.5
5225 -	5226	2.69	28	-2.2	-1.3
5226 -	5239	36.71	375	5.0	.8
5239 -	5126	8.50	87	2.6	.9
5314 -	5220	5.27	55	.0	.0
105201 -	5226	.33	6	.0	.0
5109 -	7201	22.46	183	-17.5	-3.7
7201 -	6524	50.70	519	-42.1	-5.9
6524 -	6529	13.68	141	-15.0	-4.1
7507 -	7615	49.31	488	8.1	1.1
7615 -	300774	17.96	183	2.3	.5
300774 -	7621	2.22	24	-.3	-.2
7621 -	300772	109.41	1094	-14.8	-1.4
300772 -	7652	3.07	33	.4	.2
7652 -	7524	2.16	22	.3	.2
300772 -	300774	23.59	234	-6.2	-1.3
108001 -	300004	.87	11	1.8	2.0
300004 -	108003	19.95	202	-5.9	-1.3
108003 -	108004	18.47	187	-19.6	-4.6
108004 -	108005	7.50	76	-7.7	-2.8
108005 -	300766	7.24	74	-10.2	-3.8
300766 -	108006	.16	2	-.1	-.3
108006 -	108008	16.63	169	4.9	1.2
08008 -	300752	12.84	129	-6.7	-1.9
300752 -	108009	13.61	137	-15.8	-4.3
108009 -	300751	5.82	59	3.7	1.5
300751 -	108010	5.22	53	-8.2	-3.6
300017 -	108010	20.83	211	.0	.0
108016 -	300004	3.70	37	-10.9	-5.7
5101 -	300726	.42	5	.2	.3
300726 -	300712	38.49	402	31.9	5.1
300712 -	300711	18.20	189	2.7	.6
107905 -	300711	6.65	68	.0	.0
5138 -	107802	20.98	216	-17.9	-3.9
107802 -	5411	14.06	143	-12.0	-3.2
5411 -	107803	.74	8	-.8	-.9
107803 -	300744	1.45	16	-1.5	-1.3
300744 -	5802	26.86	272	1.6	.3
300726 -	6201	4.56	46	-1.7	-.8
6201 -	6203	6.46	67	-2.4	-.9
6203 -	6205	5.13	56	-1.9	-.8
6205 -	6223	57.61	620	-21.5	-2.8
6223 -	6230	20.17	216	-7.5	-1.7

FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

VERTICAL GROUND CONTROL ADJUSTMENT

SUMMARY OF RESULTS

CLOSING NUMBER	BM:S NUMBER	DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS	
				MM	MM/SQRT(KM)
5802 -	6103	10.55	111	-5.3	-1.6
6103 -	300712	33.54	358	-22.9	-4.0
5239 -	5912	35.48	361	-6.1	-1.0
5912 -	5613	1.57	16	-.3	-.2
300022 -	5802	5.72	60	-6.2	-2.6
5802 -	5821	58.62	618	-31.0	-4.1
5225 -	5704	10.21	109	-4.4	-.1
5704 -	7615	52.21	475	-2.0	-.3
5226 -	5613	39.56	437	-37.6	-6.0

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

5613 -	5614	3.10	34	-3.5	-2.0
5614 -	5617	12.79	132	-14.4	-4.0
5617 -	5133	27.67	281	-31.0	-5.9
5113 -	300744	28.79	293	31.6	5.9
5126 -	5411	35.50	373	-6.6	-1.1
5125 -	5302	5.48	55	1.6	.7
5302 -	5219	34.04	345	10.0	1.7
300022 -	5101	2.92	31	3.2	1.9
5101 -	5109	22.04	230	13.9	3.0
5109 -	5113	14.26	149	20.1	5.3
5113 -	5115	6.11	65	1.9	.8
5115 -	5119	11.43	116	4.8	1.4
5119 -	5125	17.62	182	7.3	1.7
5125 -	5126	2.87	30	.3	.2
5126 -	5133	24.36	248	14.9	3.0
5133 -	5138	17.37	186	-8.8	-2.1
5138 -	5821	11.54	125	4.0	1.2
300001 -	6313	54.81	597	.0	.0
6313 -	8137	10.59	107	.0	.0
00705 -	6403	8.73	90	-1.8	-.6
6403 -	6411	23.18	241	-4.7	-1.0
6411 -	6417	23.62	238	-4.8	-1.0
6417 -	6419	5.87	62	-1.2	-.5
6419 -	106401	18.39	190	-3.7	-.9
106401 -	300706	22.73	236	-4.6	-1.0
300708 -	8204	12.09	98	3.7	1.1
8204 -	300706	3.19	33	1.0	.5
300706 -	8213	27.30	278	2.8	.5
8213 -	300705	3.71	40	.4	.2
300705 -	108101	101.45	1055	30.8	3.1
108101 -	108103	4.38	45	3.0	1.4
108103 -	108105	9.51	98	14.0	4.5
108105 -	108106	7.51	76	13.7	5.0
108106 -	108108	9.04	92	7.2	2.4
108108 -	108109	8.14	83	-6.2	-2.2
108109 -	6529	.44	6	2.1	3.1
6529 -	108110	3.29	34	11.8	6.5
108110 -	8122	24.23	142	12.8	2.6
8122 -	300708	2.73	29	1.4	.9
300708 -	6230	4.02	41	.9	.5
6230 -	8137	50.29	512	-7.4	-1.0

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FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

V E R T I C A L G R O U N D C O N T R O L A D J U S T M E N T

S U M M A R Y O F R E S U L T S

CLOSING NUMBER	BM:S NUMBER	DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS	
				MM	MM/SQRT(KM)
8137 -	300711	16.51	168	-2.4	-.6
6524 -	6602	5.62	59	1.5	.6
6602 -	6612	32.05	339	-1.2	-.2
6612 -	108101	33.43	348	-19.8	-3.4
6602 -	6701	3.11	30	1.0	.5
6701 -	300716	19.25	202	5.9	1.3
300716 -	6708	2.29	24	1.2	.8
6708 -	300734	16.72	173	8.9	2.2
300734 -	6721	29.93	297	15.9	2.9
6721 -	300751	25.25	257	26.0	5.2
6612 -	300734	49.27	490	16.1	2.3
6612 -	7001	2.91	33	.7	.4
7001 -	7003	4.15	46	.9	.5
7003 -	7006	9.35	90	2.1	.7
7006 -	300716	7.59	79	1.7	.6
300734 -	7201	20.79	220	6.8	1.5
7209 -	7105	13.33	138	6.7	1.8
7105 -	7109	12.02	119	6.0	1.7
7109 -	6721	3.91	40	2.0	1.0
7201 -	7209	31.51	334	11.9	2.1
7209 -	7218	29.15	301	-3.5	-.6
7218 -	300751	21.92	225	8.0	1.7
300752 -	8308	22.43	231	14.4	3.0
8308 -	300765	6.80	68	4.4	1.7
7305 -	300765	8.91	95	5.0	1.7
300765 -	7507	20.13	204	24.2	5.4

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FINNMAP

COASTAL MAPPING PROJECT: FAP 2ND ORDER

20 APRIL 1994

300766	-	7507	19.88	202	-12.3	-2.8
7507	-	7524	49.29	500	20.5	2.9
7524	-	300004	19.03	189	10.3	2.4
107501	-	300004	6.89	70	.0	.0
900294	-	7652	1.26	13	.0	.0
900077	-	7621	.56	7	.0	.0
900063	-	108008	4.04	40	.0	.0
900155	-	8308	.02	1	.0	.0
900064	-	300752	5.28	52	.0	.0
900111	-	7218	.03	1	.0	.0
900324	-	7105	.02	1	.0	.0
900110	-	7109	.01	1	.0	.0
900049	-	7201	.04	1	.0	.0
900066	-	6708	.49	4	.0	.0
900313	-	7006	1.08	11	.0	.0
901491	-	7003	.01	1	.0	.0
900171	-	7001	.01	1	.0	.0
900151	-	6701	.01	1	.0	.0
900912	-	8213	3.11	30	.0	.0
00919	-	8204	1.91	19	.0	.0
900051	-	6403	.01	1	.0	.0
900101	-	6411	2.75	25	.0	.0
900169	-	6419	.04	1	.0	.0
900052	-	6417	.01	1	.0	.0

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FINNMAP COASTAL MAPPING PROJECT: FAP 2ND ORDER 20 APRIL 1994

V E R T I C A L G R O U N D C O N T R O L A D J U S T M E N T

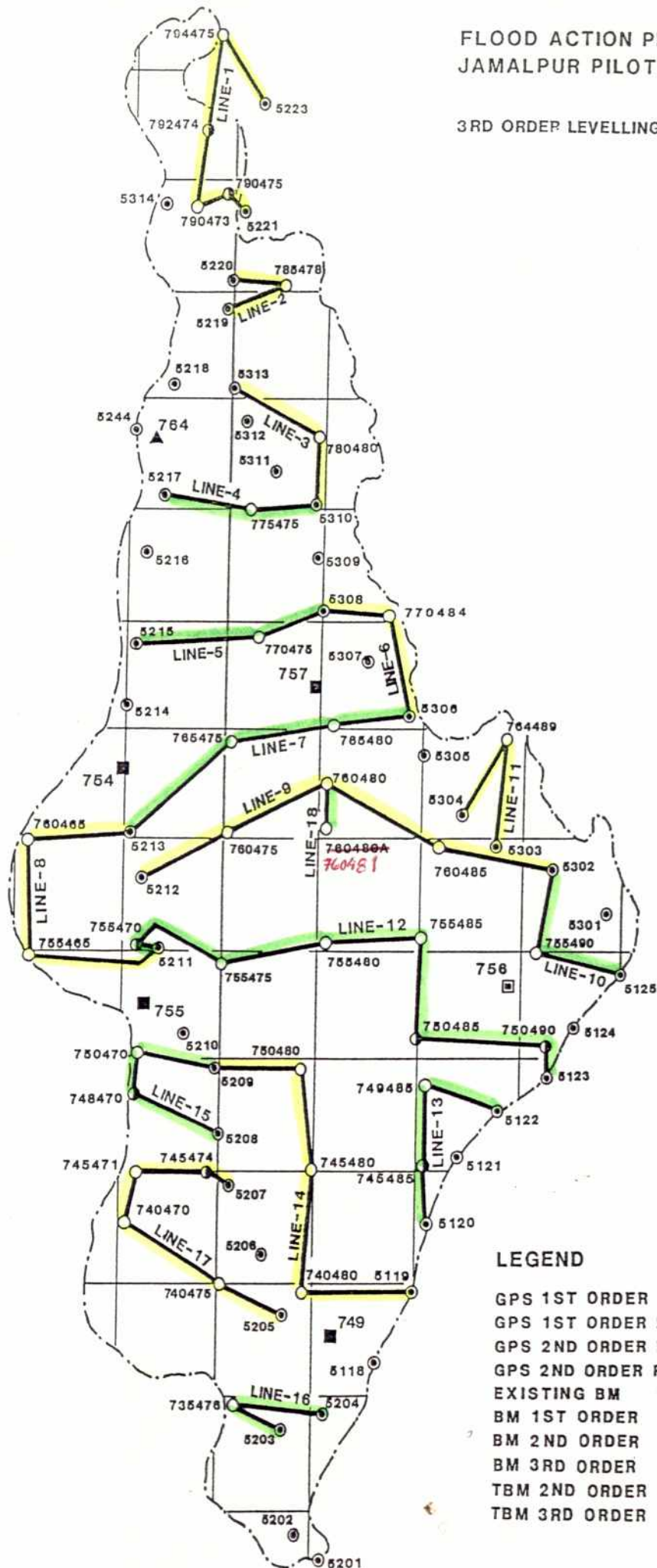
S U M M A R Y O F R E S U L T S

CLOSING NUMBER	BM:S NUMBER	DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS	
				MM	MM/SQRT(KM)
900069 -	6313	.01	1	.0	.0
900145 -	8137	2.52	26	.0	.0
900068 -	6223	.04	1	.0	.0
900505 -	8122	.03	1	.0	.0
900014 -	300712	.71	9	.0	.0
900050 -	6205	.01	1	.0	.0
900186 -	6203	.01	1	.0	.0
901340 -	6201	8.43	86	.0	.0
901341 -	5119	.81	8	.0	.0
900008 -	107802	1.03	11	.0	.0
901342 -	5302	1.32	13	.0	.0
00035 -	5617	.02	1	.0	.0
900034 -	5614	.02	1	.0	.0
900053 -	5912	.04	1	.0	.0
900223 -	5704	.02	1	.0	.0
900469 -	5244	.06	2	.0	.0

ADJUSTED POINTS	850
ST. ERROR OF ONE KM LEVELLING	4.39 MM
LENGTH OF LINES	2468.12 KM
INSTRUMENT STATIONS	25184

FLOOD ACTION PLAN JAMALPUR PILOT AREA

3RD ORDER LEVELLING



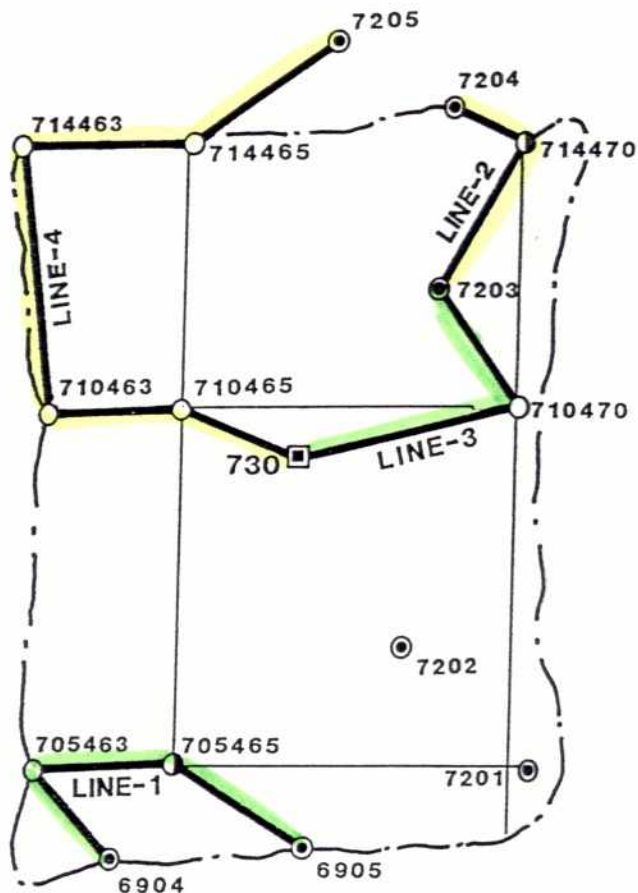
LEGEND

- GPS 1ST ORDER POINT (OLD) ●
- GPS 1ST ORDER POINT (NEW) ▲
- GPS 2ND ORDER POINT (OLD) ■
- GPS 2ND ORDER POINT (NEW) ■
- EXISTING BM ●
- BM 1ST ORDER ●
- BM 2ND ORDER ●
- BM 3RD ORDER ●
- TBM 2ND ORDER ●
- TBM 3RD ORDER ●

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FLOOD ACTION PLAN SIRAJGANJ PILOT AREA

3RD ORDER LEVELLING

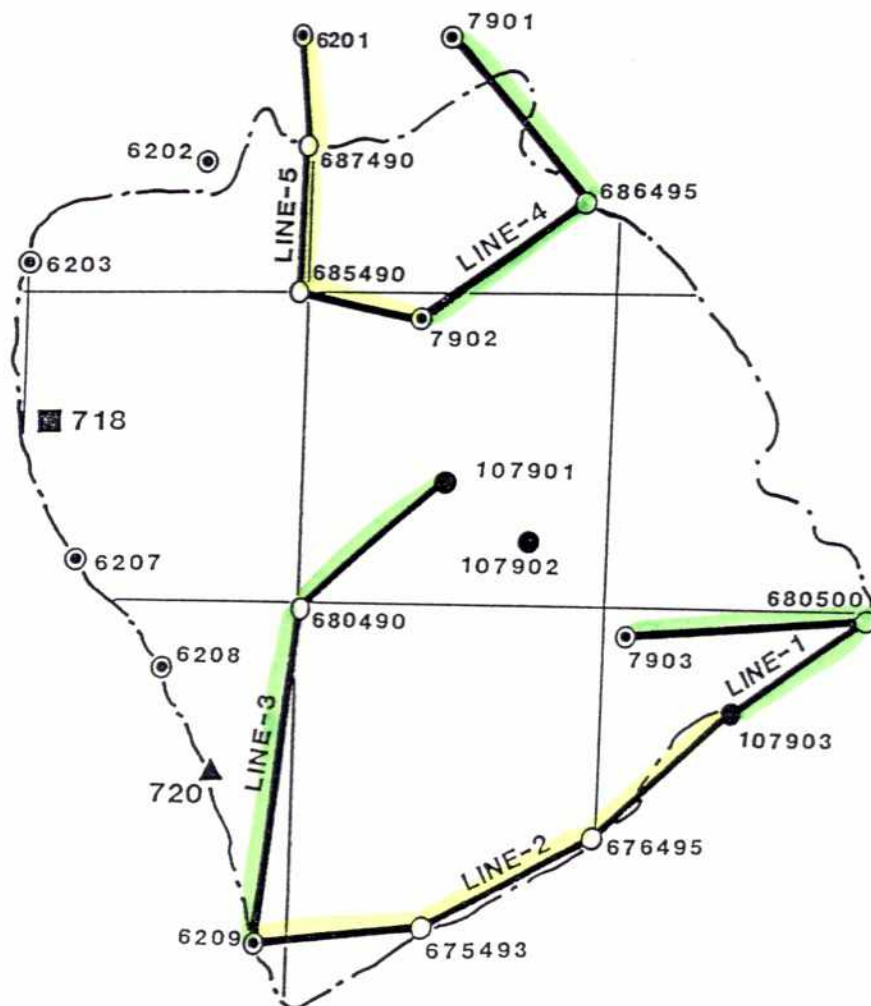


LEGEND

GPS 1ST ORDER POINT (OLD)	⊙
GPS 1ST ORDER POINP (NEW)	▲
GPS 2ND ORDER POINT (OLD)	□
GPS 2ND ORDER POINT (NEW)	■
EXISTING BM	●
BM 1ST ORDER	⊙
BM 2ND ORDER	⊙
BM 3RD ORDER	○
TBM 2ND ORDER	⊙
TBM 3RD ORDER	⊙

FLOODACTION PLAN TANGAIL PILOT AREA

3RD ORDER LEVELLING



LEGEND

- GPS 1ST ORDER POINT (OLD) (circle with dot)
- GPS 1ST ORDER POINP (NEW) (triangle)
- GPS 2ND ORDER POINT (OLD) (square)
- GPS 2ND ORDER POINT (NEW) (filled square)
- EXISTING BM (circle with cross)
- BM 1ST ORDER (circle with dot)
- BM 2ND ORDER (circle with dot)
- BM 3RD ORDER (circle with dot)
- TBM 2ND ORDER (circle with dot)
- TBM 3RD ORDER (circle with dot)

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V E R T I C A L G R O U N D C O N T R O L A D J U S T M E N T

CLIENT FINNIDA

SUPERVISOR NATIONAL BOARD OF SURVEY OF FINLAND
 BANGDADESH INLAND WATER TRANSPORT AUTHORITY
 SURVEY OF BANGLADESH

CONTRACT BANGLADESH MAPPING FOR DEVELOPMENT 1:10 000,
 FIRST PHASE: COASTAL AREA
 and extension for
 FLOOD ACTION PLAN

3 RD ORDER LEVELLING

Connection to following Bench Marks
 through 2 nd order levelling:

NAME OF BENCH MARK	LOCATION	NUMBER IN ADJUSTMENT
Rangpur DC Office	LINE 80	108001
Karmical Collage	LINE 80	108016
Mithapukur	LINE 80	108003
Uzirpur	LINE 80	108004
Dhaperhat	LINE 80	108005
Palasbari	LINE 80	108006
Gobindagonj	LINE 80	108008
Nawdapara	LINE 80	108009
Bogra Circuit House	LINE 80	300751
Ashekpur	LINE 80	108010
Kalico Cotton	LINE 81	108101
Dhopa Ghata	LINE 81	108103
Ataikula	LINE 81	108105
Gang Hati	LINE 81	108106
Char Gobindapur	LINE 81	108108
Kashinatpur	LINE 81	108109
Natuabari	LINE 81	108110
Char Changa	Hatia	102701
Sandwip	Sandwip	100601

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FINNMAP COASTAL MAPPING PROJECT: NORTH-BLOCK DATE: 4 OCT 1994

FINNMAP ** VERTICAL GROUND CONTROL ADJUSTMENT ** FINNMAP

COASTAL MAPPING PROJECT: 3RD ORDER LEVELLING / FLOOD ACTION PLAN

FINAL ELEVATIONS OF THE 1ST AND LAST BM OF EACH SECTION AND LINE

BM	ELEVATION M	CORRECTION M	ST.ERROR M
5223	22.1217		
5221	21.2887		
5220	20.4120		
5219	20.0864		
5313	20.2366		
5310	19.7968		
5217	21.0148		
5215	18.6062		
5308	18.3668		
5306	19.0520		
5213	18.0777		
5211	17.9103		
5212	18.4647		
5302	18.5134		
5125	16.7657		
5304	18.6411		
5303	17.5737		
5123	16.9113		
5122	16.5779		
5120	16.7362		
5209	14.4869		
5119	16.2668		

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5208	16.7105		
5204	15.2133		
5203	15.2235		
5207	16.4851		
5205	16.0336		
6904	13.8057		
6905	14.1274		
7204	14.1651		
7203	13.8717		
300730	13.9716		
7205	12.6108		
107903	11.2700		
7903	10.6281		
6209	11.6807		
107901	11.4054		
7901	13.7587		
7902	12.7831		
6201	11.3726		
760480	18.2183	-.0199	.0134
760481	16.3831	-.0199	.0182
ST. ERROR OF ONE STATION			2.18 MM

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FINNMAP

COASTAL MAPPING PROJECT: NORTH-BLOCK

DATE: 4 OCT 1994

Line 1

Order: 3

JAMALPUR

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5223	FIX	22.1217			
			3.331	39	-.8888
794475		21.2392			
			4.285	40	.1525
792474		21.3982			
			3.510	38	-.1650
790473		21.2394			
			2.543	27	-.8300
790475		20.4137			
			.831	9	.8735
5221	FIX	21.2887			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
14.50	153	-.16	-1.7

WHOLE LINE

14.50	153	-.16	-1.7
-------	-----	------	------

CLOSING ERRORS= -24.8 MM
 = -6.5 MM/SQRT(KM)

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FINNMAP COASTAL MAPPING PROJECT: NORTH-BLOCK DATE: 4 OCT 1994

Line 3 Order: 3 JAMALPUR

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5313	FIX	20.2366			
			5.854	61	-1.0055
780480		19.2319			
			3.189	32	.5645
5310	FIX	19.7968			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
9.04	93	-.01	-.1

WHOLE LINE

9.04	93	-.01	-.1
------	----	------	-----

CLOSING ERRORS= -1.2 MM
= -.4 MM/SQRT(KM)

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FINNMAP

COASTAL MAPPING PROJECT: NORTH-BLOCK

DATE: 4 OCT 1994

Line 4

Order: 3

JAMALPUR

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5310	FIX	19.7968			
			3.355	40	-.5300
775475		19.2616			
			5.461	57	1.7605
5217	FIX	21.0148			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
----------------	--------------------	----------------------------	-------

8.82	97	.13	1.4
------	----	-----	-----

WHOLE LINE

8.82	97	.13	1.4
------	----	-----	-----

CLOSING ERRORS=
= 12.5 MM
4.2 MM/SQRT(KM)

290

FINNMAP

COASTAL MAPPING PROJECT: NORTH-BLOCK

DATE: 4 OCT 1994

Line 5

Order: 3

JAMALPUR

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5215	FIX	18.6062			
			6.289	63	-1.2925
770475		17.3156			
			4.198	38	1.0500
5308	FIX	18.3668			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
----------------	--------------------	----------------------------	-------

10.49	101	-.03	-.3
-------	-----	------	-----

WHOLE LINE

10.49	101	-.03	-.3
-------	-----	------	-----

CLOSING ERRORS= -3.1 MM
= -1.0 MM/SQRT(KM)

2/2

FINNMAP

COASTAL MAPPING PROJECT: NORTH-BLOCK

DATE: 4 OCT 1994

Line 6

Order: 3

JAMALPUR

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5308	FIX	18.3668			
			2.580	29	1.0615
770484		19.4191			
			5.122	51	-.3510
5306	FIX	19.0520			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
7.70	80	.32	3.3

WHOLE LINE

7.70	80	.32	3.3
------	----	-----	-----

CLOSING ERRORS=
= 25.3 MM
9.1 MM/SQRT(KM)

282

FINNMAP COASTAL MAPPING PROJECT: NORTH-BLOCK DATE: 4 OCT 1994
 Line 7 Order: 3 JAMALPUR

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5306	FIX	19.0520			
			3.978	43	-1.5595
765480		17.4904			
			5.367	39	.3280
765475		17.8164			
			6.508	55	.2640
5213	FIX	18.0777			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
15.85	137	.05	.4

WHOLE LINE

15.85	137	.05	.4
-------	-----	-----	----

CLOSING ERRORS=
 = 6.8 MM
 1.7 MM/SQRT(KM)

YB2

FINNMAP

COASTAL MAPPING PROJECT: NORTH-BLOCK

DATE: 4 OCT 1994

Line 8

Order: 3

JAMALPUR

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5213	FIX	18.0777			
			5.396	53	-.7310
760465		17.3622			
			5.760	56	-.4985
755465		16.8800			
			6.174	61	1.0125
5211	FIX	17.9103			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
17.33	170	-.29	-2.9

WHOLE LINE

17.33	170	-.29	-2.9
-------	-----	------	------

CLOSING ERRORS=	-49.6 MM
=	-11.9 MM/SQRT(KM)

286

FINNMAP

COASTAL MAPPING PROJECT: NORTH-BLOCK

DATE: 4 OCT 1994

Line 9

Order: 3

JAMALPUR

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5212	FIX	18.4647			
			3.086	21	-.1560
760475		18.3029			
			7.765	51	-.0705
760480	TIE	18.2183			
			6.137	39	.6170
760485		18.8245			
			6.300	40	-.3000
5302	FIX	18.5134			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

ISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
10.85	72	.28	1.8
12.44	79	.28	1.8

WHOLE LINE

23.29	151	.28	1.8
-------	-----	-----	-----

CLOSING ERRORS=
= 41.8 MM
8.7 MM/SQRT(KM)

268

FINNMAP

COASTAL MAPPING PROJECT: NORTH-BLOCK

DATE: 4 OCT 1994

Line 10

Order: 3

JAMALPUR

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5302	FIX	18.5134			
			3.113	23	-.6795
755490		17.8271			
			3.473	25	-1.0540
5125	FIX	16.7657			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
----------------	--------------------	----------------------------	-------

6.59	48	.30	2.2
------	----	-----	-----

WHOLE LINE

6.59	48	.30	2.2
------	----	-----	-----

CLOSING ERRORS=
= 14.2 MM
5.5 MM/SQRT(KM)

282

FINNMAP

COASTAL MAPPING PROJECT: NORTH-BLOCK

DATE: 4 OCT 1994

Line 11

Order: 3

JAMALPUR

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5304	FIX	18.6411			
			3.802	34	-1.2685
764489		17.3770			
			4.787	48	.1905
5303	FIX	17.5737			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
----------------	--------------------	----------------------------	-------

8.59	82	-.13	-1.2
------	----	------	------

WHOLE LINE

8.59	82	-.13	-1.2
------	----	------	------

CLOSING ERRORS=
= -10.6 MM
-3.6 MM/SQRT(KM)

867

FINNMAP COASTAL MAPPING PROJECT: NORTH-BLOCK DATE: 4 OCT 1994
 Line 12 Order: 3 JAMALPUR

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5211	FIX	17.9103			
			1.114	11	-.4735
755470		17.4334			
			5.030	50	-.2555
755475		17.1626			
			6.248	35	-.2475
755480		16.9044			
			5.045	34	.3405
755485		17.2344			
			4.768	25	-1.0115
750485		16.2153			
			5.891	31	.8770
750490		17.0828			
			1.080	8	-.1690
5123	FIX	16.9113			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
29.18	194	.31	2.0

WHOLE LINE

29.18	194	.31	2.0
-------	-----	-----	-----

CLOSING ERRORS=
 = 59.5 MM
 11.0 MM/SQRT(KM)

209

FINNMAP COASTAL MAPPING PROJECT: NORTH-BLOCK DATE: 4 OCT 1994
 Line 13 Order: 3 JAMALPUR

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5122	FIX	16.5779			
			3.821	38	.9415
749485		17.5121			
			4.995	51	-.1830
745485		17.3192			
			3.879	39	-.5755
5120	FIX	16.7362			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
12.69	128	.19	1.9

WHOLE LINE

12.69	128	.19	1.9
-------	-----	-----	-----

CLOSING ERRORS=
 = 24.7 MM
 6.9 MM/SQRT(KM)

28

FINNMAP COASTAL MAPPING PROJECT: NORTH-BLOCK DATE: 4 OCT 1994
Line 14 Order: 3 JAMALPUR

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5209	FIX	14.4869			
			4.821	46	1.8460
750480		16.3196			
			4.764	28	.1410
745480		16.4525			
			5.795	56	-1.3060
740480		15.1304			
			5.539	54	1.1520
5119	FIX	16.2668			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

ISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
20.92	184	.29	2.5

WHOLE LINE

20.92	184	.29	2.5
-------	-----	-----	-----

CLOSING ERRORS=
= 53.1 MM
11.6 MM/SQRT(KM)

272

FINNMAP

COASTAL MAPPING PROJECT: NORTH-BLOCK

DATE: 4 OCT 1994

Line 15

Order: 3

JAMALPUR

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5209	FIX	14.4869			
			3.022	29	1.8640
750470		16.3493			
			1.633	10	-.4450
748470		15.9038			
			4.264	42	.8090
5208	FIX	16.7105			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
----------------	--------------------	----------------------------	-------

8.92	81	.05	.5
------	----	-----	----

WHOLE LINE

8.92	81	.05	.5
------	----	-----	----

CLOSING ERRORS=
= 4.4 MM
1.5 MM/SQRT(KM)

702

FINNMAP COASTAL MAPPING PROJECT: NORTH-BLOCK DATE: 4 OCT 1994
 Line 17 Order: 3 JAMALPUR

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
5207	FIX	16.4851			
			1.036	12	-.2170
745474		16.2677			
			2.603	26	.3170
745471		16.5840			
			3.100	31	-.8993
740470		15.6837			
			5.812	59	.5011
740475		16.1830			
			3.326	34	-.1484
5205	FIX	16.0336			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
15.88	162	.03	.3

WHOLE LINE

15.88	162	.03	.3
-------	-----	-----	----

CLOSING ERRORS=
 = 4.9 MM
 1.2 MM/SQRT(KM)

2

FINNMAP COASTAL MAPPING PROJECT: NORTH-BLOCK DATE: 4 OCT 1994
 Line 18 Order: 3 JAMALPUR

BM	ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
760481	16.3831			
		3.130	32	1.8352
760480 TIE	18.2183			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
3.13	32	.00	.0
WHOLE LINE			
3.13	32	.00	.0

CLOSING ERRORS=
 = .0 MM
 .0 MM/SQRT(KM)



226

FINNMAP

COASTAL MAPPING PROJECT: NORTH-BLOCK

DATE: 4 OCT 1994

Line 1

Order: 3

SIRAJGONJ

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
6904	FIX	13.8057			
			1.404	15	-1.7148
705463		12.0919			
			1.890	20	-.4227
705465		11.6705			
			3.250	33	2.4547
6905	FIX	14.1274			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
----------------	--------------------	----------------------------	-------

6.54	68	-.07	-.7
------	----	------	-----

WHOLE LINE

6.54	68	-.07	-.7
------	----	------	-----

CLOSING ERRORS=
= -4.5 MM
-1.8 MM/SQRT(KM)

8

FINNMAP COASTAL MAPPING PROJECT: NORTH-BLOCK DATE: 4 OCT 1994

Line 2 Order: 3 SIRAJGONJ

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
7204	FIX	14.1651			
			1.064	14	.1506
714470		14.3174			
			2.684	30	-.4494
7203	FIX	13.8717			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
3.75	44	-.12	-1.4

WHOLE LINE

3.75	44	-.12	-1.4
------	----	------	------

CLOSING ERRORS= -5.4 MM
 = -2.8 MM/SQRT(KM)

mdc

FINNMAP

COASTAL MAPPING PROJECT: NORTH-BLOCK

DATE: 4 OCT 1994

Line 3

Order: 3

SIRAJGONJ

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
7203	FIX	13.8717			
			4.322	47	-1.9659
710470		11.9070			
			5.232	55	2.0631
300730	FIX	13.9716			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
----------------	--------------------	----------------------------	-------

9.55	102	-.03	-.3
------	-----	------	-----

WHOLE LINE

9.55	102	-.03	-.3
------	-----	------	-----

CLOSING ERRORS=
= -2.7 MM
-.9 MM/SQRT(KM)

22/4

FINNMAP

COASTAL MAPPING PROJECT: NORTH-BLOCK

DATE: 4 OCT 1994

Line 4

Order: 3

SIRAJGONJ

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
300730	FIX	13.9716			
			3.846	40	-.3300
710465		13.6366			
			1.332	14	-.1075
710463		13.5273			
			3.764	39	.0398
714463		13.5623			
			3.030	34	-.5277
714465		13.0303			
			3.090	32	-.4155
7205	FIX	12.6108			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
15.06	159	.13	1.3

WHOLE LINE

15.06	159	.13	1.3
-------	-----	-----	-----

CLOSING ERRORS=
= 19.9 MM
5.1 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: NORTH-BLOCK

DATE: 4 OCT 1994

Line 1

Order: 3

TANGAIL

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
107903	FIX	11.2700			
			3.207	34	-.1196
680500		11.1574			
			5.148	53	-.5402
7903	FIX	10.6281			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
8.35	87	-.21	-2.1

WHOLE LINE

8.35	87	-.21	-2.1
------	----	------	------

CLOSING ERRORS= -17.9 MM
= -6.2 MM/SQRT(KM)

22

FINNMAP

COASTAL MAPPING PROJECT: NORTH-BLOCK

DATE: 4 OCT 1994

Line 2

Order: 3

TANGAIL

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
107903	FIX	11.2700			
			3.771	40	-.3983
676495		10.8841			
			2.558	27	-.1438
675493		10.7487			
			5.578	57	.9143
6209	FIX	11.6807			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
11.91	124	-.31	-3.2

WHOLE LINE

11.91	124	-.31	-3.2
-------	-----	------	------

CLOSING ERRORS= -38.5 MM
= -11.2 MM/SQRT(KM)

722

FINNMAP

COASTAL MAPPING PROJECT: NORTH-BLOCK

DATE: 4 OCT 1994

Line 3

Order: 3

TANGAIL

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
6209	FIX	11.6807			
			6.084	62	-.7068
680490		10.9533			
			4.120	43	.4664
107901	FIX	11.4054			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
10.20	105	.33	3.4

WHOLE LINE

10.20	105	.33	3.4
-------	-----	-----	-----

CLOSING ERRORS= 34.9 MM
= 10.9 MM/SQRT(KM)

200

FINNMAP

COASTAL MAPPING PROJECT: NORTH-BLOCK

DATE: 4 OCT 1994

Line 4

Order: 3

TANGAIL

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
7901	FIX	13.7587			
			4.608	53	-1.4087
686495		12.3341			
			3.304	36	.4598
7902	FIX	12.7831			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
7.91	89	.30	3.4

WHOLE LINE

7.91	89	.30	3.4
------	----	-----	-----

CLOSING ERRORS= 26.7 MM
= 9.5 MM/SQRT(KM)

FINNMAP

COASTAL MAPPING PROJECT: NORTH-BLOCK

DATE: 4 OCT 1994

Line 5

Order: 3

TANGAIL

BM		ADJUSTED ELEV. M	DISTANCE KM	NUMBER OF STAT.	OBS. H.D. M
7902	FIX	12.7831			
			2.992	32	-1.0183
685490		11.7632			
			2.978	34	1.0818
687490		12.8433			
			2.050	22	-1.4696
6201	FIX	11.3726			

LINE CLOSED BETWEEN FIXED OR JUNCTION BENCH MARKS

DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS MM/STAT.	MM/KM
8.02	88	.05	.5

WHOLE LINE

8.02	88	.05	.5
------	----	-----	----

CLOSING ERRORS=
= 4.4 MM
1.6 MM/SQRT(KM)

202

FINNMAP COASTAL MAPPING PROJECT: NORTH-BLOCK DATE: 4 OCT 1994
VERTICAL GROUND CONTROL ADJUSTMENT

SUMMARY OF RESULTS

CLOSING NUMBER	BM:S NUMBER	DISTANCE KM	NUMBER OF STAT.	CLOSING ERRORS	
				MM	MM/SQRT(KM)
5223 -	5221	14.50	153	-24.8	-6.5
5220 -	5219	5.80	61	-1.9	-.8
5313 -	5310	9.04	93	-1.2	-.4
5310 -	5217	8.82	97	12.5	4.2
5215 -	5308	10.49	101	-3.1	-1.0
5308 -	5306	7.70	80	25.3	9.1
5306 -	5213	15.85	137	6.8	1.7
5213 -	5211	17.33	170	-49.6	-11.9
5212 -	760480	10.85	72	19.9	6.1
760480 -	5302	12.44	79	21.9	6.2
5302 -	5125	6.59	48	14.2	5.5
5304 -	5303	8.59	82	-10.6	-3.6
5211 -	5123	29.18	194	59.5	11.0
5122 -	5120	12.69	128	24.7	6.9
5209 -	5119	20.92	184	53.1	11.6
5209 -	5208	8.92	81	4.4	1.5
5204 -	5203	6.94	71	-.7	-.3
5207 -	5205	15.88	162	4.9	1.2
760481 -	760480	3.13	32	.0	.0
6904 -	6905	6.54	68	-4.5	-1.8
7204 -	7203	3.75	44	-5.4	-2.8
7203 -	300730	9.55	102	-2.7	-.9
300730 -	7205	15.06	159	19.9	5.1
107903 -	7903	8.35	87	-17.9	-6.2
107903 -	6209	11.91	124	-38.5	-11.2
6209 -	107901	10.20	105	34.9	10.9
7901 -	7902	7.91	89	26.7	9.5
7902 -	6201	8.02	88	4.4	1.6

ADJUSTED POINTS	52
STANDARD ERROR OF ONE STATION	2.18 MM
LENGTH OF LINES	306.96 KM
INSTRUMENT STATIONS	2891

BANGLADESH MAPPING FOR DI

SCALE - 1:1000,000

Miles 10 5 0 10 20 30 40 50 60

Kilometres 10 5 0 10 20 30 40 50 60 70 80 90 100



Black and White Photography 1:50 000



Black and White Photography 1:20 000



Black and White Photography 1:31 000

2650 000N
2645 000N
2640 000N
2635 000N
2630 000N
2625 000N
2620 000N
2615 000N
2610 000N
2605 000N
2600 000N

2700 000E

2705 000E

2705 000E

2710 000E

2715 000E

2720 000E

2725 000E

2730 000E

2735 000E

2740 000E

2745 000E

2750 000E

2755 000E

2760 000E

2765 000E

2770 000E

2775 000E

2780 000E

2785 000E

2790 000E

2795 000E

2800 000E

2805 000E

2810 000E

2815 000E

2820 000E

2825 000E

2830 000E

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2960 000E

2965 000E

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2975 000E

2980 000E

RANGPUR

GĀBANDHA

BOGRA

JĀMĀLPUR

MYMENSINGH

SIRĀJGANJ

TĀNGAIL

PĀBNA

KUSHTIA

MĀNIKGANJ

DHAKA

FARIDPUR

COMILLA

CHANDPUR

JESSORE

FENI

KHULNA

NOĀKHĀLI

SYL

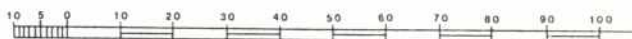
BANGLADESH MAPPING FOR DE

SCALE - 1:1000,000

Miles



Kilometres



Infra Red Colour Photography 1:50 000



Infra Red Colour Photography 1:20 000



Infra Red Colour Photography 1:31 000

RANGPUR

GĀ BANDHA

BOGRA

JĀMĀLPUR

MYMENSINGH

SIRĀJGANJ

TĀNGAIL

PĀBNA

KUSHTIA

MĀNIKGANJ

DHAKA

FARIDPUR

COMILLA

CHANDPUR

JESSORE

KHULNA

NOĀKHĀLI

FENI

SYL

Adjustment started on 11-Feb-93 at 09:27:08

MMH850 BUNDLE BLOCK ADJUSTMENT

JAMALPUR PILOT AREA

FILES:

Image coordinate file jamalpur.dat
Ground coordinate (and or. element) file jamalpur.xyz
Output file of the adjustment jamalpur.out
Output file for an orthoprojector OR 1
Output file for intersectioned points

RUN TIME CONSTANTS:

Flag for detection of gross errors
i.e. for Robust-estimation (1=Yes, 0=No) 0
Flag for self calibration 1
Flag for resulting the residuals 1
Rejection limit in intersection (microm) 30.0
Resulting limit in intersection (microm) 30.0
St. error of an image coordinate (m) .250
Termination limit of iteration (m) .001

St. coordinate errors of control points (m):

Group-id	Horizontal	Vertical
9	.000	1.000
0	.100	.100

FLY N:o 1 : f= 151.992 H(Fly)= 4600.0 H(Ground)= 10.0

ADJUSTMENTS:

iteration	C-G- Max.coord.correction (m)	point	R-norm (m)	Sum(pvv) (m*m)
79	46200.402	24301	17.855	267410.75
141	-192.190	24301	.900	172194.56
299	185.722	24301	.028	1143.82
499	15.587	20301	.008	184.48
687	-.105	20301	.001	184.46



SELF CALIBRATION FOR THE FLY 1

Parameter	St.error	Significance
B01 3.24	.24	+++
B02 -3.01	.24	+++
B03 -.29	.25	
B04 1.32	.26	+++
B05 -5.69	.64	+++
B06 -.02	.60	
B07 20.67	.87	+++
B08 30.70	.78	+++
B09 -5.18	.78	+++
B10 -1.40	.87	
B11 1.90	1.52	
B12 .68	1.52	

Maximum correlation R(B08, B02)= .06

STATISTICS:	Total	Rejected
No. of photographs	64	0
No. of additional parameters	12	0
No. of points in adjustment	316	0
XYZ-control points	11	0
XY-control points	0	0
Z-control points	36	0
tie points	269	0
No. of observations	2345	0
control point coordinates	69	0
image coordinates	2276	0
redundancies	1001	0
Standard error of unit weight		
on the ground	.429 m	
on the image	14.2 microm	

JAMALPUR PILOT AREA

COORDINATE DIFFERENCES: GEODETIC - PHOTOGRAMMETRIC FOR CONTROL POINTS							
Photos	No	X(m)	Y(m)	H(m)	dX(m)	dY(m)	dH(m)
2	742	2716906.980	482723.220	15.480	.008	-.114	.175
2	743	2722764.690	492646.910	14.640	-.087	-.104	.191
2	749			16.160			-.485
2	750	2742379.820	461335.730	20.590	-.408	-.601	-.772
5	754	2762486.130	469884.610	18.850	-.277	.247	-.014
3	755	2753044.090	472001.880	25.160	.007	.329	1.316
2	756	2753315.560	488661.180	18.740	.698	.452	.280
6	757	2767424.730	479182.780	23.250	.894	-.152	.874
2	758	2768584.750	497390.640	18.780	-.983	.391	-.259
2	763	2782518.380	488602.780	20.650	-.089	.020	1.272
2	764	2778480.210	471061.580	24.120	-.204	-.081	.014
4	767	2801330.050	479299.320	22.120	-.128	-.013	.279
4	505010			16.800			-.609
2	505013			16.000			.167
4	505016			15.000			.316
4	506017			13.550			-.274
2	508007			17.150			-2.739
3	508101			15.500			-.014
3	508404			15.500			.234
3	519503			17.000			1.169
3	519603			16.500			-1.173
6	519605			17.250			.242
5	519704			17.250			-.084
6	519905			17.600			.065
3	524503			19.500			-.208
3	524603			19.500			-.841
3	524703			19.750			.227
6	524704			18.350			.336
3	524803			17.450			1.008
6	524805			18.750			-1.122
6	524904			18.500			.546
3	525003			17.000			1.859
6	525005			17.000			-.635
3	525103			15.550			-1.207
6	525304			17.000			-.426
3	525503			14.700			-.917
6	525505			15.100			-.159
3	525603			14.500			-1.177
6	525705			14.500			.794
6	525804			13.500			-1.092
5	525905			14.300			.589
3	542803			17.300			-.210
3	543003			17.000			-.201
6	543105			15.400			-.376
6	543204			16.800			.604
6	543405			15.800			.063
3	543803			13.500			.477

COORDINATE DIFFERENCES FOR CONTROL POINT GROUPS:

Group-	No. of	Maximum differences			Root mean square errors		
id.	points	Xmax.	Ymax.	Hmax.	dX	dY	dH
0	11	.983	.601	2.739	.483	.293	.804

Note: # -character indicates a rejected coordinate.

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JAMALPUR PILOT AREA

ORIENTATION ELEMENTS:

Photo	Points	X(m)	Y(m)	H(m)	KA(gon)	PH(gon)	OM(gon)
423	11	2801118.128	481251.645	7670.030	203.9543	.4730	-.7522
424	16	2795786.581	481443.640	7672.441	195.7585	-.0212	.8130
192	12	2741084.072	465479.600	7669.114	1.4354	.1333	-.3035
193	17	2745577.516	465615.563	7667.448	2.1372	.5241	.7850
194	16	2749857.588	465608.536	7669.059	.6242	.2044	.1163
195	18	2754392.569	465623.719	7667.320	.9678	.1756	.3374
196	19	2759045.070	465611.656	7664.609	-.4207	.0862	-.2699
197	20	2763657.523	465628.797	7661.047	.1378	.3618	.2536
198	18	2768286.380	465503.385	7661.898	-1.1274	.1452	.0978
199	16	2772899.850	465108.238	7658.218	-5.1785	.1215	.0262
200	16	2777512.037	464755.465	7657.729	-1.1257	.0625	.1047
201	15	2782099.241	464611.040	7658.895	-1.7083	.3187	.3190
202	14	2786895.577	464550.918	7654.401	1.1079	.2091	-.0732
203	10	2791313.383	464570.091	7657.790	.3060	.4148	-.0540
260	7	2725970.766	474007.960	7613.450	199.0747	-.5535	.1946
259	13	2730563.611	473973.311	7664.061	200.6418	.0169	.0834
258	17	2735349.003	473927.996	7660.971	200.1592	-.0046	.3647
257	19	2739948.030	473885.239	7659.565	200.1644	.0234	-.0846
256	19	2744756.601	473841.626	7659.517	200.8938	.0929	.4316
255	20	2749438.793	473937.308	7656.967	202.9915	.1888	-.4994
254	21	2754069.296	474068.891	7655.017	202.6941	.3745	-.0473
253	20	2758434.100	474159.714	7655.449	200.5325	.4673	-.4180
252	22	2762996.705	474045.769	7656.766	199.5302	.6366	-.3688
251	24	2767390.163	473925.436	7653.514	199.8172	.3816	.1602
250	26	2772060.036	473799.227	7655.606	199.8672	.1439	.0303
249	27	2776665.599	473746.073	7652.165	201.5746	.1882	.3984
248	23	2781432.835	473850.624	7653.538	203.7031	.0760	.0665
247	22	2786118.062	474078.928	7650.563	206.2769	.1334	.0058
246	21	2790590.853	474350.716	7650.544	203.7592	.2072	-.5036
245	20	2795076.885	474325.066	7649.003	199.2897	-.0121	.3737
244	21	2799633.346	474284.580	7646.320	205.3640	-.3150	2.1502
243	12	2804257.193	474768.817	7644.953	207.3833	.1809	-.1516
441	14	2716537.242	482529.173	7680.703	201.9672	.1268	-.4580
440	19	2721146.273	482540.942	7677.962	199.9904	.1487	-.3269
439	18	2725729.654	482501.119	7681.094	199.4709	-.0120	-.1214
438	19	2730276.876	482451.254	7679.884	199.4264	.2074	-.0474
437	20	2734951.524	482397.214	7679.092	199.1113	.2881	.0181
436	18	2739701.632	482368.926	7678.994	199.9768	.5800	-.6664
435	18	2744384.485	482494.130	7678.231	203.3814	.1900	-.1450
434	17	2748941.577	482660.500	7677.909	200.4726	.1273	-.0829
433	19	2753433.893	482702.736	7678.873	201.7092	.0655	.2731
432	17	2758098.966	482759.749	7673.483	201.6326	.2598	.1452
431	20	2762640.260	482803.446	7677.396	199.8604	.3473	-.3636
430	20	2767129.228	482746.867	7675.765	199.4093	.1300	-.0126
429	22	2772007.201	482692.217	7674.267	197.8647	.1625	-.2489
428	23	2776591.233	482496.048	7673.616	195.2949	-.1616	.8638
427	21	2781219.111	482233.213	7673.146	196.3942	-.0205	.4353
426	17	2786665.291	482095.572	7669.516	202.0966	.3315	-.7847
425	16	2791236.197	481866.590	7671.233	194.0720	.2262	.2364
76	11	2719661.146	491137.795	7687.291	-.0682	.0921	.5100
77	16	2724146.175	491160.740	7686.376	-.5341	.2095	.5013
78	16	2728634.669	491191.514	7686.156	-.6471	.3943	.4471
79	16	2733272.744	491229.637	7686.629	-.4823	.0641	-.0734
80	17	2737941.493	491319.333	7683.756	1.2825	.4653	.5447

JAMALPUR PILOT AREA

ORIENTATION ELEMENTS:

Photo	Points	X(m)	Y(m)	H(m)	KA(gon)	PH(gon)	OM(gon)
81	21	2742687.609	491379.282	7684.199	.2566	.1951	.0456
82	19	2747323.242	491432.887	7682.585	-.1897	-.3209	-.1959
83	20	2751911.344	491526.862	7678.354	-.5152	.4117	.2371
84	20	2756526.595	491579.052	7680.630	-1.3855	.1203	-.2603
85	18	2761228.249	491680.837	7676.190	-1.0625	.4450	.2526
86	17	2765822.190	491748.205	7678.480	-2.2007	.2128	.2381
87	16	2770590.026	491686.706	7679.721	-4.5783	-.1470	.1256
88	16	2775192.873	491566.029	7675.576	-3.6416	.1789	.2621
89	15	2779784.413	491433.114	7677.285	-2.7335	-.0890	.0812
90	10	2784393.379	491436.159	7676.499	-1.5463	.3759	.1225

JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
423						
-	6	24504	106.281	94.942	.318	-.687
-	3	42404	85.585	-84.352	-.035	.150
-	3	42405	76.993	-109.352	-.042	.119
-	3	42403	104.414	-.574	.080	.273
-	6	24505	109.179	46.396	.370	.126
-	5	24405	19.407	55.686	-.453	.208
XYZ	4	767	-2.937	40.919	.198	-.029
-	2	42303	17.796	5.978	.000	-.007
-	2	42304	23.144	-67.019	-.004	-.118
-	2	42305	38.049	-93.498	-.003	-.093
-	5	24404	34.535	110.211	-.428	.057
424						
-	6	24604	92.893	85.632	.091	.354
-	6	24605	93.555	42.975	-.809	.307
-	3	42503	98.110	-12.656	.029	-.138
-	3	42504	102.230	-69.880	.230	-.335
-	3	42505	100.388	-93.783	.045	-.046
-	6	24504	-11.465	99.877	.579	.029
-	6	24505	-2.045	53.077	.060	-.263
-	3	42403	-.368	6.085	-.170	-.380
-	3	42404	-7.816	-80.815	.105	.085
-	3	42405	-13.074	-107.558	.128	.255
-	5	24405	-92.069	50.444	.011	.047
XYZ	4	767	-112.321	33.121	-.609	-.112
-	2	42303	-87.663	1.387	.000	.007
-	2	42304	-73.198	-71.107	.004	.118
-	2	42305	-54.758	-96.203	.003	.093
-	5	24404	-83.809	105.117	.303	-.025
192						
XYZ	2	750	23.509	-81.952	.464	.184
-	2	19201	6.920	-102.734	-.006	.194
-	2	19202	5.499	-80.003	-.003	.111
-	2	19203	-8.388	14.650	-.001	.037
-	5	19204	-5.821	89.261	-.659	.217
-	5	19205	-7.127	106.374	-.332	.109
-	3	19301	94.996	-107.821	.158	-.126
-	3	19302	99.932	-92.518	-.095	-.210
-	3	19303	87.147	-3.594	-.183	-.204
-	6	19304	74.070	75.733	-.090	-.020
-	6	19305	70.311	100.911	.188	-.306
Z	4	505016	-6.455	101.950	.558	.013
193						
XYZ	2	750	-68.327	-85.651	.007	.074
-	2	19201	-85.514	-106.848	.006	-.194
-	2	19202	-86.575	-83.511	.005	-.111
-	2	19203	-98.902	12.475	.001	-.037
-	5	19204	-94.858	86.566	.117	-.034
-	5	19205	-95.835	103.412	-.121	-.140
-	3	19301	4.062	-112.711	-.320	.137
-	3	19302	9.200	-97.063	.201	.115
-	3	19303	-3.042	-6.863	.380	.408
-	6	19304	-15.321	72.164	-.192	.468

JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	6	19305	-18.791	96.960	-.017	.090
-	3	19401	88.206	-105.436	-.222	-.169
-	3	19402	94.954	-68.177	.038	-.033
-	3	19403	90.773	-15.692	.030	.074
-	6	19404	91.041	57.914	.092	-.138
-	6	19405	91.716	85.730	.113	-.210
Z	4	505016	-95.266	99.058	-.116	-.302

194

-	3	19301	-77.843	-109.293	.162	-.012
-	3	19302	-73.076	-93.744	-.106	.095
-	3	19303	-87.378	-4.349	-.197	-.203
-	6	19304	-101.452	74.796	1.012	.026
-	6	19305	-105.560	99.820	-.342	.431
-	3	19401	6.080	-100.455	.433	-.160
-	3	19402	12.208	-63.331	-.073	-.274
-	3	19403	7.138	-10.993	-.057	-.232
-	6	19404	6.246	63.197	.378	-.183
-	6	19405	6.484	91.452	.131	-.042
-	3	19502	102.561	-80.148	.028	-.446
-	3	19503	100.625	8.058	-.223	.033
Z	3	519503	100.625	8.058	-.850	.032
-	2	8505013	91.630	94.333	-.001	.426
-	6	19505	85.863	100.770	-.089	.342
-	6	19504	86.117	59.280	-.201	.167

195

-	3	19401	-84.913	-100.335	-.210	.329
-	3	19402	-78.446	-63.046	.034	.306
-	3	19403	-83.109	-10.507	.028	.158
-	6	19404	-83.353	63.711	-.660	-.036
-	6	19405	-82.845	91.909	-.372	.119
-	3	19502	12.290	-80.496	-.054	.378
-	3	19503	10.906	8.065	.441	-.024
Z	3	519503	10.906	8.065	.435	-.023
-	2	8505013	2.436	94.371	.002	-.426
-	3	19601	90.809	-105.790	-.135	-.208
-	3	19602	80.006	-38.220	-.353	-.232
-	6	19604	95.149	60.664	.199	.054
-	6	19605	93.584	96.114	-.547	.327
Z	6	519605	93.584	96.114	-.638	.239
-	6	19505	-3.305	100.822	.282	-.394
-	3	19603	81.373	.552	.329	-.190
Z	3	519603	81.373	.552	.966	-.191
-	6	19504	-3.335	59.397	.253	-.183

196

-	3	19502	-78.141	-78.819	.026	.068
-	3	19503	-81.619	9.402	-.218	-.009
Z	3	519503	-81.619	9.402	.415	-.009
-	3	19601	.746	-102.257	.270	-.108
-	3	19602	-11.357	-35.369	.709	.010
-	6	19604	1.927	64.206	.104	.033
-	6	19605	-.276	100.047	.444	-.127
Z	6	519605	-.276	100.047	.449	-.216
-	3	19701	91.182	-103.923	-.217	-.245
-	3	19702	86.201	-66.822	-.017	-.091

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JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	19703	84.160	2.758	.011	.115
XYZ	5	754	67.767	86.197	.371	.043
-	6	19705	88.280	93.221	.345	.083
-	6	19505	-98.148	102.558	-.284	.071
-	3	19603	-10.813	3.424	-.661	.142
Z	3	519603	-10.813	3.424	-.663	.144
-	5	19704	85.031	67.500	-.532	.147
Z	5	519704	85.031	67.500	-.506	.173
-	6	19504	-97.161	60.674	-.044	-.223
197						
-	3	19601	-93.044	-104.607	-.135	.316
-	3	19602	-104.565	-36.873	-.355	.222
-	6	19604	-90.051	62.790	-.294	-.338
-	6	19605	-91.853	98.471	-.235	-.205
Z	6	519605	-91.853	98.471	-.133	-.293
-	3	19701	-1.689	-106.876	.436	.231
-	3	19702	-6.474	-69.337	.033	.017
-	3	19703	-8.061	.625	-.019	.041
XYZ	5	754	-23.943	83.988	-.066	.072
-	6	19705	-3.401	90.738	.279	.115
-	3	19801	89.044	-104.241	-.026	-.104
-	3	19802	91.434	-57.566	-.020	-.073
-	3	19803	93.020	-11.585	.102	-.079
-	6	19804	92.704	77.001	.942	-.170
Z	4	505010	88.109	92.377	-.905	.404
-	3	19603	-103.548	2.129	.332	.048
Z	3	519603	-103.548	2.129	-.303	.047
-	5	19704	-6.795	65.229	.194	.116
Z	5	519704	-6.795	65.229	.185	.142
-	6	19805	92.758	104.134	-.012	-.504
198						
-	3	19701	-91.339	-105.560	-.218	.013
-	3	19702	-96.818	-68.179	-.016	.074
-	3	19703	-99.727	1.713	.008	-.156
-	6	19705	-96.807	92.118	.566	.013
-	3	19801	-.380	-101.385	.024	-.190
-	3	19802	1.195	-54.636	.016	-.189
-	3	19803	1.957	-8.517	-.219	-.058
-	6	19804	.078	80.465	.527	.007
Z	4	505010	-4.777	95.832	-.049	.563
-	3	19901	89.230	-90.836	-.004	.187
-	3	19902	106.524	-63.462	-.158	.191
-	3	19903	98.144	-12.007	-.110	.115
-	5	19704	-99.742	66.449	-.158	-.181
Z	5	519704	-99.742	66.449	-.203	-.154
-	6	19805	-.310	107.771	-.350	-.392
-	6	19904	78.705	81.532	.020	.199
-	6	19905	87.232	99.779	.175	-.010
Z	6	519905	87.232	99.779	.152	-.032
199						
-	3	19801	-86.098	-100.686	.003	.296
-	3	19802	-87.492	-53.924	.004	.263
-	3	19803	-89.666	-7.813	.116	.137
-	6	19804	-97.217	81.037	.067	.095

JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	19901	2.936	-84.532	.022	-.219
-	3	19902	18.504	-56.096	.327	-.228
-	3	19903	6.855	-5.190	.234	-.101
-	3	20001	95.292	-102.387	.134	-.085
-	3	20002	90.577	-77.648	-.152	.136
-	3	20003	90.776	2.944	.230	-.002
-	3	20004	88.993	67.906	-.080	-.008
-	6	20005	80.805	113.177	.030	-.186
-	6	19805	-99.298	108.350	-.225	.202
-	6	19904	-18.537	87.168	-.810	.164
-	6	19905	-11.120	105.991	.049	-.220
Z	6	519905	-11.120	105.991	.052	-.244

200

-	3	19901	-94.226	-79.445	-.017	.033
-	3	19902	-76.860	-52.026	-.171	.037
-	3	19903	-85.235	-.429	-.122	-.013
-	3	20001	-2.988	-103.317	-.287	-.245
-	3	20002	-6.112	-78.250	.311	-.247
-	3	20003	-.844	2.345	-.461	-.050
-	3	20004	1.599	67.342	.161	.062
-	6	20005	-3.745	113.029	.259	-.181
-	3	20101	87.821	-102.145	-.093	.374
-	3	20102	83.762	-69.388	.142	.188
-	3	20103	83.563	-1.235	-.043	.134
-	3	20104	91.935	82.902	-.236	.197
-	5	20105	89.737	112.250	.543	-.095
-	6	19905	-96.006	111.598	-.315	-.104
Z	6	519905	-96.006	111.598	-.287	-.129
-	6	19904	-104.601	93.300	.616	.038

201

-	3	20001	-94.483	-103.929	.152	.331
-	3	20002	-97.804	-78.734	-.160	.111
-	3	20003	-93.027	2.257	.232	.052
-	3	20004	-90.931	67.335	-.081	-.054
-	6	20005	-96.630	112.929	-.136	.282
-	3	20101	-3.123	-101.739	.196	-.221
-	3	20102	-7.464	-68.878	-.274	-.293
-	3	20103	-8.283	-.563	.090	-.037
-	3	20104	-.553	83.553	.471	.199
-	5	20105	-3.036	112.774	-.318	-.249
-	3	20201	86.527	-98.332	.076	.074
-	3	20203	94.365	-12.271	.081	-.028
-	6	20205	69.254	94.963	-.480	-.056
-	3	20204	80.770	50.707	.088	-.060
-	3	20202	96.249	-66.527	.060	-.051

202

-	3	20101	-102.806	-97.571	-.103	-.153
-	3	20102	-105.698	-64.682	.132	.104
-	3	20103	-103.651	3.567	-.047	-.097
-	3	20104	-92.181	87.731	-.236	-.395
-	3	20201	-12.896	-98.308	-.159	.075
-	3	20203	-1.115	-12.730	-.169	.056
-	6	20205	-21.311	96.251	.637	.077
-	3	20204	-11.833	51.125	-.186	.140

JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	2	20301	93.390	-105.410	.001	.035
-	2	20302	90.549	-82.298	-.001	.124
-	2	20303	96.474	12.961	.000	.123
-	5	20305	88.739	109.502	-.368	.118
-	3	20202	-1.728	-67.063	-.126	-.058
-	5	20304	75.177	86.799	.627	-.148
203						
-	3	20201	-100.300	-98.809	.082	-.148
-	3	20203	-89.682	-12.784	.089	-.028
-	6	20205	-111.460	96.299	.262	.567
-	3	20204	-101.328	51.131	.098	-.079
-	2	20301	6.636	-104.411	.000	-.035
-	2	20302	3.437	-81.301	.000	-.124
-	2	20303	8.058	14.192	.001	-.123
-	5	20305	-.949	110.777	-.460	.019
-	3	20202	-89.528	-67.293	.066	.109
-	5	20304	-14.272	87.894	-.138	-.156
260						
-	3	25901	-99.502	93.876	.216	.075
-	3	25902	-98.342	68.272	-.219	-.162
-	3	25903	-87.222	1.877	-.098	.147
-	6	25904	-79.344	-77.014	-.023	.009
-	5	25905	-78.755	-107.853	-.059	.269
Z	5	525905	-78.755	-107.853	-.256	-.012
Z	4	506017	-77.997	-92.086	.439	-.318
259						
-	3	25901	-7.374	95.040	-.418	-.034
-	3	25902	-6.800	69.367	.429	.098
-	3	25903	2.880	2.706	.195	.115
-	6	25904	8.951	-76.153	.187	.574
-	5	25905	8.860	-106.850	-.329	-.199
Z	5	525905	8.860	-106.850	-.270	-.481
Z	4	506017	9.993	-91.189	-.406	.251
-	3	25801	-81.930	96.142	.145	.120
-	3	25802	-92.054	74.023	-.161	-.006
-	3	25803	-88.435	3.039	-.032	-.028
-	6	25804	-91.538	-75.975	.190	-.245
Z	6	525804	-91.538	-75.975	.614	.144
-	3	25805	-94.115	-104.938	-.143	-.310
258						
-	3	25901	86.723	92.943	.205	-.044
-	3	25902	87.615	67.388	-.209	.061
-	3	25903	98.034	.929	-.098	-.262
-	6	25904	104.957	-78.066	.638	.032
-	3	25801	12.365	93.508	-.296	-.203
-	3	25802	2.433	71.411	.326	-.312
-	3	25803	6.703	.564	.063	-.142
-	6	25804	4.274	-78.700	-.417	.112
Z	6	525804	4.274	-78.700	-.438	.506
-	5	19204	-106.009	78.897	.177	.033
-	5	19205	-104.421	61.976	.072	.070
-	3	25703	-101.603	13.066	-.240	.006
-	6	25704	-90.173	-70.279	-.017	-.203

JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	6	25705	-96.842	-103.949	.280	.132
Z	6	525705	-96.842	-103.949	-.023	-.153
Z	4	505016	-105.131	66.328	-.310	.286
-	3	25805	1.883	-107.854	.287	.080
257						
-	3	25801	103.819	93.864	.151	.082
-	3	25802	93.840	71.605	-.166	.318
-	3	25803	98.065	.546	-.032	.170
-	6	25804	95.515	-78.397	.184	-.073
Z	6	525804	95.515	-78.397	-.264	.324
-	5	19204	-14.975	79.241	-.144	-.234
-	5	19205	-13.328	62.196	.140	-.198
-	3	25703	-10.307	13.082	.469	-.202
-	6	25704	1.402	-70.086	-.386	-.386
-	6	25705	-5.136	-103.502	.002	-.262
Z	6	525705	-5.136	-103.502	.008	-.549
Z	4	505016	-14.063	66.578	-.131	.003
-	6	19304	-95.159	90.957	-.093	.096
-	6	19305	-90.823	65.886	-.074	.123
-	3	25603	-92.280	-.866	-.074	.138
Z	3	525603	-92.280	-.866	.579	.138
-	3	25604	-87.549	-66.518	.216	.171
-	3	25805	93.090	-107.301	-.143	.231
-	6	25605	-83.328	-105.865	-.242	.111
256						
-	5	19204	81.018	75.572	.507	.018
-	5	19205	82.525	58.647	.239	.159
-	3	25703	85.184	9.734	-.228	.195
-	6	25704	96.221	-73.737	-.382	-.033
-	6	25705	89.403	-107.370	.067	.344
Z	6	525705	89.403	-107.370	.398	.054
-	6	19304	1.363	88.190	-.240	-.357
-	6	19305	5.381	63.271	-.572	-.342
-	3	25603	3.164	-3.244	.153	-.172
Z	3	525603	3.164	-3.244	.147	-.166
-	3	25604	7.103	-69.192	-.439	-.060
-	6	19404	-105.945	100.110	-.042	.158
-	6	19405	-106.439	71.943	-.218	.148
-	3	25503	-101.887	-5.108	.194	.185
Z	3	525503	-101.887	-5.108	.695	.197
-	3	25504	-81.462	-77.716	-.088	.122
-	6	25605	10.873	-108.947	.108	-.136
-	6	25505	-84.197	-107.600	-.181	-.188
Z	6	525505	-84.197	-107.600	-.121	-.128
255						
-	6	19304	97.436	88.426	-.397	-.212
-	6	19305	100.471	63.063	.817	.003
-	3	25603	95.793	-3.599	-.078	.034
Z	3	525603	95.793	-3.599	-.726	.027
-	3	25604	97.154	-69.056	.222	-.111
-	6	19404	-10.146	104.301	.173	.010
-	6	19405	-11.443	75.688	.327	-.146
-	3	25503	-8.970	-1.999	-.396	-.164
Z	3	525503	-8.970	-1.999	-.398	-.162

JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	25504	9.242	-74.662	.171	-.044
XYZ	3	755	-70.608	43.218	-.412	-.006
-	6	19505	-91.937	69.241	-.286	-.014
-	3	25403	-76.875	14.177	.097	.038
-	3	25404	-81.245	-59.504	.349	.194
-	6	25405	-79.892	-104.001	.033	-.022
Z	2	505013	-97.632	75.887	-.050	.010
-	6	19504	-90.771	111.386	.276	.216
-	6	25605	99.389	-108.174	.532	.272
-	6	25505	5.638	-103.926	-.127	.009
Z	6	525505	5.638	-103.926	-.130	.067

254

-	6	19404	80.897	101.057	.060	.188
-	6	19405	79.720	72.770	.021	.131
-	3	25503	82.483	-4.387	.202	-.022
Z	3	525503	82.483	-4.387	-.297	-.035
-	3	25504	100.928	-76.945	-.084	-.078
XYZ	3	755	21.242	40.368	-.303	-.005
-	6	19505	-.081	66.146	.426	.021
-	3	25403	14.920	11.432	-.200	-.092
-	3	25404	10.608	-62.309	-.725	-.183
-	6	25405	11.984	-107.062	-.200	-.644
Z	2	505013	-5.738	72.723	.049	-.010
-	6	19604	-98.336	109.572	.090	.052
-	6	19605	-97.873	73.622	.341	-.089
Z	6	519605	-97.873	73.622	.243	-.001
-	3	25303	-93.876	9.714	.104	-.194
-	6	25304	-90.557	-67.775	.082	-.078
Z	6	525304	-90.557	-67.775	.236	.080
-	6	19504	1.084	107.885	.030	.434
-	6	25305	-92.682	-108.529	-.195	-.349
-	6	25505	97.428	-106.377	.096	.407
Z	6	525505	97.428	-106.377	.030	.464

253

XYZ	3	755	106.235	42.933	.993	-.012
-	6	19505	84.232	67.984	-.048	-.026
-	3	25403	100.715	13.869	.102	.053
-	3	25404	98.577	-59.498	.377	-.010
-	6	25405	101.284	-103.689	-.524	.078
-	6	19604	-14.994	108.317	-.222	-.158
-	6	19605	-13.297	72.251	-.045	-.173
Z	6	519605	-13.297	72.251	-.052	-.083
-	3	25303	-7.165	8.498	-.204	.076
-	6	25304	-1.269	-68.406	.176	.269
Z	6	525304	-1.269	-68.406	.170	.423
-	6	19705	-102.482	80.675	-.445	.030
-	6	25204	-74.817	-66.874	.242	.194
-	6	25205	-78.167	-97.119	-.027	-.124
XYZ	5	754	-81.651	87.426	-.262	-.270
-	6	19504	84.122	109.863	-.315	-.412
-	6	25305	-2.041	-108.789	-.042	-.280
-	3	25203	-101.667	10.069	-.228	.323
-	5	19704	-98.983	106.587	.161	.073
Z	5	519704	-98.983	106.587	.193	.033

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-	6	19604	73.707	105.659	.123	.357
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JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	6	19605	75.833	69.872	.043	.269
Z	6	519605	75.833	69.872	.131	.356
-	3	25303	82.653	6.645	.098	.118
-	6	25304	89.424	-69.679	.234	.217
Z	6	525304	89.424	-69.679	.063	.375
-	6	19705	-12.512	77.004	-.279	-.479
-	6	25204	16.634	-69.420	-.646	-.093
-	6	25205	13.686	-99.599	-.263	-.298
XYZ	5	754	8.052	84.008	.016	-.649
-	6	19804	-110.389	90.211	-1.000	.001
-	3	25103	-108.946	3.471	-.009	.148
Z	3	525103	-108.946	3.471	.628	.131
XYZ	6	757	-89.077	-102.233	-.132	-.214
Z	4	505010	-105.566	74.530	.239	-.388
-	6	25305	89.120	-109.852	-.027	.284
-	3	25203	-10.872	6.749	.473	-.385
-	6	25104	-94.588	-70.499	-.300	.176
-	6	25105	-99.726	-106.239	-.240	.111
-	5	19704	-9.364	102.826	.334	-.153
Z	5	519704	-9.364	102.826	.330	-.193
-	6	19805	-110.192	62.431	.184	.312
251						
-	6	19705	75.616	73.062	-.465	.239
-	6	25204	104.096	-72.969	.448	.115
-	6	25205	101.127	-103.335	-.195	.323
XYZ	5	754	95.973	79.927	.709	.118
-	6	19804	-20.830	86.360	-.064	-.084
-	3	25103	-20.153	.526	.028	.076
Z	3	525103	-20.153	.526	.041	.075
XYZ	6	757	-1.276	-105.308	-.544	-.135
Z	4	505010	-16.222	70.893	.715	-.578
-	3	25003	-109.288	-1.539	-.058	-.180
Z	3	525003	-109.288	-1.539	-1.071	-.158
-	3	25004	-93.039	-70.742	-.039	.003
-	2	9025101	1.841	98.382	.006	.215
-	2	9025102	-26.894	97.078	.001	.047
-	2	9025103	-88.536	92.997	-.005	-.221
-	3	25203	77.009	3.362	-.244	.062
-	6	25104	-6.562	-73.401	-1.135	.301
-	6	25105	-11.998	-109.265	1.167	.031
-	6	25005	-97.918	-104.399	-.327	.103
Z	6	525005	-97.918	-104.399	-.082	.333
-	6	19805	-20.894	58.962	1.130	.131
-	6	19905	-108.926	68.368	.023	-.220
Z	6	519905	-108.926	68.368	-.005	-.196
-	6	19904	-99.973	86.593	-.037	-.393
250						
-	6	19804	72.644	84.271	-.471	.149
-	3	25103	73.288	-1.457	-.018	-.224
Z	3	525103	73.288	-1.457	-.669	-.206
XYZ	6	757	92.083	-106.952	.020	-.554
-	3	25003	-15.321	-3.460	.113	.124
Z	3	525003	-15.321	-3.460	.117	.119
-	3	25004	.849	-72.352	.079	.116
-	2	9025101	95.178	96.336	-.006	-.215

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JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	2	9025102	66.519	94.993	-.001	-.046
-	2	9025103	5.167	90.839	.006	.223
-	6	20005	-107.529	66.296	.213	.031
-	3	24903	-107.419	-5.067	-.280	-.088
-	6	24904	-85.747	-66.186	.812	-.176
Z	6	524904	-85.747	-66.186	.600	-.376
-	6	24905	-99.127	-102.416	-.252	.045
-	2	9025001	8.882	91.222	.004	.341
-	2	9025002	-12.938	91.586	.003	.289
-	2	9025003	-90.648	82.840	.003	.198
-	6	25104	86.761	-75.162	-.538	-.513
-	6	25105	81.377	-110.858	-.074	-.402
-	6	25005	-3.952	-105.790	.343	-.011
Z	6	525005	-3.952	-105.790	.339	.225
-	6	19805	72.588	56.884	-.728	.252
-	6	19905	-15.011	66.230	.164	.292
Z	6	519905	-15.011	66.230	.162	.316
-	6	19904	-6.139	84.429	.058	.093

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-	3	25003	76.010	-7.248	-.054	.056
Z	3	525003	76.010	-7.248	.954	.039
-	3	25004	90.535	-76.657	-.041	-.119
-	6	20005	-14.028	64.749	-.563	-.234
-	3	24903	-15.902	-6.398	.553	-.089
-	6	24904	4.165	-68.209	.061	-.029
Z	6	524904	4.165	-68.209	.061	-.232
-	6	24905	-10.227	-104.288	.394	-.049
-	2	9025001	102.194	86.324	-.004	-.342
-	2	9025002	80.575	87.279	-.003	-.290
-	2	9025003	3.114	80.730	-.002	-.197
-	3	820104	-108.396	98.845	-.286	-.297
-	5	20105	-107.593	69.450	.123	-.039
-	3	24803	-99.435	-1.177	-.092	-.045
Z	3	524803	-99.435	-1.177	-.649	-.062
-	2	9024901	4.897	82.528	.001	-.025
-	2	9024902	-41.950	90.042	.000	.000
-	2	9024903	-106.268	89.682	.002	-.064
YYZ	2	764	-35.225	53.341	.157	-.049
-	6	25005	84.973	-110.153	.189	.068
Z	6	525005	84.973	-110.153	-.061	.307
-	6	24804	-104.439	-65.286	-.517	.049
-	6	24805	-101.527	-97.470	-.329	.392
Z	6	524805	-101.527	-97.470	.125	.803
-	6	19905	77.979	62.158	-.096	.263
Z	6	519905	77.979	62.158	-.073	.286
-	6	19904	87.212	79.986	.153	-.103

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-	6	20005	83.175	62.579	.195	.287
-	3	24903	79.011	-8.518	-.273	.177
-	6	24904	97.009	-70.732	-.357	-.249
Z	6	524904	97.009	-70.732	-.137	-.447
-	6	24905	81.513	-106.049	-.254	-.471
-	3	820104	-10.124	99.916	.604	-.103
-	5	20105	-10.125	70.389	-.284	.045
-	3	24803	-4.068	-.522	.179	.201

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JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
Z	3	524803	-4.068	-.522	.182	.196
-	2	9024901	102.673	79.801	-.001	.026
-	2	9024902	55.994	88.892	.000	.001
-	2	9024903	-8.285	90.645	-.001	.063
-	6	20205	-81.090	94.290	-.436	-.722
-	3	24702	-71.324	59.556	.131	-.214
-	3	24703	-76.436	.852	-.134	.108
Z	3	524703	-76.436	.852	-.256	.101
-	6	24704	-94.181	-53.845	-.116	.007
Z	6	524704	-94.181	-53.845	-.255	-.116
-	6	24705	-97.904	-106.119	-.235	-.065
XYZ	2	764	61.715	51.848	.154	.174
-	6	24804	-10.887	-64.178	-.075	.170
-	6	24805	-8.941	-96.205	.684	.216
Z	6	524805	-8.941	-96.205	.685	.616
- 247						
-	3	820104	86.946	95.671	-.317	.400
-	5	20105	85.763	66.176	-.066	.337
-	3	24803	88.962	-4.864	-.087	-.156
Z	3	524803	88.962	-4.864	.467	-.134
-	6	20205	15.907	92.988	.110	.080
-	3	24702	24.288	57.866	-.245	.006
-	3	24703	16.856	-.579	.262	.004
Z	3	524703	16.856	-.579	.264	.004
-	6	24704	-3.052	-54.498	.357	.050
Z	6	524704	-3.052	-54.498	.354	-.067
-	6	24705	-8.843	-106.537	.225	.220
-	5	20305	-95.141	88.520	.198	-.266
-	6	24604	-99.478	-55.270	.046	.035
-	6	24605	-106.273	-98.035	-.742	.012
-	2	9024701	-16.749	70.887	.000	-.009
-	2	9024702	-59.179	103.777	.007	-.109
-	6	24804	79.632	-68.103	-.522	-.358
-	6	24805	80.285	-100.123	.037	-.148
Z	6	524805	80.285	-100.123	-.406	.231
-	3	24603	-105.115	12.654	-.182	-.068
Z	3	524603	-105.115	12.654	.263	-.050
-	5	20304	-79.674	110.082	-.021	-.011
246						
-	6	20205	101.574	95.178	-.093	.054
-	3	24702	111.127	60.198	.113	.208
-	3	24703	105.725	1.464	-.128	-.112
Z	3	524703	105.725	1.464	-.007	-.105
-	6	24704	87.765	-52.926	-.379	-.279
Z	6	524704	87.765	-52.926	-.251	-.387
-	6	24705	83.808	-104.612	.265	.170
-	5	20305	-9.454	86.377	.376	.005
-	6	24604	-7.994	-57.552	.480	.159
-	6	24605	-13.061	-100.157	.521	.064
-	2	9024701	69.656	71.679	-.001	.009
-	2	9024702	25.941	103.149	-.007	.109
-	3	24501	-99.175	105.794	.090	-.437
-	3	24502	-98.121	71.747	-.175	-.417
-	3	24503	-100.304	6.884	-.169	-.222
Z	3	524503	-100.304	6.884	-.058	-.223

JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	6	24504	-110.923	-30.194	-.151	.229
-	6	24505	-107.097	-78.366	-.840	.666
-	3	24603	-16.316	9.862	.368	.076
Z	3	524603	-16.316	9.862	.368	.066
-	5	20304	5.181	108.719	-.320	.367

245

-	5	20305	74.288	83.275	.254	.124
-	6	24604	86.246	-59.839	-.557	-.278
-	6	24605	84.259	-103.307	.401	-.473
-	3	24501	-15.580	95.941	-.181	.190
-	3	24502	-12.343	62.614	.342	.073
-	3	24503	-10.338	-1.744	.333	.093
Z	3	524503	-10.338	-1.744	.333	.093
-	6	24504	-18.490	-39.522	.557	.356
-	6	24505	-11.594	-87.742	-.235	.240
-	3	24401	-111.401	91.551	-.253	-.215
-	3	24402	-98.233	36.620	.116	-.176
-	3	24403	-86.267	6.213	-.033	-.122
-	5	24405	-102.601	-85.289	.011	.017
-	2	9024501	-2.140	91.787	.001	.135
-	2	9024502	-42.493	88.061	.001	.094
-	2	9024503	-81.770	100.956	.000	.016
-	3	24603	73.033	7.118	-.185	-.008
Z	3	524603	73.033	7.118	-.631	-.016
-	5	20304	87.129	106.229	-.147	-.054
-	5	24404	-91.397	-30.017	-.127	-.092

244

-	3	24501	83.413	83.251	.091	.246
-	3	24502	84.144	50.486	-.167	.344
-	3	24503	81.188	-13.501	-.163	.130
Z	3	524503	81.188	-13.501	-.275	.131
-	6	24504	70.030	-50.842	-.541	-.071
-	6	24505	73.107	-100.966	-.434	-.905
-	3	24401	-11.205	87.635	.510	.114
-	3	24402	-3.200	32.930	-.224	.097
-	3	24403	5.883	1.717	.063	.148
-	5	24405	-19.086	-89.214	.620	.005
-	2	9024501	96.360	78.018	-.001	-.136
-	2	9024502	56.208	78.058	-.001	-.094
-	2	9024503	18.694	94.043	.000	-.016
XYZ	4	767	-42.260	-104.012	.493	-.103
-	2	24301	-102.748	99.655	.016	-.145
-	2	24303	-94.103	-.897	-.004	.043
-	2	24304	-83.645	-50.639	.002	-.020
-	2	24305	-77.094	-97.937	.015	-.147
-	2	9024401	-5.443	86.533	-.020	.188
-	2	9024402	-55.739	99.412	-.005	.053
-	5	24404	-2.547	-34.079	.028	.137

243

-	3	24401	82.968	94.265	-.257	.102
-	3	24402	89.381	37.702	.108	.079
-	3	24403	97.425	5.968	-.030	-.026
-	5	24405	69.988	-82.336	-.190	-.278
XYZ	4	767	46.967	-95.901	.149	.176

JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	2	24301	-10.655	110.382	-.015	.145
-	2	24303	-2.746	6.542	.004	-.043
-	2	24304	7.121	-43.152	-.002	.020
-	2	24305	12.966	-89.196	-.015	.146
-	2	9024401	88.759	92.909	.020	-.189
-	2	9024402	37.679	108.308	.005	-.053
-	5	24404	87.886	-29.255	.223	-.079
441						
-	2	44101	7.643	111.871	.000	.004
-	2	44102	6.690	76.349	.000	-.074
-	2	44103	3.452	-.950	.000	-.005
XYZ	2	742	-7.753	-2.530	-.024	.077
-	2	44104	9.756	-68.837	.000	.012
-	2	44105	8.980	-96.082	.000	-.067
-	3	44001	-89.533	109.418	.017	-.012
-	3	44002	-86.400	87.650	-.007	-.034
-	3	44003	-105.100	1.462	-.105	.022
-	3	44004	-104.823	-52.470	-.012	-.019
-	3	44005	-108.213	-87.882	.128	.004
-	2	9044102	-51.430	53.583	.000	.016
-	2	9044101	-9.028	30.155	.000	-.019
-	2	9044103	-110.550	57.813	-.001	.094
440						
-	2	44101	95.737	111.690	.000	-.004
-	2	44102	95.793	76.286	.000	.074
-	2	44103	94.743	-.895	.000	.005
XYZ	2	742	83.621	-2.820	.077	.090
-	2	44104	102.891	-68.523	.000	-.012
-	2	44105	102.853	-95.803	-.001	.067
-	3	44001	-.954	106.310	-.037	-.058
-	3	44002	2.750	84.719	.011	-.213
-	3	44003	-13.594	-1.851	.210	-.124
-	3	44004	-11.867	-55.757	.022	-.134
-	3	44005	-14.333	-91.303	-.261	-.232
-	2	9044102	38.463	51.822	.000	-.016
-	2	9044101	81.375	29.757	-.001	.020
-	2	9044103	-20.602	54.233	.000	-.094
-	3	43901	-93.477	100.087	-.274	-.083
-	3	43902	-96.910	77.741	-.060	.116
-	3	43903	-83.257	-2.606	.156	.388
-	6	43904	-73.389	-61.325	.190	.235
-	6	43905	-72.261	-86.905	-.035	-.026
439						
-	3	44001	89.571	105.480	.019	.069
-	3	44002	93.423	84.016	-.004	.246
-	3	44003	77.704	-2.485	-.105	.103
-	3	44004	79.796	-56.405	-.011	.152
-	3	44005	77.524	-92.058	.132	.228
-	3	43901	-2.628	98.437	.547	-.117
-	3	43902	-5.871	76.184	.119	-.192
-	3	43903	8.161	-3.790	-.308	-.139
-	6	25904	-86.886	93.060	-.329	-.210
-	5	25905	-86.440	62.451	.113	-.031
Z	5	525905	-86.440	62.451	-.095	.160

222

JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	43803	-88.879	.225	.125	.008
Z	3	543803	-88.879	.225	-.131	.011
-	5	43804	-102.650	-65.263	-.094	-.029
-	3	34805	-102.411	-93.110	.108	-.056
-	6	43904	18.299	-62.431	-.354	-.093
Z	4	506017	-85.608	78.097	.270	.131
-	6	43905	19.558	-88.051	.001	-.242

438

-	3	43901	86.790	97.815	-.272	.200
-	3	43902	83.599	75.640	-.060	.077
-	3	43903	97.589	-4.124	.152	-.249
-	6	25904	2.736	92.625	-.540	-.270
-	5	25905	3.197	62.042	.077	-.283
Z	5	525905	3.197	62.042	.121	-.096
-	3	43803	.740	-.183	-.249	-.278
Z	3	543803	.740	-.183	-.251	-.278
-	5	43804	-13.107	-65.774	.457	-.166
-	3	34805	-12.842	-93.680	-.215	-.053
-	6	25804	-97.697	91.076	.016	.555
Z	6	525804	-97.697	91.076	.466	.157
Z	4	506017	4.040	77.675	-.303	-.061
-	3	43703	-83.652	.956	.169	.137
-	3	43704	-81.622	-64.997	.159	.106
-	3	43705	-77.653	-103.318	.120	-.038
-	6	43904	107.669	-62.641	.408	-.102
-	6	43905	108.951	-88.231	-.113	.268
-	3	825805	-99.574	62.569	-.141	.376

437

-	6	25904	94.457	92.377	.066	-.133
-	5	25905	95.112	61.909	.198	.248
Z	5	525905	95.112	61.909	.499	.433
-	3	43803	92.979	-.118	.124	.270
Z	3	543803	92.979	-.118	.383	.267
-	5	43804	79.537	-65.621	-.444	.096
-	3	34805	79.936	-93.476	.107	.110
-	6	25804	-5.413	90.487	.367	-.364
-	6	525804	-5.413	90.487	.383	-.756
-	3	43703	9.011	.611	-.333	.164
-	3	43704	11.336	-65.248	-.312	.485
-	3	43705	15.460	-103.518	-.235	.358
-	6	25704	-99.770	97.481	.750	-.018
-	6	25705	-105.774	63.935	-.483	-.376
Z	6	525705	-105.774	63.935	-.812	-.090
-	3	43603	-104.459	2.462	-.227	-.270
Z	2	749	-58.018	11.127	.146	.010
-	5	43604	-96.131	-67.675	-.148	-.212
-	5	43605	-96.031	-101.857	-.316	.065
-	3	825805	-7.148	62.039	.286	-.289

436

-	6	25804	89.410	91.701	-.338	.014
Z	6	525804	89.410	91.701	-.762	-.377
-	3	43703	101.891	1.588	.163	-.301
-	3	43704	102.828	-63.582	.153	-.591
-	3	43705	106.085	-101.216	.115	-.321

JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	6	25704	-4.696	100.377	-.018	.660
-	6	25705	-11.154	66.625	.046	.029
Z	6	525705	-11.154	66.625	.036	.314
-	3	43603	-10.587	4.970	.464	-.048
Z	2	749	35.723	12.978	-.146	-.010
-	5	43604	-3.229	-64.801	.083	.033
-	5	43605	-3.591	-98.503	.371	.236
-	3	825604	-94.563	104.335	-.304	.306
-	3	43503	-89.083	4.818	.006	-.176
-	5	43504	-93.919	-75.108	-.193	.167
-	5	43505	-95.271	-102.112	.371	.274
-	3	825805	87.128	63.144	-.143	-.086
-	6	25605	-90.014	64.360	.098	-.125

435

-	6	25704	94.322	95.975	.053	-.022
-	6	25705	86.099	62.963	.088	.132
Z	6	525705	86.099	62.963	.392	.424
-	3	43603	83.329	1.747	-.237	.318
-	5	43604	86.793	-68.394	-.342	.133
-	5	43605	84.554	-102.257	.410	.110
-	3	825604	5.963	104.311	.611	-.382
-	3	43503	5.529	5.755	.003	-.134
-	5	43504	-4.038	-73.677	-.347	.264
-	5	43505	-7.004	-100.676	-.107	.067
-	3	825504	-82.595	99.552	.090	.279
-	3	43403	-92.717	15.308	.111	-.216
-	6	43404	-73.647	-69.570	-.152	-.166
-	6	25605	8.120	64.734	-.201	-.502
-	6	25505	-86.325	69.918	-.153	-.090
Z	6	525505	-86.325	69.918	-.089	-.147
-	6	43405	-77.199	-92.690	-.056	-.022
Z	6	543405	-77.199	-92.690	-.076	-.046

434

-	3	825604	91.765	106.767	-.307	.076
-	3	43503	95.747	8.485	-.009	.310
-	5	43504	89.729	-71.202	.218	-.346
-	5	43505	87.985	-98.292	-.327	-.805
-	3	825504	3.805	97.995	-.192	-.201
-	3	43403	-2.547	13.535	-.213	.208
-	6	43404	20.206	-70.289	-.805	.230
-	6	25405	-84.337	65.045	.321	.440
-	3	43303	-89.097	-8.349	-.187	-.056
-	6	43304	-72.906	-73.232	.138	-.165
-	6	43305	-73.117	-95.936	1.102	-.639
-	6	25605	95.680	67.411	-.293	.380
-	6	25505	1.376	68.284	.361	-.169
Z	6	525505	1.376	68.284	.364	-.228
-	6	43405	17.684	-93.532	-.085	.265
Z	6	543405	17.684	-93.532	-.080	.242
-	2	825404	-86.770	110.153	-.005	.457

433

-	3	825504	94.623	95.059	.103	-.078
-	3	43403	86.865	11.162	.103	.008
-	6	43404	108.186	-73.189	.782	-.244

JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	6	25405	6.315	64.054	.541	-.353
-	3	43303	.093	-9.020	.370	-.143
-	6	43304	14.985	-74.350	-.487	.568
-	6	43305	14.331	-97.171	-.187	.433
-	6	25304	-95.956	101.828	-.455	.100
Z	6	525304	-95.956	101.828	-.279	-.055
-	3	43203	-99.427	-.299	-.001	-.385
-	6	43204	-79.280	-77.046	-.561	.124
Z	6	543204	-79.280	-77.046	-.757	-.102
-	6	43205	-80.244	-106.035	.413	.220
-	6	25505	91.710	65.605	.005	.031
Z	6	525505	91.710	65.605	-.053	-.028
-	6	43405	105.309	-96.510	.023	.206
Z	6	543405	105.309	-96.510	.051	.183
-	2	825404	4.792	108.868	.004	-.457
-	6	25305	-97.615	61.414	.386	-.030

432

-	6	25405	98.052	63.029	-.168	.503
-	3	43303	92.028	-9.940	-.183	.198
-	6	43304	106.954	-74.998	.545	-.215
-	6	43305	106.383	-97.713	-1.102	-.521
-	6	25304	-4.230	100.969	-.158	-.107
Z	6	525304	-4.230	100.969	-.151	-.264
-	3	43203	-7.281	-1.368	.007	.252
-	6	43204	13.103	-78.001	.067	.193
Z	6	543204	13.103	-78.001	.107	-.029
-	6	43205	12.241	-106.914	.129	-.209
-	6	25204	-77.541	104.112	-.040	.209
-	6	25205	-81.569	73.991	.107	.105
-	6	43104	-77.634	-78.363	.088	-.103
-	6	43105	-78.641	-96.280	.075	-.182
Z	6	543105	-78.641	-96.280	.195	-.042
-	6	25305	-5.730	60.439	.283	.193
-	3	43103	-84.156	-3.613	.199	.021

431

-	6	25304	82.904	103.276	.121	-.400
Z	6	525304	82.904	103.276	-.037	-.559
-	3	43203	82.412	.730	-.007	.134
-	6	43204	104.415	-74.677	.269	-.162
Z	6	543204	104.415	-74.677	.538	-.382
-	6	43205	104.215	-103.215	.178	-.083
-	6	25204	9.558	104.502	-.184	-.075
-	6	25205	6.438	74.081	.250	-.030
-	6	43104	14.698	-77.640	.045	.162
-	6	43105	14.192	-95.361	-.647	.100
Z	6	543105	14.192	-95.361	-.671	.239
XYZ	6	757	-96.539	72.980	-1.311	.532
-	3	43003	-82.980	5.428	.225	.164
Z	3	543003	-82.980	5.428	.333	.163
-	6	43004	-82.563	-79.736	1.050	.026
-	6	43005	-82.178	-104.847	.568	-.395
-	6	25305	82.425	62.517	-.403	.183
-	3	43103	6.122	-3.640	-.398	.151
-	6	25104	-101.890	104.895	.512	.054
-	6	25105	-107.212	68.970	-.430	.176

xxx

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JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
430						
-	6	25204	98.245	102.947	.181	-.350
-	6	25205	95.413	72.721	.128	.026
-	6	43104	104.775	-78.798	-.340	-.066
-	6	43105	104.343	-96.624	.402	.265
Z	6	543105	104.343	-96.624	.238	.406
XYZ	6	757	-6.818	70.776	-.495	.407
-	3	43003	6.865	3.703	-.429	-.048
Z	3	543003	6.865	3.703	-.426	-.048
-	6	43004	7.612	-81.472	-.026	.194
-	6	43005	8.092	-106.685	-.173	-.100
-	3	825004	-98.259	104.803	-.156	-.176
-	3	42903	-105.035	-2.259	-.101	-.049
-	6	42904	-83.238	-83.833	-.522	.057
-	6	42905	-85.264	-96.431	.482	-.050
-	3	43103	95.650	-4.712	.201	-.173
-	6	25104	-12.308	102.344	.727	.290
-	6	25105	-17.450	66.710	.646	.051
-	5	8801	-108.361	-73.843	-.310	.133
-	6	25005	-102.796	71.395	-.141	-.266
Z	6	525005	-102.796	71.395	.116	-.506
429						
XYZ	6	757	88.302	73.345	-.284	.237
-	3	43003	103.341	6.596	.203	-.116
Z	3	543003	103.341	6.596	.092	-.115
-	6	43004	105.876	-78.230	1.034	.043
-	6	43005	106.922	-103.270	-.689	.093
-	3	825004	-3.946	105.313	.314	.051
-	3	42903	-8.082	-2.072	.219	.313
-	6	42904	15.535	-82.835	-.364	-.109
-	6	42905	13.847	-95.409	-.427	-.314
-	6	24904	-90.647	108.968	-.574	-.288
Z	6	524904	-90.647	108.968	-.789	-.077
-	6	24905	-102.854	72.285	.693	-.197
-	3	42803	-99.096	12.043	-.242	.057
Z	3	542803	-99.096	12.043	-.128	.052
-	3	42804	-82.983	-73.640	-.027	.288
-	3	42805	-85.689	-99.370	-.353	.202
-	5	8801	-9.713	-73.525	1.165	.194
-	4	8802	-13.747	-96.633	-.102	.094
-	6	25104	82.026	104.870	.734	-.308
-	6	25105	77.744	69.018	-1.071	.032
-	6	25005	-7.655	71.686	.297	.052
Z	6	525005	-7.655	71.686	.295	-.185
428						
-	3	825004	83.004	104.114	-.158	.125
-	3	42903	83.992	-2.190	-.118	-.265
-	6	42904	111.702	-82.863	.180	-.213
-	6	42905	110.655	-95.777	-.427	-.135
-	6	24904	-2.731	103.992	.268	.263
Z	6	524904	-2.731	103.992	.264	.465
-	6	24905	-13.373	67.619	-.437	-.015
-	3	42803	-7.475	8.217	.466	-.313
Z	3	542803	-7.475	8.217	.467	-.314

JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	42804	11.902	-77.316	.071	-.186
-	3	42805	10.144	-103.637	.705	-.309
-	5	8801	85.761	-74.354	-.083	-.042
-	4	8802	82.748	-98.086	.493	-.043
-	3	42703	-97.116	5.131	.081	.271
-	5	42704	-93.315	-81.800	.109	.666
-	5	42705	-97.542	-107.409	-.903	.887
-	4	8901	-30.363	-73.524	.095	-.024
-	6	25005	80.922	71.001	-.362	.055
Z	6	525005	80.922	71.001	-.608	-.172
-	6	24805	-103.396	65.516	-.754	-.125
Z	6	524805	-103.396	65.516	-.295	-.543
-	6	24804	-109.165	96.337	.302	-.026
-	4	8902	-31.209	-101.197	.646	-.009

427

-	6	24904	90.368	105.537	-.210	.479
Z	6	524904	90.368	105.537	.000	.668
-	6	24905	79.207	69.074	-.145	.687
-	3	42803	84.388	9.363	-.226	.256
Z	3	542803	84.388	9.363	-.340	.262
-	3	42804	102.560	-76.209	-.044	-.102
-	3	42805	100.435	-102.291	-.351	.106
-	3	42703	-5.469	7.852	-.132	-.075
-	5	42704	-2.448	-78.995	-.249	-.153
-	5	42705	-6.924	-104.361	.369	-.485
-	4	8901	60.493	-71.772	-.389	-.074
-	6	24704	-100.018	100.527	.082	-.045
Z	6	524704	-100.018	100.527	-.063	.076
-	6	24705	-97.985	48.780	-.008	.166
-	3	42603	-92.961	-7.465	.089	.366
-	3	42604	-103.577	-76.512	-.013	-.053
-	3	42605	-89.597	-102.239	.114	-.435
-	6	24805	-11.289	68.655	.610	-.452
Z	6	524805	-11.289	68.655	.632	-.845
-	6	24804	-16.836	99.871	.704	-.138
-	4	8902	59.314	-99.230	-.427	-.206

426

-	3	42703	102.235	4.921	.051	-.196
-	5	42704	96.823	-80.755	.294	-.393
-	5	42705	90.059	-105.007	.175	-.081
-	6	24704	16.307	107.147	.090	.125
Z	6	524704	16.307	107.147	.103	.242
-	6	24705	13.866	54.370	-.317	-.477
-	3	42603	14.018	-2.488	-.177	-.245
-	3	42604	-2.394	-69.767	.037	.239
-	3	42605	9.225	-96.068	-.268	.333
-	6	24604	-80.453	100.335	-.366	.549
-	6	24605	-84.233	56.731	.927	.225
-	3	42503	-85.300	.389	.039	-.058
-	3	42504	-86.972	-56.446	.253	-.122
-	3	42505	-91.141	-79.527	.034	-.302
-	6	24805	102.397	66.343	-.246	.119
Z	6	524805	102.397	66.343	-.740	-.262
-	6	24804	99.880	98.503	.110	.304

425

-	6	24704	93.504	108.501	-.033	.143
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29

JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
Z	6	524704	93.504	108.501	.113	.253
-	6	24705	97.822	56.816	.071	-.012
-	3	42603	105.268	.882	.088	-.121
-	3	42604	97.671	-68.234	-.025	-.186
-	3	42605	112.643	-93.241	.153	.101
-	6	24604	-.162	89.891	.308	-.821
-	6	24605	1.296	46.905	-.299	-.136
-	3	42503	6.893	-8.720	-.068	.196
-	3	42504	12.051	-65.550	-.483	.458
-	3	42505	10.656	-89.260	-.079	.348
-	6	24504	-105.639	101.709	-.762	.144
-	6	24505	-95.004	54.614	1.081	.135
-	3	42403	-92.137	7.415	.091	.106
-	3	42404	-97.459	-79.444	-.069	-.235
-	3	42405	-102.024	-106.083	-.087	-.373
76						
-	2	7601	-8.169	-108.599	.000	.035
-	2	7602	-2.094	-78.016	.000	.022
-	2	7603	1.836	-6.380	.000	-.011
-	2	7604	-5.657	72.907	.000	.007
-	2	7605	-7.894	109.754	.000	.030
XYZ	2	743	61.099	28.685	-.006	.039
-	3	7703	85.786	-2.059	.164	-.079
-	3	7704	90.838	69.555	-.026	-.007
-	3	7705	93.848	97.024	-.094	-.001
-	6	43904	102.791	-109.767	.027	.032
-	6	43905	101.584	-83.904	-.062	-.069
77						
-	2	7601	-97.159	-110.045	.000	-.036
-	2	7602	-91.187	-79.358	.000	-.022
-	2	7603	-87.428	-7.559	.000	.011
-	2	7604	-95.139	71.829	.000	-.007
-	2	7605	-97.467	108.738	.000	-.030
XYZ	2	743	-28.095	27.995	.105	.062
-	3	7703	-3.233	-2.612	-.325	-.020
-	3	7704	1.662	69.132	.054	-.078
-	3	7705	4.578	96.657	.189	-.117
-	3	7801	91.703	-99.549	-.074	.044
-	3	7802	84.437	-76.652	.022	.022
-	3	7803	91.343	7.678	-.183	.113
-	3	7804	80.727	79.111	.158	.080
-	3	7805	94.337	108.343	-.018	.101
-	6	43904	14.105	-110.312	-.068	-.053
-	6	43905	12.812	-84.432	.139	-.071
78						
-	3	7703	-92.896	-4.013	.161	.099
-	3	7704	-87.791	68.019	-.027	.085
-	3	7705	-84.822	95.669	-.094	.118
-	3	7801	2.303	-100.946	.145	-.051
-	3	7802	-4.934	-78.041	-.044	-.144
-	3	7803	2.229	6.469	.362	-.141
-	3	7804	-8.220	78.092	-.311	-.117
-	3	7805	5.532	107.428	.035	-.215
-	5	43804	45.997	-108.335	-.121	.127

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JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	2	43805	45.694	-80.294	.000	.057
-	3	7902	93.078	-84.439	-.015	-.065
-	3	7903	88.123	-2.901	.138	-.054
-	3	7904	88.911	77.275	.055	.107
-	3	7905	87.451	103.022	-.150	.076
-	6	43904	-75.706	-111.981	-.205	-.019
-	6	43905	-76.961	-86.041	.071	.138
79						
-	3	7801	-89.005	-100.664	-.070	.008
-	3	7802	-96.169	-77.922	.022	.122
-	3	7803	-88.878	6.259	-.178	.028
-	3	7804	-99.177	78.235	.152	.037
-	3	7805	-85.308	107.891	-.017	.114
-	5	43804	-45.444	-108.276	.200	-.028
-	2	43805	-45.678	-80.455	.000	-.057
-	3	7902	1.782	-84.852	.034	-.107
-	3	7903	-2.661	-3.355	-.271	-.119
-	3	7904	-1.300	77.452	-.111	-.065
-	3	7905	-2.581	103.546	.301	-.202
-	3	8001	95.473	-98.628	.016	.109
-	3	8002	92.997	-62.779	.041	-.002
-	3	8003	83.608	-15.028	-.026	-.043
-	3	8004	84.281	86.316	-.133	.065
-	3	8005	96.798	104.268	.039	.140
80						
-	3	7902	-94.942	-87.133	-.019	.174
-	3	7903	-96.705	-4.693	.133	.173
-	3	7904	-92.636	76.030	.056	-.042
-	3	7905	-93.061	101.976	-.151	.125
-	3	8001	-.612	-103.436	-.035	-.145
-	3	8002	-2.147	-67.099	-.077	-.220
-	3	8003	-10.261	-18.785	.052	-.084
-	3	8004	-6.775	82.226	.261	-.022
-	3	8005	6.181	99.593	-.080	-.093
-	5	43604	33.577	-113.354	.156	.064
-	5	43605	34.569	-79.015	-.347	-.184
-	3	8101	85.718	-108.270	.078	.148
-	3	508101	85.718	-108.270	.086	.148
-	3	8102	87.626	-82.665	.043	-.075
-	3	8103	84.857	3.743	.065	-.131
-	3	8104	92.599	69.802	-.050	.041
-	3	8105	98.043	94.221	-.172	.125
81						
-	3	8001	-92.592	-102.648	.018	.035
-	3	8002	-94.703	-66.590	.036	.222
-	3	8003	-103.593	-18.550	-.027	.127
-	3	8004	-101.699	82.972	-.129	-.044
-	3	8005	-88.872	100.782	.042	-.047
-	5	43604	-58.312	-112.055	.253	-.019
-	5	43605	-57.807	-77.950	-.120	-.228
-	3	8101	-6.163	-106.362	-.162	.067
-	3	508101	-6.163	-106.362	-.162	.067
-	3	8102	-4.533	-80.871	-.085	-.162
-	3	8103	-8.271	5.533	-.128	-.102

JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	8104	-1.159	72.285	.101	.086
-	3	8105	4.105	97.136	.344	.131
-	6	43404	101.884	-102.815	.661	.200
-	3	8203	105.687	4.723	-.171	-.319
-	3	8204	102.208	77.948	-.268	.101
-	5	43504	32.411	-102.219	.434	.073
-	5	43505	34.037	-75.048	.200	.195
-	6	43405	104.289	-79.604	-.350	-.310
Z	6	543405	104.289	-79.604	-.378	-.287
-	3	8205	95.727	98.689	-.108	.211

82

-	3	8101	-95.551	-106.523	.085	-.215
Z	3	508101	-95.551	-106.523	.077	-.215
-	3	8102	-94.165	-81.218	.041	.236
-	3	8103	-98.623	4.707	.062	.233
-	3	8104	-92.135	71.415	-.050	-.127
-	3	8105	-87.110	96.353	-.172	-.255
-	6	43404	12.115	-102.898	.042	.159
-	3	8203	15.267	4.730	.350	.114
-	3	8204	11.316	78.286	.535	.036
-	5	43504	-57.286	-102.375	-.112	-.158
-	5	43505	-55.886	-75.345	-.137	.269
-	6	43304	105.262	-99.341	-.086	-.227
-	6	43305	105.289	-76.625	-.266	-.030
-	3	8303	102.062	-15.135	-.224	-.217
-	3	8304	95.721	65.361	-.102	.192
-	3	8305	97.329	105.632	-.260	.467
-	6	43405	14.383	-79.713	.005	-.104
Z	6	543405	14.383	-79.713	.001	-.080
-	3	8205	4.664	99.091	.211	-.079

83

-	6	43404	-80.542	-107.338	-.529	-.179
-	3	8203	-77.745	1.173	-.180	.206
-	3	8204	-81.963	74.695	-.267	-.138
-	6	43304	12.996	-102.575	.098	.194
-	6	43305	12.844	-79.749	-.139	.382
-	3	8303	9.160	-18.216	.452	.086
-	3	8304	2.256	61.864	.196	.081
-	3	8305	3.579	101.727	.503	-.022
-	6	43204	106.606	-96.233	.265	-.262
Z	6	543204	106.606	-96.233	-.007	-.042
-	6	43205	106.404	-67.388	-.315	-.274
-	3	8403	94.954	-7.296	-.032	-.235
-	3	8404	103.575	69.226	-.314	.111
Z	3	508404	103.575	69.226	-.440	.109
-	3	8405	100.653	101.907	-.339	.340
Z	2	508007	73.106	66.528	.802	-.012
-	6	43405	-78.325	-83.846	.463	-.036
Z	6	543405	-78.325	-83.846	.483	-.013
-	3	8205	-88.678	95.424	-.104	-.132
XYZ	2	756	27.331	-57.230	-.598	-.164

84

-	6	43304	-76.269	-103.785	-.208	-.155
-	6	43305	-76.752	-81.146	.591	.375

JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	8303	-81.436	-19.916	-.228	.131
-	3	8304	-89.641	60.285	-.095	-.273
-	3	8305	-88.952	100.526	-.243	-.447
-	6	43204	17.289	-96.531	.156	-.014
Z	6	543204	17.289	-96.531	.116	.208
-	6	43205	16.795	-67.803	.044	.137
-	3	8403	4.589	-7.837	.064	.245
-	3	8404	12.482	69.364	.613	.161
Z	3	508404	12.482	69.364	.613	.160
-	3	8405	9.172	102.416	.659	.025
Z	2	508007	-18.356	66.138	-.802	.012
-	6	43104	107.191	-91.986	-.379	-.239
-	6	43105	107.384	-74.203	-.085	-.155
Z	6	543105	107.384	-74.203	.084	-.292
-	3	8503	103.860	3.911	-.155	.322
-	3	8504	99.909	83.011	-.082	.174
-	3	8505	96.877	104.811	-.261	-.036
XYZ	2	756	-62.677	-58.602	-.403	-.338

85

-	6	43204	-77.641	-102.365	-.194	.121
Z	6	543204	-77.641	-102.365	.004	.349
-	6	43205	-77.944	-73.255	-.449	.208
-	3	8403	-89.876	-12.731	-.033	-.009
-	3	8404	-81.373	64.525	-.301	-.271
Z	3	508404	-81.373	64.525	-.173	-.269
-	3	8405	-84.465	97.450	-.321	-.365
-	6	43104	13.211	-97.958	.513	-.004
-	6	43105	13.444	-79.984	.254	.019
Z	6	543105	13.444	-79.984	.275	-.121
-	3	8503	10.023	-1.416	.298	.290
-	3	8504	6.246	77.505	.158	.092
-	3	8505	3.299	99.158	.528	-.052
-	6	43004	110.125	-94.203	-.620	-.590
-	6	43005	109.426	-69.019	-.106	.047
-	3	8603	99.878	3.597	.316	.569
-	3	8604	103.197	76.925	-.246	.153
-	3	8605	103.566	99.359	.096	-.168

86

-	6	43104	-75.894	-102.330	.074	.249
-	6	43105	-75.919	-84.328	.002	-.049
Z	6	543105	-75.919	-84.328	-.121	-.191
-	3	8503	-80.615	-5.699	-.143	-.612
-	3	8504	-85.625	73.308	-.077	-.266
-	3	8505	-88.919	94.953	-.269	.088
-	6	43004	21.625	-97.070	-.694	.303
-	6	43005	20.513	-71.796	-.065	.430
-	3	8603	9.732	.963	-.621	.138
-	3	8604	11.981	74.704	.484	.133
-	3	8605	11.989	97.261	-.187	.139
-	6	42904	112.224	-92.211	.685	.030
-	6	42905	113.870	-79.577	.191	.186
-	3	8703	103.981	-9.530	-.083	.258
-	3	8704	100.280	74.072	.073	-.052
-	3	8705	99.337	96.478	-.087	-.293
XYZ	2	758	50.228	112.789	.835	-.491

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JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
87						
-	6	43004	-68.399	-101.313	-.742	.024
-	6	43005	-70.417	-76.163	.465	-.076
-	3	8603	-83.762	-3.977	.305	-.706
-	3	8604	-84.187	69.774	-.238	-.285
-	3	8605	-84.967	92.338	.090	.029
-	6	42904	22.095	-93.436	.346	-.159
-	6	42905	23.293	-80.740	-.096	-.033
-	3	8703	10.912	-10.958	.177	-.062
-	3	8704	4.248	72.736	-.146	.168
-	3	8705	2.546	95.194	.168	.162
XYZ	2	758	-47.328	109.497	.675	.204
-	5	8801	47.735	-101.932	-.839	-.061
-	4	8802	50.928	-78.529	.127	.124
-	3	8803	98.285	-8.403	-.050	.271
-	3	8804	101.463	69.326	-.215	.280
-	3	8805	102.164	101.488	-.026	.120
88						
-	6	42904	-71.663	-97.168	-.324	.394
-	6	42905	-70.240	-84.440	.278	.344
-	3	8703	-81.500	-14.300	-.095	-.196
-	3	8704	-86.743	69.572	.072	-.116
-	3	8705	-88.050	92.052	-.081	.132
-	5	8801	-46.068	-106.018	.067	-.225
-	4	8802	-42.516	-82.581	-.518	-.176
-	3	8803	5.982	-13.013	.100	-.533
-	3	8804	10.395	64.551	.441	-.213
-	3	8805	11.573	96.602	.055	-.069
-	4	8901	69.417	-108.452	.008	.071
-	3	8906	81.349	-91.322	.286	.089
-	3	8903	77.368	-2.075	.210	-.002
-	3	8904	81.059	58.164	-.016	.152
-	3	8905	85.833	98.778	-.336	.191
-	4	8902	70.574	-81.076	-.146	.158
89						
-	3	8803	-84.600	-13.915	-.049	.262
-	3	8804	-79.009	63.566	-.225	-.068
-	3	8805	-77.343	95.665	-.030	-.049
-	4	8901	-22.748	-110.176	.285	.026
-	3	8906	-10.534	-93.305	-.568	-.142
-	3	8903	-13.082	-4.042	-.419	-.366
-	3	8904	-8.333	56.286	.035	-.248
-	3	8905	-2.816	97.022	.675	-.185
-	5	42704	40.097	-103.934	-.059	.124
-	5	42705	44.902	-78.825	.773	-.078
XYZ	2	763	56.893	-54.046	-.345	.350
-	2	9003	100.058	6.978	.000	.081
-	2	9004	88.789	79.123	.000	.084
-	2	9005	88.790	99.296	.000	.148
-	4	8902	-21.144	-82.892	-.073	.059
90						
-	3	8906	-105.312	-95.885	.283	.052
-	3	8903	-106.130	-6.186	.209	.368

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JAMALPUR PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	8904	-100.109	54.252	-.019	.097
-	3	8905	-93.729	94.976	-.340	-.006
-	5	42704	-54.621	-107.298	-.096	-.245
-	5	42705	-49.345	-82.195	-.413	-.244
XYZ	2	763	-36.817	-57.556	.378	.292
-	2	9003	7.532	2.725	.000	-.081
-	2	9004	-2.325	75.018	.000	-.084
-	2	9005	-1.899	95.162	.000	-.149

Adjustment ended on 11-Feb-93 at 09:29:54

742	2716906.980	482723.220	15.480	0
743	2722764.690	492646.910	14.640	0
749	2737828.314	481794.664	16.160	2
750	2742379.820	461335.730	20.590	0
754	2762486.130	469884.610	18.850	0
755	2753044.090	472001.880	25.160	0
756	2753315.560	488661.180	18.740	0
757	2767424.730	479182.780	23.250	0
758	2768584.750	497390.640	18.780	0
763	2782518.380	488602.780	20.650	0
764	2778480.210	471061.580	24.120	0
767	2801330.050	479299.320	22.120	0
7601	2719255.884	485746.459	9.961	3
7602	2719562.764	487277.057	13.180	3
7603	2719764.815	490877.247	11.779	3
7604	2719389.498	494895.502	10.470	3
7605	2719276.999	496774.604	9.884	3
7703	2724008.092	491090.604	10.122	3
7704	2724285.635	494724.084	9.739	3
7705	2724445.191	496122.984	13.167	3
7801	2728746.428	486170.639	11.439	3
7802	2728394.480	487322.404	11.035	3
7803	2728798.481	491570.710	11.543	3
7804	2728306.888	495205.589	9.817	3
7805	2729018.977	496693.796	11.703	3
7902	2733337.877	486934.590	13.426	3
7903	2733145.224	491052.579	12.845	3
7904	2733244.470	495128.792	12.208	3
7905	2733189.252	496444.868	12.062	3
8001	2738069.569	486197.603	13.555	3
8002	2737956.150	488012.233	13.781	3
8003	2737498.382	490429.544	12.909	3
8004	2737568.803	495546.209	11.992	3
8005	2738208.532	496448.859	10.286	3
8101	2742421.879	486021.433	15.514	3
8102	2742498.950	487306.281	15.025	3
8103	2742292.919	491662.544	12.548	3
8104	2742637.746	495033.753	12.055	3
8105	2742898.204	496290.203	12.236	3
8203	2748054.806	491645.541	14.176	3
8204	2747865.596	495348.806	14.486	3
8205	2747533.942	496396.775	13.688	3
8303	2752415.151	490633.043	15.196	3
8304	2752100.218	494676.570	17.486	3
8305	2752183.062	496693.108	17.948	3
8403	2756763.287	491147.058	16.253	3
8404	2757244.065	495024.355	15.266	3
8405	2757112.849	496686.311	15.764	3
8503	2761786.188	491630.344	17.138	3
8504	2761663.030	495618.527	16.884	3
8505	2761532.095	496717.151	16.081	3
8603	2766341.664	491807.474	16.118	3
8604	2766583.705	495525.981	16.029	3
8605	2766624.451	496667.125	16.327	3
8703	2771082.421	491112.794	15.018	3
8704	2771051.126	495347.877	16.330	3
8705	2771046.660	496486.478	15.048	3
8801	2772601.928	486414.732	15.395	3
8802	2772846.438	487576.358	15.128	3
8803	2775479.750	490924.976	13.045	3
8804	2775926.451	494821.339	12.703	3
8805	2776079.249	496436.934	14.595	3
8901	2778390.816	485950.015	17.373	3
8902	2778530.669	487317.533	16.094	3
8903	2779107.276	491268.570	16.958	3
8904	2779476.039	494297.824	14.303	3
8905	2779841.433	496340.609	12.983	3
8906	2779942.663	486771.109	15.248	3

200

9004	2784413.591	495233.167	20.014	3
9005	2784459.642	496250.556	17.725	3
19201	2741567.412	460262.562	15.044	3
19202	2741469.516	461412.780	16.338	3
19203	2740662.556	466170.819	17.310	3
19204	2740708.221	469916.283	16.055	3
19205	2740623.025	470771.471	15.029	3
19301	2746028.137	460099.167	17.733	3
19302	2746258.816	460879.962	16.736	3
19303	2745495.760	465361.621	19.401	3
19304	2744740.126	469335.982	13.170	3
19305	2744520.001	470594.350	12.196	3
19401	2750236.767	460574.703	16.412	3
19402	2750527.613	462443.143	17.383	3
19403	2750246.980	465073.343	17.644	3
19404	2750165.330	468810.962	14.269	3
19405	2750163.658	470237.083	13.136	3
19502	2755091.412	461633.504	17.086	3
19503	2754955.810	466079.145	15.830	3
19504	2754199.172	468657.071	17.139	3
19505	2754168.334	470753.389	16.883	3
19601	2759058.400	460417.008	12.437	3
19602	2758470.820	463801.683	14.840	3
19603	2758513.315	465754.919	17.673	3
19604	2759173.234	468802.632	17.263	3
19605	2759073.898	470598.261	17.007	3
19701	2763627.006	460299.333	15.979	3
19702	2763383.320	462178.052	14.319	3
19703	2763295.550	465689.958	12.875	3
19704	2763351.454	468943.123	17.334	3
19705	2763519.273	470231.276	17.803	3
19801	2768194.525	460422.120	15.916	3
19802	2768315.531	462767.788	15.467	3
19803	2768395.260	465084.976	16.679	3
19804	2768379.110	469563.193	18.202	3
19805	2768384.637	470940.514	16.376	3
19901	2772716.362	460860.918	10.882	3
19902	2773612.881	462222.731	12.893	3
19903	2773236.994	464822.245	14.735	3
19904	2772342.505	469552.291	17.784	3
19905	2772789.988	470466.145	17.535	3
20001	2777278.018	459582.032	13.114	3
20002	2777142.808	460842.529	12.662	3
20003	2777480.061	464886.618	16.894	3
20004	2777660.048	468154.928	12.886	3
20005	2777431.353	470457.097	18.449	3
20101	2781844.635	459553.939	11.377	3
20102	2781671.428	461202.742	9.514	3
20103	2781721.597	464631.287	15.608	3
20104	2782223.275	468860.466	14.445	3
20105	2782138.181	470340.290	16.935	3
20201	2786357.984	459585.505	9.034	3
20202	2786892.762	461169.722	14.336	3
20203	2786876.253	463902.317	18.849	3
20204	2786282.553	467097.499	20.336	3
20205	2785766.740	469351.539	19.373	3
20301	2791722.537	459309.439	11.890	3
20302	2791555.819	460474.796	14.745	3
20303	2791765.015	465279.372	18.239	3
20304	2790625.220	468973.680	16.490	3
20305	2791288.937	470127.653	16.994	3
24301	2805403.704	469355.419	17.294	3
24303	2804408.146	474474.429	22.217	3
24304	2803627.810	476893.965	21.764	3
24305	2803068.395	479158.016	23.337	3
24401	2800643.600	469601.234	14.302	3
24402	2799994.466	472384.281	20.656	3
24403	2799405.342	473919.929	19.778	3
24404	2799675.709	475733.901	21.707	3
24405	2800258.200	478490.159	21.005	3
24501	2795809.512	469437.026	17.263	3

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24504	2796025.475	476249.145	22.629	3
24505	2795707.008	478661.381	20.868	3
24603	2791408.087	473963.868	20.342	3
24604	2790792.706	477325.605	18.758	3
24605	2790921.779	479493.194	18.399	3
24702	2785174.332	471064.321	18.210	3
24703	2785256.633	474022.182	19.523	3
24704	2785984.926	476814.310	18.014	3
24705	2786017.634	479441.588	18.827	3
24803	2781626.365	473879.890	16.443	3
24804	2781782.579	477089.473	19.206	3
24805	2781591.021	478687.242	19.872	3
24903	2777433.740	474038.591	15.606	3
24904	2776351.147	477107.721	17.955	3
24905	2777026.437	478922.907	17.855	3
25003	2772812.731	473967.657	15.141	3
25004	2772007.608	477431.061	15.345	3
25005	2772252.246	479108.376	17.635	3
25103	2768355.785	473876.869	16.757	3
25104	2767685.366	477587.440	15.830	3
25105	2767960.712	479380.778	17.309	3
25203	2763463.388	473748.023	17.748	3
25204	2762107.351	477599.832	14.942	3
25205	2762266.615	479124.793	17.745	3
25303	2758741.086	473785.479	15.718	3
25304	2758412.374	477656.633	17.426	3
25305	2758434.729	479702.957	16.015	3
25403	2753298.808	473466.570	14.741	3
25404	2753359.007	477181.525	14.041	3
25405	2753194.272	479428.017	16.455	3
25503	2749859.260	474117.751	15.617	3
25504	2748770.153	477737.799	16.885	3
25505	2748882.013	479230.155	15.259	3
25603	2744584.464	473950.590	15.677	3
25604	2744341.709	477253.898	13.896	3
25605	2744125.536	479233.658	16.220	3
25703	2740464.477	473239.142	15.723	3
25704	2739865.848	477422.650	13.718	3
25705	2740190.523	479106.589	13.706	3
25801	2734737.525	469162.390	13.782	3
25802	2735235.594	470281.820	13.010	3
25803	2735012.303	473855.052	15.209	3
25804	2735125.832	477830.391	14.592	3
25805	2735241.649	479288.422	12.579	3
25901	2730982.017	469180.200	12.960	3
25902	2730938.946	470473.786	13.425	3
25903	2730417.751	473825.427	13.758	3
25904	2730072.538	477788.762	11.938	3
25905	2730062.443	479331.095	13.709	3
34805	2730942.649	487175.781	14.445	3
42303	2800180.455	480982.386	24.362	3
42304	2799674.847	484653.038	21.671	3
42305	2798831.589	485957.885	21.287	3
42403	2795780.687	481039.148	19.255	3
42404	2796441.674	485352.521	19.378	3
42405	2796791.294	486658.750	17.715	3
42503	2790901.649	482309.852	18.697	3
42504	2790910.110	485177.256	20.040	3
42505	2791090.477	486355.176	19.297	3
42603	2785912.502	482290.651	19.053	3
42604	2786626.906	485721.564	19.072	3
42605	2785993.961	487044.907	19.331	3
42703	2781471.234	481770.367	19.220	3
42704	2781565.924	486131.332	18.511	3
42705	2781861.014	487383.304	19.428	3
42803	2776947.530	481950.263	17.512	3
42804	2776294.473	486292.800	15.210	3
42805	2776479.122	487589.325	12.977	3
42903	2772398.583	482813.033	17.728	3
42904	2771344.907	486931.032	13.992	3

43004	2766768.063	486857.498	16.237	3
43005	2766755.952	488128.312	17.010	3
43103	2762290.567	483031.223	17.757	3
43104	2761863.692	486774.377	17.764	3
43105	2761891.299	487674.875	15.776	3
43203	2758432.779	482819.394	17.035	3
43204	2757308.112	486648.848	16.196	3
43205	2757314.451	488103.598	14.916	3
43303	2753409.465	483124.004	15.227	3
43304	2752573.076	486388.511	14.633	3
43305	2752575.463	487534.514	14.320	3
43403	2749059.672	481988.839	14.860	3
43404	2747881.035	486208.610	15.049	3
43405	2747998.858	487382.518	15.737	3
43503	2744097.627	482205.951	16.317	3
43504	2744367.180	486233.488	14.978	3
43505	2744444.277	487604.052	14.808	3
43603	2740164.356	482198.603	16.323	3
43604	2739796.101	485729.957	16.062	3
43605	2739815.214	487447.408	16.519	3
43703	2734462.055	482370.833	14.298	3
43704	2734391.320	485692.979	14.786	3
43705	2734210.331	487625.690	15.326	3
43803	2730214.765	482466.920	13.022	3
43804	2730942.569	485768.952	12.024	3
43805	2730943.462	487176.899	15.157	3
43901	2725822.066	477554.080	10.288	3
43902	2725995.087	478674.781	13.655	3
43903	2725321.237	482710.392	13.322	3
43904	2724833.673	485675.537	11.471	3
43905	2724780.318	486970.696	12.329	3
44001	2721175.821	477241.023	15.335	3
44002	2720989.541	478321.963	14.937	3
44003	2721813.296	482673.536	14.176	3
44004	2721727.957	485395.576	15.291	3
44005	2721854.316	487197.199	13.205	3
44101	2716310.562	476961.599	13.717	3
44102	2716302.776	478738.236	13.861	3
44103	2716344.554	482626.231	14.609	3
44104	2715918.848	486051.280	12.174	3
44105	2715914.710	487438.250	10.667	3
505010	2768148.879	470341.334	16.800	2
505013	2754466.632	470435.859	16.000	2
505016	2740660.801	470551.231	15.000	2
506017	2730013.303	478543.336	13.550	2
508007	2755690.132	494894.172	17.150	2
508101	2742421.878	486021.423	15.500	2
508404	2757244.046	495024.261	15.500	2
519503	2754955.739	466079.082	17.000	2
519603	2758513.243	465754.937	16.500	2
519605	2759073.892	470598.246	17.250	2
519704	2763351.461	468943.122	17.250	2
519905	2772789.986	470466.140	17.600	2
524503	2795597.128	474361.791	19.500	2
524603	2791408.168	473963.839	19.500	2
524703	2785256.654	474022.184	19.750	2
524704	2785984.932	476814.346	18.350	2
524803	2781626.339	473879.892	17.450	2
524805	2781591.035	478687.300	18.750	2
524904	2776351.162	477107.768	18.500	2
525003	2772812.563	473967.626	17.000	2
525005	2772252.261	479108.423	17.000	2
525103	2768355.910	473876.862	15.550	2
525304	2758412.378	477656.605	17.000	2
525503	2749859.307	474117.769	14.700	2
525505	2748882.009	479230.168	15.100	2
525603	2744584.447	473950.598	14.500	2
525705	2740190.500	479106.524	14.500	2
525804	2735125.831	477830.360	13.500	2
525905	2730062.411	479331.080	14.300	2

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543105	2761891.299	487674.889	15.400	2
543204	2757308.112	486648.874	16.800	2
543405	2747998.859	487382.516	15.800	2
543803	2730214.771	482466.919	13.500	2
820104	2782224.064	468857.149	15.378	3
825004	2772009.368	477429.533	17.596	3
825404	2753332.561	477161.892	17.416	3
825504	2748771.524	477734.952	17.111	3
825604	2744339.244	477252.626	16.443	3
825805	2735233.221	479263.466	14.591	3
8505013	2754463.587	470432.350	15.536	3
9024401	2800344.960	469633.140	11.998	3
9024402	2802984.641	469169.878	12.713	3
9024501	2795134.222	469652.879	14.055	3
9024502	2797170.333	469818.322	14.462	3
9024503	2799144.390	469144.222	16.513	3
9024701	2787289.631	470617.512	16.266	3
9024702	2789572.126	469185.248	14.587	3
9024901	2776500.225	469532.951	16.249	3
9024902	2778870.859	469212.664	12.144	3
9024903	2782105.423	469315.242	12.223	3
9025001	2771586.257	469206.369	9.758	3
9025002	2772683.871	469189.709	13.785	3
9025003	2776587.844	469624.469	12.680	3
9025101	2767237.400	468952.330	11.495	3
9025102	2768683.343	469020.201	12.577	3
9025103	2771773.432	469227.856	13.435	3
9044101	2717021.780	481079.237	9.714	3
9044102	2719189.663	479969.463	9.711	3
9044103	2722165.351	479849.613	7.591	3

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423	2801118.128	481251.645	7670.030	203.95435
	.47298	-.75220	151.992	50324.6
424	2795786.581	481443.640	7672.441	195.75853
	-.02120	.81303	151.992	50344.7
192	2741084.072	465479.600	7669.114	1.43543
	.13333	-.30350	151.992	50350.7
193	2745577.516	465615.563	7667.448	2.13723
	.52408	.78505	151.992	50340.6
194	2749857.588	465608.536	7669.059	.62417
	.20442	.11634	151.992	50351.1
195	2754392.569	465623.719	7667.320	.96780
	.17565	.33743	151.992	50339.1
196	2759045.070	465611.656	7664.609	-.42065
	.08619	-.26987	151.992	50319.9
197	2763657.523	465628.797	7661.047	.13776
	.36175	.25359	151.992	50296.7
198	2768286.380	465503.385	7661.898	-1.12735
	.14516	.09779	151.992	50305.1
199	2772899.850	465108.238	7658.218	-5.17847
	.12151	.02619	151.992	50283.7
200	2777512.037	464755.465	7657.729	-1.12566
	.06249	.10475	151.992	50286.5
201	2782099.241	464611.040	7658.895	-1.70835
	.31872	.31898	151.992	50292.0
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	.20905	-.07319	151.992	50261.3
203	2791313.383	464570.091	7657.790	.30603
	.41477	-.05404	151.992	50277.4
260	2725970.766	474007.960	7613.450	199.07469
	-.55348	.19461	151.992	50003.2
259	2730563.611	473973.311	7664.061	200.64184
	.01685	.08339	151.992	50334.7
258	2735349.003	473927.996	7660.971	200.15924
	-.00462	.36468	151.992	50311.5
257	2739948.030	473885.239	7659.565	200.16441
	.02342	-.08459	151.992	50300.3
256	2744756.601	473841.626	7659.517	200.89383
	.09292	.43156	151.992	50297.5
255	2749438.793	473937.308	7656.967	202.99146

	.37455	-.04727	151.992	50257.1
253	2758434.100	474159.714	7655.449	200.53254
	.46727	-.41803	151.992	50254.4
252	2762996.705	474045.769	7656.766	199.53021
	.63661	-.36876	151.992	50262.6
251	2767390.163	473925.436	7653.514	199.81717
	.38157	.16025	151.992	50245.2
250	2772060.036	473799.227	7655.606	199.86719
	.14385	.03029	151.992	50262.2
249	2776665.599	473746.073	7652.165	201.57463
	.18819	.39838	151.992	50236.6
248	2781432.835	473850.624	7653.538	203.70315
	.07601	.06650	151.992	50237.8
247	2786118.062	474078.928	7650.563	206.27690
	.13341	.00579	151.992	50216.4
246	2790590.853	474350.716	7650.544	203.75924
	.20719	-.50361	151.992	50211.8
245	2795076.885	474325.066	7649.003	199.28971
	-.01208	.37373	151.992	50202.2
244	2799633.346	474284.580	7646.320	205.36399
	-.31498	2.15023	151.992	50183.9
243	2804257.193	474768.817	7644.953	207.38333
	.18087	-.15159	151.992	50172.9
441	2716537.242	482529.173	7680.703	201.96718
	.12684	-.45801	151.992	50448.8
440	2721146.273	482540.942	7677.962	199.99035
	.14873	-.32695	151.992	50431.9
439	2725729.654	482501.119	7681.094	199.47089
	-.01201	-.12140	151.992	50448.3
438	2730276.876	482451.254	7679.884	199.42640
	.20737	-.04738	151.992	50440.0
437	2734951.524	482397.214	7679.092	199.11127
	.28809	.01808	151.992	50428.6
436	2739701.632	482368.926	7678.994	199.97676
	.57995	-.66643	151.992	50422.6
435	2744384.485	482494.130	7678.231	203.38144
	.19001	-.14502	151.992	50415.6
434	2748941.577	482660.500	7677.909	200.47258
	.12728	-.08286	151.992	50412.4
433	2753433.893	482702.736	7678.873	201.70918
	.06549	.27313	151.992	50416.9
432	2758098.966	482759.749	7673.483	201.63258
	.25980	.14521	151.992	50379.5
431	2762640.260	482803.446	7677.396	199.86039
	.34731	-.36364	151.992	50400.5
430	2767129.228	482746.867	7675.765	199.40928
	.12998	-.01259	151.992	50390.1
429	2772007.201	482692.217	7674.267	197.86466
	.16252	-.24889	151.992	50380.5
428	2776591.233	482496.048	7673.616	195.29486
	-.16160	.86385	151.992	50373.8
427	2781219.111	482233.213	7673.146	196.39419
	-.02048	.43526	151.992	50365.3
426	2786665.291	482095.572	7669.516	202.09660
	.33151	-.78468	151.992	50335.0
425	2791236.197	481866.590	7671.233	194.07198
	.22617	.23644	151.992	50344.8
76	2719661.146	491137.795	7687.291	-.06817
	.09209	.51000	151.992	50501.1
77	2724146.175	491160.740	7686.376	-.53413
	.20949	.50135	151.992	50496.0
78	2728634.669	491191.514	7686.156	-.64706
	.39428	.44708	151.992	50491.3
79	2733272.744	491229.637	7686.629	-.48228
	.06413	-.07344	151.992	50492.1
80	2737941.493	491319.333	7683.756	1.28250
	.46525	.54474	151.992	50465.2
81	2742687.609	491379.282	7684.199	.25658
	.19505	.04555	151.992	50463.7
82	2747323.242	491432.887	7682.585	-.18967

201

	.41169	.23709	151.992	50414.5	
84	2756526.595	491579.052	7680.630	-1.38549	
	.12029	-.26031	151.992	50426.1	
85	2761228.249	491680.837	7676.190	-1.06254	
	.44505	.25264	151.992	50397.4	
86	2765822.190	491748.205	7678.480	-2.20073	
	.21280	.23805	151.992	50412.6	
87	2770590.026	491686.706	7679.721	-4.57831	
	-.14697	.12563	151.992	50425.7	
88	2775192.873	491566.029	7675.576	-3.64164	
	.17889	.26206	151.992	50401.5	
89	2779784.413	491433.114	7677.285	-2.73350	
	-.08900	.08117	151.992	50402.4	
90	2784393.379	491436.159	7676.499	-1.54633	
	.37589	.12247	151.992	50391.5	
-1					
1	.5395259	.5974884			
.0000324	-.0000301	-.0000029	.0000132	-.0000569	-.0000002
.0002067	.0003070	-.0000518	-.0000140	.0000190	.0000068

Adjustment started on 17-Aug-93 at 12:57:49

MMH850 BUNDLE BLOCK ADJUSTMENT

SIRAJGONJ PILOT AREA

FILES:

Image coordinate file	sirajgonj.dat
Ground coordinate (and or. element) file	sirajgonj.xyz
Output file of the adjustment	sirajgonj.out
Output file for an orthoprojector OR 1	
Output file for intersectioned points	

RUN TIME CONSTANTS:

Flag for detection of gross errors	
i.e. for Robust-estimation (1=Yes, 0=No)	0
Flag for self calibration	1
Flag for resulting the residuals	1
Rejection limit in intersection (microm)	40.0
Resulting limit in intersection (microm)	40.0
St. error of an image coordinate (m)	.250
Termination limit of iteration (m)	.001

St. coordinate errors of control points (m):

Group-id	Horizont.	Vertical
9	.000	1.000
0	.100	.100

FLY N:o 1 : f= 151.992 H(Fly)= 4600.0 H(Ground)= 10.0

ADJUSTMENTS:

C-G- iteration	Max.coord.correction (m)	point	R-norm (m)	Sum(pvv) (m*m)
56	12116.637	28303	14.540	14176.84
82	-29.696	16605	.879	6820.56
185	25.565	16605	.028	42.31
314	2.408	15901	.001	26.43
320	-.001	9033002	.001	26.43

SELF CALIBRATION FOR THE FLY 1

Parameter	St.error	Significance
B01 2.59	.36	+++
B02 -1.87	.36	+++
B03 1.00	.37	++
B04 -2.60	.39	+++
B05 -3.59	.92	+++
B06 -.47	.85	
B07 15.38	1.30	+++
B08 21.18	1.25	+++
B09 -5.60	1.25	+++
B10 -5.95	1.30	+++
B11 -7.32	2.19	+++
B12 -3.01	2.19	

Maximum correlation R(B12, B08)= -.09

STATISTICS:	Total	Rejected
No. of photographs	38	0
No. of additional parameters	12	0
No. of points in adjustment	215	0
XYZ-control points	8	0
XY-control points	0	0
Z-control points	17	0
tie points	190	0
No. of observations	1467	0
control point coordinates	41	0
image coordinates	1426	0
redundancies	582	0
Standard error of unit weight		
on the ground	.213 m	
on the image	7.1 microm	

SIRAJGONJ PILOT AREA

COORDINATE DIFFERENCES: GEODETIC - PHOTOGRAMMETRIC FOR CONTROL POINTS								
Photos	No	X(m)	Y(m)	H(m)	dX(m)	dY(m)	dH(m)	
2	730	2709079.390	467165.870	14.340	.051	-.039	.579	
2	731	2701367.020	470436.260	17.390	.029	.077	.345	
2	732	2700094.760	467968.530	17.360	-.135	-.024	.113	
2	733	2699462.380	459451.850	16.180	.155	.218	.231	
2	735	2706648.700	459258.840	19.870	.085	.049	.382	
3	736	2714366.010	459030.200	17.420	-.050	.019	.122	
2	738	2719840.210	464480.710	19.570	-.005	.095	-.202	
2	739	2717758.180	467594.830	17.920	-.236	.051	.910	
6	5016005			12.500			-.266	
6	5016201			12.500			.386	
6	5016301			12.450			-.092	
3	5016501			11.600			.026	
4	5016701			12.600			.183	
4	5016704			12.000			-.545	
3	5033203			12.250			-.102	
5	5033204			13.000			-.015	
5	5033405			12.200			-.624	
2	5033701			12.300			.275	
3	5116202			12.950			.371	
3	5116404			12.000			.894	
3	5116504			11.400			-.246	
2	5116602			11.500			.612	
4	5304007			12.500			.087	
2	5506004			12.700			-.138	
3	8016501			11.600			-.027	

COORDINATE DIFFERENCES FOR CONTROL POINT GROUPS:

Group-	No. of	Maximum differences			Root mean square errors		
id.	points	Xmax.	Ymax.	Hmax.	dX	dY	dH
0	8	.236	.218	.910	.118	.094	.399

Note: # -character indicates a rejected coordinate.

SIRAJGONJ PILOT AREA

ORIENTATION ELEMENTS:

Photo	Points	X(m)	Y(m)	H(m)	KA(gon)	PH(gon)	OM(gon)
167	12	2699834.627	460706.001	3482.459	201.3395	.3311	-.1233
166	18	2701882.673	460687.852	3482.956	199.6753	.1704	.0611
165	17	2703973.261	460629.673	3481.978	200.4134	.3009	.6530
164	19	2706026.899	460586.956	3481.690	199.5651	.1878	.1046
163	18	2708130.470	460546.632	3483.591	200.2197	.2830	-.0239
162	17	2710189.685	460537.207	3481.658	203.2090	.2470	-.2814
161	18	2712300.764	460605.308	3483.250	202.5152	.1865	.0327
160	17	2714397.542	460672.838	3482.567	202.1401	.1778	-.2131
159	12	2716534.523	460719.476	3481.935	200.1450	-.0303	-.0825
273	11	2699453.239	464017.233	3479.113	.5333	.1262	-.4207
274	17	2701520.414	464011.343	3478.726	.5295	.2571	.2046
275	17	2703661.225	463999.448	3477.957	.0672	.2264	-.2408
276	18	2705735.422	463992.811	3477.805	.2714	.2997	.0495
277	16	2707786.658	463984.305	3478.200	.4708	.1617	.0673
278	17	2709897.229	463964.751	3478.525	.0743	.1053	.0704
279	18	2712035.580	463943.407	3478.228	.3176	.0642	.2336
280	16	2714199.999	463917.263	3477.908	.4287	.1640	.4642
281	16	2716319.838	463886.035	3478.891	-.6591	.0785	-.3388
282	16	2718404.667	463862.542	3478.365	-.7395	.1245	.2293
283	11	2720495.814	463836.240	3478.754	-.9513	.0663	-.2137
339	11	2699198.528	467555.447	3479.206	200.2012	.1623	.2347
338	17	2701284.289	467563.856	3478.916	200.3373	.2304	-.0997
337	18	2703371.952	467564.429	3477.176	199.7292	.3381	-.0107
336	19	2705451.473	467565.192	3476.861	200.1104	.1521	.4726
335	19	2707567.942	467577.230	3477.483	199.6193	.0977	.0939
334	18	2709644.812	467585.513	3477.369	199.4873	.1881	-.1719
333	20	2711710.686	467585.293	3477.184	200.9515	.1076	.1504
332	22	2713767.880	467587.192	3477.766	201.1667	.0871	.3646
331	25	2715798.019	467598.956	3479.764	201.4677	.2332	-.1217
330	14	2717766.722	467642.496	3477.690	205.4269	.2143	.0633
1168	15	2700704.308	471091.244	3318.396	200.4149	.0902	-.3554
1167	28	2702674.095	471082.011	3318.917	199.9040	.1421	-.2496
1166	29	2704636.450	471063.764	3318.732	199.9320	.1279	.5668
1165	31	2706618.382	471054.645	3317.679	200.3218	.1625	.1844
1164	33	2708625.453	471055.736	3318.722	200.4617	.0531	-.0371
1163	32	2710630.402	471050.637	3318.174	199.7334	.1675	-.1450
1162	27	2712596.096	471042.226	3317.371	200.1693	.1067	.1953
1161	14	2714601.806	471043.600	3316.139	200.2938	.2089	-.2135

SIRAJGONJ PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
167						
-	4	16702	.932	-42.702	.033	-.004
-	4	16701	-4.557	-97.560	-.045	.033
Z	4	5016701	-4.557	-97.560	-.082	-.040
-	2	16703	6.753	5.245	.001	.056
-	2	16704	15.396	50.062	.000	.046
XYZ	2	733	16.692	54.949	-.114	-.052
-	2	16705	18.332	96.623	.000	.013
-	3	16605	-80.352	108.787	.186	.127
-	3	16604	-87.988	57.215	-.037	-.061
-	3	16603	-84.453	14.692	-.075	-.103
-	6	16602	-83.692	-51.633	-.076	.162
-	6	16601	-87.648	-92.919	.209	-.176
166						
-	4	16702	91.997	-43.368	-.137	-.110
-	4	16701	87.984	-98.380	.017	-.015
Z	4	5016701	87.984	-98.380	.070	-.088
-	2	16703	96.525	4.657	-.001	-.056
-	2	16704	103.906	49.564	.000	-.046
XYZ	2	733	105.199	54.467	.028	-.147
-	2	16705	105.567	95.988	.000	-.013
-	3	16605	7.216	105.374	-.360	.106
-	3	16604	.939	53.914	.071	.023
-	3	16603	5.518	11.677	.145	.031
-	6	16602	7.934	-54.458	-.067	.296
-	6	16601	5.042	-95.818	.274	-.034
-	6	16502	-76.897	-51.067	-.238	-.084
-	6	16501	-83.503	-84.987	.107	.066
Z	3	5016501	-83.503	-84.987	.019	.052
-	3	16503	-87.062	6.378	-.003	-.026
-	3	16504	-87.008	64.305	.026	-.005
-	3	16505	-86.367	98.019	.050	.050
165						
-	3	16605	98.636	99.837	.174	-.233
-	3	16604	92.215	49.053	-.035	.038
-	3	16603	96.552	7.026	-.070	.073
-	6	16602	98.578	-59.144	.569	.247
-	6	16601	95.540	-100.755	-.100	-.072
-	6	16502	13.919	-54.844	-.802	-.007
-	6	16501	6.935	-88.939	.034	.019
Z	3	5016501	6.935	-88.939	-.063	.005
-	3	16503	4.336	2.813	.005	.069
-	3	16504	4.993	60.447	-.055	-.114
-	3	16505	5.975	93.798	-.104	-.248
-	6	16401	-90.527	-88.242	.274	-.375
-	6	16402	-85.187	-52.036	.059	-.068
-	3	16403	-92.212	-.087	.006	.094
-	3	16404	-95.464	72.818	.014	.201
-	3	16405	-94.147	102.423	-.052	.195
Z	4	5016704	-80.532	-80.559	.146	.176
164						
-	6	16502	104.631	-54.322	-.467	-.209
-	6	16501	98.172	-88.172	.150	-.042

xxx

SIRAJGONJ PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
Z	3	5016501	98.172	-88.172	.045	-.056
-	3	16503	94.316	2.932	-.003	-.043
-	3	16504	94.155	60.668	.029	.119
-	3	16505	94.662	94.263	.054	.198
-	6	16401	1.626	-88.726	.125	-.052
-	6	16402	6.232	-52.824	-.040	.044
-	3	16403	-1.765	-1.243	-.009	-.047
-	3	16404	-6.419	71.737	-.023	-.127
-	3	16405	-5.719	101.580	.108	-.124
-	6	16301	-88.760	-89.259	-.217	-.082
Z	6	5016301	-88.760	-89.259	-.182	-.052
Z	4	5016704	11.378	-81.007	.254	.417
-	6	16302	-91.559	-56.400	.246	.027
-	3	16303	-92.259	7.854	.015	-.071
-	3	16304	-89.864	70.977	-.015	-.027
-	3	16305	-85.467	96.364	.070	.028
XYZ	2	735	-28.139	57.870	-.141	.099

163

-	6	16401	92.284	-90.106	.147	.035
-	6	16402	97.234	-54.438	.072	.020
-	3	16403	89.812	-2.998	.003	-.047
-	3	16404	85.972	69.850	.008	-.074
-	3	16405	86.972	99.655	-.056	-.071
-	6	16302	.012	-57.079	.312	.103
-	6	16301	2.483	-89.826	-.152	-.015
Z	6	5016301	2.483	-89.826	-.155	.017
-	3	16303	-.088	7.002	-.032	-.053
-	3	16304	2.848	70.028	.029	-.068
-	3	16305	7.469	95.365	-.140	-.036
XYZ	2	735	64.424	56.244	.080	.036
-	6	16202	-79.915	-57.071	-.212	-.090
-	6	16201	-88.749	-100.737	.145	.144
Z	6	5016201	-88.749	-100.737	-.001	.014
-	3	16203	-91.004	.159	-.016	-.048
-	3	16204	-92.782	61.794	-.039	.018
-	3	16205	-86.723	87.456	.007	.114

162

-	6	16302	87.149	-61.175	.115	.122
-	6	16301	87.978	-93.803	-.168	-.048
Z	6	5016301	87.978	-93.803	-.208	-.016
-	3	16303	90.197	2.612	.017	.124
-	3	16304	96.223	65.419	-.014	.095
-	3	16305	102.075	90.571	.071	.008
-	6	16202	7.778	-57.445	-.319	-.045
-	6	16201	-3.062	-100.382	.144	.023
Z	6	5016201	-3.062	-100.382	.155	-.108
-	3	16203	-.541	.041	.032	.054
-	3	16204	.567	61.673	.074	.065
-	3	16205	7.806	87.075	-.021	.082
-	6	16101	-87.574	-91.681	-.184	-.012
-	6	16102	-79.130	-50.685	.080	-.125
-	3	16103	-86.218	4.039	.020	-.139
-	3	16104	-83.813	68.618	.051	-.095
-	3	16105	-92.482	97.517	.155	.015

161

-	6	16202	100.876	-58.735	-.326	-.101
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SIRAJGONJ PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	6	16201	90.522	-101.899	.195	.028
Z	6	5016201	90.522	-101.899	.365	-.098
-	3	16203	91.943	-1.376	-.015	-.007
-	3	16204	92.345	60.001	-.035	-.083
-	3	16205	99.238	85.309	.013	-.196
-	6	16101	6.073	-94.073	.061	-.078
-	6	16102	14.162	-52.912	-.256	-.076
-	3	16103	6.643	1.671	-.032	-.018
-	3	16104	8.457	65.962	-.093	-.079
-	3	16105	-.387	94.539	-.311	-.050
-	3	16001	-87.673	101.781	.019	.257
-	3	16002	-86.241	64.228	-.081	.079
XYZ	3	736	-88.338	72.615	-.044	.152
-	3	16003	-89.161	2.165	.025	.054
-	6	16004	-80.831	-47.492	.285	.190
-	6	16005	-78.837	-107.679	.062	-.033
Z	6	5016005	-78.837	-107.679	.167	.056
160						
-	6	16101	98.152	-93.205	.146	.296
-	6	16102	106.035	-52.220	.026	.209
-	3	16103	98.381	2.156	.011	.157
-	3	16104	99.928	66.459	.043	.174
-	3	16105	90.963	95.066	.156	.035
-	3	16001	3.754	101.865	-.046	-.208
-	3	16002	5.370	64.207	.162	-.240
XYZ	3	736	3.380	72.601	.063	-.230
-	3	16003	2.888	2.108	-.049	-.209
-	6	16004	11.483	-47.375	-.244	.026
-	6	16005	13.802	-107.221	-.144	-.185
Z	6	5016005	13.802	-107.221	-.149	-.099
-	2	15901	-87.619	106.174	-.005	.185
-	2	15902	-90.889	74.020	-.001	.060
-	2	15903	-90.931	-8.203	.001	-.047
-	5	15904	-84.027	-48.354	.098	.062
-	5	15905	-81.683	-89.188	-.067	.017
159						
-	3	16001	94.825	103.364	.028	-.049
-	3	16002	97.565	65.830	-.081	.161
XYZ	3	736	95.462	74.149	.086	.140
-	3	16003	96.998	3.713	.023	.155
-	6	16004	107.078	-45.524	.256	.244
-	2	15901	3.606	104.652	.004	-.184
-	6	16005	111.275	-105.410	-.234	-.176
Z	6	5016005	111.275	-105.410	-.352	-.094
-	2	15902	1.266	72.511	.001	-.060
-	2	15903	3.656	-9.507	-.001	.047
-	5	15904	11.687	-49.404	.041	.051
-	5	15905	15.194	-90.166	.228	-.236
273						
-	4	16702	12.871	-100.792	.132	-.102
-	2	27303	3.382	-11.856	.000	-.011
-	4	16701	17.697	-46.127	.011	-.026
Z	4	5016701	17.697	-46.127	-.042	.047
-	4	27304	2.738	55.419	.045	-.076

SIRAJGONJ PILOT AREA

287

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	4	27305	1.475	88.997	.143	-.084
-	6	16602	96.802	-90.868	-.246	-.215
-	6	16601	100.446	-49.867	.080	.144
-	3	27403	104.304	-1.747	-.091	.122
-	6	27404	94.619	67.341	-.175	.072
-	6	27405	93.066	95.545	.143	.129
274						
-	4	16702	-78.310	-102.156	-.027	.215
-	2	27303	-87.819	-12.374	.000	.011
-	4	16701	-73.421	-46.849	.018	.008
Z	4	5016701	-73.421	-46.849	.055	.081
-	4	27304	-88.328	54.874	.027	-.006
-	4	27305	-89.546	88.224	-.068	.088
-	6	16502	91.170	-96.360	.549	.418
-	3	27503	101.596	-3.350	.020	-.168
-	6	16501	98.079	-62.574	-.113	.049
Z	3	8016501	98.079	-62.574	-.011	.063
-	6	27504	77.807	55.424	-.003	-.074
-	6	27505	75.833	91.990	-.379	.232
-	6	16602	6.432	-92.026	-.343	-.341
-	6	16601	9.869	-50.589	-.337	-.185
-	3	27403	13.537	-2.242	.178	-.320
-	6	27404	3.506	66.662	.011	-.158
-	6	27405	1.873	94.619	.423	.088
275						
-	6	16502	-1.856	-93.886	.434	.108
-	3	27503	8.116	-.916	-.042	.147
-	6	16501	4.880	-60.182	-.044	.043
Z	3	8016501	4.880	-60.182	.052	.057
-	6	27504	-16.197	57.992	-.250	.162
-	6	27505	-18.418	94.885	-.611	.211
-	6	16602	-86.648	-90.106	.163	-.149
-	6	16601	-83.634	-48.806	-.126	.323
-	3	27403	-80.412	-.434	-.087	.198
-	6	27404	-91.146	68.744	-.059	-.070
-	6	27405	-93.033	96.948	.045	-.121
-	6	16402	96.293	-96.047	-.061	.031
-	6	16401	101.248	-60.423	.033	.109
-	3	27603	102.840	-10.334	.040	-.088
-	6	27604	79.425	56.174	.748	-.202
-	5	27605	74.086	105.113	-.168	-.503
Z	4	5016704	91.476	-68.076	-.067	-.256
276						
-	6	16502	-93.578	-94.435	.525	-.226
-	3	27503	-83.215	-.966	.022	.021
-	6	16501	-86.692	-60.494	-.134	-.134
Z	3	8016501	-86.692	-60.494	-.042	-.120
-	6	27504	-107.438	58.078	.203	-.044
-	6	27505	-109.492	94.915	.255	.126
-	6	16402	5.333	-96.892	.063	-.159
-	6	16401	10.329	-61.018	-.018	.103
-	3	27603	11.968	-10.696	-.081	.143
-	6	27604	-11.511	55.964	.102	.294
-	5	27605	-16.760	104.810	-.122	.280

282

SIRAJGONJ PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)	xxx
-	6	16302	102.711	-94.227	-.655	-.171	
Z	4	5016704	.468	-68.693	-.333	-.337	
-	3	27703	79.934	-.551	-.014	.118	
-	6	16301	100.324	-61.486	.199	.071	
Z	6	5016301	100.324	-61.486	.239	.040	
-	6	27704	88.275	68.218	-.176	.100	
-	6	27705	90.634	97.603	-.033	-.106	
277							
-	6	16402	-84.742	-96.049	-.093	.131	
-	6	16401	-79.625	-60.145	-.561	.180	
-	3	27603	-77.750	-9.763	.041	-.055	
-	6	27604	-101.049	57.025	.279	-.154	
-	6	16302	13.112	-93.866	.185	-.089	
-	3	27703	-9.484	.182	.028	-.092	
-	6	16301	10.790	-61.007	.343	-.021	
Z	6	5016301	10.790	-61.007	.346	-.052	
-	6	27704	-.892	69.113	-.107	.056	
-	6	27705	1.598	98.571	-.357	.011	
-	6	16202	92.914	-94.143	.258	.054	
-	3	27803	104.410	-3.531	.042	.028	
-	6	16201	101.828	-50.585	-.270	-.081	
Z	6	5016201	101.828	-50.585	-.442	.049	
-	5	27804	102.037	65.539	-.018	.067	
-	6	27805	98.400	106.939	.328	-.031	
278							
-	6	16302	-78.857	-92.902	-.202	.008	
-	3	27703	-101.999	1.087	-.014	-.026	
-	6	16301	-81.374	-60.025	-.005	.094	
Z	6	5016301	-81.374	-60.025	-.040	.064	
-	6	27704	-93.798	70.113	.054	.023	
-	6	27705	-91.421	99.608	-.089	.007	
-	6	16202	1.183	-92.761	.483	.074	
-	3	27803	12.181	-1.931	-.084	-.139	
-	6	16201	9.873	-49.080	-.142	-.174	
Z	6	5016201	9.873	-49.080	-.154	-.045	
-	5	27804	9.397	67.234	-.079	-.163	
-	6	27805	5.522	108.671	.105	-.243	
-	6	16102	88.301	-95.260	-.042	.047	
-	6	16101	94.797	-53.816	.015	.028	
-	3	27903	99.139	-.027	-.036	.195	
-	6	27904	79.485	62.544	-.111	.299	
-	5	27905	81.289	107.567	.342	-.050	
279							
-	6	16202	-93.110	-91.942	.116	.107	
-	3	27803	-81.536	-.953	.042	.111	
-	6	16201	-84.122	-48.162	-.073	.060	
Z	6	5016201	-84.122	-48.162	.077	.187	
-	5	27804	-83.934	68.179	-.249	.026	
-	6	27805	-87.534	109.534	-.004	.154	
-	6	16102	-5.696	-94.864	.160	-.071	
-	6	16101	.973	-53.291	-.035	-.161	
-	3	27903	5.576	.598	.075	-.059	
-	6	27904	-13.823	63.248	-.155	.093	
-	5	27905	-11.822	108.179	-.350	-.306	

SIRAJGONJ PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	6	16004	89.543	-97.025	-.280	-.168
-	3	28003	82.668	1.424	.066	.039
-	6	16005	85.390	-36.832	.180	.187
Z	6	5016005	85.390	-36.832	.299	.100
-	6	28004	91.645	62.959	-.142	-.005
-	6	28005	89.422	103.873	-.020	-.108
Z	4	5304007	67.564	93.948	.291	-.186
280						
-	6	16102	-101.623	-93.964	.031	.017
-	6	16101	-94.676	-52.193	-.001	-.073
-	3	27903	-89.720	1.822	-.039	-.137
-	6	27904	-108.739	64.491	.041	-.197
-	6	16004	-5.945	-96.256	-.433	-.170
-	3	28003	-12.457	2.519	-.131	.053
-	6	16005	-9.874	-35.811	.226	.140
Z	6	5016005	-9.874	-35.811	.231	.054
-	6	28004	-3.190	63.994	.151	.133
-	6	28005	-5.255	104.784	.064	.176
-	4	5304007	-27.142	94.945	-.097	-.050
-	5	15904	89.878	-92.585	-.247	-.049
-	5	15905	86.376	-51.477	.201	.127
-	3	28103	99.197	5.284	-.019	.127
-	6	28104	84.452	52.914	.047	-.049
-	6	28105	80.825	97.392	-.024	-.101
281						
-	6	16004	-96.757	-93.286	.416	-.123
-	3	28003	-105.382	4.633	.065	-.092
-	6	16005	-102.004	-33.552	-.090	.067
Z	6	5016005	-102.004	-33.552	-.197	-.017
-	6	28004	-97.382	66.625	-.090	.000
-	6	28005	-100.280	107.977	.445	.319
-	5	15904	-1.587	-88.169	.099	-.124
-	5	15905	-5.635	-47.539	-.148	-.031
-	3	28103	6.492	9.317	.041	-.077
-	6	28104	-8.948	57.005	-.104	-.097
-	6	28105	-13.221	102.056	-.039	.108
-	3	28201	96.314	-99.584	.005	-.092
-	3	28202	88.640	-55.042	-.112	-.028
-	3	28203	95.642	-3.783	-.040	.031
-	5	28204	72.773	69.199	-.125	.103
-	5	28205	79.273	95.596	-.125	.053
282						
-	5	15904	-93.325	-90.124	.008	.060
-	5	15905	-97.357	-49.122	-.214	.124
-	3	28103	-85.143	7.944	-.022	-.050
-	6	28104	-100.529	55.479	.018	-.218
-	6	28105	-104.733	100.161	-.103	-.023
-	3	28201	5.318	-101.548	-.009	.126
-	3	28202	-2.566	-56.556	.225	.088
-	3	28203	4.201	-5.052	.081	.070
-	5	28204	-18.970	67.702	-.140	.095
-	5	28205	-12.583	93.878	.076	.006
-	2	28301	91.688	-102.722	-.001	-.087
-	2	28302	97.902	-70.736	.000	-.046



200

SIRAJGONJ PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	2	28303	100.299	-4.553	.000	.004
XYZ	2	738	62.380	27.309	.081	-.027
-	2	28304	66.394	69.713	-.001	-.035
-	2	28305	66.148	99.062	-.001	-.087
283						
-	3	28201	-85.804	-100.272	.005	-.034
-	3	28202	-93.898	-55.604	-.113	-.060
-	3	28203	-87.412	-4.204	-.041	-.101
-	5	28204	-111.024	68.697	.241	-.037
-	5	28205	-104.793	95.106	-.056	.042
-	2	28301	.315	-101.227	.001	.087
-	2	28302	6.503	-69.434	.001	.046
-	2	28303	8.827	-3.381	.000	-.004
XYZ	2	738	-29.413	28.419	-.040	-.061
-	2	28304	-25.321	71.074	.000	.035
-	2	28305	-25.636	100.682	.001	.087
339						
-	4	27304	-13.788	100.096	.103	-.001
-	4	27305	-12.353	66.885	-.140	-.025
-	2	33903	4.330	1.335	.000	-.001
XYZ	2	732	-39.845	-18.593	.073	.023
-	2	33904	12.297	-60.051	.000	-.003
-	2	33905	14.869	-88.686	.000	-.033
-	6	27404	-105.442	87.849	.252	.030
-	6	27405	-103.667	59.832	-.309	-.046
-	3	33803	-94.406	6.563	-.056	.010
-	5	33804	-92.313	-69.222	.003	.085
-	5	33805	-90.580	-103.948	.073	-.038
338						
-	4	27304	77.639	100.943	-.175	.083
-	4	27305	78.981	67.604	.064	.022
-	2	33903	95.367	2.001	.000	.001
XYZ	2	732	51.505	-17.781	.139	-.006
-	2	33904	103.096	-59.130	.000	.003
-	2	33905	105.544	-87.552	-.001	.033
-	6	27404	-14.024	88.933	.072	-.071
-	6	27405	-12.267	60.797	-.183	-.139
-	3	33803	-3.000	7.443	.113	-.053
-	5	33804	-.895	-68.089	-.041	.037
-	5	33805	.810	-102.565	-.099	-.096
-	6	27504	-88.847	100.033	.142	.128
-	6	27505	-86.797	63.200	.049	-.148
-	3	33703	-84.321	16.639	-.009	.019
-	6	33704	-74.579	-64.164	-.079	.113
-	6	33705	-82.400	-92.332	.089	-.031
Z	2	5033701	-97.617	110.129	-.080	.106
337						
-	6	27404	76.283	88.688	-.101	.197
-	6	27405	78.253	60.680	-.120	.089
-	3	33803	87.969	7.593	-.056	.043
-	5	33804	90.755	-67.728	.170	-.057
-	5	33805	92.768	-102.136	-.198	-.126
-	6	27504	1.763	99.156	-.112	-.025

202

SIRAJGONJ PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	6	27505	4.128	62.447	.204	-.224
-	3	33703	6.969	16.015	.018	-.044
-	6	33704	17.357	-64.587	.061	.087
-	6	33705	9.798	-92.827	.001	-.074
-	6	27604	-94.126	100.569	-.485	.060
Z	2	5033701	-7.085	109.150	.081	-.105
-	5	27605	-88.486	51.588	.446	.072
-	3	33603	-75.395	-15.295	.046	.012
-	5	33604	-44.029	-54.874	.120	-.071
-	5	33605	-43.679	-87.314	.100	-.080
-	5	33606	-102.920	-62.994	.109	.064
-	5	33607	-106.615	-95.742	-.283	.182

336

-	6	27504	93.447	97.244	.021	-.149
-	6	27505	95.756	60.859	.482	-.196
-	3	33703	98.499	14.653	-.009	.025
-	6	33704	108.792	-66.104	-.057	.138
-	6	33705	101.169	-94.476	.123	.041
-	6	27604	-1.582	99.055	-.375	-.025
-	5	27605	3.756	50.552	-.096	.096
-	3	33603	16.392	-16.103	-.091	.098
-	5	33604	47.453	-55.926	-.296	-.018
-	5	33605	47.673	-88.526	-.005	-.048
-	5	33606	-11.321	-63.664	.120	.037
-	5	33607	-15.253	-96.535	.005	.001
-	6	27704	-101.391	86.631	-.017	-.062
-	6	27705	-103.857	57.224	.083	.025
-	3	33503	-105.975	-.604	-.050	-.010
-	5	33504	-49.193	-52.196	.297	.125
-	5	33505	-44.217	-90.761	.112	-.066
-	5	33506	-98.813	-52.000	-.029	-.021
-	5	33507	-98.162	-88.194	-.217	.009

335

-	6	27604	90.396	101.290	-.268	.027
-	5	27605	96.163	52.605	-.060	.054
-	3	33603	109.340	-13.951	.046	-.110
-	5	33606	82.120	-61.509	.106	-.149
-	5	33607	78.493	-94.160	.028	-.088
-	6	27704	-9.346	88.000	.157	.082
-	6	27705	-11.463	58.452	.355	.125
-	3	33503	-12.826	.567	.101	.068
-	5	33504	44.330	-50.404	-.057	.095
-	5	33505	49.660	-88.662	-.187	-.016
-	5	33506	-5.068	-50.588	.046	.030
-	5	33507	-3.999	-86.524	-.089	.052
-	3	33401	-105.980	93.090	.039	-.021
-	6	27805	-108.413	48.649	-.145	-.095
-	3	33403	-87.608	4.154	-.006	-.061
XYZ	2	730	-66.700	17.443	-.263	.021
-	5	33404	-82.969	-53.604	.055	-.093
-	5	33405	-87.378	-100.697	-.066	-.055
Z	5	5033405	-87.378	-100.697	.211	.135

334

-	6	27704	81.374	89.786	.089	-.201
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200

SIRAJGONJ PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	6	27705	79.265	60.161	.042	-.062
-	3	33503	77.944	2.273	-.051	-.058
-	5	33506	85.681	-48.701	-.059	-.138
-	5	33507	86.733	-84.432	.103	-.085
-	3	33401	-15.332	94.795	-.077	.080
-	6	27805	-17.587	50.190	-.217	.159
-	3	33403	3.356	5.693	.013	.161
XYZ	2	730	24.213	19.022	.070	.138
-	5	33404	8.133	-51.932	.078	.130
-	5	33405	3.859	-98.797	-.029	.059
Z	5	5033405	3.859	-98.797	-.030	.248
-	5	27804	-21.894	91.801	.189	.156
-	6	27904	-92.394	95.946	-.068	-.258
-	5	27905	-93.749	50.567	.093	-.042
-	3	33303	-95.735	-8.389	-.077	-.097
-	5	33304	-88.404	-50.294	-.156	-.098
-	5	33305	-78.205	-80.219	.087	-.092
333						
-	3	33401	77.478	92.581	.039	-.059
-	6	27805	74.270	48.300	-.068	.056
-	3	33403	94.201	3.475	-.007	-.099
-	5	33404	97.733	-54.272	-.088	-.145
-	5	27804	70.915	89.761	.157	-.085
-	5	33405	92.427	-101.216	.204	-.059
Z	5	5033405	92.427	-101.216	-.074	.130
-	6	27904	.918	95.431	.146	-.016
-	5	27905	-1.525	50.385	.095	.243
-	3	33303	-4.952	-8.333	.154	.178
-	5	33304	1.316	-50.409	.115	.101
-	5	33305	10.785	-80.646	-.171	.058
-	6	28004	-104.720	96.828	-.064	-.281
-	6	28005	-103.057	55.754	-.314	-.273
-	5	33205	-76.355	-101.487	.008	.010
-	3	33203	-80.503	5.333	-.011	.049
Z	3	5033203	-80.503	5.333	.043	.049
-	5	33204	-74.568	-61.003	-.073	.051
Z	5	5033204	-74.568	-61.003	-.067	.056
Z	4	5304007	-80.959	65.475	-.025	.035
332						
-	6	27904	91.115	93.049	.148	.079
-	5	27905	88.687	48.205	-.180	.155
-	3	33303	85.267	-10.381	-.077	-.081
-	5	33304	91.520	-52.487	-.148	-.154
-	5	33305	100.970	-82.813	-.100	-.070
-	6	28004	-14.108	94.790	.019	.138
-	6	28005	-12.534	53.891	.027	-.036
-	5	33205	13.820	-103.447	-.021	.100
-	3	33203	9.859	3.517	.021	.031
Z	3	5033203	9.859	3.517	.021	.031
-	5	33204	15.675	-62.859	.177	.038
Z	5	5033204	15.675	-62.859	.176	.043
-	6	28104	-101.689	106.803	.352	.069
Z	4	5304007	9.513	63.505	-.169	.200
-	6	28105	-98.922	62.195	-.020	-.151
-	3	33103	-103.030	17.416	-.051	-.179

208

SIRAJGONJ PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	33104	-103.901	-57.629	-.023	-.088
-	3	33105	-106.786	-95.091	-.152	.024
-	2	9033101	8.683	-103.851	.000	.053
-	2	9033102	-58.276	-73.515	.000	-.029
-	2	9033103	-79.258	-55.133	.000	-.073
-	2	9033104	-83.905	-29.626	.001	-.099
331						
-	6	28004	74.896	94.695	.126	.014
-	6	28005	76.279	53.580	-.203	-.077
-	5	33205	101.512	-103.020	.245	-.009
-	3	33203	98.279	3.088	-.011	-.080
Z	3	5033203	98.279	3.088	-.065	-.081
Z	5	5033204	103.650	-62.903	-.152	-.144
-	5	33204	103.650	-62.903	-.145	-.149
-	6	28104	-12.835	107.380	-.028	.160
-	6	28105	-10.086	62.407	.111	.115
-	3	33103	-14.234	17.512	.106	.136
-	3	33104	-15.240	-57.304	.046	.124
-	3	33105	-18.141	-94.429	.307	.050
-	2	9033101	96.331	-103.403	.001	-.053
-	2	9033102	30.086	-73.215	.000	.028
-	2	9033103	9.285	-54.912	.000	.074
-	2	9033104	4.706	-29.531	-.001	.099
-	5	28204	-95.049	98.128	.077	-.169
-	5	28205	-102.353	72.015	-.151	-.125
XYZ	2	739	-86.767	2.466	-.262	-.038
-	2	33003	-85.679	-25.305	.000	.005
-	2	33004	-83.810	-61.559	-.001	.022
-	2	9033001	15.413	-28.912	-.001	.045
-	2	9033002	-29.006	-31.713	-.001	.029
-	2	9033003	-77.631	-33.505	-.001	.021
-	2	9033004	-47.795	-85.264	.000	.004
330						
-	6	28104	79.905	101.675	-.285	.135
-	6	28105	79.885	56.834	.074	.053
-	3	33103	72.995	12.417	-.055	.044
-	3	33104	67.281	-62.139	-.023	-.035
-	3	33105	62.119	-99.079	-.155	-.074
-	5	28204	-2.279	97.573	-.054	.008
-	5	28205	-11.182	72.089	.254	.025
XYZ	2	739	.029	1.909	.241	-.029
-	2	33003	-.760	-25.842	.000	-.005
-	2	33004	-1.225	-62.151	.001	-.022
-	2	9033001	99.515	-35.691	.001	-.045
-	2	9033002	55.180	-35.741	.001	-.029
-	2	9033003	6.654	-34.516	.000	-.021
-	2	9033004	33.106	-88.076	.000	-.004
1168						
-	5	33804	-26.361	91.822	-.040	-.075
-	5	33805	-24.594	55.365	.335	.129
XYZ	2	731	-30.573	31.257	-.098	-.057
-	2	116803	17.164	-28.614	.000	-.023
-	6	33704	-103.870	96.202	-.253	-.140
-	6	33705	-112.054	66.471	.090	.012

SIRAJGONJ PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	2	116804	6.256	37.424	.000	-.003
-	3	116703	-94.354	-4.107	-.034	.061
-	2	9116701	20.079	-38.629	.000	-.029
-	2	9116702	-29.334	-26.697	.000	.011
-	2	9116703	-85.996	-24.483	.000	.049
-	2	9116704	-106.435	-26.637	.000	.070
-	2	9116705	-66.305	-68.793	.000	.038
-	2	9116706	-15.834	-75.458	.000	-.026
-	2	9116707	-40.332	-94.259	.000	-.016
1167						
-	5	33804	63.510	90.847	-.093	.009
-	5	33805	65.475	54.515	-.111	.131
XYZ	2	731	59.780	30.413	.103	.040
-	2	116803	107.592	-28.973	.000	.023
-	6	33704	-13.822	94.660	-.014	-.176
-	6	33705	-21.830	64.943	-.172	-.037
-	2	116804	96.304	36.855	.000	.003
-	3	116703	-3.812	-5.394	.068	-.051
-	2	9116701	110.424	-38.952	.000	.029
-	2	9116702	61.081	-27.438	.000	-.011
-	2	9116703	4.541	-25.690	.000	-.049
-	2	9116704	-15.848	-28.010	.000	-.070
-	2	9116705	24.410	-69.833	.000	-.038
-	2	9116706	74.804	-76.065	.000	.026
-	2	9116707	50.464	-95.087	.000	.016
-	5	33604	-78.319	105.250	.230	.080
-	5	33605	-77.991	71.142	.067	.063
-	3	116603	-79.713	22.795	.058	.020
-	3	116604	-74.524	-30.894	.001	-.006
Z	2	5506004	-55.141	-30.223	.040	.011
-	2	9116601	22.421	-25.258	-.001	-.075
Z	2	5116602	-90.273	110.801	-.176	.086
-	2	9116602	-3.780	-26.398	.000	-.036
-	2	9116603	-38.246	-29.542	.000	-.015
-	2	9116604	-71.982	-34.537	.000	.033
-	2	9116605	-108.927	-40.268	.001	.061
-	2	9116606	15.658	-78.030	-.001	-.121
-	2	9116607	-95.394	-106.823	.000	.052
1166						
-	6	33704	75.961	91.128	.342	-.022
-	6	33705	68.126	61.840	-.130	.090
-	3	116703	86.368	-8.081	-.034	-.009
-	5	33604	12.160	101.585	-.314	-.044
-	5	33605	12.431	68.004	-.071	-.047
-	3	116603	10.723	20.077	-.116	-.059
-	3	116604	15.735	-33.602	-.003	-.075
Z	2	5506004	35.153	-32.938	-.040	-.011
-	2	9116601	112.569	-27.989	.001	.075
Z	2	5116602	.321	107.040	.176	-.086
-	2	9116602	86.380	-29.120	.000	.036
-	2	9116603	51.927	-32.261	.000	.015
-	2	9116604	18.166	-37.262	.000	-.033
-	2	9116605	-18.833	-43.010	-.001	-.061
-	2	9116606	106.101	-81.162	.001	.121
-	2	9116607	-5.432	-110.345	-.001	-.052

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SIRAJGONJ PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	5	33606	-48.945	93.613	-.114	.025
-	5	33607	-53.048	59.729	.295	-.018
-	5	33504	-88.296	105.391	-.239	-.048
-	5	33505	-83.157	65.644	.061	.058
-	3	116503	-92.638	21.985	-.012	.093
-	3	116504	-72.530	-11.224	.034	.067
Z	3	5116504	-72.530	-11.224	.166	.067
-	2	9116501	19.211	-36.921	-.001	-.116
-	2	9116502	-8.459	-43.890	.000	-.065
-	2	9116503	-46.104	-39.102	.000	.009
-	2	9116504	-99.882	-11.171	.000	.125
-	2	9116505	-79.685	-37.399	.000	.093
-	2	9116506	-21.271	-106.176	-.001	-.125

1165

-	5	33604	103.483	101.807	.260	.053
-	5	33605	103.629	68.040	-.091	.112
-	3	116603	101.758	20.024	.058	.039
-	3	116604	106.424	-33.582	.002	.081
-	5	33606	42.313	94.204	-.221	.024
-	5	33607	38.139	60.173	-.045	-.077
-	5	33504	2.902	106.336	-.333	-.085
-	5	33505	8.014	66.312	-.053	-.031
-	3	116503	-1.467	22.596	.025	-.076
-	3	116504	18.541	-10.728	-.067	-.086
Z	3	5116504	18.541	-10.728	-.066	-.086
-	2	9116501	109.780	-36.909	.001	.116
-	2	9116502	82.197	-43.680	.000	.065
-	2	9116503	44.729	-38.687	.000	-.009
-	2	9116504	-8.843	-10.504	-.001	-.125
-	2	9116505	11.254	-36.787	.000	-.093
-	2	9116506	69.195	-105.451	.001	.126
-	5	33506	-48.823	106.808	.213	.086
-	5	33507	-48.169	69.264	.467	.020
-	3	116401	-88.840	109.612	.082	.047
-	3	116402	-97.450	73.233	.053	.013
-	3	116403	-92.612	35.432	.062	.018
-	3	116404	-103.414	.034	.070	.024
?	3	5116404	-103.414	.034	-.415	.025
-	2	9116401	17.162	-25.617	.000	-.076
-	2	9116402	-16.550	-2.466	.000	-.019
-	2	9116403	-65.536	13.146	.000	.001
-	2	9116404	-94.121	-3.006	.000	.009
-	2	9116405	-83.194	-100.937	.000	-.003
-	2	9116406	5.344	-48.160	.000	-.097
-	2	9116407	-77.885	-36.142	.000	.002

1164

-	5	33504	95.609	106.401	.331	-.087
-	5	33505	100.638	66.240	.068	.055
-	3	116503	91.086	22.493	-.013	-.017
-	5	33506	43.885	106.947	-.170	.043
-	3	116504	110.942	-10.855	.033	.019
Z	3	5116504	110.942	-10.855	-.100	.019
-	5	33507	44.495	69.297	-.263	.004
-	3	116401	3.888	109.814	-.164	.005
-	3	116402	-4.696	73.356	-.107	-.038

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SIRAJGONJ PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	116403	.130	35.515	-.123	-.025
-	3	116404	-10.699	.171	-.140	-.015
Z	3	5116404	-10.699	.171	-.140	-.015
-	2	9116401	109.462	-25.716	.000	.076
-	2	9116402	75.865	-2.521	.000	.019
-	2	9116403	27.069	13.183	.000	-.001
-	2	9116404	-1.492	-2.884	.000	-.009
-	2	9116405	9.345	-100.447	.000	.003
-	2	9116406	97.619	-48.172	.000	.097
-	2	9116407	14.682	-35.975	.000	-.002
-	5	33404	-37.688	105.001	.021	.107
-	3	116301	-80.005	103.499	-.044	.133
-	5	33405	-42.941	55.803	.305	.049
Z	5	5033405	-42.941	55.803	.446	-.235
-	3	116302	-86.314	77.814	.000	.022
-	3	116303	-77.962	21.609	.171	-.032
-	3	116304	-90.993	-107.373	-.110	-.047
-	2	9116301	17.327	10.024	.000	.020
-	2	9116302	-6.339	-8.638	.000	-.002
-	2	9116303	-44.189	-14.308	.000	-.014
-	2	9116304	-93.000	-15.932	.000	-.024
-	2	9116305	-19.929	-92.581	.000	-.057
-	2	9116306	-75.859	-81.818	.000	-.030
-	2	9116307	-99.679	-75.584	.000	-.021
1163						
-	3	116401	94.529	110.226	.082	-.052
-	3	116402	86.354	73.656	.054	.025
-	3	116403	91.551	35.879	.062	.007
-	5	33404	53.085	105.001	-.066	.000
-	3	116404	81.054	.457	.070	-.009
Z	3	5116404	81.054	.457	.555	-.010
-	3	116301	10.779	103.081	.090	-.025
-	5	33405	48.393	55.704	-.413	.006
Z	5	5033405	48.393	55.704	-.553	-.277
-	3	116302	4.763	77.284	.000	-.055
-	3	116303	13.753	21.123	-.346	-.038
-	3	116304	2.060	-107.842	.222	.010
-	2	9116301	108.816	10.613	.000	-.020
-	2	9116302	85.436	-8.287	.000	.002
-	2	9116303	47.720	-14.388	.000	.014
-	2	9116304	-.983	-16.580	.000	.024
-	2	9116305	72.695	-92.176	.000	.057
-	2	9116306	16.840	-82.158	.000	.030
-	2	9116307	-7.004	-76.239	.000	.021
-	5	33304	-48.205	107.351	.356	.122
-	5	33305	-37.644	75.793	.075	.063
-	3	116201	-83.959	101.075	-.044	.104
-	3	116203	-90.013	-44.023	.049	.025
-	3	116202	-80.122	63.765	.004	.013
Z	3	5116202	-80.122	63.765	-.195	.013
-	2	9116201	18.024	-15.533	.000	-.067
-	2	9116202	-10.502	-17.559	.000	-.038
-	2	9116203	-35.874	-19.244	.000	-.022
-	2	9116204	-70.542	-19.889	.000	.002
-	2	9116205	-94.151	-5.239	.000	.012
-	2	9116206	-88.326	-44.077	.000	.053

SIRAJGONJ PILOT AREA

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Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	2	9116207	-36.683	-66.373	.000	.013
		1162				
-	3	116301	101.704	101.115	-.046	-.108
-	3	116302	95.586	75.531	.000	.033
-	3	116303	104.249	19.548	.175	.070
-	3	116304	91.928	-109.605	-.112	.037
-	5	33304	43.073	105.733	-.166	.029
-	5	33305	53.355	74.334	.109	.042
-	3	116201	7.473	99.742	.088	.001
-	3	116203	.185	-44.861	-.096	-.082
-	3	116202	11.010	62.657	-.007	.002
Z	3	5116202	11.010	62.657	-.009	.002
-	2	9116201	108.267	-17.099	.000	.067
-	2	9116202	79.793	-18.926	.000	.038
-	2	9116203	54.451	-20.436	.000	.022
-	2	9116204	19.826	-20.840	.000	-.002
-	2	9116205	-3.613	-6.030	.000	-.012
-	2	9116206	1.877	-44.927	.000	-.053
-	2	9116207	53.326	-67.649	.000	-.013
-	5	33205	-37.375	51.682	-.037	-.035
-	5	33204	-36.037	93.887	.048	.028
Z	5	5033204	-36.037	93.887	.052	.021
-	2	9116101	-5.703	-2.881	.000	-.018
-	2	9116102	-27.321	30.207	.000	.016
-	2	9116103	-88.421	92.049	.000	-.063
-	2	9116104	-87.938	29.090	.000	-.004
-	2	9116105	-92.276	-17.976	.000	.032
-	2	9116106	-64.590	-44.740	.000	.001
-	2	116104	-35.019	-54.050	.000	-.052
		1161				
-	3	116201	99.745	100.582	-.044	-.104
-	3	116203	91.732	-44.091	.047	.057
-	3	116202	103.107	63.293	.003	-.015
Z	3	5116202	103.107	63.293	.204	-.015
-	5	33205	54.742	52.418	-.194	-.066
-	5	33204	56.176	94.828	-.007	.031
?	5	5033204	56.176	94.828	-.010	.024
-	2	9116101	86.038	-2.256	.000	.018
-	2	9116102	64.593	30.870	.000	-.016
-	2	9116103	3.538	93.145	.000	.063
-	2	9116104	4.036	29.896	.000	.004
-	2	9116105	-.317	-17.157	.000	-.032
-	2	9116106	27.292	-43.879	.000	-.001
-	2	116104	56.709	-53.181	.000	.052

Adjustment ended on 17-Aug-93 at 12:58:39

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730	2709079.390	467165.870	14.340	0
731	2701367.020	470436.260	17.390	0
732	2700094.760	467968.530	17.360	0
733	2699462.380	459451.850	16.180	0
735	2706648.700	459258.840	19.870	0
736	2714366.010	459030.200	17.420	0
738	2719840.210	464480.710	19.570	0
739	2717758.180	467594.830	17.920	0
15901	2716459.336	458338.808	14.387	3
15902	2716511.009	459070.273	12.995	3
15903	2716452.225	460940.737	13.496	3
15904	2716266.659	461851.376	12.465	3
15905	2716184.104	462782.988	12.144	3
16001	2714380.008	458362.867	13.260	3
16002	2714314.086	459216.948	11.679	3
16003	2714323.215	460634.090	12.816	3
16004	2714088.920	461757.629	12.198	3
16005	2713989.334	463126.082	12.765	3
16101	2712067.273	462743.127	13.012	3
16102	2711920.011	461797.776	12.378	3
16103	2712140.609	460559.101	12.894	3
16104	2712157.173	459089.865	11.956	3
16105	2712385.085	458445.435	11.714	3
16201	2710129.534	462850.075	12.114	3
16202	2709931.908	461854.838	12.300	3
16203	2710187.784	460551.533	12.365	3
16204	2710233.296	459147.596	11.739	3
16205	2710097.814	458562.059	11.451	3
16301	2708051.363	462599.356	12.542	3
16302	2708109.934	461851.336	12.519	3
16303	2708117.601	460388.108	12.196	3
16304	2708055.435	458948.301	11.368	3
16305	2707952.012	458368.924	11.284	3
16401	2705993.242	462605.098	11.585	3
16402	2705882.677	461787.618	11.485	3
16403	2706057.117	460609.541	10.488	3
16404	2706152.053	458941.763	11.550	3
16405	2706131.333	458258.994	11.069	3
16501	2703786.577	462611.835	11.611	3
16502	2703632.995	461840.184	11.230	3
16503	2703858.406	460529.045	10.771	3
16504	2703851.504	459206.902	10.451	3
16505	2703833.661	458436.822	10.322	3
16601	2701769.152	462871.848	11.985	3
16602	2701698.575	461928.734	11.123	3
16603	2701745.789	460418.535	11.416	3
16604	2701845.523	459452.924	11.213	3
16605	2701696.379	458276.066	10.282	3
16701	2699873.700	462943.428	12.417	3
16702	2699774.560	461687.313	11.570	3
16703	2699664.758	460589.364	11.966	3
16704	2699488.914	459561.961	10.775	3
16705	2699444.354	458498.292	10.387	3
27303	2699539.748	463724.514	13.330	3
27304	2699511.999	465255.785	12.558	3
27305	2699476.748	466016.277	13.084	3
27403	2701843.440	463974.279	11.901	3
27404	2701601.772	465545.624	12.765	3
27405	2701558.799	466185.395	11.670	3
27503	2703858.812	463965.441	11.141	3
27504	2703303.821	465305.430	12.659	3
27505	2703253.170	466142.564	13.123	3
27603	2706025.942	463752.505	10.852	3
27604	2705483.727	465270.234	11.444	3
27605	2705359.437	466383.823	11.499	3
27703	2707579.144	463990.606	11.716	3
27704	2707763.574	465563.853	13.348	3
27705	2707815.682	466237.418	12.225	3

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27805	2710026.045	466449.022	12.494	3
27903	2712166.042	463970.396	12.670	3
27904	2711716.350	465398.540	12.499	3
27905	2711756.780	466428.091	12.202	3
28003	2713924.580	463997.966	12.953	3
28004	2714125.861	465405.146	12.835	3
28005	2714072.215	466342.050	13.026	3
28103	2716474.107	464078.435	12.329	3
28104	2716133.833	465167.020	12.287	3
28105	2716047.582	466189.015	12.933	3
28201	2718505.706	461564.576	13.778	3
28202	2718337.975	462587.850	12.425	3
28203	2718505.948	463758.538	12.858	3
28204	2717996.653	465425.274	13.028	3
28205	2718149.019	466022.468	13.488	3
28301	2720471.899	461512.180	13.847	3
28302	2720624.076	462236.897	13.010	3
28303	2720699.362	463744.413	13.484	3
28304	2719947.239	465450.272	13.753	3
28305	2719950.489	466122.510	13.865	3
33003	2717722.492	468226.474	12.308	3
33004	2717662.580	469052.029	11.161	3
33103	2716118.667	467213.600	12.499	3
33104	2716102.947	468921.692	9.090	3
33105	2716149.519	469771.350	9.766	3
33203	2713540.134	467482.996	12.352	3
33204	2713380.634	468990.057	13.015	3
33205	2713406.644	469910.074	12.915	3
33303	2711814.797	467768.485	12.439	3
33304	2711657.697	468724.505	12.277	3
33305	2711432.098	469409.241	12.244	3
33401	2709966.225	465435.244	11.939	3
33403	2709557.077	467465.739	13.055	3
33404	2709458.512	468781.198	12.810	3
33405	2709564.694	469851.321	12.824	3
33503	2707854.758	467557.472	12.249	3
33504	2706558.730	468727.292	11.726	3
33505	2706442.722	469599.876	11.457	3
33506	2707684.944	468724.247	11.559	3
33507	2707665.596	469542.787	11.074	3
33603	2705069.224	467905.626	12.181	3
33604	2704361.346	468810.350	11.000	3
33605	2704356.565	469548.805	11.408	3
33606	2705697.888	468986.392	11.795	3
33607	2705785.572	469729.842	11.609	3
33703	2703193.020	467200.672	11.567	3
33704	2702963.654	469040.307	11.256	3
33705	2703138.954	469683.782	10.784	3
33803	2701340.907	467399.956	11.568	3
33804	2701283.933	469123.264	11.905	3
33805	2701240.881	469911.256	11.370	3
33903	2699090.978	467511.932	10.702	3
33904	2698905.179	468910.004	11.425	3
33905	2698844.708	469560.943	11.377	3
116104	2713348.596	472208.800	8.961	3
116201	2712433.388	468858.693	12.760	3
116202	2712354.455	469667.353	12.579	3
116203	2712584.039	472007.851	8.289	3
116301	2710378.112	468820.590	12.574	3
116302	2710511.187	469379.802	12.433	3
116303	2710321.022	470600.169	12.046	3
116304	2710586.430	473408.669	10.605	3
116401	2708555.565	468669.281	12.205	3
116402	2708736.433	469463.672	12.940	3
116403	2708625.559	470285.497	13.021	3
116404	2708855.616	471055.685	11.106	3
116503	2706644.331	470553.858	12.761	3
116504	2706205.548	471276.482	11.646	3
116603	2704395.965	470597.657	14.257	3
116604	2704288.777	471764.615	11.704	3

116804	2700568.835	470295.699	11.254	3
5016005	2713989.318	463126.126	12.500	2
5016201	2710129.528	462850.030	12.500	2
5016301	2708051.365	462599.362	12.450	2
5016501	2703786.673	462611.857	11.600	2
5016701	2699873.735	462943.402	12.600	2
5016704	2705769.412	462430.357	12.000	2
5033203	2713540.128	467482.993	12.250	2
5033204	2713380.633	468990.057	13.000	2
5033405	2709564.685	469851.436	12.200	2
5033701	2703504.339	465077.366	12.300	2
5116202	2712354.481	469667.491	12.950	2
5116404	2708855.560	471055.685	12.000	2
5116504	2706205.520	471276.496	11.400	2
5116602	2704619.969	468690.597	11.500	2
5304007	2713572.835	466112.017	12.500	2
5506004	2703867.052	471750.589	12.700	2
8016501	2703786.480	462611.817	11.600	2
9033001	2715417.641	468257.877	7.690	3
9033002	2716430.244	468344.087	9.909	3
9033003	2717537.039	468409.857	9.225	3
9033004	2716831.322	469576.433	9.236	3
9033101	2713522.827	469924.094	8.733	3
9033102	2715058.438	469263.583	8.693	3
9033103	2715544.043	468854.966	8.960	3
9033104	2715662.098	468277.208	8.891	3
9116101	2712714.528	471095.191	8.077	3
9116102	2713187.269	470375.901	8.289	3
9116103	2714523.346	469030.795	7.523	3
9116104	2714506.097	470404.055	8.077	3
9116105	2714596.047	471428.338	7.587	3
9116106	2713991.667	472008.093	8.875	3
9116201	2710230.412	471398.384	8.223	3
9116202	2710851.943	471439.585	9.284	3
9116203	2711404.115	471473.764	9.433	3
9116204	2712157.891	471484.462	8.953	3
9116205	2712668.838	471163.581	8.838	3
9116206	2712547.147	472009.032	8.812	3
9116207	2711426.751	472500.283	8.976	3
9116301	2708246.824	470836.614	7.935	3
9116302	2708759.331	471246.781	8.851	3
9116303	2709582.684	471376.267	7.988	3
9116304	2710644.623	471419.259	8.299	3
9116305	2709042.352	473077.865	7.557	3
9116306	2710261.898	472851.358	8.272	3
9116307	2710781.370	472719.325	8.127	3
9116401	2706233.703	471600.654	9.442	3
9116402	2706969.800	471100.589	9.305	3
9116403	2708035.714	470766.588	11.409	3
9116404	2708654.679	471120.736	9.614	3
9116405	2708403.313	473242.907	10.681	3
9116406	2706488.503	472091.602	10.088	3
9116407	2708297.344	471838.488	10.328	3
9116501	2704213.024	471837.448	8.519	3
9116502	2704814.541	471987.504	8.452	3
9116503	2705631.884	471882.375	8.538	3
9116504	2706801.282	471274.792	8.098	3
9116505	2706360.973	471844.557	7.584	3
9116506	2705092.690	473331.565	7.957	3
9116601	2702178.645	471646.568	7.973	3
9116602	2702749.963	471670.282	8.180	3
9116603	2703500.862	471737.339	8.358	3
9116604	2704235.669	471844.906	7.757	3
9116605	2705039.962	471968.379	7.280	3
9116606	2702327.299	472799.528	7.044	3
9116607	2704749.849	473420.157	10.512	3
9116701	2700255.907	471949.603	7.645	3
9116702	2701334.971	471695.678	8.158	3
9116703	2702568.590	471655.064	8.855	3
9116704	2703012.892	471704.781	9.124	3

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9116707	2701567.121	473174.074	8.668	3
-1				
167	2699834.627	460706.001	3482.459	201.33946
	.33109	-.12330	151.992	22834.3
166	2701882.673	460687.852	3482.956	199.67530
	.17039	.06112	151.992	22839.4
165	2703973.261	460629.673	3481.978	200.41345
	.30088	.65303	151.992	22835.3
164	2706026.899	460586.956	3481.690	199.56506
	.18782	.10465	151.992	22828.6
163	2708130.470	460546.632	3483.591	200.21974
	.28305	-.02395	151.992	22838.9
162	2710189.685	460537.207	3481.658	203.20904
	.24701	-.28142	151.992	22826.9
161	2712300.764	460605.308	3483.250	202.51525
	.18648	.03271	151.992	22834.3
160	2714397.542	460672.838	3482.567	202.14012
	.17782	-.21313	151.992	22827.6
159	2716534.523	460719.476	3481.935	200.14498
	-.03025	-.08249	151.992	22821.9
273	2699453.239	464017.233	3479.113	.53329
	.12616	-.42074	151.992	22809.4
274	2701520.414	464011.343	3478.726	.52946
	.25711	.20459	151.992	22807.7
275	2703661.225	463999.448	3477.957	.06721
	.22637	-.24075	151.992	22805.2
276	2705735.422	463992.811	3477.805	.27136
	.29973	.04950	151.992	22802.9
277	2707786.658	463984.305	3478.200	.47084
	.16168	.06730	151.992	22804.1
278	2709897.229	463964.751	3478.525	.07426
	.10532	.07042	151.992	22804.2
279	2712035.580	463943.407	3478.228	.31765
	.06422	.23364	151.992	22801.7
280	2714199.999	463917.263	3477.908	.42874
	.16397	.46425	151.992	22799.3
281	2716319.838	463886.035	3478.891	-.65907
	.07846	-.33877	151.992	22804.7
282	2718404.667	463862.542	3478.365	-.73950
	.12447	.22926	151.992	22796.7
283	2720495.814	463836.240	3478.754	-.95132
	.06634	-.21370	151.992	22796.2
339	2699198.528	467555.447	3479.206	200.20115
	.16230	.23467	151.992	22809.5
338	2701284.289	467563.856	3478.916	200.33731
	.23040	-.09969	151.992	22808.5
337	2703371.952	467564.429	3477.176	199.72924
	.33808	-.01067	151.992	22799.9
336	2705451.473	467565.192	3476.861	200.11040
	.15206	.47260	151.992	22797.7
335	2707567.942	467577.230	3477.483	199.61928
	.09770	.09389	151.992	22799.1
334	2709644.812	467585.513	3477.369	199.48732
	.18812	-.17193	151.992	22796.5
333	2711710.686	467585.293	3477.184	200.95155
	.10760	.15037	151.992	22794.6
332	2713767.880	467587.192	3477.766	201.16666
	.08714	.36456	151.992	22804.9
331	2715798.019	467598.956	3479.764	201.46772
	.23324	-.12174	151.992	22819.3
330	2717766.722	467642.496	3477.690	205.42688
	.21428	.06327	151.992	22805.3
1168	2700704.308	471091.244	3318.396	200.41490
	.09022	-.35535	151.992	21763.4
1167	2702674.095	471082.011	3318.917	199.90402
	.14206	-.24961	151.992	21768.6
1166	2704636.450	471063.764	3318.732	199.93202
	.12795	.56676	151.992	21767.9
1165	2706618.382	471054.645	3317.679	200.32179
	.16251	.18438	151.992	21757.0

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1163	2710630.402	471050.637	3318.174	199.73338	
	.16747	-.14501	151.992	21761.9	
1162	2712596.096	471042.226	3317.371	200.16932	
	.10674	.19528	151.992	21758.3	
1161	2714601.806	471043.600	3316.139	200.29379	
	.20887	-.21346	151.992	21750.7	
-1					
1	.4923176	.4717534			
.0000259	-.0000187	.0000100	-.0000260	-.0000359	-.0000047
.0001538	.0002118	-.0000560	-.0000595	-.0000732	-.0000301

Adjustment started on 11-Feb-93 at 10:16:47

MMH850 BUNDLE BLOCK ADJUSTMENT

TANGAIL PILOT AREA

FILES:

Image coordinate file	tangail.dat
Ground coordinate (and or. element) file	tangail.xyz
Output file of the adjustment	tangail.out
Output file for an orthoprojector OR 1	
Output file for intersectioned points	

RUN TIME CONSTANTS:

Flag for detection of gross errors	
i.e. for Robust-estimation (1=Yes, 0=No)	0
Flag for self calibration	1
Flag for resulting the residuals	1
Rejection limit in intersection (microm)	30.0
Resulting limit in intersection (microm)	30.0
St. error of an image coordinate (m)	.250
Termination limit of iteration (m)	.001

St. coordinate errors of control points (m):

Group-id	Horizontal	Vertical
9	.000	1.000
0	.100	.100

FLY N:o 1 : f= 151.992 H(Fly)= 4600.0 H(Ground)= 10.0

ADJUSTMENTS:

iteration	C-G- Max.coord.correction (m)	point	R-norm (m)	Sum(pvv) (m*m)
69	15711.746	68704	17.447	90234.70
109	-60.086	856004	.889	62120.09
247	59.337	856004	.029	1295.83
445	8.356	68701	.001	31.45
455	-.004	55301	.001	31.45

SELF CALIBRATION FOR THE FLY 1

Parameter	St.error	Significance
B01 4.47	.27	+++
B02 1.07	.27	+++
B03 .21	.28	
B04 -2.84	.29	+++
B05 -6.47	.71	+++
B06 3.04	.67	+++
B07 13.47	.97	+++
B08 20.21	.91	+++
B09 -.54	.91	
B10 .88	.97	
B11 2.21	1.74	
B12 .22	1.74	

Maximum correlation R(B06, B01)= .04

STATISTICS:	Total	Rejected
No. of photographs	62	0
No. of additional parameters	12	0
No. of points in adjustment	261	0
XYZ-control points	8	0
XY-control points	0	0
Z-control points	20	0
tie points	233	0
No. of observations	2044	0
control point coordinates	44	0
image coordinates	2000	0
redundancies	877	0
Standard error of unit weight		
on the ground	.189 m	
on the image	6.3 microm	

TANGAIL PILOT AREA

COORDINATE DIFFERENCES: GEODETIC - PHOTOGRAMMETRIC FOR CONTROL POINTS							
Photos	No	X(m)	Y(m)	H(m)	dX(m)	dY(m)	dH(m)
3	718	2683266.780	485333.970	12.990	.177	-.036	.333
3	719	2677410.000	483770.730	12.650	-.025	.088	.115
2	721	2671140.600	488316.830	14.200	-.224	.076	-.044
5	722	2670252.360	493147.820	15.000	.016	-.096	-.060
3	723	2674820.920	500599.130	12.750	.113	-.077	.120
2	724	2681858.550	499688.010	14.100	-.084	.154	-.216
2	725	2688955.580	499952.200	15.770	.032	-.066	.203
3	726	2691118.220	492191.400	15.780	-.060	-.061	.025
3	5043803			8.050			.279
3	5046203			9.200			-.120
5	5046305			9.700			-.057
3	5046503			9.000			.299
3	5046803			9.500			.228
2	5055402			11.350			1.140
6	5055504			9.000			-.268
3	5055703			8.250			.121
6	5055805			9.500			-.039
6	5058304			10.500			.088
6	5058604			8.800			-.150
3	5058903			11.000			-.182
6	5059004			9.700			.152
6	5059005			9.650			-.140
3	5068004			9.800			.873
4	5091003			12.000			-.578
4	5091006			10.100			-.564
4	5091007			10.900			.129
2	5101106			10.200			.191
2	8101106			10.200			1.169

COORDINATE DIFFERENCES FOR CONTROL POINT GROUPS:

Group-	No. of	Maximum differences			Root mean square errors		
id.	points	Xmax.	Ymax.	Hmax.	dX	dY	dH
0	8	.224	.154	1.169	.115	.088	.414

Note: # -character indicates a rejected coordinate.

TANGAIL PILOT AREA

ORIENTATION ELEMENTS:

Photo	Points	X(m)	Y(m)	H(m)	KA(gon)	PH(gon)	OM(gon)
677	11	2675352.145	484918.380	3321.533	1.2664	.1293	-.1963
678	17	2677375.775	484927.260	3321.048	1.4597	.2514	.1889
679	17	2679326.864	484935.993	3321.453	.6401	.2480	.4925
680	16	2681341.551	484925.876	3322.141	.3784	.1784	.0402
681	17	2683364.176	484912.402	3322.530	.6226	.1087	-.3221
682	18	2685374.250	484915.596	3321.910	1.2509	.1619	-.1315
683	16	2687427.496	484927.036	3322.774	1.1176	.0481	.1388
684	15	2689469.186	484894.240	3322.981	-.6872	.0525	.1255
685	15	2691480.567	484848.181	3321.669	-1.2524	.0218	-.1327
686	15	2693481.537	484810.505	3322.136	-.8661	.3636	-.4021
687	10	2695494.997	484790.244	3323.771	-.3374	.2247	.1224
591	13	2671185.946	488172.477	3326.570	200.6819	.1446	.2245
590	19	2673186.078	488199.704	3325.117	200.5706	.2818	-.1577
589	18	2675202.574	488204.085	3324.947	198.1492	.1378	-.3922
588	17	2677225.010	488144.351	3324.309	197.7768	.1288	-.0736
587	19	2679200.965	488080.275	3324.603	198.5347	.1206	.4832
586	18	2681190.757	488030.350	3325.408	199.0600	.0776	.1754
585	18	2683213.925	487983.754	3327.199	198.9436	-.0646	-.0703
584	18	2685270.519	487936.420	3329.683	198.8800	.0555	.0587
583	17	2687266.140	487891.927	3329.394	198.7658	.1293	.1878
582	16	2689245.682	487881.775	3329.077	201.4412	.0893	-.0510
581	15	2691238.216	487929.142	3329.426	201.9103	-.0161	-.0545
580	10	2693166.978	487973.662	3329.527	201.9819	-.0240	.2484
471	13	2669198.388	491866.312	3334.957	198.8508	.0458	-.0947
470	22	2671213.782	491832.488	3335.653	198.5254	.1503	.0080
469	20	2673240.805	491794.391	3334.602	199.9125	.1831	.4470
468	21	2675207.965	491769.626	3335.303	200.5740	.0990	.3914
467	21	2677266.675	491749.551	3338.464	201.4694	.1166	-.1460
466	22	2679248.310	491758.641	3334.883	206.1157	.2260	.2389
465	20	2681250.281	491873.291	3336.126	205.2131	.0406	-.9676
464	18	2683250.036	491910.027	3336.032	200.8810	.1817	-.1106
463	18	2685289.373	491874.192	3334.662	201.0644	.1386	.5657
462	18	2687316.396	491848.080	3335.962	201.0151	.0200	.1837
461	18	2689338.637	491816.061	3339.222	200.7005	.1593	-.9069
460	16	2691383.713	491855.385	3334.669	208.8577	.1607	.0663
459	11	2693367.387	492060.004	3332.506	208.4630	.1672	-.4843
550	11	2668476.103	495368.207	3325.769	1.4961	-.0141	-.6431
551	18	2670439.115	495440.403	3320.170	2.7995	.0638	-.7798
552	18	2672400.536	495554.017	3314.112	4.2183	.0353	-.9807
553	17	2674346.304	495712.748	3307.214	5.3093	-.3106	3.7478
554	20	2676297.008	495782.385	3305.077	.7570	.5172	1.1354
555	18	2678266.998	495688.443	3308.050	-4.5791	.3209	.0446
556	17	2680148.895	495539.081	3339.004	-5.5475	1.4955	1.7852
557	15	2682269.247	495296.544	3338.022	-7.9455	-1.1671	-1.5140
558	16	2684312.690	495129.025	3328.764	-4.2975	.3757	-.8213
559	15	2686308.636	495055.095	3337.422	-.9005	.1820	3.1657
560	13	2688293.900	494996.438	3325.868	-1.8654	-.0647	.1820
561	13	2690239.932	494952.561	3328.127	.0231	.2212	.5318
562	8	2692233.087	494919.584	3329.132	-.3625	.1420	.5923
432	10	2668476.737	498583.745	3335.416	.4702	.0106	.4522
433	15	2670492.996	498560.588	3334.860	-.3763	.1263	.3962
434	16	2672492.639	498526.040	3336.500	-.6083	-.0698	-.0418
435	16	2674475.589	498556.137	3334.605	2.2394	-.0584	-.5129
436	17	2676450.377	498638.401	3334.502	2.6955	.2194	.0917

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TANGAIL PILOT AREA

ORIENTATION ELEMENTS:

Photo	Points	X(m)	Y(m)	H(m)	KA(gon)	PH(gon)	OM(gon)
437	17	2678480.031	498725.075	3335.215	2.8508	.2161	.5772
438	18	2680446.581	498744.158	3335.924	-.1482	.2002	.7776
439	18	2682443.125	498708.068	3335.319	-2.3073	.0515	.2134
440	15	2684466.913	498667.211	3334.708	-1.9578	.1014	-.0195
441	15	2686424.413	498641.924	3335.236	-1.3512	.0633	-.1227
442	15	2688392.320	498626.546	3335.090	-.5055	.1031	.2514
443	16	2690412.296	498600.284	3335.682	-.9554	.2242	.4520
444	10	2692441.450	498561.104	3336.450	-2.0432	.0413	-.0984

TANGAIL PILOT AREA

Id.	Photos	No	x (mm)	y (mm)	vX (m)	vY (m)
677						
-	5	67705	-6.119	93.392	-.080	.036
-	5	67704	-5.837	55.816	.075	-.070
-	2	67703	-.834	4.566	.000	.053
-	2	67702	2.120	-62.971	.000	.044
-	2	67701	4.314	-107.342	.000	-.021
-	6	67805	102.197	99.092	-.234	.019
-	6	67804	100.285	55.864	.258	-.044
-	3	67803	97.972	8.291	.051	.019
-	3	67802	88.025	-59.298	.126	-.009
-	3	67801	95.470	-100.560	-.101	.005
XYZ	3	719	92.924	-53.992	-.095	-.033
678						
-	5	67705	-99.034	94.090	.434	.067
-	5	67704	-98.993	56.644	-.318	-.105
-	2	67703	-94.192	5.374	.000	-.053
-	2	67702	-91.517	-62.487	.000	-.044
-	2	67701	-89.513	-107.263	.000	.020
-	6	67805	9.289	99.350	-.053	.216
-	6	67804	7.323	56.324	.150	-.011
-	3	67803	4.970	8.806	-.105	-.005
-	3	67802	-5.101	-58.996	-.256	-.015
-	3	67801	2.378	-100.604	.205	.005
XYZ	3	719	-.242	-53.670	.108	-.059
-	6	67905	87.164	92.933	.065	-.108
-	6	67904	85.088	57.800	.267	-.114
-	3	67903	87.738	-3.696	-.081	-.026
-	3	67902	88.334	-66.357	-.035	-.014
-	3	67901	85.540	-100.986	-.015	.038
679						
-	6	67805	-81.248	99.126	.105	.022
678						
Z	4	5091003	79.793	79.734	-.367	.207
679						
-	6	67804	-82.868	56.204	-.021	-.119
-	3	67803	-84.800	8.664	.053	-.014
-	3	67802	-94.347	-59.501	.130	.024
-	3	67801	-86.496	-101.302	-.104	-.010
XYZ	3	719	-89.619	-54.082	.033	-.009
-	6	67905	-3.226	93.780	-.130	.011
-	6	67904	-4.947	58.710	.019	.011
-	3	67903	-1.566	-2.783	.159	.077
-	3	67902	-.267	-65.712	.069	-.007
-	3	67901	-2.619	-100.637	.029	-.056
-	6	68005	95.627	95.254	.213	-.223
Z	4	5091003	-10.526	80.526	-.376	.322
-	3	868004	103.258	60.410	-.082	-.029
-	3	68003	98.271	-14.115	-.063	.059
-	3	68002	100.029	-59.090	-.022	.008
-	3	68001	104.983	-99.325	-.012	-.066
680						
-	6	67905	-96.029	96.410	-.223	.160



TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	6	67904	-97.640	61.023	.149	-.046
-	3	67903	-94.003	-.701	-.079	-.051
-	3	67902	-92.455	-63.502	-.034	.022
-	3	67901	-94.593	-98.209	-.014	.018
-	6	68005	3.645	98.404	.146	-.292
-	3	868004	11.349	63.249	.163	-.220
-	3	68003	6.209	-11.641	.126	-.049
-	3	68002	7.948	-56.558	.045	.077
-	3	68001	12.835	-96.571	.025	.172
-	6	68105	96.147	89.996	-.040	.200
-	3	868104	96.789	46.594	.022	.202
-	3	68103	94.665	-12.237	.091	.025
-	3	68102	96.713	-65.851	-.137	-.094
-	3	68101	95.545	-102.247	.015	-.225
XYZ	3	718	87.945	18.097	-.254	.101
681						
-	6	68005	-88.967	101.250	.303	.036
-	3	868004	-81.247	65.831	-.080	.249
-	3	68003	-86.529	-9.279	-.063	-.010
-	3	68002	-84.805	-54.140	-.023	-.084
-	3	68001	-79.997	-93.991	-.013	-.105
-	6	68105	4.082	92.476	-.084	-.235
-	3	868104	4.539	48.770	-.042	-.153
-	3	68103	2.101	-10.230	-.183	-.093
-	3	68102	3.939	-63.785	.274	.071
-	3	68101	2.629	-100.007	-.031	.146
XYZ	3	718	-4.562	20.188	-.197	-.131
-	6	68205	83.469	100.207	-.107	.064
-	6	68204	82.327	61.904	.140	.040
-	3	68203	92.808	-6.706	-.037	.015
-	3	68202	101.435	-62.695	-.115	.003
-	3	68201	101.636	-92.583	.042	.020
682						
-	6	68105	-87.626	93.623	-.389	-.168
681						
Z	4	5091006	78.476	67.286	.215	.167
682						
-	3	868104	-87.520	49.966	.020	-.049
-	3	68103	-90.499	-9.053	.091	.068
-	3	68102	-89.161	-62.797	-.137	.023
-	3	68101	-90.734	-99.182	.016	.079
XYZ	3	718	-96.981	21.473	.110	.027
-	6	68205	-8.069	100.532	.183	-.045
-	6	68204	-9.498	62.314	.125	.045
-	3	68203	.498	-6.419	.073	.089
-	3	68202	8.807	-62.649	.228	.051
-	3	68201	8.795	-92.675	-.083	.012
-	6	68305	94.852	91.638	-.366	-.012
Z	4	5091006	-13.361	67.729	-.204	.183
-	6	68304	99.111	55.999	.391	-.005
-	3	68303	90.985	.402	.023	.016
-	3	68302	92.415	-58.843	-.002	-.122
-	3	68301	88.483	-104.074	-.051	-.032

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TANGAIL PILOT AREA

Id.	Photos	No	x (mm)	y (mm)	vX (m)	vY (m)
683						
-	6	68205	-102.078	100.716	-.014	.185
682						
Z	4	5091007	90.513	75.830	-.026	-.160
683						
-	6	68204	-103.471	62.656	.266	-.029
-	3	68203	-93.483	-5.945	-.036	-.104
-	3	68202	-85.100	-62.271	-.112	-.054
-	3	68201	-85.056	-92.430	.041	-.033
-	6	68305	.781	92.230	.092	.062
-	6	68304	5.100	56.695	.026	.009
-	3	68303	-2.843	1.082	-.045	.044
-	3	68302	-1.176	-58.335	.004	.065
-	3	68301	-4.956	-103.845	.104	.038
-	6	68405	94.486	95.128	-.149	.051
Z	4	5091007	-3.583	76.456	-.286	-.134
-	6	68404	92.868	63.004	.169	-.026
-	3	68403	89.731	.198	-.005	-.015
-	3	68402	90.117	-54.638	-.008	-.021
-	3	68401	94.697	-88.831	-.047	-.039
684						
-	6	68305	-95.450	92.779	.064	.077
-	6	68304	-90.193	57.359	-.063	-.099
-	3	68303	-96.626	1.523	.022	-.061
-	3	68302	-93.319	-57.829	-.002	.057
-	3	68301	-95.861	-103.429	-.052	-.006
-	6	68405	-1.768	98.368	.126	.072
-	6	68404	-2.548	66.183	-.083	-.053
-	3	68403	-4.006	3.274	.010	-.015
-	3	68402	-2.104	-51.551	.017	.018
-	3	68401	3.390	-85.607	.095	.078
-	6	68505	99.613	90.135	.067	.036
-	6	68504	99.773	53.036	-.208	.107
-	3	68503	97.834	-1.697	-.031	-.117
-	3	68502	89.802	-72.188	.009	-.093
-	3	68501	95.856	-100.785	.030	-.001
685						
-	6	68405	-95.063	99.559	.045	-.047
-	6	68404	-95.518	67.214	-.156	-.125
-	3	68403	-96.360	4.156	-.004	.030
-	3	68402	-93.866	-50.606	-.008	.003
-	3	68401	-88.056	-84.511	-.048	-.039
-	6	68505	6.754	92.252	.038	-.155
-	6	68504	7.200	54.978	-.027	.107
-	3	68503	5.654	.098	.058	.060
-	3	68502	-1.820	-70.403	-.022	.041
-	3	68501	4.474	-98.854	-.060	.010
-	5	68605	96.910	101.893	.221	-.169
-	5	68604	95.888	79.135	-.049	.151
-	3	68603	98.101	-.847	.016	.046
-	3	68602	99.570	-54.304	.028	.032
-	3	68601	99.390	-95.470	-.031	.053

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TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
686						
-	6	68505	-85.966	93.853	-.162	-.056
-	6	68504	-85.594	56.307	.118	.117
-	3	68503	-87.306	1.188	-.027	.057
-	3	68502	-94.955	-69.359	.013	.053
-	3	68501	-88.668	-97.788	.030	-.009
-	5	68605	4.773	102.729	.138	-.157
-	5	68604	3.637	79.860	-.088	.088
-	3	68603	5.422	-.321	-.030	-.063
-	3	68602	6.633	-53.705	-.056	-.065
-	3	68601	6.294	-94.701	.064	-.043
-	2	68705	92.470	88.877	.000	.022
-	2	68704	94.121	50.577	.000	.026
-	2	68703	78.043	-6.497	.000	.000
-	2	68702	87.738	-53.811	.000	.007
-	2	68701	92.434	-102.481	.000	.025
687						
-	5	68605	-86.508	101.464	-.355	-.076
-	5	68604	-87.808	78.789	.347	.117
-	3	68603	-86.804	-1.186	.015	.016
-	3	68602	-86.064	-54.823	.028	.033
-	3	68601	-86.755	-96.218	-.032	-.010
-	2	68705	1.111	87.147	.000	-.022
-	2	68704	2.570	49.001	.000	-.027
-	2	68703	-13.880	-7.985	.000	.000
-	2	68702	-4.345	-55.687	.000	-.007
-	2	68701	.184	-104.977	.000	-.025
591						
-	5	59105	-1.846	-104.057	-.158	.084
-	5	59104	1.801	-69.328	-.082	-.077
-	2	59103	-6.939	1.362	-.001	.055
-	2	59102	-3.274	51.031	-.001	.039
-	2	59101	1.065	103.891	.000	.012
XYZ	2	721	1.650	-7.179	.172	.012
-	6	59005	-94.920	-95.987	.061	-.080
-	6	59004	-96.144	-76.998	-.045	.018
Z	6	5059004	-96.144	-76.998	-.106	-.037
Z	6	5059005	-94.920	-95.987	.117	-.030
-	3	59003	-92.927	-4.710	.102	.065
-	3	59002	-92.476	60.462	-.055	.007
-	3	59001	-94.687	90.036	-.005	-.068
590						
-	5	59105	89.304	-102.061	-.006	.045
-	5	59104	92.897	-67.636	-.067	-.156
-	2	59103	84.216	2.686	.001	-.055
-	2	59102	87.812	52.348	.000	-.039
-	2	59101	92.129	105.407	.000	-.012
XYZ	2	721	92.903	-5.817	.139	-.124
-	6	59005	-3.084	-94.393	.078	.107
-	6	59004	-4.367	-75.548	-.285	.170
Z	6	5059004	-4.367	-75.548	-.286	.116
Z	6	5059005	-3.084	-94.393	.078	.157
-	3	59003	-1.406	-3.532	-.204	.202

TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	59002	-1.249	61.736	.108	.184
-	3	59001	-3.586	91.462	.010	.174
-	6	58905	-92.457	-100.117	-.162	-.475
-	6	58904	-88.909	-68.730	.348	-.143
-	5	67705	-92.159	59.357	.060	-.073
-	3	58903	-91.034	-9.833	.041	-.006
Z	3	5058903	-91.034	-9.833	.140	-.007
-	5	67704	-92.895	96.963	.007	-.065
589						
-	6	59005	92.789	-90.639	.146	.099
-	6	59004	90.855	-71.949	.071	-.016
Z	6	5059004	90.855	-71.949	.131	-.070
Z	6	5059005	92.789	-90.639	.090	.149
-	3	59003	91.385	-.090	.102	-.268
-	3	59002	89.308	65.148	-.054	-.191
-	3	59001	85.931	94.833	-.005	-.106
-	6	58905	4.221	-99.612	-.045	.083
-	6	58904	6.625	-68.312	-.121	.177
-	5	67705	-1.241	59.234	-.180	-.014
-	3	58903	2.433	-9.778	-.080	.065
Z	3	5058903	2.433	-9.778	-.080	.064
-	5	67704	-3.368	96.830	.173	.131
-	6	58805	-91.852	-92.551	.191	.029
-	6	58804	-91.662	-55.946	-.309	.046
-	3	58803	-98.483	1.374	-.014	-.074
-	6	67805	-109.352	48.101	.012	-.159
-	6	67804	-109.795	91.544	-.027	.054
588						
-	6	58905	97.411	-100.050	-.181	-.019
-	6	58904	99.625	-68.596	.204	-.030
-	5	67705	91.156	58.780	-.234	-.016
-	3	58903	95.208	-10.011	.039	-.060
Z	3	5058903	95.208	-10.011	-.060	-.058
-	5	67704	88.850	96.128	.062	.107
-	6	58805	1.224	-93.541	.018	.036
-	6	58804	1.330	-56.790	.103	.053
-	3	58803	-5.561	.539	.024	-.030
-	6	67805	-16.491	47.085	.066	-.078
-	6	67804	-16.990	90.287	-.302	.161
-	6	58705	-102.469	-93.207	-.015	-.016
-	6	58704	-96.882	-72.657	-.064	-.047
-	3	58703	-98.108	6.421	-.047	-.064
-	6	67905	-94.994	48.822	-.110	.022
-	6	67904	-94.905	84.276	.005	.243
Z	4	5091003	-88.389	62.669	.492	-.205
587						
-	6	58805	91.067	-96.122	-.045	-.093
-	6	58804	91.462	-59.106	.116	.071
-	3	58803	85.028	-1.588	-.009	.104
-	6	67805	74.491	44.906	.105	-.021
-	6	67804	74.333	87.731	-.057	-.041
-	6	58705	-12.934	-94.566	.069	-.074
-	6	58704	-7.063	-73.912	.184	-.017
-	3	58703	-7.244	5.389	.092	.045

TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	6	67905	-3.588	47.577	.100	-.025
-	6	67904	-3.011	82.729	-.282	-.017
Z	4	5091003	3.240	61.243	.251	-.324
-	6	58605	-98.219	-103.021	-.110	.174
-	3	58603	-93.033	-2.708	-.036	.018
-	6	58604	-101.093	-68.511	.088	.069
Z	6	5058604	-101.093	-68.511	.148	.123
-	6	68005	-102.876	42.589	.302	.078
-	3	68004	-99.980	84.482	-.052	-.077
Z	3	5068004	-99.980	84.482	-.523	-.065

-	6	586 58705	77.762	-94.283	-.185	-.065
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Z	2	587 8101106	-104.275	-87.433	-.340	.069
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-	6	586 58704	83.746	-73.810	-.086	-.010
-	3	58703	84.077	5.234	-.044	.019
-	6	67905	87.998	47.415	.297	-.060
-	6	67904	88.822	82.668	-.157	-.077
-	6	58605	-7.060	-101.957	.041	.062
-	3	58603	-1.581	-2.146	.073	.033
-	6	58604	-9.852	-67.650	.102	-.026
Z	6	5058604	-9.852	-67.650	.103	.030
-	6	68005	-11.197	43.230	-.390	.229
-	3	68004	-8.226	85.216	.102	.133
Z	3	5068004	-8.226	85.216	.100	.133
-	6	58505	-91.460	-103.421	-.408	.116
Z	2	8101106	-13.081	-86.429	.339	-.069
-	6	58504	-91.229	-75.450	.049	.047
-	3	58503	-90.209	.432	.066	-.159
-	6	68105	-103.999	49.599	.039	-.162
-	3	68104	-105.441	92.959	-.042	-.173

-	6	585 58605	86.208	-101.696	.116	-.089
-	3	58603	91.528	-2.158	-.037	-.051
-	6	58604	83.327	-67.546	-.016	-.143
Z	6	5058604	83.327	-67.546	-.074	-.086
-	6	68005	81.857	43.238	-.574	.171
-	6	58505	2.079	-103.215	.139	.134
-	3	68004	84.745	85.366	-.050	-.056
Z	3	5068004	84.745	85.366	.424	-.068
-	6	58504	2.235	-75.405	.049	.170
-	3	58503	2.971	.246	-.135	.126
-	6	68105	-11.003	49.387	.352	.184
-	3	68104	-12.598	92.847	.080	.162
-	6	58405	-90.931	-104.194	-.111	.003
-	3	858404	-92.146	-66.892	.031	.001
-	3	58403	-94.351	1.795	-.023	-.082
-	6	68205	-89.811	39.500	-.163	-.139
-	6	68204	-89.783	77.596	-.209	-.052
Z	4	5091006	-85.804	72.403	.202	-.184

-	6	584 58505	96.131	-104.009	-.227	-.184
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TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	6	58504	96.233	-76.174	-.114	-.135
-	3	58503	96.804	-.569	.069	.033
-	6	68105	82.799	48.460	.123	.180
-	3	68104	81.143	91.789	-.038	.011
-	6	58405	2.959	-105.253	.326	.070
-	3	858404	1.790	-67.871	-.059	.177
-	3	58403	-.421	.874	.047	.133
-	6	68205	4.056	38.566	.057	-.013
-	6	68204	4.064	76.609	-.034	-.051
Z	4	5091006	8.100	71.425	-.212	-.167
-	6	58305	-91.733	-97.757	.095	-.109
-	3	58303	-89.340	1.134	.033	.046
-	6	58304	-90.029	-73.370	-.075	-.018
Z	6	5058304	-90.029	-73.370	-.109	-.051
-	6	68305	-98.963	43.430	.158	-.023
-	6	68304	-104.509	78.809	-.270	.001
Z	4	5091007	-95.210	59.392	.229	.098

583

-	6	58405	94.430	-105.821	-.239	-.168
-	3	858404	93.137	-68.401	.028	-.178
-	3	58403	90.718	.305	-.023	-.051
-	6	68205	95.004	37.928	.044	-.052
-	6	68204	94.878	75.855	-.288	.047
-	6	58305	-.269	-98.600	.296	-.048
-	3	58303	1.924	.401	-.065	.058
-	6	58304	1.409	-74.157	.009	.009
Z	6	5058304	1.409	-74.157	.008	-.025
-	6	68305	-7.803	42.646	.129	.042
-	6	68304	-13.409	77.953	-.112	.147
Z	4	5091007	-4.050	58.586	.084	.197
-	6	58205	-86.401	-107.370	.154	-.042
-	6	58204	-87.691	-75.371	-.038	.085
-	3	58203	-89.747	3.432	.040	.057
-	6	68405	-101.406	36.296	.017	-.034
-	6	68404	-100.844	68.458	-.043	-.046

582

-	6	58305	86.205	-100.150	-.019	.171
-	3	58303	92.588	-1.634	.032	-.105
-	6	58304	88.913	-75.916	.178	.094
Z	6	5058304	88.913	-75.916	.211	.060
-	6	68305	84.671	40.988	-.078	-.146
-	6	68304	80.565	76.571	.028	-.053
-	6	58205	.162	-105.233	-.078	-.105
-	6	58204	.172	-73.375	-.152	-.032
-	3	58203	1.300	5.241	-.079	-.062
-	6	68405	-9.005	38.564	.033	-.060
-	6	68404	-7.166	70.723	.130	.057
-	6	58105	-93.599	-102.141	.054	.086
-	6	58104	-93.471	-74.187	-.098	.101
-	3	58103	-94.990	1.863	.049	.107
-	6	68505	-110.184	50.151	-.064	.078
-	6	68504	-109.070	87.329	-.145	-.191

581

-	6	58205	90.835	-105.790	-.253	.100
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TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	6	58204	91.085	-73.931	.279	.031
-	3	58203	92.859	4.662	.039	.004
-	6	68405	82.835	38.054	-.072	.018
-	6	68404	84.923	70.191	-.017	.192
-	6	58105	-2.815	-101.919	-.303	-.063
-	6	58104	-2.478	-73.989	.046	-.061
-	3	58103	-3.348	2.005	-.103	-.012
-	6	68505	-18.159	50.358	.225	.039
-	6	68504	-16.767	87.489	.213	-.107
-	2	58003	-85.989	1.941	.000	-.010
-	4	58004	-83.385	-75.467	-.164	.056
-	4	58005	-83.159	-108.205	.188	-.096
-	5	68605	-108.360	45.146	.052	.147
-	5	68604	-106.256	67.759	-.131	-.239
580						
-	6	58105	85.607	-103.690	.157	-.042
-	6	58104	85.970	-75.599	-.329	-.163
-	3	58103	85.031	.575	.055	-.095
-	6	68505	70.203	48.868	-.103	.059
-	6	68504	71.554	85.840	.049	-.033
-	2	58003	2.362	.604	.000	.010
-	4	58004	4.828	-77.012	.228	.116
-	4	58005	4.990	-109.952	.080	.009
-	5	68605	-19.922	43.784	-.056	.255
-	5	68604	-17.786	66.323	-.079	-.117
471						
-	4	47105	13.869	-99.171	-.113	-.084
-	4	47104	15.412	-67.147	-.104	-.030
-	2	47103	-5.134	2.844	.000	.022
-	2	47102	-1.466	60.604	.000	.001
-	2	47101	-14.134	97.955	.000	-.029
-	5	47005	-89.644	-102.828	.065	-.119
-	5	47004	-87.912	-68.562	.018	.083
-	3	47003	-85.230	-9.213	-.003	.124
-	5	59105	-92.623	64.476	-.198	-.014
-	5	59104	-89.976	99.057	.106	.013
-	5	55102	-49.169	-102.802	.144	-.066
-	5	55101	-50.103	-75.776	-.108	.127
XYZ	5	722	-47.285	-59.288	.194	-.028
470						
-	4	47105	106.038	-98.672	.342	.060
-	4	47104	107.423	-66.644	-.164	.038
-	2	47103	86.574	3.154	-.001	-.022
-	2	47102	89.939	60.788	.000	-.001
-	2	47101	77.115	97.961	.001	.029
-	5	47005	2.698	-103.002	-.236	-.070
-	5	47004	4.274	-68.677	-.033	.046
-	3	47003	6.706	-9.294	.011	.005
-	5	59105	-.996	64.276	.325	-.091
-	5	59104	1.479	98.787	.290	.030
-	5	55102	43.105	-102.714	.277	.025
-	5	55101	42.098	-75.668	-.151	.149
XYZ	5	722	45.012	-59.155	-.302	-.037
-	3	46905	-91.171	-103.218	-.012	.030

TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	46904	-91.257	-73.769	-.050	.080
-	3	46903	-97.488	1.374	.064	.097
-	6	59005	-93.806	69.349	-.108	-.059
-	6	59004	-95.698	88.150	-.085	-.100
Z	6	5059004	-95.698	88.150	-.146	-.045
Z	6	5059005	-93.806	69.349	-.053	-.111
-	5	55001	-51.031	-82.797	.242	-.043
-	5	55002	-51.841	-103.906	-.211	-.009
469						
-	5	47005	93.288	-106.055	-.006	.122
-	5	47004	95.469	-71.538	.138	-.016
-	3	47003	98.942	-12.090	-.008	-.129
-	5	59105	92.573	61.332	.037	-.023
-	5	59104	95.601	95.471	-.246	.190
-	3	46905	-.733	-104.266	.025	-.030
-	3	46904	-.174	-74.605	.102	-.089
-	3	46903	-4.755	.839	-.130	-.171
-	6	59005	.414	68.422	-.215	-.062
-	6	59004	-1.088	87.103	.243	.008
Z	6	5059004	-1.088	87.103	.245	.062
Z	6	5059005	.414	68.422	-.216	-.112
-	5	55001	39.926	-84.554	-.146	-.075
-	5	55002	38.642	-105.801	.092	.044
-	5	46805	-86.841	-103.323	.156	.054
-	5	46804	-85.530	-85.254	-.200	.051
-	6	58905	-88.489	62.095	.525	.141
-	3	46803	-88.487	9.904	-.040	-.031
Z	3	5046803	-88.487	9.904	-.163	-.030
-	6	58904	-85.045	93.237	-.193	.095
468						
-	3	46905	88.563	-105.891	-.013	.000
-	3	46904	89.338	-76.304	-.053	.009
-	3	46903	85.249	-.939	.066	.074
-	6	59005	90.891	66.544	.038	-.005
-	6	59004	89.525	85.241	.102	-.080
Z	6	5059004	89.525	85.241	.162	-.026
?	6	5059005	90.891	66.544	-.017	-.054
-	5	46805	2.759	-104.005	-.136	.075
-	5	46804	4.166	-86.002	-.100	.138
-	6	58905	2.181	61.118	.061	.135
-	3	46803	1.831	8.985	.079	.149
Z	3	5046803	1.831	8.985	.077	.148
-	6	58904	5.772	92.212	-.202	-.120
-	5	46705	-95.081	-101.177	.096	-.219
-	5	46704	-93.055	-80.064	.014	-.062
-	3	46703	-99.413	-6.430	-.011	-.015
-	6	58805	-93.288	71.949	-.146	-.041
-	6	58804	-91.444	108.364	.073	-.121
-	5	55401	-42.685	-89.599	-.002	-.075
-	5	55402	-43.837	-111.688	.253	.135
Z	2	5055402	-43.837	-111.688	-.343	-.047
467						
-	5	46805	94.911	-104.998	-.053	-.175
-	5	46804	96.588	-87.239	.106	-.226

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TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	6	58905	96.946	59.340	-.197	.135
-	3	46803	95.779	7.147	-.039	-.117
Z	3	5046803	95.779	7.147	.085	-.119
-	6	58904	100.994	90.564	-.036	.019
-	5	46705	-1.997	-100.926	.051	.164
-	5	46704	.244	-80.081	.180	.164
-	3	46703	-5.339	-6.827	.022	.007
-	6	58805	1.532	71.611	-.056	.007
-	6	58804	3.773	108.294	.062	.051
-	5	55401	50.116	-90.179	-.033	-.064
-	5	55402	48.674	-111.968	-.297	.240
Z	2	5055402	48.674	-111.968	.343	.047
-	3	846605	-92.880	-97.796	.083	-.077
-	5	46604	-93.345	-69.963	-.210	-.059
-	3	46603	-94.492	-9.140	-.095	-.099
-	6	58705	-101.714	78.132	.048	-.006
-	6	58704	-94.963	98.306	.056	.022
-	5	55502	-41.726	-105.203	-.025	.101
-	5	55501	-32.634	-78.502	.006	-.015
466						
-	5	46705	80.619	-110.052	-.334	-.168
-	5	46704	84.344	-89.283	.220	-.121
-	3	46703	83.965	-15.618	-.011	.008
-	6	58805	96.264	61.846	.037	.062
-	6	58804	101.062	97.973	-.045	-.101
-	3	846605	-9.986	-100.404	-.167	.132
-	5	46604	-8.427	-72.409	.011	.196
-	3	46603	-5.002	-11.455	.187	.139
-	6	58705	-5.730	75.902	.164	.001
-	6	58704	2.476	95.387	-.025	-.067
-	5	55502	40.598	-111.513	.023	.018
-	5	55501	51.631	-85.344	.193	-.042
-	5	46505	-96.590	-104.905	.386	-.095
-	5	46504	-100.397	-56.336	-.309	.062
-	2	55602	-52.315	-103.213	.000	-.007
-	3	46503	-91.481	-3.131	.034	.063
Z	3	5046503	-91.481	-3.131	-.127	.056
-	2	55601	-49.163	-73.635	-.002	.038
Z	2	5101106	-94.800	93.954	-.057	.007
-	6	58605	-90.597	78.018	-.054	-.072
465						
-	3	846605	82.639	-98.544	.085	-.054
466						
-	6	58604	-89.446	111.985	-.091	-.029
Z	6	5058604	-89.446	111.985	-.033	-.082
465						
-	5	46604	83.994	-71.154	-.143	-.055
-	3	46603	87.089	-10.865	-.092	-.040
-	6	58705	85.817	77.068	-.081	.160
-	6	58704	93.989	97.080	-.065	.120
-	5	46505	-2.605	-103.994	.278	.029
-	5	46504	-7.145	-56.566	-.188	.053
-	2	55602	40.944	-101.806	.000	.007

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TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	46503	.816	-3.780	-.072	-.044
Z	3	5046503	.816	-3.780	-.072	-.042
-	2	55601	43.755	-72.885	.002	-.038
Z	2	5101106	-4.101	94.080	.057	-.007
-	5	46405	-95.697	-88.113	-.157	-.020
-	5	46404	-81.449	-48.271	.148	-.009
-	3	46403	-89.984	6.229	.058	-.022
-	6	58505	-83.984	84.748	.245	.026
-	6	58504	-81.263	112.891	-.214	.103
-	6	58605	.429	77.911	.013	-.130
464						
-	5	46505	95.389	-106.328	-.043	-.106
465						
-	6	58604	.951	112.615	.099	.010
Z	6	5058604	.951	112.615	.098	-.046
464						
-	5	46504	87.679	-58.730	-.221	-.086
-	5	46405	.920	-96.767	-.027	-.071
-	3	46503	92.088	-5.333	.038	-.019
Z	3	5046503	92.088	-5.333	.199	-.014
-	5	46404	12.904	-55.529	.121	-.035
-	3	46403	1.171	-1.520	-.115	-.057
-	6	58505	2.482	76.633	.073	-.111
-	6	58504	3.484	104.420	.120	-.082
-	5	46304	-87.795	-65.676	.215	-.051
-	5	46305	-91.706	-102.328	.016	-.010
Z	5	5046305	-91.706	-102.328	.043	.007
-	3	46303	-95.481	-1.846	-.063	.131
-	6	58405	-90.661	78.383	.166	.148
-	3	58404	-90.644	115.860	-.092	.122
-	6	58605	86.353	75.477	-.007	.055
463						
-	5	46405	94.330	-102.190	-.136	.144
464						
-	6	58604	84.528	109.513	-.182	.118
Z	6	5058604	84.528	109.513	-.242	.061
463						
-	5	46404	106.292	-60.568	.267	.124
-	3	46403	94.425	-6.341	.058	.079
-	6	58505	95.491	71.353	.177	.019
-	6	58504	96.399	98.780	.109	-.104
-	5	46304	5.356	-70.492	.020	-.039
-	5	46305	1.306	-107.543	-.175	.047
Z	5	5046305	1.306	-107.543	-.175	.063
-	3	46303	-2.093	-6.378	.130	.041
-	6	58405	3.030	73.360	-.243	-.073
-	3	58404	3.134	110.311	.185	-.180
-	5	46205	-99.816	-97.793	.069	-.164
-	5	46204	-96.890	-64.736	-.098	.002
-	6	58305	-90.770	84.124	-.271	-.008
-	3	46203	-92.651	-3.919	.001	.096

TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
Z	3	5046203	-92.651	-3.919	.067	.095
-	6	58304	-88.137	108.163	.024	-.088
Z	6	5058304	-88.137	108.163	-.010	-.055
462						
-	5	46304	98.366	-72.004	-.210	-.240
-	5	46305	94.396	-108.786	.234	.099
Z	5	5046305	94.396	-108.786	.208	.116
-	3	46303	90.785	-8.124	-.068	-.172
-	6	58405	95.678	71.767	.101	.019
-	3	58404	95.702	108.959	-.094	.058
-	5	46205	-6.173	-99.120	.125	.101
-	5	46204	-3.436	-66.312	-.038	.059
-	6	58305	1.722	82.466	.015	-.128
-	3	46203	.394	-5.733	-.001	-.075
Z	3	5046203	.394	-5.733	-.001	-.075
-	6	58304	4.245	106.652	-.083	-.092
Z	6	5058304	4.245	106.652	-.082	-.059
-	5	46105	-95.934	-97.443	-.117	.129
-	5	46104	-91.458	-62.132	.011	.024
-	3	46103	-87.710	-1.973	-.010	-.026
-	6	58205	-84.116	76.891	-.075	.081
-	6	58204	-84.272	108.610	.082	.181
461						
-	5	46205	85.337	-97.660	.028	-.015
-	5	46204	88.177	-65.527	-.084	-.043
-	6	58305	93.851	83.118	-.117	.123
-	3	46203	92.175	-5.590	.000	-.021
Z	3	5046203	92.175	-5.590	-.066	-.020
-	5	46105	-3.211	-96.610	.152	.057
-	6	58304	96.497	107.765	-.054	.096
Z	6	5058304	96.497	107.765	-.019	.129
-	5	46104	1.008	-61.938	.085	-.086
-	3	46103	4.394	-2.268	.023	-.187
-	6	58205	7.478	77.176	.034	-.143
-	6	58204	7.150	109.522	-.108	-.054
-	5	46005	-98.801	-93.266	-.024	.161
-	5	46004	-99.758	-64.757	-.237	-.001
-	3	46003	-100.491	-3.141	-.054	-.113
-	6	58105	-86.809	79.366	.108	.019
-	6	58104	-87.216	107.765	.231	.233
XYZ	3	726	-81.955	-14.093	.100	-.134
460						
-	5	46104	85.512	-75.491	-.075	-.032
-	3	46103	96.514	-16.359	-.013	.213
-	6	58205	109.464	61.462	.217	.109
-	6	58204	113.156	92.997	-.064	-.209
-	5	46105	76.812	-109.894	-.148	-.198
-	5	46005	-18.344	-94.212	.159	-.056
-	5	46004	-15.331	-65.385	.182	-.041
-	3	46003	-7.505	-3.825	.120	.032
-	6	58105	17.118	75.570	.013	-.009
-	6	58104	20.514	103.240	-.058	-.026
XYZ	3	726	9.522	-17.085	-.084	.056
-	2	45905	-95.547	-91.761	-.007	.068

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TANGAIL PILOT AREA

Id.	Photos	No	x (mm)	y (mm)	vX (m)	vY (m)
-	2	45904	-96.532	-59.535	-.008	.079
-	2	45903	-87.210	7.956	-.005	.045
-	4	58005	-63.375	78.120	-.036	.068
-	4	58004	-59.978	110.736	-.193	-.099
459						
-	5	46005	72.949	-95.145	.076	.053
-	5	46004	75.896	-66.593	-.218	-.009
-	3	46003	83.577	-5.303	-.066	.080
-	6	58105	108.018	74.464	-.028	.009
-	6	58104	111.395	102.404	.209	-.085
XYZ	3	726	100.683	-18.430	.110	.199
-	2	45905	-3.634	-93.214	.007	-.068
-	2	45904	-4.847	-61.299	.008	-.079
-	2	45903	3.953	5.986	.005	-.045
-	4	58005	27.373	76.562	-.232	.019
-	4	58004	30.614	109.513	.129	-.074
550						
-	4	55005	1.245	92.251	-.137	.035
-	4	55004	2.635	62.149	-.069	.081
-	2	55003	3.633	4.341	-.003	.090
-	4	47105	19.420	-59.188	.243	.119
-	4	47104	16.499	-90.915	-.017	.094
-	6	55105	96.280	92.357	-.072	-.089
-	6	55104	102.388	55.006	.144	.003
-	3	55103	94.849	-11.581	-.134	-.152
-	5	55102	82.517	-58.161	-.010	-.102
-	5	55101	82.175	-85.135	-.090	-.184
XYZ	5	722	78.632	-101.598	.146	.106
551						
-	4	55005	-87.873	93.505	.021	.015
-	4	55004	-86.930	63.244	.050	-.013
-	2	55003	-86.707	5.241	.004	-.090
-	4	47105	-71.802	-58.682	-.472	-.095
-	4	47104	-75.085	-90.345	.285	-.102
-	6	55105	7.449	91.611	.229	-.103
-	6	55104	12.963	54.005	-.054	.024
-	3	55103	4.467	-12.557	.284	-.019
-	5	55102	-8.572	-58.907	-.298	.032
-	5	55101	-9.317	-85.859	-.054	-.005
XYZ	5	722	-13.251	-102.232	.000	.288
-	6	55205	92.920	87.411	-.134	.120
-	6	55204	90.508	60.690	-.019	.081
-	3	55203	99.056	-4.340	-.046	-.152
-	5	47005	31.822	-61.420	.158	-.009
-	5	47004	27.845	-95.267	-.162	.000
-	5	55002	86.171	-64.219	.177	-.070
-	5	55001	83.781	-85.049	.033	.098
552						
-	6	55105	-81.624	93.026	-.194	-.233
-	6	55104	-76.613	55.118	-.185	.078
-	3	55103	-86.036	-11.437	-.149	.171
-	5	55102	-99.672	-57.521	-.112	.111
-	5	55101	-100.787	-84.432	.402	-.086

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TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
XYZ	5	722	-105.107	-100.693	-.086	-.099
-	6	55205	4.160	86.920	-.111	-.091
-	6	55204	1.335	60.117	.231	.081
-	3	55203	8.913	-5.315	.104	.114
-	5	47005	-59.302	-60.940	.019	.076
-	5	47004	-63.720	-94.664	.039	-.113
-	5	55002	-4.931	-64.956	-.143	.159
-	5	55001	-7.637	-85.716	-.169	.253
-	6	55305	85.125	97.174	-.127	-.141
-	6	55304	85.611	60.957	.282	-.108
-	3	55303	91.297	-4.752	.051	-.094
-	3	55302	82.372	-68.620	.118	-.064
-	3	55301	80.631	-93.059	.033	-.015
553						
-	6	55205	-80.798	72.587	.192	.084
-	6	55204	-84.809	47.533	.174	.143
-	3	55203	-80.502	-16.619	-.058	.038
-	5	55002	-97.707	-78.386	.086	-.124
-	5	55001	-101.751	-100.802	.042	-.233
-	6	55305	-2.859	80.990	-.039	.005
-	6	55304	-2.753	47.112	-.079	-.074
-	3	55303	2.313	-17.516	-.089	-.021
-	3	55302	-7.469	-84.187	-.227	-.009
-	3	55301	-9.628	-110.879	-.066	.067
-	3	855405	98.597	77.677	-.023	.160
-	6	55404	96.917	50.742	.068	.036
-	3	55403	86.168	-11.448	.011	-.041
-	5	46805	30.897	-92.922	-.096	.036
-	5	55402	79.721	-88.670	-.562	-.180
-	5	46804	28.270	-112.184	.496	.079
-	5	55401	77.588	-112.372	.171	.033
554						
-	6	55305	-101.023	87.101	.108	-.100
-	6	55304	-98.729	51.841	-.251	.132
-	3	55303	-89.575	-13.295	.038	.115
-	3	55302	-95.257	-79.234	.110	.072
-	3	55301	-95.796	-104.879	.033	-.052
-	3	855405	2.960	90.243	.044	-.091
-	6	55404	2.202	62.291	-.145	-.105
-	3	55403	-6.247	-1.217	-.024	-.017
-	5	46805	-57.043	-84.624	.128	.012
-	5	55402	-9.621	-76.804	.124	-.140
-	5	46804	-58.679	-103.116	-.301	-.041
-	6	55505	86.427	94.648	-.079	-.077
-	3	55503	86.787	-8.042	-.005	-.064
-	6	55504	85.215	57.657	.066	.057
Z	6	5055504	85.215	57.657	.183	.137
-	5	55502	82.426	-82.495	-.084	-.046
-	5	46705	42.213	-87.471	.108	.132
-	5	46704	40.272	-109.102	.033	.033
-	5	55501	73.753	-110.176	-.041	.052
-	5	55401	-10.855	-99.420	-.046	-.007
555						
-	3	855405	-95.457	91.828	-.021	-.069

xxx

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TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	6	55404	-93.875	63.343	-.267	-.124
-	3	55403	-97.020	-1.246	.012	.058
-	6	55505	-11.342	103.614	.140	.002
-	5	55402	-94.045	-76.325	.483	-.056
-	3	55503	-3.185	-.257	-.001	-.034
-	6	55504	-9.651	65.799	.020	.165
Z	6	5055504	-9.651	65.799	.024	.250
-	5	55502	-2.122	-74.422	-.062	-.175
-	5	46705	-41.741	-82.577	.077	.091
-	5	46704	-42.036	-103.887	-.447	-.015
-	5	55501	-8.722	-102.240	.094	-.144
-	5	55401	-93.437	-98.555	-.091	.113
-	6	55605	88.162	99.039	-.095	-.198
-	6	55604	91.228	62.300	.058	-.023
-	3	55603	85.670	-10.352	.004	.057
-	2	46605	49.935	-76.852	.003	.040
-	5	46604	53.016	-104.757	.069	.062
556						
-	6	55505	-101.684	97.293	-.231	-.170
-	3	55503	-93.458	-5.202	.006	.099
-	6	55504	-99.906	60.378	.085	.019
Z	6	5055504	-99.906	60.378	-.017	.112
-	5	55502	-92.462	-80.737	.148	.103
-	5	55501	-99.378	-109.799	-.251	.149
-	6	55605	-2.832	93.280	-.176	.002
-	6	55604	.722	57.797	-.201	.139
-	3	55603	-3.730	-13.849	.004	.010
-	2	46605	-39.061	-81.922	-.003	-.040
-	5	46604	-35.589	-110.627	.273	-.145
-	6	55705	86.624	81.818	.150	-.356
-	6	55704	89.464	46.067	.218	-.149
-	5	46505	45.645	-60.491	-.409	.146
-	3	55703	95.203	-7.754	.045	.014
Z	3	5055703	95.203	-7.754	-.023	.021
-	5	46504	58.765	-108.120	.381	.046
557						
-	6	55605	-97.984	102.106	-.088	.078
-	6	55604	-92.501	65.316	.152	-.012
-	3	55603	-93.231	-6.919	-.008	-.066
-	6	55705	-5.251	95.900	.135	-.129
-	6	55704	-1.446	58.036	-.089	-.007
-	5	46505	-42.855	-50.908	-.213	.025
-	3	55703	5.608	2.725	-.087	.011
Z	3	5055703	5.608	2.725	-.087	.010
-	5	46504	-28.497	-96.018	.337	-.075
-	3	855804	88.751	62.726	-.069	.131
-	6	55805	91.826	102.410	.076	-.080
Z	6	5055805	91.826	102.410	.092	-.067
-	3	55803	94.088	-1.344	.040	.257
-	5	46405	51.636	-48.172	.101	.031
-	5	46404	45.181	-90.069	-.293	-.105
558						
-	6	55705	-98.611	95.970	.083	.211
-	6	55704	-96.638	58.033	.060	.028

TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	855804	-7.072	56.705	.154	-.050
-	3	55703	-92.294	2.252	.043	-.025
Z	3	5055703	-92.294	2.252	.109	-.031
-	6	55805	-2.451	95.379	-.097	-.002
Z	6	5055805	-2.451	95.379	-.096	.012
-	3	55803	-4.622	-6.846	-.054	-.085
-	5	46405	-48.623	-51.321	.219	-.084
-	5	46404	-57.088	-93.239	-.243	.025
-	6	55905	85.953	101.398	-.244	.186
-	6	55904	89.814	64.897	.054	.014
-	3	55903	97.030	8.435	-.009	-.092
-	5	46304	41.968	-74.841	.088	.114
-	5	46305	43.054	-38.357	-.040	-.098
Z	5	5046305	43.054	-38.357	-.027	-.123
559						
-	3	855804	-93.385	48.275	-.085	-.081
-	6	55805	-85.839	84.408	.066	.014
Z	6	5055805	-85.839	84.408	.051	.029
-	3	55803	-96.289	-14.116	.013	-.172
-	6	55905	-.288	85.769	.070	.088
-	6	55904	1.874	51.275	.179	-.008
-	3	55903	6.558	-4.214	.013	.043
-	5	46304	-54.180	-87.171	-.114	.217
-	5	46305	-50.572	-48.872	-.036	-.038
Z	5	5046305	-50.572	-48.872	-.049	-.063
-	6	56005	88.298	96.543	-.193	.070
-	2	856004	84.605	65.977	.002	.069
-	3	56003	93.592	-2.200	.016	-.206
-	5	46205	51.610	-55.579	-.027	.031
-	5	46204	50.420	-89.849	.094	.006
560						
-	6	55905	-91.936	95.689	.108	.008
-	6	55904	-89.249	59.553	-.075	-.092
-	3	55903	-83.849	3.047	-.004	.050
-	5	46205	-38.768	-47.029	-.194	.047
-	5	46204	-40.036	-80.042	.125	-.024
-	5	46105	51.175	-44.695	.031	-.188
-	5	46104	48.364	-80.264	.054	.092
-	6	56005	-.231	108.824	-.007	.137
-	2	856004	-4.511	76.336	-.002	-.069
-	3	56003	3.633	6.408	-.042	.011
-	6	56105	94.396	101.745	-.007	.017
-	6	56104	94.840	65.156	.030	-.169
-	3	56103	89.714	-6.081	-.016	.180
561						
-	6	56005	-86.378	109.660	.149	-.109
-	4	56004	-91.803	77.508	-.447	-.182
-	3	56003	-86.072	7.520	.027	.195
-	6	56105	7.620	99.622	.101	.058
-	6	56104	6.939	63.307	.146	.026
-	3	56103	-.397	-7.532	.036	-.121
-	5	46105	-40.188	-45.028	.082	.200
-	5	46104	-44.190	-80.683	-.074	.002
-	2	856205	96.267	100.764	.000	.001

262

TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	4	56204	87.580	55.895	-.008	-.033
-	2	56203	91.171	1.353	.000	.000
-	5	46005	56.650	-47.486	-.233	-.077
-	5	46004	57.765	-76.626	.221	.038
562						
-	6	56105	-83.584	100.538	.080	.093
-	6	56104	-84.238	64.224	.099	.044
-	3	56103	-91.562	-6.690	-.020	-.059
-	2	856205	5.269	102.322	.000	-.001
-	4	56204	-3.403	57.356	-.232	-.007
-	2	56203	.228	2.760	.000	.000
-	5	46005	-34.340	-46.372	.021	-.081
-	5	46004	-33.218	-75.570	.053	.012
432						
-	2	43205	-6.109	96.612	.000	.004
-	2	43204	-4.925	58.467	.000	-.008
-	2	43203	-10.464	-9.087	.000	-.008
-	4	55005	-1.383	-58.142	.058	-.002
-	4	55004	.483	-88.110	-.041	.012
-	3	43305	93.168	103.035	.054	.007
-	3	43304	96.521	76.438	-.072	.019
-	3	43303	95.847	-7.235	-.107	-.043
-	6	55105	93.021	-56.525	.240	.088
-	6	55104	100.070	-93.612	-.131	-.070
433						
-	2	43205	-99.456	97.339	.000	-.004
-	2	43204	-97.942	59.133	.000	.008
-	2	43203	-102.898	-8.590	.001	.008
-	4	55005	-93.294	-57.560	.058	-.048
-	4	55004	-91.175	-87.510	.060	-.081
-	3	43305	-.077	105.015	-.108	.010
-	3	43304	3.488	78.427	.146	.078
-	3	43303	3.557	-5.305	.215	.081
-	6	55105	1.156	-54.629	.089	.171
-	6	55104	8.522	-91.594	-.124	-.045
-	3	43405	96.975	93.348	-.118	.066
-	3	43404	97.675	58.852	-.064	.058
-	3	43403	89.930	-7.812	-.006	-.017
-	6	55205	85.927	-54.464	.126	-.105
-	6	55204	85.110	-80.982	-.273	-.181
434						
-	3	43305	-91.212	107.129	.054	-.017
-	3	43304	-87.595	80.367	-.074	-.097
-	3	43303	-87.217	-3.542	-.108	-.038
-	6	55105	-89.420	-52.674	-.292	.165
-	6	55104	-81.933	-89.337	.351	.010
-	3	43405	6.284	95.954	.237	.048
-	3	43404	6.947	61.184	.129	.017
-	3	43403	-.854	-5.734	.013	-.023
-	6	55205	-4.879	-52.302	-.048	-.021
-	6	55204	-5.675	-78.679	-.118	-.058
-	3	43505	89.886	98.484	-.112	.071
-	3	43504	92.288	67.752	-.014	-.011

209

TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	43503	96.397	3.976	-.041	-.135
-	6	55305	73.851	-36.243	.401	.001
-	6	55304	77.258	-71.511	-.221	-.007
XYZ	3	723	105.835	96.017	-.157	.096
435						
-	3	43405	-80.412	98.974	-.119	-.114
-	3	43404	-81.168	63.939	-.065	-.075
-	3	43403	-91.656	-2.746	-.007	.039
-	6	55205	-97.531	-48.961	-.026	.013
-	6	55204	-99.357	-75.113	.006	-.065
-	3	43505	3.565	97.780	.221	.012
-	3	43504	4.583	66.726	.028	.019
-	3	43503	5.823	2.618	.087	.042
-	6	55305	-18.429	-36.490	-.153	.141
-	6	55304	-16.517	-71.688	.047	.149
XYZ	3	723	19.310	94.578	-.070	.012
-	3	43605	84.820	99.551	.032	-.001
-	3	43604	82.319	48.113	-.062	-.044
-	3	43603	78.425	-2.545	-.044	-.065
-	3	55405	85.140	-35.375	.049	-.073
-	6	55404	83.564	-63.374	.073	.009
436						
-	3	43505	-86.839	95.958	-.108	-.084
-	3	43504	-86.051	65.157	-.014	-.008
-	3	43503	-85.329	1.201	-.047	.093
-	6	55305	-110.009	-37.917	-.190	.094
-	6	55304	-108.386	-73.461	.223	-.092
XYZ	3	723	-71.267	92.640	-.025	-.082
-	3	43605	-5.895	96.942	-.063	-.038
-	3	43604	-8.530	46.008	.121	.116
-	3	43603	-12.618	-4.477	.086	.106
-	3	55405	-5.996	-37.431	-.092	.037
-	6	55404	-7.631	-65.596	.181	.024
-	3	43705	81.271	99.088	-.003	-.102
-	3	43704	82.645	57.438	.146	.036
-	3	43703	83.005	8.014	-.105	.060
-	6	55505	78.058	-35.219	.209	.130
-	6	55504	75.335	-72.444	-.213	-.104
Z	6	5055504	75.335	-72.444	-.106	-.186
437						
-	3	43605	-98.062	95.684	.030	.038
-	3	43604	-101.146	45.022	-.059	-.072
-	3	43603	-105.719	-5.431	-.043	-.040
-	3	55405	-99.319	-38.521	.043	.036
-	6	55404	-101.201	-66.869	.090	.159
-	3	43705	-11.008	97.651	.010	.144
-	3	43704	-9.802	56.229	-.299	.054
-	3	43703	-9.620	6.858	.211	-.011
-	6	55505	-14.970	-36.512	.005	.061
-	6	55504	-17.680	-74.002	-.110	-.035
Z	6	5055504	-17.680	-74.002	-.118	-.122
-	3	43805	86.290	96.024	-.199	-.126
-	3	43804	84.657	59.128	.162	-.095
-	6	55605	83.058	-51.879	.213	.025

TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	43803	83.483	-5.125	.079	-.095
Z	3	5043803	83.483	-5.125	-.070	-.095
-	6	55604	81.987	-88.787	.055	.173

438

-	3	43705	-104.931	95.446	-.007	-.042
-	3	43704	-102.044	54.186	.153	-.090
-	3	43703	-99.957	4.863	-.106	-.049
-	6	55505	-103.767	-38.809	-.044	.055
-	3	43805	-7.464	98.447	.396	.096
-	6	55504	-104.818	-76.532	.152	-.103
Z	6	5055504	-104.818	-76.532	.033	-.191
-	3	43804	-7.602	61.566	-.319	.159
-	6	55605	-4.575	-49.577	.154	.062
-	3	43803	-6.101	-2.715	-.154	.117
Z	3	5043803	-6.101	-2.715	-.155	.118
-	6	55604	-4.101	-86.669	-.179	.018
-	3	43905	92.983	93.607	.010	-.037
-	3	43904	91.501	57.327	.027	.000
-	3	43903	89.690	-9.667	-.129	-.021
-	6	55705	86.705	-68.070	-.040	.038
-	6	55704	86.128	-105.728	.061	-.006
XYZ	2	724	63.729	41.280	.147	-.124

439

-	3	43805	-101.650	98.455	-.197	.030
-	3	43804	-100.523	61.220	.157	-.064
-	6	55605	-93.950	-49.888	-.008	.031
-	3	43803	-96.956	-3.224	.076	-.022
Z	3	5043803	-96.956	-3.224	.226	-.023
-	6	55604	-92.260	-86.682	.114	-.295
-	3	43905	-.232	97.192	-.016	.261
-	3	43904	-.783	60.459	-.049	.211
-	3	43903	-.842	-6.918	.257	.099
-	6	55705	-2.273	-65.267	.005	.103
-	6	55704	-1.828	-102.631	-.302	.046
XYZ	2	724	-28.462	43.310	.021	-.015
-	3	44005	95.803	99.716	-.161	-.103
-	3	44004	95.114	66.911	-.002	.021
-	3	44003	93.096	-2.690	.009	-.069
-	3	55804	86.561	-105.650	-.055	-.199
-	6	55805	92.631	-68.474	-.045	.002
Z	6	5055805	92.631	-68.474	-.030	-.011

440

-	3	43905	-92.354	97.071	.006	-.223
-	3	43904	-93.127	60.168	.022	-.211
-	3	43903	-93.616	-7.353	-.128	-.078
-	6	55705	-95.340	-65.640	-.333	.133
-	6	55704	-95.023	-102.890	.052	.088
-	3	44005	4.095	99.103	.325	.079
-	3	44004	3.140	66.141	.007	.179
-	3	44003	.549	-3.618	-.021	.024
-	3	55804	-6.732	-106.363	.103	-.150
-	6	55805	-.445	-69.344	.145	.050
Z	6	5055805	-.445	-69.344	.144	.036
-	3	44105	79.606	101.176	-.086	.127

TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	44103	87.034	4.796	-.008	-.005
-	6	55905	87.421	-66.230	-.046	-.130
-	6	55904	90.180	-102.307	-.181	.081
441						
-	3	44005	-84.436	98.689	-.164	.024
-	3	44004	-85.641	65.655	-.005	-.200
-	3	44003	-88.858	-4.124	.012	.046
-	3	55804	-97.002	-106.673	-.048	.349
-	6	55805	-90.464	-69.806	-.146	.016
Z	6	5055805	-90.464	-69.806	-.162	.002
-	3	44105	-8.722	100.105	.175	.009
-	3	44103	-2.208	3.470	.016	-.077
-	6	55905	-2.492	-67.571	.006	-.165
-	6	55904	-.023	-103.642	.225	.020
-	3	44205	91.370	84.462	-.086	.019
-	3	44204	92.019	53.216	-.096	-.056
-	3	44203	86.360	-6.680	.027	-.105
-	6	56005	89.135	-55.145	.111	-.010
-	4	56004	84.573	-87.525	.133	.129
442						
-	3	44105	-97.239	98.996	-.088	-.137
-	3	44103	-92.261	2.600	-.008	.082
-	6	55905	-93.672	-68.670	.105	.011
-	6	55904	-91.758	-105.053	-.201	-.016
-	3	44205	2.471	82.133	.169	-.072
-	3	44204	2.723	51.025	.187	-.026
-	3	44203	-3.697	-8.736	-.057	-.029
-	6	56005	-1.484	-57.398	-.002	-.020
-	4	56004	-6.448	-89.929	.106	.011
-	3	44305	88.524	99.259	.098	.100
-	3	44304	86.583	67.881	-.060	.127
-	3	44303	84.053	2.556	-.076	.062
-	6	56105	92.896	-66.552	-.155	-.051
-	6	56104	92.580	-103.224	.046	.023
XYZ	2	725	25.011	60.200	-.064	-.067
443						
-	3	44205	-90.500	81.497	-.083	.054
-	3	44204	-90.184	50.420	-.092	.082
-	3	44203	-96.459	-9.438	.030	.134
-	6	56005	-94.084	-58.249	-.058	-.068
-	4	56004	-98.971	-90.974	.208	.042
-	3	44305	-4.448	99.110	-.195	-.116
-	3	44304	-6.200	67.799	.123	-.045
-	3	44303	-8.475	2.489	.154	-.017
-	6	56105	.705	-66.710	-.097	-.106
-	6	56104	.575	-103.547	-.150	-.023
XYZ	2	725	-68.063	59.738	.057	.046
-	2	44405	86.305	104.368	-.001	-.037
-	2	44404	83.181	69.473	.000	-.003
-	2	44403	85.500	-.612	.001	.032
-	2	56205	87.419	-64.240	.000	.014
-	4	56204	81.820	-109.507	.104	.010
444						
-	3	44305	-98.551	99.718	.097	.016

220

TANGAIL PILOT AREA

Id.	Photos	No	x(mm)	y(mm)	vX(m)	vY(m)
-	3	44304	-99.728	68.073	-.063	-.082
-	3	44303	-100.841	2.478	-.078	-.045
-	6	56105	-90.397	-66.300	.079	-.010
-	6	56104	-89.857	-102.781	-.171	.097
-	2	44405	-7.236	106.820	.001	.037
-	2	44404	-9.917	71.445	.000	.003
-	2	44403	-6.655	.987	-.001	-.032
-	2	56205	-3.899	-62.497	.000	-.014
-	4	56204	-8.858	-107.486	.136	.030

Adjustment ended on 11-Feb-93 at 10:18:16

202

718	2683266.780	485333.970	12.990	0
719	2677410.000	483770.730	12.650	0
721	2671140.600	488316.830	14.200	0
722	2670252.360	493147.820	15.000	0
723	2674820.920	500599.130	12.750	0
724	2681858.550	499688.010	14.100	0
725	2688955.580	499952.200	15.770	0
726	2691118.220	492191.400	15.780	0
43203	2668249.633	498406.742	7.098	3
43204	2668359.491	499890.856	5.388	3
43205	2668326.861	500733.224	4.145	3
43303	2670576.779	498464.502	7.056	3
43304	2670586.420	500303.338	6.859	3
43305	2670511.758	500891.355	5.394	3
43403	2672469.145	498398.418	7.496	3
43404	2672653.798	499861.836	7.328	3
43405	2672646.375	500623.228	6.822	3
43503	2674598.808	498590.840	8.713	3
43504	2674522.218	499986.922	7.970	3
43505	2674475.957	500659.425	8.083	3
43603	2676190.028	498533.960	8.701	3
43604	2676232.333	499642.015	7.035	3
43605	2676242.701	500760.183	6.766	3
43703	2678272.735	498896.184	8.336	3
43704	2678220.017	499979.602	7.496	3
43705	2678151.671	500891.987	8.183	3
43803	2680323.686	498725.449	7.771	3
43804	2680293.422	500139.671	7.506	3
43805	2680297.118	500957.358	8.183	3
43903	2682422.150	498568.323	9.208	3
43904	2682477.189	500043.932	7.467	3
43905	2682518.410	500850.407	6.737	3
44003	2684481.867	498586.382	7.657	3
44004	2684585.453	500110.990	6.410	3
44005	2684628.118	500831.330	6.940	3
44103	2686380.954	498712.373	8.431	3
44105	2686283.150	500827.166	7.997	3
44203	2688315.545	498449.093	8.405	3
44204	2688466.250	499757.399	7.950	3
44205	2688466.191	500441.148	7.276	3
44303	2690239.638	498680.904	8.631	3
44304	2690310.494	500114.641	7.355	3
44305	2690359.460	500804.335	8.470	3
44403	2692298.656	498582.087	9.721	3
44404	2692276.828	500124.250	9.898	3
44405	2692360.196	500894.427	10.323	3
45903	2693286.960	491942.897	9.072	3
45904	2693282.548	493430.059	10.198	3
45905	2693163.274	494122.928	10.698	3
46003	2691526.564	491956.419	11.000	3
46004	2691509.399	493312.648	9.846	3
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46103	2689232.864	491912.285	10.877	3
46104	2689292.408	493228.016	9.781	3
46105	2689377.144	493999.873	9.372	3
46203	2687304.786	491963.927	9.320	3
46204	2687367.533	493288.489	10.046	3
46205	2687415.819	494005.537	8.881	3
46303	2685325.851	491984.796	9.251	3
46304	2685140.254	493378.434	9.203	3
46305	2685215.491	494181.394	9.757	3
46403	2683214.436	491948.703	12.359	3
46404	2682941.006	493127.281	11.347	3
46405	2683191.056	494035.547	8.953	3
46503	2681219.419	492004.726	8.701	3
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46505	2681113.070	494221.851	7.805	3

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46605	2679245.579	493946.936	11.330	3
46703	2677373.734	491909.284	10.063	3
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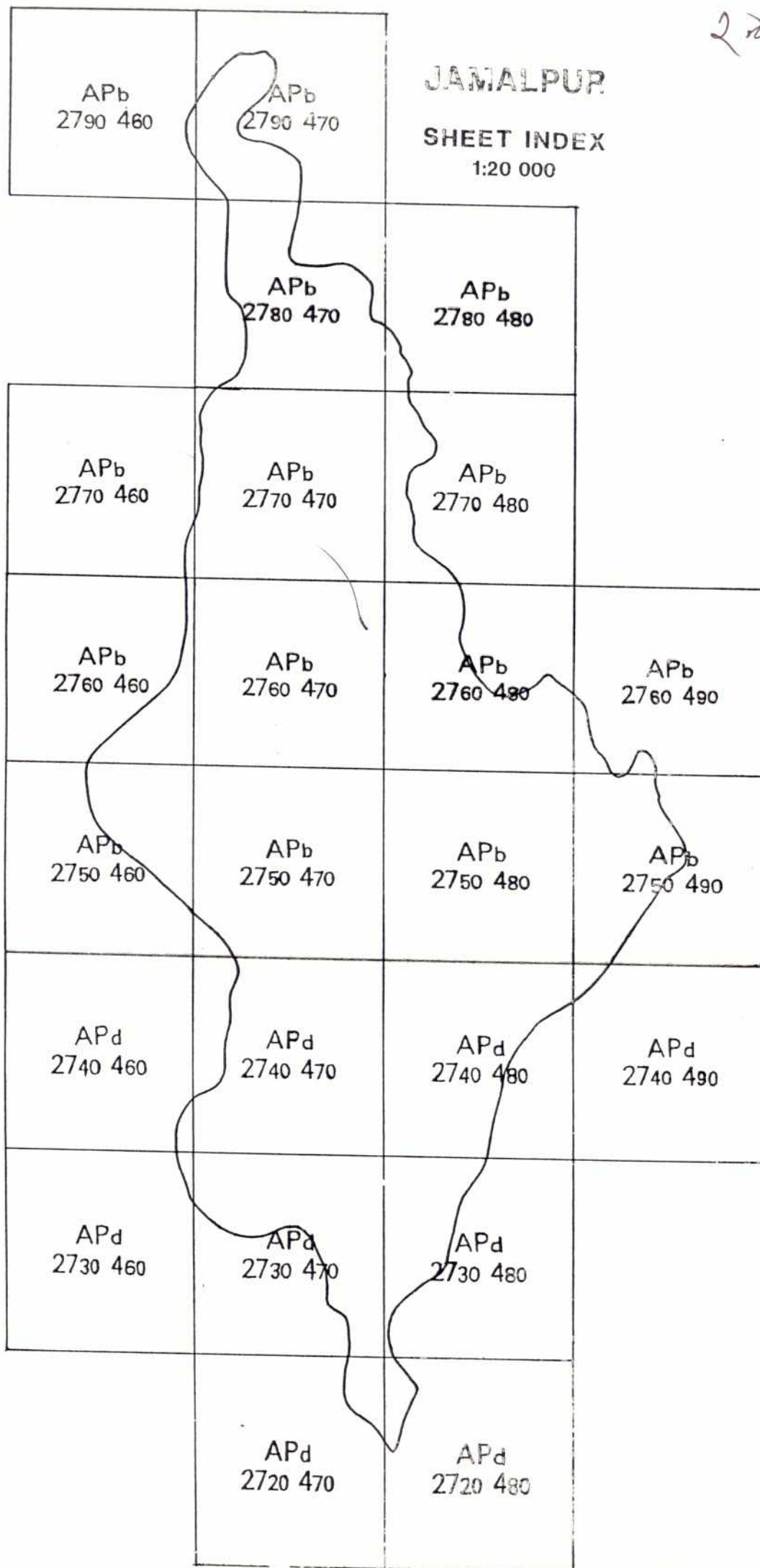
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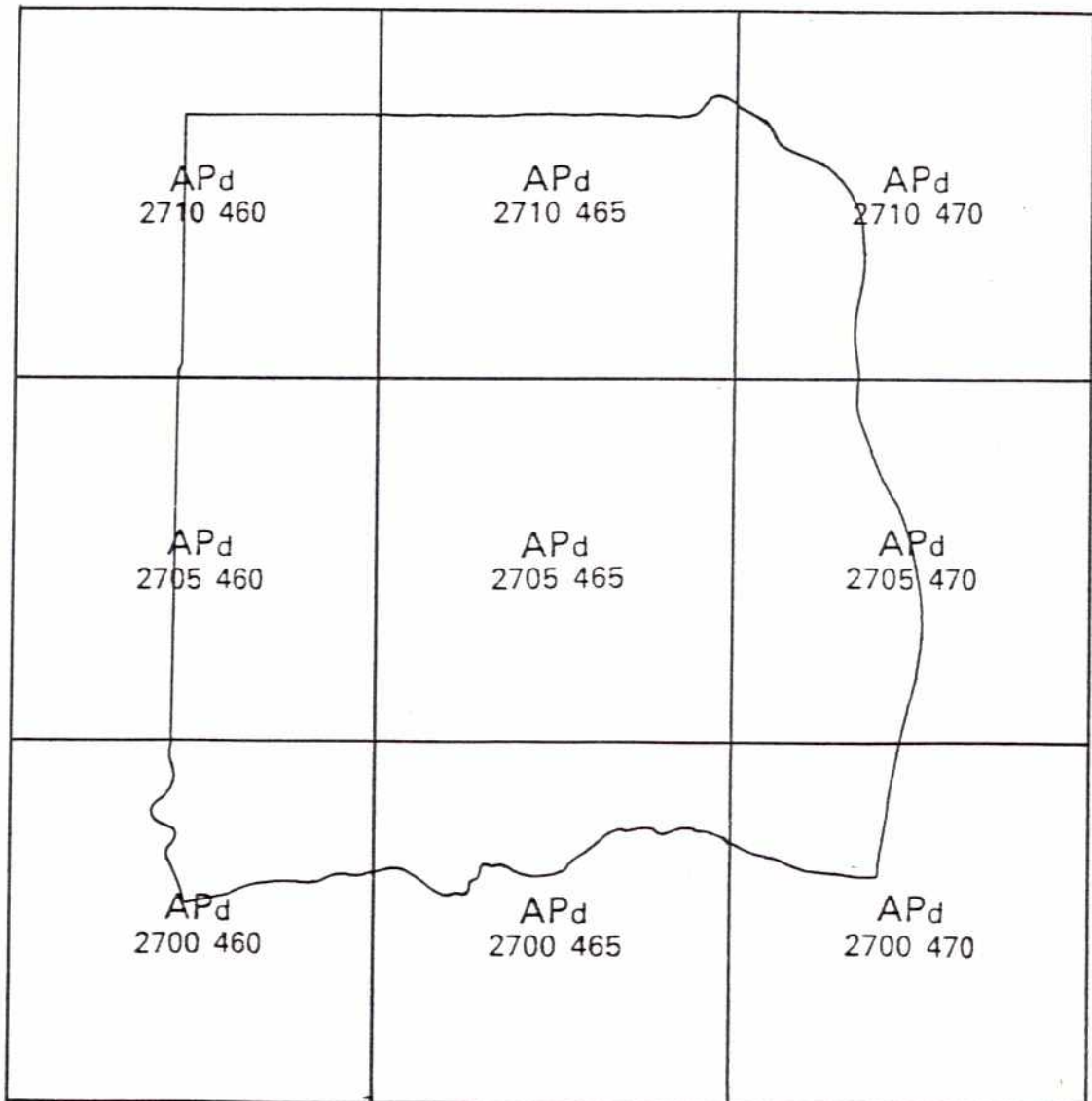
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