

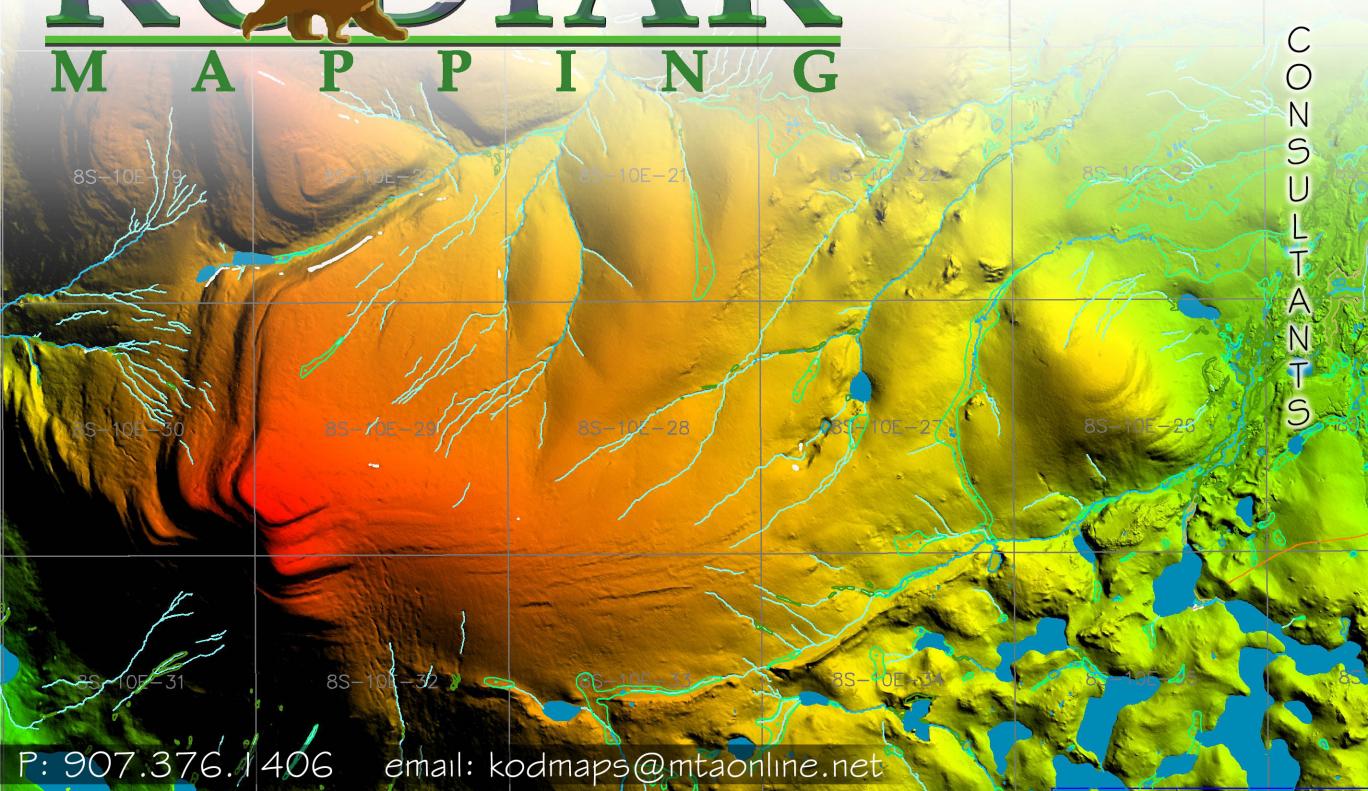
# FINAL PROJECT REPORT

## FOOTHILLS WEST TOPOGRAPHIC MAPPING 2009

Prepared for:

R&M Consultants  
&

The Alaska Department of Transportation  
Northern Region





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February 18, 2010

## Overview

The purpose of this project was to provide topographic mapping with a four foot contour interval for a six mile wide by 100 mile long corridor extending from the Dalton Highway near Galbraith Lake to Umiat. KMI and Airborne Imaging teamed on this project with KMI acquiring the stereo imagery and Airborne Imaging acquiring and processing the LiDAR data. KMI used the imagery to create the breaklines needed for the contours, performing the hydro flattening, delineating vegetation and wetland areas, and as a quality control check on the LiDAR data. The imagery was combined with the LiDAR data to create 4 foot contours of the entire 600 square miles. The mapping was split into three areas and tiled in a Township, Range and Section pattern with edge matching on all tiles and area boundaries. This project was performed on an aggressive schedule with the NTP issued in mid June 2009 and all mapping products completed and delivered in early January 2010.

## Project Info

Time Frame:	June 2009 -January 2010
Horizontal Datum:	NAD 83
Vertical Datum:	NAVD 88
Coordinate Systems:	Alaska State Plane Zone 4 Feet; and Local coordinate system
Contour Interval:	4'
Photo Scale:	1" = 1500'
Scan Resolution:	0.71' per pixel
Ortho Resolution:	1' per pixel

The mapping products including the LiDAR point files, 3D face files, ortho images were tiled into one mile sections by using the PLSS for the project area. Each tile was logically named using the Township, Range, and Section. All mapping products were also provided in both coordinate systems requested. There were approximately 781 section tiles covered by the project.

## Outline

### **LiDAR Acquisition (June 27<sup>th</sup> – July 2<sup>nd</sup>)**

LiDAR data was acquired by Airborne Imaging for the entire project area. Please see the attached LiDAR Acquisition report prepared by Airborne Imaging. (SEE APPENDIX C)

### **Aerial Photo Acquisition (July 3<sup>rd</sup>)**

KMI acquired the aerial photography on July 3rd, 2009; at a nominal scale of 1:18000 with sufficient photo overlap to provide stereo coverage for the project

Area of Interest (AOI) (SEE APPENDIX A). A total of 518 photos divided into, 28 flight lines, and 5 photo blocks were acquired to complete the project. This included an additional 51 photos and 3 new flight lines which were added while on site to cover the expanded mapping area provided to us on June 29th, 2009 via email.

The aerial photography was acquired with a Wild RC30, six inch USGS certified aerial camera (serial #5259). The camera is equipped with a Wild Universal Aviogon 4-S lens (lens serial#13334). This camera and lens were calibrated by the USGS on December 1, 2006. (SEE APPENDIX B) The camera is mounted in a CompAIR 7 jet prop aircraft (N3121).

### **Photo Control Received (July 6<sup>th</sup>)**

KMI provided AKDOT with 36 photo control point positions which would be required to complete the project. All 36 points were surveyed and paneled by the Alaska DOT in June of 2009. Five of the photo control points were also planned to be used as ABGPS base points for the LiDAR and aerial photo acquisition. Coordinate files were received from AKDOT via email by Scott Sexton PLS.

### **LiDAR Data Processing (July - August)**

LiDAR data processing was conducted by Airborne Imaging for the entire project area. Please review the attached LiDAR Acquisition report prepared by Airborne Imaging for more information. (SEE APPENDIX C)

### **Aerial Photo Scanning (July)**

Scanning was completed by HAS Images, Inc. (HAS) in Dayton, Ohio. All scanning was completed on a Leica DSW 700 Photogrammetric scanner with a scan resolution of 12.5 microns.

### **Aero Triangulation (August - September)**

Aero Triangulation (AT) was completed using manual measurements along with airborne GPS data which was acquired during photo acquisition. The entire project was divided into 5 blocks of photography, the results of each block adjustment can be review in the attached AT reports. (SEE APPENDIX D) Each block was constructed of several parallel flight lines:

BLOCK	FLIGHT LINES
1	1-3
2	4-7
3	8-15, 26, 27, 28
4	16-19
5	20-23

(see attached flight line diagram APPENDIX A)

\* Flight lines 24 and 25 were acquired as a backup to ensure proper sidelap between other strips; they were not used in the final adjustment.

### **Preliminary Orthos (September)**

These ortho photos were created using the original 25' grid sampled LiDAR without any breaklines or photogrammetric editing. These orthos were ultimately replaced with new orthos created from the final surface data upon completion of the topographic mapping.

### **Topographic Mapping (September - December)**

Utilizing a 25' grid sampled version of the LiDAR point data, along with the breakline and planimetric data collected using photogrammetric means, a final surface model was built capable of producing 4' contours.

The 25' gridded LiDAR point data was imported into the stereo mapping environment. This allowed the photogrammetrists to visually inspect and verify the point data and edit as necessary. This includes the flattening of water bodies, editing and collecting points in steep and vegetated areas, and the removal of points along linear features. These point files, along with the breakline data, were used in the final creation of 3D face files for the entire project area. This method ensures the flow and elevation of hydrographic features.

### **Ortho Processing (December - January)**

The final ortho products for the project included a complete set of imagery in both the State Plane Coordinate system as well as the local coordinate system established by AKDOT. For each coordinate system the imagery was provided in both TIF and MR.SID file format with accompanying world files.

## **Deliverables**

KMI has delivered all the products as requested. Below is a list of what has been provided.

9" X 9" aerial photo contact prints fully annotated

LiDAR data for the entire AOI in both coordinate systems

Included point files:

- All Return Points
- 1<sup>st</sup> Return Points
- Ground Classified
- 25' Bare Earth Gridded Model

Preliminary ortho imagery for the entire AOI

Topographic Mapping Products

Includes:

- 3D Face Files for each tile
- Contour Drawings created by Township
- Planimetric Data for AOI broken into 3 separate drawings
- Final edited 25' Grid point files

Final ortho imagery for the entire AOI

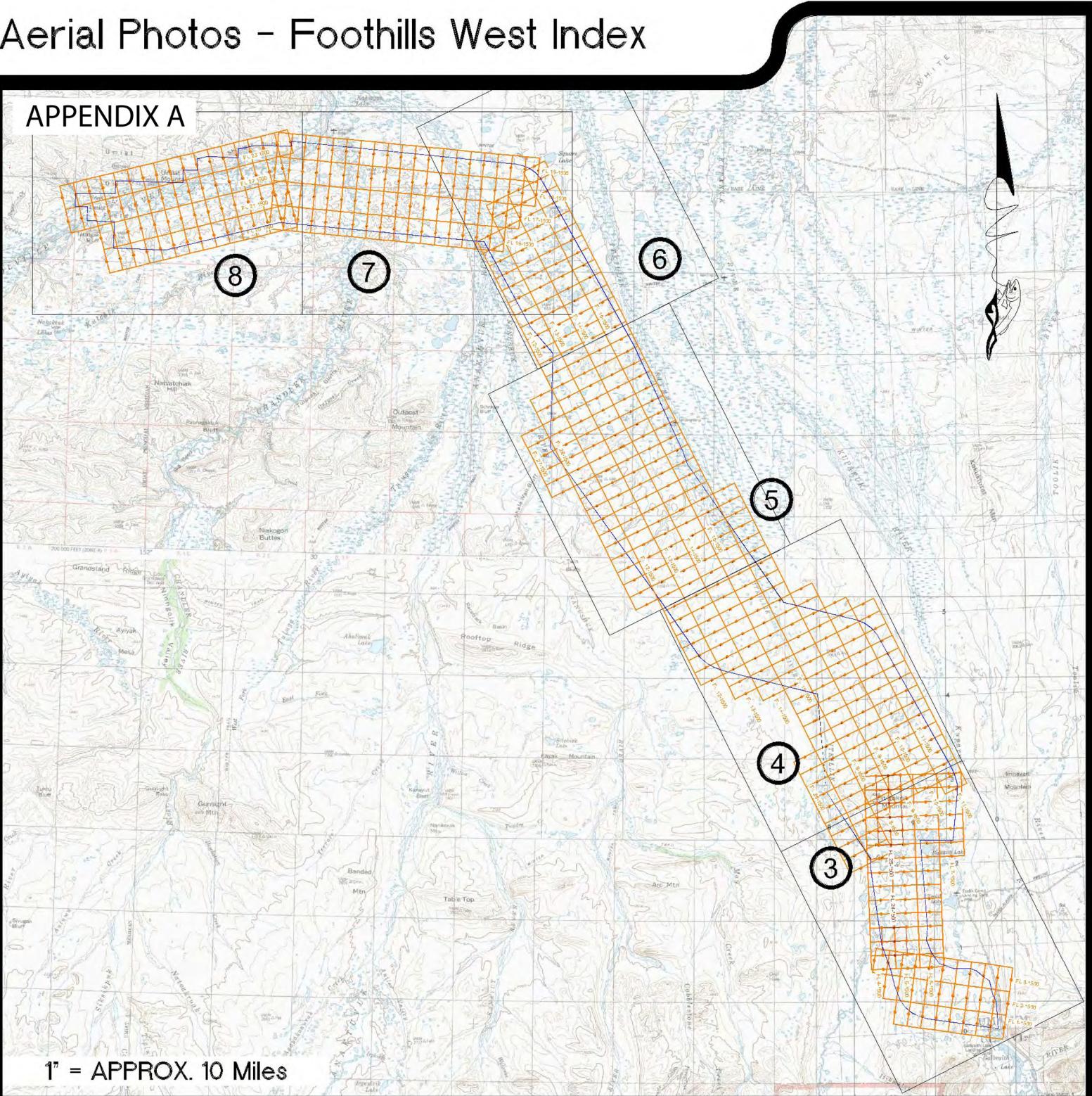
Project report which

Includes:

- A. Flight Index
- B. Camera Calibration Report
- C. LiDAR Acquisition Report
- D. AeroTriangulation Report

# Aerial Photos - Foothills West Index

## APPENDIX A



Project Area

Stereo Neat Models 1" = 1500' photography

① Planned Photo Center and exposure number

Planned Photo Control Point

○ ABGPS Control Point

FL 2-1800

Flight Line  
Number

Photo Scale  
U.S. Feet





# Foothills West Pre-Flight Information

Endlap: 60% Sidelap: 30% Horizontal Datum: NAD 83

Flight Line -Scale(ft)	Total Exposures	First Exposure		Last Exposure		Azimuth	Sheet
		Latitude N	Longitude W	Latitude N	Longitude W		
FL 1-1500	9	68-29-54.5324	149-27-21.2622	68-30-55.4339	149-46-28.2645	97-52-49	3
FL 2-1500	10	68-31-26.5086	149-26-44.2573	68-32-34.9474	149-48-16.1869	97-52-49	3
FL 3-1500	11	68-32-58.4822	149-26-07.1682	68-34-14.4414	149-50-04.3742	97-52-49	3
FL 4-1500	15	68-33-40.9296	149-48-25.4575	68-46-04.2346	149-49-37.1029	177-49-10	3
FL 5-1500	15	68-33-44.1228	149-44-11.4665	68-46-07.4568	149-45-20.7624	177-49-10	3
FL 6-1500	15	68-33-47.2094	149-39-57.4560	68-46-10.5713	149-41-04.4018	177-49-10	3
FL 7-1500	7	68-40-54.9861	149-36-20.1946	68-46-13.5782	149-36-48.0220	177-49-10	3
FL 8-1500	19	68-43-56.4068	149-48-02.6527	68-58-10.4888	150-07-53.5984	153-14-29	4
FL 9-1500	18	68-44-37.9524	149-44-13.5039	68-58-05.0678	150-02-55.8775	153-14-29	4
FL 10-1500	16	68-45-19.4118	149-40-24.1183	68-57-12.0509	149-56-51.7275	153-14-29	4
FL 11-1500	16	68-45-13.1942	149-35-29.3814	68-57-06.3097	149-51-54.2727	153-14-29	4
FL 12-1500	38	68-52-12.4660	150-18-46.6200	69-20-30.8137	150-59-49.8404	153-14-29	6
FL 13-1500	42	68-51-20.0119	150-12-43.4499	69-22-48.0796	150-58-16.3802	153-14-29	6
FL 14-1500	43	68-51-14.7312	150-07-47.2405	69-23-31.2016	150-54-22.6611	153-14-29	6
FL 15-1500	59	68-50-21.8865	150-01-44.7678	69-25-01.3313	150-51-38.5013	153-14-29	6
FL 16-1500	18	69-20-18.2181	150-56-55.9009	69-21-27.2440	151-39-26.7075	95-36-11	7
FL 17-1500	19	69-21-46.4745	150-54-04.1532	69-22-59.9692	151-39-08.0685	95-36-11	7
FL 18-1500	20	69-23-14.6837	150-51-12.0156	69-24-32.6937	151-38-49.3861	95-36-11	7
FL 19-1500	20	69-24-47.3177	150-50-49.8916	69-26-05.4174	151-38-30.6603	95-36-11	7
FL 20-1500	15	69-21-35.2323	151-35-05.6411	69-18-15.2887	152-08-53.3220	76-08-59	8
FL 21-1500	15	69-23-04.8776	151-36-15.3986	69-19-44.7010	152-10-05.2259	76-08-59	8
FL 22-1500	17	69-24-34.5146	151-37-25.3183	69-20-44.9376	152-16-06.7119	76-08-59	8
FL 23-1500	18	69-26-18.2222	151-36-09.7021	69-22-14.2982	152-17-19.2545	76-08-59	8
FL 24-1500	3	68-34-35.6346	149-46-23.4556	68-36-21.8245	149-46-33.4572	177-49-10	3
FL 25-1500	6	68-41-40.3909	149-47-03.6190	68-46-05.8591	149-47-28.9352	177-49-10	3
FL 26-1500	10	68-47-17.715	150-02-15.612	68-40-10.632	149-52-23.601	153-14-29	3
FL 27-1500	6	69-08-05.684	150-51-22.165	69-04-10.112	150-45-38.465	153-14-29	3
FL 28-1500	18	69-1022.877	150-49-48.696	68-57-00.976	150-30-27.374	153-14-29	5
	518						


1" = APPROX. 2 Miles






1" = APPROX. 2 Miles

Sheet 5




1" = APPROX. 2 Miles


Sheet 6



1" = APPROX. 2 Miles



1" = APPROX. 2 Miles



## APPENDIX B

ORIGINAL

USGS Report No. OSL/3275



## United States Department of the Interior

U.S. GEOLOGICAL SURVEY  
Reston, Virginia 20192REPORT OF CALIBRATION  
of Aerial Mapping Camera

December 1, 2006

Camera type: Wild RC30\*      Camera serial no.: 5259  
 Lens type: Wild Universal Aviogon /4-S      Lens serial no.: 13334  
 Nominal focal length: 153 mm      Maximum aperture: f/4  
     Test aperture: f/4

Submitted by: GPS Aerial Services, Inc.  
Anchorage, Alaska

Reference: GPS Aerial Services, Inc. purchase order  
No. 1504, dated November 27, 2006.

These measurements were made on Agfa glass plates, 0.19 inch thick, with spectroscopic emulsion type APX Panchromatic, developed in D-19 at 68° F for 3 minutes with continuous agitation. These photographic plates were exposed on a multicollimator camera calibrator using a white light source rated at approximately 5200K.

I. Calibrated Focal Length: 153.680 mmII. Lens Distortion

Field angle:	7.5°	15°	22.7°	30°	35°	40°
Symmetric radial (um)	0	-1	-1	-2	-1	2
Decentering (um)	0	0	0	1	1	2

Symmetric radial distortion parameters	Decentering distortion parameters	Calibrated principal point
$K_0 = 0.7924 \times 10^{-5}$	$P_1 = -0.5241 \times 10^{-7}$	$x_p = 0.002 \text{ mm}$
$K_1 = 0.4858 \times 10^{-8}$	$P_2 = -0.8602 \times 10^{-7}$	$y_p = 0.008 \text{ mm}$
$K_2 = -0.3783 \times 10^{-12}$	$P_3 = 0.0000$	
$K_3 = 0.0000$	$P_4 = 0.0000$	
$K_4 = 0.0000$		

The values and parameters for Calibrated Focal Length (CFL), Symmetric Radial Distortion ( $K_0, K_1, K_2, K_3, K_4$ ), Decentering Distortion ( $P_1, P_2, P_3, P_4$ ), and Calibrated Principal Point [point of symmetry] ( $x_p, y_p$ ) were determined through a least-squares Simultaneous Multiframe Analytical Calibration (SMAC) adjustment. The x and y-coordinate measurements utilized in the adjustment of the above parameters have a standard deviation ( $\sigma$ ) of  $\pm 3$  microns.

\* Equipped with Forward Motion Compensation

III. Lens Resolving Power in cycles/mm

Area-weighted average resolution: 109

Field angle:	0°	7.5°	15°	22.7°	30°	35°	40°
Radial Lines	134	134	134	134	113	95	95
Tangential lines	134	134	134	113	113	95	67

The resolving power is obtained by photographing a series of test bars and examining the resultant image with appropriate magnification to find the spatial frequency of the finest pattern in which the bars can be counted with reasonable confidence. The series of patterns has spatial frequencies from 5 to 268 cycles/mm in a geometric series having a ratio of the 4th root of 2. Radial lines are parallel to a radius from the center of the field, and tangential lines are perpendicular to a radius.

IV. Filter Parallelism

The two surfaces of the Wild 525 filter No. 7535 accompanying this camera are within 10 seconds of being parallel. This filter was used for the calibration.

V. Shutter Calibration

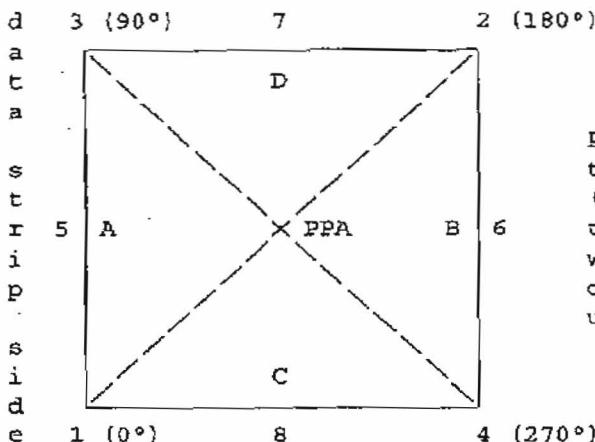
Indicated time (sec)	Rise time (μ sec)	Fall Time (μ sec)	% width time (ms)	Nom. Speed (sec.)	Efficiency (%)
1/125	1576	1591	8.15	1/140	88
1/250	850	860	4.23	1/270	87
1/500	427	426	2.20	1/520	88
1/1000	220	218	1.09	1/1050	87

The effective exposure times were determined with the lens at aperture f/4. The method is considered accurate within 3 percent. The technique used is described in International Standard ISO 516:1999(E).

VI. Film Platen

The film platen mounted in Wild RC30 drive unit No. 5259-629 does not depart from a true plane by more than 13 um (0.0005 in).

This camera is equipped with a platen identification marker that will register "629" in the data strip area for each exposure.

VII. Principal Points and Fiducial Coordinates

Positions of all points are referenced to the principal point of autocollimation (PPA) as origin. The diagram indicates the orientation of the reference points when the camera is viewed from the back, or a contact positive with the emulsion up. The data strip is to the left.

	<u>X coordinate</u>	<u>Y coordinate</u>
Indicated principal point, corner fiducials	-0.002 mm	0.007 mm
Indicated principal point, midside fiducials	-0.006	0.003
Principal point of autocollimation (PPA)	0.0	0.0
Calibrated principal point {pt. of sym.} $x_p, y_p$	0.002	0.008

Fiducial Marks

1	-105.998 mm	-105.991 mm
2	105.998	106.010
3	-106.002	106.003
4	105.999	-105.991
5	-112.001	0.002
6	112.004	0.004
7	-0.005	112.007
8	-0.007	-111.997

VIII. Distances Between Fiducial Marks

## Corner fiducials (diagonals)

1-2: 299.812 mm                  3-4: 299.810 mm  
 Lines joining these markers intersect at an angle of 90° 00' 01"

## Midside fiducials

5-6: 224.005 mm                  7-8: 224.003 mm  
 Lines joining these markers intersect at an angle of 89° 59' 56"

## Corner fiducials (perimeter)

1-3: 211.995 mm                  2-3: 212.000 mm  
 1-4: 211.998 mm                  2-4: 212.001 mm

The method of measuring these distances is considered accurate within 0.003 mm

Note: For GPS applications, the nominal entrance pupil distance from the focal plane is 277 mm.

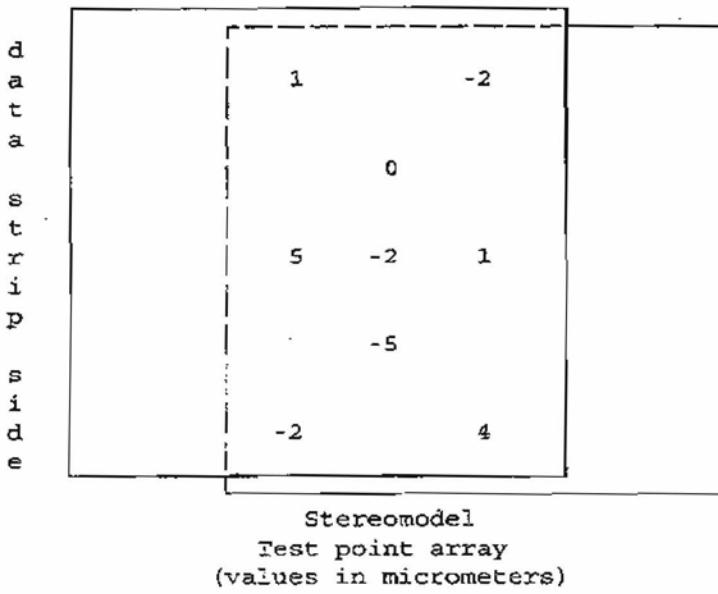
IX. Stereomodel Flatness

PMC Drive Unit No.: 5259-629

Base/Height ratio: 0.6

Platen ID: 629

Maximum angle of field tested: 40°



The values shown on the diagram are the average departures from flatness (at negative scale) for two computer-simulated stereo models. The values are based on comparator measurements on Kodak 4425 copy film made from Kodak 2405 film exposures. These measurements are considered accurate to within 5  $\mu\text{m}$ .

X. System Resolving Power on film in cycles/mm

Area-weighted average resolution: 52

Film: Type 2405

Field angle:	0°	7.5°	15°	22.7°	30°	35°	40°
Radial Lines	57	57	57	57	57	48	48
Tangential lines	57	57	57	57	48	48	40

This aerial mapping camera calibration report supersedes the previously issued USGS Report No. OSL/3045, dated June 7, 2004.

Gregory L. Stensaas  
Remote Sensing Technologies Project Manager  
Geography Discipline

# APPENDIX C



**LiDAR Acquisition Report**

for

## **Alaska Foothills West Transportation Access Route corridor**

**Prepared for:**

**Kodiak Mapping Inc**  
**&**  
**The Alaska Department of Transportation**

**Prepared by:**

**Airborne Imaging**  
**Suite 130, 885 – 42<sup>nd</sup> Ave SE**  
**Calgary, AB T2G 1Y8**

**December 2009**

**3046 Foothills West Transportation Corridor LiDAR acquisition Report for Alaska DOT, 12/18/2009**

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*Airborne Imaging inc, A Clean Harbors Company*

130, 885 – 42<sup>nd</sup> Avenue SE · Calgary, Alberta, Canada T2G 1Y8  
Telephone (403) 215-2960 · Fax (403) 243-8681 · [www.airborneimaginginc.com](http://www.airborneimaginginc.com)



## Introduction

Kodiak Mapping Inc, under contract with R&M Consultants, subcontracted Airborne Imaging Inc in June 2009 to acquire and provide LiDAR data for the Alaska Foothills West Transportation Access Route corridor, a project managed by the Alaska Department of Transportation (DOT).

The Area of Interest (AOI) specified in the original contract extends from Umiat, the northwest extent of the route, to Galbraith Lake, the southeast extent. From the approximate centerline of the route the AOI was buffered 6 miles either side of centerline to produce a corridor covering approximately 585.3 sq miles. On June 29, 2009 the DOT requested additional areas to be added to the scope of work increasing the total area of the corridor to 650 sq miles. A map produced by the DOT illustrating the additional areas can be found in Appendix A.

The following report provides details explaining personnel, flight parameters, survey control, and final ground truth results.

## Personnel

Forming a crew of five, personnel assigned to acquire the LiDAR data include one Project Manager, two System Operators, and two pilots. The Project Manager, John Anderson, had a key role ensuring the project was completed on schedule (weather permitting), and to process and verify the integrity of all LiDAR and GPS data immediately after each flight mission. John Anderson has extensive experience in the survey industry, and in the past 12 years has worked exclusively in the LiDAR industry.

In order to maximize the advantage of long day light hours in northern Alaska, two System Operators and two pilots were assigned, providing us with the ability to fly two flight missions per day, while respecting FAA pilot duty day guidelines. With this the LiDAR acquisition was completed with six missions over a four day period from June 27 to July 02.

After designating Umiat (northwest extent of the AOI) as our base of operations the aircraft arrived on June 27 and completed one mission on that day. The final flight mission was completed on July 02, and after data was verified the aircraft departed Umiat on July 03 to home base.



## Flight Parameters

The aircraft assigned to this project was a twin engine Piper Navajo PA-31 with call sign C-GPTB, and is owned and operated by Pro-Flight Ltd, an air charter company located in Regina, Saskatchewan.

The LiDAR system utilized is an Optech ALTM-3100, capable of laser pulse rates from 33,000 Hz to 100,000 Hz, translating to a maximum of 100,000 pulses per second. For this project the LiDAR data was acquired at an altitude of 3281 feet AGL (Above Ground Level) with the laser pulse rate set at 70,000 Hz, resulting in a data set with total point density at 2 points per meter<sup>2</sup>. The total density is based on two overlapping flight lines flown in opposing directions to provide redundancy in the data. The following details the flight parameters used:

Flight Height: 1000m AGL (3281')

Speed: 160 knots

Flightline Spacing: 414m

Single Pass Swath: 932m

Overlap: 55.6%

Scan Angle: 25°

Scan Frequency: 40Hz

Scan Pulse Rate: 70 KHz

2 Points per Sq meter with overlap

## Project Control

For this project survey control was established and observed by the Alaska DOT with final coordinates provided to Airborne Imaging to use as primary control during flight operations. For the six flight missions flown a total of five DOT stations were utilized as Base Stations, starting with UMIATAPT located at the Umiat airstrip, which was used as primary control for all calibration flights flown at the beginning and end of each mission. Other Base Stations were set on points in such a way that baselines from the control point to the aircraft did not exceed 30 km (18.6 miles), and in some cases two Base Stations were operating at the same time in order to process the aircraft trajectories using a "Multi Base" solution, offering an extra redundancy check. DOT control stations utilized for this project include UMIATAPT, OKPIK, LIEB, ARUK & GBHA.

A copy of the final network adjustment listing coordinates of the above stations as provided by the client can be found in appendix B.

**3046 Foothills West Transportation Corridor LiDAR acquisition Report for Alaska DOT, 12/18/2009**



## Coordinate Projection and Datum

Essentially the final Projection requested by the Alaska DOT is NAD83 Alaska State Plane Zone 4, US Survey feet, whereas the actual horizontal and vertical datum is proprietary to DOT and is probably closely related to the National Geodetic Survey.

For the purposes of project planning and LiDAR acquisition the projection utilized was NAD83 UTM Zone 5. Vertically the DOT published ellipsoid heights were used for initial processing and the Alaska Geiod06 undulation grid file applied to output final orthometric heights. After final processing the LiDAR data was converted to NAD83 Alaska State Plane Zone 4, US Survey feet, and a combined scale factor of 0.99984608775 applied resulting in ground based coordinates.

## Calibration

Calibration of raw LiDAR data before and after each flight mission is essential to LiDAR acquisition and is carried out post mission to fine tune systematic GPS & Inertial errors associated with aircraft & sensor roll, pitch, and heading. For the most part these errors are minimal but provide consistency for the data from mission to mission and also alleviates any gross errors that may have occurred during each flight mission.

A "Calibration Site" was established at the base airport, in this case Umiat, and consists of a primary control station (UMIATAPT) and surveyed kinematic points collected at 1 second intervals over a distance as to cover one full swath of data, 932m. Also, a large building, positioned at the center of the swath was surveyed and used in the calibration process to ensure that there was no displacement of the data, which would represent error in pitch. An approximate 1.5 mile flight line was then flown twice in opposing directions, centered over the kinematic points and the building, once at the start of mission, and a second time at the end of mission.

## Ground Truthing

For this project Ground Truthing (GT) points were observed and processed by the Alaska DOT, and provided to Airborne Imaging in three files, each representing a different survey methodology. The first, DIGIPTS.csv, was described to contain 13 digiglobe photo ID points, the second, PANELS.csv, contains 36 photo target points, and KMIPTS.csv contains 1896 ground truth points observed by either kinematic or RTK.



The following statistics reflect results when comparing the GT points to the final processed LiDAR data set:

	DIGIPTS	PANELS	KMIPTS
Average dz	-0.124	-0.209	-0.013
Minimum dz	-0.163	-0.685	-0.519
Maximum dz	-0.076	0.008	0.889
Average magnitude	0.124	0.209	0.083
Root mean square	0.129	0.283	0.102
Std deviation	0.044	0.193	0.101

The statistics are also presented in graphs and can be found in Appendix C. The statistics for the DIGIPTS file represent only three points that fall within the LiDAR data and therefore do not provide an overall indication of the LiDAR data quality. Also, points within the PANELS file indicate that there are problems associated with elevations for at least 11 of the 36 points, which miss tie to the LiDAR from -0.258 to -0.685m. An additional 14 elevations fall in the -0.100 to -0.200m range, leaving only 11 points with elevations within the -0.100m range. All 36 points are above the LiDAR (except 1 point at +0.008m) and the 11 points with the largest differences appear to be randomly distributed and are generally located where terrain is flat with no vegetation, suggesting that the published elevations may not represent "ground" measurements.

The KMIPTS file containing 1896 points result in differences that are expected with a clean LiDAR data set, with only three points that fall outside specified tolerances. The 1896 points are located in well distributed clusters throughout the project area, and as the graph illustrates points observed on smooth hard surfaces, such as the runway at Umiat Airport, and the main road adjacent to Galbraith Lake, the noise is minimal with the differences plotting in a narrow 0.100m band (all points just after 800 to 1800 on the right half of the graph). These points do however indicate a slight bias with the LiDAR data being lower by approximately 0.100m. All points from 0 to 800 (left side of the graph) represent points observed on more natural terrain as indicated by the noise amplitude of +/- 0.200m, which is expected. The first 800 points also indicate a bias, but in the opposite direction with the LiDAR data sitting higher by approximately 0.100m.

Setting aside the statistics for the DIGIPTS & PANEL point differences, the final comparison results for the KMIPTS suggest that the accuracy of the LiDAR data falls well within quoted accuracies required for the project.



## Deliverables

The final LiDAR data set was delivered to Kodiak Mapping on August 14, 2009 in both scaled and ground based coordinates. Deliverables were provided in the following formats:

Alaska State Plane Zone 4  
XYZ ASCII – All Points  
XYZ ASCII – 1<sup>st</sup> Returns  
XYZ ASCII – Ground Classified  
XYZ ASCII – 25 foot Bare Earth Gridded Model  
Alaska State Plane Zone 4 – Ground Based Coordinates  
XYZ ASCII – All Points  
XYZ ASCII – 1<sup>st</sup> Returns  
XYZ ASCII – Ground Classified (Sept 16, 2009)



## Appendix A

### Overview Map

**3046 Foothills West Transportation Corridor LiDAR acquisition Report for Alaska DOT, 12/18/2009**

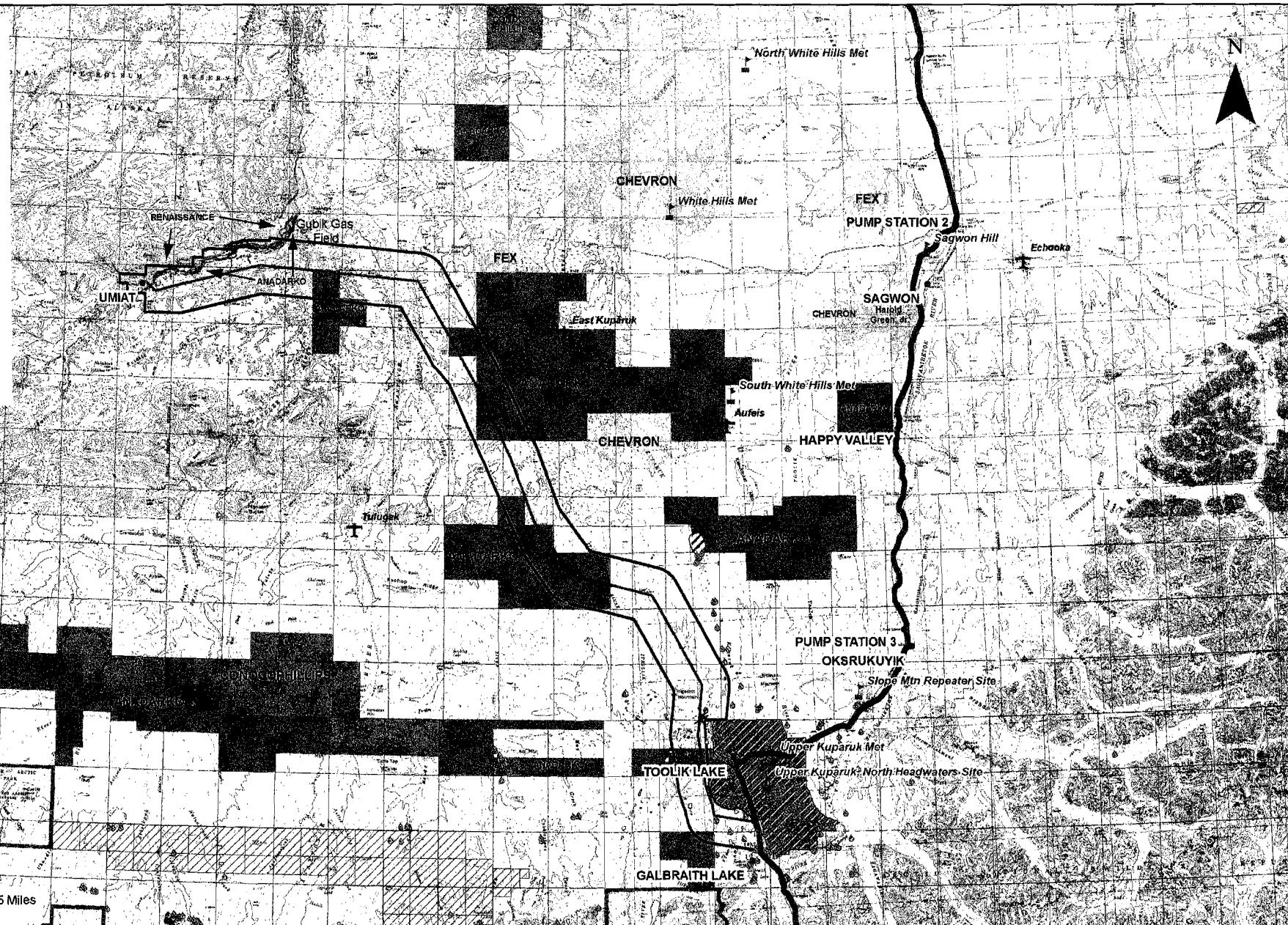
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*Airborne Imaging inc, A Clean Harbors Company*

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Telephone (403) 215-2960 · Fax (403) 243-8681 · [www.airborneimaginginc.com](http://www.airborneimaginginc.com)

**Legend**

- Town Point
- Abandoned Airports
- ▲ UAF Met Stations
- Galbraith Route
- Dalton Highway
- Toolik Research Plots (2008)
- Toolik Research Lakes
- Toolik Avoidance Area
- Galbraith Corridor
- Active State Lease Tracts**
- Anadarko Petroleum Corporation
- Chevron Corporation
- ConocoPhillips Alaska, Inc.
- FEX L.P.
- Harold Green, Jr.
- Renaissance Umiet, LLC
- Oil & Gas Accumulations







## **Appendix B**

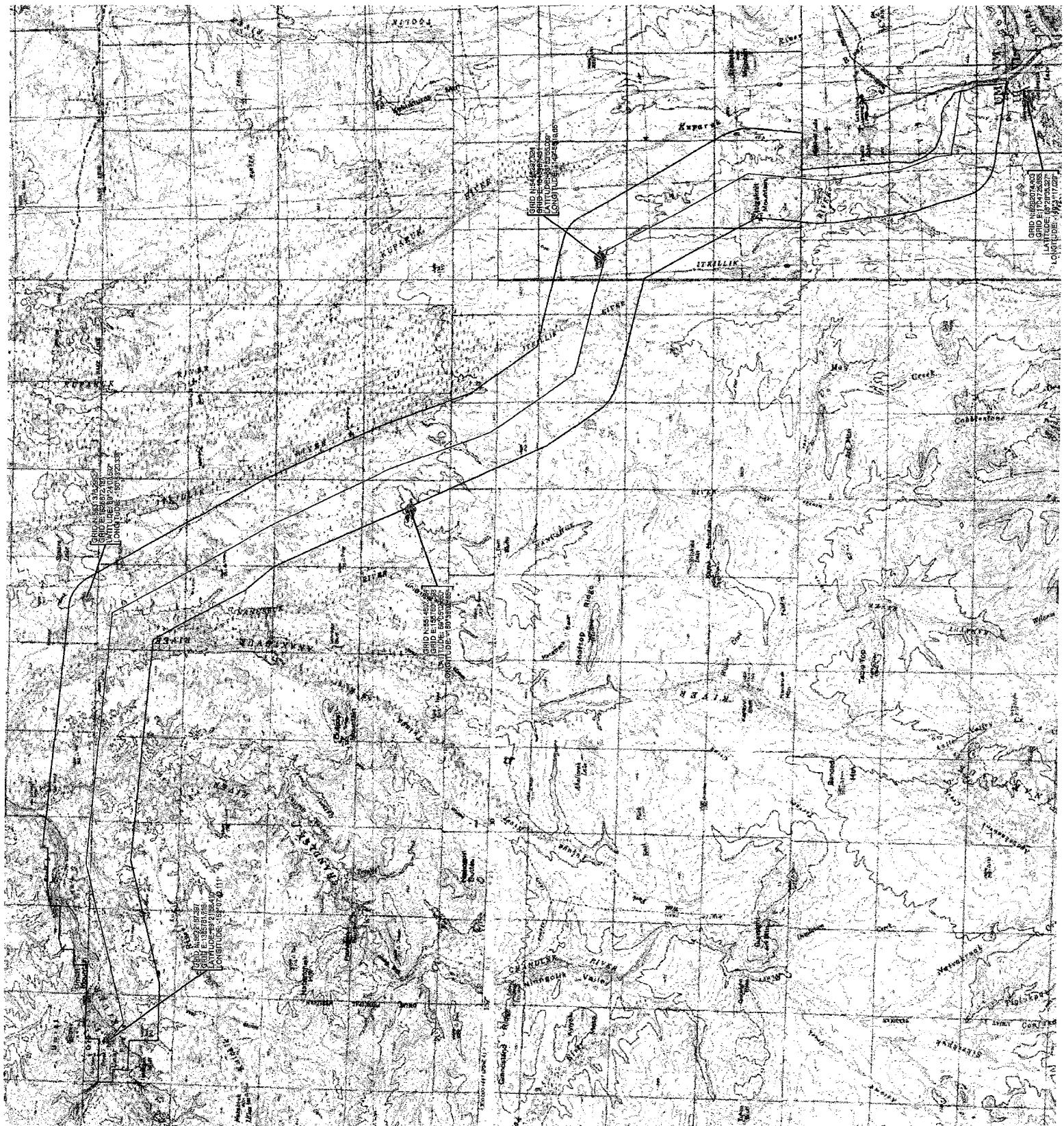
### **Control Network**

**3046 Foothills West Transportation Corridor LiDAR acquisition Report for Alaska DOT, 12/18/2009**

---

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# Network Adjustment

[www.MOVE3.com](http://www.MOVE3.com)

(c) 1993-2008 Grontmij

Licensed to Leica Geosystems AG

Created: 06/29/2009 16:05:29

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## Project Information

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Project name:	FoothillsField2
Date created:	06/29/2009 11:26:51
Time zone:	-8h 00'
Coordinate system name:	WGS 1984
Application software:	LEICA Geo Office 7.0
Processing kernel:	MOVE3 4.0.1

---

## General Information

---

### Adjustment

Type:	Constrained
Dimension:	3D
Coordinate system:	WGS 1984
Height mode:	Ellipsoidal

Number of iterations:	1
Maximum coord correction in last iteration:	0.0000 m
	<input checked="" type="checkbox"/> (tolerance is met)

### Stations

Number of (partly) known stations:	3
Number of unknown stations:	3
Total:	6

### Observations

GPS coordinate differences:	63 (21 baselines)
Known coordinates:	9
Total:	72

### Unknowns

Coordinates:	18
Total:	18

Degrees of freedom:	54
---------------------	----

### Testing

Alfa (multi dimensional):	0.5617
Alfa 0 (one dimensional):	5.0 %
Beta:	80.0 %
Sigma a-priori (GPS):	10.0
Critical value W-test:	1.96
Critical value T-test (2-dimensional):	2.42
Critical value T-test (3-dimensional):	1.89
Critical value F-test:	0.96

F-test:

1106.07

 (rejected)

Results based on a-posteriori variance factor

**Input data****Approximate Coordinates**

Station	Latitude	Longitude	Height [m]	
ARUK	68° 53' 52.86933" N	149° 56' 17.14480" W	626.6991	
GBHA	68° 28' 49.93692" N	149° 29' 40.98097" W	816.4230	Known in Position and Height
LIEB	69° 05' 01.23999" N	150° 37' 55.18471" W	324.9421	
MUSKOXEN	69° 08' 58.15065" N	148° 49' 53.83767" W	295.3797	Known in Position and Height
OKPIK	69° 24' 07.56653" N	150° 53' 20.31331" W	158.3004	
UMIATAPT	69° 22' 12.53593" N	152° 08' 29.40598" W	79.9557	Known in Position and Height

**Adjustment Results****Coordinates**

Station		Coordinate	Corr	Sd	
ARUK	Latitude	68° 53' 52.86925" N	-0.0024 m	0.0096 m	
	Longitude	149° 56' 17.14501" W	-0.0023 m	0.0070 m	
	Height	626.6736 m	-0.0255 m	0.0219 m	
GBHA	Latitude	68° 28' 49.93692" N	0.0000 m	-	fixed
	Longitude	149° 29' 40.98097" W	0.0000 m	-	fixed
	Height	816.4230 m	0.0000 m	-	fixed
LIEB	Latitude	69° 05' 01.23990" N	-0.0030 m	0.0086 m	
	Longitude	150° 37' 55.18497" W	-0.0029 m	0.0062 m	
	Height	324.9158 m	-0.0263 m	0.0196 m	
MUSKOXEN	Latitude	69° 08' 58.15065" N	0.0000 m	-	fixed
	Longitude	148° 49' 53.83767" W	0.0000 m	-	fixed
	Height	295.3797 m	0.0000 m	-	fixed
OKPIK	Latitude	69° 24' 07.56642" N	-0.0032 m	0.0104 m	
	Longitude	150° 53' 20.31360" W	-0.0032 m	0.0075 m	
	Height	158.2755 m	-0.0249 m	0.0241 m	
UMIATAPT	Latitude	69° 22' 12.53593" N	0.0000 m	-	fixed
	Longitude	152° 08' 29.40598" W	0.0000 m	-	fixed
	Height	79.9557 m	0.0000 m	-	fixed

**Observations and Residuals**

	Station	Target	Adj obs	Resid	Resid (ENH)	Sd
DX	GBHA	UMIATAPT	29251.6448 m	0.0261 m	0.0027 m	0.0000 m
DY			138034.9366 m	0.0123 m	0.0013 m	0.0000 m
DZ			34998.0644 m	-0.0693 m	-0.0750 m	0.0000 m
DX	MUSKOXEN	UMIATAPT	-44368.5919 m	0.0244 m	0.0056 m	0.0000 m
DY			125244.5474 m	0.0082 m	0.0220 m	0.0000 m
DZ			8515.8822 m	-0.0041 m	-0.0128 m	0.0000 m
DX	MUSKOXEN	GBHA	-73620.2367 m	-0.0324 m	0.0032 m	0.0000 m
DY			-12790.3892 m	-0.0233 m	-0.0107 m	0.0000 m
DZ			-26482.1822 m	0.0743 m	0.0836 m	0.0000 m
DX	GBHA	OKPIK	55640.4039 m	0.0227 m	0.0021 m	0.0091 m
DY			96339.3074 m	0.0109 m	0.0088 m	0.0080 m
DZ			36326.3339 m	-0.0397 m	-0.0461 m	0.0245 m
DX	GBHA	ARUK	28454.1840 m	0.0260 m	-0.0009 m	0.0084 m
DY			37451.1689 m	0.0163 m	0.0108 m	0.0074 m
DZ			16749.0794 m	-0.0484 m	-0.0563 m	0.0223 m

DX	OKPIK	LIEB	-24068.7332 m	0.0076 m	-0.0021 m	0.0107 m
DY			-25126.8010 m	0.0067 m	0.0091 m	0.0093 m
DZ			-12433.5065 m	-0.0007 m	-0.0041 m	0.0285 m
DX	OKPIK	ARUK	-27186.2199 m	-0.0131 m	0.0051 m	0.0115 m
DY			-58888.1385 m	-0.0131 m	-0.0036 m	0.0102 m
DZ			-19577.2545 m	0.0373 m	0.0412 m	0.0311 m
DX	UMIATAPT	OKPIK	26388.7591 m	-0.0127 m	-0.0020 m	0.0091 m
DY			-41695.6292 m	-0.0044 m	-0.0024 m	0.0080 m
DZ			1328.2695 m	0.0287 m	0.0315 m	0.0245 m
DX	UMIATAPT	ARUK	-797.4608 m	-0.0121 m	-0.0041 m	0.0084 m
DY			-100583.7677 m	-0.0018 m	-0.0044 m	0.0074 m
DZ			-18248.9850 m	0.0182 m	0.0212 m	0.0223 m
DX	ARUK	LIEB	3117.4867 m	0.0064 m	0.0019 m	0.0100 m
DY			33761.3375 m	0.0015 m	0.0120 m	0.0088 m
DZ			7143.7480 m	0.0171 m	0.0137 m	0.0266 m
DX	GBHA	LIEB	31571.6706 m	0.0124 m	0.0000 m	0.0076 m
DY			71212.5064 m	0.0073 m	0.0021 m	0.0065 m
DZ			23892.8274 m	-0.0308 m	-0.0339 m	0.0199 m
DX	GBHA	LIEB	31571.6706 m	0.0124 m	-0.0043 m	0.0076 m
DY			71212.5064 m	0.0124 m	-0.0060 m	0.0065 m
DZ			23892.8274 m	-0.0594 m	-0.0614 m	0.0199 m
DX	MUSKOXEN	OKPIK	-17979.8328 m	-0.0058 m	0.0202 m	0.0091 m
DY			83548.9182 m	-0.0271 m	-0.0173 m	0.0080 m
DZ			9844.1517 m	0.0014 m	0.0081 m	0.0245 m
DX	MUSKOXEN	OKPIK	-17979.8328 m	-0.0107 m	-0.0022 m	0.0091 m
DY			83548.9182 m	-0.0039 m	-0.0007 m	0.0080 m
DZ			9844.1517 m	0.0273 m	0.0295 m	0.0245 m
DX	MUSKOXEN	ARUK	-45166.0527 m	-0.0039 m	0.0070 m	0.0084 m
DY			24660.7797 m	-0.0106 m	0.0049 m	0.0074 m
DZ			-9733.1028 m	0.0369 m	0.0376 m	0.0223 m
DX	MUSKOXEN	ARUK	-45166.0527 m	-0.0094 m	-0.0046 m	0.0084 m
DY			24660.7797 m	-0.0003 m	-0.0031 m	0.0074 m
DZ			-9733.1028 m	0.0127 m	0.0148 m	0.0223 m
DX	UMIATAPT	LIEB	2320.0258 m	-0.0184 m	-0.0009 m	0.0076 m
DY			-66822.4302 m	-0.0087 m	-0.0069 m	0.0065 m
DZ			-11105.2370 m	0.0345 m	0.0394 m	0.0199 m
DX	UMIATAPT	LIEB	2320.0258 m	-0.0092 m	0.0027 m	0.0076 m
DY			-66822.4302 m	-0.0080 m	-0.0082 m	0.0065 m
DZ			-11105.2370 m	0.0082 m	0.0119 m	0.0199 m
DX	MUSKOXEN	LIEB	-42048.5661 m	-0.0033 m	0.0070 m	0.0076 m
DY			58422.1172 m	-0.0102 m	-0.0037 m	0.0065 m
DZ			-2589.3548 m	0.0109 m	0.0131 m	0.0199 m
DX	MUSKOXEN	LIEB	-42048.5661 m	-0.0170 m	-0.0020 m	0.0076 m
DY			58422.1172 m	-0.0079 m	-0.0070 m	0.0065 m
DZ			-2589.3548 m	0.0293 m	0.0340 m	0.0199 m
DX	MUSKOXEN	LIEB	-42048.5661 m	-0.0084 m	0.0009 m	0.0076 m
DY			58422.1172 m	-0.0062 m	-0.0070 m	0.0065 m
DZ			-2589.3548 m	0.0077 m	0.0109 m	0.0199 m

**GPS Baseline Vector Residuals**

	Station	Target	Adj vector [m]	Resid [m]	Resid [ppm]
DV	GBHA	UMIATAPT	145375.9504	0.0751	0.5
DV	MUSKOXEN	UMIATAPT	133143.8653	0.0260	0.2
DV	MUSKOXEN	GBHA	79276.9783	0.0843	1.1
DV	GBHA	OKPIK	117032.9835	0.0470	0.4
DV	GBHA	ARUK	49927.5705	0.0573	1.1
DV	OKPIK	LIEB	36949.3184	0.0102	0.3
DV	OKPIK	ARUK	67750.8104	0.0417	0.6

DV	UMIATAPT	OKPIK	49362.4999	0.0317	0.6
DV	UMIATAPT	ARUK	102228.9378	0.0220	0.2
DV	ARUK	LIEB	34649.3834	0.0183	0.5
DV	GBHA	LIEB	81479.1916	0.0340	0.4
DV	GBHA	LIEB	81479.1916	0.0619	0.8
DV	MUSKOXEN	OKPIK	86026.7601	0.0278	0.3
DV	MUSKOXEN	OKPIK	86026.7601	0.0296	0.3
DV	MUSKOXEN	ARUK	52372.3177	0.0386	0.7
DV	MUSKOXEN	ARUK	52372.3177	0.0158	0.3
DV	UMIATAPT	LIEB	67778.6544	0.0400	0.6
DV	UMIATAPT	LIEB	67778.6544	0.0147	0.2
DV	MUSKOXEN	LIEB	72027.2896	0.0153	0.2
DV	MUSKOXEN	LIEB	72027.2896	0.0347	0.5
DV	MUSKOXEN	LIEB	72027.2896	0.0130	0.2

### External Reliability

Station		Ext Rel [m]	Station	Target
ARUK	Latitude	0.0128	DZ	GBHA
	Longitude	-0.0101	DY	GBHA
	Height	0.0322	DZ	GBHA
GBHA	Latitude	0.0183	Latitude	GBHA
	Longitude	0.0184	Longitude	GBHA
	Height	0.0319	Height	GBHA
LIEB	Latitude	0.0086	Latitude	MUSKOXEN
	Longitude	0.0080	Longitude	MUSKOXEN
	Height	0.0201	DZ	GBHA
MUSKOXEN	Latitude	0.0212	Latitude	MUSKOXEN
	Longitude	0.0198	Longitude	MUSKOXEN
	Height	0.0378	Height	MUSKOXEN
OKPIK	Latitude	0.0133	DZ	GBHA
	Longitude	-0.0110	DY	GBHA
	Height	0.0339	DZ	GBHA
UMIATAPT	Latitude	0.0163	Latitude	UMIATAPT
	Longitude	0.0179	Longitude	UMIATAPT
	Height	0.0267	Height	UMIATAPT

### Absolute Error Ellipses (2D - 39.4% 1D - 68.3%)

Station	A [m]	B [m]	A/B	Phi	Sd Hgt [m]
ARUK	0.0097	0.0070	1.4	-3°	0.0219
GBHA	0.0000	0.0000	1.0	90°	0.0000
LIEB	0.0086	0.0062	1.4	-2°	0.0196
MUSKOXEN	0.0000	0.0000	1.0	90°	0.0000
OKPIK	0.0104	0.0075	1.4	-3°	0.0241
UMIATAPT	0.0000	0.0000	1.0	90°	0.0000

### Testing and Estimated Errors

#### Coordinate Tests

Station		MDB	BNR	W-Test	T-Test	
GBHA	Latitude	0.0183 m	999.9	0.00	15.36	⚠
	Longitude	0.0184 m	999.9	0.00		
	Height	0.0319 m	999.9	0.00		
MUSKOXEN	Latitude	0.0212 m	999.9	0.00		0.75
	Longitude	0.0198 m	999.9	0.00		
	Height	0.0378 m	999.9	0.00		
UMIATAPT	Latitude	0.0163 m	999.9	0.00		8.50

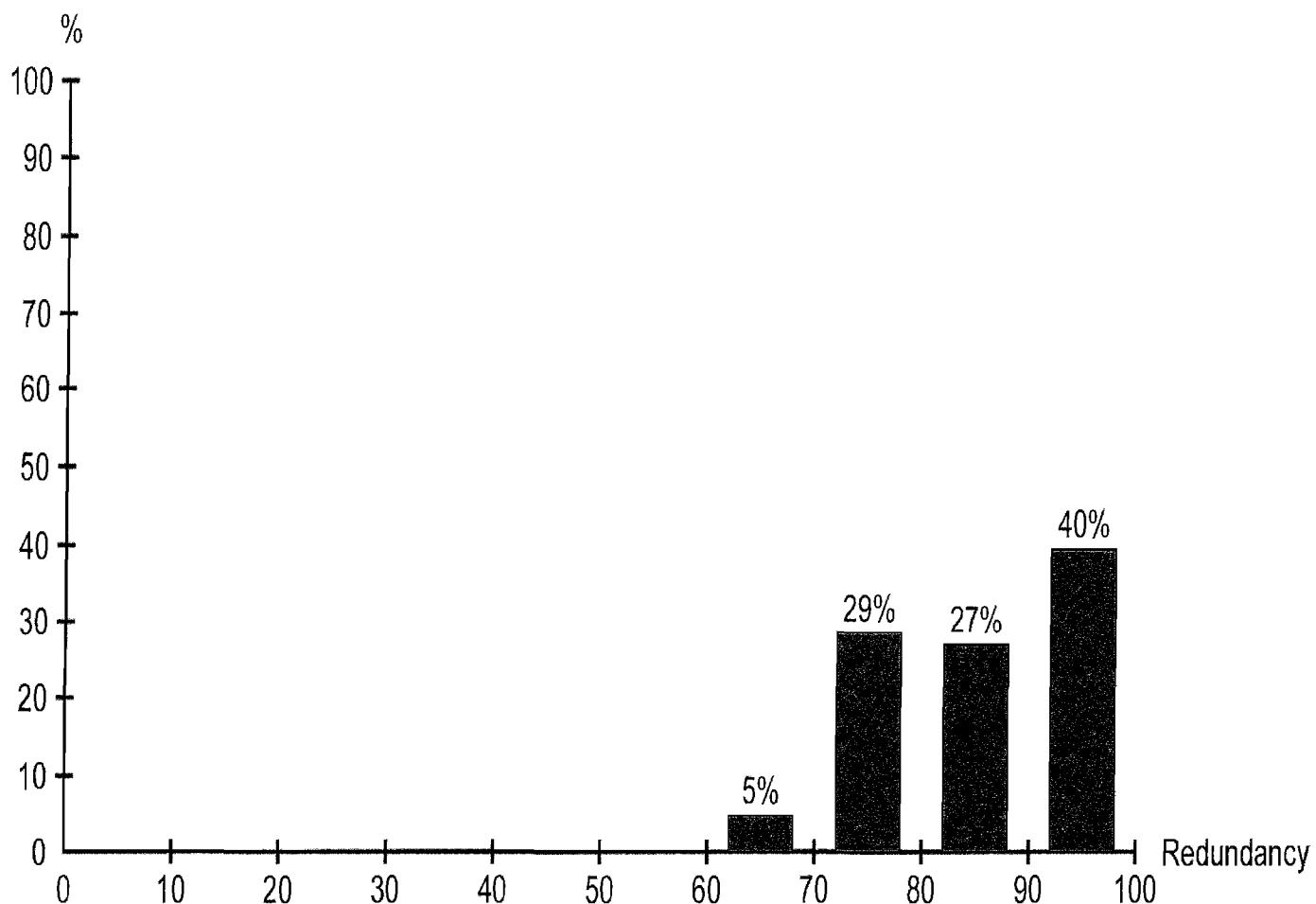


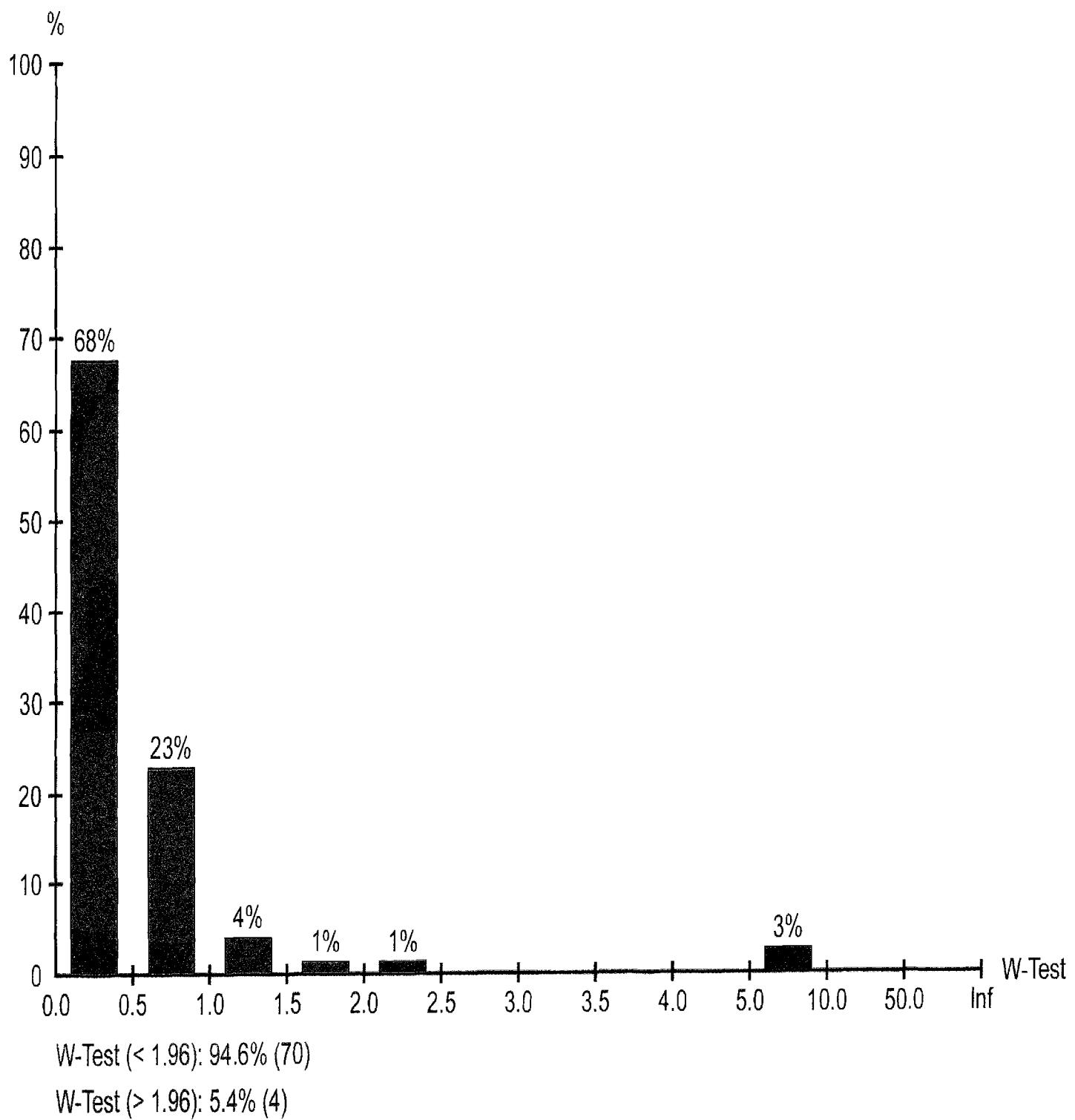
	Longitude	0.0179 m	999.9	0.00
	Height	0.0267 m	999.9	0.00

## Observation Tests

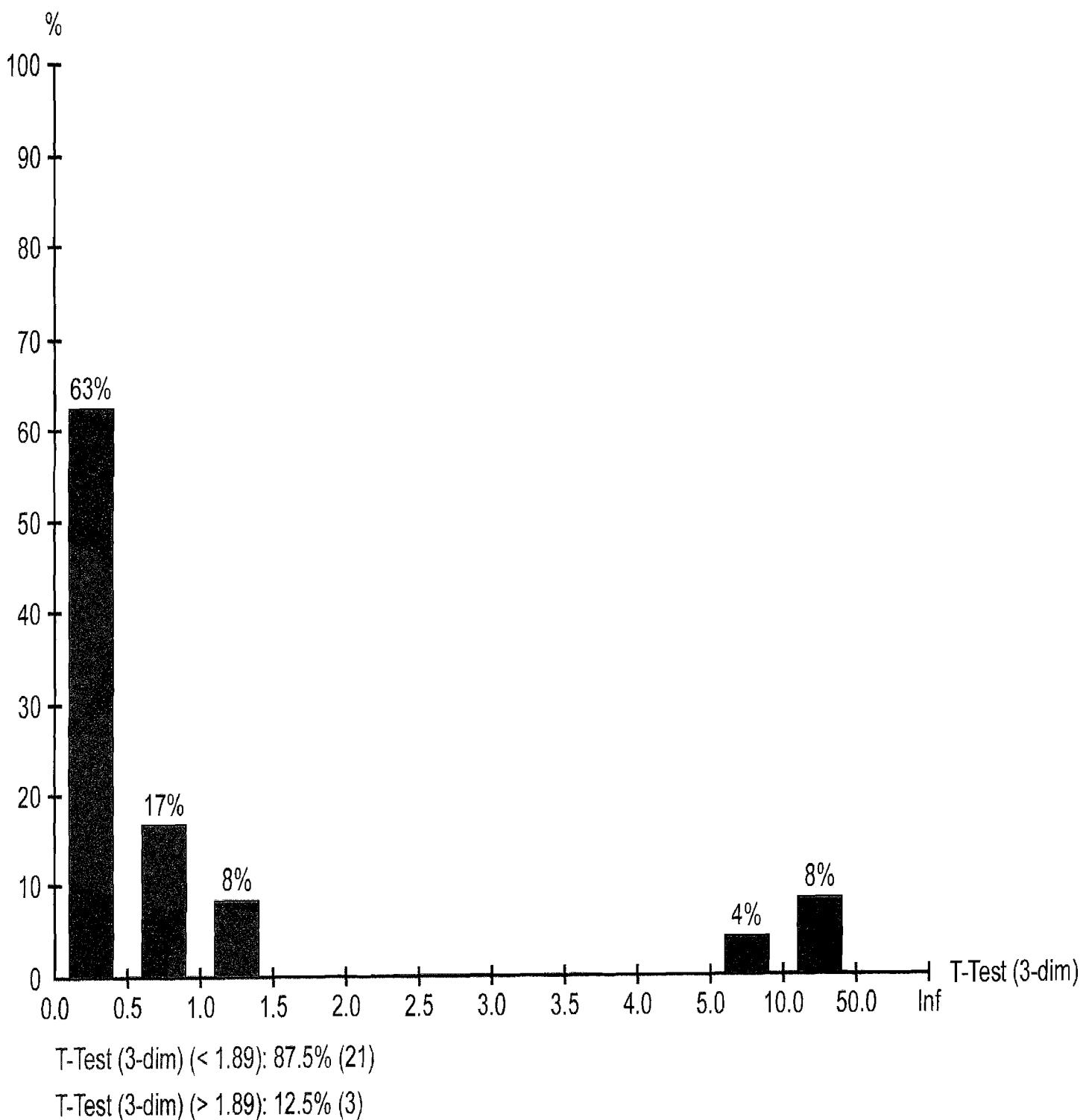
	Station	Target	MDB	Red	BNR	W-Test	T-Test	
DX	GBHA	UMIATAPT	0.0230 m	99	0.0	0.02	11.21	
DY			0.0334 m	99	0.0	-0.72		
DZ			0.0288 m	99	0.0	-5.10		
DX	MUSKOXEN	UMIATAPT	0.0314 m	99	0.0	2.00		1.44
DY			0.0387 m	99	0.0	0.31		
DZ			0.0372 m	99	0.0	0.71		
DX	MUSKOXEN	GBHA	0.0717 m	99	0.0	-0.78		0.83
DY			0.0663 m	99	0.0	-0.69		
DZ			0.1897 m	99	0.0	0.73		
DX	GBHA	OKPIK	0.0561 m	75	1.6	1.10		0.84
DY			0.0501 m	74	1.6	0.55		
DZ			0.1532 m	76	1.6	-0.44		
DX	GBHA	ARUK	0.0516 m	75	1.6	1.32		1.49
DY			0.0468 m	74	1.6	0.90		
DZ			0.1369 m	74	1.6	-0.66		
DX	OKPIK	LIEB	0.0629 m	71	1.8	0.40		0.13
DY			0.0557 m	70	1.8	0.40		
DZ			0.1663 m	70	1.8	0.15		
DX	OKPIK	ARUK	0.0781 m	80	1.4	-0.34		0.21
DY			0.0740 m	83	1.3	-0.42		
DZ			0.2355 m	85	1.2	0.38		
DX	UMIATAPT	OKPIK	0.0582 m	77	1.5	-0.55		0.26
DY			0.0525 m	77	1.5	-0.16		
DZ			0.1549 m	76	1.5	0.44		
DX	UMIATAPT	ARUK	0.0761 m	90	0.9	-0.40		0.08
DY			0.0667 m	89	0.9	0.03		
DZ			0.1944 m	89	1.0	0.16		
DX	ARUK	LIEB	0.0561 m	66	2.0	0.59		0.20
DY			0.0510 m	66	2.0	0.07		
DZ			0.1512 m	67	2.0	0.62		
DX	GBHA	LIEB	0.0611 m	87	1.0	0.41		0.21
DY			0.0541 m	87	1.1	0.28		
DZ			0.1616 m	87	1.0	-0.40		
DX	GBHA	LIEB	0.0564 m	85	1.2	0.22		0.64
DY			0.0512 m	85	1.1	0.59		
DZ			0.1518 m	85	1.1	-1.02		
DX	MUSKOXEN	OKPIK	0.1536 m	97	0.5	-0.01		0.11
DY			0.1326 m	97	0.5	-0.57		
DZ			0.3934 m	97	0.5	-0.09		
DX	MUSKOXEN	OKPIK	0.0574 m	77	1.5	-0.46		0.21
DY			0.0529 m	78	1.5	-0.11		
DZ			0.1556 m	76	1.5	0.44		
DX	MUSKOXEN	ARUK	0.0529 m	77	1.5	0.11		0.42
DY			0.0494 m	78	1.5	-0.69		
DZ			0.1443 m	78	1.5	0.82		
DX	MUSKOXEN	ARUK	0.0604 m	83	1.2	-0.44		0.09
DY			0.0552 m	83	1.2	0.09		
DZ			0.1597 m	83	1.3	0.13		
DX	UMIATAPT	LIEB	0.0685 m	90	0.9	-0.60		0.27
DY			0.0601 m	90	0.9	-0.27		
DZ			0.1795 m	90	0.9	0.32		
DX	UMIATAPT	LIEB	0.0710 m	91	0.9	-0.30		0.08

DY			0.0632 m	91	0.9	-0.31	
DZ			0.1859 m	90	0.9	0.01	
DX	MUSKOXEN	LIEB	0.0704 m	91	0.9	-0.02	0.09
DY			0.0611 m	90	0.9	-0.48	
DZ			0.1778 m	90	0.9	0.11	
DX	MUSKOXEN	LIEB	0.0618 m	88	1.0	-0.64	0.28
DY			0.0560 m	88	1.0	-0.26	
DZ			0.1656 m	88	1.0	0.28	
DX	MUSKOXEN	LIEB	0.0711 m	91	0.9	-0.28	0.06
DY			0.0647 m	91	0.8	-0.23	
DZ			0.1929 m	91	0.8	0.00	

**Redundancy:****W-Test:**



T-Test (3-dimensional):



#### Estimated Errors For Stations With Rejected T-Tests (max 10)

Station		T-Test	Fact	Est err
GBHA	Latitude	15.36	2.9	0.0046 m
	Longitude			-0.0003 m
	Height			-0.0778 m
UMIATAPT	Latitude	8.50	2.1	-0.0082 m
	Longitude			-0.0015 m
	Height			0.0490 m





## **Appendix C**

## **Ground Truth Results**

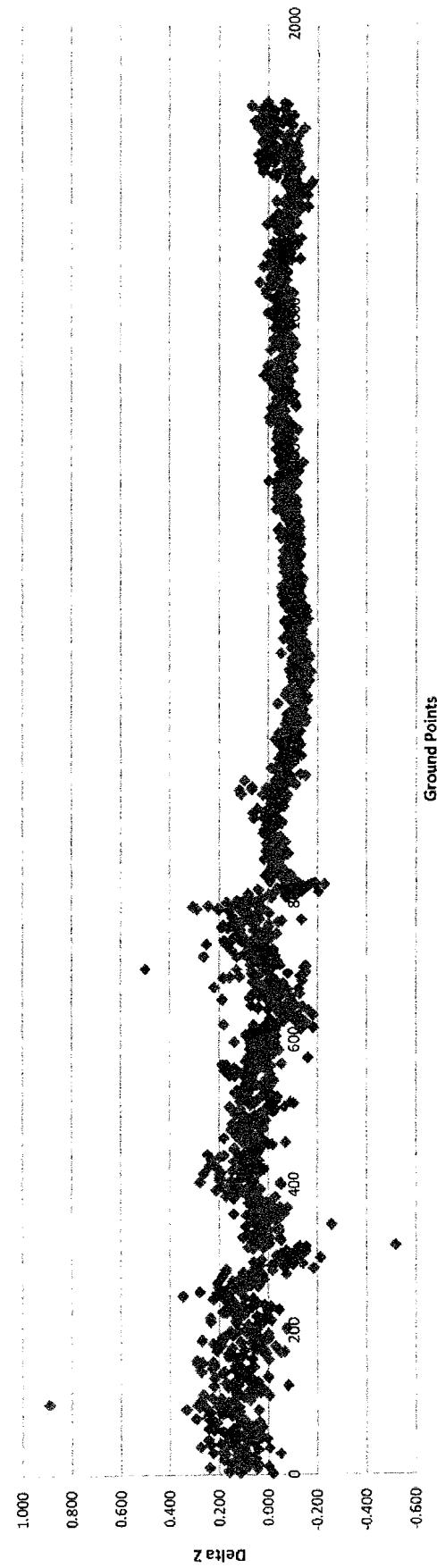
**3046 Foothills West Transportation Corridor LiDAR acquisition Report for Alaska DOT, 12/18/2009**

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*Airborne Imaging inc, A Clean Harbors Company*

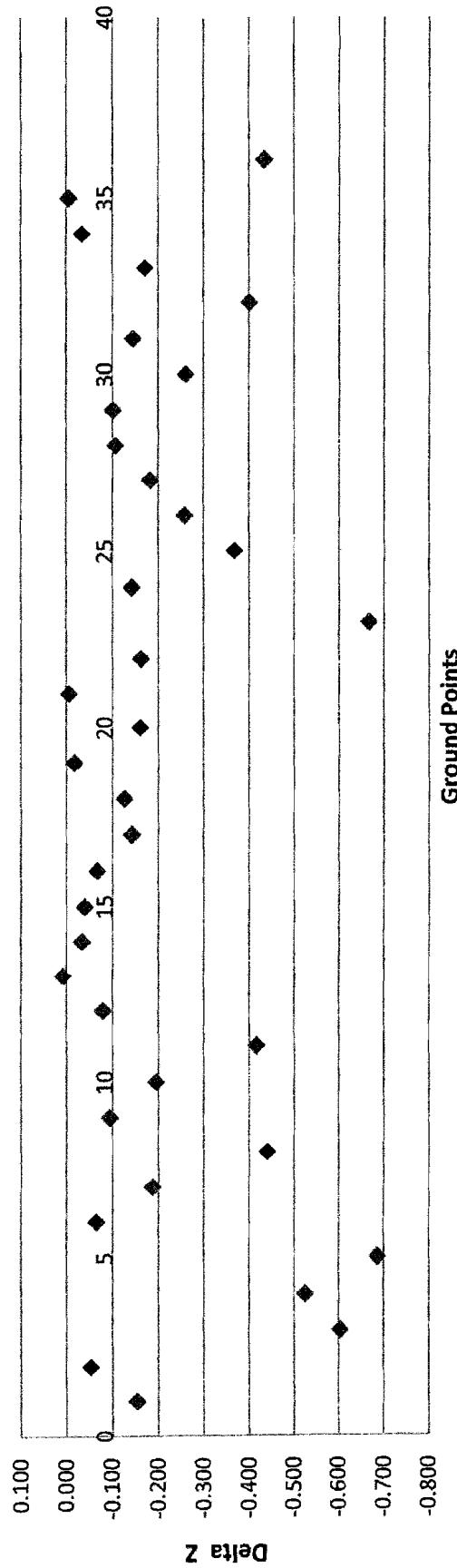
130, 885 – 42<sup>nd</sup> Avenue SE · Calgary, Alberta, Canada T2G 1Y8  
Telephone (403) 215-2960 · Fax (403) 243-8681 · [www.airborneimaginginc.com](http://www.airborneimaginginc.com)

### KMIPTS Ground Truth Vs LiDAR Elevations



Ground Points

### PANEL Ground Truth Vs LiDAR Elevations



# APPENDIX D

♀KMI

8/31/2009

Foothills West Flight Lines 1 thru 3  
AeroSys-AT Bundle Adjustment, <PRO Pkg> AeroSys-AT v7.2 © 1989-2009 MHS  
Project ID: Foothills 1-3

---

----- General Statistics -----

---

No. of Cameras used: 1  
No. of Photos: 30  
No. of Object Points: 130  
No. of A-GPS Drift Params: 0  
Total Unknowns: 570  
  
No. of Image Points: 372  
No. of Surveying Obsv: 0  
No. of APs: 0

DOFs due to camera center obsrv: 60  
DOFs due to ground control pts: 18  
DOFs due to image coord obsrv: 744

Total Degrees of Freedom (Nobsrv - Nunkns): 252

---

----- Block Reliability Statistic (Average Degrees of Freedom) -----

for single strip blocks, want Avg\_DOF >= (~) 0.25  
for corridor multi-strip blocks, want Avg\_DOF >= (~) 0.35  
for rectangular blocks, want Avg\_DOF >= 0.50

Average Degrees of Freedom (DOFs / Nunkns): 0.44

---

----- Image Ray Distribution -----

Number of 2-Fold points =	69	Pct =	53.1
Number of 3-Fold points =	42	Pct =	32.3
Number of 4-Fold points =	2	Pct =	1.5
Number of 5-Fold points =	2	Pct =	1.5
Number of 6-Fold points =	15	Pct =	11.5
Number of 7-Fold points =	0	Pct =	0.0
Number of 8-Fold points =	0	Pct =	0.0
Number of 9-Fold points =	0	Pct =	0.0
Number of 10-Fold points =	0	Pct =	0.0
Number of 11-Fold points =	0	Pct =	0.0
Number of 12-Fold points =	0	Pct =	0.0

-----  
Final Sigma0 Statistic (Post-Adjustment Standard Deviation of Unit Weight)  
-----

For a reliable block adjustment, the final Sigma0 must reside within the Chi-squared interval surrounding the value of 1.0

The size of this statistical interval, i.e., [Low\_So <--- 1.0 ---> High\_So] is determined by the total number of DOFs in the adjustment.

The larger total DOFs, the smaller the Chi-squared interval.

An optimum adjustment solution can be obtained by balancing the observational weights to achieve a Final Sigma0 of exactly 1.0 . . . typically the weights of the photocoordinate observations are balanced against the ground control weights.

Final Sigma0 (for this adjustment) = 1.00

Override Option Mode = ON

Scal ed (photocoordinate weight) Sx = 0.0061 (units = mm)

Scal ed (photocoordinate weight) Sy = 0.0061 (units = mm)

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-----  
Standardized Photocoordinate Residuals: Wi = Vi / (sqrt(1/WT - A(N\*\*-1)AT) \* Sigma0)

Points| (Pht No., Wx, Wy) Note: Wx & Wy are UNIT-LESS statistics; Outlier Criterion Wi > 3.29

0 possible outliers/outsiders detected

-----  
\* Denotes that Critical Value of 3.29 exceeded, i.e. possible gross error

Maximum Standardized Residual = 2.66 from Point No. REL\_3061 on Photo No. 305

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-----  
Population Distribution of Standardized Residuals in X

Bl under	0
-3.20	0
-3.00	0

-2.80	0
-2.60	0
-2.40	0
-2.20	0
-2.00	0
-1.80	0
-1.60	1
-1.40	0
-1.20	2
-1.00	4
-0.80	11
-0.60	20
-0.40	37
-0.20	69
0.00	86
0.20	80
0.40	32
0.60	16
0.80	9
1.00	4
1.20	1
1.40	0
1.60	0
1.80	0
2.00	0
2.20	0
2.40	0
2.60	0
2.80	0
3.00	0
3.20	0
BI under	0

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-----  
Population Distribution of Standardized Residuals in Y

BI under	0
-3.20	0
-3.00	0
-2.80	0
-2.60	1
-2.40	0
-2.20	0
-2.00	1
-1.80	7
-1.60	3
-1.40	12

-1.20	13	:	:	:	:	:
-1.00	14	:	:	:	:	:
-0.80	21	:	:	:	:	:
-0.60	14	:	:	:	:	:
-0.40	21	:	:	:	:	:
-0.20	47	:	:	:	:	:
0.00	69	:	:	:	:	:
0.20	49	:	:	:	:	:
0.40	25	:	:	:	:	:
0.60	16	:	:	:	:	:
0.80	15	:	:	:	:	:
1.00	8	:	:	:	:	:
1.20	7	:	:	:	:	:
1.40	4	:	:	:	:	:
1.60	6	:	:	:	:	:
1.80	5	:	:	:	:	:
2.00	3	.	.	.	.	.
2.20	8	:	:	:	:	:
2.40	1	.	.	.	.	.
2.60	2	.	.	.	.	.
2.80	0	.	.	.	.	.
3.00	0	.	.	.	.	.
3.20	0	.	.	.	.	.
BI under	0	.	.	.	.	.

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<----->  
< Ten Largest Photocoordinate Residuals >  
< PointNo, PhotoNo, Vx, Vy (units=mm) >

REL_3091	308	-0.001	0.013
REL_3051	304	-0.001	0.012
REL_3061	305	0.003	0.013
REL_2071	206	0.004	0.011
REL_1051	104	0.001	-0.014
REL_2091	208	0.001	0.012
REL_1085	107	-0.003	0.011
REL_2081	207	-0.002	0.011
REL_2031	202	0.001	0.012
REL_3101	309	0.005	0.011

--- Root Mean Square Image Coordinate Errors, ---  
--- Average Magnitude of Residuals (AMR) ---  
--- and ---

```

----- Mean of Image Coordinate Errors -----
----- i mage system units = microns -----
----- Overall Ctrl Pts Pass Pts -----
----- Rays = 372 15 357 -----
----- RMS Vx = 1.6 3.7 1.5 -----
----- RMS Vy = 4.4 3.3 4.4 -----
----- RMS Vxy = 4.7 4.9 4.6 -----
----- AMR Vx = 1.0 2.8 0.9 -----
----- AMR Vy = 3.1 2.6 3.1 -----
----- AMR Vxy = 3.2 3.8 3.2 -----
----- mean Vx = -0.1 -1.2 0.0 -----
----- mean Vy = 0.0 0.9 0.0 -----
----- mean Vxy = 0.0 -0.3 0.0 -----
-----
```

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## Adjusted Control Points & Least Squares Residuals

<----- Object Space or Ground Control Units ----->										<-- Unitless	
Statistics ->		<--- Point ID ---><--- Xg ---><--- Yg ---><--- Zg ---> <Res X> <Res Y> <Res Z> <Std Wx> <Std Wy> <Std Wz>									
1 -0.01	1.05	1336	1712638.008	5301463.747	2913.828	-0.003	0.000	0.008	-0.16		
2 -0.59	1.39	1333	1675772.790	5308688.659	2651.200	0.010	-0.019	0.019	0.35		
3 -0.18	1.63	1335	1709411.501	5311141.016	2915.882	-0.060	-0.006	0.023	-1.90		
4 -0.35	-0.36	1331	1668057.233	5326165.472	3007.620	0.010	-0.011	-0.004	0.39		
5 0.78	0.59	1332	1685981.581	5325751.378	2552.334	-0.011	0.022	0.006	-0.46		

6 1. 68	0. 58	1334	1704522. 581	5320569. 652	2867. 338	-0. 004	0. 047	0. 005	-0. 15
						rms	0. 026	0. 023	0. 013
						amr	0. 016	0. 018	0. 011
						mean	-0. 010	0. 005	0. 009

\*\*#@! --> Denotes an AUTO\_DETECTED gross error

\* Denotes that critical value of 3.29 is exceeded, i.e. possible gross error!

Maximum Standardized Residual = -1. 90 from Control Point No. 1335

-----  
Control Point Root Mean Square Errors -----

-- Axis --- 3D Control --- Horizontal Control --- Vertical Control ---

RMS Vx	0. 026	0. 026
RMS Vy	0. 023	0. 023
RMS Vz	0. 013	0. 013

RMS Vs	0. 178
--------	--------

<--ground coordinate units-->

<----unit-less----->

<Space Intersection Residuals>

< Lst-Sqrs Standardized Wxyz >

< POINT_ID ><Rays>< Dx >< Dy >< Dz ><GCP Type>< Std Wx >< Std Wy >< Std Wz >
--

1336 2 -0. 138 -0. 050 0. 600 FCP -0. 16 -0. 01 1. 05
1333 3 0. 066 -0. 264 0. 548 FCP 0. 35 -0. 59 1. 39
1335 3 -0. 321 -0. 080 0. 453 FCP -1. 90 -0. 18 1. 63
1331 3 0. 057 -0. 056 -0. 060 FCP 0. 39 -0. 35 -0. 36
1332 2 -0. 091 0. 197 -0. 077 FCP -0. 46 0. 78 0. 59
1334 2 -0. 116 0. 363 0. 430 FCP -0. 15 1. 68 0. 58

RMS	0. 159	0. 205	0. 420
-----	--------	--------	--------

0. 183

Project ID: Foothills 1-3

### Final Adjusted Exterior Orientations, Standard Errors and Residuals

49°	0° 21' 9"	175° 0' 3"	12054.650	0. 721	0. 725	0. 617
101	1676015.482	5305952.425				
-0.537	-0. 151	-1. 978				
102	1° 25' 39"	-0° 14' 9"	172° 55' 59"	0° 0' 15"	0° 0' 13"	0° 0' 8"
39"	-0° 14' 9"	172° 55' 59"				1° 25'
102	1681358.200	5305198.886	12089.308	0. 709	0. 697	0. 552
-0.076	0. 347	-2. 040				
304	-0° 23' 42"	0° 59' 15"	350° 3' 44"	0° 0' 14"	0° 0' 14"	0° 0' 7"
42"	0° 59' 15"	350° 3' 44"				-0° 23'
304	1683939.837	5323468.451	12033.271	0. 696	0. 719	0. 502
0.375	-0. 456	-3. 978				
305	-0° 6' 21"	-0° 22' 19"	350° 10' 44"	0° 0' 14"	0° 0' 14"	0° 0' 7"
21"	-0° 22' 19"	350° 10' 44"				-0° 6'
305	1689275.687	5322678.662	11977.783	0. 692	0. 706	0. 499
0.519	-0. 067	-3. 538				
204	-0° 18' 12"	-0° 3' 30"	351° 29' 41"	0° 0' 14"	0° 0' 13"	0° 0' 6"
12"	-0° 3' 30"	351° 29' 41"				-0° 18'
204	1687991.143	5313222.285	12036.566	0. 665	0. 674	0. 522
0.522	0. 155	-2. 611				
203	-0° 28' 36"	-0° 11' 37"	351° 31' 16"	0° 0' 14"	0° 0' 13"	0° 0' 6"
36"	-0° 11' 37"	351° 31' 16"				-0° 28'
203	1682597.801	5314001.962	11996.741	0. 661	0. 667	0. 496
0.409	-0. 330	-2. 780				
103	-0° 4' 14"	0° 35' 18"	173° 42' 45"	0° 0' 15"	0° 0' 14"	0° 0' 8"
14"	0° 35' 18"	173° 42' 45"				-0° 4'
103	1686814.905	5304378.951	12027.958	0. 702	0. 684	0. 599
-1.383	-0. 029	-1. 445				
104	0° 20' 55"	0° 24' 8"	172° 54' 44"	0° 0' 15"	0° 0' 14"	0° 0' 8"
55"	0° 24' 8"	172° 54' 44"				0° 20'
104	1692193.074	5303570.580	11964.107	0. 691	0. 682	0. 612
-0.160	0. 179	-1. 494				
306	0° 17' 60"	-0° 5' 41"	349° 32' 7"	0° 0' 14"	0° 0' 14"	0° 0' 7"
60"	-0° 5' 41"	349° 32' 7"				0° 17'
306	1694654.581	5321879.859	12021.876	0. 712	0. 713	0. 525
0.578	0. 141	-3. 439				
205	-0° 55' 25"	0° 19' 38"	351° 37' 23"	0° 0' 14"	0° 0' 13"	0° 0' 6"
25"	0° 19' 38"	351° 37' 23"				-0° 55'
205	1693368.098	5312397.325	12032.376	0. 662	0. 669	0. 527
0.151	-0. 902	-2. 869				
105	0° 19' 14"	-0° 47' 17"	172° 56' 46"	0° 0' 15"	0° 0' 14"	0° 0' 8"
14"	-0° 47' 17"	172° 56' 46"				0° 19'
105	1697452.014	5302779.630	11986.847	0. 705	0. 694	0. 603
0.466	-0. 340	-1. 881				
307	-0° 47' 30"	-0° 14' 22"	348° 46' 45"	0° 0' 15"	0° 0' 14"	0° 0' 7"
30"	-0° 14' 22"	348° 46' 45"				-0° 47'
307	1700001.030	5320989.238	12041.661	0. 711	0. 704	0. 510
0.668	-0. 639	-3. 224				
308	-0° 54' 24"	-0° 12' 2"	349° 20' 54"	0° 0' 15"	0° 0' 15"	0° 0' 9"
24"	-0° 12' 2"	349° 20' 54"				-0° 54'
308	1705351.841	5320093.896	12077.385	0. 691	0. 710	0. 533

0. 595	-0. 284	-3. 470																		
207	-0° 15' 13"	-0° 6' 46"	352° 3' 48"	352° 3' 48"	0° 0' 14"	0° 0' 13"	0° 0' 6"	-0° 15'												
13"	-0° 6' 46"	352° 3' 48"																		
207	1704144. 912	5310932. 788	12042. 595		0. 665	0. 664	0. 436													
1. 055	-0. 268	-2. 816																		
206	0° 5' 58"	0° 8' 39"	352° 55' 32"	352° 55' 32"	0° 0' 14"	0° 0' 13"	0° 0' 6"	0° 5'												
58"	0° 8' 39"	352° 55' 32"																		
206	1698725. 845	5311658. 466	12037. 590		0. 656	0. 667	0. 501													
-0. 100	0. 009	-2. 580																		
108	-0° 29' 24"	0° 10' 7"	174° 56' 46"	174° 56' 46"	0° 0' 17"	0° 0' 20"	0° 0' 14"	-0° 29'												
24"	0° 10' 7"	174° 56' 46"																		
108	1713632. 458	5300386. 979	11985. 600		0. 848	0. 783	0. 781													
1. 434	-0. 545	-3. 010																		
106	0° 38' 0"	-0° 36' 4"	172° 29' 7"	172° 29' 7"	0° 0' 15"	0° 0' 14"	0° 0' 8"	0° 38'												
0"	-0° 36' 4"	172° 29' 7"																		
106	1702800. 925	5301928. 322	12015. 995		0. 736	0. 706	0. 583													
-0. 490	0. 811	-1. 577																		
107	-1° 20' 27"	0° 22' 36"	174° 50' 52"	174° 50' 52"	0° 0' 16"	0° 0' 15"	0° 0' 9"	-1° 20'												
27"	0° 22' 36"	174° 50' 52"																		
107	1708226. 829	5301054. 570	11989. 787		0. 746	0. 735	0. 577													
-0. 290	-0. 468	-2. 008																		
310	0° 15' 32"	0° 35' 47"	351° 47' 17"	351° 47' 17"	0° 0' 20"	0° 0' 22"	0° 0' 19"	0° 15'												
32"	0° 35' 47"	351° 47' 17"																		
310	1716189. 940	5318575. 402	12042. 047		0. 865	0. 842	0. 877													
1. 227	0. 242	-3. 622																		
208	-0° 20' 30"	-0° 3' 58"	352° 2' 18"	352° 2' 18"	0° 0' 15"	0° 0' 14"	0° 0' 8"	-0° 20'												
30"	-0° 3' 58"	352° 2' 18"																		
208	1709462. 747	5310152. 598	12053. 871		0. 683	0. 671	0. 478													
0. 430	-0. 358	-2. 808																		
309	-1° 24' 21"	0° 29' 59"	349° 54' 56"	349° 54' 56"	0° 0' 16"	0° 0' 16"	0° 0' 13"	-1° 24'												
21"	0° 29' 59"	349° 54' 56"																		
309	1710801. 335	5319261. 236	12080. 645		0. 751	0. 736	0. 605													
-0. 016	-0. 144	-3. 266																		
209	-0° 6' 19"	0° 0' 8"	351° 54' 40"	351° 54' 40"	0° 0' 17"	0° 0' 19"	0° 0' 13"	-0° 6'												
19"	0° 0' 8"	351° 54' 40"																		
209	1714886. 929	5309392. 904	12075. 172		0. 838	0. 788	0. 727													
1. 097	-0. 699	-3. 204																		

-- Mean Standard Deviations for the Elements of Exterior Orientation --

Omega	0° 0' 15"	(dms)				
Phi	0° 0' 15"	(dms)				
Kappa	0° 0' 10"	(dms)				
XL	0. 739	(ground units)				
YL	0. 729	(ground units)				
ZL	0. 603	(ground units)				

-- RMSE for the Elements of Exterior Orientation --

Omega	0° 39' 7"	(dms)
Phi	0° 23' 32"	(dms)
Kappa	308° 53' 2"	(dms)
XL	0. 675	(ground uni ts)
YL	0. 378	(ground uni ts)
ZL	3. 155	(ground uni ts)

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Final Adjusted Object Space Coordinates, Standard Errors, and Residuals

<----- XYZ Ground Coordinates -----><- Predicted Standard Error -><----  
 Observation (GCP) Residuals ----->  
 <No> <---Point  
 ID---><---Xg---><---Yg---><---Zg---><---Sx---><---Sy---><---Sz---><---Vx---><---Vy---><---Vz---><---Vs--->

<CONTROL POINTS> <3D>

1 -0.011	-0.004	1331 0.016	1668057.223	5326165.483	3007.624	0.096	0.095	0.100	0.010
2 0.022	0.006	1332 0.025	1685981.592	5325751.356	2552.328	0.097	0.096	0.100	-0.011
3 -0.019	0.019	1333 0.029	1675772.780	5308688.678	2651.181	0.096	0.095	0.099	0.010
4 0.047	0.005	1334 0.048	1704522.585	5320569.605	2867.333	0.097	0.096	0.100	-0.004
5 -0.006	0.023	1335 0.064	1709411.561	5311141.022	2915.859	0.095	0.094	0.099	-0.060
6 0.000	0.008	1336 0.008	1712638.011	5301463.747	2913.820	0.098	0.097	0.100	-0.003

<CONTROL POINTS> <Horizontal>

<CONTROL POINTS> <Vertical>

<AUTO ELIMINATED CONTROL BLUNDER POINTS>

<-- Re-Scaled Input Weights -->  
 <Final\_Sx> <Final\_Sy> <Final\_Sz>

<---Projected Image Ray AMR Residuals-->

<PASS/TIE POINTS>

<---Sx---><---Sy---><---Sz---><---amrX---><---amrY---><---amrZ---><---rmsS--->

7	REL_1011	1670958. 950	5311473. 126	2648. 636	0. 298	0. 302	0. 535	0. 046
0. 177	0. 071							
8	REL_1012	1673582. 778	5308784. 890	2626. 134	0. 345	0. 462	1. 190	0. 002
0. 015	0. 004							
9	REL_1013	1670461. 907	5306510. 064	2785. 933	0. 604	0. 434	1. 562	0. 003
0. 029	0. 000							
10	REL_1014	1673319. 750	5303619. 591	2697. 168	0. 455	0. 584	1. 578	0. 009
0. 070	0. 018							
11	REL_1015	1670111. 108	5301585. 626	2864. 002	0. 919	1. 093	2. 049	0. 019
0. 159	0. 076							
12	REL_1021	1676370. 122	5311064. 777	2608. 828	0. 218	0. 224	0. 367	0. 132
0. 137	0. 084							
13	REL_1022	1678890. 053	5308030. 599	2799. 870	0. 330	0. 427	1. 132	0. 002
0. 013	0. 003							
14	REL_1023	1676186. 775	5305994. 939	2672. 346	0. 308	0. 276	0. 684	0. 014
0. 078	0. 001							
15	REL_1024	1678770. 314	5303346. 556	2846. 330	0. 395	0. 470	1. 370	0. 017
0. 114	0. 025							
16	REL_1025	1675497. 758	5300955. 473	2707. 022	0. 469	0. 602	1. 031	0. 043
0. 296	0. 136							
17	REL_1031	1682021. 739	5310041. 476	2990. 880	0. 224	0. 231	0. 384	0. 131
0. 234	0. 102							
18	REL_1032	1684404. 882	5306942. 215	3145. 941	0. 355	0. 415	1. 147	0. 002
0. 013	0. 003							
19	REL_1033	1681629. 027	5304997. 712	3093. 750	0. 341	0. 282	0. 741	0. 076
0. 126	0. 023							
20	REL_1034	1683568. 131	5302708. 121	3452. 982	0. 409	0. 453	1. 247	0. 006
0. 039	0. 009							
21	REL_1035	1680863. 596	5300535. 945	3076. 078	0. 432	0. 536	0. 938	0. 042
0. 228	0. 103							
22	REL_1041	1687260. 208	5308982. 699	3165. 626	0. 233	0. 241	0. 404	0. 109
0. 314	0. 110							
23	REL_1042	1689690. 307	5306150. 186	3326. 873	0. 359	0. 416	1. 145	0. 005
0. 034	0. 008							
24	REL_1043	1686782. 855	5304101. 052	3285. 991	0. 360	0. 292	0. 770	0. 116
0. 080	0. 032							
25	REL_1044	1689121. 455	5301586. 649	3299. 614	0. 419	0. 507	1. 331	0. 001
0. 010	0. 003							
26	REL_1045	1686221. 051	5300106. 153	3338. 644	0. 428	0. 506	0. 901	0. 028
0. 290	0. 121							
27	REL_1051	1692717. 479	5308309. 565	3138. 038	0. 237	0. 243	0. 412	0. 097
0. 255	0. 148							

28	REL_1052	1695208. 915	5305582. 848	3012. 568	0. 365	0. 445	1. 222	0. 004
0. 024	0. 006							
29	REL_1053	1692188. 520	5303735. 371	3284. 536	0. 357	0. 287	0. 772	0. 085
0. 111	0. 018							
30	REL_1054	1694373. 559	5300856. 649	3110. 528	0. 423	0. 510	1. 401	0. 006
0. 039	0. 010							
31	REL_1055	1691532. 034	5298819. 710	3180. 142	0. 437	0. 562	0. 946	0. 076
0. 290	0. 139							
32	REL_1061	1698173. 077	5307606. 721	3031. 237	0. 235	0. 238	0. 408	0. 093
0. 305	0. 110							
33	REL_1062	1700595. 122	5304766. 899	2905. 653	0. 366	0. 443	1. 216	0. 002
0. 011	0. 003							
34	REL_1063	1697633. 080	5302794. 918	2991. 004	0. 358	0. 290	0. 795	0. 028
0. 033	0. 007							
35	REL_1064	1699983. 017	5300079. 533	2929. 038	0. 417	0. 496	1. 397	0. 003
0. 016	0. 004							
36	REL_1065	1697147. 212	5298019. 668	3068. 866	0. 435	0. 553	0. 956	0. 056
0. 266	0. 123							
37	REL_1071	1703582. 572	5306313. 242	2776. 529	0. 233	0. 234	0. 402	0. 061
0. 234	0. 113							
38	REL_1072	1705938. 208	5303708. 641	2722. 565	0. 356	0. 419	1. 192	0. 008
0. 050	0. 011							
39	REL_1073	1702934. 239	5301702. 845	2717. 743	0. 354	0. 293	0. 798	0. 029
0. 034	0. 006							
40	REL_1074	1705416. 019	5299002. 570	2644. 980	0. 407	0. 505	1. 382	0. 007
0. 044	0. 011							
41	REL_1075	1702393. 722	5297093. 746	2840. 466	0. 431	0. 555	0. 962	0. 032
0. 288	0. 132							
42	REL_1081	1708532. 812	5305611. 030	2907. 802	0. 225	0. 225	0. 374	0. 103
0. 322	0. 124							
43	REL_1082	1710966. 235	5302946. 056	2947. 281	0. 327	0. 397	1. 091	0. 008
0. 067	0. 015							
44	REL_1083	1708306. 842	5300630. 324	2716. 393	0. 337	0. 287	0. 761	0. 023
0. 069	0. 003							
45	REL_1084	1710724. 179	5298093. 204	2639. 057	0. 401	0. 528	1. 390	0. 001
0. 005	0. 001							
46	REL_1085	1707813. 359	5295929. 809	2661. 247	0. 435	0. 618	1. 008	0. 096
0. 356	0. 167							
47	REL_1091	1714041. 512	5305025. 062	3266. 271	0. 297	0. 313	0. 539	0. 093
0. 203	0. 101							
48	REL_1093	1713919. 342	5300406. 877	2904. 577	0. 533	0. 347	1. 256	0. 001
0. 010	0. 000							
49	REL_1095	1713193. 634	5295196. 692	2659. 700	0. 665	1. 069	1. 730	0. 043
0. 166	0. 082							
50	REL_2011	1667145. 661	5321200. 700	2360. 161	0. 294	0. 311	0. 529	0. 106
0. 236	0. 078							
51	REL_2012	1669859. 065	5318180. 574	2591. 872	0. 373	0. 481	1. 278	0. 008
0. 062	0. 015							
52	REL_2013	1666461. 213	5316116. 854	2578. 430	0. 570	0. 458	1. 535	0. 004
0. 031	0. 000							

53	REL_2014	1669119. 519	5313229. 567	2781. 547	0. 415	0. 561	1. 434	0. 004
0. 031	0. 008							
54	REL_2015	1665714. 343	5311724. 771	2437. 979	0. 835	0. 934	1. 930	0. 019
0. 201	0. 083							
55	REL_2021	1672408. 401	5320484. 076	2392. 992	0. 244	0. 243	0. 417	0. 051
0. 252	0. 115							
56	REL_2022	1675145. 376	5317636. 209	2518. 378	0. 346	0. 455	1. 182	0. 001
0. 007	0. 002							
57	REL_2023	1671903. 078	5315430. 661	2565. 345	0. 322	0. 297	0. 733	0. 008
0. 084	0. 004							
58	REL_2024	1674293. 908	5312559. 269	2566. 725	0. 360	0. 474	1. 239	0. 000
0. 002	0. 001							
59	REL_2031	1677936. 665	5319879. 567	2571. 903	0. 229	0. 236	0. 392	0. 138
0. 302	0. 166							
60	REL_2032	1680390. 048	5316875. 199	2820. 214	0. 329	0. 432	1. 114	0. 004
0. 027	0. 007							
61	REL_2033	1677275. 405	5314754. 106	2739. 419	0. 294	0. 270	0. 651	0. 012
0. 082	0. 004							
62	REL_2034	1680031. 373	5312255. 887	2941. 522	0. 327	0. 405	1. 112	0. 001
0. 004	0. 001							
63	REL_2041	1683377. 588	5318837. 653	2716. 699	0. 222	0. 233	0. 381	0. 150
0. 282	0. 107							
64	REL_2042	1685412. 065	5315819. 423	2930. 113	0. 326	0. 402	1. 087	0. 003
0. 024	0. 005							
65	REL_2043	1682821. 460	5313786. 187	3078. 522	0. 292	0. 259	0. 633	0. 035
0. 119	0. 009							
66	REL_2044	1685158. 728	5310975. 271	3029. 239	0. 334	0. 442	1. 105	0. 006
0. 043	0. 012							
67	REL_2051	1688751. 772	5318070. 128	2817. 615	0. 226	0. 238	0. 389	0. 086
0. 237	0. 090							
68	REL_2052	1691034. 163	5315116. 350	3215. 108	0. 328	0. 405	1. 058	0. 004
0. 025	0. 006							
69	REL_2053	1688302. 679	5313029. 498	3074. 882	0. 303	0. 260	0. 660	0. 093
0. 093	0. 026							
70	REL_2054	1690378. 211	5310441. 124	3299. 479	0. 336	0. 415	1. 076	0. 011
0. 073	0. 018							
71	REL_2061	1694025. 806	5317099. 214	2743. 433	0. 230	0. 240	0. 400	0. 192
0. 265	0. 097							
72	REL_2062	1696468. 857	5314256. 233	2879. 372	0. 335	0. 406	1. 120	0. 001
0. 005	0. 001							
73	REL_2063	1693295. 505	5312175. 392	2978. 799	0. 308	0. 262	0. 682	0. 025
0. 063	0. 007							
74	REL_2064	1695789. 798	5309408. 099	2967. 487	0. 342	0. 445	1. 144	0. 006
0. 045	0. 012							
75	REL_2071	1699270. 571	5316556. 798	2911. 706	0. 224	0. 230	0. 379	0. 164
0. 252	0. 147							
76	REL_2072	1701794. 617	5313787. 931	2898. 167	0. 327	0. 417	1. 083	0. 003
0. 024	0. 006							
77	REL_2073	1698570. 346	5311666. 696	2991. 560	0. 301	0. 256	0. 659	0. 019
0. 061	0. 007							

78	REL_2074	1701238. 362	5308882. 581	2887. 761	0. 334	0. 418	1. 114	0. 001
0. 011	0. 003							
79	REL_2081	1704954. 085	5315872. 279	2913. 555	0. 218	0. 217	0. 359	0. 080
0. 266	0. 122							
80	REL_2082	1707241. 015	5312905. 418	3079. 700	0. 313	0. 397	1. 028	0. 001
0. 006	0. 002							
81	REL_2083	1704191. 981	5310855. 498	2969. 805	0. 284	0. 250	0. 617	0. 049
0. 056	0. 014							
82	REL_2084	1706662. 084	5308058. 043	2904. 951	0. 319	0. 418	1. 079	0. 005
0. 035	0. 009							
83	REL_2091	1710097. 026	5314831. 761	2978. 798	0. 230	0. 228	0. 372	0. 098
0. 313	0. 150							
84	REL_2092	1712514. 810	5311943. 600	3081. 454	0. 334	0. 417	1. 095	0. 005
0. 038	0. 009							
85	REL_2094	1711930. 330	5307304. 501	3028. 172	0. 332	0. 439	1. 088	0. 013
0. 091	0. 023							
86	REL_2101	1715583. 963	5313798. 788	3623. 088	0. 359	0. 368	0. 617	0. 051
0. 196	0. 112							
87	REL_2103	1714813. 246	5309374. 299	3756. 982	0. 443	0. 367	1. 085	0. 008
0. 056	0. 000							
88	REL_3011	1663173. 947	5331582. 811	2097. 756	0. 738	1. 346	2. 284	0. 027
0. 100	0. 048							
89	REL_3012	1665714. 651	5328231. 697	2428. 501	0. 415	0. 510	1. 437	0. 002
0. 011	0. 002							
90	REL_3013	1662175. 294	5326240. 468	2133. 323	0. 728	0. 502	2. 001	0. 013
0. 092	0. 002							
91	REL_3014	1664992. 128	5323186. 065	2351. 377	0. 423	0. 581	1. 519	0. 011
0. 073	0. 020							
92	REL_3015	1661374. 948	5320979. 244	2190. 011	1. 045	1. 237	2. 291	0. 018
0. 171	0. 083							
93	REL_3021	1668389. 479	5330098. 133	2472. 448	0. 350	0. 487	0. 805	0. 031
0. 226	0. 092							
94	REL_3022	1670977. 898	5327464. 886	2439. 708	0. 353	0. 431	1. 235	0. 001
0. 012	0. 003							
95	REL_3023	1667809. 336	5325701. 479	3029. 411	0. 273	0. 257	0. 572	0. 067
0. 062	0. 016							
96	REL_3024	1670328. 165	5322399. 392	2405. 946	0. 350	0. 485	1. 235	0. 001
0. 004	0. 001							
97	REL_3031	1673922. 786	5330054. 498	2417. 146	0. 383	0. 539	0. 896	0. 111
0. 334	0. 164							
98	REL_3032	1676605. 312	5327142. 891	2397. 625	0. 395	0. 498	1. 363	0. 003
0. 028	0. 007							
99	REL_3033	1673255. 020	5324943. 945	2406. 379	0. 317	0. 278	0. 727	0. 071
0. 008	0. 018							
100	REL_3034	1675876. 809	5321837. 814	2440. 494	0. 354	0. 473	1. 247	0. 000
0. 003	0. 001							
101	REL_3041	1679658. 803	5329395. 480	2316. 827	0. 384	0. 530	0. 899	0. 189
0. 328	0. 171							
102	REL_3042	1681908. 925	5326331. 558	2407. 588	0. 375	0. 483	1. 335	0. 004
0. 028	0. 007							

103	REL_3043	1678853. 573	5324167. 904	2499. 003	0. 323	0. 281	0. 743	0. 044
0. 034	0. 010							
104	REL_3044	1681038. 030	5321289. 149	2622. 816	0. 345	0. 446	1. 194	0. 009
0. 059	0. 015							
105	REL_3051	1684649. 247	5328187. 183	2675. 038	0. 338	0. 468	0. 781	0. 072
0. 378	0. 169							
106	REL_3052	1687095. 388	5325379. 089	2573. 051	0. 341	0. 433	1. 188	0. 009
0. 064	0. 015							
107	REL_3053	1683972. 513	5322802. 802	2570. 303	0. 302	0. 271	0. 694	0. 174
0. 137	0. 048							
108	REL_3054	1686140. 440	5320472. 472	2602. 151	0. 331	0. 440	1. 137	0. 007
0. 049	0. 013							
109	REL_3061	1690235. 993	5327685. 022	2647. 410	0. 374	0. 492	0. 833	0. 175
0. 403	0. 203							
110	REL_3062	1692673. 625	5324548. 752	2555. 965	0. 388	0. 457	1. 300	0. 007
0. 051	0. 012							
111	REL_3063	1689530. 101	5322620. 677	2560. 064	0. 316	0. 273	0. 727	0. 083
0. 136	0. 016							
112	REL_3064	1691695. 405	5319634. 109	2915. 769	0. 340	0. 442	1. 134	0. 001
0. 005	0. 001							
113	REL_3071	1695642. 841	5326941. 877	2577. 573	0. 404	0. 519	0. 901	0. 101
0. 338	0. 167							
114	REL_3072	1697929. 105	5323842. 382	2727. 954	0. 389	0. 470	1. 301	0. 017
0. 102	0. 025							
115	REL_3073	1694678. 209	5321891. 098	2602. 152	0. 332	0. 279	0. 758	0. 085
0. 122	0. 017							
116	REL_3074	1697298. 798	5318771. 281	2745. 153	0. 344	0. 447	1. 175	0. 002
0. 014	0. 004							
117	REL_3081	1701033. 697	5325781. 439	2655. 475	0. 395	0. 498	0. 882	0. 100
0. 326	0. 154							
118	REL_3082	1703335. 200	5322725. 748	2740. 983	0. 371	0. 426	1. 218	0. 003
0. 018	0. 004							
119	REL_3083	1700039. 843	5320703. 780	2679. 394	0. 319	0. 270	0. 725	0. 030
0. 104	0. 008							
120	REL_3084	1702405. 915	5317756. 431	2826. 457	0. 324	0. 444	1. 096	0. 005
0. 027	0. 008							
121	REL_3091	1706342. 565	5324774. 764	2831. 896	0. 433	0. 504	0. 904	0. 063
0. 416	0. 185							
122	REL_3092	1708628. 889	5321759. 012	2912. 896	0. 424	0. 452	1. 345	0. 009
0. 060	0. 013							
123	REL_3093	1705555. 245	5319595. 709	2856. 220	0. 311	0. 266	0. 681	0. 048
0. 142	0. 016							
124	REL_3094	1707785. 157	5317068. 026	2895. 445	0. 341	0. 450	1. 140	0. 002
0. 010	0. 003							
125	REL_3101	1711716. 509	5323623. 227	3215. 195	0. 535	0. 567	1. 064	0. 205
0. 322	0. 152							
126	REL_3102	1713908. 727	5321063. 570	3369. 071	0. 520	0. 585	1. 631	0. 015
0. 123	0. 028							
127	REL_3103	1710833. 543	5318951. 926	3040. 453	0. 357	0. 297	0. 771	0. 041
0. 095	0. 016							

128 0.012	REL_3104 0.003	1713134.150	5316373.539	3172.412	0.393	0.521	1.293	0.001
129 0.238	REL_3111 0.095	1716576.180	5322605.566	3525.219	0.955	0.974	2.000	0.027
130 0.073	REL_3113 0.004	1716018.897	5318115.543	3548.830	0.614	0.506	1.529	0.010
				mean	0.380	0.433	1.022	0.041
0.121	0.047	0.140						

---

Mean Predicted Standard Errors				
--- (including Control Points)		----- (excluding Control Points) ---		
---	0.367	Sx	0.380	---
---	0.418	Sy	0.433	---
---	0.980	Sz	1.022	---
---	1.126	Spherical	1.173	---

---

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AeroSys-AT Bundle Adjustment, <PRO Pkg> AeroSys-AT v7.2 © 1989-2009 MHS  
Project ID: Foothills 1-3  
System Memory Storage Summary

8/31/2009

No. of Cameras	=	1	====>	0.0 Kbytes
No. of Photos	=	30	====>	5.9 Kbytes
No. of Points	=	130	====>	12.2 Kbytes
No. of Photo Coordinates	=	372	====>	14.5 Kbytes
Total Data Storage Required	=====	32.6 Kbytes		

#### System Computing Time Summary

Number of Iterations:

Reading Data Input Files:	0 Hrs	0 Min	0.01 Sec	
Initializing Data Structures:	0 Hrs	0 Min	0.03 Sec	
Forming & Solving Normal Equations:	0 Hrs	0 Min	1.86 Sec	
Per Iteration:	0 Hrs	0 Min	0.13 Sec	
Cholesky Solution Details:	Per Iteration:	0 Hrs	0 Min	0.00 Sec
Decomposition	-->:	0 Hrs	0 Min	0.00 Sec

Forward Elimination -->: 0 Hrs 0 Min 0.00 Sec  
Back Substitution -->: 0 Hrs 0 Min 0.00 Sec

Forming Normal Eqns Per Iteration: 0 Hrs 0 Min 0.13 Sec  
Details:

Init Variables -->: 0 Hrs 0 Min 0.00 Sec  
Add APs Obs -->: 0 Hrs 0 Min 0.00 Sec  
Add AB-GPS Spc -->: 0 Hrs 0 Min 0.00 Sec  
Add Photo Obs -->: 0 Hrs 0 Min 0.00 Sec  
Add Pointwise -->: 0 Hrs 0 Min 0.11 Sec  
Invert N dldot -->: 0 Hrs 0 Min 0.00 Sec  
Form SE sgl dot -->: 0 Hrs 0 Min 0.02 Sec  
Form S sgl dot OffDiag -->: 0 Hrs 0 Min 0.00 Sec  
Transfer SE2 Diag&Rhs -->: 0 Hrs 0 Min 0.00 Sec

Normal Equations Inverse: 0 Hrs 0 Min 0.28 Sec  
Statistics: 0 Hrs 0 Min 0.28 Sec

Total Computing Time: 0 Hrs 0 Min 2.52 Sec

♀KMI

9/22/2009

Foothills West Flight Lines 4 thru 7  
AeroSys-AT Bundle Adjustment, <PRO Pkg> AeroSys-AT v7.2 © 1989-2009 MHS  
Project ID: Foothills 4-7

----- General Statistics -----

No. of Cameras used: 1  
No. of Photos: 52  
No. of Object Points: 217  
No. of Flight Strips: 4  
No. of A-GPS Drift Params: 6  
Total Unknowns: 969  
  
No. of Image Points: 642  
No. of Surveying Obsv: 0  
No. of APs: 0

DOFs due to camera center obsrv: 156  
DOFs due to ground control pts: 21  
DOFs due to image coord obsrv: 1284

Total Degrees of Freedom (Nobsrv - Nunkns): 492

----- Block Reliability Statistic (Average Degrees of Freedom) -----

for single strip blocks, want Avg\_DOF >= (~) 0.25  
for corridor multi-strip blocks, want Avg\_DOF >= (~) 0.35  
for rectangular blocks, want Avg\_DOF >= 0.50

Average Degrees of Freedom (DOFs / Nunkns): 0.51

----- Image Ray Distribution -----

Number of 2-Fold points = 109 Pct = 50.2  
Number of 3-Fold points = 70 Pct = 32.3  
Number of 4-Fold points = 7 Pct = 3.2  
Number of 5-Fold points = 0 Pct = 0.0  
Number of 6-Fold points = 31 Pct = 14.3  
Number of 7-Fold points = 0 Pct = 0.0  
Number of 8-Fold points = 0 Pct = 0.0  
Number of 9-Fold points = 0 Pct = 0.0  
Number of 10-Fold points = 0 Pct = 0.0  
Number of 11-Fold points = 0 Pct = 0.0  
Number of 12-Fold points = 0 Pct = 0.0

-----  
Final Sigma0 Statistic (Post-Adjustment Standard Deviation of Unit Weight)

---

For a reliable block adjustment, the final Sigma0 must reside within the Chi-squared interval surrounding the value of 1.0

The size of this statistical interval, i.e., [Low\_So <--- 1.0 ---> High\_So] is determined by the total number of DOFs in the adjustment.  
The larger total DOFs, the smaller the Chi-squared interval.

An optimum adjustment solution can be obtained by balancing the observational weights to achieve a Final Sigma0 of exactly 1.0 .... typically the weights of the photocoordinate observations are balanced against the ground control weights.

Final Sigma0 (for this adjustment) = 1.00

Override Option Mode = ON

Scal ed (photocoordinate weight) Sx = 0.0060 (units = mm)  
Scal ed (photocoordinate weight) Sy = 0.0060 (units = mm)

---

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9/22/2009

Standardized Photocoordinate Residuals:  $Wi = Vi / (\sqrt{1/WT - A(N^{**}-1)AT}) * \Sigma \sigma_0$

Points | (Pht No., Wx, Wy) Note: Wx & Wy are UNIT-LESS statistics; Outlier Criterion  $Wi > 3.29$

---

0 possible blunders/outliers detected

---

\* Denotes that Critical Value of 3.29 exceeded, i.e. possible gross error

Maximum Standardized Residual = 2.91 from Point No. REL\_4041 on Photo No. 203

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9/22/2009

Population Distribution of Standardized Residuals in X

---

Bl under	0
-3.20	0

-3.00	0
-2.80	0
-2.60	0
-2.40	0
-2.20	0
-2.00	0
-1.80	0
-1.60	1
-1.40	0
-1.20	0
-1.00	6
-0.80	10
-0.60	20
-0.40	47
-0.20	79
0.00	
338	:
0.20	67
0.40	33
0.60	30
0.80	4
1.00	7
1.20	0
1.40	0
1.60	0
1.80	0
2.00	0
2.20	0
2.40	0
2.60	0
2.80	0
3.00	0
3.20	0
BI under	0

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Project ID: Foothills 4-7

9/22/2009

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#### Population Distribution of Standardized Residuals in Y

---

BI under	0
-3.20	0
-3.00	0
-2.80	0
-2.60	0
-2.40	0
-2.20	0
-2.00	3

-1.80	5	:	:	:
-1.60	13	.	.	.
-1.40	20	.	.	.
-1.20	18	.	.	.
-1.00	22	.	.	.
-0.80	22	.	.	.
-0.60	32	.	.	.
-0.40	35	.	.	.
-0.20	87	.	.	.
0.00	148	.	.	.
0.20	83	.	.	.
0.40	29	.	.	.
0.60	30	.	.	.
0.80	30	.	.	.
1.00	17	.	.	.
1.20	7	.	.	.
1.40	9	.	.	.
1.60	6	.	.	.
1.80	5	.	.	.
2.00	8	.	.	.
2.20	5	.	.	.
2.40	2	.	.	.
2.60	4	.	.	.
2.80	1	.	.	.
3.00	1	.	.	.
3.20	0	.	.	.
BL under	0	.	.	.

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<----->  
< Ten Largest Photocoordinate Residuals >  
< PointNo, PhotoNo, Vx, Vy (units=mm) >

REL_5051	304	0.001	0.014
REL_4131	112	0.000	0.016
REL_4121	111	0.000	0.014
REL_5031	302	0.002	0.016
REL_4051	204	-0.003	0.015
REL_4061	105	0.001	0.014
REL_4051	104	0.000	0.017
REL_4041	203	0.007	0.018
REL_4031	102	0.001	0.014
REL_4031	202	0.003	0.015

--- Root Mean Square Image Coordinate Errors, ---  
---

--- Average Magnitude of Residuals (AMR) ---  
 --- and ---  
 --- Mean of Image Coordinate Errors ---  
 -----  
 --- image system units = microns ---  
 --- Overall Ctrl Pts Pass Pts ---  
 ---  
 Rays = 642 17 625 ---  
 ---  
 RMS Vx = 1.8 3.9 1.7 ---  
 RMS Vy = 4.8 2.9 4.8 ---  
 RMS Vxy = 5.1 4.9 5.1 ---  
 ---  
 AMR Vx = 1.1 3.3 1.0 ---  
 AMR Vy = 3.3 2.4 3.3 ---  
 AMR Vxy = 3.5 4.0 3.5 ---  
 ---  
 mean Vx = 0.0 -0.6 0.0 ---  
 mean Vy = 0.0 -0.4 0.0 ---  
 mean Vxy = 0.0 -0.9 0.0 ---  
 -----

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----- Adjusted Control Points & Least Squares Residuals -----

Statistics -> <----- Object Space or Ground Control Units -----> <- Units  
 No. <--- Point ID ---><--- Xg ---><--- Yg ---><--- Zg ---> <Res X> <Res Y> <Res Z> <Std Wx> <Std Wy> <Std Wz>

1 -0.94	2 1.23	3 0.76	4 -2.13	1326	1663345.492	5389131.917	3296.688	-0.033	-0.023	0.013	-1.11
1.56				1331	1668057.193	5326165.511	3007.627	-0.030	0.028	0.003	-1.10
	0.32			1330	1674080.952	5360821.162	1960.601	-0.023	0.023	-0.028	-0.67
				1327	1678177.254	5395769.899	2211.802	0.030	-0.066	-0.014	0.81

-1.70	-0.65										
5		1332	1685981.605	5325751.376	2552.334	0.013	0.020	0.006	0.50		
0.99	0.97										
6		1328	1694852.732	5397492.601	1967.388	0.002	-0.008	0.012	0.10		
-0.43	1.34										
7		1329	1692903.205	5375052.156	2130.388	0.041	0.025	0.007	1.48		
1.04	1.07										
						rms	0.027	0.032	0.014		
						amr	0.025	0.028	0.012		
						mean	0.000	0.000	0.000		

\*\*#@! --> Denotes an AUTO\_DETECTED gross error

\* Denotes that critical value of 3.29 is exceeded, i.e. possible gross error!

Maximum Standardized Residual = -1.70 from Control Point No. 1327

----- Control Point Root Mean Square Errors -----

-- Axis --- 3D Control --- Horizontal Control --- Vertical Control ---

RMS Vx	0.027	0.027
RMS Vy	0.032	0.032
RMS Vz	0.014	0.014
RMS Vs	0.203	

<--ground coordinate units-->

<----unit-less----->

<Space Intersection Residuals>

< Lst-Sqrs Standardized Wxyz >

< POINT_ID	><Rays><	Dx	><	Dy	><	Dz	><GCP Type><	Std Wx	><	Std Wy	><	Std Wz
1326	2	-0.179		-0.087		0.306	FCP	-1.11		-0.94		1.56
1331	2	-0.264		0.146		0.349	FCP	-1.10		1.23		0.32
1330	3	-0.137		0.113		-0.570	FCP	-0.67		0.76		-2.13
1327	4	0.133		-0.287		-0.203	FCP	0.81		-1.70		-0.65
1332	2	0.051		0.154		0.348	FCP	0.50		0.99		0.97
1328	2	-0.276		-0.113		0.956	FCP	0.10		-0.43		1.34
1329	2	0.294		0.188		0.500	FCP	1.48		1.04		1.07
RMS		0.208		0.167		0.516						

0.189

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Airborne GPS Drift Parameters: SetNo, Cx, Cy, Cz, Lx, Ly, Lz  
Significance Numbers: SetNo, Ncx, Ncy, Ncz, Nlx, Nly, Nlz Flags

AB-GPS Drift Params: 1 -1.478 0.357 2.902 0.002 0.000 0.000  
Significance Test: 1 1.1 1.0 6.0 0.9 0.4 0.6 ? ? . ? ? ?

-----  
Camera Center AB-GPS Deltas:

Photo\_ID, StripNo, PhotoNo, Shift\_X, Shift\_Y, Shift\_Z, Drift\_X, Drift\_Y, Drift\_Z, dX, dY,  
dZ

100 3.054	1	1	-1.478	0.357	2.902	1.180	0.098	0.152	-0.298	0.455
101 3.049	1	2	-1.478	0.357	2.902	1.147	0.095	0.147	-0.332	0.452
103 3.041	1	4	-1.478	0.357	2.902	1.079	0.089	0.139	-0.399	0.447
102 3.045	1	3	-1.478	0.357	2.902	1.113	0.092	0.143	-0.365	0.450
104 3.036	1	5	-1.478	0.357	2.902	1.046	0.087	0.134	-0.432	0.444
105 3.032	1	6	-1.478	0.357	2.902	1.013	0.084	0.130	-0.465	0.441
106 3.028	1	7	-1.478	0.357	2.902	0.980	0.081	0.126	-0.498	0.439
108 3.019	1	9	-1.478	0.357	2.902	0.914	0.076	0.117	-0.564	0.433
107 3.024	1	8	-1.478	0.357	2.902	0.947	0.078	0.122	-0.531	0.436
109 3.015	1	10	-1.478	0.357	2.902	0.881	0.073	0.113	-0.597	0.430
110 3.011	1	11	-1.478	0.357	2.902	0.848	0.070	0.109	-0.631	0.428
112 3.002	1	13	-1.478	0.357	2.902	0.780	0.065	0.100	-0.698	0.422
111 3.007	1	12	-1.478	0.357	2.902	0.814	0.067	0.105	-0.664	0.425

114 2. 994	1	15	-1. 478	0. 357	2. 902	0. 715	0. 059	0. 092	-0. 763	0. 417
113 2. 998	1	14	-1. 478	0. 357	2. 902	0. 748	0. 062	0. 096	-0. 730	0. 419
200 3. 102	2	15	-1. 478	0. 357	2. 902	1. 559	0. 129	0. 200	0. 081	0. 487
201 3. 106	2	14	-1. 478	0. 357	2. 902	1. 588	0. 132	0. 204	0. 110	0. 489
202 3. 110	2	13	-1. 478	0. 357	2. 902	1. 618	0. 134	0. 208	0. 140	0. 491
203 3. 114	2	12	-1. 478	0. 357	2. 902	1. 647	0. 136	0. 212	0. 169	0. 494
204 3. 117	2	11	-1. 478	0. 357	2. 902	1. 676	0. 139	0. 215	0. 198	0. 496
205 3. 121	2	10	-1. 478	0. 357	2. 902	1. 706	0. 141	0. 219	0. 228	0. 499
206 3. 125	2	9	-1. 478	0. 357	2. 902	1. 736	0. 144	0. 223	0. 258	0. 501
207 3. 129	2	8	-1. 478	0. 357	2. 902	1. 766	0. 146	0. 227	0. 288	0. 504
208 3. 133	2	7	-1. 478	0. 357	2. 902	1. 796	0. 149	0. 231	0. 318	0. 506
209 3. 137	2	6	-1. 478	0. 357	2. 902	1. 825	0. 151	0. 235	0. 347	0. 509
210 3. 140	2	5	-1. 478	0. 357	2. 902	1. 855	0. 154	0. 238	0. 377	0. 511
211 3. 144	2	4	-1. 478	0. 357	2. 902	1. 885	0. 156	0. 242	0. 407	0. 514
212 3. 148	2	3	-1. 478	0. 357	2. 902	1. 915	0. 159	0. 246	0. 437	0. 516
213 3. 152	2	2	-1. 478	0. 357	2. 902	1. 944	0. 161	0. 250	0. 466	0. 518
214 3. 156	2	1	-1. 478	0. 357	2. 902	1. 974	0. 163	0. 254	0. 496	0. 521
300 2. 902	3	15	-1. 478	0. 357	2. 902	0. 000	0. 000	0. 000	-1. 478	0. 357
301 2. 906	3	14	-1. 478	0. 357	2. 902	0. 029	0. 002	0. 004	-1. 449	0. 360
302 2. 910	3	13	-1. 478	0. 357	2. 902	0. 059	0. 005	0. 008	-1. 419	0. 362
303 2. 913	3	12	-1. 478	0. 357	2. 902	0. 088	0. 007	0. 011	-1. 390	0. 365
304 2. 917	3	11	-1. 478	0. 357	2. 902	0. 117	0. 010	0. 015	-1. 361	0. 367
305 2. 921	3	10	-1. 478	0. 357	2. 902	0. 147	0. 012	0. 019	-1. 331	0. 370
306 2. 925	3	9	-1. 478	0. 357	2. 902	0. 178	0. 015	0. 023	-1. 300	0. 372

307	3	8	-1.478	0.357	2.902	0.207	0.017	0.027	-1.271	0.375
2.929										
308	3	7	-1.478	0.357	2.902	0.237	0.020	0.030	-1.241	0.377
2.932										
309	3	6	-1.478	0.357	2.902	0.268	0.022	0.034	-1.211	0.380
2.936										
310	3	5	-1.478	0.357	2.902	0.297	0.025	0.038	-1.181	0.382
2.940										
311	3	4	-1.478	0.357	2.902	0.326	0.027	0.042	-1.152	0.384
2.944										
312	3	3	-1.478	0.357	2.902	0.356	0.030	0.046	-1.122	0.387
2.948										
313	3	2	-1.478	0.357	2.902	0.386	0.032	0.050	-1.092	0.389
2.952										
314	3	1	-1.478	0.357	2.902	0.416	0.034	0.054	-1.062	0.392
2.955										
401	4	2	-1.478	0.357	2.902	2.910	0.241	0.374	1.432	0.598
3.276										
400	4	1	-1.478	0.357	2.902	2.944	0.244	0.378	1.466	0.601
3.280										
402	4	3	-1.478	0.357	2.902	2.876	0.238	0.370	1.398	0.596
3.272										
403	4	4	-1.478	0.357	2.902	2.842	0.235	0.365	1.364	0.593
3.267										
405	4	6	-1.478	0.357	2.902	2.775	0.230	0.357	1.297	0.587
3.259										
406	4	7	-1.478	0.357	2.902	2.742	0.227	0.352	1.264	0.585
3.254										
404	4	5	-1.478	0.357	2.902	2.809	0.233	0.361	1.331	0.590
3.263										

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Project ID: Foothills 4-7

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----- Final Adjusted Exterior Orientations, Standard Errors and Residuals -----

-----><-----Adjusted E0 Observations-----><-----Predicted Standard Deviations-----><-----E0 Residuals-----><-----Standardized Residuals----->

-----><-----><-----><-----><-----><----->

<PhtNo><----Omega----><----Phi----><----Kappa----><----So----><----Sp----><----Sk----><----Vo---->  
<----Vp----><----Vk----><----Wo----><----Wp----><----Wk---->

<PhtNo>		<---X---				<---Y---				<---Z---				<---Sx---				<---Sy---				<---Sz---				<---Vx---					
		<---Vy---		<---Vz---		<---Wx---		<---Wy---		<---Wz---																					
2"	401	0°	0° 32'	2"	271°	0°	0° 34'	20"	271° 50'	50° 50"	0°	0' 14"	0°	0' 43"	0°	0' 8"	0°	0° 32'													
		0°	34' 20"			50'	50"																								
0.392	401	1691976.	856			5394232.	000		11352.	777		2.070		0.746		0.529															
		-0.012				-0.013																									
7"	400	0°	0° 21'	7"	270°	0°	0° 58'	56"	270° 56'	39"	0°	0' 20"	0°	0' 44"	0°	0' 13"	-0°	21'													
		58' 56"			56' 39"																										
0.077	400	1691879.	562			5399712.	028		11349.	542		2.184		0.901		0.667															
		0.736			-0.805																										
30"	300	-1°	-1° 35'	30"		-0°	-0° 46'	11"	93°	1° 53"	0°	0' 19"	0°	0' 32"	0°	0' 12"	-1°	35'													
		46' 11"			1° 53"																										
0.011	300	1682245.	880			5399440.	427		11262.	845		1.562		0.859		0.706															
		0.738			-0.698																										
12"	402	0°	0° 0'	12"	271°	1°	1° 6'	57"	271° 57'	6"	0°	0' 14"	0°	0' 43"	0°	0' 7"	0°	0' 0"													
		6' 57"			57' 6"																										
0.116	402	1692133.	397			5388839.	613		11313.	172		2.037		0.718		0.519															
		-0.204			0.257																										
54"	301	-0°	-0° 31'	54"		-0°	-0° 3'	35"	93°	8' 39"	0°	0' 13"	0°	0' 30"	0°	0' 6"	-0°	31'													
		3' 35"			8' 39"																										
0.318	301	1682462.	105			5394083.	560		11292.	512		1.370		0.659		0.578															
		0.029			-0.095																										
55"	302	0°	0° 36'	55"		-0°	-0° 25'	14"	92°	56' 11"	0°	0' 13"	0°	0' 30"	0°	0' 5"	0°	36'													
		25' 14"			56' 11"																										
0.171	302	1682659.	786			5388594.	611		11274.	710		1.369		0.650		0.561															
		0.185			-0.176																										
31"	403	0°	0° 4'	31"		-0°	-0° 4'	6"	273°	19' 35"	0°	0' 13"	0°	0' 44"	0°	0' 7"	0°	4'													
		4' 6"			19' 35"																										
0.171	403	1692368.	419			5383323.	759		11316.	848		2.024		0.705		0.512															
		-0.287			0.449																										
17"	100	0°	0° 21'	17"		0°	0° 47'	46"	271°	55' 32"	0°	0' 20"	0°	0' 19"	0°	0' 18"	-0°	21'													
		47' 46"			55' 32"																										
-0.061	100	1663485.	566			5398741.	199		11256.	534		0.856		0.870		0.714															
		0.660			-1.095																										
200	200	1°	1° 9'	2"		0°	0° 22'	57"	93°	11' 51"	0°	0' 18"	0°	0' 17"	0°	0' 12"	1°	9'													
		22' 57"			11' 51"																										
-0.860	200	1672921.	903			5399050.	981		11224.	548		0.902		0.832		0.555															
		0.958			-0.451																										
53"	101	-0°	-0° 3'	53"		0°	-0° 28'	52"	272°	8' 48"	0°	0' 14"	0°	0' 17"	0°	0' 11"	-0°	3'													
		28' 52"			8' 48"																										
0.020	101	1663688.	361			5393264.	453		11303.	852		0.685		0.677		0.522															
		-0.046			0.192																										
19"	201	0°	0° 40'	19"		0°	0° 17'	36"	93°	29' 57"	0°	0' 13"	0°	0' 16"	0°	0' 6"	0°	40'													
		17' 36"			29' 57"																										
-0.712	201	1673095.	710			5393664.	118		11253.	603		0.766		0.623		0.389															
		0.394			0.311																										
202	202	0°	0° 39'	25"		-0°	-0° 4'	29"	93°	41' 15"	0°	0' 12"	0°	0' 16"	0°	0' 5"	0°	39'													
		39' 25"			41' 15"																										

202	1673286.113	5388213.976	11255.988	0.766	0.608	0.404
0.214	0.648	0.387				
103	0° 27' 21"	1° 19' 59"	272° 15' 28"	0° 0' 13"	0° 0' 15"	0° 0' 8"
21"	1° 19' 59"	272° 15' 28"				0° 27'
103	1664091.121	5382370.544	11313.618	0.677	0.646	0.503
-0.357	-0.309	0.018				
102	-0° 10' 57"	0° 30' 15"	272° 3' 49"	0° 0' 13"	0° 0' 16"	0° 0' 8"
57"	0° 30' 15"	272° 3' 49"				-0° 10'
102	1663897.497	5387856.912	11302.180	0.656	0.592	0.505
0.204	-0.599	0.336				
303	0° 8' 3"	-0° 24' 57"	92° 48' 45"	0° 0' 12"	0° 0' 30"	0° 0' 5"
3"	-0° 24' 57"	92° 48' 45"				0° 8'
303	1682845.606	5383115.848	11238.394	1.345	0.634	0.552
0.015	0.381	0.013				
304	-0° 40' 3"	-0° 21' 41"	92° 43' 41"	0° 0' 12"	0° 0' 30"	0° 0' 5"
3"	-0° 21' 41"	92° 43' 41"				-0° 40'
304	1683010.800	5377751.566	11264.186	1.358	0.651	0.548
0.047	-0.440	0.113				
405	-0° 13' 35"	0° 54' 40"	271° 46' 34"	0° 0' 17"	0° 0' 44"	0° 0' 11"
35"	0° 54' 40"	271° 46' 34"				-0° 13'
405	1692804.225	5372468.608	11280.761	1.971	0.796	0.598
0.091	-0.791	-0.258				
406	-0° 53' 28"	1° 2' 30"	271° 56' 27"	0° 0' 21"	0° 0' 44"	0° 0' 17"
28"	1° 2' 30"	271° 56' 27"				-0° 53'
406	1692989.971	5367061.831	11261.866	1.967	0.917	0.757
0.027	-0.518	-0.349				
404	0° 9' 58"	0° 25' 19"	272° 9' 34"	0° 0' 14"	0° 0' 44"	0° 0' 8"
58"	0° 25' 19"	272° 9' 34"				0° 9'
404	1692621.383	5377890.890	11304.005	1.981	0.699	0.515
0.308	-0.266	0.181				
305	-0° 40' 49"	-0° 6' 0"	93° 9' 55"	0° 0' 13"	0° 0' 30"	0° 0' 6"
49"	-0° 6' 0"	93° 9' 55"				-0° 40'
305	1683188.089	5372324.605	11314.774	1.349	0.670	0.546
-0.561	0.853	-0.151				
104	-0° 0' 11"	0° 30' 43"	273° 35' 28"	0° 0' 13"	0° 0' 15"	0° 0' 8"
11"	0° 30' 43"	273° 35' 28"				-0° 0'
104	1664327.633	5376982.432	11273.364	0.705	0.659	0.525
-0.584	0.141	0.068				
203	0° 33' 18"	-0° 44' 56"	93° 12' 42"	0° 0' 12"	0° 0' 17"	0° 0' 5"
18"	-0° 44' 56"	93° 12' 42"				0° 33'
203	1673457.006	5382798.214	11241.301	0.781	0.597	0.423
-0.206	0.300	0.350				
204	-0° 18' 4"	-0° 55' 20"	92° 54' 15"	0° 0' 12"	0° 0' 18"	0° 0' 5"
4"	-0° 55' 20"	92° 54' 15"				-0° 18'
204	1673605.073	5377362.279	11285.067	0.826	0.612	0.443
0.372	-0.395	0.328				
105	-0° 5' 4"	-0° 8' 44"	273° 8' 23"	0° 0' 13"	0° 0' 15"	0° 0' 8"
4"	-0° 8' 44"	273° 8' 23"				-0° 5'
105	1664666.845	5371590.845	11279.015	0.722	0.701	0.528
-0.350	0.339	0.230				

306	0° 0' 18" 24"	0° 3' 10"	93° 38' 20"	93° 38' 20"	0° 0' 13"	0° 0' 30"	0° 0' 7"	0° 18'
24"	0° 3' 10"	93° 38' 20"	5366812.649	11294.172	1.360	0.680	0.541	
306	1683431.739	5366812.649						
0.036	0.304	-0.066						
205	0° 1' 20"	0° 6' 48"	94° 2' 21"	94° 2' 21"	0° 0' 12"	0° 0' 18"	0° 0' 5"	0° 1'
20"	0° 6' 48"	94° 2' 21"	5371962.773	11321.145	0.867	0.647	0.442	
205	1673763.420	5371962.773						
0.138	-0.153	0.312						
206	0° 26' 43"	0° 3' 22"	94° 44' 55"	94° 44' 55"	0° 0' 12"	0° 0' 19"	0° 0' 5"	0° 26'
43"	0° 3' 22"	94° 44' 55"	5366467.692	11322.813	0.900	0.645	0.399	
206	1674007.285	5366467.692						
-0.220	0.742	0.339						
106	0° 5' 39"	0° 23' 45"	271° 55' 37"	271° 55' 37"	0° 0' 13"	0° 0' 16"	0° 0' 8"	0° 5'
39"	0° 23' 45"	271° 55' 37"	5366159.196	11287.006	0.759	0.706	0.526	
106	1664918.053	5366159.196						
-0.243	-0.276	0.283						
307	0° 20' 7"	-0° 54' 36"	92° 52' 34"	92° 52' 34"	0° 0' 13"	0° 0' 30"	0° 0' 7"	0° 20'
7"	-0° 54' 36"	92° 52' 34"	5361375.322	11252.470	1.326	0.691	0.555	
307	1683678.757	5361375.322						
0.078	0.495	0.075						
207	0° 33' 9"	-1° 4' 8"	93° 41' 44"	93° 41' 44"	0° 0' 13"	0° 0' 20"	0° 0' 6"	0° 33'
9"	-1° 4' 8"	93° 41' 44"	5361034.739	11299.008	0.932	0.627	0.423	
207	1674244.360	5361034.739						
0.084	0.067	0.103						
108	-0° 4' 8"	0° 31' 7"	272° 21' 16"	272° 21' 16"	0° 0' 13"	0° 0' 16"	0° 0' 9"	-0° 4'
8"	0° 31' 7"	272° 21' 16"	5355281.183	11275.447	0.788	0.705	0.537	
108	1665235.369	5355281.183						
-0.468	-0.395	0.375						
107	0° 17' 34"	0° 49' 12"	271° 30' 40"	271° 30' 40"	0° 0' 13"	0° 0' 16"	0° 0' 9"	0° 17'
34"	0° 49' 12"	271° 30' 40"	5360679.628	11286.957	0.767	0.702	0.528	
107	1665080.756	5360679.628						
-0.318	-0.072	0.291						
308	-0° 53' 46"	-0° 45' 30"	92° 22' 52"	92° 22' 52"	0° 0' 14"	0° 0' 30"	0° 0' 8"	-0° 53'
46"	-0° 45' 30"	92° 22' 52"	5355996.959	11317.794	1.333	0.717	0.560	
308	1683855.038	5355996.959						
0.356	0.142	-0.241						
208	0° 9' 33"	-1° 16' 37"	92° 58' 24"	92° 58' 24"	0° 0' 12"	0° 0' 20"	0° 0' 6"	0° 9'
33"	-1° 16' 37"	92° 58' 24"	5355633.171	11292.496	0.932	0.655	0.412	
208	1674407.715	5355633.171						
-0.086	-0.053	-0.072						
309	-0° 12' 56"	0° 47' 36"	94° 20' 51"	94° 20' 51"	0° 0' 13"	0° 0' 29"	0° 0' 8"	-0° 12'
56"	0° 47' 36"	94° 20' 51"	5350551.326	11369.294	1.275	0.713	0.573	
309	1684109.241	5350551.326						
0.036	0.092	0.110						
209	-0° 5' 18"	-0° 37' 59"	92° 46' 26"	92° 46' 26"	0° 0' 12"	0° 0' 21"	0° 0' 6"	-0° 5'
18"	-0° 37' 59"	92° 46' 26"	5350204.964	11301.705	0.995	0.666	0.467	
209	1674508.296	5350204.964						
-0.085	0.125	-0.160						
109	-0° 45' 16"	0° 15' 40"	272° 21' 25"	272° 21' 25"	0° 0' 13"	0° 0' 17"	0° 0' 9"	-0° 45'
16"	0° 15' 40"	272° 21' 25"						

109	1665431.610	5349862.870	11290.029	0.802	0.710	0.551	
-0.060	-0.936	0.096					
110	-0° 8' 18"	0° 48' 4"	271° 35' 18"	0° 0' 14"	0° 0' 18"	0° 0' 8"	-0° 8'
18"	0° 48' 4"	271° 35' 18"					
110	1665625.528	5344362.816	11350.585	0.833	0.716	0.559	
-0.126	-0.519	0.074					
310	1° 7' 29"	-1° 5' 25"	92° 52' 47"	0° 0' 13"	0° 0' 28"	0° 0' 8"	1° 7'
29"	-1° 5' 25"	92° 52' 47"					
310	1684386.650	5345093.534	11254.684	1.230	0.684	0.577	
0.633	0.522	-0.045					
311	-0° 9' 33"	-0° 45' 21"	92° 42' 12"	0° 0' 13"	0° 0' 27"	0° 0' 8"	-0° 9'
33"	-0° 45' 21"	92° 42' 12"					
311	1684550.411	5339756.970	11270.438	1.201	0.681	0.560	
0.359	-0.380	-0.034					
210	0° 13' 12"	-0° 17' 28"	92° 55' 19"	0° 0' 13"	0° 0' 22"	0° 0' 6"	0° 13'
12"	-0° 17' 28"	92° 55' 19"					
210	1674620.562	5344730.827	11288.844	1.029	0.665	0.484	
-0.306	0.546	-0.114					
211	0° 10' 52"	-0° 14' 42"	93° 15' 33"	0° 0' 12"	0° 0' 22"	0° 0' 6"	0° 10'
52"	-0° 14' 42"	93° 15' 33"					
211	1674746.699	5339342.859	11283.416	1.026	0.653	0.474	
-0.242	0.677	0.089					
112	0° 41' 4"	0° 53' 45"	270° 53' 54"	0° 0' 13"	0° 0' 19"	0° 0' 8"	0° 41'
4"	0° 53' 45"	270° 53' 54"					
112	1665986.839	5333504.793	11263.686	0.872	0.682	0.539	
0.421	-0.812	0.211					
111	0° 14' 17"	-0° 26' 16"	273° 4' 40"	0° 0' 13"	0° 0' 18"	0° 0' 8"	0° 14'
17"	-0° 26' 16"	273° 4' 40"					
111	1665774.253	5338993.879	11301.502	0.833	0.710	0.547	
0.093	0.209	0.441					
114	0° 7' 20"	0° 26' 0"	271° 4' 43"	0° 0' 20"	0° 0' 21"	0° 0' 17"	0° 7'
20"	0° 26' 0"	271° 4' 43"					
114	1666195.572	5322695.309	11262.460	0.958	0.827	0.716	
0.822	-1.144	-0.470					
113	-0° 3' 49"	2° 13' 34"	271° 12' 1"	0° 0' 15"	0° 0' 20"	0° 0' 11"	-0° 3'
49"	2° 13' 34"	271° 12' 1"					
113	1666081.878	5328159.655	11227.946	0.853	0.661	0.550	
-0.017	-0.895	0.062					
212	-0° 2' 44"	-0° 2' 60"	94° 13' 25"	0° 0' 12"	0° 0' 23"	0° 0' 6"	-0° 2'
44"	-0° 2' 60"	94° 13' 25"					
212	1674944.416	5333902.774	11284.693	1.040	0.636	0.461	
0.309	0.455	0.027					
312	-0° 35' 45"	-0° 10' 15"	92° 41' 37"	0° 0' 13"	0° 0' 27"	0° 0' 8"	-0° 35'
45"	-0° 10' 15"	92° 41' 37"					
312	1684702.060	5334313.466	11291.809	1.181	0.674	0.530	
0.312	0.407	0.596					
313	0° 2' 35"	-0° 14' 51"	92° 50' 18"	0° 0' 14"	0° 0' 27"	0° 0' 9"	0° 2'
35"	-0° 14' 51"	92° 50' 18"					
313	1684887.865	5328840.747	11276.899	1.179	0.685	0.514	
-0.378	-0.290	0.418					

314	0° 15' 50"	-0° 27' 48"	92° 40' 33"	92° 40' 33"	0° 0' 20"	0° 0' 28"	0° 0' 14"	0° 15'
50"	-0° 27' 48"	92° 40' 33"	.	.	.	.	.	.
314	1685053.166	5323368.454	11251.700	.	1.238	0.831	0.664	.
-0.114	-1.400	-0.998	.	.	.	.	.	.
213	0° 7' 38"	0° 24' 44"	95° 39' 21"	95° 39' 21"	0° 0' 13"	0° 0' 22"	0° 0' 7"	0° 7'
38"	0° 24' 44"	95° 39' 21"	.	.	.	.	.	.
213	1675234.382	5328468.226	11264.802	.	1.014	0.669	0.464	.
0.097	0.621	0.004	.	.	.	.	.	.
214	0° 10' 0"	-0° 58' 1"	95° 15' 32"	95° 15' 32"	0° 0' 19"	0° 0' 24"	0° 0' 12"	0° 10'
0"	-0° 58' 1"	95° 15' 32"	.	.	.	.	.	.
214	1675629.048	5323082.019	11263.672	.	1.169	0.839	0.623	.
0.023	-0.572	-0.849	.	.	.	.	.	.

-- Mean Standard Deviations for the Elements of Exterior Orientation --

Omega	0° 0' 14"	(dms)
Phi	0° 0' 25"	(dms)
Kappa	0° 0' 8"	(dms)
XL	1.147	(ground units)
YL	0.702	(ground units)
ZL	0.536	(ground units)

-- RMSE for the Elements of Exterior Orientation --

Omega	0° 30' 4"	(dms)
Phi	0° 43' 16"	(dms)
Kappa	190° 38' 4"	(dms)
XL	0.322	(ground units)
YL	0.546	(ground units)
ZL	0.371	(ground units)

♀KMI  
AeroSys-AT Bundle Adjustment, <PRO Pkg> AeroSys-AT v7.2 © 1989-2009 MHS  
Project ID: Foothills 4-7

9/22/2009

-- Final Adjusted Object Space Coordinates, Standard Errors, and Residuals --

<---- XYZ Ground Coordinates -----><- Predicted Standard Error -><----	
Observation (GCP) Residuals ----->	<----->
<No> <--Point ID--><---Xg---><---Yg---><---Zg---><---Sx---><---Sy---><---Sz---><---Vx---><---Vy---><---Vz---><---Vs--->	<----->

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<CONTROL POINTS> <3D>

1 -0.023	0.013	1326 0.042	1663345.525	5389131.940	3296.675	0.096	0.097	0.100	-0.033
2 -0.066	-0.014	1327 0.073	1678177.224	5395769.965	2211.816	0.093	0.092	0.098	0.030
3 -0.008	0.012	1328 0.015	1694852.730	5397492.609	1967.376	0.097	0.098	0.100	0.002
4 0.025	0.007	1329 0.048	1692903.164	5375052.131	2130.381	0.096	0.097	0.100	0.041
5 0.023	-0.028	1330 0.043	1674080.975	5360821.139	1960.629	0.094	0.095	0.099	-0.023
6 0.028	0.003	1331 0.041	1668057.223	5326165.483	3007.624	0.096	0.097	0.100	-0.030
7 0.020	0.006	1332 0.025	1685981.592	5325751.356	2552.328	0.096	0.098	0.100	0.013

<CONTROL POINTS> <Horizontal>

<CONTROL POINTS> <Vertical>

<AUTO ELIMINATED CONTROL BLUNDER POINTS>

<-- Re-Scaled Input Weights -->  
<Final\_Sx> <Final\_Sy> <Final\_Sz>

<-- Projected Image Ray AMR Residuals -->

<PASS/TIE POINTS>

<--Sx--><--Sy--><--Sz--><--amrX--><--amrY--><--amrZ--><--rmsS-->

8 0.184	REL_4011 0.094	1668001.198	5398810.638	2297.963	0.387	0.366	0.668	0.227
9 0.001	REL_4012 0.004	1665786.020	5395948.981	2344.683	0.468	0.386	1.267	0.020
10 0.004	REL_4013 0.002	1663312.812	5398799.617	2281.800	0.486	0.638	1.565	0.097
11 0.005	REL_4014 0.017	1661014.920	5395511.229	2422.553	0.584	0.442	1.452	0.063
12 0.031	REL_4015 0.102	1658450.842	5398289.608	2260.591	1.170	0.780	1.966	0.207
13 0.123	REL_4021 0.155	1668150.287	5393502.994	2521.884	0.246	0.252	0.409	0.363
14 0.002	REL_4022 0.007	1665801.020	5390612.996	3043.447	0.357	0.299	0.913	0.032
15 	REL_4023 	1663549.796	5393154.168	2530.918	0.281	0.329	0.709	0.086

0. 067	0. 018								
16	REL_4025	1658700. 986	5393154. 429	2306. 189	0. 596	0. 430	0. 964	0. 138	
0. 017	0. 066								
17	REL_4031	1668520. 010	5387925. 055	2665. 087	0. 222	0. 222	0. 356	0. 323	
0. 178	0. 200								
18	REL_4032	1666255. 046	5384617. 755	2779. 855	0. 384	0. 329	1. 002	0. 057	
0. 005	0. 014								
19	REL_4033	1663948. 354	5387974. 165	3185. 531	0. 239	0. 280	0. 558	0. 163	
0. 117	0. 032								
20	REL_4034	1661638. 763	5385057. 055	2615. 505	0. 436	0. 360	1. 138	0. 007	
0. 000	0. 002								
21	REL_4035	1659100. 110	5387551. 570	2591. 743	0. 474	0. 356	0. 754	0. 245	
0. 065	0. 115								
22	REL_4041	1668420. 482	5382716. 760	2802. 882	0. 227	0. 224	0. 356	0. 491	
0. 179	0. 207								
23	REL_4042	1666019. 667	5379825. 599	3164. 998	0. 366	0. 336	1. 014	0. 002	
0. 000	0. 000								
24	REL_4043	1663870. 575	5382209. 713	2942. 114	0. 261	0. 320	0. 641	0. 118	
0. 019	0. 004								
25	REL_4045	1659134. 987	5381885. 886	2364. 853	0. 516	0. 394	0. 841	0. 173	
0. 087	0. 111								
26	REL_4051	1668692. 365	5377245. 810	2921. 485	0. 233	0. 228	0. 362	0. 356	
0. 117	0. 212								
27	REL_4052	1666803. 923	5374617. 065	2522. 015	0. 428	0. 356	1. 152	0. 010	
0. 001	0. 002								
28	REL_4053	1664264. 958	5376654. 498	2845. 041	0. 277	0. 336	0. 688	0. 179	
0. 051	0. 014								
29	REL_4054	1661800. 528	5373643. 018	1939. 636	0. 567	0. 435	1. 469	0. 062	
0. 005	0. 017								
30	REL_4055	1659090. 525	5376594. 081	1872. 641	0. 593	0. 418	0. 944	0. 188	
0. 076	0. 111								
31	REL_4061	1669571. 486	5371849. 750	2251. 927	0. 239	0. 234	0. 402	0. 402	
0. 199	0. 191								
32	REL_4062	1667224. 344	5368871. 101	2008. 637	0. 456	0. 368	1. 253	0. 049	
0. 003	0. 012								
33	REL_4063	1664704. 405	5371215. 952	2029. 500	0. 298	0. 352	0. 782	0. 152	
0. 139	0. 040								
34	REL_4064	1662392. 175	5368557. 199	1960. 219	0. 534	0. 429	1. 460	0. 058	
0. 004	0. 014								
35	REL_4065	1659633. 864	5371248. 080	1894. 863	0. 589	0. 427	0. 963	0. 295	
0. 043	0. 138								
36	REL_4071	1670031. 055	5366302. 117	2075. 091	0. 235	0. 232	0. 403	0. 342	
0. 139	0. 164								
37	REL_4072	1667442. 829	5363352. 354	1920. 185	0. 459	0. 369	1. 258	0. 036	
0. 003	0. 009								
38	REL_4073	1664801. 007	5365977. 539	1970. 675	0. 301	0. 353	0. 780	0. 035	
0. 010	0. 002								
39	REL_4074	1662475. 254	5363161. 263	1979. 563	0. 549	0. 434	1. 465	0. 015	
0. 001	0. 004								
40	REL_4075	1659668. 295	5365974. 636	1898. 086	0. 613	0. 436	0. 975	0. 238	

0. 047	0. 114								
41	REL_4081	1669949. 453	5360786. 224	1974. 714	0. 233	0. 224	0. 391	0. 358	
0. 124	0. 115								
42	REL_4082	1667451. 525	5357922. 354	2062. 577	0. 451	0. 371	1. 266	0. 028	
0. 002	0. 006								
43	REL_4083	1664888. 041	5360600. 097	2003. 953	0. 301	0. 352	0. 773	0. 036	
0. 024	0. 005								
44	REL_4084	1662568. 342	5357784. 020	2090. 956	0. 566	0. 437	1. 483	0. 012	
0. 001	0. 003								
45	REL_4085	1659879. 935	5360631. 665	1977. 339	0. 612	0. 437	0. 966	0. 297	
0. 123	0. 145								
46	REL_4091	1670081. 995	5355466. 330	2034. 639	0. 245	0. 241	0. 421	0. 297	
0. 129	0. 140								
47	REL_4092	1667712. 033	5352515. 100	2089. 558	0. 468	0. 383	1. 297	0. 039	
0. 003	0. 009								
48	REL_4093	1665154. 977	5355165. 762	2066. 967	0. 306	0. 361	0. 795	0. 044	
0. 031	0. 007								
49	REL_4094	1662934. 856	5352322. 060	2116. 538	0. 553	0. 445	1. 499	0. 020	
0. 001	0. 005								
50	REL_4095	1659774. 532	5355017. 856	2038. 600	0. 657	0. 450	0. 996	0. 235	
0. 046	0. 122								
51	REL_4101	1670231. 726	5349865. 059	2019. 893	0. 259	0. 254	0. 450	0. 400	
0. 147	0. 143								
52	REL_4102	1667953. 597	5346943. 614	2038. 347	0. 482	0. 396	1. 333	0. 017	
0. 001	0. 004								
53	REL_4103	1665338. 898	5349677. 808	2115. 435	0. 315	0. 375	0. 823	0. 033	
0. 032	0. 008								
54	REL_4104	1663158. 265	5346753. 813	2106. 769	0. 562	0. 458	1. 522	0. 102	
0. 007	0. 024								
55	REL_4105	1660439. 720	5349530. 631	2071. 929	0. 618	0. 453	0. 995	0. 242	
0. 079	0. 116								
56	REL_4111	1670544. 308	5344482. 844	2049. 684	0. 264	0. 256	0. 459	0. 304	
0. 106	0. 149								
57	REL_4112	1667978. 209	5341541. 823	2104. 002	0. 472	0. 394	1. 351	0. 042	
0. 003	0. 009								
58	REL_4113	1665373. 724	5344413. 606	2084. 938	0. 324	0. 381	0. 841	0. 088	
0. 013	0. 006								
59	REL_4114	1663049. 285	5341457. 895	2131. 499	0. 603	0. 457	1. 560	0. 049	
0. 004	0. 013								
60	REL_4115	1660450. 803	5344157. 746	2145. 982	0. 643	0. 459	1. 005	0. 208	
0. 045	0. 103								
61	REL_4121	1670935. 643	5339206. 801	2081. 133	0. 261	0. 252	0. 454	0. 350	
0. 096	0. 156								
62	REL_4122	1668422. 526	5336261. 378	2097. 658	0. 473	0. 376	1. 256	0. 049	
0. 004	0. 012								
63	REL_4123	1665876. 647	5338888. 422	2095. 792	0. 314	0. 370	0. 818	0. 119	
0. 051	0. 013								
64	REL_4124	1663526. 451	5336006. 352	2121. 861	0. 534	0. 433	1. 439	0. 006	
0. 000	0. 001								
65	REL_4125	1660874. 941	5338669. 661	2112. 025	0. 610	0. 447	0. 994	0. 330	

0. 184	0. 142								
66	REL_4131	1670821. 068	5333495. 242	2776. 625	0. 243	0. 237	0. 389	0. 345	
0. 119	0. 168								
67	REL_4132	1668467. 924	5331013. 140	2324. 326	0. 433	0. 342	1. 137	0. 001	
0. 000	0. 000								
68	REL_4133	1665834. 238	5333318. 483	2146. 640	0. 298	0. 347	0. 762	0. 026	
0. 021	0. 006								
69	REL_4134	1663434. 570	5330578. 648	2095. 795	0. 532	0. 411	1. 400	0. 045	
0. 003	0. 012								
70	REL_4135	1660759. 667	5333606. 979	2084. 956	0. 619	0. 443	0. 990	0. 274	
0. 055	0. 135								
71	REL_4141	1670319. 120	5328255. 689	2461. 725	0. 238	0. 232	0. 390	0. 277	
0. 057	0. 118								
72	REL_4143	1665826. 040	5328102. 120	2457. 212	0. 274	0. 320	0. 686	0. 085	
0. 002	0. 003								
73	REL_4144	1663320. 547	5325157. 074	2189. 154	0. 572	0. 443	1. 444	0. 038	
0. 003	0. 011								
74	REL_4145	1660649. 578	5328021. 464	2081. 136	0. 673	0. 473	1. 066	0. 305	
0. 082	0. 157								
75	REL_4151	1670403. 151	5322762. 121	2404. 728	0. 340	0. 320	0. 594	0. 104	
0. 080	0. 054								
76	REL_4153	1665425. 719	5322553. 591	2371. 714	0. 404	0. 578	1. 397	0. 052	
0. 001	0. 004								
77	REL_4155	1660879. 846	5322486. 668	2154. 397	1. 136	0. 847	1. 930	0. 202	
0. 025	0. 102								
78	REL_5011	1677732. 277	5399851. 322	2139. 481	0. 263	0. 290	0. 461	0. 196	
0. 071	0. 094								
79	REL_5012	1675390. 944	5396645. 779	2408. 321	0. 402	0. 301	0. 980	0. 013	
0. 001	0. 003								
80	REL_5013	1672828. 960	5399336. 514	2227. 656	0. 358	0. 498	1. 186	0. 022	
0. 001	0. 000								
81	REL_5014	1670608. 930	5396361. 044	2277. 174	0. 438	0. 357	1. 184	0. 064	
0. 005	0. 016								
82	REL_5021	1677782. 265	5394064. 188	2298. 967	0. 189	0. 195	0. 298	0. 261	
0. 041	0. 131								
83	REL_5022	1675512. 511	5391314. 557	2755. 711	0. 380	0. 297	0. 923	0. 010	
0. 001	0. 003								
84	REL_5023	1673306. 957	5393578. 239	2849. 543	0. 238	0. 269	0. 542	0. 114	
0. 046	0. 014								
85	REL_5024	1670806. 934	5390805. 930	2357. 066	0. 398	0. 322	1. 048	0. 019	
0. 001	0. 005								
86	REL_5031	1677980. 971	5388618. 614	2462. 655	0. 201	0. 206	0. 320	0. 297	
0. 101	0. 166								
87	REL_5032	1675796. 744	5385724. 483	2473. 610	0. 399	0. 311	1. 005	0. 090	
0. 007	0. 023								
88	REL_5033	1673310. 427	5388126. 439	2446. 333	0. 240	0. 275	0. 576	0. 118	
0. 038	0. 011								
89	REL_5034	1671176. 703	5385448. 595	2582. 314	0. 379	0. 313	1. 000	0. 021	
0. 002	0. 005								
90	REL_5041	1678302. 011	5383144. 662	2394. 467	0. 215	0. 217	0. 349	0. 346	

0. 131	0. 160								
91	REL_5042	1676077. 062	5380321. 645	2505. 263	0. 412	0. 318	1. 022	0. 050	
0. 004	0. 013								
92	REL_5043	1673529. 527	5382810. 229	2636. 080	0. 241	0. 278	0. 572	0. 060	
0. 028	0. 008								
93	REL_5044	1671466. 549	5380114. 497	2809. 132	0. 370	0. 313	0. 975	0. 001	
0. 000	0. 000								
94	REL_5051	1678452. 737	5377375. 653	2341. 378	0. 222	0. 222	0. 364	0. 296	
0. 092	0. 144								
95	REL_5052	1676285. 363	5374686. 937	2427. 816	0. 427	0. 325	1. 067	0. 028	
0. 002	0. 007								
96	REL_5053	1673625. 283	5377334. 066	2676. 467	0. 245	0. 284	0. 585	0. 129	
0. 044	0. 013								
97	REL_5054	1671572. 899	5374467. 171	2618. 556	0. 389	0. 327	1. 046	0. 065	
0. 005	0. 015								
98	REL_5061	1678571. 692	5372355. 949	2193. 286	0. 227	0. 226	0. 378	0. 231	
0. 122	0. 117								
99	REL_5062	1676386. 965	5369323. 657	2230. 632	0. 419	0. 327	1. 082	0. 026	
0. 002	0. 007								
100	REL_5063	1673692. 103	5371872. 278	2395. 575	0. 253	0. 293	0. 623	0. 162	
0. 060	0. 017								
101	REL_5064	1671494. 569	5368988. 354	2133. 232	0. 423	0. 339	1. 129	0. 006	
0. 000	0. 001								
102	REL_5071	1678881. 492	5366844. 907	2242. 534	0. 227	0. 225	0. 373	0. 283	
0. 080	0. 134								
103	REL_5072	1676724. 636	5364079. 757	2066. 877	0. 425	0. 320	1. 086	0. 064	
0. 005	0. 017								
104	REL_5073	1673951. 443	5366671. 051	2091. 953	0. 254	0. 290	0. 632	0. 118	
0. 036	0. 008								
105	REL_5074	1671785. 841	5363359. 267	1953. 455	0. 409	0. 328	1. 115	0. 016	
0. 001	0. 004								
106	REL_5081	1679664. 458	5361409. 410	2178. 514	0. 233	0. 222	0. 373	0. 245	
0. 090	0. 142								
107	REL_5082	1677063. 885	5358472. 554	2089. 575	0. 444	0. 323	1. 098	0. 052	
0. 004	0. 014								
108	REL_5083	1674469. 413	5360961. 529	1967. 427	0. 250	0. 266	0. 577	0. 028	
0. 074	0. 018								
109	REL_5084	1672154. 676	5358105. 201	2051. 046	0. 398	0. 326	1. 110	0. 050	
0. 003	0. 011								
110	REL_5091	1679568. 187	5355851. 510	2154. 687	0. 248	0. 236	0. 404	0. 361	
0. 103	0. 160								
111	REL_5092	1677125. 417	5352824. 021	2108. 412	0. 463	0. 348	1. 175	0. 107	
0. 008	0. 029								
112	REL_5093	1674561. 241	5355620. 306	2026. 937	0. 262	0. 297	0. 656	0. 163	
0. 137	0. 034								
113	REL_5094	1672272. 949	5352711. 383	2075. 664	0. 425	0. 353	1. 194	0. 008	
0. 001	0. 002								
114	REL_5101	1679620. 747	5350474. 091	2293. 717	0. 258	0. 245	0. 413	0. 361	
0. 099	0. 140								
115	REL_5102	1677148. 871	5347382. 228	2204. 471	0. 467	0. 358	1. 189	0. 095	

0. 007	0. 025								
116	REL_5103	1674479. 137	5350005. 723	2088. 598	0. 276	0. 317	0. 691	0. 165	
0. 036	0. 009								
117	REL_5104	1672197. 838	5347130. 148	2079. 404	0. 455	0. 370	1. 235	0. 045	
0. 003	0. 011								
118	REL_5111	1679340. 310	5345053. 887	2477. 918	0. 258	0. 243	0. 403	0. 242	
0. 092	0. 167								
119	REL_5112	1677253. 541	5342066. 686	2317. 558	0. 468	0. 356	1. 183	0. 054	
0. 004	0. 014								
120	REL_5113	1674641. 682	5344521. 282	2111. 608	0. 282	0. 321	0. 705	0. 107	
0. 072	0. 019								
121	REL_5114	1672361. 679	5341774. 130	2110. 111	0. 457	0. 367	1. 246	0. 004	
0. 000	0. 001								
122	REL_5121	1679443. 517	5339618. 619	2472. 121	0. 259	0. 245	0. 405	0. 323	
0. 088	0. 154								
123	REL_5122	1677585. 036	5336606. 642	2332. 519	0. 472	0. 349	1. 146	0. 093	
0. 008	0. 026								
124	REL_5123	1674773. 826	5339201. 349	2137. 147	0. 280	0. 317	0. 695	0. 067	
0. 068	0. 018								
125	REL_5124	1672525. 541	5336373. 298	2274. 184	0. 441	0. 352	1. 161	0. 010	
0. 001	0. 002								
126	REL_5131	1679837. 345	5334164. 512	2414. 763	0. 255	0. 246	0. 408	0. 282	
0. 093	0. 115								
127	REL_5132	1677179. 530	5331113. 436	2326. 844	0. 414	0. 337	1. 105	0. 082	
0. 005	0. 017								
128	REL_5133	1674908. 207	5333560. 299	2299. 169	0. 274	0. 301	0. 647	0. 096	
0. 074	0. 020								
129	REL_5134	1672817. 353	5331001. 532	2520. 395	0. 423	0. 332	1. 064	0. 002	
0. 000	0. 000								
130	REL_5141	1680018. 885	5328585. 764	2344. 782	0. 257	0. 256	0. 426	0. 246	
0. 095	0. 146								
131	REL_5142	1677542. 632	5325944. 952	2396. 303	0. 445	0. 350	1. 141	0. 074	
0. 006	0. 016								
132	REL_5143	1675135. 702	5328331. 551	2344. 591	0. 280	0. 295	0. 632	0. 059	
0. 006	0. 001								
133	REL_5144	1672957. 014	5325376. 819	2369. 642	0. 474	0. 346	1. 128	0. 012	
0. 001	0. 003								
134	REL_5151	1680385. 756	5323490. 391	2566. 119	0. 348	0. 327	0. 593	0. 285	
0. 050	0. 130								
135	REL_5153	1675652. 913	5322859. 777	2443. 399	0. 421	0. 497	1. 206	0. 025	
0. 002	0. 000								
136	REL_6011	1687377. 686	5399798. 835	1994. 939	0. 419	0. 360	0. 808	0. 237	
0. 027	0. 113								
137	REL_6012	1685013. 549	5396440. 820	2048. 061	0. 463	0. 377	1. 316	0. 078	
0. 006	0. 021								
138	REL_6013	1682319. 662	5399275. 012	2103. 506	0. 356	0. 437	1. 233	0. 029	
0. 001	0. 000								
139	REL_6014	1680040. 205	5396188. 666	2118. 387	0. 402	0. 310	1. 046	0. 027	
0. 002	0. 006								
140	REL_6021	1687386. 654	5394135. 625	2048. 461	0. 318	0. 316	0. 602	0. 166	

0. 117	0. 102								
141	REL_6022	1685134. 799	5391162. 750	2099. 083	0. 426	0. 364	1. 218	0. 063	
0. 005	0. 016								
142	REL_6023	1682408. 929	5393820. 575	2115. 720	0. 251	0. 303	0. 682	0. 074	
0. 135	0. 038								
143	REL_6024	1680298. 195	5390951. 373	2161. 560	0. 390	0. 315	1. 037	0. 064	
0. 004	0. 015								
144	REL_6031	1687702. 781	5388808. 914	2010. 948	0. 312	0. 303	0. 582	0. 273	
0. 109	0. 108								
145	REL_6032	1685357. 509	5385982. 441	2085. 471	0. 430	0. 359	1. 201	0. 044	
0. 003	0. 011								
146	REL_6033	1682701. 988	5388517. 257	2139. 112	0. 249	0. 303	0. 667	0. 096	
0. 042	0. 010								
147	REL_6034	1680455. 348	5385748. 229	2219. 202	0. 395	0. 317	1. 043	0. 009	
0. 001	0. 002								
148	REL_6041	1687878. 602	5383259. 053	2044. 665	0. 307	0. 295	0. 563	0. 250	
0. 100	0. 128								
149	REL_6043	1682810. 624	5383160. 355	2165. 467	0. 251	0. 299	0. 658	0. 046	
0. 068	0. 017								
150	REL_6051	1687972. 974	5377820. 182	2119. 921	0. 304	0. 290	0. 548	0. 267	
0. 091	0. 126								
151	REL_6052	1685637. 881	5374917. 051	2201. 794	0. 429	0. 355	1. 186	0. 020	
0. 001	0. 005								
152	REL_6053	1682899. 171	5377545. 504	2137. 183	0. 254	0. 299	0. 663	0. 021	
0. 039	0. 010								
153	REL_6054	1680775. 091	5374762. 338	2233. 927	0. 408	0. 326	1. 080	0. 031	
0. 002	0. 007								
154	REL_6061	1687992. 932	5372449. 319	2223. 549	0. 308	0. 296	0. 550	0. 227	
0. 042	0. 122								
155	REL_6062	1685835. 027	5369263. 280	2179. 482	0. 443	0. 375	1. 229	0. 038	
0. 003	0. 010								
156	REL_6063	1682734. 917	5372019. 939	2157. 892	0. 260	0. 304	0. 662	0. 090	
0. 168	0. 050								
157	REL_6064	1680881. 023	5369229. 221	2166. 774	0. 424	0. 337	1. 106	0. 028	
0. 002	0. 007								
158	REL_6071	1688564. 062	5366930. 844	2191. 914	0. 425	0. 358	0. 767	0. 225	
0. 077	0. 131								
159	REL_6072	1686081. 552	5364302. 302	2181. 055	0. 480	0. 391	1. 307	0. 071	
0. 005	0. 018								
160	REL_6073	1682763. 670	5366795. 499	2156. 440	0. 269	0. 310	0. 674	0. 043	
0. 008	0. 001								
161	REL_6074	1681177. 740	5363883. 395	2147. 801	0. 430	0. 342	1. 141	0. 117	
0. 009	0. 028								
162	REL_6081	1688456. 051	5361497. 039	2278. 915	0. 543	0. 446	1. 010	0. 220	
0. 104	0. 095								
163	REL_6082	1686364. 634	5358756. 966	2251. 352	0. 531	0. 413	1. 388	0. 032	
0. 002	0. 009								
164	REL_6083	1683776. 469	5361419. 192	2236. 333	0. 283	0. 326	0. 710	0. 190	
0. 052	0. 017								
165	REL_6084	1681491. 789	5358528. 502	2176. 106	0. 437	0. 353	1. 189	0. 042	

0. 003	0. 010								
166	REL_6091	1688858. 402	5355938. 183	2349. 396	0. 603	0. 477	1. 066	0. 239	
0. 135	0. 115								
167	REL_6092	1686393. 693	5353129. 636	2282. 613	0. 539	0. 442	1. 469	0. 029	
0. 002	0. 007								
168	REL_6093	1683906. 071	5355909. 450	2278. 280	0. 299	0. 347	0. 753	0. 114	
0. 009	0. 004								
169	REL_6094	1681507. 761	5352985. 533	2260. 074	0. 469	0. 373	1. 236	0. 057	
0. 004	0. 014								
170	REL_6101	1688522. 664	5350818. 358	2342. 647	0. 566	0. 480	1. 073	0. 206	
0. 073	0. 089								
171	REL_6102	1686600. 722	5348149. 620	2438. 911	0. 542	0. 462	1. 494	0. 072	
0. 005	0. 018								
172	REL_6103	1683952. 411	5350602. 448	2612. 387	0. 301	0. 364	0. 761	0. 103	
0. 041	0. 011								
173	REL_6104	1681878. 051	5347620. 763	2721. 747	0. 457	0. 376	1. 181	0. 063	
0. 005	0. 016								
174	REL_6111	1689277. 134	5345455. 171	2483. 636	0. 629	0. 510	1. 124	0. 136	
0. 097	0. 069								
175	REL_6112	1686454. 089	5342228. 608	2446. 166	0. 495	0. 448	1. 480	0. 096	
0. 006	0. 020								
176	REL_6113	1684425. 729	5345336. 499	2862. 997	0. 300	0. 372	0. 766	0. 177	
0. 038	0. 009								
177	REL_6114	1682392. 425	5342481. 880	2799. 012	0. 430	0. 374	1. 185	0. 009	
0. 001	0. 002								
178	REL_6121	1689378. 157	5339906. 111	2621. 410	0. 600	0. 499	1. 077	0. 266	
0. 129	0. 129								
179	REL_6122	1687154. 189	5337123. 320	2554. 494	0. 532	0. 438	1. 402	0. 038	
0. 003	0. 010								
180	REL_6123	1684865. 322	5339786. 649	2745. 248	0. 298	0. 372	0. 769	0. 049	
0. 022	0. 007								
181	REL_6124	1682234. 730	5336253. 648	2669. 808	0. 441	0. 370	1. 152	0. 026	
0. 002	0. 007								
182	REL_6131	1689289. 821	5334741. 948	2795. 232	0. 531	0. 459	0. 968	0. 294	
0. 047	0. 136								
183	REL_6132	1687132. 305	5331650. 561	2693. 136	0. 456	0. 386	1. 210	0. 014	
0. 001	0. 003								
184	REL_6133	1684727. 337	5334343. 960	2740. 252	0. 279	0. 343	0. 703	0. 090	
0. 191	0. 051								
185	REL_6134	1682493. 222	5331320. 993	2656. 558	0. 410	0. 341	1. 076	0. 019	
0. 001	0. 005								
186	REL_6141	1689385. 150	5329094. 875	2854. 799	0. 487	0. 408	0. 867	0. 176	
0. 025	0. 079								
187	REL_6142	1687196. 034	5326318. 338	2644. 396	0. 411	0. 342	1. 081	0. 028	
0. 002	0. 007								
188	REL_6143	1684767. 071	5328952. 762	2676. 836	0. 258	0. 307	0. 639	0. 133	
0. 061	0. 015								
189	REL_6144	1682656. 025	5325926. 212	2444. 652	0. 408	0. 336	1. 075	0. 004	
0. 000	0. 001								
190	REL_6151	1689882. 332	5323579. 640	2544. 252	0. 860	0. 564	1. 500	0. 147	

0. 023	0. 070								
191	REL_6153	1685178. 772	5323381. 187	2565. 416	0. 335	0. 461	1. 136	0. 009	
0. 000	0. 000								
192	REL_7011	1696617. 087	5400041. 632	1922. 094	0. 835	0. 596	1. 608	0. 089	
0. 010	0. 038								
193	REL_7012	1694294. 973	5396826. 069	1943. 144	0. 441	0. 344	1. 185	0. 023	
0. 002	0. 005								
194	REL_7013	1691719. 810	5399791. 355	1935. 253	0. 371	0. 492	1. 293	0. 058	
0. 001	0. 001								
195	REL_7014	1689258. 665	5396740. 526	1995. 641	0. 475	0. 390	1. 336	0. 043	
0. 003	0. 011								
196	REL_7021	1696752. 192	5394491. 587	2043. 603	0. 497	0. 402	0. 945	0. 134	
0. 062	0. 058								
197	REL_7022	1694490. 786	5391442. 048	2057. 091	0. 470	0. 376	1. 293	0. 054	
0. 004	0. 013								
198	REL_7023	1691842. 739	5394196. 584	1951. 614	0. 271	0. 320	0. 731	0. 126	
0. 035	0. 010								
199	REL_7024	1689514. 910	5391316. 675	1987. 463	0. 445	0. 374	1. 290	0. 005	
0. 000	0. 001								
200	REL_7031	1696888. 051	5389042. 531	2137. 017	0. 520	0. 445	1. 027	0. 217	
0. 078	0. 095								
201	REL_7032	1694509. 178	5386156. 083	2096. 082	0. 462	0. 396	1. 323	0. 005	
0. 000	0. 001								
202	REL_7033	1692073. 782	5388595. 065	2055. 423	0. 274	0. 330	0. 731	0. 040	
0. 023	0. 006								
203	REL_7034	1689546. 858	5385804. 764	2025. 616	0. 455	0. 377	1. 265	0. 002	
0. 000	0. 000								
204	REL_7041	1697226. 751	5383685. 924	2154. 617	0. 543	0. 472	1. 079	0. 297	
0. 064	0. 134								
205	REL_7042	1695065. 692	5380605. 343	2126. 430	0. 483	0. 391	1. 319	0. 076	
0. 006	0. 019								
206	REL_7043	1692341. 000	5383379. 992	2109. 907	0. 273	0. 328	0. 718	0. 086	
0. 015	0. 005								
207	REL_7044	1690063. 248	5380422. 841	2076. 796	0. 424	0. 356	1. 208	0. 012	
0. 001	0. 003								
208	REL_7051	1697352. 056	5377961. 215	2227. 934	0. 534	0. 457	1. 060	0. 251	
0. 160	0. 112								
209	REL_7052	1695094. 006	5375168. 070	2171. 361	0. 446	0. 368	1. 235	0. 011	
0. 001	0. 003								
210	REL_7053	1692368. 306	5377855. 139	2113. 756	0. 263	0. 306	0. 678	0. 054	
0. 002	0. 001								
211	REL_7054	1690208. 971	5375008. 689	2135. 471	0. 419	0. 338	1. 137	0. 039	
0. 003	0. 010								
212	REL_7061	1696964. 911	5372495. 051	2252. 408	0. 543	0. 490	1. 133	0. 129	
0. 023	0. 051								
213	REL_7062	1695263. 040	5369642. 077	2258. 274	0. 546	0. 483	1. 587	0. 007	
0. 001	0. 002								
214	REL_7063	1692666. 155	5372429. 369	2151. 899	0. 275	0. 331	0. 741	0. 047	
0. 136	0. 034								
215	REL_7064	1690334. 048	5369514. 954	2304. 425	0. 496	0. 392	1. 295	0. 018	

0.001	0.005								
216	REL_7071	1697463.397	5367032.495	2357.167	1.076	0.860	2.156	0.096	
0.015	0.041								
217	REL_7073	1692557.937	5366747.443	2319.262	0.450	0.646	1.604	0.032	
0.001	0.001								
					mean	0.410	0.363	0.965	0.120
0.041	0.047	0.139							

---

Mean Predicted Standard Errors

---

--- (including Control Points) ----- (excluding Control Points) ---

---

0.400	Sx	0.410	---
0.355	Sy	0.363	---
0.937	Sz	0.965	---
1.079	Spherical	1.110	---

---

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Project ID: Foothills 4-7  
System Memory Storage Summary

9/22/2009

No. of Cameras = 1 =====> 0.0 Kbytes  
No. of Photos = 52 =====> 10.2 Kbytes  
No. of Points = 217 =====> 20.3 Kbytes  
No. of Photo Coordinates = 642 =====> 25.1 Kbytes

Total Data Storage Required =====> 55.6 Kbytes

#### System Computing Time Summary

##### Number of Iterations:

Reading Data Input Files:	0 Hrs	0 Min	0.01 Sec
Initializing Data Structures:	0 Hrs	0 Min	0.03 Sec
Forming & Solving Normal Equations:	0 Hrs	0 Min	2.36 Sec
Per Iteration:	0 Hrs	0 Min	0.17 Sec
Cholesky Solution Per Iteration:	0 Hrs	0 Min	0.02 Sec
Details:			
Decomposition -->:	0 Hrs	0 Min	0.00 Sec
Forward Elimination -->:	0 Hrs	0 Min	0.02 Sec

Back Substitution --> 0 Hrs 0 Min 0.00 Sec

Forming Normal Eqns Per Iteration: 0 Hrs 0 Min 0.15 Sec

Details:

Init Variables	-->	0 Hrs	0 Min	0.00 Sec
Add APs Obs	-->	0 Hrs	0 Min	0.00 Sec
Add AB-GPS Spc	-->	0 Hrs	0 Min	0.00 Sec
Add Photo Obs	-->	0 Hrs	0 Min	0.00 Sec
Add Pointwise	-->	0 Hrs	0 Min	0.11 Sec
Invert N dldot	-->	0 Hrs	0 Min	0.00 Sec
Form SE sgl dot	-->	0 Hrs	0 Min	0.00 Sec
Form S sgl dot OffDi ag	-->	0 Hrs	0 Min	0.03 Sec
Transfer SE2 Di ag&Rhs	-->	0 Hrs	0 Min	0.00 Sec

Normal Equations Inverse: 0 Hrs 0 Min 0.14 Sec

Statistics: 0 Hrs 0 Min 1.84 Sec

Total Computing Time: 0 Hrs 0 Min 4.48 Sec

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10/20/2009

Foothills West Flight Lines 8 thru 15, 26, 27, 28  
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Project ID: 8-15combined

\*\*\*\*\* PHOTO COORDINATE POINT IGNORED \*\*\*\*\*  
Point No. REL\_27022\_1 is not listed in AERO Data Block No. 4  
Photo No. 1103 but does appear in AERO Data Block No. 5

-----  
----- General Statistics -----  
-----

No. of Cameras used: 1  
No. of Photos: 288  
No. of Object Points: 1247  
No. of Flight Strips: 11  
No. of A-GPS Drift Params: 6  
Total Unknowns: 5475  
  
No. of Image Points: 3769  
No. of Surveying Obsv: 0  
No. of APs: 0

DOFs due to camera center obsrv: 864  
DOFs due to ground control pts: 61  
DOFs due to image coord obsrv: 7538

Total Degrees of Freedom (Nobsrv - Nunks): 2988

-----  
Block Reliability Statistic (Average Degrees of Freedom)  
-----

for single strip blocks, want Avg\_DOF >= (~) 0.25  
for corridor multi-strip blocks, want Avg\_DOF >= (~) 0.35  
for rectangular blocks, want Avg\_DOF >= 0.50

Average Degrees of Freedom (DOFs / Nunks): 0.55

-----  
Image Ray Distribution  
-----

Number of 2-Fold points =	608	Pct =	48.8
Number of 3-Fold points =	406	Pct =	32.6
Number of 4-Fold points =	12	Pct =	1.0
Number of 5-Fold points =	39	Pct =	3.1
Number of 6-Fold points =	182	Pct =	14.6
Number of 7-Fold points =	0	Pct =	0.0
Number of 8-Fold points =	0	Pct =	0.0

Number of 9-Fold points = 0 Pct = 0.0  
 Number of 10-Fold points = 0 Pct = 0.0  
 Number of 11-Fold points = 0 Pct = 0.0  
 Number of 12-Fold points = 0 Pct = 0.0

---

#### Final Sigma0 Statistic (Post-Adjustment Standard Deviation of Unit Weight)

---

For a reliable block adjustment, the final Sigma0 must reside within the Chi-squared interval surrounding the value of 1.0

The size of this statistical interval, i.e., [Low\_So <--- 1.0 ---> High\_So] is determined by the total number of DOFs in the adjustment.  
 The larger total DOFs, the smaller the Chi-squared interval.

An optimum adjustment solution can be obtained by balancing the observational weights to achieve a Final Sigma0 of exactly 1.0 . . . typically the weights of the photocoordinate observations are balanced against the ground control weights.

Final Sigma0 (for this adjustment) = 1.00

Override Option Mode = ON  
 Scaled (photocoordinate weight) Sx = 0.0049 (units = mm)  
 Scaled (photocoordinate weight) Sy = 0.0049 (units = mm)

---

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---

#### Standardized Photocoordinate Residuals: Wi = Vi / (sqrt(1/WT - A(N\*\*-1)AT) \* Sigma0)

---

Points   (Pht No., Wx, Wy)	Note: Wx & Wy are UNIT-LESS statistics;	Outlier Criterion	Wi > 3.29
REL_133801_1	737 0.24 -0.97	637 -0.49 -1.41	736 0.94 3.37
0.28	636 1.90 0.86	735 0.08 -2.79	635 -0.08
REL_8201_2	120 0.59 -0.83	211 0.38 -1.45	210 1.21 3.54
2.10	118 0.24 -1.28	209 -0.15 -2.20	119 0.64
REL_8231_2	122 -0.11 2.93	123 -0.07 -1.45	121 -0.35 -0.97
-1.95	213 -0.49 3.71	214 -0.31 -1.32	212 0.34
REL_8241_2	124 0.35 -1.23	122 -0.33 -1.17	123 0.55 2.92
-1.53	213 0.18 -1.74	214 0.38 3.66	215 -0.04

4 possible blunders/outliers detected

---

\* Denotes that Critical Value of 3.29 exceeded, i.e. possible gross error

Maximum Standardized Residual = 3.71 from Point No. REL\_8231\_2 on Photo No. 213

< PointNo, PhotoNo, Wx, Wy >

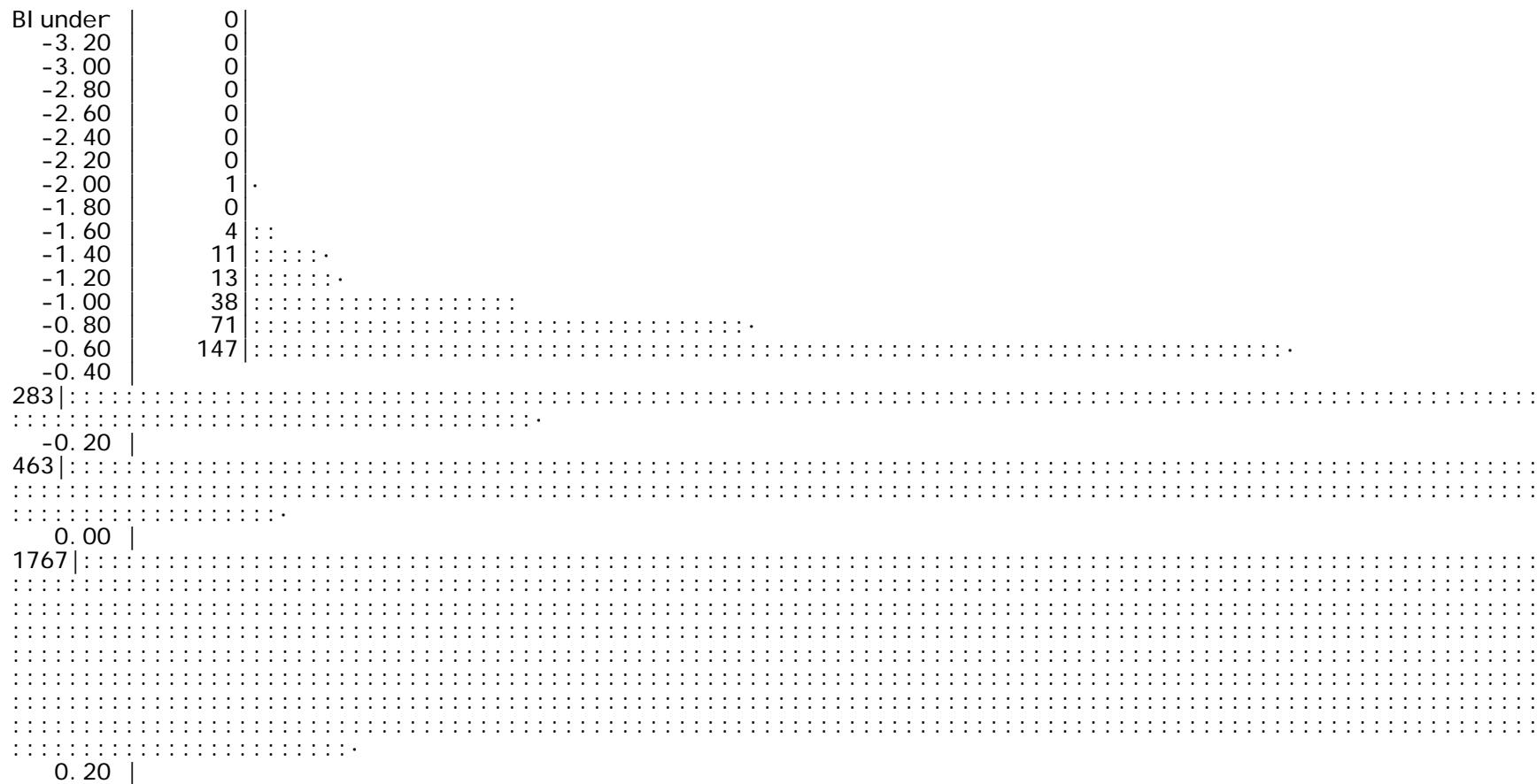
REL_8241_2	214	0.38	3.66
REL_8231_2	213	-0.49	3.71
REL_8201_2	210	1.21	3.54
REL_133801_1	736	0.94	3.37

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Population Distribution of Standardized Residuals in X



468		
254		
0.40		
0.60	126	
0.80	65	
1.00	31	
1.20	14	
1.40	7	
1.60	3	
1.80	0	
2.00	3	
2.20	0	
2.40	0	
2.60	0	
2.80	0	
3.00	0	
3.20	0	
BI under	0	

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#### Popul ati on Di stri buti on of Standardi zed Residuals i n Y

BI under	0
-3.20	0
-3.00	0
-2.80	1
-2.60	2
-2.40	4
-2.20	21
-2.00	22
-1.80	29
-1.60	54
-1.40	64
-1.20	92
-1.00	127
-0.80	137
-0.60	
188	
-0.40	
282	
-0.20	
541	

0.00	
633	
0.20	
575	
0.40	
300	
0.60	182
0.80	119
1.00	115
1.20	82
1.40	56
1.60	38
1.80	39
2.00	18
2.20	18
2.40	12
2.60	5
2.80	5
3.00	3
3.20	1
Bl under	4

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<----->  
< Ten Largest Photocoordi nate Residual s >  
< PointNo, PhotoNo, Vx, Vy (units=mm) >

REL_8241_2	214	0.002	0.018
REL_8231_2	122	-0.001	0.014
REL_8201_2	210	0.006	0.017
REL_10061_2	404	0.001	0.015
REL_8241_2	123	0.003	0.014
REL_8211_2	211	-0.002	0.015
REL_8191_2	209	0.000	0.014
REL_133801_1	736	0.005	0.017
REL_28161_1	527	0.000	0.014
REL_8231_2	213	-0.002	0.018

--- Root Mean Square Image Coordinate Errors, ---  
---

--- Average Magnitude of Residuals (AMR) ---  
 --- and ---  
 --- Mean of Image Coordinate Errors ---  
 -----  
 --- image system units = microns ---  
 --- Overall Ctrl Pts Pass Pts ---  
 ---  
 Rays = 3769 63 3706 ---  
 ---  
 RMS Vx = 1.7 3.2 1.7 ---  
 RMS Vy = 3.8 3.0 3.8 ---  
 RMS Vxy = 4.2 4.4 4.2 ---  
 ---  
 AMR Vx = 1.1 2.5 1.1 ---  
 AMR Vy = 2.7 2.3 2.7 ---  
 AMR Vxy = 2.9 3.4 2.9 ---  
 ---  
 mean Vx = 0.0 0.1 0.0 ---  
 mean Vy = 0.0 -0.1 0.0 ---  
 mean Vxy = 0.0 0.1 0.0 ---  
 -----

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----- Adjusted Control Points & Least Squares Residuals -----

Statistics -> <----- Object Space or Ground Control Units -----> <-- Units  
 No. <--- Point ID ---><--- Xg ---><--- Yg ---><--- Zg ---> <Res X> <Res Y> <Res Z> <Std Wx> <Std Wy> <Std Wz>

1 1.30	9999	1630.212	0.032
2 1.18	9996	1899.726	0.026
3 -1.01	9997	641.115	-0.025
4	9998	1072.546	-0.004

-0.29										
5										
0.94	-1.39	1318	1590201.488	5448917.395	1298.483	0.073	0.035	-0.025	1.77	
6		1316	1557781.482	5514441.034	1062.620	-0.011	0.059	0.000	-0.30	
1.71	0.04	1314	1545148.861	5544663.465	725.859	-0.003	0.028	-0.008	-0.09	
0.84	-0.79	1312	1511241.554	5607543.623	364.277	-0.043	-0.013	0.007	-1.46	
-0.53	0.97	1311	1519996.474	5622344.914	431.831	-0.008	-0.040	-0.013	-0.18	
-0.94	-0.60	1313	1537290.421	5581606.842	649.638	0.026	-0.070	-0.007	0.64	
-1.86	-0.41	1319	1604527.889	5454834.544	1417.395	-0.155	-0.013	-0.019	-3.18	
-0.26	-0.60	1317	1592382.179	5502526.671	1060.251	0.004	-0.011	-0.025	0.10	
-0.24	-0.92	1310	1525872.940	5631373.682	521.739	-0.003	-0.020	0.003	-0.13	
-0.78	0.19	1315	1572920.229	5560760.284	642.694	0.035	0.003	0.010	1.17	
0.11	0.63	1320	1616763.145	5468208.679	1290.441	0.049	-0.034	-0.014	1.11	
15		1321	1627178.816	5448708.762	1314.052	0.042	0.026	0.023	1.11	
-0.81	-0.68	1322	1643320.727	5430514.200	1578.590	-0.054	-0.003	0.008	-1.46	
16		1326	1663345.494	5389131.917	3296.696	-0.031	-0.023	0.021	-0.80	
0.74	1.55	1327	1678177.183	5395770.077	2211.817	-0.041	0.112	0.001	-0.88	
17		1325	1666366.830	5416785.996	2213.486	0.082	-0.019	-0.021	1.71	
-0.09	0.75	1328	1648579.428	5446080.028	2047.844	-0.015	-0.025	-0.009	-0.38	
18		1323	1694852.739	5397492.636	1967.406	0.009	0.027	0.030	0.28	
-0.64	1.43	1324	1662400.205	5455315.008	1585.774	0.044	-0.017	0.009	1.08	
19						rms	0.052	0.040	0.018	
2.35	0.04					amr	0.038	0.030	0.011	
20						mean	0.000	0.000	-0.001	
-0.39	-0.65									
21										
-0.67	-0.67									
22										
0.98	3.13									
23										
-0.46	0.57									

\*\*#@! --> Denotes an AUTO\_DETECTED gross error

\* Denotes that critical value of 3.29 is exceeded, i.e. possible gross error!

Maximum Standardized Residual = -3.18 from Control Point No. 1319

Control Point Root Mean Square Errors								
Axis	3D Control	Hori zontal Control	Vertical Control					
RMS Vx	0. 052	0. 052						
RMS Vy	0. 040	0. 040						
RMS Vz	0. 016	0. 018						
RMS Vs	0. 243							
<--ground coordinate units-->				<-----unit-less----->				
<Space Intersection Residuals>				< Lst-Sqrs Standardized Wxyz >				
< POINT_ID ><Rays>< Dx >< Dy >< Dz ><GCP Type>< Std Wx >< Std Wy >< Std Wz >								
9999	3			0. 370	VCP			1. 30
9996	2			1. 019	VCP			1. 18
9997	4			-0. 192	VCP			-1. 01
9998	2			-0. 164	VCP			-0. 29
1318	3	0. 249	0. 120	-0. 066	FCP	1. 77	0. 94	-1. 39
1316	2	-0. 025	0. 335	0. 267	FCP	-0. 30	1. 71	0. 04
1314	2	0. 032	0. 161	-0. 443	FCP	-0. 09	0. 84	-0. 79
1312	2	-0. 234	-0. 077	0. 130	FCP	-1. 46	-0. 53	0. 97
1311	4	-0. 027	-0. 154	-0. 159	FCP	-0. 18	-0. 94	-0. 60
1313	3	0. 103	-0. 282	0. 012	FCP	0. 64	-1. 86	-0. 41
1319	4	-0. 478	-0. 015	-0. 228	FCP	-3. 18	-0. 26	-0. 60
1317	4	0. 015	-0. 026	-0. 164	FCP	0. 10	-0. 24	-0. 92
1310	2	-0. 203	-0. 266	-0. 373	FCP	-0. 13	-0. 78	0. 19
1315	2	0. 252	0. 076	-0. 173	FCP	1. 17	0. 11	0. 63
1320	3	0. 213	-0. 115	-0. 231	FCP	1. 11	-0. 81	-0. 68
1321	2	0. 151	0. 012	0. 390	FCP	1. 11	0. 74	1. 55
1322	2	-0. 269	0. 000	0. 312	FCP	-1. 46	-0. 09	0. 75
1326	2	-0. 015	-0. 171	0. 357	FCP	-0. 80	-0. 64	1. 43
1327	4	-0. 116	0. 330	-0. 097	FCP	-0. 88	2. 35	0. 04
1325	4	0. 231	-0. 072	-0. 124	FCP	1. 71	-0. 39	-0. 65
1323	2	-0. 046	-0. 102	-0. 187	FCP	-0. 38	-0. 67	-0. 67
1328	2	-0. 078	-0. 051	0. 870	FCP	0. 28	0. 98	3. 13
1324	3	0. 166	-0. 053	0. 105	FCP	1. 08	-0. 46	0. 57
RMS		0. 193	0. 164	0. 365				
			0. 179					

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10/20/2009

Airborne GPS Drift Parameters: SetNo, Cx, Cy, Cz, Lx, Ly, Lz  
Significance Numbers: SetNo, Ncx, Ncy, Ncz, Nlx, Nly, Nlz Flags

AB-GPS Drift Params: 1 0.031 0.952 1.719 0.000 0.000 0.000 ? . . . ? .  
Significance Test: 1 0.2 6.8 9.5 2.0 1.9 3.0

-----  
Camera Center AB-GPS Deltas:

Photo\_ID, StripNo, PhotoNo, Shift\_X, Shift\_Y, Shift\_Z, Drift\_X, Drift\_Y, Drift\_Z, dX, dY,  
dZ

900 1.892	1	10	0.031	0.952	1.719	0.097	-0.081	0.173	0.129	0.871	
901 1.893	1	9	0.031	0.952	1.719	0.098	-0.082	0.174	0.129	0.870	
902 1.894	1	8	0.031	0.952	1.719	0.099	-0.082	0.175	0.130	0.870	
904 1.897	1	6	0.031	0.952	1.719	0.100	-0.083	0.177	0.131	0.869	
903 1.896	1	7	0.031	0.952	1.719	0.099	-0.083	0.176	0.131	0.869	
905 1.898	1	5	0.031	0.952	1.719	0.100	-0.084	0.178	0.132	0.868	
906 1.899	1	4	0.031	0.952	1.719	0.101	-0.084	0.179	0.132	0.868	
907 1.900	1	3	0.031	0.952	1.719	0.102	-0.085	0.180	0.133	0.867	
908 1.901	1	2	0.031	0.952	1.719	0.102	-0.085	0.181	0.134	0.867	
909 1.902	1	1	0.031	0.952	1.719	0.103	-0.086	0.183	0.134	0.866	
500 2.590	2	37	0.031	0.952	1.719	0.490	-0.409	0.870	0.522	0.544	
501 2.591	2	36	0.031	0.952	1.719	0.491	-0.409	0.871	0.522	0.543	
502 2.592	2	35	0.031	0.952	1.719	0.491	-0.410	0.872	0.523	0.543	
503	2	34	0.031	0.952	1.719	0.492	-0.410	0.873	0.523	0.542	

2. 593										
504	2	33	0. 031	0. 952	1. 719	0. 493	-0. 411	0. 874	0. 524	0. 542
2. 594										
505	2	32	0. 031	0. 952	1. 719	0. 493	-0. 411	0. 875	0. 525	0. 541
2. 595										
506	2	31	0. 031	0. 952	1. 719	0. 494	-0. 412	0. 876	0. 525	0. 541
2. 596										
507	2	30	0. 031	0. 952	1. 719	0. 494	-0. 412	0. 878	0. 526	0. 540
2. 597										
508	2	29	0. 031	0. 952	1. 719	0. 495	-0. 413	0. 879	0. 526	0. 540
2. 598										
509	2	28	0. 031	0. 952	1. 719	0. 496	-0. 413	0. 880	0. 527	0. 539
2. 599										
510	2	27	0. 031	0. 952	1. 719	0. 496	-0. 414	0. 881	0. 528	0. 539
2. 600										
511	2	26	0. 031	0. 952	1. 719	0. 497	-0. 414	0. 882	0. 528	0. 538
2. 601										
512	2	25	0. 031	0. 952	1. 719	0. 498	-0. 415	0. 883	0. 529	0. 537
2. 603										
513	2	24	0. 031	0. 952	1. 719	0. 498	-0. 415	0. 884	0. 530	0. 537
2. 604										
514	2	23	0. 031	0. 952	1. 719	0. 499	-0. 416	0. 885	0. 530	0. 536
2. 605										
515	2	22	0. 031	0. 952	1. 719	0. 499	-0. 416	0. 886	0. 531	0. 536
2. 606										
516	2	21	0. 031	0. 952	1. 719	0. 500	-0. 417	0. 887	0. 531	0. 535
2. 607										
517	2	20	0. 031	0. 952	1. 719	0. 501	-0. 417	0. 889	0. 532	0. 535
2. 608										
518	2	19	0. 031	0. 952	1. 719	0. 501	-0. 418	0. 890	0. 533	0. 534
2. 609										
519	2	18	0. 031	0. 952	1. 719	0. 502	-0. 418	0. 891	0. 533	0. 534
2. 610										
520	2	17	0. 031	0. 952	1. 719	0. 168	-0. 140	0. 298	0. 200	0. 812
2. 018										
521	2	16	0. 031	0. 952	1. 719	0. 169	-0. 141	0. 300	0. 200	0. 811
2. 019										
522	2	15	0. 031	0. 952	1. 719	0. 169	-0. 141	0. 301	0. 201	0. 811
2. 020										
523	2	14	0. 031	0. 952	1. 719	0. 170	-0. 142	0. 302	0. 201	0. 810
2. 021										
524	2	13	0. 031	0. 952	1. 719	0. 171	-0. 142	0. 303	0. 202	0. 810
2. 022										
525	2	12	0. 031	0. 952	1. 719	0. 171	-0. 143	0. 304	0. 203	0. 809
2. 023										
526	2	11	0. 031	0. 952	1. 719	0. 172	-0. 143	0. 305	0. 203	0. 809
2. 024										
527	2	10	0. 031	0. 952	1. 719	0. 172	-0. 144	0. 306	0. 204	0. 808
2. 025										
528	2	9	0. 031	0. 952	1. 719	0. 173	-0. 144	0. 307	0. 204	0. 808





700											
2.662	4	42	0.031	0.952	1.719	0.531	-0.443	0.943	0.562	0.510	
701	4	41	0.031	0.952	1.719	0.532	-0.443	0.944	0.563	0.509	
2.663											
702	4	40	0.031	0.952	1.719	0.532	-0.444	0.945	0.564	0.509	
2.664											
703	4	39	0.031	0.952	1.719	0.533	-0.444	0.946	0.564	0.508	
2.665											
704	4	38	0.031	0.952	1.719	0.533	-0.445	0.947	0.565	0.507	
2.666											
705	4	37	0.031	0.952	1.719	0.534	-0.445	0.948	0.565	0.507	
2.667											
706	4	36	0.031	0.952	1.719	0.535	-0.446	0.949	0.566	0.506	
2.669											
707	4	35	0.031	0.952	1.719	0.535	-0.446	0.950	0.567	0.506	
2.670											
708	4	34	0.031	0.952	1.719	0.536	-0.447	0.951	0.567	0.505	
2.671											
709	4	33	0.031	0.952	1.719	0.536	-0.447	0.952	0.568	0.505	
2.672											
710	4	32	0.031	0.952	1.719	0.537	-0.448	0.953	0.569	0.504	
2.673											
711	4	31	0.031	0.952	1.719	0.538	-0.448	0.954	0.569	0.504	
2.674											
712	4	30	0.031	0.952	1.719	0.538	-0.449	0.955	0.570	0.503	
2.675											
713	4	29	0.031	0.952	1.719	0.539	-0.449	0.957	0.570	0.503	
2.676											
714	4	28	0.031	0.952	1.719	0.540	-0.450	0.958	0.571	0.502	
2.677											
715	4	27	0.031	0.952	1.719	0.540	-0.450	0.959	0.572	0.502	
2.678											
716	4	26	0.031	0.952	1.719	0.541	-0.451	0.960	0.572	0.501	
2.679											
717	4	25	0.031	0.952	1.719	0.541	-0.451	0.961	0.573	0.501	
2.680											
718	4	24	0.031	0.952	1.719	0.542	-0.452	0.962	0.573	0.500	
2.681											
719	4	23	0.031	0.952	1.719	0.543	-0.452	0.963	0.574	0.500	
2.683											
720	4	22	0.031	0.952	1.719	0.543	-0.453	0.964	0.575	0.499	
2.684											
721	4	21	0.031	0.952	1.719	0.544	-0.453	0.965	0.575	0.499	
2.685											
722	4	20	0.031	0.952	1.719	0.544	-0.454	0.966	0.576	0.498	
2.686											
723	4	19	0.031	0.952	1.719	0.545	-0.454	0.967	0.576	0.498	
2.687											
724	4	18	0.031	0.952	1.719	0.546	-0.455	0.969	0.577	0.497	







1000 2. 760	6	6	0. 031	0. 952	1. 719	0. 586	-0. 489	1. 041	0. 618	0. 463
1001 2. 761	6	5	0. 031	0. 952	1. 719	0. 587	-0. 489	1. 042	0. 618	0. 463
1002 2. 762	6	4	0. 031	0. 952	1. 719	0. 588	-0. 490	1. 043	0. 619	0. 462
1003 2. 764	6	3	0. 031	0. 952	1. 719	0. 588	-0. 490	1. 044	0. 620	0. 462
1005 2. 766	6	1	0. 031	0. 952	1. 719	0. 589	-0. 491	1. 046	0. 621	0. 461
1004 2. 765	6	2	0. 031	0. 952	1. 719	0. 589	-0. 491	1. 045	0. 620	0. 461
1100 2. 068	7	1	0. 031	0. 952	1. 719	0. 197	-0. 164	0. 349	0. 228	0. 788
1101 2. 067	7	2	0. 031	0. 952	1. 719	0. 196	-0. 163	0. 348	0. 227	0. 789
1102 2. 066	7	3	0. 031	0. 952	1. 719	0. 195	-0. 163	0. 346	0. 227	0. 789
1103 2. 065	7	4	0. 031	0. 952	1. 719	0. 195	-0. 162	0. 345	0. 226	0. 790
1104 2. 064	7	5	0. 031	0. 952	1. 719	0. 194	-0. 162	0. 344	0. 225	0. 791
1106 2. 061	7	7	0. 031	0. 952	1. 719	0. 192	-0. 160	0. 342	0. 224	0. 792
1105 2. 062	7	6	0. 031	0. 952	1. 719	0. 193	-0. 161	0. 343	0. 225	0. 791
1107 2. 060	7	8	0. 031	0. 952	1. 719	0. 192	-0. 160	0. 340	0. 223	0. 792
1108 2. 059	7	9	0. 031	0. 952	1. 719	0. 191	-0. 159	0. 339	0. 223	0. 793
1109 2. 058	7	10	0. 031	0. 952	1. 719	0. 190	-0. 159	0. 338	0. 222	0. 793
1110 2. 056	7	11	0. 031	0. 952	1. 719	0. 190	-0. 158	0. 337	0. 221	0. 794
1111 2. 055	7	12	0. 031	0. 952	1. 719	0. 189	-0. 158	0. 336	0. 221	0. 795
1112 2. 054	7	13	0. 031	0. 952	1. 719	0. 188	-0. 157	0. 334	0. 220	0. 795
1113 2. 053	7	14	0. 031	0. 952	1. 719	0. 188	-0. 156	0. 333	0. 219	0. 796
1115 2. 050	7	16	0. 031	0. 952	1. 719	0. 186	-0. 155	0. 331	0. 218	0. 797
1114 2. 052	7	15	0. 031	0. 952	1. 719	0. 187	-0. 156	0. 332	0. 219	0. 796
1116 2. 049	7	17	0. 031	0. 952	1. 719	0. 186	-0. 155	0. 330	0. 217	0. 797
1117 2. 048	7	18	0. 031	0. 952	1. 719	0. 185	-0. 154	0. 328	0. 216	0. 798

100	8	1	0.031	0.952	1.719	0.018	-0.015	0.032	0.049	0.937
1.751										
101	8	2	0.031	0.952	1.719	0.017	-0.014	0.031	0.049	0.938
1.750										
102	8	3	0.031	0.952	1.719	0.017	-0.014	0.029	0.048	0.938
1.749										
103	8	4	0.031	0.952	1.719	0.016	-0.013	0.028	0.047	0.939
1.748										
104	8	5	0.031	0.952	1.719	0.015	-0.013	0.027	0.047	0.940
1.746										
105	8	6	0.031	0.952	1.719	0.014	-0.012	0.026	0.046	0.940
1.745										
106	8	7	0.031	0.952	1.719	0.014	-0.011	0.024	0.045	0.941
1.744										
107	8	8	0.031	0.952	1.719	0.013	-0.011	0.023	0.044	0.941
1.743										
108	8	9	0.031	0.952	1.719	0.012	-0.010	0.022	0.044	0.942
1.741										
109	8	10	0.031	0.952	1.719	0.012	-0.010	0.021	0.043	0.942
1.740										
111	8	12	0.031	0.952	1.719	0.010	-0.009	0.018	0.042	0.944
1.738										
110	8	11	0.031	0.952	1.719	0.011	-0.009	0.020	0.042	0.943
1.739										
112	8	13	0.031	0.952	1.719	0.010	-0.008	0.017	0.041	0.944
1.737										
113	8	14	0.031	0.952	1.719	0.009	-0.007	0.016	0.040	0.945
1.735										
114	8	15	0.031	0.952	1.719	0.008	-0.007	0.015	0.040	0.945
1.734										
115	8	16	0.031	0.952	1.719	0.008	-0.006	0.013	0.039	0.946
1.733										
116	8	17	0.031	0.952	1.719	0.007	-0.006	0.012	0.038	0.946
1.732										
117	8	18	0.031	0.952	1.719	0.006	-0.005	0.011	0.038	0.947
1.731										
118	8	19	0.031	0.952	1.719	0.006	-0.005	0.010	0.037	0.948
1.729										
119	8	20	0.031	0.952	1.719	0.005	-0.004	0.009	0.036	0.948
1.728										
120	8	21	0.031	0.952	1.719	0.004	-0.003	0.007	0.036	0.949
1.727										
121	8	22	0.031	0.952	1.719	0.003	-0.003	0.006	0.035	0.949
1.726										
123	8	24	0.031	0.952	1.719	0.002	-0.002	0.004	0.033	0.950
1.723										
122	8	23	0.031	0.952	1.719	0.003	-0.002	0.005	0.034	0.950
1.724										
124	8	25	0.031	0.952	1.719	0.001	-0.001	0.002	0.033	0.951

1. 722										
125	8	26	0. 031	0. 952	1. 719	0. 001	-0. 001	0. 001	0. 032	0. 952
1. 721										
126	8	27	0. 031	0. 952	1. 719	0. 000	0. 000	0. 000	0. 031	0. 952
1. 719										
200	9	18	0. 031	0. 952	1. 719	0. 026	-0. 021	0. 045	0. 057	0. 931
1. 765										
201	9	17	0. 031	0. 952	1. 719	0. 026	-0. 022	0. 046	0. 058	0. 930
1. 766										
202	9	16	0. 031	0. 952	1. 719	0. 027	-0. 022	0. 047	0. 058	0. 930
1. 767										
203	9	15	0. 031	0. 952	1. 719	0. 027	-0. 023	0. 048	0. 059	0. 929
1. 768										
204	9	14	0. 031	0. 952	1. 719	0. 028	-0. 023	0. 050	0. 059	0. 929
1. 769										
205	9	13	0. 031	0. 952	1. 719	0. 029	-0. 024	0. 051	0. 060	0. 928
1. 770										
206	9	12	0. 031	0. 952	1. 719	0. 029	-0. 024	0. 052	0. 061	0. 928
1. 771										
207	9	11	0. 031	0. 952	1. 719	0. 030	-0. 025	0. 053	0. 061	0. 927
1. 772										
208	9	10	0. 031	0. 952	1. 719	0. 030	-0. 025	0. 054	0. 062	0. 927
1. 773										
209	9	9	0. 031	0. 952	1. 719	0. 031	-0. 026	0. 055	0. 062	0. 926
1. 774										
210	9	8	0. 031	0. 952	1. 719	0. 032	-0. 026	0. 056	0. 063	0. 926
1. 775										
211	9	7	0. 031	0. 952	1. 719	0. 032	-0. 027	0. 057	0. 064	0. 925
1. 776										
217	9	1	0. 031	0. 952	1. 719	0. 036	-0. 030	0. 063	0. 067	0. 922
1. 783										
214	9	4	0. 031	0. 952	1. 719	0. 034	-0. 028	0. 060	0. 065	0. 924
1. 780										
213	9	5	0. 031	0. 952	1. 719	0. 033	-0. 028	0. 059	0. 065	0. 924
1. 779										
212	9	6	0. 031	0. 952	1. 719	0. 033	-0. 027	0. 058	0. 064	0. 925
1. 778										
215	9	3	0. 031	0. 952	1. 719	0. 035	-0. 029	0. 061	0. 066	0. 923
1. 781										
216	9	2	0. 031	0. 952	1. 719	0. 035	-0. 029	0. 062	0. 067	0. 923
1. 782										
300	10	1	0. 031	0. 952	1. 719	0. 056	-0. 046	0. 099	0. 087	0. 906
1. 818										
302	10	3	0. 031	0. 952	1. 719	0. 054	-0. 045	0. 096	0. 086	0. 907
1. 816										
301	10	2	0. 031	0. 952	1. 719	0. 055	-0. 046	0. 098	0. 086	0. 906
1. 817										
303	10	4	0. 031	0. 952	1. 719	0. 054	-0. 045	0. 095	0. 085	0. 908



412	11	4	0. 031	0. 952	1. 719	0. 070	-0. 058	0. 124	0. 101	0. 894
1. 843										
413	11	3	0. 031	0. 952	1. 719	0. 070	-0. 059	0. 125	0. 102	0. 894
1. 844										
414	11	2	0. 031	0. 952	1. 719	0. 071	-0. 059	0. 126	0. 102	0. 893
1. 845										
415	11	1	0. 031	0. 952	1. 719	0. 071	-0. 060	0. 127	0. 103	0. 893
1. 846										

♀KMI

10/20/2009

AeroSys-AT Bundle Adjustment, <PRO Pkg> AeroSys-AT v7.2 © 1989-2009 MHS  
Project ID: 8-15combi ned

----- Final Adjusted Exterior Orientations, Standard Errors and Residuals -----

-----><-----Adjusted E0 Observations-----><-----Predicted Standard Deviations-----><-----E0 Residuals-----><-----Standardized Residuals----->

<><  
<PhtNo><----Omega-----><----Phi-----><----Kappa-----><----So-----><----Sp-----><----Sk-----><----Vo-----><  
<Vp-----><----Vk-----><----Wo-----><----Wp-----><----Wk----->  
<PhtNo><----X-----><----Y-----><----Z-----><----Sx-----><----Sy-----><----Sz-----><----Vx-----><  
<Vx-----><----Vy-----><----Vz-----><----Wx-----><----Wy-----><----Wz----->

801	0° 6' 12"	0° 42' 14"	298° 2' 59"	0°	0' 15"	0°	0' 13"	0°	0' 11"	0° 6'
12"	0° 42' 14"	298° 2' 59"	.	.	.	0. 735	.	0. 685	.	0. 510
801	1531732. 667	5632818. 086	.	10007. 661	.	.	.	.	.	.
-0. 103	0. 265	-0. 154	.	.	.	.	.	.	.	.
800	0° 3' 37"	0° 35' 9"	298° 36' 52"	0°	0' 18"	0°	0' 17"	0°	0' 17"	0° 3'
37"	0° 35' 9"	298° 36' 52"	.	.	.	.	.	.	.	.
800	1529243. 169	5637677. 115	.	10005. 129	.	0. 842	.	0. 838	.	0. 681
-0. 025	-0. 043	-0. 966	.	.	.	.	.	.	.	.
802	0° 39' 11"	0° 57' 10"	297° 52' 16"	0°	0' 13"	0°	0' 13"	0°	0' 8"	-0° 39'
11"	0° 57' 10"	297° 52' 16"	.	.	.	.	.	.	.	.
802	1534134. 843	5628036. 781	.	9999. 226	.	0. 695	.	0. 708	.	0. 481
0. 400	-0. 533	0. 188	.	.	.	.	.	.	.	.
803	0° 21' 48"	0° 25' 55"	298° 22' 51"	0°	0' 13"	0°	0' 14"	0°	0' 8"	-0° 21'
48"	0° 25' 55"	298° 22' 51"	.	.	.	.	.	.	.	.
803	1536628. 784	5623161. 340	.	10052. 975	.	0. 706	.	0. 680	.	0. 478
0. 360	-0. 402	-0. 143	.	.	.	.	.	.	.	.
600	0° 12' 9"	0° 51' 52"	296° 32' 18"	0°	0' 17"	0°	0' 15"	0°	0' 13"	-0° 12'
9"	0° 51' 52"	296° 32' 18"	.	.	.	.	.	.	.	.
600	1515038. 397	5624161. 145	.	10042. 395	.	0. 794	.	0. 811	.	0. 580

0.	166	0.	477	-0.	129											
37"	700	0°	0' 27" 37"	0°	3' 30"	116°	6' 49"	116°	6' 49"	0°	0' 16"	0°	0' 14"	0°	0' 8"	0° 27'
37"	700	0°	3' 30"	116°	6' 49"			10070.	190		0.750		0.810		0.518	
-0.	673	0.	225	0.	788											
601		-0°	21' 48"	1°	5' 52"	297°	10' 24"	297°	10' 24"	0°	0' 12"	0°	0' 14"	0°	0' 7"	-0° 21'
48"	601	1°	5' 52"	297°	10' 24"			10030.	834		0.651		0.661		0.422	
0.	388		-0.820	0.	180											
701	54"	0°	12' 54"	0°	40' 6"	117°	18' 11"	117°	18' 11"	0°	0' 12"	0°	0' 11"	0°	0' 5"	0° 12'
54"	701	0°	40' 6"	117°	18' 11"			10065.	537		0.616		0.613		0.346	
-1.	156	2.	159	2.	060											
500	500	0°	14' 33"	-0°	18' 42"	118°	29' 35"	118°	29' 35"	0°	0' 17"	0°	0' 15"	0°	0' 10"	0° 14'
33"		-0°	18' 42"	118°	29' 35"			10051.	105		0.751		0.836		0.565	
-0.	251		1511148.	859	5610053.	964										
702	54"	0°	35' 54"	-0°	30' 55"	116°	37' 40"	116°	37' 40"	0°	0' 12"	0°	0' 11"	0°	0' 5"	0° 35'
54"	702	-0°	30' 55"	116°	37' 40"			10052.	194		0.598		0.619		0.369	
0.	143	1.	087	0.	046											
602	48"	-0°	24' 48"	0°	45' 45"	297°	28' 1"	297°	28' 1"	0°	0' 12"	0°	0' 13"	0°	0' 5"	-0° 24'
602		0°	45' 45"	297°	28' 1"			10018.	901		0.652		0.651		0.389	
0.	774		-0.360	0.	070											
501	23"	0°	28' 23"	-1°	3' 47"	117°	12' 18"	117°	12' 18"	0°	0' 12"	0°	0' 13"	0°	0' 7"	0° 28'
501		-1°	3' 47"	117°	12' 18"			10058.	537		0.679		0.631		0.430	
-0.	360		1513495.	684	5605140.	311										
703	32"	0°	12' 32"	-0°	57' 38"	116°	28' 1"	116°	28' 1"	0°	0' 11"	0°	0' 12"	0°	0' 5"	0° 12'
703		-0°	57' 38"	116°	28' 1"			10053.	904		0.637		0.610		0.397	
-0.	144		0.858	-0.	147											
805	27"	-0°	21' 27"	0°	37' 18"	298°	26' 47"	298°	26' 47"	0°	0' 12"	0°	0' 14"	0°	0' 8"	-0° 21'
805		0°	37' 18"	298°	26' 47"			10099.	943		0.705		0.663		0.480	
0.	125		-0.631	0.	240											
604	41"	0°	20' 41"	0°	50' 22"	297°	31' 43"	297°	31' 43"	0°	0' 11"	0°	0' 12"	0°	0' 5"	0° 20'
604		0°	50' 22"	297°	31' 43"			9988.	283		0.631		0.618		0.398	
0.	271		-0.877	-0.	003											
804	48"	-0°	15' 48"	0°	45' 32"	298°	15' 37"	298°	15' 37"	0°	0' 13"	0°	0' 14"	0°	0' 8"	-0° 15'
804		0°	45' 32"	298°	15' 37"			10084.	500		0.698		0.682		0.478	
0.	792		1539104.	786	5618303.	152										
603	10"	-0°	23' 10"	0°	35' 24"	297°	38' 40"	297°	38' 40"	0°	0' 11"	0°	0' 12"	0°	0' 5"	-0° 23'
603		0°	35' 24"	297°	38' 40"			10014.	905		0.635		0.617		0.390	
0.	474		1522231.	116	5609510.	064										
502		0°	0' 53"	0°	26' 24"	119°	33' 24"	119°	33' 24"	0°	0' 12"	0°	0' 13"	0°	0' 6"	0° 0'

53"	0° 26' 24"	119° 33' 24"										
502	1515944. 958	5600287. 670	10054. 502	0. 662	0. 639	0. 429						
-0. 607	0. 845	-0. 343										
503	0° 41' 7"	-0° 26' 58"	119° 14' 21"	0° 0' 12"	0° 0' 12"	0° 0' 7"	0° 41'					
7"	-0° 26' 58"	119° 14' 21"										
503	1518455. 262	5595440. 922	10004. 885	0. 650	0. 661	0. 435						
-0. 030	1. 377	0. 218										
704	0° 13' 60"	-0° 50' 55"	116° 26' 35"	0° 0' 11"	0° 0' 12"	0° 0' 5"	0° 13'					
60"	-0° 50' 55"	116° 26' 35"										
704	1532910. 841	5608848. 655	10058. 280	0. 626	0. 613	0. 405						
0. 183	0. 856	0. 120										
806	-0° 17' 12"	0° 22' 34"	298° 1' 45"	0° 0' 13"	0° 0' 14"	0° 0' 8"	-0° 17'					
12"	0° 22' 34"	298° 1' 45"										
806	1544073. 724	5608620. 022	10113. 550	0. 686	0. 686	0. 477						
0. 951	-1. 132	0. 037										
605	-0° 10' 19"	0° 45' 27"	297° 23' 7"	0° 0' 12"	0° 0' 12"	0° 0' 5"	-0° 10'					
19"	0° 45' 27"	297° 23' 7"										
605	1527118. 834	5599817. 764	9967. 081	0. 637	0. 618	0. 403						
0. 720	-0. 713	0. 021										
504	0° 4' 55"	-0° 37' 22"	119° 25' 48"	0° 0' 12"	0° 0' 13"	0° 0' 7"	0° 4'					
55"	-0° 37' 22"	119° 25' 48"										
504	1520953. 171	5590617. 208	9993. 284	0. 648	0. 634	0. 436						
-0. 267	1. 728	0. 411										
705	-0° 1' 34"	-0° 2' 28"	117° 37' 10"	0° 0' 12"	0° 0' 12"	0° 0' 5"	-0° 1'					
34"	-0° 2' 28"	117° 37' 10"										
705	1535385. 878	5604013. 531	10058. 760	0. 620	0. 630	0. 412						
-0. 124	0. 518	-0. 274										
706	0° 2' 48"	0° 5' 46"	118° 37' 26"	0° 0' 12"	0° 0' 11"	0° 0' 5"	0° 2'					
48"	0° 5' 46"	118° 37' 26"										
706	1537939. 047	5599217. 292	10053. 614	0. 607	0. 628	0. 408						
-0. 167	1. 071	-0. 079										
807	0° 1' 23"	0° 10' 18"	297° 57' 9"	0° 0' 13"	0° 0' 14"	0° 0' 8"	0° 1'					
23"	0° 10' 18"	297° 57' 9"										
807	1546535. 088	5603754. 752	10118. 972	0. 696	0. 694	0. 478						
0. 506	-0. 994	-0. 092										
606	-0° 14' 1"	0° 4' 22"	297° 26' 44"	0° 0' 12"	0° 0' 12"	0° 0' 5"	-0° 14'					
1"	0° 4' 22"	297° 26' 44"										
606	1529566. 471	5594992. 625	9985. 934	0. 627	0. 631	0. 396						
0. 215	-0. 878	-0. 039										
505	0° 25' 59"	-1° 23' 53"	118° 36' 50"	0° 0' 12"	0° 0' 12"	0° 0' 7"	0° 25'					
59"	-1° 23' 53"	118° 36' 50"										
505	1523445. 379	5585801. 878	9963. 142	0. 639	0. 638	0. 428						
-0. 899	1. 809	0. 020										
707	0° 46' 51"	-1° 15' 51"	117° 18' 45"	0° 0' 11"	0° 0' 11"	0° 0' 5"	0° 46'					
51"	-1° 15' 51"	117° 18' 45"										
707	1540537. 898	5594405. 735	10021. 973	0. 581	0. 607	0. 395						
-0. 484	1. 096	0. 103										
809	-0° 7' 28"	1° 0' 38"	297° 47' 32"	0° 0' 12"	0° 0' 15"	0° 0' 8"	-0° 7'					
28"	1° 0' 38"	297° 47' 32"										
809	1551342. 645	5594015. 712	10113. 471	0. 730	0. 688	0. 468						





-0.486	0.841	-0.400															
614	-0° 46' 3"	0° 58' 45"	294° 51' 32"	294° 51' 32"	0°	0' 11"	0°	0' 12"	0°	0' 4"	-0° 46'						
3"	0° 58' 45"	294° 51' 32"		10019.926		0.603		0.594		0.392							
614	1549154.269	5556193.043															
-0.211	-0.685	-0.067															
1100	-0° 14' 21"	0° 59' 9"	292° 57' 52"	292° 57' 52"	0°	0' 18"	0°	0' 16"	0°	0' 14"	-0° 14'						
21"	0° 59' 9"	292° 57' 52"		10132.578		0.795		0.826		0.625							
1100	1532078.665	5547632.309															
-1.390	0.150	0.197															
511	0° 1' 43"	-0° 3' 52"	119° 43' 5"	119° 43' 5"	0°	0' 12"	0°	0' 12"	0°	0' 6"	0° 1'						
43"	-0° 3' 52"	119° 43' 5"		10065.478		0.622		0.635		0.423							
511	1538067.208	5556662.415															
-0.917	-0.043	0.245															
512	1° 4' 41"	-1° 27' 51"	117° 54' 42"	117° 54' 42"	0°	0' 11"	0°	0' 12"	0°	0' 6"	1° 4'						
512	1540537.484	5551792.419		10049.782		0.634		0.610		0.396							
-0.705	-0.246	-0.284															
714	0° 41' 59"	-0° 34' 14"	116° 45' 1"	116° 45' 1"	0°	0' 11"	0°	0' 12"	0°	0' 5"	0° 41'						
59"	-0° 34' 14"	116° 45' 1"		10079.485		0.616		0.606		0.404							
714	1557591.608	5560449.727															
-0.868	1.052	-0.175															
816	-0° 7' 37"	0° 47' 35"	296° 52' 44"	296° 52' 44"	0°	0' 12"	0°	0' 13"	0°	0' 6"	-0° 7'						
37"	0° 47' 35"	296° 52' 44"		10109.209		0.680		0.630		0.399							
816	1568427.209	5560014.284															
0.353	-0.700	-0.437															
615	-0° 47' 35"	0° 43' 46"	295° 33' 54"	295° 33' 54"	0°	0' 11"	0°	0' 11"	0°	0' 4"	-0° 47'						
35"	0° 43' 46"	295° 33' 54"		10066.153		0.596		0.601		0.387							
615	1551587.277	5551342.257															
0.137	-0.689	0.182															
1101	-0° 19' 60"	0° 42' 40"	293° 21' 48"	293° 21' 48"	0°	0' 13"	0°	0' 14"	0°	0' 9"	-0° 19'						
60"	0° 42' 40"	293° 21' 48"		10098.774		0.670		0.673		0.436							
1101	1534544.101	5542804.481															
-0.623	-0.915	0.479															
817	-0° 20' 14"	1° 41' 25"	297° 6' 47"	297° 6' 47"	0°	0' 11"	0°	0' 14"	0°	0' 6"	-0° 20'						
14"	1° 41' 25"	297° 6' 47"		10097.071		0.688		0.627		0.391							
817	1570795.585	5555139.905															
-0.004	-0.854	-0.149															
715	0° 28' 51"	-0° 15' 8"	117° 14' 8"	117° 14' 8"	0°	0' 11"	0°	0' 12"	0°	0' 4"	0° 28'						
51"	-0° 15' 8"	117° 14' 8"		10014.075		0.607		0.612		0.401							
715	1560092.191	5555557.412															
-0.787	1.176	-0.270															
513	0° 30' 59"	-1° 7' 55"	117° 21' 30"	117° 21' 30"	0°	0' 11"	0°	0' 12"	0°	0' 5"	0° 30'						
59"	-1° 7' 55"	117° 21' 30"		10047.654		0.619		0.567		0.362							
513	1542889.491	5546923.781															
-0.306	0.634	-0.339															
616	0° 0' 19"	0° 13' 9"	296° 37' 39"	296° 37' 39"	0°	0' 11"	0°	0' 12"	0°	0' 4"	0° 0'						
19"	0° 13' 9"	296° 37' 39"		10107.834		0.605		0.607		0.385							
616	1554112.347	5546461.562															
-0.084	-0.734	-0.444															
716	-0° 5' 50"	-0° 59' 45"	116° 52' 5"	116° 52' 5"	0°	0' 11"	0°	0' 11"	0°	0' 4"	-0° 5'						

50"	-0° 59' 45"	116° 52' 5"										
716	1562543.144	5550792.291	10012.604	0.589	0.587	0.399						
-0.344	0.033	0.101										
818	-0° 0' 4"	0° 33' 12"	298° 45' 1"	0° 0' 12"	0° 0' 14"	0° 0' 7"	-0° 0'					
4"	0° 33' 12"	298° 45' 1"										
818	1573262.089	5550328.381	10086.413	0.697	0.644	0.423						
0.598	-0.906	0.004										
514	-0° 12' 48"	0° 4' 52"	118° 46' 12"	0° 0' 11"	0° 0' 11"	0° 0' 5"	-0° 12'					
48"	0° 4' 52"	118° 46' 12"										
514	1545277.764	5542024.831	10040.172	0.577	0.578	0.352						
-1.164	0.382	-0.336										
1000	0° 14' 27"	-0° 44' 3"	115° 49' 36"	0° 0' 19"	0° 0' 16"	0° 0' 15"	0° 14'					
27"	-0° 44' 3"	115° 49' 36"										
1000	1528562.746	5533576.219	10037.780	0.806	0.841	0.667						
-0.464	0.635	1.077										
1102	-0° 21' 7"	0° 42' 37"	293° 38' 13"	0° 0' 11"	0° 0' 13"	0° 0' 7"	-0° 21'					
7"	0° 42' 37"	293° 38' 13"										
1102	1537058.995	5537970.187	10089.267	0.632	0.630	0.362						
0.843	-0.236	0.622										
1001	-0° 47' 57"	0° 19' 47"	118° 28' 17"	0° 0' 14"	0° 0' 14"	0° 0' 11"	-0° 47'					
57"	0° 19' 47"	118° 28' 17"										
1001	1531054.982	5528770.332	10052.904	0.694	0.697	0.457						
-1.019	1.363	0.823										
515	-0° 4' 36"	-0° 5' 19"	119° 38' 33"	0° 0' 11"	0° 0' 12"	0° 0' 4"	-0° 4'					
36"	-0° 5' 19"	119° 38' 33"										
515	1547741.887	5537215.001	10036.249	0.612	0.602	0.358						
0.191	0.629	-0.226										
617	-0° 17' 42"	0° 31' 55"	295° 48' 10"	0° 0' 11"	0° 0' 11"	0° 0' 4"	-0° 17'					
42"	0° 31' 55"	295° 48' 10"										
617	1556581.551	5541671.014	10099.981	0.585	0.592	0.382						
0.094	-1.134	0.140										
1103	0° 12' 47"	0° 7' 3"	294° 19' 24"	0° 0' 11"	0° 0' 11"	0° 0' 6"	0° 12'					
47"	0° 7' 3"	294° 19' 24"										
1103	1539566.687	5533166.670	10072.302	0.564	0.609	0.309						
0.777	0.211	0.535										
1002	0° 30' 14"	-1° 44' 28"	115° 56' 43"	0° 0' 12"	0° 0' 14"	0° 0' 9"	0° 30'					
14"	-1° 44' 28"	115° 56' 43"										
1002	1533524.478	5523896.473	10060.322	0.679	0.668	0.404						
-0.349	0.072	0.503										
717	0° 4' 49"	-1° 16' 19"	116° 13' 59"	0° 0' 11"	0° 0' 12"	0° 0' 4"	0° 4'					
49"	-1° 16' 19"	116° 13' 59"										
717	1565002.660	5545932.282	10021.224	0.611	0.585	0.401						
-0.365	0.140	-0.039										
819	-0° 16' 42"	-0° 20' 48"	298° 57' 33"	0° 0' 12"	0° 0' 14"	0° 0' 7"	-0° 16'					
42"	-0° 20' 48"	298° 57' 33"										
819	1575759.225	5545572.950	10080.071	0.702	0.640	0.446						
0.217	-0.835	0.038										
618	-0° 25' 45"	0° 27' 55"	295° 28' 55"	0° 0' 11"	0° 0' 11"	0° 0' 4"	-0° 25'					
45"	0° 27' 55"	295° 28' 55"										
618	1559034.237	5536804.786	10106.362	0.597	0.594	0.383						

1. 058	-0. 452	-0. 055														
1104	0° 20' 38"	0° 31' 46"	293° 36' 16"	0°	0' 11"	0°	0' 11"	0°	0' 5"	0°	20'					
38"	0° 31' 46"	293° 36' 16"														
1104	1542061. 682	5528332. 697	10024. 680		0. 549		0. 566		0. 296							
0. 485	0. 660	0. 291														
1003	0° 34' 36"	-0° 52' 21"	115° 54' 60"	0°	0' 12"	0°	0' 14"	0°	0' 10"	0°	34'					
36"	-0° 52' 21"	115° 54' 60"														
1003	1535911. 016	5519002. 035	10053. 503		0. 669		0. 642		0. 422							
-0. 901	0. 462	0. 280														
1106	-0° 27' 6"	0° 42' 12"	293° 22' 44"	0°	0' 12"	0°	0' 11"	0°	0' 5"	-0°	27'					
6"	0° 42' 12"	293° 22' 44"														
1106	1546993. 384	5518652. 742	10046. 695		0. 591		0. 590		0. 345							
-0. 299	-0. 992	0. 248														
1005	-0° 3' 54"	-0° 41' 8"	116° 29' 17"	0°	0' 18"	0°	0' 20"	0°	0' 18"	-0°	3'					
54"	-0° 41' 8"	116° 29' 17"														
1005	1540724. 303	5509289. 831	10092. 080		0. 854		0. 817		0. 673							
0. 578	-0. 736	-1. 034														
1004	0° 1' 10"	-0° 22' 44"	116° 21' 10"	0°	0' 14"	0°	0' 16"	0°	0' 12"	0°	1'					
10"	-0° 22' 44"	116° 21' 10"														
1004	1538306. 856	5514133. 094	10051. 955		0. 702		0. 693		0. 488							
-0. 157	0. 250	0. 024														
1105	-0° 41' 3"	0° 25' 59"	293° 4' 16"	0°	0' 11"	0°	0' 11"	0°	0' 5"	-0°	41'					
3"	0° 25' 59"	293° 4' 16"														
1105	1544505. 619	5523539. 002	10007. 417		0. 558		0. 554		0. 319							
-0. 409	0. 152	0. 134														
516	0° 34' 3"	-1° 47' 34"	117° 41' 12"	0°	0' 11"	0°	0' 12"	0°	0' 4"	0°	34'					
3"	-1° 47' 34"	117° 41' 12"														
516	1550183. 092	5532365. 997	10054. 256		0. 612		0. 593		0. 362							
-0. 180	0. 299	-0. 034														
619	-0° 8' 50"	-0° 22' 36"	295° 51' 39"	0°	0' 11"	0°	0' 11"	0°	0' 4"	-0°	8'					
50"	-0° 22' 36"	295° 51' 39"														
619	1561467. 448	5531955. 364	10103. 146		0. 590		0. 587		0. 378							
0. 634	0. 049	-0. 276														
517	0° 24' 24"	-0° 34' 28"	118° 19' 14"	0°	0' 11"	0°	0' 12"	0°	0' 4"	0°	24'					
24"	-0° 34' 28"	118° 19' 14"														
517	1552546. 626	5527453. 541	10044. 608		0. 629		0. 579		0. 363							
-0. 405	0. 534	0. 003														
620	0° 2' 36"	1° 7' 55"	293° 31' 53"	0°	0' 11"	0°	0' 11"	0°	0' 4"	0°	2'					
36"	1° 7' 55"	293° 31' 53"														
620	1563852. 003	5527026. 578	10099. 179		0. 574		0. 585		0. 369							
0. 726	-2. 475	0. 141														
820	-0° 13' 26"	0° 29' 9"	297° 23' 55"	0°	0' 12"	0°	0' 14"	0°	0' 7"	-0°	13'					
26"	0° 29' 9"	297° 23' 55"														
820	1578250. 165	5540658. 406	10121. 604		0. 687		0. 654		0. 454							
0. 613	-0. 817	0. 130														
718	0° 20' 3"	-0° 50' 58"	115° 39' 23"	0°	0' 11"	0°	0' 12"	0°	0' 5"	0°	20'					
3"	-0° 50' 58"	115° 39' 23"														
718	1567382. 044	5541065. 020	10015. 956		0. 623		0. 600		0. 405							
0. 169	0. 223	-0. 317														
821	-0° 54' 7"	1° 26' 21"	296° 55' 10"	0°	0' 12"	0°	0' 13"	0°	0' 7"	-0°	54'					

7"	1° 26' 21"	296° 55' 10"									
821	1580606.434	5535786.833	10114.868	0.679	0.663	0.455					
0.464	-1.261	-0.106									
719	0° 14' 22"	-0° 1' 21"	115° 59' 53"	0° 0' 11"	0° 0' 12"	0° 0' 5"	0° 14'				
22"	-0° 1' 21"	115° 59' 53"									
719	1569791.537	5536152.545	9994.317	0.641	0.592	0.404					
-0.510	0.501	-0.104									
1107	-0° 23' 41"	1° 20' 4"	293° 38' 51"	0° 0' 12"	0° 0' 12"	0° 0' 6"	-0° 23'				
41"	1° 20' 4"	293° 38' 51"									
1107	1549486.730	5513785.715	10047.622	0.599	0.614	0.353					
-0.087	0.003	0.044									
518	0° 0' 51"	0° 5' 19"	119° 41' 42"	0° 0' 11"	0° 0' 12"	0° 0' 4"	0° 0'				
51"	0° 5' 19"	119° 41' 42"									
518	1555004.441	5522602.021	10037.160	0.601	0.589	0.352					
-0.352	0.203	0.102									
720	-0° 1' 8"	-0° 6' 13"	117° 17' 41"	0° 0' 12"	0° 0' 12"	0° 0' 5"	-0° 1'				
8"	-0° 6' 13"	117° 17' 41"									
720	1572273.274	5531324.968	9989.311	0.635	0.609	0.400					
0.027	0.726	0.158									
621	0° 19' 35"	0° 31' 23"	292° 8' 33"	0° 0' 11"	0° 0' 11"	0° 0' 4"	0° 19'				
35"	0° 31' 23"	292° 8' 33"									
621	1566532.943	5522237.165	10140.505	0.574	0.595	0.360					
-0.634	-0.102	0.732									
822	0° 4' 56"	-0° 25' 57"	298° 38' 0"	0° 0' 12"	0° 0' 13"	0° 0' 8"	0° 4'				
56"	-0° 25' 57"	298° 38' 0"									
822	1583079.215	5530901.386	10108.879	0.672	0.662	0.452					
0.728	-0.896	-0.005									
1108	0° 23' 23"	0° 18' 32"	294° 30' 47"	0° 0' 12"	0° 0' 12"	0° 0' 6"	0° 23'				
23"	0° 18' 32"	294° 30' 47"									
1108	1552011.574	5509011.662	10026.080	0.604	0.622	0.361					
0.163	0.307	0.198									
519	0° 14' 53"	-0° 35' 19"	119° 27' 20"	0° 0' 11"	0° 0' 12"	0° 0' 4"	0° 14'				
53"	-0° 35' 19"	119° 27' 20"									
519	1557497.626	5517766.934	10028.647	0.577	0.570	0.334					
0.444	0.077	-0.104									
622	-0° 3' 28"	1° 10' 37"	291° 4' 34"	0° 0' 12"	0° 0' 12"	0° 0' 4"	-0° 3'				
28"	1° 10' 37"	291° 4' 34"									
622	1568862.656	5517385.312	10073.825	0.595	0.604	0.358					
-0.279	-0.625	0.461									
823	0° 26' 31"	0° 40' 55"	296° 28' 1"	0° 0' 12"	0° 0' 14"	0° 0' 7"	0° 26'				
31"	0° 40' 55"	296° 28' 1"									
823	1585558.172	5526042.451	10075.292	0.679	0.648	0.447					
0.473	-1.257	0.178									
721	0° 21' 46"	-1° 7' 47"	116° 31' 60"	0° 0' 11"	0° 0' 13"	0° 0' 5"	0° 21'				
46"	-1° 7' 47"	116° 31' 60"									
721	1574774.611	5526510.478	9986.630	0.638	0.585	0.390					
0.537	0.474	-0.269									
722	0° 15' 24"	-0° 56' 23"	116° 21' 1"	0° 0' 11"	0° 0' 12"	0° 0' 5"	0° 15'				
24"	-0° 56' 23"	116° 21' 1"									
722	1577217.716	5521652.645	10001.302	0.626	0.588	0.382					



7"	1° 10' 19"	292° 27' 19"	5502711.751	10072.158	0. 602	0. 611	0. 352	
625	1575998.502	-0. 686	0. 191					
0. 664	-0° 9' 27"	0° 25' 33"	298° 20' 19"	0° 0' 12"	0° 0' 13"	0° 0' 7"	-0° 9'	
826	0° 25' 33"	298° 20' 19"	5511482.383	10043.301	0. 632	0. 623	0. 384	
27"								
826	1592749.231	-1. 677	0. 352					
1. 673	0° 17' 39"	-0° 18' 42"	122° 33' 58"	0° 0' 10"	0° 0' 12"	0° 0' 5"	0° 17'	
523	-0° 18' 42"	122° 33' 58"	5498521.413	10061.884	0. 596	0. 553	0. 345	
39"								
523	1567625.012	0. 368	-0. 171					
-0. 835	0° 18' 41"	0° 0' 36"	116° 23' 39"	0° 0' 11"	0° 0' 11"	0° 0' 4"	0° 18'	
725	0° 0' 36"	116° 23' 39"	5507013.991	10075.157	0. 563	0. 552	0. 322	
-0. 872	0. 349	-0. 073						
1112	-0° 25' 14"	1° 12' 6"	291° 48' 5"	0° 0' 12"	0° 0' 13"	0° 0' 8"	-0° 25'	
14"	1° 12' 6"	291° 48' 5"	5489426.223	10101.702	0. 625	0. 641	0. 396	
1112	1561486.275	-0. 191	0. 398					
0. 058	0° 24' 15"	293° 14' 15"	293° 14' 15"	0° 0' 12"	0° 0' 12"	0° 0' 4"	-0° 33'	
56"								
626	1578426.977	5497953.794	10054.519	0. 601	0. 611	0. 349		
-0. 294	-0. 479	0. 062						
827	-0° 58' 40"	1° 19' 2"	297° 4' 49"	0° 0' 12"	0° 0' 13"	0° 0' 7"	-0° 58'	
40"	1° 19' 2"	297° 4' 49"	5506588.532	10066.100	0. 601	0. 622	0. 333	
827	1595200.356	-1. 104	0. 423					
0. 830	0° 27' 5"	294° 21' 29"	294° 21' 29"	0° 0' 18"	0° 0' 20"	0° 0' 19"	-0° 1'	
100	-0° 1' 40"	0° 27' 5"	5511437.001	10549.913	0. 838	0. 858	0. 711	
40"								
100	1603819.883	1. 022	0. 045					
-0. 509	0° 33' 51"	-0° 6' 15"	116° 58' 45"	0° 0' 11"	0° 0' 11"	0° 0' 4"	0° 33'	
726	0° 33' 51"	116° 58' 45"	5502135.146	10050.581	0. 551	0. 526	0. 282	
-0. 367	0. 588	0. 062						
101	-0° 29' 6"	1° 22' 42"	294° 21' 53"	0° 0' 15"	0° 0' 16"	0° 0' 14"	-0° 29'	
6"	1° 22' 42"	294° 21' 53"	5506494.693	10539.589	0. 747	0. 693	0. 509	
101	1606148.219	-0. 225	0. 490					
0. 171	0° 4' 26"	0° 11' 24"	123° 12' 36"	0° 0' 11"	0° 0' 12"	0° 0' 5"	0° 4'	
524	0° 11' 24"	123° 12' 36"	5493673.609	10030.034	0. 585	0. 557	0. 350	
26"								
524	1570125.051	0. 270	-0. 206					
-0. 112	0° 3' 58"	0° 20' 51"	293° 14' 1"	0° 0' 12"	0° 0' 12"	0° 0' 6"	-0° 3'	
828	0° 20' 51"	293° 14' 1"	5501884.180	10041.916	0. 615	0. 590	0. 318	
58"								
828	1597874.266	-1. 180	0. 213					
-0. 199	0° 15' 34"	-0° 7' 52"	293° 32' 11"	0° 0' 12"	0° 0' 12"	0° 0' 4"	0° 15'	
627	-0° 7' 52"	293° 32' 11"	5493044.852	10098.377	0. 581	0. 603	0. 346	



30"	-0° 38' 28"	121° 20' 8"										
728	1591834.863	5492484.048	9992.789	0.545	0.519	0.312						
0.407	-0.176	0.156										
103	-0° 3' 9"	0° 23' 15"	296° 27' 18"	0° 0' 13"	0° 0' 13"	0° 0' 8"	-0° 3'					
9"	0° 23' 15"	296° 27' 18"										
103	1611007.045	5496793.974	10540.397	0.651	0.688	0.426						
0.363	-0.494	0.404										
830	-0° 15' 36"	0° 53' 55"	293° 44' 25"	0° 0' 11"	0° 0' 12"	0° 0' 5"	-0° 15'					
36"	0° 53' 55"	293° 44' 25"										
830	1602719.409	5492109.565	10024.128	0.596	0.572	0.350						
0.745	0.299	-0.073										
527	-0° 22' 16"	-0° 12' 22"	122° 4' 10"	0° 0' 10"	0° 0' 11"	0° 0' 5"	-0° 22'					
16"	-0° 12' 22"	122° 4' 10"										
527	1577468.397	5479174.882	9983.692	0.547	0.539	0.352						
-0.172	0.952	-0.059										
528	-0° 13' 3"	-0° 2' 19"	122° 36' 16"	0° 0' 10"	0° 0' 12"	0° 0' 5"	-0° 13'					
3"	-0° 2' 19"	122° 36' 16"										
528	1579966.855	5474332.186	9989.703	0.565	0.535	0.355						
-1.026	0.501	-0.011										
729	0° 21' 44"	-0° 39' 59"	120° 54' 8"	0° 0' 10"	0° 0' 12"	0° 0' 4"	0° 21'					
44"	-0° 39' 59"	120° 54' 8"										
729	1594250.570	5487653.598	10004.510	0.568	0.525	0.333						
-0.009	0.592	-0.048										
104	0° 2' 51"	0° 4' 57"	296° 7' 48"	0° 0' 12"	0° 0' 13"	0° 0' 8"	0° 2'					
51"	0° 4' 57"	296° 7' 48"										
104	1613459.265	5491978.576	10534.383	0.647	0.671	0.423						
0.220	-0.031	0.191										
730	-0° 5' 50"	-0° 20' 26"	121° 7' 33"	0° 0' 10"	0° 0' 12"	0° 0' 4"	-0° 5'					
50"	-0° 20' 26"	121° 7' 33"										
730	1596664.393	5482775.459	10012.446	0.576	0.529	0.341						
-0.282	-0.007	0.089										
105	0° 34' 50"	-0° 28' 9"	296° 11' 42"	0° 0' 12"	0° 0' 13"	0° 0' 7"	0° 34'					
50"	-0° 28' 9"	296° 11' 42"										
105	1615928.797	5487070.901	10543.471	0.644	0.653	0.419						
0.670	0.087	-0.240										
831	-0° 28' 5"	1° 8' 14"	294° 33' 56"	0° 0' 11"	0° 0' 12"	0° 0' 5"	-0° 28'					
5"	1° 8' 14"	294° 33' 56"										
831	1605196.840	5487284.936	10023.615	0.583	0.561	0.353						
0.276	-0.110	-0.038										
630	-0° 12' 54"	0° 27' 24"	293° 18' 47"	0° 0' 11"	0° 0' 11"	0° 0' 4"	-0° 12'					
54"	0° 27' 24"	293° 18' 47"										
630	1588298.178	5478524.451	10046.370	0.555	0.574	0.349						
-0.479	-0.694	0.046										
529	0° 9' 34"	-1° 46' 34"	120° 41' 30"	0° 0' 12"	0° 0' 13"	0° 0' 6"	0° 9'					
34"	-1° 46' 34"	120° 41' 30"										
529	1582403.527	5469528.862	10054.242	0.619	0.579	0.381						
-0.708	0.215	-0.548										
731	0° 13' 19"	-0° 9' 36"	121° 16' 19"	0° 0' 10"	0° 0' 11"	0° 0' 4"	0° 13'					
19"	-0° 9' 36"	121° 16' 19"										
731	1599154.816	5477854.888	9966.647	0.556	0.540	0.341						

-0.265		0.636	0.314											
106	-0° 25' 32"	294° 55' 16"	294° 27' 34"	0°	0'	12"	0°	0'	13"	0°	0'	7"	-0°	25'
32"	0° 55' 16"	294° 27' 34"	10529.960	.	.	.	0.653	.	0.644	.	0.406	.	.	.
106	1618237.822	5482179.689	294° 58' 9"	0°	0'	11"	0°	0'	12"	0°	0'	5"	-0°	9'
-0.168	0.028	0.480	294° 58' 9"	0°	0'	11"	0°	0'	12"	0°	0'	5"	-0°	9'
832	-0° 9' 19"	0° 19' 25"	10037.509	.	.	.	0.600	.	0.555	.	0.355	.	.	.
19"	0° 19' 25"	294° 58' 9"	10063.945	.	.	.	0.549	.	0.559	.	0.344	.	.	.
832	1607736.099	5482502.310	293° 20' 31"	0°	0'	11"	0°	0'	11"	0°	0'	4"	-0°	27'
-0.053	-0.733	-0.007	293° 20' 31"	0°	0'	11"	0°	0'	11"	0°	0'	4"	-0°	27'
631	-0° 27' 38"	0° 0' 43"	121° 3' 13"	0°	0'	11"	0°	0'	13"	0°	0'	6"	0°	31'
38"	0° 0' 43"	293° 20' 31"	10072.559	.	.	.	0.628	.	0.584	.	0.384	.	.	.
631	1590786.682	5473686.530	120° 44' 24"	0°	0'	10"	0°	0'	11"	0°	0'	4"	-0°	28'
-0.412	-0.313	0.081	120° 44' 24"	0°	0'	10"	0°	0'	11"	0°	0'	4"	-0°	28'
530	0° 31' 10"	-0° 10' 51"	9997.057	.	.	.	0.555	.	0.527	.	0.332	.	.	.
10"	-0° 10' 51"	121° 3' 13"	10043.859	.	.	.	0.631	.	0.639	.	0.390	.	.	.
530	1584825.220	5464567.543	295° 29' 29"	0°	0'	12"	0°	0'	13"	0°	0'	7"	-0°	34'
-0.855	0.533	0.257	295° 29' 29"	0°	0'	12"	0°	0'	13"	0°	0'	7"	-0°	34'
732	-0° 28' 16"	-0° 38' 43"	293° 27' 7"	0°	0'	11"	0°	0'	11"	0°	0'	4"	0°	30'
16"	-0° 38' 43"	120° 44' 24"	10062.028	.	.	.	0.559	.	0.541	.	0.285	.	.	.
732	1601568.157	5473074.640	293° 25' 53"	0°	0'	11"	0°	0'	11"	0°	0'	4"	0°	9'
-0.464	-0.370	-0.006	293° 25' 53"	0°	0'	11"	0°	0'	11"	0°	0'	4"	0°	24'
107	-0° 34' 41"	0° 37' 48"	10024.980	.	.	.	0.585	.	0.544	.	0.339	.	.	.
41"	0° 37' 48"	293° 27' 7"	10029.809	.	.	.	0.602	.	0.563	.	0.313	.	.	.
107	1620586.553	5477291.835	293° 25' 53"	0°	0'	11"	0°	0'	11"	0°	0'	4"	0°	0'
0.738	-1.103	0.507	293° 25' 53"	0°	0'	11"	0°	0'	11"	0°	0'	4"	0°	0'
834	0° 30' 22"	1° 8' 36"	10051.814	.	.	.	0.537	.	0.554	.	0.322	.	.	.
22"	1° 8' 36"	293° 27' 7"	10086.965	.	.	.	0.544	.	0.556	.	0.335	.	.	.
834	1612815.270	5472807.260	293° 25' 53"	0°	0'	11"	0°	0'	12"	0°	0'	4"	0°	24'
0.076	0.285	-0.214	293° 25' 53"	0°	0'	11"	0°	0'	12"	0°	0'	4"	0°	0'
633	0° 9' 9"	0° 33' 15"	10062.028	.	.	.	0.628	.	0.580	.	0.367	.	.	.
9"	0° 33' 15"	293° 27' 7"	10024.980	.	.	.	0.628	.	0.580	.	0.367	.	.	.
633	1595669.553	5463972.520	293° 25' 53"	0°	0'	11"	0°	0'	13"	0°	0'	7"	-0°	34'
0.037	0.199	0.441	293° 25' 53"	0°	0'	11"	0°	0'	13"	0°	0'	7"	-0°	34'
833	0° 24' 5"	0° 2' 59"	10024.980	.	.	.	0.559	.	0.541	.	0.285	.	.	.
5"	0° 2' 59"	293° 27' 7"	10029.809	.	.	.	0.585	.	0.544	.	0.339	.	.	.
833	1610314.437	5477667.980	293° 25' 53"	0°	0'	11"	0°	0'	12"	0°	0'	4"	0°	24'
0.948	0.029	-0.442	293° 25' 53"	0°	0'	11"	0°	0'	12"	0°	0'	4"	0°	0'
632	0° 0' 57"	0° 16' 44"	10051.814	.	.	.	0.537	.	0.554	.	0.322	.	.	.
57"	0° 16' 44"	293° 27' 7"	10024.980	.	.	.	0.559	.	0.541	.	0.285	.	.	.
632	1593271.648	5468805.411	293° 25' 53"	0°	0'	11"	0°	0'	12"	0°	0'	4"	0°	0'
0.274	-0.171	0.015	293° 25' 53"	0°	0'	11"	0°	0'	12"	0°	0'	4"	0°	0'
531	0° 9' 57"	0° 16' 34"	10062.028	.	.	.	0.585	.	0.544	.	0.339	.	.	.
57"	0° 16' 34"	121° 58' 26"	10024.980	.	.	.	0.602	.	0.563	.	0.313	.	.	.
531	1587254.089	5459677.737	10024.980	.	.	.	0.628	.	0.580	.	0.367	.	.	.
-0.563	-0.133	0.187	10024.980	.	.	.	0.628	.	0.580	.	0.367	.	.	.
532	0° 25' 10"	-0° 2' 55"	10024.980	.	.	.	0.628	.	0.580	.	0.367	.	.	.
10"	-0° 2' 55"	121° 58' 26"	10024.980	.	.	.	0.628	.	0.580	.	0.367	.	.	.
532	1589724.998	5454873.536	10024.980	.	.	.	0.628	.	0.563	.	0.313	.	.	.
-0.588	0.591	0.129	10024.980	.	.	.	0.628	.	0.563	.	0.313	.	.	.
733	-0° 6' 5"	-0° 39' 45"	10024.980	.	.	.	0.628	.	0.563	.	0.313	.	.	.

5"	-0°	39' 45"	120°	19' 36"										
733	1604011.	637	5468243.	628	10019.	538	0. 567	0. 516	0. 315					
-0. 271		1. 027		0. 214										
734	0°	15' 34"	-0°	28' 44"	120°	9' 12"	0°	0' 10"	0°	0' 11"	0°	0' 4"	0°	15'
34"	-0°	28' 44"	120°	9' 12"										
734	1606475.	957	5463371.	467	10011.	524	0. 540	0. 503	0. 287					
0. 236		1. 204		0. 304										
108	0°	1' 47"	0°	34' 7"	295°	35' 5"	0°	0' 12"	0°	0' 12"	0°	0' 6"	0°	1'
47"	0°	34' 7"	295°	35' 5"										
108	1623032.	161	5472395.	391	10539.	584	0. 620	0. 635	0. 378					
0. 205		-0. 835		-0. 162										
835	-0°	33' 20"	0°	26' 23"	294°	30' 23"	0°	0' 11"	0°	0' 12"	0°	0' 4"	-0°	33'
20"	0°	26' 23"	294°	30' 23"										
835	1615172.	985	5467987.	720	9990.	686	0. 570	0. 508	0. 297					
-0. 370		0. 625		-0. 195										
634	-0°	32' 16"	1°	7' 56"	293°	30' 5"	0°	0' 11"	0°	0' 11"	0°	0' 4"	-0°	32'
16"	1°	7' 56"	293°	30' 5"										
634	1598064.	251	5459086.	096	10037.	932	0. 535	0. 548	0. 295					
0. 504		-0. 433		-0. 032										
533	0°	10' 55"	-0°	37' 16"	121°	36' 1"	0°	0' 12"	0°	0' 12"	0°	0' 6"	0°	10'
55"	-0°	37' 16"	121°	36' 1"										
533	1592191.	264	5450043.	781	10021.	108	0. 584	0. 542	0. 320					
-0. 610		1. 079		0. 610										
735	0°	23' 39"	-0°	30' 38"	119°	52' 44"	0°	0' 9"	0°	0' 11"	0°	0' 4"	0°	23'
39"	-0°	30' 38"	119°	52' 44"										
735	1608914.	746	5458485.	395	10001.	344	0. 512	0. 464	0. 253					
-0. 003		0. 313		-0. 224										
636	-0°	26' 38"	-0°	4' 13"	294°	50' 36"	0°	0' 11"	0°	0' 11"	0°	0' 4"	-0°	26'
38"	-0°	4' 13"	294°	50' 36"										
636	1603033.	851	5449464.	420	10039.	991	0. 506	0. 553	0. 272					
0. 247		-0. 312		0. 249										
836	-0°	33' 45"	-0°	3' 31"	294°	0' 35"	0°	0' 10"	0°	0' 11"	0°	0' 4"	-0°	33'
45"	-0°	3' 31"	294°	0' 35"										
836	1617613.	813	5463106.	690	10041.	697	0. 525	0. 536	0. 282					
0. 257		-0. 473		0. 136										
635	0°	5' 38"	0°	34' 38"	294°	17' 18"	0°	0' 11"	0°	0' 11"	0°	0' 4"	0°	5'
38"	0°	34' 38"	294°	17' 18"										
635	1600567.	097	5454252.	233	10050.	649	0. 523	0. 525	0. 266					
0. 081		0. 176		0. 156										
534	0°	4' 57"	-0°	24' 45"	121°	49' 52"	0°	0' 12"	0°	0' 12"	0°	0' 6"	0°	4'
57"	-0°	24' 45"	121°	49' 52"										
534	1594690.	520	5445228.	264	9998.	762	0. 578	0. 558	0. 318					
0. 308		0. 004		0. 168										
736	0°	15' 51"	-0°	34' 19"	119°	41' 10"	0°	0' 10"	0°	0' 9"	0°	0' 4"	0°	15'
51"	-0°	34' 19"	119°	41' 10"										
736	1611321.	242	5453625.	446	9999.	132	0. 468	0. 469	0. 263					
0. 222		1. 046		0. 271										
637	-0°	29' 22"	0°	45' 42"	294°	17' 49"	0°	0' 11"	0°	0' 12"	0°	0' 5"	-0°	29'
22"	0°	45' 42"	294°	17' 49"										
637	1605487.	348	5444610.	337	10083.	863	0. 555	0. 563	0. 323					



18"	-0°	2'	2"	293°	37'	30"										
110	1627911.	234		5462718.	179		10491.	118		0. 577		0. 592		0. 358		
0. 223	-0°	0. 558		0. 093												
738	-0°	25'	10"	-0°	28'	41"	120°	43'	43"	0°	0' 10"	0°	0' 12"	0°	0' 5"	-0° 25'
10"	-0°	28'	41"	120°	43'	43"										
738	1616230.	178		5443915.	618		10020.	789		0. 544		0. 516		0. 335		
-0. 788	-0°	0. 444		0. 183												
739	0°	10'	44"	-0°	38'	58"	120°	35'	23"	0°	0' 10"	0°	0' 11"	0°	0' 5"	0° 10'
44"	-0°	38'	58"	120°	35'	23"										
739	1618723.	469		5439078.	332		10036.	413		0. 530		0. 517		0. 341		
-1. 024	0°	2'	58"	0°	53'	23"										
112	1632755.	215		5452923.	226		10546.	360		0. 553		0. 577		0. 351		
0. 669	-0°	0. 672		0. 158												
740	0°	17'	27"	-0°	29'	38"	120°	15'	4"	0°	0' 12"	0°	0' 12"	0°	0' 8"	0° 17'
27"	-0°	29'	38"	120°	15'	4"										
740	1621184.	623		5434276.	198		10057.	003		0. 578		0. 572		0. 397		
-0. 267	-0°	0. 650		0. 009												
741	0°	12'	59"	-0°	4'	46"	120°	47'	46"	0°	0' 17"	0°	0' 18"	0°	0' 13"	0° 12'
59"	-0°	4'	46"	120°	47'	46"										
741	1623703.	641		5429437.	051		10058.	516		0. 795		0. 731		0. 596		
-0. 035	-0°	0. 920		-1. 380												
840	-0°	4'	19"	0°	9'	8"	295°	52'	8"	0°	0' 11"	0°	0' 12"	0°	0' 4"	-0° 4'
19"	0°	9'	8"	295°	52'	8"										
840	1627159.	086		5443608.	992		10032.	274		0. 541		0. 562		0. 308		
0. 245	0°	0. 412		0. 075												
113	0°	23'	32"	0°	16'	27"	295°	16'	13"	0°	0' 11"	0°	0' 11"	0°	0' 4"	0° 23'
32"	0°	16'	27"	295°	16'	13"										
113	1635188.	502		5448143.	291		10540.	060		0. 552		0. 560		0. 346		
0. 277	0°	0. 572		0. 034												
841	-0°	10'	3"	0°	47'	30"	294°	48'	45"	0°	0' 12"	0°	0' 12"	0°	0' 5"	-0° 10'
3"	0°	47'	30"	294°	48'	45"										
841	1629628.	696		5438710.	090		10044.	602		0. 581		0. 563		0. 347		
-0. 651	0°	0. 507		-0. 012												
114	-0°	55'	18"	-0°	4'	29"	295°	4'	16"	0°	0' 11"	0°	0' 11"	0°	0' 4"	-0° 55'
18"	-0°	4'	29"	295°	4'	16"										
114	1637621.	590		5443295.	950		10580.	090		0. 551		0. 561		0. 337		
-0. 205	-0°	0. 683		0. 460												
842	0°	9'	9"	0°	51'	59"	295°	17'	7"	0°	0' 12"	0°	0' 12"	0°	0' 5"	0° 9'
9"	0°	51'	59"	295°	17'	7"										
842	1632056.	391		5433858.	813		10019.	043		0. 571		0. 572		0. 365		
-0. 442	0°	0. 059		0. 282												
115	-0°	25'	47"	0°	11'	6"	294°	41'	11"	0°	0' 11"	0°	0' 11"	0°	0' 4"	-0° 25'
47"	0°	11'	6"	294°	41'	11"										
115	1640035.	067		5438436.	219		10679.	855		0. 549		0. 567		0. 334		
-0. 397	0°	0. 807		0. 018												
201	0°	8'	30"	-0°	33'	6"	119°	19'	52"	0°	0' 13"	0°	0' 14"	0°	0' 9"	0° 8'
30"	-0°	33'	6"	119°	19'	52"										
201	1636223.	639		5467107.	809		10550.	072		0. 661		0. 651		0. 443		

1.	157		0.572	0.064													
	300	59"	-0° 32' 59"	0° 18' 30"	294° 57' 56"	294° 57' 56"	0°	0' 18"	0°	0' 16"	0°	0' 13"	-0°	32'			
	300	0° 18' 30"	294° 57' 56"			10532.932		0.789		0.785		0.594					
	-0.163	0.264		-1.026													
	202	0° 3' 44"	-0° 13' 15"	119° 32' 32"	119° 32' 32"	0°	0' 12"	0°	0' 12"	0°	0' 6"	0°	3'				
	202	1638665.219	5462265.180		10558.361		0.610		0.607		0.390						
	0.646	0.244		0.095													
	203	0° 12' 36"	-0° 24' 30"	119° 37' 30"	119° 37' 30"	0°	0' 11"	0°	0' 11"	0°	0' 5"	0°	12'				
	36"	-0° 24' 30"	119° 37' 30"			10566.846		0.564		0.571		0.360					
	203	1641159.443	5457398.810														
	0.180	0.216		-0.106													
	400	0° 35' 37"	0° 9' 49"	120° 13' 37"	120° 13' 37"	0°	0' 17"	0°	0' 18"	0°	0' 14"	0°	35'				
	37"	0° 9' 49"	120° 13' 37"			10532.109		0.825		0.778		0.623					
	400	1657913.142	5465935.283														
	0.441	0.745		-0.279													
	302	0° 15' 5"	0° 28' 49"	294° 54' 55"	294° 54' 55"	0°	0' 11"	0°	0' 11"	0°	0' 5"	0°	15'				
	5"	0° 28' 49"	294° 54' 55"			10508.756		0.546		0.574		0.343					
	302	1652278.961	5456896.595														
	0.239	-0.761		0.430													
	301	0° 5' 8"	0° 12' 24"	294° 48' 7"	294° 48' 7"	0°	0' 14"	0°	0' 13"	0°	0' 8"	0°	5'				
	8"	0° 12' 24"	294° 48' 7"			10536.040		0.616		0.655		0.405					
	301	1649837.739	5461765.917														
	0.732	-0.338		-0.090													
	401	0° 14' 51"	0° 44' 0"	120° 52' 4"	120° 52' 4"	0°	0' 13"	0°	0' 14"	0°	0' 9"	0°	14'				
	51"	0° 44' 0"	120° 52' 4"			10505.844		0.655		0.645		0.402					
	401	1660336.011	5461025.825														
	-0.269	1.152		0.063													
	204	0° 26' 55"	-0° 19' 15"	119° 32' 20"	119° 32' 20"	0°	0' 11"	0°	0' 11"	0°	0' 4"	0°	26'				
	55"	-0° 19' 15"	119° 32' 20"			10554.127		0.548		0.545		0.340					
	204	1643633.342	5452566.003														
	0.214	0.415		0.242													
	205	-0° 6' 41"	-0° 15' 1"	119° 59' 24"	119° 59' 24"	0°	0' 10"	0°	0' 11"	0°	0' 4"	-0°	6'				
	41"	-0° 15' 1"	119° 59' 24"			10570.180		0.529		0.489		0.320					
	205	1646115.535	5447733.443														
	-1.036	0.068		0.419													
	402	-0° 26' 29"	-0° 1' 24"	121° 6' 3"	121° 6' 3"	0°	0' 12"	0°	0' 14"	0°	0' 7"	-0°	26'				
	29"	-0° 1' 24"	121° 6' 3"			10552.340		0.618		0.566		0.366					
	402	1662771.777	5456269.267														
	0.274	0.505		0.433													
	303	0° 9' 18"	0° 29' 48"	294° 46' 34"	294° 46' 34"	0°	0' 11"	0°	0' 11"	0°	0' 5"	0°	9'				
	18"	0° 29' 48"	294° 46' 34"			10484.249		0.543		0.551		0.326					
	303	1654709.545	5452081.589														
	0.442	-0.922		0.211													
	403	0° 15' 52"	-0° 13' 46"	121° 33' 27"	121° 33' 27"	0°	0' 11"	0°	0' 13"	0°	0' 6"	0°	15'				
	52"	-0° 13' 46"	121° 33' 27"			10550.993		0.625		0.586		0.347					
	403	1665320.442	5451395.072														
	-0.606	0.810		-0.086													
	304	0° 0' 0"	1° 0' 5"	294° 24' 7"	294° 24' 7"	0°	0' 11"	0°	0' 11"	0°	0' 4"	0°	0'				

0"	1°	0' 5"	294° 24' 7"	1657116.627	5447205.524	10488.072	0.538	0.535	0.324
0.310		-0.185			0.354				
404	0°	25' 47"	-0° 41' 60"	121° 4' 53"	10532.896	0° 0' 11"	0° 0' 13"	0° 0' 6"	0° 25'
47"	-0°	41' 60"	121° 4' 53"			0.617		0.585	0.384
404	1667858.	741	5446567.	705	10545.353				
0.335		0.331		0.021					
206	0°	9' 48"	-0° 7' 11"	120° 21' 43"	118° 37' 46"	0° 0' 10"	0° 0' 11"	0° 0' 4"	0° 9'
48"	-0°	7' 11"	120° 21' 43"			0.498		0.503	0.313
206	1648657.	180	5442878.	993	10543.702				
-0.029		-0.391		0.058					
207	0°	30' 4"	-1° 13' 40"	118° 37' 46"	10495.217	0° 0' 10"	0° 0' 11"	0° 0' 4"	0° 30'
4"	-1°	13' 40"	118° 37' 46"			0.539		0.505	0.324
207	1651104.	488	5438078.	284	10648.544				
-0.119		0.363		-0.240					
116	0°	28' 24"	0° 26' 24"	294° 33' 14"	10700.124	0° 0' 11"	0° 0' 11"	0° 0' 4"	0° 28'
24"	0°	26' 24"	294° 33' 14"			0.544		0.564	0.333
116	1642459.	899	5433495.	715	10495.217				
-0.496		-0.004		-0.139					
305	-0°	13' 59"	0° 9' 5"	295° 8' 52"	10528.992	0° 0' 11"	0° 0' 11"	0° 0' 4"	-0° 13'
59"	0°	9' 5"	295° 8' 52"			0.536		0.541	0.335
305	1659571.	898	5442380.	975	10532.311				
0.578		-0.518		0.236					
843	-0°	38' 48"	0° 36' 24"	295° 18' 10"	10513.848	0° 0' 13"	0° 0' 13"	0° 0' 6"	-0° 38'
48"	0°	36' 24"	295° 18' 10"			0.597		0.600	0.393
843	1634482.	604	5429063.	944	10528.992				
-0.570		0.360		-0.033					
117	-0°	8' 28"	0° 9' 10"	294° 22' 15"	10528.992	0° 0' 11"	0° 0' 11"	0° 0' 4"	-0° 8'
28"	0°	9' 10"	294° 22' 15"			0.550		0.545	0.339
117	1644809.	645	5428645.	347	10536.035				
0.310		-0.256		0.040					
844	-0°	21' 30"	-0° 10' 29"	295° 24' 46"	10536.035	0° 0' 13"	0° 0' 13"	0° 0' 6"	-0° 21'
30"	-0°	10' 29"	295° 24' 46"			0.620		0.608	0.409
844	1636939.	753	5424225.	093	10528.992				
0.255		0.249		-0.013					
306	-0°	29' 57"	0° 27' 13"	295° 15' 55"	10528.992	0° 0' 11"	0° 0' 11"	0° 0' 4"	-0° 29'
57"	0°	27' 13"	295° 15' 55"			0.547		0.536	0.342
306	1662048.	373	5437547.	083	10528.992				
0.901		-0.268		-0.216					
405	0°	8' 58"	-0° 56' 27"	121° 7' 15"	10528.992	0° 0' 12"	0° 0' 13"	0° 0' 7"	0° 8'
58"	-0°	56' 27"	121° 7' 15"			0.608		0.593	0.402
405	1670328.	636	5441779.	612	10528.992				
0.008		0.620		0.069					
406	-0°	3' 57"	-0° 7' 43"	121° 30' 30"	10528.992	0° 0' 12"	0° 0' 13"	0° 0' 7"	-0° 3'
57"	-0°	7' 43"	121° 30' 30"			0.604		0.588	0.407
406	1672829.	028	5436908.	800	10528.992				
-0.083		0.339		0.531					
208	0°	18' 50"	-0° 5' 52"	119° 23' 49"	10528.992	0° 0' 10"	0° 0' 11"	0° 0' 4"	0° 18'
50"	-0°	5' 52"	119° 23' 49"			0.523		0.501	0.329
208	1653550.	779	5433190.	139	10528.992				

-0. 245	0. 476	-0. 118
209	-0° 0' 46"	-0° 25' 33"
46"	25' 33"	119° 5' 4"
209	1655993. 994	5428367. 899
-0. 430	0. 290	-0. 158
845	-0° 33' 22"	1° 4' 39"
22"	1° 4' 39"	294° 31' 22"
845	1639362. 402	5419348. 032
-0. 688	1. 156	-0. 004
118	-0° 37' 22"	1° 14' 20"
22"	1° 14' 20"	294° 3' 47"
118	1647162. 995	5423710. 659
-0. 301	-0. 593	-0. 331
307	0° 8' 53"	-0° 4' 2"
53"	-0° 4' 2"	295° 22' 7"
307	1664540. 143	5432669. 590
0. 749	0. 253	-0. 349
119	-0° 17' 14"	0° 35' 36"
14"	0° 35' 36"	295° 34' 50"
119	1649592. 416	5418857. 755
-0. 354	-0. 139	-0. 231
308	-0° 6' 20"	0° 14' 25"
20"	0° 14' 25"	294° 45' 20"
308	1666968. 294	5427832. 241
-0. 115	-0. 058	-0. 358
407	0° 11' 5"	-0° 45' 27"
5"	-0° 45' 27"	120° 45' 16"
407	1675310. 113	5432075. 830
0. 064	0. 007	0. 189
210	0° 15' 45"	-0° 21' 31"
45"	-0° 21' 31"	119° 13' 5"
210	1658440. 468	5423517. 660
-0. 553	0. 060	-0. 098
211	-0° 5' 21"	-0° 54' 47"
211"	-0° 54' 47"	118° 24' 9"
211	1660841. 814	5418647. 213
-0. 639	-0. 062	0. 011
408	0° 7' 2"	-0° 36' 16"
2"	-0° 36' 16"	120° 37' 55"
408	1677775. 034	5427219. 138
-0. 123	0. 264	0. 377
409	0° 16' 2"	-1° 4' 10"
2"	-1° 4' 10"	119° 50' 27"
409	1680227. 405	5422358. 737
0. 337	0. 594	0. 660
309	-0° 8' 51"	0° 35' 3"
51"	0° 35' 3"	294° 53' 51"
309	1669365. 121	5422930. 802
0. 539	0. 353	-0. 158
120	-0° 6' 60"	-0° 13' 15"
	295° 27' 13"	0° 0' 11"
		0° 0' 12"
		0° 0' 4"
		-0° 6'

60"	-0° 13' 15"	295° 27' 13"										
120	1652132.683	5414044.540	10615.921		0. 567		0. 554		0. 354			
-0. 350	0. 316	-0. 215										
846	-0° 21' 31"	0° 31' 42"	293° 21' 29"	0°	0' 13"	0°	0' 13"	0°	0' 7"	-0°	21'	
31"	0° 31' 42"	293° 21' 29"										
846	1641816.672	5414470.183	10548.772		0. 635		0. 622		0. 408			
-0. 517	-0. 327	-0. 217										
310	-0° 25' 47"	0° 32' 60"	294° 52' 36"	0°	0' 11"	0°	0' 11"	0°	0' 4"	-0°	25'	
47"	0° 32' 60"	294° 52' 36"										
310	1671763.868	5418058.120	10544.428		0. 525		0. 502		0. 272			
0. 550	-0. 128	-0. 067										
410	0° 6' 14"	-0° 36' 22"	119° 43' 31"	0°	0' 12"	0°	0' 13"	0°	0' 7"	0°	6'	
14"	-0° 36' 22"	119° 43' 31"										
410	1682585.923	5417503.832	10481.584		0. 598		0. 587		0. 402			
0. 199	-0. 303	0. 636										
312	0° 20' 6"	-0° 3' 2"	296° 12' 48"	0°	0' 10"	0°	0' 11"	0°	0' 4"	0°	20'	
6"	-0° 3' 2"	296° 12' 48"										
312	1676649.668	5408309.159	10548.949		0. 527		0. 512		0. 312			
0. 972	0. 348	-0. 099										
411	0° 6' 21"	0° 5' 57"	119° 57' 37"	0°	0' 11"	0°	0' 13"	0°	0' 6"	0°	6'	
21"	0° 5' 57"	119° 57' 37"										
411	1685006.360	5412616.122	10466.324		0. 595		0. 584		0. 402			
0. 636	0. 225	0. 444										
311	-0° 18' 33"	0° 52' 10"	294° 49' 30"	0°	0' 11"	0°	0' 11"	0°	0' 4"	-0°	18'	
33"	0° 52' 10"	294° 49' 30"										
311	1674179.836	5413221.801	10551.879		0. 524		0. 520		0. 299			
0. 463	-0. 178	0. 026										
412	-0° 10' 29"	0° 10' 36"	121° 16' 6"	0°	0' 12"	0°	0' 13"	0°	0' 6"	-0°	10'	
29"	0° 10' 36"	121° 16' 6"										
412	1687465.464	5407803.191	10474.688		0. 588		0. 587		0. 396			
-0. 060	0. 394	0. 130										
413	0° 18' 28"	-0° 40' 38"	120° 36' 6"	0°	0' 12"	0°	0' 12"	0°	0' 6"	0°	18'	
28"	-0° 40' 38"	120° 36' 6"										
413	1689965.200	5402964.179	10483.979		0. 584		0. 573		0. 380			
0. 420	-0. 026	0. 462										
414	0° 26' 17"	-0° 50' 47"	119° 55' 17"	0°	0' 15"	0°	0' 14"	0°	0' 8"	0°	26'	
17"	-0° 50' 47"	119° 55' 17"										
414	1692437.953	5398111.938	10487.170		0. 634		0. 623		0. 417			
0. 202	-0. 650	-0. 223										
314	-0° 21' 45"	1° 6' 55"	294° 49' 1"	0°	0' 11"	0°	0' 11"	0°	0' 5"	-0°	21'	
45"	1° 6' 55"	294° 49' 1"										
314	1681455.281	5398605.664	10522.354		0. 519		0. 517		0. 295			
0. 445	-0. 659	-0. 064										
415	0° 28' 7"	-0° 57' 9"	118° 53' 1"	0°	0' 18"	0°	0' 16"	0°	0' 12"	0°	28'	
7"	-0° 57' 9"	118° 53' 1"										
415	1694824.585	5393269.119	10485.720		0. 716		0. 790		0. 613			
0. 499	-1. 061	-1. 454										
315	-0° 19' 42"	-0° 7' 45"	296° 32' 35"	0°	0' 16"	0°	0' 14"	0°	0' 8"	-0°	19'	
42"	-0° 7' 45"	296° 32' 35"										
315	1683819.480	5393764.895	10499.582		0. 697		0. 709		0. 466			

0. 545		-0. 758		-1. 236													
313	18"	0° 9' 18"	-0° 6' 28"	295° 29' 3"	295° 29' 3"	0°	0' 10"	0°	0' 11"	0°	0' 4"	0°	9'				
313	1879094.	963	5403518.	534	10524.	171		0. 522		0. 497		0. 302					
0. 562		0. 376		-0. 170													
217	-0° 18' 42"	1° 1' 51"	118° 52' 10"		118° 52' 10"	0°	0' 16"	0°	0' 13"	0°	0' 8"	-0° 18'					
217	1675363.	248	5389389.	412	10578.	297		0. 641		0. 686		0. 444					
0. 946		-1. 993		-1. 983													
214	1° 7' 37"	-1° 48' 6"	116° 55' 23"	116° 55' 23"	116° 55' 23"	0°	0' 10"	0°	0' 11"	0°	0' 4"	1° 7'					
37"	-1° 48' 6"	116° 55' 23"															
214	1668353.	394	5404090.	712	10531.	063		0. 509		0. 499		0. 311					
-0. 648		0. 559		-0. 161													
213	0° 41' 4"	-1° 0' 36"	118° 52' 43"	118° 52' 43"	118° 52' 43"	0°	0' 9"	0°	0' 10"	0°	0' 4"	0° 41'					
213	1665899.	870	5409015.	167	10558.	643		0. 472		0. 466		0. 283					
0. 247		-0. 239		0. 125													
212	-0° 43' 47"	0° 57' 51"	120° 22' 4"	120° 22' 4"	120° 22' 4"	0°	0' 10"	0°	0' 10"	0°	0' 4"	-0° 43'					
47"	0° 57' 51"	120° 22' 4"															
212	1663272.	582	5413813.	152	10558.	220		0. 470		0. 465		0. 263					
-1. 009		-0. 220		-0. 210													
215	-0° 13' 23"	-0° 47' 51"	117° 0' 52"	117° 0' 52"	117° 0' 52"	0°	0' 11"	0°	0' 10"	0°	0' 4"	-0° 13'					
23"	-0° 47' 51"	117° 0' 52"															
215	1670618.	951	5399259.	860	10578.	494		0. 492		0. 511		0. 297					
-0. 769		-0. 563		-0. 182													
216	0° 2' 36"	-0° 8' 30"	117° 1' 12"	117° 1' 12"	117° 1' 12"	0°	0' 12"	0°	0' 10"	0°	0' 5"	0° 2'					
36"	-0° 8' 30"	117° 1' 12"															
216	1672973.	685	5394316.	607	10593.	203		0. 503		0. 520		0. 277					
-0. 543		-0. 289		-0. 526													
121	-0° 22' 10"	0° 47' 16"	294° 31' 51"	294° 31' 51"	294° 31' 51"	0°	0' 11"	0°	0' 11"	0°	0' 4"	-0° 22'					
10"	0° 47' 16"	294° 31' 51"															
121	1654549.	933	5409184.	885	10595.	380		0. 529		0. 543		0. 344					
-0. 626		-0. 139		0. 088													
900	-0° 18' 10"	0° 59' 38"	121° 26' 11"	121° 26' 11"	121° 26' 11"	0°	0' 19"	0°	0' 19"	0°	0' 16"	-0° 18'					
10"	0° 59' 38"	121° 26' 11"															
900	1635366.	696	5406067.	526	10499.	621		0. 803		0. 812		0. 657					
-0. 191		0. 423		0. 314													
847	-0° 30' 13"	0° 46' 25"	293° 25' 41"	293° 25' 41"	293° 25' 41"	0°	0' 12"	0°	0' 13"	0°	0' 6"	-0° 30'					
13"	0° 46' 25"	293° 25' 41"															
847	1644181.	421	5409611.	397	10538.	890		0. 617		0. 612		0. 394					
-0. 233		-0. 092		-0. 361													
901	0° 20' 55"	-0° 35' 6"	121° 6' 11"	121° 6' 11"	121° 6' 11"	0°	0' 14"	0°	0' 16"	0°	0' 11"	0° 20'					
55"	-0° 35' 6"	121° 6' 11"															
901	1637830.	466	5401214.	924	10478.	991		0. 681		0. 682		0. 458					
-0. 704		0. 317		0. 439													
848	-0° 19' 52"	1° 3' 24"	294° 45' 10"	294° 45' 10"	294° 45' 10"	0°	0' 12"	0°	0' 12"	0°	0' 5"	-0° 19'					
52"	1° 3' 24"	294° 45' 10"															
848	1646602.	489	5404685.	714	10552.	738		0. 604		0. 605		0. 375					
-0. 006		-0. 050		-0. 632													
123	-0° 9' 5"	0° 9' 21"	295° 6' 34"	295° 6' 34"	295° 6' 34"	0°	0' 10"	0°	0' 11"	0°	0' 4"	-0° 9'					

5"	0°	9' 21"	295°	6' 34"																
123	1659347.	351		5399497.	282		10523.	828		0. 511		0. 508		0. 327						
-0. 195		0. 453			-0. 141															
122	0°	30' 31"		0° 34' 36"	295°	2' 5"	295°	2' 5"	0°	0' 11"	0°	0' 11"	0°	0' 4"	0°	30'				
31"	0°	34' 36"	295°								0. 509		0. 534		0. 334					
122	1656966.	051		5404254.	239		10562.	296												
0. 170		-0. 620			0. 070															
902	0°	32' 2"		-1° 15' 2"	120°	2' 4"	120°	2' 4"	0°	0' 12"	0°	0' 14"	0°	0' 9"	0°	32'				
2"	-1°	15' 2"	120°								0. 654		0. 631		0. 373					
902	1640294.	792		5396387.	534		10449.	339												
0. 533		-0. 629			0. 131															
124	-0°	10' 58"		0° 8' 44"	295°	20' 11"	295°	20' 11"	0°	0' 10"	0°	0' 12"	0°	0' 4"	-0°	10'				
58"	0°	8' 44"	295°																	
124	1661792.	810		5394630.	690		10559.	947		0. 504		0. 487		0. 317						
0. 107		-0. 181			0. 723															
850	0°	46' 20"		0° 21' 9"	296°	25' 31"	296°	25' 31"	0°	0' 11"	0°	0' 11"	0°	0' 5"	0°	46'				
20"	0°	21' 9"	296°																	
850	1651665.	381		5395054.	221		10528.	351		0. 549		0. 535		0. 325						
-0. 658		-0. 297			-0. 020															
125	0°	28' 54"		0° 39' 27"	295°	2' 0"	295°	2' 0"	0°	0' 11"	0°	0' 14"	0°	0' 6"	0°	28'				
54"	0°	39' 27"	295°																	
125	1664247.	399		5389725.	302		10576.	452		0. 525		0. 472		0. 348						
0. 467		-1. 052			-0. 081															
904	0°	10' 29"		-0° 0' 60"	29"	0' 60"	119°	32' 19"	0°	0' 12"	0°	0' 14"	0°	0' 8"	0°	10'				
904	1645118.	823		5386603.	045		10518.	391		0. 644		0. 625		0. 374						
-0. 136		1. 003			-0. 090															
849	-0°	26' 24"		0° 44' 5"	295°	59' 22"	295°	59' 22"	0°	0' 12"	0°	0' 12"	0°	0' 5"	-0°	26'				
24"	0°	44' 5"	295°																	
849	1649052.	919		5399903.	602		10519.	470		0. 588		0. 583		0. 358						
-0. 800		-0. 013			-0. 472															
903	-0°	13' 37"		-1° 11' 10"	37"	11° 10"	119°	28' 27"	0°	0' 12"	0°	0' 13"	0°	0' 8"	-0°	13'				
903	1642684.	807		5391516.	880		10513.	397		0. 610		0. 617		0. 365						
-0. 600		-0. 069			0. 093															
126	0°	18' 21"		0° 20' 47"	21"	0' 20"	295°	15' 28"	0°	0' 17"	0°	0' 16"	0°	0' 11"	0°	18'				
126	1666688.	427		5384896.	492		10507.	295		0. 657		0. 689		0. 545						
0. 091		-0. 379			-0. 843															
852	-0°	52' 11"		0° 51' 5"	852		294°	54' 17"	0°	0' 12"	0°	0' 12"	0°	0' 6"	-0°	52'				
11"	0°	51' 5"	294°																	
852	1656592.	301		5385415.	659		10529.	448		0. 550		0. 548		0. 334						
-1. 031		-0. 226			-0. 512															
851	-0°	14' 42"		0° 15' 7"	42"	0' 15"	295°	35' 9"	0°	0' 12"	0°	0' 12"	0°	0' 5"	-0°	14'				
851	1654147.	808		5390285.	360		10488.	143		0. 547		0. 548		0. 329						
-0. 051		-0. 087			-0. 455															
905	0°	17' 49"		0° 1' 12"	49"	11° 19°	38' 56"	119°	38' 56"	0°	0' 12"	0°	0' 14"	0°	0' 8"	0°	17'			
905	1647560.	392		5381731.	382		10506.	138		0. 642		0. 627		0. 419						

0.072	0.045	0.561													
906	-0° 31' 43"	119° 21' 1"	119° 21' 1"	119° 21' 1"	0° 0' 12"	0° 0' 14"	0° 0' 8"	-0° 7'							
37"	1649977.481	5376927.422	10539.773		0.632	0.622	0.435								
-0.433	0.232	0.245													
853	0° 1' 26"	0° 17' 27"	296° 7' 30"	0° 0' 12"	0° 0' 14"	0° 0' 7"	0° 1'								
26"	1659068.261	5380548.884	10571.344	0.617	0.603	0.369									
0.514	1.285	-0.469													
907	0° 27' 52"	-0° 49' 23"	118° 38' 24"	0° 0' 13"	0° 0' 15"	0° 0' 10"	0° 27'								
52"	1652402.510	5372061.015	10530.241	0.648	0.631	0.451									
-0.073	0.909	0.072													
854	-0° 8' 26"	0° 32' 7"	295° 38' 6"	0° 0' 13"	0° 0' 15"	0° 0' 10"	-0° 8'								
26"	1661544.981	5375681.979	10562.237	0.618	0.626	0.391									
-0.100	0.669	-0.113													
855	0° 6' 58"	-0° 1' 41"	295° 54' 17"	0° 0' 16"	0° 0' 17"	0° 0' 13"	0° 6'								
58"	1663976.378	5370824.857	10535.334	0.667	0.691	0.485									
-0.132	-0.246	-0.543													
856	-0° 1' 1"	-0° 1' 46"	296° 4' 43"	0° 0' 22"	0° 0' 19"	0° 0' 18"	-0° 1'								
1"	-0° 1' 46"	296° 4' 43"	10522.152	0.789	0.837	0.721									
856	1666412.277	5365988.488													
0.871	-1.140	-0.822													
908	-0° 32' 49"	0° 8' 5"	119° 48' 35"	0° 0' 15"	0° 0' 16"	0° 0' 12"	-0° 32'								
49"	0° 8' 5"	119° 48' 35"	10563.063	0.696	0.644	0.508									
908	1654848.207	5367202.760													
-0.221	0.271	-0.700													
909	0° 25' 28"	-0° 42' 11"	119° 11' 53"	0° 0' 20"	0° 0' 19"	0° 0' 16"	0° 25'								
28"	-0° 42' 11"	119° 11' 53"	10577.014	0.816	0.790	0.695									
909	1657346.784	5362372.547													
0.155	-0.770	-1.660													

-- Mean Standard Deviations for the Elements of Exterior Orientation --

Omega	0° 0' 12"	(dms)
Phi	0° 0' 13"	(dms)
Kappa	0° 0' 6"	(dms)
XL	0.614	(ground units)
YL	0.607	(ground units)
ZL	0.391	(ground units)

-- RMSE for the Elements of Exterior Orientation --

Omega	0° 24' 10"	(dms)
Phi	0° 44' 22"	(dms)
Kappa	233° 25' 17"	(dms)

XL	0. 531	(ground uni ts)
YL	0. 706	(ground uni ts)
ZL	0. 381	(ground uni ts)

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<sup>o</sup>KMI  
AeroSys-AT Bundle Adjustment, <PRO Pkg> AeroSys-AT v7.2 © 1989-2009 MHS  
Project ID: 8-15combi ned

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10/20/2009

----- Final Adjusted Object Space Coordinates, Standard Errors, and Residuals -----

<----- XYZ Ground Coordinates -----><- Predicted Standard Error -><-----  
Observation (GCP) Residuals ----->  
<No> <----Point  
ID-----><----Xg-----><----Yg-----><----Zg-----><---Sx---><---Sy---><---Sz---><---Vx---><---Vy---><---Vz---><---Vs--->

---

<CONTROL POINTS> <3D>

1		1310	1525872. 943	5631373. 702	521. 736	0. 097	0. 097	0. 099	-0. 003
-0. 020	0. 003	0. 020							
2		1311	1519996. 482	5622344. 954	431. 844	0. 091	0. 091	0. 098	-0. 008
-0. 040	-0. 013	0. 042							
3		1312	1511241. 597	5607543. 636	364. 270	0. 096	0. 097	0. 100	-0. 043
-0. 013	0. 007	0. 046							
4		1313	1537290. 395	5581606. 912	649. 645	0. 091	0. 093	0. 099	0. 026
-0. 070	-0. 007	0. 075							
5		1314	1545148. 864	5544663. 437	725. 867	0. 094	0. 094	0. 099	-0. 003
0. 028	-0. 008	0. 029							
6		1315	1572920. 194	5560760. 281	642. 684	0. 095	0. 096	0. 099	0. 035
0. 003	0. 010	0. 036							
7		1316	1557781. 493	5514440. 975	1062. 620	0. 093	0. 094	0. 099	-0. 011
0. 059	0. 000	0. 060							
8		1317	1592382. 175	5502526. 682	1060. 276	0. 089	0. 089	0. 096	0. 004
-0. 011	-0. 025	0. 028							
9		1318	1590201. 415	5448917. 360	1298. 508	0. 091	0. 093	0. 098	0. 073
0. 035	-0. 025	0. 085							
10		1319	1604528. 044	5454834. 557	1417. 414	0. 087	0. 087	0. 095	-0. 155
-0. 013	-0. 019	0. 157							
11		1320	1616763. 096	5468208. 713	1290. 455	0. 090	0. 091	0. 098	0. 049
-0. 034	-0. 014	0. 061							
12		1321	1627178. 774	5448708. 736	1314. 029	0. 093	0. 094	0. 099	0. 042
0. 026	0. 023	0. 054							
13		1322	1643320. 781	5430514. 203	1578. 582	0. 093	0. 093	0. 099	-0. 054

-0. 003	0. 008	0. 055							
14	1323	1648579. 443	5446080. 053	2047. 853	0. 092	0. 093	0. 099	-0. 015	
-0. 025	-0. 009	0. 031							
15	1324	1662400. 161	5455315. 025	1585. 765	0. 091	0. 093	0. 099	0. 044	
-0. 017	0. 009	0. 048							
16	1325	1666366. 748	5416786. 015	2213. 507	0. 088	0. 087	0. 095	0. 082	
-0. 019	-0. 021	0. 087							
17	1326	1663345. 525	5389131. 940	3296. 675	0. 092	0. 093	0. 099	-0. 031	
-0. 023	0. 021	0. 044							
18	1327	1678177. 224	5395769. 965	2211. 816	0. 089	0. 088	0. 095	-0. 041	
0. 112	0. 001	0. 119							
19	1328	1694852. 730	5397492. 609	1967. 376	0. 095	0. 096	0. 100	0. 009	
0. 027	0. 030	0. 041							

<CONTROL POINTS> <Horizontal >

<CONTROL POINTS> <Vertical >

20	9996	1660212. 033	5373578. 471	1899. 700	0. 401	0. 381	0. 102		
21	0. 026	9997	1536163. 243	5526987. 626	641. 140	0. 245	0. 233	0. 103	
22	-0. 025	9998	1554737. 893	5501337. 011	1072. 550	0. 302	0. 322	0. 101	
23	-0. 004	9999	1644312. 635	5392261. 773	1630. 180	0. 272	0. 269	0. 103	
	0. 032								

<AUTO ELIMINATED CONTROL BLUNDER POINTS>

<- - Re-Scal ed Input Weights -->  
<Final \_Sx> <Final \_Sy> <Final \_Sz>

<- - Projected Image Ray AMR Residuals -->

<PASS/TIE POINTS>

<- - Sx ---> <- - Sy ---> <- - Sz ---> <- - amrX ---> <- - amrY ---> <- - amrZ ---> <- - rmsS --->

24	153001	1602389. 315	5503903. 264	940. 113	0. 374	0. 334	0. 658	0. 175
0. 038	0. 081							
25	REL_10011_2	1651478. 991	5468884. 060	1560. 048	0. 656	0. 899	1. 578	0. 183
0. 067	0. 087							
26	REL_10012_2	1650604. 215	5465077. 239	1570. 856	0. 440	0. 379	1. 217	0. 065
0. 034	0. 016							
27	REL_10013_2	1647196. 723	5466668. 620	1480. 511	0. 453	0. 478	1. 262	0. 070
0. 036	0. 001							
28	REL_10014_2	1646176. 658	5462936. 866	1551. 889	0. 427	0. 337	1. 044	0. 016
0. 008	0. 005							
29	REL_10021_2	1654113. 645	5463746. 253	1745. 791	0. 276	0. 272	0. 458	0. 130
0. 034	0. 061							

30	REL_10022_2	1653145. 642	5460139. 692	1765. 506	0. 347	0. 304	0. 947	0. 015
0. 007	0. 004							
31	REL_10023_2	1649720. 486	5461874. 610	1600. 139	0. 255	0. 268	0. 590	0. 057
0. 049	0. 008							
32	REL_10024_2	1648789. 492	5458258. 478	1665. 765	0. 356	0. 290	0. 897	0. 010
0. 005	0. 003							
33	REL_10031_2	1656427. 153	5458974. 444	1668. 313	0. 191	0. 199	0. 321	0. 197
0. 079	0. 108							
34	REL_10032_2	1655637. 941	5455338. 687	1698. 336	0. 320	0. 270	0. 846	0. 050
0. 025	0. 013							
35	REL_10033_2	1652241. 556	5456775. 510	1734. 486	0. 218	0. 234	0. 508	0. 039
0. 025	0. 003							
36	REL_10034_2	1651232. 486	5453492. 851	1787. 046	0. 326	0. 269	0. 824	0. 023
0. 012	0. 007							
37	REL_10041_2	1659111. 703	5454116. 827	1619. 569	0. 166	0. 166	0. 264	0. 278
0. 078	0. 121							
38	REL_10042_2	1658079. 907	5450453. 868	1673. 129	0. 313	0. 260	0. 813	0. 004
0. 002	0. 001							
39	REL_10043_2	1654692. 126	5451940. 559	1766. 401	0. 204	0. 216	0. 457	0. 043
0. 051	0. 013							
40	REL_10044_2	1653674. 872	5448597. 635	1810. 903	0. 313	0. 264	0. 793	0. 021
0. 011	0. 006							
41	REL_10051_2	1661251. 110	5448999. 012	1650. 242	0. 175	0. 171	0. 278	0. 273
0. 115	0. 131							
42	REL_10052_2	1660147. 462	5445634. 072	1716. 767	0. 297	0. 261	0. 819	0. 006
0. 003	0. 001							
43	REL_10053_2	1656925. 501	5447220. 491	1731. 503	0. 204	0. 216	0. 460	0. 063
0. 065	0. 015							
44	REL_10054_2	1655996. 049	5443786. 225	1831. 612	0. 321	0. 264	0. 799	0. 075
0. 038	0. 023							
45	REL_10061_2	1663672. 933	5444284. 701	1692. 109	0. 185	0. 178	0. 293	0. 283
0. 136	0. 157							
46	REL_10062_2	1662941. 680	5440497. 299	1784. 470	0. 320	0. 262	0. 836	0. 020
0. 011	0. 005							
47	REL_10063_2	1659516. 532	5442326. 489	1760. 484	0. 208	0. 221	0. 474	0. 056
0. 039	0. 005							
48	REL_10064_2	1658684. 961	5438732. 148	1880. 750	0. 311	0. 274	0. 805	0. 007
0. 004	0. 002							
49	REL_10071_2	1666269. 530	5439279. 492	1776. 720	0. 191	0. 183	0. 300	0. 239
0. 099	0. 119							
50	REL_10072_2	1665322. 494	5435838. 822	1848. 507	0. 317	0. 268	0. 838	0. 006
0. 003	0. 002							
51	REL_10073_2	1661927. 474	5437463. 749	1810. 979	0. 211	0. 225	0. 481	0. 054
0. 021	0. 011							
52	REL_10074_2	1661030. 587	5433967. 358	1889. 437	0. 320	0. 274	0. 809	0. 003
0. 002	0. 001							
53	REL_10081_2	1668745. 891	5434647. 905	1919. 623	0. 192	0. 185	0. 298	0. 286
0. 070	0. 122							
54	REL_10082_2	1667944. 790	5431193. 557	1896. 355	0. 328	0. 275	0. 845	0. 043
0. 022	0. 012							

55	REL_10083_2	1664540. 638	5432666. 678	1897. 623	0. 210	0. 226	0. 479	0. 036
0. 099	0. 024							
56	REL_10084_2	1663710. 402	5429129. 794	1969. 007	0. 306	0. 270	0. 801	0. 003
0. 001	0. 001							
57	REL_10091_2	1671143. 885	5429725. 682	2001. 237	0. 189	0. 183	0. 290	0. 334
0. 109	0. 148							
58	REL_10092_2	1670221. 208	5426060. 003	2066. 156	0. 307	0. 262	0. 796	0. 016
0. 008	0. 004							
59	REL_10093_2	1666958. 060	5427716. 673	1991. 724	0. 206	0. 222	0. 463	0. 036
0. 163	0. 036							
60	REL_10094_2	1666093. 597	5424163. 165	2049. 092	0. 300	0. 265	0. 762	0. 049
0. 023	0. 014							
61	REL_10101_2	1673429. 009	5424780. 085	1959. 501	0. 185	0. 181	0. 285	0. 256
0. 111	0. 131							
62	REL_10102_2	1672590. 483	5421188. 712	2005. 328	0. 303	0. 257	0. 786	0. 038
0. 019	0. 009							
63	REL_10103_2	1669255. 239	5422686. 968	2063. 098	0. 198	0. 212	0. 432	0. 054
0. 035	0. 011							
64	REL_10104_2	1668349. 534	5419537. 121	2101. 646	0. 291	0. 244	0. 717	0. 079
0. 039	0. 023							
65	REL_10111_2	1675885. 926	5419920. 666	1859. 756	0. 183	0. 180	0. 285	0. 279
0. 126	0. 136							
66	REL_10112_2	1674861. 228	5416262. 854	1923. 246	0. 300	0. 257	0. 810	0. 044
0. 022	0. 010							
67	REL_10113_2	1671572. 720	5417814. 395	2019. 271	0. 196	0. 207	0. 423	0. 039
0. 050	0. 014							
68	REL_10114_2	1670670. 718	5414494. 830	2085. 087	0. 305	0. 262	0. 754	0. 003
0. 002	0. 001							
69	REL_10121_2	1678272. 138	5415049. 591	1938. 437	0. 184	0. 182	0. 287	0. 198
0. 096	0. 120							
70	REL_10122_2	1677618. 829	5411588. 955	1977. 264	0. 317	0. 267	0. 809	0. 001
0. 000	0. 000							
71	REL_10123_2	1673983. 510	5413278. 922	2016. 363	0. 201	0. 217	0. 448	0. 030
0. 069	0. 015							
72	REL_10124_2	1673193. 342	5409662. 244	2235. 018	0. 305	0. 262	0. 745	0. 001
0. 001	0. 000							
73	REL_10131_2	1680771. 848	5410452. 727	1956. 670	0. 185	0. 184	0. 289	0. 253
0. 110	0. 127							
74	REL_10132_2	1680022. 859	5406702. 588	2008. 437	0. 312	0. 265	0. 816	0. 014
0. 007	0. 004							
75	REL_10133_2	1676691. 849	5408199. 590	2054. 725	0. 201	0. 220	0. 455	0. 086
0. 068	0. 009							
76	REL_10134_2	1675877. 580	5404839. 991	2135. 445	0. 294	0. 260	0. 765	0. 003
0. 001	0. 001							
77	REL_10141_2	1683251. 569	5405488. 788	2022. 350	0. 182	0. 185	0. 286	0. 215
0. 124	0. 132							
78	REL_10142_2	1682382. 950	5401873. 825	2088. 484	0. 299	0. 263	0. 778	0. 062
0. 030	0. 017							
79	REL_10143_2	1679015. 210	5403524. 129	2080. 888	0. 197	0. 216	0. 444	0. 039
0. 023	0. 002							

80	REL_10144_2	1678362. 269	5399852. 808	2129. 167	0. 284	0. 254	0. 729	0. 013
0. 006	0. 004							
81	REL_10151_2	1685986. 901	5400714. 137	2005. 523	0. 184	0. 190	0. 292	0. 198
0. 128	0. 085							
82	REL_10152_2	1684576. 593	5396828. 950	2056. 499	0. 306	0. 266	0. 798	0. 058
0. 029	0. 014							
83	REL_10153_2	1681292. 332	5398479. 076	2101. 720	0. 194	0. 207	0. 418	0. 118
0. 135	0. 025							
84	REL_10154_2	1680848. 155	5395044. 372	2131. 590	0. 285	0. 252	0. 724	0. 050
0. 024	0. 013							
85	REL_10161_2	1687943. 585	5395785. 056	2007. 680	0. 235	0. 227	0. 371	0. 142
0. 088	0. 089							
86	REL_10163_2	1683529. 255	5393760. 820	2076. 168	0. 279	0. 332	0. 820	0. 039
0. 019	0. 001							
87	REL_11011_2	1662016. 653	5468677. 370	1477. 094	0. 728	1. 101	1. 762	0. 029
0. 009	0. 013							
88	REL_11012_2	1661392. 977	5464880. 494	1522. 636	0. 495	0. 453	1. 313	0. 034
0. 017	0. 010							
89	REL_11013_2	1657914. 164	5465950. 842	1587. 409	0. 453	0. 507	1. 284	0. 074
0. 036	0. 000							
90	REL_11014_2	1657368. 033	5462253. 907	1644. 051	0. 377	0. 335	1. 034	0. 030
0. 014	0. 007							
91	REL_11021_2	1664309. 061	5463519. 366	1488. 369	0. 432	0. 447	0. 838	0. 107
0. 080	0. 066							
92	REL_11022_2	1663775. 415	5459762. 246	1530. 707	0. 378	0. 318	1. 022	0. 135
0. 070	0. 038							
93	REL_11023_2	1660161. 920	5461146. 639	1578. 400	0. 254	0. 271	0. 604	0. 158
0. 097	0. 043							
94	REL_11024_2	1659616. 588	5457220. 948	1579. 179	0. 315	0. 285	0. 856	0. 039
0. 019	0. 011							
95	REL_11031_2	1666928. 711	5458597. 266	1534. 037	0. 357	0. 327	0. 627	0. 170
0. 281	0. 131							
96	REL_11032_2	1666377. 940	5454842. 307	1581. 997	0. 356	0. 304	0. 941	0. 055
0. 029	0. 016							
97	REL_11033_2	1662813. 509	5456127. 140	1571. 265	0. 207	0. 214	0. 452	0. 092
0. 060	0. 010							
98	REL_11034_2	1662299. 419	5452329. 390	1620. 105	0. 288	0. 284	0. 818	0. 022
0. 011	0. 006							
99	REL_11041_2	1669437. 801	5453959. 097	1597. 235	0. 388	0. 339	0. 677	0. 191
0. 305	0. 151							
100	REL_11042_2	1668889. 816	5450154. 173	1652. 531	0. 391	0. 334	1. 026	0. 054
0. 028	0. 016							
101	REL_11043_2	1665392. 294	5451146. 749	1614. 470	0. 223	0. 243	0. 529	0. 097
0. 058	0. 003							
102	REL_11044_2	1664869. 388	5447675. 652	1661. 389	0. 306	0. 299	0. 890	0. 004
0. 002	0. 001							
103	REL_11051_2	1671991. 123	5448969. 949	1728. 282	0. 421	0. 352	0. 713	0. 156
0. 214	0. 113							
104	REL_11052_2	1671582. 006	5445308. 582	1820. 418	0. 438	0. 357	1. 092	0. 059
0. 031	0. 019							

105 0. 067	REL_11053_2 0. 001	1667965. 518	5446479. 612	1718. 218	0. 240	0. 262	0. 572	0. 137
106 0. 010	REL_11054_2 0. 004	1667498. 592	5442912. 002	1815. 334	0. 312	0. 309	0. 925	0. 019
107 0. 147	REL_11061_2 0. 095	1674504. 778	5444131. 685	1812. 996	0. 442	0. 367	0. 730	0. 149
108 0. 044	REL_11062_2 0. 027	1673837. 736	5440670. 370	1861. 330	0. 432	0. 374	1. 104	0. 087
109 0. 068	REL_11063_2 0. 015	1670502. 994	5441671. 829	1856. 298	0. 250	0. 272	0. 585	0. 161
110 0. 030	REL_11064_2 0. 014	1669948. 252	5438200. 207	1907. 754	0. 319	0. 310	0. 923	0. 058
111 0. 122	REL_11071_2 0. 100	1676895. 157	5439239. 279	1769. 732	0. 443	0. 375	0. 741	0. 181
112 0. 002	REL_11072_2 0. 001	1676459. 312	5435610. 510	1799. 742	0. 451	0. 373	1. 137	0. 004
113 0. 073	REL_11073_2 0. 005	1672830. 001	5436812. 732	1915. 783	0. 253	0. 275	0. 587	0. 120
114 0. 017	REL_11074_2 0. 009	1672301. 634	5433233. 357	1928. 104	0. 328	0. 314	0. 927	0. 034
115 0. 125	REL_11081_2 0. 074	1679513. 494	5434458. 495	1777. 162	0. 458	0. 385	0. 751	0. 109
116 0. 010	REL_11082_2 0. 006	1678934. 499	5430848. 085	1780. 923	0. 453	0. 379	1. 146	0. 020
117 0. 063	REL_11083_2 0. 013	1675403. 225	5432108. 078	1836. 620	0. 255	0. 277	0. 596	0. 066
118 0. 004	REL_11084_2 0. 002	1674907. 299	5428431. 711	1902. 308	0. 321	0. 314	0. 930	0. 008
119 0. 247	REL_11091_2 0. 107	1681957. 702	5429626. 469	1751. 291	0. 454	0. 388	0. 754	0. 121
120 0. 020	REL_11092_2 0. 013	1681411. 617	5425972. 388	1759. 679	0. 451	0. 382	1. 150	0. 040
121 0. 108	REL_11093_2 0. 024	1678235. 131	5427033. 881	1807. 943	0. 256	0. 280	0. 599	0. 053
122 0. 014	REL_11094_2 0. 007	1677346. 661	5423595. 299	1863. 906	0. 320	0. 312	0. 931	0. 028
123 0. 160	REL_11101_2 0. 100	1684527. 757	5424639. 589	1761. 980	0. 454	0. 389	0. 750	0. 150
124 0. 002	REL_11102_2 0. 001	1683848. 439	5421067. 830	1796. 743	0. 448	0. 378	1. 139	0. 004
125 0. 091	REL_11103_2 0. 023	1680417. 993	5422296. 247	1832. 238	0. 250	0. 276	0. 589	0. 090
126 0. 004	REL_11104_2 0. 002	1679905. 131	5418726. 824	1851. 366	0. 312	0. 312	0. 940	0. 008
127 0. 060	REL_11111_2 0. 071	1686798. 505	5419829. 652	1775. 668	0. 441	0. 385	0. 738	0. 137
128 0. 021	REL_11112_2 0. 013	1686159. 107	5416118. 617	1831. 318	0. 430	0. 364	1. 097	0. 043
129 0. 055	REL_11113_2 0. 027	1682654. 642	5417452. 047	1849. 882	0. 247	0. 274	0. 584	0. 157

130 0. 008	REL_11114_2 0. 004	1682028. 709	5413905. 022	1928. 244	0. 320	0. 305	0. 909	0. 017
131 0. 153	REL_11121_2 0. 091	1688991. 510	5414890. 665	1847. 331	0. 416	0. 370	0. 716	0. 144
132 0. 014	REL_11122_2 0. 008	1688364. 937	5411337. 940	1882. 995	0. 400	0. 353	1. 067	0. 028
133 0. 065	REL_11123_2 0. 009	1684947. 480	5412660. 859	1877. 429	0. 243	0. 270	0. 579	0. 082
134 0. 009	REL_11124_2 0. 004	1684468. 009	5408928. 167	1931. 397	0. 316	0. 306	0. 905	0. 017
135 0. 173	REL_11131_2 0. 103	1691392. 156	5410262. 862	1895. 072	0. 395	0. 363	0. 691	0. 156
136 0. 004	REL_11132_2 0. 002	1690979. 280	5406409. 772	1932. 380	0. 386	0. 339	1. 015	0. 008
137 0. 091	REL_11133_2 0. 019	1687388. 031	5407666. 218	1934. 192	0. 233	0. 263	0. 559	0. 044
138 0. 002	REL_11134_2 0. 001	1686935. 870	5404206. 730	1993. 719	0. 308	0. 296	0. 874	0. 005
139 0. 143	REL_11141_2 0. 093	1694125. 077	5405457. 309	1861. 414	0. 375	0. 358	0. 667	0. 140
140 0. 008	REL_11142_2 0. 005	1693526. 820	5401677. 801	1891. 839	0. 352	0. 325	0. 931	0. 016
141 0. 054	REL_11143_2 0. 010	1690040. 319	5403001. 961	1941. 430	0. 222	0. 255	0. 535	0. 063
142 0. 002	REL_11144_2 0. 001	1689614. 136	5399361. 961	1961. 915	0. 293	0. 284	0. 848	0. 003
143 0. 109	REL_11151_2 0. 068	1696726. 230	5400313. 103	1920. 936	0. 365	0. 327	0. 616	0. 102
144 0. 012	REL_11152_2 0. 008	1695932. 574	5396935. 522	1996. 381	0. 349	0. 303	0. 873	0. 024
145 0. 031	REL_11153_2 0. 013	1692501. 664	5398144. 696	1920. 210	0. 213	0. 238	0. 503	0. 124
146 0. 016	REL_11154_2 0. 008	1692033. 300	5394530. 321	1948. 112	0. 321	0. 305	0. 901	0. 034
147 0. 017	REL_11161_2 0. 016	1699286. 010	5395637. 338	2015. 733	0. 813	0. 360	1. 217	0. 025
148 0. 004	REL_11163_2 0. 000	1695204. 676	5393459. 363	2005. 969	0. 346	0. 376	1. 041	0. 007
149 0. 097	REL_11165_2 0. 114	1691236. 531	5391440. 997	1978. 008	0. 457	0. 615	1. 166	0. 272
150 0. 107	REL_120101_1 0. 052	1516059. 034	5612705. 505	418. 752	0. 223	0. 233	0. 403	0. 087
151 0. 012	REL_120102_1 0. 008	1514886. 700	5609436. 067	383. 296	0. 377	0. 336	1. 003	0. 026
152 0. 005	REL_120103_1 0. 000	1511220. 115	5610077. 126	357. 590	0. 308	0. 394	1. 102	0. 010
153 0. 021	REL_120104_1 0. 012	1509810. 020	5606580. 737	366. 193	0. 410	0. 322	1. 109	0. 044
154 0. 018	REL_120105_1 0. 016	1506347. 330	5607612. 772	365. 032	0. 889	0. 370	1. 387	0. 028

155	REL_120201_1	1518551. 695	5607886. 950	440. 460	0. 196	0. 199	0. 337	0. 142
0. 160	0. 046							
156	REL_120202_1	1517107. 832	5604462. 840	389. 315	0. 378	0. 335	1. 053	0. 091
0. 044	0. 028							
157	REL_120203_1	1513542. 021	5605242. 877	367. 994	0. 238	0. 261	0. 623	0. 141
0. 083	0. 033							
158	REL_120204_1	1512078. 964	5601829. 391	375. 872	0. 433	0. 356	1. 198	0. 013
0. 007	0. 004							
159	REL_120205_1	1509029. 122	5603370. 484	370. 639	0. 426	0. 348	0. 776	0. 198
0. 098	0. 095							
160	REL_120301_1	1520587. 874	5602502. 442	462. 637	0. 200	0. 200	0. 339	0. 076
0. 107	0. 058							
161	REL_120302_1	1519501. 243	5599660. 877	406. 024	0. 388	0. 361	1. 115	0. 005
0. 003	0. 002							
162	REL_120303_1	1515949. 616	5600280. 357	400. 524	0. 254	0. 284	0. 667	0. 064
0. 071	0. 012							
163	REL_120304_1	1514520. 443	5596688. 896	401. 137	0. 487	0. 407	1. 325	0. 038
0. 020	0. 012							
164	REL_120305_1	1510966. 693	5597585. 734	385. 609	0. 485	0. 427	0. 842	0. 237
0. 104	0. 132							
165	REL_120401_1	1523159. 005	5598280. 989	551. 910	0. 203	0. 201	0. 340	0. 102
0. 106	0. 040							
166	REL_120402_1	1521992. 135	5594874. 353	531. 749	0. 394	0. 373	1. 123	0. 047
0. 024	0. 015							
167	REL_120403_1	1518570. 468	5595492. 687	411. 615	0. 267	0. 297	0. 698	0. 058
0. 059	0. 010							
168	REL_120404_1	1517153. 894	5591830. 141	419. 156	0. 502	0. 414	1. 370	0. 001
0. 001	0. 000							
169	REL_120405_1	1514235. 101	5593103. 393	408. 921	0. 459	0. 408	0. 848	0. 233
0. 124	0. 116							
170	REL_120501_1	1525671. 058	5593225. 580	580. 165	0. 204	0. 201	0. 341	0. 104
0. 075	0. 052							
171	REL_120502_1	1524675. 083	5590035. 878	522. 098	0. 407	0. 374	1. 118	0. 002
0. 001	0. 001							
172	REL_120503_1	1521051. 091	5590801. 830	425. 406	0. 272	0. 298	0. 701	0. 030
0. 010	0. 002							
173	REL_120504_1	1519536. 030	5587137. 266	421. 957	0. 517	0. 408	1. 367	0. 058
0. 031	0. 018							
174	REL_120505_1	1516143. 338	5588212. 417	418. 647	0. 527	0. 423	0. 877	0. 125
0. 165	0. 111							
175	REL_120601_1	1528486. 776	5588442. 995	593. 919	0. 201	0. 198	0. 338	0. 155
0. 079	0. 083							
176	REL_120602_1	1527192. 916	5585169. 933	506. 891	0. 407	0. 367	1. 103	0. 076
0. 037	0. 025							
177	REL_120603_1	1523658. 241	5585696. 960	482. 107	0. 270	0. 296	0. 692	0. 064
0. 053	0. 007							
178	REL_120604_1	1522194. 134	5582314. 130	491. 257	0. 485	0. 401	1. 328	0. 075
0. 038	0. 022							
179	REL_120605_1	1518750. 649	5583292. 331	432. 504	0. 517	0. 423	0. 872	0. 142
0. 092	0. 082							

180 0. 110	REL_120701_1 0. 063	1530581. 220	5583556. 201	596. 957	0. 195	0. 192	0. 325	0. 100
181 0. 009	REL_120702_1 0. 006	1529302. 498	5580193. 817	565. 621	0. 375	0. 355	1. 072	0. 019
182 0. 064	REL_120703_1 0. 003	1525802. 977	5580957. 217	607. 644	0. 266	0. 292	0. 668	0. 111
183 0. 037	REL_120704_1 0. 021	1524596. 352	5577522. 476	609. 959	0. 480	0. 393	1. 290	0. 071
184 0. 097	REL_120705_1 0. 106	1521297. 695	5578458. 327	489. 915	0. 500	0. 419	0. 852	0. 190
185 0. 106	REL_120801_1 0. 066	1532982. 696	5578311. 238	581. 987	0. 189	0. 184	0. 308	0. 173
186 0. 007	REL_120802_1 0. 004	1532001. 576	5575348. 296	594. 868	0. 391	0. 352	1. 062	0. 013
187 0. 034	REL_120803_1 0. 012	1528567. 301	5575839. 490	626. 388	0. 262	0. 285	0. 650	0. 126
188 0. 034	REL_120804_1 0. 019	1527191. 213	5572524. 529	612. 800	0. 472	0. 393	1. 287	0. 066
189 0. 034	REL_120805_1 0. 083	1524233. 897	5573413. 773	621. 612	0. 465	0. 407	0. 819	0. 202
190 0. 155	REL_120901_1 0. 078	1535637. 415	5573611. 604	586. 200	0. 197	0. 192	0. 327	0. 128
191 0. 012	REL_120902_1 0. 008	1534431. 525	5570613. 575	603. 417	0. 398	0. 362	1. 084	0. 024
192 0. 119	REL_120903_1 0. 006	1530896. 491	5571231. 365	621. 182	0. 265	0. 288	0. 664	0. 195
193 0. 016	REL_120904_1 0. 009	1529611. 101	5567889. 710	675. 138	0. 471	0. 383	1. 282	0. 031
194 0. 136	REL_120905_1 0. 132	1526456. 586	5568902. 567	627. 166	0. 481	0. 398	0. 827	0. 212
195 0. 069	REL_121001_1 0. 084	1537874. 767	5568657. 672	648. 419	0. 203	0. 198	0. 335	0. 142
196 0. 012	REL_121002_1 0. 008	1536621. 000	5565409. 269	634. 675	0. 382	0. 350	1. 080	0. 026
197 0. 056	REL_121003_1 0. 018	1533142. 499	5566313. 807	635. 111	0. 270	0. 293	0. 675	0. 095
198 0. 038	REL_121004_1 0. 023	1531886. 455	5562915. 911	649. 667	0. 480	0. 388	1. 272	0. 080
199 0. 083	REL_121005_1 0. 095	1528714. 352	5564264. 710	645. 793	0. 487	0. 391	0. 824	0. 191
200 0. 160	REL_121101_1 0. 070	1540294. 056	5564044. 481	669. 150	0. 203	0. 198	0. 334	0. 100
201 0. 022	REL_121102_1 0. 013	1539089. 018	5560746. 936	661. 897	0. 376	0. 357	1. 066	0. 043
202 0. 033	REL_121103_1 0. 006	1535255. 193	5561366. 631	647. 903	0. 270	0. 294	0. 673	0. 048
203 0. 008	REL_121104_1 0. 005	1534294. 138	5557876. 626	688. 449	0. 468	0. 389	1. 242	0. 015
204 0. 173	REL_121105_1 0. 154	1530720. 112	5558903. 519	680. 057	0. 519	0. 406	0. 829	0. 254

205 0. 070	REL_121201_1 0. 059	1542839. 192	5559180. 444	695. 115	0. 199	0. 194	0. 326	0. 139
206 0. 073	REL_121202_1 0. 048	1541732. 455	5555938. 333	700. 775	0. 374	0. 350	1. 024	0. 148
207 0. 064	REL_121203_1 0. 009	1538132. 152	5556682. 966	675. 126	0. 251	0. 283	0. 642	0. 172
208 0. 060	REL_121204_1 0. 035	1536727. 027	5553214. 767	680. 907	0. 439	0. 358	1. 172	0. 116
209 0. 163	REL_121205_1 0. 137	1533719. 424	5554123. 422	705. 842	0. 449	0. 372	0. 776	0. 244
210 0. 106	REL_121301_1 0. 095	1545491. 458	5554237. 752	712. 061	0. 191	0. 189	0. 314	0. 158
211 0. 035	REL_121302_1 0. 024	1544244. 812	5551037. 916	706. 306	0. 365	0. 332	0. 973	0. 074
212 0. 028	REL_121303_1 0. 012	1540630. 570	5552421. 822	690. 673	0. 233	0. 267	0. 598	0. 052
213 0. 018	REL_121304_1 0. 009	1539567. 324	5548492. 188	697. 929	0. 365	0. 304	1. 039	0. 037
214 0. 109	REL_121401_1 0. 092	1547667. 511	5549256. 653	696. 342	0. 184	0. 183	0. 303	0. 127
215 0. 030	REL_121402_1 0. 020	1546610. 192	5545846. 833	714. 100	0. 344	0. 288	0. 889	0. 063
216 0. 049	REL_121403_1 0. 002	1543234. 958	5546739. 239	691. 491	0. 220	0. 236	0. 545	0. 113
217 0. 010	REL_121404_1 0. 006	1541703. 389	5543375. 447	716. 404	0. 349	0. 287	0. 927	0. 021
218 0. 151	REL_121501_1 0. 071	1549616. 656	5544242. 412	712. 395	0. 182	0. 180	0. 296	0. 101
219 0. 029	REL_121502_1 0. 018	1548894. 151	5541123. 721	722. 856	0. 349	0. 297	0. 921	0. 057
220 0. 055	REL_121503_1 0. 005	1545403. 568	5541717. 005	718. 996	0. 216	0. 230	0. 521	0. 072
221 0. 008	REL_121504_1 0. 005	1543998. 298	5538513. 534	734. 487	0. 361	0. 296	0. 950	0. 015
222 0. 093	REL_121601_1 0. 081	1552603. 939	5539713. 545	750. 258	0. 186	0. 181	0. 297	0. 166
223 0. 005	REL_121602_1 0. 003	1551336. 011	5536478. 248	753. 845	0. 354	0. 313	0. 933	0. 010
224 0. 106	REL_121603_1 0. 019	1547758. 989	5537117. 766	726. 228	0. 220	0. 234	0. 529	0. 104
225 0. 006	REL_121604_1 0. 003	1546589. 347	5533672. 534	747. 635	0. 359	0. 297	0. 953	0. 011
226 0. 062	REL_121701_1 0. 082	1555046. 766	5534897. 884	743. 756	0. 188	0. 183	0. 300	0. 222
227 0. 024	REL_121702_1 0. 016	1553763. 124	5531328. 207	763. 197	0. 355	0. 304	0. 933	0. 051
228 0. 020	REL_121703_1 0. 001	1550405. 600	5532332. 042	754. 758	0. 223	0. 237	0. 531	0. 045
229 0. 009	REL_121704_1 0. 005	1549101. 797	5529007. 963	761. 135	0. 351	0. 290	0. 948	0. 019

230	REL_121801_1	1557297. 010	5529765. 437	782. 187	0. 186	0. 184	0. 299	0. 153
0. 142	0. 065							
231	REL_121802_1	1556134. 453	5526586. 238	793. 272	0. 349	0. 308	0. 923	0. 015
0. 008	0. 005							
232	REL_121803_1	1552314. 166	5527369. 706	772. 305	0. 224	0. 237	0. 533	0. 144
0. 034	0. 010							
233	REL_121804_1	1551317. 986	5523934. 708	804. 354	0. 362	0. 296	0. 942	0. 015
0. 008	0. 005							
234	REL_121901_1	1559603. 727	5524660. 225	797. 692	0. 185	0. 182	0. 296	0. 113
0. 077	0. 064							
235	REL_121902_1	1558559. 917	5521704. 725	821. 204	0. 336	0. 301	0. 901	0. 048
0. 024	0. 015							
236	REL_121903_1	1555212. 226	5522383. 930	818. 782	0. 218	0. 234	0. 522	0. 032
0. 026	0. 002							
237	REL_121904_1	1553858. 623	5519003. 692	860. 562	0. 348	0. 289	0. 910	0. 044
0. 023	0. 013							
238	REL_122001_1	1562098. 421	5520056. 472	882. 777	0. 181	0. 178	0. 288	0. 213
0. 092	0. 061							
239	REL_122002_1	1560935. 346	5516824. 336	1002. 753	0. 311	0. 280	0. 840	0. 009
0. 005	0. 003							
240	REL_122003_1	1557460. 967	5517647. 199	972. 874	0. 211	0. 223	0. 495	0. 082
0. 085	0. 014							
241	REL_122004_1	1556272. 498	5514304. 373	1047. 296	0. 339	0. 274	0. 843	0. 032
0. 019	0. 011							
242	REL_122201_1	1564375. 402	5515403. 085	1004. 555	0. 179	0. 175	0. 283	0. 221
0. 136	0. 079							
243	REL_122202_1	1563575. 258	5512274. 028	940. 970	0. 324	0. 294	0. 880	0. 044
0. 022	0. 013							
244	REL_122203_1	1560181. 578	5512915. 249	1030. 077	0. 209	0. 222	0. 485	0. 147
0. 033	0. 020							
245	REL_122204_1	1559156. 331	5509509. 717	1053. 524	0. 334	0. 290	0. 880	0. 064
0. 033	0. 019							
246	REL_122301_1	1566907. 756	5511328. 870	908. 991	0. 180	0. 178	0. 291	0. 185
0. 232	0. 103							
247	REL_122302_1	1566206. 359	5507370. 201	962. 482	0. 341	0. 305	0. 907	0. 025
0. 012	0. 008							
248	REL_122303_1	1562919. 439	5508105. 623	1009. 324	0. 215	0. 231	0. 503	0. 071
0. 155	0. 037							
249	REL_122304_1	1561640. 940	5504848. 723	1044. 947	0. 348	0. 290	0. 917	0. 090
0. 046	0. 025							
250	REL_122401_1	1569479. 166	5505795. 671	939. 236	0. 181	0. 181	0. 294	0. 122
0. 242	0. 081							
251	REL_122402_1	1568647. 539	5502612. 439	961. 802	0. 343	0. 314	0. 913	0. 074
0. 036	0. 023							
252	REL_122403_1	1565117. 266	5503146. 544	981. 442	0. 222	0. 237	0. 519	0. 094
0. 051	0. 001							
253	REL_122404_1	1564265. 981	5499800. 445	1040. 458	0. 346	0. 300	0. 931	0. 020
0. 010	0. 005							
254	REL_122501_1	1571790. 401	5501006. 642	927. 257	0. 182	0. 181	0. 298	0. 254
0. 294	0. 105							

255	REL_122502_1	1570804. 537	5497694. 848	964. 648	0. 325	0. 311	0. 909	0. 027
0. 013	0. 007							
256	REL_122503_1	1567732. 831	5498183. 417	994. 109	0. 225	0. 240	0. 526	0. 022
0. 038	0. 009							
257	REL_122504_1	1566653. 726	5494979. 890	978. 578	0. 356	0. 303	0. 944	0. 053
0. 027	0. 015							
258	REL_122601_1	1574408. 988	5496134. 118	1024. 220	0. 182	0. 180	0. 294	0. 200
0. 168	0. 107							
259	REL_122602_1	1573380. 123	5492941. 457	1042. 149	0. 330	0. 313	0. 901	0. 031
0. 016	0. 009							
260	REL_122603_1	1570119. 156	5493504. 976	1066. 314	0. 225	0. 240	0. 521	0. 213
0. 091	0. 009							
261	REL_122604_1	1569121. 552	5490191. 746	1080. 529	0. 358	0. 301	0. 932	0. 040
0. 021	0. 012							
262	REL_122701_1	1577162. 396	5491646. 333	993. 435	0. 182	0. 181	0. 297	0. 171
0. 076	0. 090							
263	REL_122702_1	1575985. 153	5488022. 425	1137. 437	0. 338	0. 310	0. 894	0. 101
0. 048	0. 031							
264	REL_122703_1	1572725. 655	5488767. 496	1031. 325	0. 226	0. 241	0. 527	0. 145
0. 065	0. 011							
265	REL_122704_1	1571729. 052	5485484. 238	1023. 393	0. 349	0. 300	0. 947	0. 033
0. 017	0. 009							
266	REL_122801_1	1579502. 679	5486615. 066	1056. 303	0. 182	0. 183	0. 297	0. 172
0. 137	0. 093							
267	REL_122802_1	1578409. 061	5483097. 474	1156. 686	0. 338	0. 307	0. 890	0. 026
0. 013	0. 008							
268	REL_122803_1	1575417. 143	5483850. 457	1173. 983	0. 226	0. 243	0. 522	0. 156
0. 094	0. 011							
269	REL_122804_1	1573955. 414	5480466. 998	1182. 312	0. 364	0. 314	0. 939	0. 009
0. 005	0. 003							
270	REL_122901_1	1581837. 346	5481606. 909	1265. 136	0. 182	0. 182	0. 290	0. 199
0. 131	0. 106							
271	REL_122902_1	1580686. 014	5478295. 784	1293. 321	0. 327	0. 310	0. 883	0. 016
0. 008	0. 005							
272	REL_122903_1	1577758. 880	5479303. 241	1268. 779	0. 226	0. 248	0. 524	0. 108
0. 059	0. 002							
273	REL_122904_1	1576539. 811	5475620. 539	1314. 260	0. 359	0. 325	0. 951	0. 102
0. 053	0. 030							
274	REL_123001_1	1584170. 665	5476509. 046	1345. 653	0. 184	0. 182	0. 290	0. 220
0. 103	0. 103							
275	REL_123002_1	1583207. 827	5473502. 560	1433. 559	0. 335	0. 314	0. 898	0. 049
0. 024	0. 015							
276	REL_123003_1	1580344. 980	5474141. 293	1402. 805	0. 228	0. 256	0. 538	0. 183
0. 094	0. 019							
277	REL_123004_1	1579102. 707	5470771. 331	1418. 000	0. 368	0. 342	1. 004	0. 060
0. 031	0. 017							
278	REL_123005_1	1576098. 803	5471677. 740	1410. 815	0. 696	0. 347	1. 166	0. 228
0. 146	0. 127							
279	REL_123101_1	1586404. 144	5472241. 781	1375. 572	0. 186	0. 183	0. 291	0. 255
0. 208	0. 126							

280	REL_123102_1	1585780. 618	5468613. 351	1241. 347	0. 344	0. 321	0. 922	0. 087
0. 041	0. 026							
281	REL_123103_1	1582531. 450	5469269. 073	1349. 017	0. 236	0. 262	0. 554	0. 045
0. 107	0. 030							
282	REL_123104_1	1581416. 983	5466021. 927	1296. 755	0. 395	0. 344	1. 046	0. 056
0. 027	0. 016							
283	REL_123105_1	1578711. 915	5466891. 536	1337. 788	0. 364	0. 353	0. 650	0. 036
0. 207	0. 091							
284	REL_123201_1	1588966. 779	5466915. 703	1134. 774	0. 187	0. 184	0. 301	0. 259
0. 168	0. 153							
285	REL_123202_1	1588027. 323	5463782. 032	1168. 476	0. 329	0. 324	0. 926	0. 000
0. 000	0. 000							
286	REL_123203_1	1584724. 402	5464385. 124	1169. 351	0. 243	0. 267	0. 581	0. 115
0. 063	0. 002							
287	REL_123204_1	1583775. 955	5460989. 965	1197. 309	0. 402	0. 342	1. 058	0. 094
0. 047	0. 027							
288	REL_123205_1	1581094. 105	5461994. 914	1202. 404	0. 390	0. 351	0. 692	0. 034
0. 192	0. 064							
289	REL_123301_1	1591389. 449	5462071. 149	1243. 457	0. 183	0. 178	0. 290	0. 215
0. 097	0. 091							
290	REL_123302_1	1590368. 306	5458990. 388	1231. 002	0. 309	0. 314	0. 879	0. 041
0. 020	0. 012							
291	REL_123303_1	1587298. 288	5459373. 180	1225. 497	0. 232	0. 254	0. 558	0. 028
0. 085	0. 022							
292	REL_123304_1	1586101. 984	5456181. 637	1239. 715	0. 385	0. 315	0. 981	0. 018
0. 009	0. 005							
293	REL_123305_1	1583459. 422	5457324. 782	1298. 731	0. 378	0. 326	0. 663	0. 230
0. 175	0. 125							
294	REL_123401_1	1593881. 441	5457284. 797	1287. 750	0. 175	0. 172	0. 275	0. 144
0. 056	0. 047							
295	REL_123402_1	1593024. 572	5454168. 078	1312. 579	0. 300	0. 291	0. 794	0. 055
0. 027	0. 017							
296	REL_123403_1	1589836. 951	5454545. 981	1298. 279	0. 212	0. 230	0. 499	0. 049
0. 109	0. 034							
297	REL_123404_1	1588687. 966	5451316. 902	1272. 180	0. 322	0. 279	0. 833	0. 000
0. 000	0. 000							
298	REL_123405_1	1585934. 637	5452215. 152	1285. 117	0. 347	0. 294	0. 602	0. 153
0. 138	0. 092							
299	REL_123501_1	1596243. 643	5452416. 639	1343. 368	0. 165	0. 164	0. 256	0. 154
0. 195	0. 103							
300	REL_123502_1	1595646. 821	5449264. 631	1351. 486	0. 312	0. 276	0. 775	0. 060
0. 030	0. 019							
301	REL_123503_1	1592417. 843	5450001. 982	1343. 231	0. 194	0. 200	0. 408	0. 126
0. 050	0. 008							
302	REL_123504_1	1591418. 710	5446408. 481	1326. 961	0. 314	0. 278	0. 831	0. 125
0. 065	0. 035							
303	REL_123505_1	1588367. 544	5447765. 571	1277. 533	0. 290	0. 256	0. 471	0. 023
0. 150	0. 042							
304	REL_123601_1	1599294. 214	5447773. 061	1463. 409	0. 173	0. 176	0. 278	0. 268
0. 282	0. 096							

305	REL_123602_1	1598012. 192	5444524. 433	1442. 857	0. 331	0. 299	0. 860	0. 030
0. 015	0. 009							
306	REL_123603_1	1594480. 929	5445219. 666	1383. 588	0. 217	0. 241	0. 519	0. 076
0. 122	0. 035							
307	REL_123604_1	1593715. 470	5441831. 764	1405. 434	0. 378	0. 345	1. 024	0. 043
0. 023	0. 013							
308	REL_123605_1	1590868. 448	5442839. 167	1327. 546	0. 341	0. 357	0. 658	0. 286
0. 051	0. 108							
309	REL_123701_1	1601770. 506	5442982. 604	1555. 748	0. 192	0. 198	0. 312	0. 175
0. 186	0. 105							
310	REL_123702_1	1600723. 525	5439514. 707	1556. 365	0. 409	0. 339	1. 004	0. 013
0. 007	0. 004							
311	REL_123703_1	1597512. 454	5440120. 163	1453. 892	0. 258	0. 294	0. 621	0. 035
0. 034	0. 007							
312	REL_123704_1	1596296. 583	5436916. 960	1469. 472	0. 470	0. 460	1. 324	0. 038
0. 019	0. 011							
313	REL_123705_1	1593545. 922	5437863. 518	1374. 248	0. 409	0. 489	0. 841	0. 149
0. 205	0. 108							
314	REL_123801_1	1603893. 200	5438023. 373	1606. 221	0. 270	0. 247	0. 423	0. 231
0. 121	0. 111							
315	REL_123802_1	1599930. 882	5435758. 389	1574. 894	0. 459	0. 491	1. 232	0. 014
0. 007	0. 001							
316	REL_123803_1	1595993. 504	5433541. 376	1485. 273	0. 622	0. 976	1. 625	0. 095
0. 034	0. 041							
317	REL_130101_1	1519674. 836	5626621. 799	490. 508	0. 231	0. 243	0. 438	0. 073
0. 144	0. 047							
318	REL_130102_1	1518253. 194	5623090. 176	442. 823	0. 338	0. 313	0. 973	0. 036
0. 017	0. 009							
319	REL_130103_1	1514912. 542	5624142. 555	363. 538	0. 349	0. 466	1. 215	0. 034
0. 016	0. 000							
320	REL_130104_1	1513268. 147	5620499. 955	385. 147	0. 536	0. 382	1. 352	0. 052
0. 025	0. 018							
321	REL_130105_1	1510049. 919	5621657. 258	331. 677	1. 099	0. 478	1. 697	0. 110
0. 068	0. 065							
322	REL_130201_1	1521612. 577	5621572. 189	492. 452	0. 166	0. 168	0. 276	0. 178
0. 122	0. 067							
323	REL_130202_1	1520573. 517	5618461. 034	506. 823	0. 327	0. 313	0. 953	0. 049
0. 023	0. 013							
324	REL_130203_1	1517153. 235	5619217. 108	376. 870	0. 239	0. 259	0. 611	0. 089
0. 017	0. 007							
325	REL_130204_1	1515679. 807	5615433. 080	375. 058	0. 442	0. 349	1. 136	0. 040
0. 020	0. 014							
326	REL_130205_1	1512273. 752	5616571. 142	357. 919	0. 584	0. 361	0. 914	0. 092
0. 196	0. 090							
327	REL_130301_1	1524652. 187	5616625. 247	523. 245	0. 180	0. 179	0. 300	0. 178
0. 107	0. 109							
328	REL_130302_1	1523110. 526	5613272. 123	492. 417	0. 339	0. 310	0. 972	0. 102
0. 051	0. 027							
329	REL_130303_1	1519840. 718	5614205. 252	512. 233	0. 226	0. 249	0. 570	0. 088
0. 048	0. 002							

330	REL_130304_1	1518178. 020	5610744. 832	426. 989	0. 413	0. 318	1. 050	0. 025
0. 013	0. 008							
331	REL_130401_1	1526636. 046	5612074. 572	524. 683	0. 187	0. 187	0. 318	0. 166
0. 068	0. 063							
332	REL_130402_1	1525545. 420	5608643. 865	511. 439	0. 346	0. 321	0. 993	0. 011
0. 006	0. 003							
333	REL_130403_1	1522058. 145	5609454. 105	510. 912	0. 229	0. 249	0. 576	0. 043
0. 088	0. 015							
334	REL_130404_1	1520851. 768	5605687. 879	516. 649	0. 389	0. 325	1. 028	0. 049
0. 025	0. 016							
335	REL_130501_1	1529232. 409	5607110. 801	523. 871	0. 191	0. 192	0. 327	0. 128
0. 054	0. 061							
336	REL_130502_1	1528049. 320	5603719. 850	546. 292	0. 353	0. 320	0. 997	0. 059
0. 029	0. 017							
337	REL_130503_1	1524626. 965	5604616. 365	558. 886	0. 230	0. 250	0. 574	0. 071
0. 104	0. 028							
338	REL_130504_1	1523189. 653	5601096. 770	542. 811	0. 399	0. 320	1. 032	0. 012
0. 006	0. 004							
339	REL_130601_1	1531631. 140	5601911. 591	545. 904	0. 195	0. 193	0. 330	0. 157
0. 121	0. 090							
340	REL_130602_1	1530399. 712	5598761. 471	555. 286	0. 350	0. 318	1. 010	0. 031
0. 016	0. 008							
341	REL_130603_1	1527342. 849	5600349. 608	533. 029	0. 233	0. 253	0. 582	0. 162
0. 094	0. 004							
342	REL_130604_1	1525838. 684	5596321. 660	584. 349	0. 389	0. 319	1. 039	0. 038
0. 019	0. 011							
343	REL_130701_1	1533674. 216	5597606. 815	560. 299	0. 195	0. 193	0. 328	0. 154
0. 105	0. 053							
344	REL_130702_1	1533087. 160	5593969. 837	592. 172	0. 364	0. 320	1. 004	0. 080
0. 039	0. 023							
345	REL_130703_1	1529560. 934	5595194. 264	562. 052	0. 234	0. 254	0. 584	0. 146
0. 074	0. 001							
346	REL_130704_1	1528180. 082	5591429. 464	590. 345	0. 396	0. 320	1. 040	0. 062
0. 031	0. 019							
347	REL_130801_1	1536430. 718	5592069. 420	590. 265	0. 191	0. 189	0. 319	0. 081
0. 073	0. 038							
348	REL_130802_1	1535316. 983	5589123. 606	600. 655	0. 342	0. 314	0. 977	0. 026
0. 013	0. 007							
349	REL_130803_1	1531866. 213	5590012. 477	605. 604	0. 231	0. 250	0. 573	0. 081
0. 098	0. 014							
350	REL_130804_1	1530361. 333	5586601. 495	597. 425	0. 408	0. 311	1. 020	0. 074
0. 038	0. 025							
351	REL_130901_1	1538227. 087	5587970. 897	591. 093	0. 185	0. 186	0. 309	0. 154
0. 159	0. 107							
352	REL_130902_1	1537845. 869	5584359. 701	606. 408	0. 328	0. 298	0. 912	0. 074
0. 038	0. 021							
353	REL_130903_1	1534409. 136	5585298. 294	625. 988	0. 222	0. 238	0. 543	0. 048
0. 024	0. 000							
354	REL_130904_1	1532932. 759	5581859. 961	591. 201	0. 378	0. 289	0. 952	0. 049
0. 026	0. 016							

355	REL_131001_1	1541786. 964	5582425. 328	606. 354	0. 180	0. 176	0. 290	0. 126
0. 157	0. 116							
356	REL_131002_1	1540302. 425	5579371. 453	641. 859	0. 328	0. 292	0. 919	0. 003
0. 001	0. 001							
357	REL_131003_1	1536869. 374	5580336. 161	632. 275	0. 210	0. 218	0. 481	0. 118
0. 072	0. 005							
358	REL_131004_1	1535474. 272	5577045. 498	607. 728	0. 376	0. 289	0. 962	0. 084
0. 044	0. 026							
359	REL_131101_1	1544149. 133	5577500. 941	630. 321	0. 188	0. 184	0. 311	0. 092
0. 160	0. 065							
360	REL_131102_1	1542655. 987	5574615. 612	620. 812	0. 336	0. 311	0. 969	0. 051
0. 026	0. 014							
361	REL_131103_1	1539571. 196	5575497. 446	615. 115	0. 223	0. 239	0. 549	0. 064
0. 036	0. 004							
362	REL_131104_1	1538191. 842	5572123. 264	621. 697	0. 375	0. 307	1. 001	0. 054
0. 028	0. 016							
363	REL_131201_1	1546242. 894	5573352. 799	624. 708	0. 191	0. 190	0. 322	0. 118
0. 063	0. 043							
364	REL_131202_1	1545337. 720	5569491. 585	632. 599	0. 350	0. 308	0. 989	0. 054
0. 028	0. 015							
365	REL_131203_1	1541988. 644	5570785. 718	624. 783	0. 231	0. 249	0. 568	0. 104
0. 026	0. 014							
366	REL_131204_1	1540361. 741	5567319. 195	671. 499	0. 405	0. 310	1. 014	0. 024
0. 013	0. 008							
367	REL_131301_1	1549330. 892	5568277. 912	631. 685	0. 192	0. 193	0. 326	0. 150
0. 199	0. 096							
368	REL_131302_1	1548054. 776	5564899. 292	642. 193	0. 366	0. 320	0. 986	0. 034
0. 016	0. 010							
369	REL_131303_1	1544609. 779	5565779. 113	662. 648	0. 231	0. 250	0. 570	0. 141
0. 062	0. 002							
370	REL_131304_1	1542917. 791	5562545. 282	687. 803	0. 395	0. 305	1. 007	0. 073
0. 036	0. 023							
371	REL_131401_1	1551682. 724	5563289. 656	685. 670	0. 189	0. 191	0. 320	0. 195
0. 143	0. 091							
372	REL_131402_1	1550256. 723	5559783. 548	659. 732	0. 349	0. 303	0. 973	0. 080
0. 038	0. 022							
373	REL_131403_1	1546789. 456	5560982. 524	656. 078	0. 227	0. 247	0. 566	0. 117
0. 008	0. 014							
374	REL_131404_1	1545243. 749	5557751. 110	664. 515	0. 394	0. 299	1. 003	0. 037
0. 018	0. 012							
375	REL_131501_1	1553623. 856	5558156. 445	714. 884	0. 187	0. 187	0. 312	0. 176
0. 126	0. 085							
376	REL_131502_1	1552770. 259	5555073. 012	673. 850	0. 353	0. 303	0. 949	0. 042
0. 021	0. 013							
377	REL_131503_1	1549056. 002	5555840. 931	672. 271	0. 224	0. 243	0. 557	0. 120
0. 044	0. 007							
378	REL_131504_1	1547739. 907	5552661. 854	695. 329	0. 377	0. 299	0. 968	0. 045
0. 023	0. 014							
379	REL_131601_1	1556234. 804	5553403. 818	675. 509	0. 187	0. 185	0. 311	0. 266
0. 088	0. 095							

380	REL_131602_1	1554959. 749	5550158. 071	691. 581	0. 334	0. 296	0. 934	0. 027
0. 014	0. 007							
381	REL_131603_1	1551820. 331	5551308. 648	723. 976	0. 222	0. 238	0. 540	0. 140
0. 057	0. 008							
382	REL_131604_1	1550394. 840	5547741. 573	732. 938	0. 357	0. 295	0. 939	0. 039
0. 020	0. 012							
383	REL_131701_1	1559025. 376	5548862. 351	744. 104	0. 187	0. 185	0. 309	0. 161
0. 096	0. 088							
384	REL_131702_1	1557606. 565	5545614. 278	724. 852	0. 348	0. 308	0. 952	0. 003
0. 002	0. 001							
385	REL_131703_1	1554089. 251	5546540. 125	696. 867	0. 222	0. 236	0. 538	0. 098
0. 044	0. 001							
386	REL_131704_1	1552677. 040	5542994. 528	711. 684	0. 376	0. 293	0. 960	0. 041
0. 021	0. 013							
387	REL_131801_1	1560967. 542	5543853. 742	720. 155	0. 187	0. 185	0. 311	0. 124
0. 179	0. 089							
388	REL_131802_1	1560101. 599	5540639. 902	748. 128	0. 350	0. 302	0. 943	0. 082
0. 041	0. 024							
389	REL_131803_1	1556627. 443	5541788. 649	714. 575	0. 223	0. 236	0. 542	0. 105
0. 061	0. 004							
390	REL_131804_1	1555153. 044	5538077. 287	751. 376	0. 374	0. 297	0. 950	0. 075
0. 038	0. 024							
391	REL_131901_1	1563782. 457	5538784. 921	737. 011	0. 189	0. 186	0. 313	0. 239
0. 064	0. 084							
392	REL_131902_1	1562544. 398	5535678. 086	761. 422	0. 352	0. 301	0. 952	0. 058
0. 029	0. 017							
393	REL_131903_1	1559176. 250	5536757. 056	734. 773	0. 224	0. 238	0. 541	0. 048
0. 063	0. 010							
394	REL_131904_1	1557503. 714	5533348. 785	751. 542	0. 382	0. 293	0. 957	0. 175
0. 090	0. 057							
395	REL_132001_1	1566310. 504	5534177. 561	789. 094	0. 190	0. 187	0. 313	0. 225
0. 153	0. 119							
396	REL_132002_1	1565003. 977	5530781. 320	773. 485	0. 353	0. 302	0. 944	0. 047
0. 023	0. 014							
397	REL_132003_1	1561531. 373	5531857. 405	763. 006	0. 224	0. 239	0. 540	0. 175
0. 075	0. 021							
398	REL_132004_1	1560007. 744	5528544. 442	804. 685	0. 371	0. 290	0. 939	0. 026
0. 013	0. 008							
399	REL_132101_1	1568620. 763	5528940. 814	783. 432	0. 189	0. 187	0. 312	0. 198
0. 173	0. 122							
400	REL_132102_1	1567324. 025	5525902. 518	799. 974	0. 338	0. 296	0. 931	0. 067
0. 038	0. 019							
401	REL_132103_1	1564022. 784	5527016. 152	793. 002	0. 223	0. 237	0. 534	0. 033
0. 049	0. 013							
402	REL_132104_1	1562603. 176	5523785. 862	808. 099	0. 362	0. 284	0. 929	0. 016
0. 009	0. 005							
403	REL_132301_1	1571270. 545	5524217. 194	812. 524	0. 187	0. 186	0. 309	0. 186
0. 091	0. 099							
404	REL_132302_1	1570051. 714	5520807. 112	814. 898	0. 350	0. 288	0. 939	0. 029
0. 014	0. 008							

405	REL_132303_1	1566655. 651	5522038. 203	830. 329	0. 220	0. 234	0. 523	0. 123
0. 128	0. 016							
406	REL_132304_1	1564991. 762	5518956. 884	1000. 426	0. 367	0. 280	0. 906	0. 014
0. 007	0. 005							
407	REL_132401_1	1573450. 362	5518900. 437	836. 116	0. 183	0. 185	0. 304	0. 240
0. 059	0. 089							
408	REL_132402_1	1572290. 839	5515854. 326	855. 615	0. 341	0. 282	0. 919	0. 073
0. 035	0. 020							
409	REL_132403_1	1569019. 433	5517352. 320	861. 231	0. 217	0. 232	0. 520	0. 088
0. 025	0. 009							
410	REL_132404_1	1567522. 791	5513961. 957	878. 686	0. 355	0. 284	0. 913	0. 028
0. 013	0. 008							
411	REL_132501_1	1575204. 862	5514504. 580	875. 974	0. 182	0. 184	0. 299	0. 180
0. 100	0. 111							
412	REL_132502_1	1574606. 447	5511381. 478	895. 262	0. 337	0. 293	0. 905	0. 105
0. 051	0. 030							
413	REL_132503_1	1571406. 545	5512467. 581	875. 216	0. 217	0. 232	0. 517	0. 188
0. 011	0. 022							
414	REL_132504_1	1569680. 324	5509096. 563	904. 143	0. 368	0. 285	0. 907	0. 024
0. 012	0. 008							
415	REL_132601_1	1577951. 124	5508976. 163	924. 904	0. 199	0. 188	0. 329	0. 172
0. 149	0. 061							
416	REL_132602_1	1576909. 786	5506404. 582	946. 713	0. 327	0. 289	0. 890	0. 040
0. 019	0. 011							
417	REL_132603_1	1573720. 743	5507562. 436	894. 943	0. 218	0. 233	0. 515	0. 040
0. 096	0. 026							
418	REL_132604_1	1572097. 492	5504409. 385	934. 325	0. 367	0. 280	0. 904	0. 040
0. 020	0. 012							
419	REL_132701_1	1580121. 074	5504497. 863	946. 239	0. 177	0. 178	0. 288	0. 162
0. 182	0. 096							
420	REL_132702_1	1579394. 538	5501496. 179	963. 935	0. 331	0. 285	0. 899	0. 038
0. 019	0. 011							
421	REL_132703_1	1576228. 972	5502515. 765	981. 802	0. 215	0. 230	0. 507	0. 111
0. 058	0. 003							
422	REL_132704_1	1574699. 495	5499454. 700	1003. 317	0. 357	0. 280	0. 909	0. 002
0. 001	0. 001							
423	REL_132801_1	1582272. 436	5499739. 844	945. 577	0. 176	0. 174	0. 284	0. 190
0. 080	0. 083							
424	REL_132802_1	1582003. 448	5496500. 086	986. 299	0. 334	0. 279	0. 871	0. 008
0. 004	0. 002							
425	REL_132803_1	1578767. 532	5497814. 496	989. 713	0. 215	0. 229	0. 505	0. 093
0. 128	0. 034							
426	REL_132804_1	1577192. 539	5494492. 569	995. 900	0. 351	0. 285	0. 886	0. 011
0. 006	0. 003							
427	REL_132901_1	1584667. 336	5494936. 391	1077. 326	0. 174	0. 174	0. 278	0. 217
0. 057	0. 098							
428	REL_132902_1	1584593. 990	5491621. 608	1037. 372	0. 340	0. 279	0. 883	0. 024
0. 013	0. 007							
429	REL_132903_1	1581116. 103	5492996. 087	1012. 374	0. 215	0. 231	0. 504	0. 105
0. 049	0. 011							

430	REL_132904_1	1579687. 504	5489836. 933	1064. 013	0. 354	0. 279	0. 898	0. 061
0. 032	0. 018							
431	REL_133001_1	1587876. 210	5489866. 287	1180. 139	0. 173	0. 175	0. 276	0. 211
0. 143	0. 118							
432	REL_133002_1	1586946. 018	5486603. 691	1203. 092	0. 329	0. 271	0. 848	0. 022
0. 011	0. 006							
433	REL_133003_1	1583548. 284	5488231. 745	1160. 860	0. 213	0. 229	0. 496	0. 100
0. 023	0. 007							
434	REL_133004_1	1582026. 447	5484986. 851	1162. 933	0. 358	0. 280	0. 880	0. 067
0. 034	0. 021							
435	REL_133101_1	1590309. 701	5485137. 290	1224. 818	0. 174	0. 176	0. 277	0. 203
0. 135	0. 119							
436	REL_133102_1	1589089. 024	5482144. 985	1253. 288	0. 314	0. 282	0. 851	0. 011
0. 006	0. 003							
437	REL_133103_1	1585859. 594	5483149. 038	1213. 362	0. 212	0. 230	0. 493	0. 091
0. 095	0. 034							
438	REL_133104_1	1584318. 111	5480291. 427	1302. 863	0. 368	0. 275	0. 875	0. 013
0. 007	0. 004							
439	REL_133201_1	1592339. 649	5480375. 906	1182. 963	0. 176	0. 176	0. 279	0. 221
0. 074	0. 115							
440	REL_133202_1	1591686. 689	5477251. 988	1257. 922	0. 322	0. 280	0. 846	0. 013
0. 006	0. 004							
441	REL_133203_1	1588749. 868	5478338. 088	1247. 051	0. 213	0. 229	0. 493	0. 091
0. 094	0. 037							
442	REL_133204_1	1587211. 617	5475111. 324	1358. 988	0. 337	0. 281	0. 854	0. 035
0. 018	0. 011							
443	REL_133301_1	1595159. 567	5475462. 878	1127. 369	0. 176	0. 175	0. 281	0. 289
0. 095	0. 122							
444	REL_133302_1	1594361. 004	5472285. 420	1116. 900	0. 332	0. 278	0. 862	0. 083
0. 043	0. 024							
445	REL_133303_1	1590766. 655	5473621. 673	1244. 950	0. 213	0. 229	0. 491	0. 113
0. 046	0. 004							
446	REL_133304_1	1589794. 445	5470171. 967	1189. 074	0. 334	0. 284	0. 875	0. 053
0. 027	0. 015							
447	REL_133401_1	1597949. 741	5470556. 510	1281. 642	0. 171	0. 172	0. 271	0. 234
0. 118	0. 136							
448	REL_133402_1	1596789. 467	5467572. 462	1268. 213	0. 325	0. 277	0. 835	0. 016
0. 008	0. 005							
449	REL_133403_1	1593488. 353	5468707. 146	1140. 489	0. 212	0. 227	0. 495	0. 012
0. 074	0. 019							
450	REL_133404_1	1591957. 415	5465456. 110	1179. 031	0. 350	0. 276	0. 874	0. 016
0. 008	0. 005							
451	REL_133501_1	1600099. 944	5465579. 835	1264. 934	0. 166	0. 168	0. 261	0. 326
0. 093	0. 142							
452	REL_133502_1	1599145. 988	5462727. 228	1289. 027	0. 313	0. 268	0. 796	0. 041
0. 020	0. 012							
453	REL_133503_1	1595831. 500	5464113. 064	1246. 798	0. 206	0. 220	0. 474	0. 116
0. 035	0. 014							
454	REL_133504_1	1594419. 521	5460375. 697	1269. 879	0. 333	0. 273	0. 824	0. 031
0. 015	0. 010							

455	REL_133601_1	1602602. 441	5461005. 973	1343. 682	0. 156	0. 159	0. 240	0. 243
0. 151	0. 163							
456	REL_133602_1	1601272. 832	5457607. 254	1354. 074	0. 284	0. 250	0. 756	0. 001
0. 001	0. 000							
457	REL_133603_1	1598491. 195	5459209. 595	1307. 650	0. 199	0. 211	0. 444	0. 163
0. 067	0. 013							
458	REL_133604_1	1596878. 503	5455521. 157	1327. 183	0. 322	0. 263	0. 789	0. 078
0. 041	0. 025							
459	REL_133701_1	1604459. 604	5456032. 092	1405. 696	0. 145	0. 148	0. 216	0. 254
0. 149	0. 141							
460	REL_133702_1	1603970. 335	5452987. 747	1431. 116	0. 289	0. 246	0. 730	0. 064
0. 033	0. 018							
461	REL_133703_1	1600247. 560	5454162. 245	1397. 445	0. 192	0. 200	0. 414	0. 069
0. 076	0. 027							
462	REL_133704_1	1599458. 460	5451011. 882	1403. 884	0. 310	0. 252	0. 774	0. 064
0. 034	0. 019							
463	REL_133801_1	1607007. 187	5451175. 609	1459. 132	0. 150	0. 155	0. 229	0. 379
0. 157	0. 149							
464	REL_133802_1	1606367. 147	5448266. 568	1518. 362	0. 306	0. 263	0. 773	0. 174
0. 087	0. 050							
465	REL_133803_1	1603121. 421	5449476. 638	1471. 695	0. 195	0. 210	0. 439	0. 148
0. 073	0. 035							
466	REL_133804_1	1602027. 309	5445887. 156	1505. 185	0. 315	0. 286	0. 826	0. 038
0. 019	0. 011							
467	REL_133901_1	1609659. 405	5446567. 935	1581. 687	0. 172	0. 189	0. 286	0. 215
0. 063	0. 106							
468	REL_133902_1	1608833. 985	5443358. 946	1594. 955	0. 329	0. 277	0. 823	0. 065
0. 033	0. 019							
469	REL_133903_1	1605618. 952	5444398. 658	1535. 794	0. 212	0. 232	0. 486	0. 040
0. 174	0. 043							
470	REL_133904_1	1604523. 109	5441125. 087	1595. 152	0. 348	0. 315	0. 927	0. 210
0. 108	0. 062							
471	REL_134001_1	1612087. 112	5441602. 177	1676. 414	0. 182	0. 187	0. 282	0. 277
0. 077	0. 112							
472	REL_134002_1	1611306. 157	5438395. 936	1726. 895	0. 362	0. 295	0. 880	0. 044
0. 022	0. 013							
473	REL_134003_1	1607973. 099	5439527. 686	1669. 718	0. 239	0. 252	0. 526	0. 083
0. 058	0. 024							
474	REL_134004_1	1606956. 856	5436220. 333	1701. 363	0. 422	0. 356	1. 055	0. 027
0. 013	0. 008							
475	REL_134101_1	1614426. 860	5436637. 715	1752. 776	0. 209	0. 221	0. 329	0. 248
0. 072	0. 134							
476	REL_134102_1	1613911. 248	5433602. 689	1818. 576	0. 444	0. 363	1. 040	0. 059
0. 029	0. 018							
477	REL_134103_1	1610358. 848	5434615. 347	1767. 447	0. 289	0. 299	0. 613	0. 068
0. 123	0. 039							
478	REL_134104_1	1609310. 237	5431498. 339	1822. 526	0. 540	0. 438	1. 255	0. 035
0. 018	0. 011							
479	REL_134105_1	1606350. 437	5433100. 086	1749. 074	0. 461	0. 443	0. 818	0. 188
0. 106	0. 097							

480	REL_134201_1	1616489. 536	5432058. 075	1823. 759	0. 305	0. 344	0. 516	0. 152
0. 021	0. 065							
481	REL_134202_1	1612571. 585	5430016. 298	1897. 929	0. 476	0. 535	1. 217	0. 097
0. 047	0. 003							
482	REL_134203_1	1608751. 966	5428266. 618	1875. 693	0. 731	0. 893	1. 512	0. 171
0. 062	0. 084							
483	REL_140101_1	1528010. 626	5630618. 820	515. 005	0. 214	0. 216	0. 368	0. 056
0. 076	0. 024							
484	REL_140102_1	1526546. 171	5627276. 559	508. 889	0. 367	0. 325	1. 004	0. 002
0. 001	0. 001							
485	REL_140103_1	1523135. 555	5628282. 196	490. 768	0. 307	0. 381	1. 052	0. 003
0. 001	0. 000							
486	REL_140104_1	1521723. 578	5624381. 860	512. 480	0. 356	0. 302	0. 932	0. 013
0. 006	0. 004							
487	REL_140201_1	1530527. 496	5625672. 905	487. 204	0. 208	0. 204	0. 346	0. 124
0. 074	0. 031							
488	REL_140202_1	1529123. 180	5622524. 525	512. 039	0. 366	0. 319	0. 987	0. 037
0. 019	0. 011							
489	REL_140203_1	1525556. 253	5623446. 564	516. 230	0. 221	0. 232	0. 525	0. 060
0. 139	0. 033							
490	REL_140204_1	1524185. 659	5619999. 939	494. 657	0. 361	0. 292	0. 952	0. 073
0. 038	0. 022							
491	REL_140301_1	1532942. 126	5621343. 972	505. 153	0. 216	0. 208	0. 355	0. 226
0. 035	0. 092							
492	REL_140302_1	1532066. 162	5617691. 783	504. 067	0. 411	0. 334	1. 028	0. 049
0. 025	0. 017							
493	REL_140303_1	1528306. 294	5618575. 781	518. 092	0. 229	0. 244	0. 554	0. 049
0. 038	0. 015							
494	REL_140304_1	1526968. 607	5615003. 869	508. 327	0. 357	0. 304	0. 989	0. 005
0. 002	0. 001							
495	REL_140401_1	1535885. 307	5615930. 014	507. 048	0. 225	0. 211	0. 364	0. 146
0. 077	0. 107							
496	REL_140402_1	1534271. 909	5612793. 334	520. 220	0. 403	0. 338	1. 055	0. 030
0. 015	0. 010							
497	REL_140403_1	1531060. 695	5614065. 718	514. 612	0. 239	0. 253	0. 583	0. 133
0. 027	0. 022							
498	REL_140404_1	1529213. 165	5610290. 474	521. 412	0. 378	0. 306	1. 020	0. 073
0. 037	0. 021							
499	REL_140501_1	1537652. 312	5611167. 929	522. 880	0. 222	0. 211	0. 363	0. 168
0. 129	0. 084							
500	REL_140502_1	1536597. 526	5607931. 589	531. 219	0. 397	0. 342	1. 067	0. 023
0. 012	0. 007							
501	REL_140503_1	1532908. 981	5609055. 787	549. 330	0. 240	0. 257	0. 595	0. 052
0. 022	0. 001							
502	REL_140504_1	1531576. 186	5605498. 279	531. 896	0. 390	0. 309	1. 035	0. 033
0. 017	0. 010							
503	REL_140601_1	1539946. 604	5605727. 893	533. 144	0. 222	0. 209	0. 364	0. 111
0. 112	0. 043							
504	REL_140602_1	1539031. 181	5602975. 652	552. 440	0. 392	0. 336	1. 068	0. 066
0. 035	0. 020							

505 0. 054	REL_140603_1 0. 009	1535711. 076	5604045. 654	539. 975	0. 244	0. 259	0. 603	0. 027
506 0. 010	REL_140604_1 0. 006	1534067. 708	5600535. 518	543. 487	0. 395	0. 316	1. 041	0. 018
507 0. 082	REL_140701_1 0. 045	1543008. 469	5601765. 780	570. 885	0. 224	0. 213	0. 364	0. 050
508 0. 007	REL_140702_1 0. 004	1541776. 596	5598528. 193	554. 747	0. 404	0. 355	1. 066	0. 012
509 0. 023	REL_140703_1 0. 007	1538623. 743	5599350. 759	558. 991	0. 246	0. 260	0. 599	0. 030
510 0. 011	REL_140704_1 0. 006	1536831. 658	5595700. 433	563. 094	0. 378	0. 311	1. 017	0. 020
511 0. 116	REL_140801_1 0. 067	1545719. 164	5597080. 881	568. 545	0. 225	0. 215	0. 367	0. 186
512 0. 035	REL_140802_1 0. 023	1544323. 095	5593613. 644	572. 186	0. 409	0. 348	1. 078	0. 069
513 0. 072	REL_140803_1 0. 012	1540779. 415	5594441. 367	592. 628	0. 239	0. 255	0. 589	0. 067
514 0. 012	REL_140804_1 0. 006	1539489. 224	5591058. 232	608. 626	0. 363	0. 302	1. 014	0. 024
515 0. 062	REL_140901_1 0. 052	1548065. 757	5591976. 083	596. 481	0. 220	0. 211	0. 360	0. 080
516 0. 011	REL_140902_1 0. 007	1546737. 629	5588533. 900	587. 885	0. 399	0. 332	1. 037	0. 022
517 0. 030	REL_140903_1 0. 008	1543449. 437	5589355. 909	601. 961	0. 237	0. 252	0. 579	0. 081
518 0. 029	REL_140904_1 0. 016	1541734. 344	5586174. 874	584. 531	0. 368	0. 300	0. 986	0. 058
519 0. 101	REL_141001_1 0. 047	1549976. 897	5586673. 106	593. 826	0. 215	0. 206	0. 353	0. 065
520 0. 013	REL_141002_1 0. 008	1549075. 346	5583646. 447	638. 615	0. 391	0. 329	1. 029	0. 026
521 0. 021	REL_141003_1 0. 018	1543869. 574	5584281. 759	593. 111	0. 246	0. 250	0. 564	0. 122
522 0. 011	REL_141004_1 0. 007	1544007. 874	5580974. 209	604. 192	0. 383	0. 312	0. 995	0. 022
523 0. 071	REL_141101_1 0. 085	1552942. 443	5582156. 528	621. 370	0. 217	0. 208	0. 354	0. 126
524 0. 017	REL_141102_1 0. 011	1551468. 311	5578911. 559	633. 210	0. 391	0. 336	1. 040	0. 035
525 0. 059	REL_141103_1 0. 010	1548000. 261	5579644. 446	636. 661	0. 235	0. 251	0. 574	0. 073
526 0. 049	REL_141104_1 0. 029	1546468. 219	5576450. 480	655. 447	0. 382	0. 303	1. 000	0. 097
527 0. 086	REL_141201_1 0. 069	1554541. 943	5577169. 567	634. 225	0. 212	0. 207	0. 354	0. 128
528 0. 029	REL_141202_1 0. 019	1554055. 640	5574046. 318	648. 877	0. 402	0. 338	1. 045	0. 057
529 0. 016	REL_141203_1 0. 005	1550603. 917	5575094. 458	616. 498	0. 238	0. 255	0. 586	0. 041

530 0.033	REL_141204_1 0.020	1548860.536	5571479.010	615.977	0.387	0.310	1.017	0.064
531 0.142	REL_141301_1 0.055	1556668.369	5572170.186	634.157	0.207	0.204	0.351	0.119
532 0.017	REL_141302_1 0.011	1556333.701	5569264.580	660.719	0.380	0.340	1.026	0.034
533 0.027	REL_141303_1 0.002	1553079.109	5570026.735	646.774	0.236	0.256	0.587	0.038
534 0.044	REL_141304_1 0.024	1551559.684	5566597.981	642.112	0.368	0.308	1.003	0.086
535 0.085	REL_141401_1 0.042	1559796.477	5567486.909	641.210	0.204	0.203	0.346	0.139
536 0.035	REL_141402_1 0.024	1559308.055	5564223.014	646.620	0.411	0.330	1.028	0.068
537 0.059	REL_141403_1 0.003	1555224.408	5565246.083	697.901	0.231	0.252	0.577	0.105
538 0.020	REL_141404_1 0.011	1554049.309	5561814.480	698.042	0.362	0.301	0.994	0.040
539 0.079	REL_141501_1 0.055	1562352.383	5562570.726	648.719	0.196	0.199	0.336	0.141
540 0.003	REL_141502_1 0.002	1561088.010	5559657.333	701.097	0.347	0.326	0.954	0.006
541 0.083	REL_141503_1 0.032	1557808.898	5560590.658	657.091	0.227	0.248	0.564	0.126
542 0.043	REL_141504_1 0.023	1556443.745	5557076.087	662.475	0.358	0.292	0.957	0.083
543 0.149	REL_141601_1 0.079	1565004.269	5558135.800	700.943	0.193	0.193	0.325	0.088
544 0.002	REL_141602_1 0.001	1563672.751	5554859.586	731.243	0.355	0.320	0.951	0.004
545 0.075	REL_141603_1 0.020	1560410.654	5555372.293	706.930	0.223	0.241	0.550	0.057
546 0.034	REL_141604_1 0.018	1559153.110	5552025.038	725.626	0.343	0.295	0.953	0.066
547 0.124	REL_141701_1 0.093	1567141.144	5553242.565	686.987	0.198	0.191	0.330	0.172
548 0.032	REL_141702_1 0.018	1565946.512	5549670.282	717.614	0.348	0.303	0.953	0.064
549 0.028	REL_141703_1 0.006	1562854.051	5550644.008	716.669	0.225	0.241	0.551	0.028
550 0.023	REL_141704_1 0.013	1561651.338	5547095.921	711.225	0.340	0.301	0.949	0.046
551 0.088	REL_141801_1 0.073	1570191.675	5547947.305	705.761	0.209	0.196	0.339	0.146
552 0.008	REL_141802_1 0.005	1568929.343	5544764.879	717.049	0.399	0.311	0.995	0.016
553 0.051	REL_141803_1 0.002	1565323.393	5545707.541	723.891	0.230	0.244	0.557	0.088
554 0.015	REL_141804_1 0.009	1563795.162	5542517.355	725.265	0.360	0.296	0.966	0.031

555	REL_141901_1	1572197. 090	5543160. 482	728. 919	0. 210	0. 201	0. 342	0. 099
0. 061	0. 044							
556	REL_141902_1	1571258. 777	5539564. 769	742. 984	0. 396	0. 306	0. 995	0. 045
0. 022	0. 014							
557	REL_141903_1	1567664. 797	5540988. 037	725. 047	0. 233	0. 248	0. 565	0. 058
0. 080	0. 026							
558	REL_141904_1	1566049. 743	5537598. 063	736. 440	0. 372	0. 300	0. 965	0. 036
0. 018	0. 011							
559	REL_142001_1	1573903. 638	5538080. 113	774. 101	0. 208	0. 202	0. 343	0. 119
0. 124	0. 056							
560	REL_142002_1	1573552. 097	5534933. 691	764. 540	0. 390	0. 316	1. 006	0. 044
0. 023	0. 014							
561	REL_142003_1	1570184. 180	5536168. 771	757. 420	0. 235	0. 250	0. 567	0. 089
0. 068	0. 021							
562	REL_142004_1	1568716. 462	5532464. 910	768. 803	0. 359	0. 310	0. 966	0. 011
0. 006	0. 003							
563	REL_142101_1	1576359. 302	5533455. 629	794. 414	0. 211	0. 204	0. 346	0. 136
0. 085	0. 082							
564	REL_142102_1	1575923. 109	5530295. 443	791. 300	0. 384	0. 326	1. 009	0. 037
0. 019	0. 011							
565	REL_142103_1	1572503. 340	5531221. 987	774. 726	0. 234	0. 251	0. 564	0. 102
0. 094	0. 016							
566	REL_142104_1	1571366. 890	5527951. 817	787. 587	0. 348	0. 297	0. 961	0. 040
0. 021	0. 011							
567	REL_142201_1	1579075. 419	5528687. 635	798. 943	0. 211	0. 204	0. 345	0. 116
0. 074	0. 047							
568	REL_142202_1	1578532. 370	5525364. 489	819. 735	0. 390	0. 323	1. 000	0. 029
0. 015	0. 009							
569	REL_142203_1	1575087. 998	5526463. 736	796. 051	0. 233	0. 251	0. 561	0. 079
0. 077	0. 027							
570	REL_142204_1	1573628. 729	5522766. 208	816. 569	0. 358	0. 308	0. 948	0. 029
0. 015	0. 009							
571	REL_142301_1	1581295. 709	5524043. 065	841. 500	0. 207	0. 204	0. 341	0. 109
0. 105	0. 035							
572	REL_142302_1	1581042. 288	5520522. 843	868. 976	0. 394	0. 321	0. 988	0. 066
0. 033	0. 022							
573	REL_142303_1	1577501. 521	5521648. 864	839. 785	0. 230	0. 248	0. 552	0. 164
0. 084	0. 036							
574	REL_142304_1	1576232. 426	5518235. 468	855. 551	0. 342	0. 294	0. 939	0. 008
0. 004	0. 002							
575	REL_142401_1	1583942. 003	5518913. 129	864. 356	0. 204	0. 201	0. 336	0. 097
0. 055	0. 038							
576	REL_142402_1	1583321. 869	5515428. 143	898. 399	0. 375	0. 304	0. 959	0. 013
0. 006	0. 004							
577	REL_142403_1	1579714. 215	5516761. 204	895. 129	0. 226	0. 244	0. 539	0. 178
0. 039	0. 024							
578	REL_142404_1	1578520. 544	5513182. 982	907. 218	0. 353	0. 292	0. 936	0. 086
0. 041	0. 024							
579	REL_142501_1	1586179. 923	5514034. 921	890. 234	0. 198	0. 193	0. 323	0. 128
0. 048	0. 047							

580	REL_142502_1	1585675. 976	5510561. 032	934. 856	0. 360	0. 293	0. 917	0. 060
0. 030	0. 018							
581	REL_142503_1	1582022. 649	5511908. 718	913. 306	0. 225	0. 241	0. 542	0. 097
0. 056	0. 010							
582	REL_142504_1	1581017. 780	5508258. 525	931. 259	0. 329	0. 288	0. 896	0. 043
0. 021	0. 012							
583	REL_142505_1	1577745. 031	5510027. 053	915. 601	0. 334	0. 274	0. 591	0. 246
0. 120	0. 119							
584	REL_142601_1	1589070. 076	5509428. 350	971. 514	0. 182	0. 182	0. 291	0. 112
0. 088	0. 065							
585	REL_142602_1	1588052. 785	5505936. 637	917. 394	0. 337	0. 289	0. 866	0. 024
0. 012	0. 008							
586	REL_142603_1	1584477. 486	5507037. 729	944. 394	0. 214	0. 228	0. 498	0. 038
0. 019	0. 000							
587	REL_142604_1	1583221. 300	5503559. 757	964. 748	0. 337	0. 272	0. 861	0. 104
0. 054	0. 031							
588	REL_142701_1	1591388. 800	5504129. 418	1040. 243	0. 160	0. 162	0. 248	0. 149
0. 123	0. 074							
589	REL_142702_1	1590735. 007	5500733. 399	1084. 170	0. 329	0. 256	0. 798	0. 032
0. 017	0. 010							
590	REL_142703_1	1587062. 773	5502084. 702	921. 679	0. 205	0. 214	0. 467	0. 080
0. 022	0. 013							
591	REL_142704_1	1586004. 334	5498422. 743	991. 803	0. 314	0. 277	0. 836	0. 015
0. 008	0. 004							
592	REL_142901_1	1593819. 263	5500128. 048	1031. 884	0. 161	0. 162	0. 249	0. 150
0. 127	0. 089							
593	REL_142902_1	1592748. 145	5496310. 189	1140. 527	0. 314	0. 278	0. 820	0. 088
0. 043	0. 026							
594	REL_142903_1	1589598. 652	5497158. 912	1113. 012	0. 201	0. 213	0. 452	0. 107
0. 029	0. 009							
595	REL_142904_1	1588402. 780	5493899. 432	1116. 966	0. 313	0. 270	0. 825	0. 009
0. 005	0. 003							
596	REL_143001_1	1595818. 450	5495317. 017	1068. 859	0. 172	0. 174	0. 271	0. 158
0. 266	0. 103							
597	REL_143002_1	1595331. 235	5491446. 362	1059. 725	0. 332	0. 289	0. 862	0. 030
0. 015	0. 009							
598	REL_143003_1	1592028. 235	5492159. 857	1178. 291	0. 205	0. 221	0. 471	0. 180
0. 139	0. 048							
599	REL_143004_1	1590900. 187	5489035. 227	1210. 740	0. 314	0. 273	0. 833	0. 083
0. 041	0. 023							
600	REL_143101_1	1598308. 137	5490442. 245	1026. 587	0. 179	0. 180	0. 286	0. 172
0. 131	0. 131							
601	REL_143102_1	1597670. 634	5486558. 296	1047. 382	0. 329	0. 291	0. 869	0. 019
0. 009	0. 006							
602	REL_143103_1	1594401. 629	5487504. 425	1143. 451	0. 209	0. 225	0. 484	0. 104
0. 105	0. 029							
603	REL_143104_1	1593357. 200	5483902. 601	1155. 411	0. 317	0. 285	0. 847	0. 015
0. 007	0. 004							
604	REL_143201_1	1600961. 909	5484927. 077	1039. 746	0. 182	0. 181	0. 289	0. 244
0. 193	0. 128							

605	REL_143202_1	1600095. 590	5481735. 325	1037. 825	0. 325	0. 294	0. 859	0. 042
0. 021	0. 012							
606	REL_143203_1	1596812. 540	5482581. 149	1075. 203	0. 211	0. 228	0. 490	0. 178
0. 077	0. 005							
607	REL_143204_1	1595712. 328	5479111. 586	1119. 972	0. 323	0. 281	0. 842	0. 021
0. 011	0. 006							
608	REL_143301_1	1603296. 594	5480107. 388	1138. 989	0. 180	0. 178	0. 282	0. 114
0. 172	0. 118							
609	REL_143302_1	1602516. 727	5476786. 034	1259. 337	0. 318	0. 282	0. 835	0. 035
0. 017	0. 010							
610	REL_143303_1	1599194. 513	5478033. 229	1099. 403	0. 209	0. 226	0. 489	0. 209
0. 092	0. 012							
611	REL_143304_1	1598711. 883	5474344. 356	1203. 380	0. 290	0. 272	0. 836	0. 077
0. 039	0. 018							
612	REL_143401_1	1605743. 782	5475623. 290	1195. 624	0. 177	0. 175	0. 274	0. 183
0. 197	0. 112							
613	REL_143402_1	1605195. 662	5471614. 047	1224. 831	0. 327	0. 267	0. 823	0. 016
0. 008	0. 005							
614	REL_143403_1	1601063. 476	5472871. 496	1335. 162	0. 205	0. 220	0. 467	0. 116
0. 043	0. 017							
615	REL_143404_1	1600742. 312	5469440. 357	1279. 481	0. 306	0. 271	0. 812	0. 007
0. 003	0. 002							
616	REL_143501_1	1608329. 438	5470362. 159	1232. 987	0. 172	0. 170	0. 263	0. 207
0. 102	0. 134							
617	REL_143502_1	1607619. 510	5466843. 508	1266. 502	0. 318	0. 263	0. 793	0. 028
0. 014	0. 008							
618	REL_143503_1	1604236. 142	5467764. 822	1251. 244	0. 202	0. 216	0. 459	0. 230
0. 123	0. 019							
619	REL_143504_1	1603123. 610	5464515. 869	1292. 893	0. 305	0. 267	0. 785	0. 050
0. 025	0. 014							
620	REL_143601_1	1610667. 704	5466166. 507	1285. 506	0. 165	0. 161	0. 246	0. 141
0. 139	0. 102							
621	REL_143602_1	1610037. 843	5462002. 726	1367. 337	0. 307	0. 258	0. 761	0. 065
0. 032	0. 020							
622	REL_143603_1	1606819. 560	5463092. 134	1319. 120	0. 196	0. 207	0. 431	0. 194
0. 093	0. 001							
623	REL_143604_1	1605659. 869	5459709. 661	1401. 947	0. 289	0. 251	0. 737	0. 006
0. 003	0. 002							
624	REL_143701_1	1613159. 480	5460806. 784	1406. 546	0. 166	0. 165	0. 251	0. 216
0. 178	0. 136							
625	REL_143702_1	1612146. 739	5457089. 324	1458. 231	0. 290	0. 250	0. 742	0. 060
0. 029	0. 016							
626	REL_143703_1	1609125. 762	5458693. 105	1415. 714	0. 190	0. 199	0. 407	0. 094
0. 059	0. 014							
627	REL_143704_1	1608061. 681	5454908. 366	1489. 336	0. 279	0. 242	0. 704	0. 027
0. 013	0. 007							
628	REL_143801_1	1615534. 199	5456256. 939	1550. 022	0. 167	0. 169	0. 254	0. 172
0. 247	0. 138							
629	REL_143802_1	1614674. 065	5451844. 181	1589. 413	0. 295	0. 244	0. 737	0. 006
0. 003	0. 002							

630 0.076	REL_143803_1 0.004	1611542. 226	5453704. 317	1531. 523	0. 191	0. 203	0. 413	0. 125
631 0.028	REL_143804_1 0.017	1610411. 107	5449868. 311	1548. 200	0. 292	0. 263	0. 734	0. 057
632 0.181	REL_143901_1 0.146	1617975. 580	5451050. 231	1530. 915	0. 169	0. 170	0. 260	0. 277
633 0.008	REL_143902_1 0.005	1616942. 520	5447700. 895	1613. 780	0. 293	0. 269	0. 761	0. 017
634 0.061	REL_143903_1 0.010	1613752. 470	5448803. 635	1619. 559	0. 196	0. 217	0. 445	0. 168
635 0.005	REL_143904_1 0.003	1612825. 963	5445217. 323	1643. 822	0. 305	0. 281	0. 790	0. 010
636 0.097	REL_143905_1 0.114	1610142. 960	5446171. 472	1600. 829	0. 271	0. 281	0. 497	0. 245
637 0.139	REL_144001_1 0.149	1620255. 012	5446524. 029	1490. 314	0. 171	0. 169	0. 261	0. 184
638 0.033	REL_144002_1 0.019	1619613. 835	5442756. 567	1570. 074	0. 317	0. 275	0. 796	0. 064
639 0.047	REL_144003_1 0.001	1616345. 450	5444189. 334	1663. 616	0. 202	0. 221	0. 451	0. 076
640 0.014	REL_144004_1 0.008	1615383. 324	5440316. 939	1668. 049	0. 323	0. 293	0. 839	0. 027
641 0.109	REL_144101_1 0.121	1623197. 023	5441853. 628	1552. 571	0. 176	0. 177	0. 274	0. 190
642 0.006	REL_144102_1 0.004	1622215. 000	5438100. 201	1705. 751	0. 346	0. 290	0. 826	0. 012
643 0.077	REL_144103_1 0.019	1618999. 513	5438966. 534	1642. 698	0. 220	0. 237	0. 494	0. 097
644 0.054	REL_144104_1 0.031	1617821. 776	5435587. 426	1713. 093	0. 361	0. 327	0. 950	0. 106
645 0.135	REL_144201_1 0.130	1625352. 465	5436765. 006	1568. 163	0. 189	0. 190	0. 294	0. 299
646 0.011	REL_144202_1 0.006	1624518. 552	5433089. 324	1705. 982	0. 384	0. 310	0. 919	0. 021
647 0.101	REL_144203_1 0.019	1621279. 147	5434172. 317	1697. 178	0. 253	0. 266	0. 561	0. 112
648 0.032	REL_144204_1 0.017	1620516. 820	5430761. 056	1818. 958	0. 437	0. 400	1. 146	0. 062
649 0.109	REL_144205_1 0.138	1617878. 197	5432394. 460	1767. 283	0. 352	0. 394	0. 709	0. 348
650 0.154	REL_144301_1 0.114	1627635. 029	5431856. 438	1591. 646	0. 256	0. 224	0. 385	0. 184
651 0.022	REL_144302_1 0.001	1623757. 327	5429600. 605	1782. 737	0. 429	0. 439	1. 123	0. 041
652 0.075	REL_144303_1 0.090	1619899. 240	5427734. 184	1902. 017	0. 588	0. 807	1. 375	0. 195
653 0.004	REL_150101_1 0.006	1533839. 447	5640162. 519	451. 269	0. 919	1. 382	2. 370	0. 012
654 0.004	REL_150102_1 0.002	1533045. 324	5636602. 301	481. 963	0. 607	0. 600	1. 858	0. 007

655 0.033	REL_150103_1 0.000	1529234.103	5637615.943	520.033	0.505	0.561	1.590	0.065
656 0.004	REL_150104_1 0.003	1527871.360	5633967.683	513.125	0.449	0.336	1.131	0.008
657 0.058	REL_150105_1 0.054	1524607.693	5634862.501	492.459	0.813	0.342	1.218	0.089
658 0.179	REL_150201_1 0.076	1536233.084	5635215.824	488.079	0.564	0.636	1.187	0.038
659 0.051	REL_150202_1 0.028	1535154.377	5631737.844	472.310	0.465	0.484	1.488	0.102
660 0.106	REL_150203_1 0.015	1531599.729	5632769.716	504.981	0.271	0.329	0.780	0.159
661 0.018	REL_150204_1 0.012	1530475.572	5628909.770	501.746	0.400	0.357	1.113	0.037
662 0.097	REL_150301_1 0.107	1538985.689	5630477.527	512.016	0.560	0.527	1.006	0.191
663 0.035	REL_150302_1 0.020	1537611.077	5626982.961	518.866	0.470	0.445	1.345	0.069
664 0.064	REL_150303_1 0.011	1534081.266	5628013.105	472.206	0.272	0.322	0.740	0.030
665 0.030	REL_150304_1 0.020	1532564.800	5624208.597	492.956	0.433	0.353	1.102	0.059
666 0.034	REL_150401_1 0.043	1541467.786	5625286.421	485.416	0.554	0.449	0.925	0.084
667 0.038	REL_150402_1 0.022	1540158.308	5622139.381	521.220	0.499	0.432	1.363	0.075
668 0.093	REL_150403_1 0.007	1536507.757	5623112.548	495.077	0.285	0.313	0.719	0.125
669 0.029	REL_150404_1 0.023	1534554.402	5619238.159	500.593	0.481	0.361	1.119	0.057
670 0.154	REL_150501_1 0.123	1543731.149	5620635.436	493.485	0.554	0.435	0.921	0.188
671 0.053	REL_150502_1 0.035	1543524.337	5616813.518	500.037	0.620	0.431	1.468	0.098
672 0.074	REL_150503_1 0.011	1539337.006	5617900.884	534.957	0.297	0.313	0.731	0.054
673 0.037	REL_150504_1 0.025	1537930.686	5613910.910	522.981	0.426	0.393	1.158	0.075
674 0.109	REL_150601_1 0.140	1546290.981	5615896.477	522.251	0.566	0.451	0.944	0.270
675 0.032	REL_150602_1 0.020	1545235.663	5612690.708	540.963	0.537	0.473	1.470	0.064
676 0.109	REL_150603_1 0.015	1541504.341	5613446.811	512.746	0.298	0.315	0.741	0.084
677 0.010	REL_150604_1 0.006	1540242.217	5609864.275	525.074	0.441	0.358	1.183	0.019
678 0.069	REL_150701_1 0.071	1549018.065	5610919.044	546.065	0.589	0.464	0.967	0.127
679 0.027	REL_150702_1 0.015	1547565.682	5607648.078	532.302	0.517	0.459	1.461	0.054

680 0.126	REL_150703_1 0.022	1543990.745	5608674.588	543.610	0.299	0.319	0.750	0.048
681 0.018	REL_150704_1 0.011	1543207.278	5604271.529	541.378	0.411	0.398	1.194	0.038
682 0.159	REL_150801_1 0.062	1551240.645	5605995.928	559.498	0.564	0.456	0.947	0.048
683 0.029	REL_150802_1 0.017	1550352.312	5602336.541	559.330	0.550	0.436	1.467	0.058
684 0.058	REL_150803_1 0.027	1546425.714	5603829.800	545.433	0.298	0.319	0.748	0.122
685 0.004	REL_150804_1 0.003	1545221.655	5600194.380	562.695	0.440	0.359	1.194	0.009
686 0.122	REL_150901_1 0.068	1553431.957	5600855.409	560.094	0.538	0.437	0.928	0.097
687 0.029	REL_150902_1 0.015	1552527.971	5597293.995	569.321	0.513	0.416	1.404	0.056
688 0.088	REL_150903_1 0.014	1549269.801	5598648.640	550.203	0.299	0.321	0.752	0.116
689 0.016	REL_150904_1 0.011	1547495.943	5594722.208	569.087	0.444	0.383	1.158	0.034
690 0.122	REL_151001_1 0.054	1555544.215	5596233.845	589.914	0.512	0.434	0.904	0.077
691 0.020	REL_151002_1 0.011	1554933.071	5592839.301	596.175	0.514	0.436	1.416	0.039
692 0.075	REL_151003_1 0.008	1551589.339	5593808.190	570.398	0.295	0.316	0.735	0.078
693 0.039	REL_151004_1 0.029	1549621.878	5589968.696	581.809	0.465	0.372	1.150	0.078
694 0.095	REL_151101_1 0.055	1558012.977	5591372.209	568.058	0.508	0.432	0.902	0.061
695 0.018	REL_151102_1 0.010	1557349.406	5588164.622	599.591	0.506	0.444	1.397	0.035
696 0.075	REL_151103_1 0.012	1553813.435	5589200.477	586.412	0.291	0.312	0.724	0.078
697 0.015	REL_151104_1 0.009	1552427.997	5585662.147	612.360	0.434	0.347	1.140	0.028
698 0.163	REL_151201_1 0.101	1560781.968	5586561.393	603.304	0.532	0.438	0.897	0.123
699 0.038	REL_151202_1 0.023	1559948.541	5582964.626	587.030	0.521	0.420	1.394	0.078
700 0.081	REL_151203_1 0.014	1556194.096	5584152.819	583.702	0.289	0.307	0.714	0.099
701 0.003	REL_151204_1 0.002	1555116.216	5580511.536	625.693	0.414	0.358	1.143	0.006
702 0.144	REL_151301_1 0.058	1562879.613	5581675.916	641.517	0.503	0.425	0.882	0.025
703 0.001	REL_151302_1 0.001	1561916.563	5578308.917	640.441	0.471	0.422	1.367	0.002
704 0.048	REL_151303_1 0.018	1558560.995	5579264.796	632.583	0.285	0.305	0.713	0.115

705 0.037	REL_151304_1 0.025	1557074.148	5575804.316	647.982	0.440	0.348	1.138	0.076
706 0.092	REL_151401_1 0.072	1565214.943	5576674.177	625.426	0.478	0.417	0.870	0.108
707 0.050	REL_151402_1 0.028	1564405.284	5573655.829	656.948	0.459	0.431	1.329	0.100
708 0.060	REL_151403_1 0.003	1560886.903	5574410.096	630.458	0.277	0.302	0.705	0.146
709 0.017	REL_151404_1 0.011	1559508.885	5570806.437	624.452	0.429	0.346	1.114	0.033
710 0.044	REL_151501_1 0.026	1567587.414	5571917.078	597.788	0.438	0.410	0.837	0.089
711 0.023	REL_151502_1 0.013	1566975.784	5568695.483	646.773	0.429	0.410	1.262	0.045
712 0.103	REL_151503_1 0.012	1563592.496	5569780.805	657.460	0.265	0.298	0.688	0.104
713 0.026	REL_151504_1 0.014	1562408.018	5566175.214	682.129	0.386	0.325	1.081	0.050
714 0.093	REL_151601_1 0.095	1570280.663	5567480.287	614.657	0.400	0.407	0.770	0.167
715 0.049	REL_151602_1 0.031	1569861.848	5563616.811	628.391	0.402	0.361	1.096	0.096
716 0.189	REL_151603_1 0.046	1565768.793	5564714.006	638.616	0.244	0.277	0.636	0.030
717 0.001	REL_151604_1 0.001	1564551.646	5561043.777	656.599	0.391	0.316	1.003	0.003
718 0.092	REL_151701_1 0.127	1573115.153	5562465.310	636.499	0.372	0.357	0.668	0.236
719 0.014	REL_151702_1 0.008	1571753.485	5558978.014	650.931	0.341	0.311	0.952	0.029
720 0.124	REL_151703_1 0.018	1568259.848	5559883.171	651.903	0.230	0.253	0.580	0.104
721 0.026	REL_151704_1 0.017	1566881.884	5556531.786	680.343	0.386	0.301	0.970	0.053
722 0.121	REL_151801_1 0.166	1575532.301	5557497.228	659.587	0.427	0.309	0.696	0.320
723 0.015	REL_151802_1 0.009	1574434.305	5554064.511	673.963	0.426	0.332	1.103	0.029
724 0.143	REL_151803_1 0.029	1570773.978	5554900.318	681.869	0.240	0.255	0.594	0.106
725 0.021	REL_151804_1 0.014	1569286.006	5551420.539	691.595	0.397	0.324	1.019	0.041
726 0.201	REL_151901_1 0.131	1577287.033	5552792.399	680.143	0.443	0.335	0.770	0.231
727 0.007	REL_151902_1 0.004	1576944.085	5549319.522	696.258	0.477	0.382	1.267	0.014
728 0.021	REL_151903_1 0.009	1573556.301	5550259.337	700.656	0.264	0.276	0.651	0.084
729 0.011	REL_151904_1 0.007	1571960.179	5546744.114	716.989	0.402	0.333	1.078	0.021

730	REL_152001_1	1580062. 896	5547854. 005	704. 488	0. 489	0. 383	0. 836	0. 170
0. 160	0. 103							
731	REL_152002_1	1578447. 090	5544553. 664	716. 547	0. 402	0. 401	1. 290	0. 079
0. 039	0. 017							
732	REL_152003_1	1575821. 356	5545379. 127	709. 868	0. 272	0. 293	0. 682	0. 062
0. 030	0. 003							
733	REL_152004_1	1574554. 515	5541876. 747	724. 522	0. 401	0. 347	1. 095	0. 049
0. 025	0. 015							
734	REL_152101_1	1582818. 743	5542726. 774	730. 711	0. 521	0. 413	0. 875	0. 165
0. 160	0. 100							
735	REL_152102_1	1581764. 786	5539063. 235	742. 648	0. 493	0. 404	1. 361	0. 113
0. 055	0. 030							
736	REL_152103_1	1578164. 503	5540632. 315	736. 430	0. 279	0. 305	0. 698	0. 064
0. 028	0. 001							
737	REL_152104_1	1576762. 315	5536884. 254	744. 362	0. 429	0. 357	1. 127	0. 060
0. 029	0. 020							
738	REL_152201_1	1585193. 864	5538086. 469	754. 301	0. 533	0. 429	0. 888	0. 081
0. 188	0. 074							
739	REL_152202_1	1584606. 363	5534680. 952	766. 728	0. 554	0. 443	1. 390	0. 010
0. 005	0. 003							
740	REL_152203_1	1580573. 619	5535637. 702	757. 663	0. 282	0. 309	0. 706	0. 017
0. 019	0. 005							
741	REL_152204_1	1579313. 201	5532197. 848	765. 955	0. 421	0. 349	1. 122	0. 070
0. 036	0. 022							
742	REL_152301_1	1587361. 312	5533386. 632	775. 919	0. 515	0. 434	0. 880	0. 167
0. 181	0. 111							
743	REL_152302_1	1586720. 992	5529752. 430	789. 798	0. 508	0. 434	1. 369	0. 052
0. 027	0. 016							
744	REL_152303_1	1583217. 450	5530981. 183	785. 415	0. 287	0. 313	0. 709	0. 084
0. 045	0. 002							
745	REL_152304_1	1581966. 461	5527345. 923	805. 951	0. 407	0. 348	1. 116	0. 011
0. 006	0. 003							
746	REL_152401_1	1589913. 340	5528006. 639	801. 833	0. 498	0. 420	0. 858	0. 209
0. 102	0. 104							
747	REL_152402_1	1588504. 425	5524262. 576	816. 689	0. 420	0. 383	1. 275	0. 107
0. 051	0. 022							
748	REL_152403_1	1585186. 940	5525951. 837	808. 815	0. 277	0. 304	0. 685	0. 030
0. 060	0. 015							
749	REL_152404_1	1583789. 722	5522460. 030	873. 181	0. 443	0. 338	1. 073	0. 012
0. 006	0. 004							
750	REL_152501_1	1592165. 795	5523182. 617	829. 082	0. 473	0. 408	0. 826	0. 064
0. 218	0. 067							
751	REL_152502_1	1591120. 492	5520180. 268	839. 375	0. 439	0. 410	1. 243	0. 026
0. 012	0. 007							
752	REL_152503_1	1587888. 764	5520857. 360	830. 668	0. 271	0. 296	0. 669	0. 111
0. 077	0. 031							
753	REL_152504_1	1586297. 864	5517327. 670	857. 683	0. 422	0. 336	1. 039	0. 050
0. 025	0. 018							
754	REL_152601_1	1594598. 682	5518531. 606	852. 773	0. 459	0. 394	0. 792	0. 151
0. 154	0. 109							

755	REL_152602_1	1593741. 653	5515195. 773	864. 468	0. 432	0. 374	1. 170	0. 047
0. 024	0. 014							
756	REL_152603_1	1590092. 229	5516241. 962	855. 165	0. 263	0. 281	0. 637	0. 077
0. 060	0. 020							
757	REL_152604_1	1589172. 105	5512241. 461	871. 394	0. 374	0. 332	0. 993	0. 036
0. 018	0. 011							
758	REL_152701_1	1597188. 064	5513510. 046	879. 870	0. 431	0. 363	0. 738	0. 083
0. 112	0. 060							
759	REL_152702_1	1596206. 559	5510165. 670	893. 919	0. 392	0. 337	1. 066	0. 023
0. 012	0. 006							
760	REL_152703_1	1592791. 597	5511088. 359	883. 453	0. 246	0. 260	0. 587	0. 139
0. 073	0. 018							
761	REL_152704_1	1591543. 907	5507577. 413	920. 952	0. 358	0. 298	0. 911	0. 058
0. 028	0. 018							
762	REL_152801_1	1599800. 875	5508898. 664	911. 930	0. 395	0. 345	0. 683	0. 196
0. 122	0. 114							
763	REL_152802_1	1598734. 436	5505326. 847	919. 353	0. 361	0. 320	1. 007	0. 056
0. 032	0. 016							
764	REL_152803_1	1595204. 898	5506441. 208	909. 911	0. 223	0. 237	0. 524	0. 124
0. 081	0. 009							
765	REL_152804_1	1594053. 318	5503026. 674	1006. 778	0. 335	0. 270	0. 840	0. 065
0. 038	0. 021							
766	REL_153002_1	1601379. 265	5500699. 784	947. 862	0. 361	0. 320	0. 969	0. 039
0. 019	0. 011							
767	REL_153003_1	1597725. 453	5502253. 952	930. 632	0. 219	0. 235	0. 514	0. 081
0. 092	0. 017							
768	REL_153004_1	1596545. 615	5498460. 616	990. 189	0. 348	0. 277	0. 870	0. 037
0. 019	0. 011							
769	REL_153102_1	1603654. 392	5495635. 821	976. 537	0. 349	0. 309	0. 954	0. 017
0. 009	0. 005							
770	REL_153103_1	1600580. 466	5496654. 441	956. 144	0. 223	0. 243	0. 536	0. 091
0. 036	0. 003							
771	REL_153202_1	1606184. 162	5490801. 091	1005. 012	0. 353	0. 304	0. 944	0. 033
0. 017	0. 009							
772	REL_153203_1	1602954. 273	5492124. 896	986. 818	0. 224	0. 244	0. 534	0. 089
0. 035	0. 004							
773	REL_153204_1	1601539. 674	5488341. 534	1011. 416	0. 353	0. 300	0. 904	0. 027
0. 014	0. 008							
774	REL_153302_1	1608534. 308	5486168. 637	1089. 330	0. 340	0. 305	0. 925	0. 060
0. 032	0. 017							
775	REL_153303_1	1605427. 941	5486994. 504	1047. 558	0. 223	0. 240	0. 527	0. 089
0. 034	0. 020							
776	REL_153304_1	1603906. 983	5484014. 437	1074. 828	0. 358	0. 281	0. 892	0. 004
0. 002	0. 001							
777	REL_153402_1	1611176. 964	5481481. 661	1150. 398	0. 340	0. 305	0. 900	0. 001
0. 000	0. 000							
778	REL_153403_1	1607946. 639	5482386. 313	1185. 506	0. 219	0. 236	0. 509	0. 075
0. 097	0. 026							
779	REL_153404_1	1606559. 235	5479271. 712	1179. 479	0. 342	0. 273	0. 855	0. 082
0. 045	0. 025							

780 0. 003	REL_153502_1 0. 002	1613793. 923	5476355. 798	1183. 549	0. 333	0. 285	0. 866	0. 005
781 0. 041	REL_153503_1 0. 029	1610582. 606	5477490. 394	1188. 495	0. 216	0. 231	0. 501	0. 136
782 0. 020	REL_153504_1 0. 011	1609138. 529	5474362. 919	1203. 161	0. 332	0. 266	0. 831	0. 038
783 0. 019	REL_153602_1 0. 011	1616184. 376	5471381. 846	1232. 371	0. 307	0. 256	0. 795	0. 039
784 0. 037	REL_153603_1 0. 013	1613269. 602	5472533. 271	1225. 078	0. 205	0. 217	0. 469	0. 030
785 0. 019	REL_153604_1 0. 014	1611431. 635	5468948. 306	1266. 841	0. 330	0. 269	0. 785	0. 040
786 0. 032	REL_153702_1 0. 018	1618714. 794	5466333. 247	1259. 506	0. 307	0. 249	0. 776	0. 063
787 0. 076	REL_153703_1 0. 010	1615202. 150	5467974. 127	1291. 676	0. 189	0. 195	0. 398	0. 068
788 0. 002	REL_153704_1 0. 001	1614013. 031	5464586. 068	1343. 271	0. 306	0. 250	0. 750	0. 004
789 0. 134	REL_153801 0. 169	1621874. 800	5464586. 797	1174. 522	0. 416	0. 441	0. 959	0. 358
790 0. 023	REL_153802_1 0. 014	1621167. 009	5461624. 763	1299. 784	0. 331	0. 267	0. 837	0. 047
791 0. 056	REL_153803_1 0. 031	1617830. 890	5462768. 394	1339. 979	0. 200	0. 216	0. 461	0. 190
792 0. 017	REL_153804_1 0. 010	1616554. 066	5459406. 192	1461. 583	0. 307	0. 266	0. 781	0. 035
793 0. 084	REL_153901 0. 147	1624206. 334	5460248. 618	1208. 032	0. 319	0. 267	0. 554	0. 378
794 0. 022	REL_153902_1 0. 013	1623442. 528	5456657. 518	1229. 644	0. 324	0. 269	0. 840	0. 047
795 0. 019	REL_153903_1 0. 014	1620041. 213	5457935. 467	1390. 819	0. 203	0. 220	0. 470	0. 091
796 0. 010	REL_153904_1 0. 006	1618630. 183	5454854. 202	1510. 263	0. 323	0. 260	0. 778	0. 021
797 0. 050	REL_154001 0. 137	1626564. 818	5454886. 681	1247. 106	0. 302	0. 260	0. 538	0. 314
798 0. 017	REL_154002_1 0. 008	1625728. 029	5451283. 916	1273. 001	0. 306	0. 251	0. 810	0. 032
799 0. 045	REL_154003_1 0. 032	1622405. 546	5452952. 206	1332. 815	0. 202	0. 220	0. 470	0. 167
800 0. 029	REL_154004_1 0. 019	1620919. 277	5449824. 340	1413. 917	0. 332	0. 260	0. 792	0. 058
801 0. 168	REL_154101 0. 105	1628144. 514	5450181. 734	1278. 872	0. 257	0. 242	0. 480	0. 226
802 0. 012	REL_154102_1 0. 007	1628131. 108	5446846. 527	1325. 994	0. 299	0. 250	0. 775	0. 024
803 0. 068	REL_154103_1 0. 010	1624419. 784	5448492. 396	1417. 298	0. 195	0. 208	0. 436	0. 054
804 0. 001	REL_154104_1 0. 000	1623591. 356	5445043. 937	1451. 536	0. 311	0. 257	0. 772	0. 001

805	REL_154201	1630805. 276	5445389. 408	1333. 095	0. 286	0. 247	0. 519	0. 197
0. 101	0. 088							
806	REL_154202_1	1630724. 347	5442118. 545	1331. 319	0. 331	0. 268	0. 826	0. 074
0. 038	0. 022							
807	REL_154203_1	1627077. 182	5443529. 570	1508. 418	0. 201	0. 219	0. 462	0. 026
0. 062	0. 017							
808	REL_154204_1	1626021. 355	5440097. 742	1581. 993	0. 322	0. 275	0. 798	0. 009
0. 004	0. 003							
809	REL_154302_1	1633032. 235	5437290. 678	1338. 105	0. 324	0. 277	0. 842	0. 010
0. 005	0. 003							
810	REL_154303_1	1629204. 672	5438741. 359	1511. 525	0. 210	0. 229	0. 476	0. 072
0. 026	0. 015							
811	REL_154304_1	1628155. 652	5434912. 659	1536. 834	0. 373	0. 310	0. 877	0. 092
0. 046	0. 033							
812	REL_154401	1635687. 612	5435612. 232	1404. 204	0. 299	0. 264	0. 547	0. 153
0. 196	0. 089							
813	REL_154402_1	1635272. 326	5432672. 378	1365. 888	0. 328	0. 284	0. 871	0. 055
0. 028	0. 015							
814	REL_154403_1	1631896. 604	5434017. 984	1414. 623	0. 223	0. 241	0. 522	0. 148
0. 085	0. 006							
815	REL_154404_1	1631043. 628	5430302. 172	1498. 967	0. 366	0. 313	0. 933	0. 046
0. 023	0. 014							
816	REL_154501	1638282. 851	5430699. 675	1391. 098	0. 315	0. 266	0. 562	0. 277
0. 033	0. 109							
817	REL_154502_1	1637891. 552	5427771. 079	1396. 028	0. 346	0. 289	0. 888	0. 050
0. 026	0. 015							
818	REL_154503_1	1634396. 631	5428967. 703	1467. 226	0. 237	0. 255	0. 550	0. 007
0. 100	0. 024							
819	REL_154504_1	1633608. 981	5425607. 311	1482. 993	0. 376	0. 328	0. 973	0. 013
0. 007	0. 004							
820	REL_154505_1	1630408. 734	5427044. 424	1542. 687	0. 372	0. 333	0. 640	0. 224
0. 096	0. 112							
821	REL_154601	1640577. 261	5425862. 813	1418. 785	0. 317	0. 272	0. 572	0. 201
0. 099	0. 088							
822	REL_154602_1	1640364. 898	5422901. 749	1430. 053	0. 354	0. 300	0. 912	0. 007
0. 003	0. 002							
823	REL_154603_1	1636976. 130	5423788. 342	1461. 524	0. 245	0. 269	0. 570	0. 079
0. 039	0. 019							
824	REL_154604_1	1635801. 811	5420597. 917	1505. 401	0. 407	0. 356	1. 023	0. 053
0. 026	0. 017							
825	REL_154605_1	1632709. 514	5422104. 826	1548. 670	0. 401	0. 356	0. 673	0. 262
0. 049	0. 101							
826	REL_154701	1643305. 039	5420884. 113	1495. 597	0. 335	0. 275	0. 588	0. 217
0. 071	0. 096							
827	REL_154702_1	1643214. 686	5418331. 560	1455. 320	0. 395	0. 312	0. 951	0. 054
0. 029	0. 019							
828	REL_154703_1	1639479. 952	5419147. 248	1457. 357	0. 248	0. 273	0. 594	0. 058
0. 063	0. 020							
829	REL_154704_1	1638163. 827	5415750. 153	1483. 301	0. 421	0. 369	1. 088	0. 020
0. 010	0. 006							

830 0. 039	REL_154705_1 0. 160	1635059. 825	5417247. 468	1537. 089	0. 416	0. 367	0. 703	0. 346
831 0. 111	REL_154901 0. 100	1645492. 445	5415970. 196	1549. 212	0. 322	0. 277	0. 586	0. 242
832 0. 017	REL_154902_1 0. 010	1645115. 894	5413394. 172	1544. 259	0. 359	0. 319	0. 983	0. 037
833 0. 061	REL_154903_1 0. 004	1641764. 130	5414596. 465	1487. 602	0. 250	0. 273	0. 592	0. 102
834 0. 039	REL_154904_1 0. 025	1640306. 472	5411132. 985	1514. 572	0. 450	0. 346	1. 118	0. 077
835 0. 096	REL_154905_1 0. 126	1637137. 082	5412182. 611	1536. 757	0. 440	0. 367	0. 717	0. 235
836 0. 094	REL_155001 0. 099	1648228. 556	5411309. 477	1593. 007	0. 339	0. 279	0. 599	0. 217
837 0. 034	REL_155002_1 0. 022	1647702. 939	5408636. 991	1590. 611	0. 368	0. 317	0. 947	0. 071
838 0. 007	REL_155003_1 0. 013	1644319. 305	5409391. 880	1512. 268	0. 248	0. 264	0. 588	0. 119
839 0. 008	REL_155004_1 0. 005	1642873. 776	5406097. 741	1530. 107	0. 414	0. 329	1. 028	0. 015
840 0. 101	REL_155005_1 0. 054	1639433. 897	5407318. 480	1553. 144	0. 303	0. 259	0. 461	0. 164
841 0. 059	REL_155101 0. 111	1650485. 975	5406362. 327	1655. 693	0. 328	0. 275	0. 589	0. 271
842 0. 006	REL_155102_1 0. 004	1650248. 771	5403442. 946	1684. 031	0. 370	0. 298	0. 929	0. 011
843 0. 132	REL_155103_1 0. 044	1646572. 712	5404355. 771	1604. 012	0. 242	0. 256	0. 563	0. 100
844 0. 026	REL_155104_1 0. 015	1645513. 851	5401053. 638	1605. 232	0. 381	0. 324	0. 987	0. 051
845 0. 046	REL_155105_1 0. 036	1642021. 008	5402371. 793	1571. 911	0. 249	0. 233	0. 399	0. 135
846 0. 016	REL_155202_1 0. 011	1652865. 800	5399170. 036	1858. 074	0. 353	0. 312	0. 852	0. 030
847 0. 061	REL_155203_1 0. 033	1649167. 662	5399664. 502	1736. 542	0. 229	0. 242	0. 516	0. 140
848 0. 025	REL_155204_1 0. 014	1648049. 422	5396358. 796	1715. 907	0. 365	0. 308	0. 923	0. 046
849 0. 053	REL_155205_1 0. 065	1645045. 950	5397742. 109	1595. 376	0. 219	0. 217	0. 359	0. 110
850 0. 101	REL_155301 0. 082	1655154. 246	5396691. 548	2139. 677	0. 294	0. 257	0. 517	0. 184
851 0. 002	REL_155302_1 0. 001	1655015. 891	5393916. 742	2298. 671	0. 325	0. 279	0. 796	0. 004
852 0. 039	REL_155303_1 0. 002	1651698. 999	5395098. 364	2028. 530	0. 224	0. 235	0. 489	0. 064
853 0. 026	REL_155304_1 0. 015	1650534. 570	5391977. 126	2444. 407	0. 355	0. 273	0. 814	0. 049
854 0. 100	REL_155305_1 0. 070	1647635. 427	5392764. 509	1735. 054	0. 212	0. 206	0. 333	0. 111

855 0.094	REL_155401 0.132	1658086.446	5392044.413	2387.217	0.310	0.256	0.509	0.308
856 0.048	REL_155402_1 0.024	1657241.122	5388713.466	2513.932	0.307	0.265	0.762	0.095
857 0.083	REL_155403_1 0.013	1653719.821	5390033.593	2517.758	0.222	0.228	0.456	0.076
858 0.015	REL_155404_1 0.011	1653116.842	5385881.307	1900.589	0.365	0.339	0.896	0.031
859 0.184	REL_155405_1 0.130	1650199.236	5388422.253	1811.467	0.208	0.191	0.310	0.232
860 0.107	REL_155501 0.049	1659093.501	5386551.106	2580.359	0.270	0.252	0.510	0.155
861 0.044	REL_155502_1 0.026	1660049.869	5384016.816	2361.700	0.359	0.303	0.873	0.086
862 0.035	REL_155503_1 0.006	1656623.761	5385209.066	2126.126	0.231	0.249	0.514	0.096
863 0.018	REL_155504_1 0.012	1655467.869	5381551.967	1907.302	0.385	0.340	0.939	0.036
864 0.189	REL_155505_1 0.051	1652395.183	5383558.840	1825.202	0.231	0.222	0.369	0.142
865 0.059	REL_155601 0.064	1663136.334	5382219.850	2845.360	0.419	0.313	0.623	0.123
866 0.004	REL_155602_1 0.003	1662238.471	5379366.310	2969.492	0.413	0.364	0.981	0.008
867 0.065	REL_155603_1 0.014	1659027.754	5380183.873	2249.020	0.255	0.281	0.560	0.077
868 0.043	REL_155604_1 0.027	1657979.598	5376804.276	1879.626	0.422	0.384	1.066	0.085
869 0.083	REL_155605_1 0.088	1655154.956	5378516.876	1831.195	0.243	0.238	0.394	0.195
870 0.078	REL_155701 0.088	1664409.898	5376982.925	2954.058	0.402	0.369	0.684	0.249
871 0.006	REL_155702_1 0.003	1665109.011	5374210.186	2313.021	0.558	0.468	1.320	0.011
872 0.028	REL_155703_1 0.010	1661789.085	5375476.478	2163.499	0.302	0.332	0.649	0.047
873 0.011	REL_155704_1 0.007	1660716.980	5371725.081	1960.796	0.491	0.453	1.233	0.023
874 0.054	REL_155705_1 0.099	1657529.024	5373785.618	1839.140	0.272	0.266	0.432	0.195
875 0.152	REL_155801 0.090	1668070.764	5372781.321	2237.069	0.650	0.499	0.990	0.144
876 0.013	REL_155802_1 0.008	1667288.029	5369892.295	2038.460	0.693	0.612	1.712	0.026
877 0.164	REL_155803_1 0.063	1664109.764	5370707.207	2013.097	0.384	0.399	0.805	0.178
878 0.009	REL_155804_1 0.005	1662785.831	5367533.638	1973.422	0.645	0.512	1.537	0.018
879 0.080	REL_155805_1 0.082	1659186.056	5368470.505	1833.270	0.336	0.322	0.528	0.185

880	REL_155901_1	1670370. 520	5368273. 201	2079. 325	1. 400	0. 696	2. 105	0. 177
0. 116	0. 098							
881	REL_155902_1	1666342. 618	5366055. 344	1973. 532	0. 656	0. 746	1. 851	0. 032
0. 016	0. 000							
882	REL_155903_1	1662322. 490	5364107. 905	1865. 146	0. 564	0. 560	0. 994	0. 074
0. 093	0. 052							
883	REL_26012	1638746. 401	5404727. 759	1562. 114	0. 463	0. 402	1. 207	0. 020
0. 010	0. 005							
884	REL_26013	1635152. 195	5406003. 496	1615. 458	0. 511	0. 601	1. 526	0. 063
0. 033	0. 001							
885	REL_26014	1634748. 161	5402322. 593	1639. 777	0. 550	0. 511	1. 522	0. 046
0. 023	0. 012							
886	REL_26015	1630936. 404	5403635. 063	1759. 056	1. 340	0. 619	1. 971	0. 064
0. 044	0. 038							
887	REL_26021	1641849. 611	5403602. 792	1563. 572	0. 393	0. 361	0. 712	0. 129
0. 143	0. 083							
888	REL_26022	1641596. 367	5399820. 022	1599. 258	0. 436	0. 352	1. 076	0. 032
0. 016	0. 010							
889	REL_26023	1638136. 924	5401082. 756	1603. 796	0. 316	0. 342	0. 741	0. 096
0. 156	0. 051							
890	REL_26024	1637429. 805	5397623. 919	1644. 109	0. 451	0. 444	1. 319	0. 002
0. 001	0. 001							
891	REL_26025	1633892. 533	5398689. 898	1682. 744	0. 609	0. 483	1. 001	0. 073
0. 137	0. 062							
892	REL_26031	1644774. 649	5398678. 414	1585. 552	0. 380	0. 320	0. 624	0. 157
0. 114	0. 094							
893	REL_26032	1644088. 892	5394941. 653	1603. 078	0. 430	0. 333	1. 027	0. 045
0. 023	0. 014							
894	REL_26033	1640707. 789	5396253. 434	1586. 217	0. 288	0. 310	0. 659	0. 037
0. 082	0. 018							
895	REL_26034	1639954. 769	5392839. 697	1611. 787	0. 415	0. 418	1. 261	0. 025
0. 012	0. 005							
896	REL_26035	1636485. 915	5394158. 102	1729. 793	0. 499	0. 435	0. 850	0. 251
0. 009	0. 092							
897	REL_26041	1647146. 009	5393888. 197	1686. 660	0. 362	0. 289	0. 533	0. 228
0. 056	0. 113							
898	REL_26042	1646427. 407	5390088. 078	1691. 331	0. 415	0. 327	1. 005	0. 003
0. 002	0. 001							
899	REL_26043	1642905. 640	5391271. 630	1624. 964	0. 279	0. 287	0. 593	0. 040
0. 009	0. 004							
900	REL_26044	1642284. 101	5387781. 862	1653. 400	0. 433	0. 403	1. 246	0. 017
0. 008	0. 004							
901	REL_26045	1639092. 719	5389235. 450	1698. 537	0. 451	0. 399	0. 767	0. 172
0. 136	0. 089							
902	REL_26052	1648535. 693	5385272. 010	1746. 906	0. 395	0. 345	1. 042	0. 057
0. 028	0. 016							
903	REL_26053	1645320. 546	5386469. 246	1704. 451	0. 284	0. 297	0. 640	0. 126
0. 066	0. 018							
904	REL_26054	1644521. 837	5383012. 055	1702. 086	0. 453	0. 404	1. 251	0. 105
0. 052	0. 026							

905	REL_26055	1641134. 328	5384301. 449	1725. 380	0. 495	0. 416	0. 826	0. 069
0. 043	0. 036							
906	REL_26061	1651763. 914	5384368. 905	1808. 174	0. 371	0. 327	0. 636	0. 124
0. 133	0. 086							
907	REL_26062	1651090. 683	5380272. 831	1778. 356	0. 422	0. 345	1. 080	0. 002
0. 001	0. 001							
908	REL_26063	1647617. 541	5381580. 623	1734. 694	0. 295	0. 315	0. 694	0. 129
0. 142	0. 023							
909	REL_26064	1647009. 545	5378133. 266	1763. 166	0. 454	0. 428	1. 286	0. 084
0. 041	0. 020							
910	REL_26065	1643550. 013	5379470. 951	1876. 082	0. 499	0. 437	0. 848	0. 202
0. 042	0. 089							
911	REL_26071	1654162. 137	5379514. 166	1831. 300	0. 397	0. 334	0. 670	0. 153
0. 088	0. 087							
912	REL_26072	1653527. 476	5375460. 161	1796. 176	0. 460	0. 372	1. 154	0. 031
0. 016	0. 009							
913	REL_26073	1650241. 906	5376585. 328	1745. 499	0. 309	0. 335	0. 725	0. 105
0. 105	0. 023							
914	REL_26074	1649451. 484	5373287. 341	1901. 208	0. 477	0. 467	1. 349	0. 041
0. 020	0. 010							
915	REL_26075	1646040. 546	5374481. 905	1917. 559	0. 507	0. 482	0. 889	0. 213
0. 123	0. 112							
916	REL_26081	1657159. 318	5374297. 046	1814. 247	0. 473	0. 359	0. 730	0. 244
0. 032	0. 119							
917	REL_26082	1655986. 291	5370591. 766	1864. 860	0. 525	0. 420	1. 299	0. 081
0. 041	0. 024							
918	REL_26083	1652574. 440	5371848. 782	1852. 315	0. 335	0. 365	0. 773	0. 047
0. 079	0. 019							
919	REL_26084	1651990. 398	5368449. 954	2024. 224	0. 524	0. 519	1. 485	0. 058
0. 029	0. 014							
920	REL_26085	1648544. 052	5369958. 131	2017. 033	0. 530	0. 520	0. 950	0. 205
0. 065	0. 092							
921	REL_26091	1659184. 409	5369678. 503	1831. 139	0. 543	0. 415	0. 862	0. 147
0. 120	0. 092							
922	REL_26092	1658284. 384	5365693. 886	1992. 560	0. 621	0. 518	1. 579	0. 042
0. 022	0. 012							
923	REL_26093	1655140. 743	5367182. 271	1982. 907	0. 383	0. 412	0. 859	0. 013
0. 009	0. 002							
924	REL_26094	1654305. 237	5363516. 239	2086. 477	0. 655	0. 634	1. 791	0. 016
0. 008	0. 004							
925	REL_26095	1651050. 132	5364944. 112	2123. 522	0. 605	0. 609	1. 062	0. 198
0. 109	0. 099							
926	REL_26101	1661479. 949	5365061. 033	1860. 057	1. 173	0. 566	1. 795	0. 123
0. 082	0. 072							
927	REL_26105	1653086. 851	5360011. 391	2222. 573	1. 028	1. 390	2. 210	0. 132
0. 046	0. 068							
928	REL_27011_1	1533236. 322	5535715. 204	597. 243	0. 280	0. 269	0. 476	0. 164
0. 042	0. 063							
929	REL_27012_1	1532661. 704	5532564. 824	605. 466	0. 319	0. 326	0. 619	0. 096
0. 134	0. 035							

930	REL_27013_1	1528438. 633	5533075. 643	608. 589	0. 501	0. 594	1. 725	0. 032
0. 017	0. 001							
931	REL_27014_1	1527576. 083	5529828. 802	682. 853	0. 624	0. 570	1. 788	0. 014
0. 007	0. 004							
932	REL_27015_1	1524317. 106	5530952. 686	769. 040	1. 378	0. 651	2. 229	0. 004
0. 003	0. 002							
933	REL_27021_1	1535726. 387	5530779. 132	627. 453	0. 213	0. 204	0. 336	0. 168
0. 108	0. 061							
934	REL_27023_1	1531181. 977	5528315. 123	626. 319	0. 323	0. 354	0. 797	0. 130
0. 139	0. 050							
935	REL_27024_1	1530423. 686	5524879. 702	639. 049	0. 517	0. 499	1. 572	0. 056
0. 028	0. 014							
936	REL_27025_1	1526771. 514	5526274. 207	716. 545	0. 661	0. 526	1. 123	0. 021
0. 089	0. 037							
937	REL_27031_1	1538588. 150	5526709. 290	745. 383	0. 199	0. 189	0. 306	0. 141
0. 105	0. 090							
938	REL_27032_1	1538008. 911	5522951. 667	661. 628	0. 256	0. 234	0. 431	0. 097
0. 085	0. 030							
939	REL_27033_1	1534060. 483	5523543. 126	643. 891	0. 309	0. 322	0. 732	0. 035
0. 066	0. 011							
940	REL_27034_1	1532790. 530	5520314. 169	654. 901	0. 522	0. 459	1. 529	0. 064
0. 031	0. 015							
941	REL_27035_1	1529165. 403	5521518. 324	726. 815	0. 601	0. 495	1. 031	0. 313
0. 043	0. 136							
942	REL_27041_1	1540633. 900	5521103. 620	799. 624	0. 210	0. 205	0. 333	0. 160
0. 131	0. 083							
943	REL_27042_1	1540355. 453	5518117. 232	770. 805	0. 305	0. 288	0. 547	0. 086
0. 033	0. 023							
944	REL_27043_1	1536018. 165	5518621. 556	668. 662	0. 331	0. 336	0. 777	0. 125
0. 105	0. 012							
945	REL_27044_1	1535040. 930	5515440. 020	677. 905	0. 573	0. 486	1. 611	0. 056
0. 027	0. 014							
946	REL_27045_1	1531742. 141	5516287. 987	751. 345	0. 604	0. 546	1. 072	0. 205
0. 138	0. 113							
947	REL_27051_1	1543362. 486	5516496. 316	834. 175	0. 230	0. 229	0. 385	0. 149
0. 162	0. 104							
948	REL_27052_1	1542577. 498	5512984. 676	831. 475	0. 578	0. 415	1. 285	0. 091
0. 046	0. 034							
949	REL_27053_1	1538451. 940	5513568. 041	693. 549	0. 378	0. 367	0. 848	0. 056
0. 031	0. 012							
950	REL_27054_1	1537468. 051	5510528. 749	701. 391	0. 675	0. 567	1. 867	0. 041
0. 020	0. 011							
951	REL_27055_1	1534301. 138	5511585. 277	693. 725	0. 639	0. 617	1. 183	0. 109
0. 073	0. 058							
952	REL_27061_1	1545570. 165	5511014. 347	821. 048	0. 401	0. 380	0. 774	0. 122
0. 143	0. 065							
953	REL_27062_1	1541011. 946	5508927. 528	740. 555	0. 646	0. 677	1. 819	0. 128
0. 064	0. 001							
954	REL_27063_1	1536489. 095	5506824. 339	719. 304	1. 025	1. 392	2. 439	0. 157
0. 054	0. 073							

955	REL_28011_1	1537013. 340	5549523. 002	721. 217	0. 249	0. 245	0. 438	0. 177
0. 161	0. 132							
956	REL_28012_1	1536127. 402	5546531. 011	728. 106	0. 457	0. 372	1. 150	0. 014
0. 007	0. 005							
957	REL_28013_1	1532045. 175	5547299. 658	691. 049	0. 430	0. 539	1. 468	0. 100
0. 051	0. 002							
958	REL_28014_1	1530946. 756	5544037. 431	576. 269	0. 570	0. 463	1. 579	0. 059
0. 030	0. 017							
959	REL_28015_1	1527491. 964	5545420. 864	559. 883	1. 287	0. 577	2. 022	0. 036
0. 024	0. 020							
960	REL_28021_1	1538813. 431	5544756. 242	715. 438	0. 204	0. 196	0. 338	0. 143
0. 067	0. 062							
961	REL_28022_1	1538752. 538	5541615. 381	732. 537	0. 423	0. 324	1. 018	0. 033
0. 017	0. 012							
962	REL_28023_1	1534607. 528	5542418. 329	716. 040	0. 281	0. 300	0. 704	0. 105
0. 051	0. 013							
963	REL_28024_1	1533468. 961	5539234. 485	656. 715	0. 458	0. 383	1. 248	0. 093
0. 049	0. 027							
964	REL_28025_1	1529874. 541	5540328. 742	581. 074	0. 622	0. 416	0. 994	0. 143
0. 071	0. 089							
965	REL_28031_1	1541536. 749	5539705. 438	771. 102	0. 189	0. 185	0. 314	0. 189
0. 095	0. 087							
966	REL_28032_1	1541154. 983	5536853. 155	756. 602	0. 408	0. 316	0. 990	0. 046
0. 024	0. 016							
967	REL_28033_1	1537140. 114	5537682. 708	745. 514	0. 253	0. 270	0. 608	0. 079
0. 042	0. 011							
968	REL_28034_1	1536224. 030	5534392. 008	730. 396	0. 392	0. 347	1. 107	0. 054
0. 028	0. 014							
969	REL_28041_1	1544015. 690	5535165. 429	788. 193	0. 186	0. 183	0. 308	0. 214
0. 107	0. 089							
970	REL_28042_1	1543571. 394	5532151. 874	762. 371	0. 396	0. 316	0. 964	0. 049
0. 025	0. 017							
971	REL_28043_1	1539609. 545	5532848. 372	776. 015	0. 242	0. 250	0. 553	0. 027
0. 008	0. 001							
972	REL_28044_1	1538625. 066	5529668. 189	756. 741	0. 383	0. 319	1. 023	0. 076
0. 039	0. 021							
973	REL_28051_1	1547067. 503	5530332. 875	782. 316	0. 184	0. 182	0. 307	0. 182
0. 090	0. 122							
974	REL_28052_1	1546318. 234	5527235. 315	777. 169	0. 414	0. 308	0. 958	0. 032
0. 016	0. 012							
975	REL_28053_1	1542120. 519	5527828. 144	794. 389	0. 238	0. 241	0. 526	0. 020
0. 087	0. 024							
976	REL_28054_1	1541032. 862	5524770. 286	799. 628	0. 383	0. 314	1. 002	0. 069
0. 035	0. 020							
977	REL_28061_1	1548925. 872	5525595. 710	779. 682	0. 186	0. 184	0. 312	0. 272
0. 134	0. 098							
978	REL_28062_1	1548518. 877	5522320. 965	790. 217	0. 391	0. 305	0. 947	0. 011
0. 006	0. 004							
979	REL_28063_1	1544521. 727	5523000. 300	798. 349	0. 239	0. 249	0. 548	0. 099
0. 085	0. 021							

980	REL_28064_1	1543512. 507	5519969. 874	818. 585	0. 380	0. 326	1. 010	0. 049
0. 025	0. 014							
981	REL_28065_1	1539995. 987	5521491. 047	789. 463	0. 382	0. 309	0. 619	0. 256
0. 092	0. 140							
982	REL_28071_1	1551466. 792	5520355. 635	834. 186	0. 184	0. 184	0. 311	0. 182
0. 089	0. 079							
983	REL_28072_1	1550965. 415	5517457. 794	893. 204	0. 386	0. 305	0. 946	0. 063
0. 032	0. 021							
984	REL_28073_1	1546813. 126	5518255. 137	819. 743	0. 241	0. 261	0. 571	0. 051
0. 178	0. 050							
985	REL_28074_1	1545847. 145	5515065. 410	852. 513	0. 404	0. 350	1. 084	0. 072
0. 037	0. 022							
986	REL_28075_1	1542327. 787	5516332. 194	830. 734	0. 402	0. 353	0. 675	0. 211
0. 086	0. 112							
987	REL_28081_1	1553527. 535	5515826. 775	1020. 297	0. 182	0. 179	0. 299	0. 223
0. 198	0. 119							
988	REL_28082_1	1553381. 141	5512647. 200	1023. 898	0. 381	0. 304	0. 943	0. 069
0. 037	0. 023							
989	REL_28083_1	1548976. 837	5513586. 020	867. 320	0. 248	0. 269	0. 599	0. 033
0. 096	0. 019							
990	REL_28084_1	1548577. 393	5510208. 369	872. 313	0. 406	0. 359	1. 122	0. 129
0. 069	0. 037							
991	REL_28085_1	1544921. 895	5511441. 174	827. 587	0. 424	0. 370	0. 732	0. 226
0. 097	0. 119							
992	REL_28091_1	1555886. 312	5510774. 861	1050. 756	0. 183	0. 181	0. 298	0. 266
0. 195	0. 145							
993	REL_28092_1	1556063. 566	5507944. 236	1057. 089	0. 395	0. 314	0. 954	0. 076
0. 042	0. 027							
994	REL_28093_1	1551575. 161	5508603. 724	1010. 526	0. 252	0. 277	0. 603	0. 127
0. 122	0. 034							
995	REL_28094_1	1550958. 675	5505447. 196	1035. 128	0. 424	0. 378	1. 136	0. 017
0. 009	0. 005							
996	REL_28095_1	1547652. 727	5506644. 356	867. 507	0. 436	0. 386	0. 752	0. 043
0. 042	0. 027							
997	REL_28101_1	1558930. 787	5506173. 485	1055. 521	0. 184	0. 184	0. 300	0. 320
0. 106	0. 124							
998	REL_28102_1	1558863. 477	5503122. 627	1051. 445	0. 431	0. 319	0. 969	0. 055
0. 027	0. 021							
999	REL_28103_1	1554544. 914	5504108. 964	1058. 295	0. 248	0. 271	0. 585	0. 106
0. 040	0. 014							
1000	REL_28104_1	1553856. 353	5500859. 269	1070. 142	0. 398	0. 362	1. 149	0. 019
0. 009	0. 005							
1001	REL_28105_1	1550311. 815	5502017. 146	987. 103	0. 424	0. 377	0. 729	0. 176
0. 126	0. 082							
1002	REL_28111_1	1561673. 771	5501579. 144	1057. 660	0. 188	0. 187	0. 305	0. 292
0. 116	0. 136							
1003	REL_28112_1	1560897. 198	5497992. 874	1065. 717	0. 414	0. 319	0. 989	0. 040
0. 018	0. 013							
1004	REL_28113_1	1556884. 388	5499315. 875	1076. 338	0. 259	0. 278	0. 601	0. 129
0. 064	0. 019							

1005 0. 011	REL_28114_1 0. 007	1555892. 264	5495771. 904	1074. 139	0. 448	0. 387	1. 196	0. 024
1006 0. 107	REL_28115_1 0. 060	1552460. 865	5496996. 350	978. 419	0. 467	0. 397	0. 766	0. 051
1007 0. 126	REL_28121_1 0. 151	1564004. 223	5495930. 811	1027. 044	0. 197	0. 195	0. 318	0. 279
1008 0. 010	REL_28122_1 0. 007	1563183. 046	5492864. 509	1006. 830	0. 430	0. 325	1. 043	0. 020
1009 0. 103	REL_28123_1 0. 009	1558798. 793	5494323. 807	1104. 014	0. 275	0. 298	0. 646	0. 234
1010 0. 026	REL_28124_1 0. 016	1557986. 201	5490807. 300	1106. 307	0. 485	0. 408	1. 275	0. 055
1011 0. 054	REL_28125_1 0. 064	1554396. 326	5492665. 690	1142. 615	0. 510	0. 407	0. 809	0. 112
1012 0. 073	REL_28131_1 0. 104	1565618. 707	5491044. 406	1099. 163	0. 205	0. 199	0. 320	0. 244
1013 0. 033	REL_28132_1 0. 022	1565317. 463	5488192. 893	1155. 064	0. 419	0. 336	1. 032	0. 067
1014 0. 043	REL_28133_1 0. 010	1561188. 502	5489202. 225	1044. 315	0. 284	0. 307	0. 676	0. 040
1015 0. 037	REL_28134_1 0. 022	1560324. 051	5485791. 266	1089. 904	0. 500	0. 426	1. 314	0. 075
1016 0. 158	REL_28135_1 0. 106	1556885. 030	5487516. 073	1118. 499	0. 518	0. 425	0. 845	0. 172
1017 0. 151	REL_28141_1 0. 125	1568047. 963	5486559. 877	1086. 838	0. 210	0. 200	0. 324	0. 230
1018 0. 026	REL_28142_1 0. 017	1567854. 034	5483274. 182	1088. 520	0. 435	0. 340	1. 056	0. 049
1019 0. 044	REL_28143_1 0. 028	1563667. 375	5484520. 939	1108. 017	0. 289	0. 309	0. 679	0. 145
1020 0. 081	REL_28144_1 0. 042	1563053. 801	5481041. 164	1126. 258	0. 481	0. 422	1. 311	0. 153
1021 0. 173	REL_28145_1 0. 117	1559366. 532	5482465. 154	1164. 812	0. 529	0. 440	0. 863	0. 189
1022 0. 104	REL_28151_1 0. 116	1570362. 361	5481748. 202	1057. 458	0. 215	0. 207	0. 335	0. 239
1023 0. 041	REL_28152_1 0. 030	1570451. 741	5478672. 472	1125. 267	0. 453	0. 357	1. 074	0. 082
1024 0. 154	REL_28153_1 0. 030	1566131. 732	5479723. 815	1068. 967	0. 300	0. 318	0. 702	0. 062
1025 0. 004	REL_28154_1 0. 002	1565560. 931	5476259. 821	1214. 232	0. 497	0. 437	1. 352	0. 008
1026 0. 154	REL_28155_1 0. 102	1561813. 972	5477552. 442	1115. 092	0. 554	0. 466	0. 908	0. 159
1027 0. 147	REL_28161_1 0. 140	1573239. 701	5477013. 491	1148. 699	0. 217	0. 215	0. 345	0. 321
1028 0. 032	REL_28162_1 0. 022	1572676. 616	5473826. 064	1256. 290	0. 454	0. 372	1. 084	0. 065
1029 0. 054	REL_28163_1 0. 002	1568533. 869	5474459. 286	1189. 105	0. 319	0. 340	0. 730	0. 108

1030 0. 004	REL_28164_1 0. 002	1567841. 219	5471460. 425	1246. 967	0. 548	0. 469	1. 429	0. 008
1031 0. 230	REL_28165_1 0. 086	1564622. 573	5473166. 013	1254. 153	0. 541	0. 476	0. 932	0. 178
1032 0. 074	REL_28171_1 0. 125	1575371. 883	5472028. 771	1386. 364	0. 235	0. 271	0. 413	0. 279
1033 0. 005	REL_28172_1 0. 003	1575069. 790	5468881. 922	1319. 616	0. 510	0. 416	1. 194	0. 009
1034 0. 174	REL_28173_1 0. 050	1570875. 303	5470218. 763	1257. 404	0. 341	0. 359	0. 767	0. 082
1035 0. 015	REL_28174_1 0. 008	1570256. 296	5466536. 166	1336. 080	0. 639	0. 534	1. 606	0. 028
1036 0. 069	REL_28175_1 0. 103	1566621. 866	5468268. 942	1220. 860	0. 641	0. 558	1. 070	0. 252
1037 0. 058	REL_28181_1 0. 074	1577479. 909	5467310. 115	1343. 541	0. 313	0. 352	0. 550	0. 144
1038 0. 019	REL_28182_1 0. 001	1573355. 489	5465151. 816	1393. 562	0. 538	0. 609	1. 519	0. 038
1039 0. 065	REL_28183_1 0. 084	1569253. 400	5463540. 054	1239. 859	0. 939	1. 082	2. 006	0. 167
1040 0. 048	REL_8011_2 0. 071	1608433. 945	5513711. 523	909. 256	1. 140	1. 456	2. 615	0. 147
1041 0. 017	REL_8012_2 0. 009	1607223. 112	5509742. 050	930. 403	0. 701	0. 564	2. 009	0. 036
1042 0. 010	REL_8013_2 0. 000	1603648. 279	5511616. 350	916. 506	0. 682	0. 717	1. 965	0. 022
1043 0. 007	REL_8014_2 0. 004	1602557. 198	5507609. 161	929. 797	0. 577	0. 443	1. 457	0. 014
1044 0. 064	REL_8015_2 0. 056	1599128. 879	5509373. 308	908. 614	1. 129	0. 506	1. 726	0. 104
1045 0. 109	REL_8021_2 0. 083	1610714. 474	5508232. 698	942. 098	0. 660	0. 614	1. 285	0. 159
1046 0. 051	REL_8022_2 0. 024	1609497. 249	5504657. 118	960. 702	0. 542	0. 463	1. 655	0. 101
1047 0. 014	REL_8023_2 0. 003	1605841. 062	5506253. 607	945. 514	0. 351	0. 352	0. 851	0. 027
1048 0. 004	REL_8024_2 0. 002	1604842. 519	5502687. 082	957. 622	0. 460	0. 372	1. 222	0. 007
1049 0. 163	REL_8025_2 0. 065	1601240. 199	5504307. 355	936. 315	0. 222	0. 227	0. 377	0. 154
1050 0. 089	REL_8031_2 0. 105	1612915. 274	5503659. 261	969. 486	0. 559	0. 533	1. 085	0. 221
1051 0. 008	REL_8032_2 0. 004	1611954. 239	5499864. 796	987. 292	0. 496	0. 430	1. 485	0. 014
1052 0. 067	REL_8033_2 0. 005	1608398. 166	5501448. 640	974. 327	0. 299	0. 329	0. 778	0. 114
1053 0. 004	REL_8034_2 0. 002	1607398. 075	5497686. 971	983. 132	0. 420	0. 367	1. 165	0. 008
1054 0. 081	REL_8035_2 0. 067	1603765. 583	5499131. 362	961. 167	0. 202	0. 206	0. 344	0. 185

1055	REL_8041_2	1615645. 899	5498910. 939	994. 341	0. 553	0. 481	0. 983	0. 197
0. 041	0. 092							
1056	REL_8042_2	1614528. 839	5495304. 776	1015. 841	0. 497	0. 422	1. 417	0. 045
0. 023	0. 012							
1057	REL_8043_2	1610966. 869	5496652. 607	1001. 204	0. 287	0. 317	0. 740	0. 072
0. 027	0. 004							
1058	REL_8044_2	1610029. 755	5492869. 620	1014. 309	0. 400	0. 362	1. 147	0. 026
0. 013	0. 008							
1059	REL_8045_2	1606275. 986	5494438. 957	987. 277	0. 201	0. 202	0. 337	0. 191
0. 169	0. 106							
1060	REL_8051_2	1618142. 731	5494042. 505	1031. 249	0. 534	0. 444	0. 912	0. 172
0. 088	0. 091							
1061	REL_8052_2	1616927. 611	5490244. 696	1044. 855	0. 472	0. 394	1. 336	0. 061
0. 032	0. 016							
1062	REL_8053_2	1613424. 764	5492164. 433	1027. 967	0. 284	0. 310	0. 714	0. 068
0. 041	0. 003							
1063	REL_8054_2	1612445. 330	5488134. 111	1041. 519	0. 393	0. 348	1. 105	0. 002
0. 001	0. 000							
1064	REL_8055_2	1608806. 344	5489908. 723	1016. 504	0. 200	0. 200	0. 333	0. 114
0. 142	0. 096							
1065	REL_8061_2	1620551. 217	5489473. 068	1089. 373	0. 519	0. 435	0. 870	0. 278
0. 186	0. 159							
1066	REL_8062_2	1619546. 863	5485452. 772	1084. 536	0. 483	0. 389	1. 318	0. 007
0. 003	0. 002							
1067	REL_8063_2	1616028. 502	5487180. 292	1059. 823	0. 278	0. 300	0. 690	0. 107
0. 033	0. 017							
1068	REL_8064_2	1615022. 811	5483519. 023	1063. 996	0. 376	0. 329	1. 099	0. 014
0. 007	0. 004							
1069	REL_8065_2	1611487. 714	5484871. 487	1138. 235	0. 196	0. 195	0. 323	0. 178
0. 164	0. 082							
1070	REL_8071_2	1622682. 175	5484106. 065	1131. 780	0. 468	0. 396	0. 822	0. 302
0. 040	0. 131							
1071	REL_8072_2	1621577. 257	5480487. 042	1117. 719	0. 428	0. 362	1. 227	0. 035
0. 017	0. 009							
1072	REL_8073_2	1618065. 540	5481872. 916	1096. 541	0. 262	0. 284	0. 658	0. 112
0. 034	0. 009							
1073	REL_8074_2	1616729. 637	5478280. 876	1091. 375	0. 404	0. 329	1. 040	0. 024
0. 011	0. 008							
1074	REL_8075_2	1613501. 731	5480025. 344	1144. 750	0. 189	0. 191	0. 318	0. 119
0. 158	0. 092							
1075	REL_8081_2	1624998. 849	5479289. 130	1212. 422	0. 440	0. 377	0. 773	0. 170
0. 132	0. 095							
1076	REL_8082_2	1623881. 798	5475532. 073	1202. 084	0. 396	0. 336	1. 131	0. 016
0. 008	0. 004							
1077	REL_8083_2	1620524. 252	5477042. 788	1125. 390	0. 252	0. 271	0. 623	0. 052
0. 058	0. 017							
1078	REL_8084_2	1619389. 551	5473398. 151	1136. 045	0. 371	0. 315	0. 987	0. 011
0. 005	0. 003							
1079	REL_8085_2	1616044. 606	5475120. 513	1104. 856	0. 178	0. 182	0. 303	0. 224
0. 185	0. 129							

1080 0.121	REL_8091_2 0.128	1627515.438	5474503.440	1256.268	0.417	0.359	0.726	0.247
1081 0.005	REL_8092_2 0.003	1626351.969	5470897.949	1232.195	0.379	0.327	1.083	0.011
1082 0.017	REL_8093_2 0.001	1622865.230	5472453.735	1156.278	0.242	0.256	0.585	0.024
1083 0.021	REL_8094_2 0.012	1622010.505	5468706.166	1172.834	0.354	0.300	0.970	0.041
1084 0.163	REL_8095_2 0.097	1618391.827	5470026.572	1190.544	0.165	0.165	0.268	0.173
1085 0.091	REL_8101_2 0.103	1629940.735	5469639.425	1322.438	0.271	0.245	0.439	0.211
1086 0.013	REL_8102_2 0.007	1628829.479	5465993.728	1262.063	0.357	0.306	1.006	0.026
1087 0.045	REL_8103_2 0.021	1625438.399	5467497.691	1191.555	0.234	0.248	0.568	0.103
1088 0.033	REL_8104_2 0.019	1624413.155	5463916.230	1199.696	0.354	0.294	0.949	0.065
1089 0.113	REL_8105_2 0.062	1620789.468	5465484.920	1183.856	0.193	0.181	0.329	0.111
1090 0.049	REL_8111_2 0.111	1632489.263	5464645.284	1323.127	0.204	0.201	0.336	0.240
1091 0.002	REL_8112_2 0.001	1631211.386	5460933.846	1355.878	0.336	0.282	0.937	0.005
1092 0.028	REL_8113_2 0.024	1627838.220	5462711.563	1278.007	0.226	0.241	0.545	0.160
1093 0.004	REL_8114_2 0.003	1626870.754	5459044.460	1312.714	0.344	0.292	0.917	0.009
1094 0.116	REL_8115_2 0.063	1623309.178	5460723.992	1198.850	0.195	0.185	0.332	0.089
1095 0.108	REL_8121_2 0.109	1634640.874	5459703.735	1479.258	0.186	0.188	0.304	0.259
1096 0.022	REL_8122_2 0.010	1633521.282	5456115.639	1430.525	0.317	0.273	0.885	0.043
1097 0.075	REL_8123_2 0.030	1630185.042	5457755.485	1352.647	0.219	0.234	0.521	0.111
1098 0.019	REL_8124_2 0.012	1629200.297	5454122.128	1374.242	0.340	0.288	0.888	0.040
1099 0.107	REL_8125_2 0.062	1625558.870	5455905.519	1236.338	0.192	0.185	0.326	0.125
1100 0.083	REL_8131_2 0.109	1637070.944	5454842.097	1525.732	0.179	0.180	0.290	0.205
1101 0.024	REL_8132_2 0.012	1635970.397	5451325.223	1548.096	0.312	0.267	0.867	0.047
1102 0.075	REL_8133_2 0.014	1632710.325	5452723.037	1438.892	0.213	0.227	0.503	0.036
1103 0.002	REL_8134_2 0.001	1631541.334	5449396.828	1416.790	0.344	0.279	0.886	0.005
1104 0.087	REL_8135_2 0.066	1627825.957	5450772.304	1273.262	0.188	0.181	0.318	0.164

1105 0. 086	REL_8141_2 0. 124	1639561. 893	5450226. 325	1614. 877	0. 174	0. 174	0. 277	0. 298
1106 0. 005	REL_8142_2 0. 003	1638510. 991	5446550. 751	1552. 708	0. 313	0. 264	0. 845	0. 010
1107 0. 078	REL_8143_2 0. 009	1635142. 023	5448104. 096	1479. 790	0. 209	0. 222	0. 489	0. 080
1108 0. 018	REL_8144_2 0. 010	1634191. 186	5444618. 759	1461. 595	0. 324	0. 274	0. 860	0. 036
1109 0. 173	REL_8145_2 0. 061	1630588. 730	5446015. 282	1327. 430	0. 186	0. 177	0. 309	0. 189
1110 0. 050	REL_8151_2 0. 122	1641782. 472	5445610. 567	1634. 168	0. 171	0. 170	0. 270	0. 228
1111 0. 029	REL_8152_2 0. 014	1640983. 017	5441569. 683	1584. 375	0. 317	0. 262	0. 852	0. 056
1112 0. 100	REL_8153_2 0. 033	1637554. 786	5443192. 748	1537. 840	0. 208	0. 222	0. 485	0. 141
1113 0. 015	REL_8154_2 0. 009	1636651. 897	5439491. 326	1453. 460	0. 326	0. 290	0. 885	0. 031
1114 0. 149	REL_8155_2 0. 092	1632876. 767	5440905. 475	1331. 820	0. 171	0. 178	0. 284	0. 099
1115 0. 101	REL_8161_2 0. 142	1644454. 707	5440384. 333	1655. 514	0. 170	0. 170	0. 269	0. 302
1116 0. 008	REL_8162_2 0. 004	1643187. 436	5436711. 819	1588. 239	0. 300	0. 262	0. 842	0. 015
1117 0. 013	REL_8163_2 0. 008	1639886. 798	5438416. 765	1534. 838	0. 209	0. 225	0. 493	0. 090
1118 0. 017	REL_8164_2 0. 010	1638954. 980	5434738. 164	1475. 956	0. 330	0. 282	0. 877	0. 034
1119 0. 169	REL_8165_2 0. 065	1635373. 939	5436228. 480	1396. 128	0. 196	0. 186	0. 323	0. 188
1120 0. 130	REL_8171_2 0. 177	1646876. 473	5435490. 185	1657. 702	0. 170	0. 171	0. 268	0. 242
1121 0. 014	REL_8172_2 0. 008	1645722. 357	5431964. 505	1614. 008	0. 303	0. 256	0. 823	0. 030
1122 0. 028	REL_8173_2 0. 014	1642367. 132	5433659. 958	1578. 722	0. 204	0. 219	0. 481	0. 174
1123 0. 011	REL_8174_2 0. 006	1641377. 109	5429965. 101	1489. 961	0. 320	0. 270	0. 856	0. 023
1124 0. 087	REL_8175_2 0. 085	1637817. 285	5431483. 770	1388. 035	0. 200	0. 184	0. 328	0. 110
1125 0. 184	REL_8181_2 0. 166	1649155. 668	5430371. 865	1715. 177	0. 172	0. 171	0. 267	0. 330
1126 0. 022	REL_8182_2 0. 012	1648117. 670	5427066. 954	1621. 326	0. 315	0. 264	0. 847	0. 047
1127 0. 084	REL_8183_2 0. 011	1644757. 044	5428501. 441	1542. 861	0. 206	0. 221	0. 489	0. 082
1128 0. 008	REL_8184_2 0. 005	1643764. 761	5425034. 438	1506. 811	0. 326	0. 288	0. 887	0. 016
1129 0. 124	REL_8185_2 0. 082	1640365. 161	5426566. 877	1415. 571	0. 204	0. 189	0. 337	0. 134

1130 0. 127	REL_8191_2 0. 169	1651368. 041	5425517. 299	1754. 958	0. 175	0. 174	0. 270	0. 269
1131 0. 049	REL_8192_2 0. 023	1650291. 173	5422125. 028	1627. 605	0. 308	0. 270	0. 867	0. 097
1132 0. 042	REL_8193_2 0. 004	1646940. 287	5423486. 571	1551. 676	0. 213	0. 231	0. 507	0. 089
1133 0. 013	REL_8194_2 0. 008	1645935. 364	5419957. 180	1548. 311	0. 354	0. 301	0. 917	0. 026
1134 0. 244	REL_8195_2 0. 075	1642452. 098	5421589. 802	1480. 454	0. 208	0. 197	0. 345	0. 224
1135 0. 142	REL_8201_2 0. 199	1653756. 042	5420856. 699	1862. 412	0. 175	0. 174	0. 267	0. 385
1136 0. 005	REL_8202_2 0. 002	1652946. 392	5417132. 984	1739. 384	0. 316	0. 265	0. 847	0. 009
1137 0. 105	REL_8203_2 0. 005	1649483. 250	5418657. 606	1607. 874	0. 215	0. 231	0. 508	0. 164
1138 0. 014	REL_8204_2 0. 008	1648535. 407	5415272. 639	1593. 954	0. 345	0. 292	0. 901	0. 027
1139 0. 120	REL_8205_2 0. 054	1645057. 227	5416661. 320	1538. 244	0. 214	0. 198	0. 352	0. 093
1140 0. 149	REL_8211_2 0. 190	1656377. 303	5415975. 248	2047. 497	0. 172	0. 172	0. 258	0. 316
1141 0. 007	REL_8212_2 0. 003	1655413. 589	5412501. 246	1933. 139	0. 310	0. 266	0. 816	0. 013
1142 0. 015	REL_8213_2 0. 012	1652272. 158	5413821. 284	1685. 059	0. 214	0. 228	0. 496	0. 092
1143 0. 018	REL_8214_2 0. 010	1651225. 969	5410483. 862	1664. 496	0. 328	0. 285	0. 879	0. 037
1144 0. 087	REL_8215_2 0. 099	1647721. 438	5411946. 579	1584. 106	0. 209	0. 195	0. 345	0. 137
1145 0. 123	REL_8221_2 0. 161	1658490. 107	5410939. 923	2238. 209	0. 192	0. 175	0. 283	0. 314
1146 0. 022	REL_8222_2 0. 011	1657523. 727	5407784. 537	2152. 239	0. 287	0. 265	0. 770	0. 044
1147 0. 034	REL_8223_2 0. 006	1654318. 538	5408998. 473	1828. 744	0. 212	0. 227	0. 484	0. 018
1148 0. 020	REL_8224_2 0. 012	1653452. 560	5405639. 017	1792. 409	0. 333	0. 280	0. 845	0. 041
1149 0. 189	REL_8225_2 0. 094	1649981. 163	5407096. 408	1637. 403	0. 207	0. 194	0. 338	0. 207
1150 0. 183	REL_8231_2 0. 228	1661673. 494	5406547. 207	2257. 729	0. 171	0. 169	0. 249	0. 353
1151 0. 001	REL_8232_2 0. 001	1659926. 891	5402923. 466	2333. 767	0. 283	0. 260	0. 755	0. 002
1152 0. 057	REL_8233_2 0. 013	1656913. 055	5404187. 303	2127. 778	0. 203	0. 220	0. 452	0. 014
1153 0. 022	REL_8234_2 0. 013	1655977. 026	5400916. 554	2156. 812	0. 317	0. 268	0. 801	0. 044
1154 0. 150	REL_8235_2 0. 113	1652728. 688	5402225. 863	1840. 801	0. 180	0. 180	0. 288	0. 140

1155 0. 139	REL_8241_2 0. 223	1664130. 257	5401719. 766	2217. 181	0. 172	0. 173	0. 254	0. 372
1156 0. 008	REL_8242_2 0. 004	1662386. 112	5398048. 137	2328. 415	0. 281	0. 256	0. 734	0. 017
1157 0. 028	REL_8243_2 0. 011	1659326. 464	5399469. 887	2235. 820	0. 200	0. 216	0. 442	0. 096
1158 0. 006	REL_8244_2 0. 004	1658449. 277	5396185. 903	2292. 105	0. 304	0. 257	0. 754	0. 013
1159 0. 105	REL_8245_2 0. 089	1655012. 523	5397325. 504	2055. 234	0. 195	0. 186	0. 313	0. 229
1160 0. 135	REL_8251_2 0. 144	1665665. 299	5396438. 045	2330. 831	0. 195	0. 181	0. 290	0. 274
1161 0. 014	REL_8252_2 0. 007	1664641. 535	5393386. 927	2692. 831	0. 260	0. 256	0. 682	0. 029
1162 0. 092	REL_8253_2 0. 008	1661783. 273	5394569. 934	2390. 378	0. 196	0. 212	0. 424	0. 142
1163 0. 073	REL_8254_2 0. 039	1660998. 392	5391534. 052	2732. 903	0. 283	0. 234	0. 669	0. 144
1164 0. 132	REL_8255_2 0. 130	1657767. 606	5392621. 718	2334. 046	0. 190	0. 180	0. 297	0. 221
1165 0. 115	REL_8261_2 0. 090	1668322. 083	5391728. 189	2686. 484	0. 207	0. 186	0. 296	0. 176
1166 0. 012	REL_8262_2 0. 006	1667050. 191	5388447. 967	2765. 257	0. 278	0. 262	0. 707	0. 024
1167 0. 098	REL_8263_2 0. 034	1664480. 342	5389861. 405	3099. 365	0. 184	0. 196	0. 359	0. 114
1168 0. 044	REL_8264_2 0. 022	1663427. 081	5386888. 390	2974. 155	0. 286	0. 232	0. 650	0. 085
1169 0. 073	REL_8265_2 0. 133	1660315. 267	5388056. 846	2949. 382	0. 185	0. 174	0. 265	0. 237
1170 0. 221	REL_8271_2 0. 062	1670320. 245	5386724. 032	2454. 296	0. 344	0. 269	0. 536	0. 135
1171 0. 029	REL_8273_2 0. 002	1666170. 363	5385256. 018	2614. 688	0. 286	0. 318	0. 828	0. 059
1172 0. 068	REL_8275_2 0. 023	1662521. 998	5383599. 515	2689. 686	0. 233	0. 240	0. 388	0. 064
1173 0. 050	REL_9011_2 0. 064	1637849. 660	5474126. 252	1538. 463	0. 727	1. 011	1. 761	0. 136
1174 0. 033	REL_9012_2 0. 018	1637230. 820	5470632. 190	1492. 506	0. 528	0. 452	1. 428	0. 064
1175 0. 072	REL_9013_2 0. 001	1633664. 642	5471895. 505	1370. 144	0. 488	0. 507	1. 388	0. 140
1176 0. 002	REL_9014_2 0. 001	1632984. 642	5468093. 648	1388. 330	0. 421	0. 350	1. 117	0. 005
1177 0. 091	REL_9021_2 0. 089	1640560. 956	5469539. 332	1511. 181	0. 489	0. 494	0. 910	0. 164
1178 0. 029	REL_9022_2 0. 017	1639798. 707	5465907. 242	1551. 773	0. 438	0. 378	1. 173	0. 058
1179 0. 111	REL_9023_2 0. 028	1636331. 292	5466909. 853	1483. 636	0. 283	0. 288	0. 665	0. 162

1180 0. 017	REL_9024_2 0. 008	1635594. 250	5463455. 318	1464. 843	0. 359	0. 309	0. 993	0. 034
1181 0. 140	REL_9031_2 0. 075	1642953. 008	5464521. 075	1538. 555	0. 274	0. 264	0. 442	0. 143
1182 0. 041	REL_9032_2 0. 024	1642238. 021	5461054. 558	1629. 740	0. 368	0. 331	0. 990	0. 079
1183 0. 102	REL_9033_2 0. 013	1638768. 347	5462131. 925	1586. 731	0. 242	0. 257	0. 575	0. 161
1184 0. 035	REL_9034_2 0. 018	1637970. 107	5458620. 263	1549. 658	0. 335	0. 292	0. 915	0. 070
1185 0. 104	REL_9041_2 0. 108	1645506. 817	5459815. 532	1678. 166	0. 198	0. 204	0. 318	0. 170
1186 0. 034	REL_9042_2 0. 020	1644636. 038	5456183. 803	1754. 691	0. 331	0. 294	0. 874	0. 066
1187 0. 123	REL_9043_2 0. 014	1641265. 420	5457339. 108	1690. 721	0. 220	0. 239	0. 520	0. 166
1188 0. 003	REL_9044_2 0. 001	1640562. 921	5453805. 266	1642. 130	0. 309	0. 278	0. 862	0. 006
1189 0. 218	REL_9051_2 0. 131	1648324. 688	5455315. 007	1731. 173	0. 179	0. 184	0. 285	0. 212
1190 0. 024	REL_9052_2 0. 014	1647118. 626	5451441. 659	1847. 923	0. 311	0. 276	0. 803	0. 047
1191 0. 105	REL_9053_2 0. 018	1643597. 014	5452647. 934	1800. 215	0. 207	0. 223	0. 477	0. 107
1192 0. 015	REL_9054_2 0. 007	1642998. 183	5449032. 533	1717. 674	0. 296	0. 264	0. 814	0. 029
1193 0. 163	REL_9061_2 0. 146	1650399. 027	5450154. 695	1898. 994	0. 167	0. 169	0. 259	0. 207
1194 0. 010	REL_9062_2 0. 006	1649469. 378	5446593. 159	2014. 465	0. 285	0. 255	0. 726	0. 019
1195 0. 118	REL_9063_2 0. 035	1646200. 190	5447607. 511	1947. 178	0. 195	0. 208	0. 436	0. 149
1196 0. 009	REL_9064_2 0. 005	1645492. 625	5444141. 264	1762. 710	0. 285	0. 256	0. 765	0. 018
1197 0. 176	REL_9071_2 0. 125	1652861. 495	5445372. 740	1880. 446	0. 167	0. 166	0. 258	0. 173
1198 0. 011	REL_9072_2 0. 006	1651982. 811	5441737. 144	2008. 313	0. 299	0. 263	0. 770	0. 021
1199 0. 077	REL_9073_2 0. 015	1648666. 455	5442626. 958	1937. 327	0. 193	0. 209	0. 436	0. 131
1200 0. 016	REL_9074_2 0. 008	1648019. 900	5439361. 559	1752. 975	0. 286	0. 263	0. 798	0. 032
1201 0. 078	REL_9081_2 0. 097	1655552. 941	5440343. 991	1879. 469	0. 171	0. 170	0. 265	0. 155
1202 0. 013	REL_9082_2 0. 008	1654631. 540	5436913. 664	1917. 512	0. 316	0. 272	0. 789	0. 026
1203 0. 042	REL_9083_2 0. 003	1651210. 431	5438251. 816	1923. 355	0. 198	0. 214	0. 450	0. 065
1204 0. 007	REL_9084_2 0. 003	1650488. 603	5434627. 750	1786. 780	0. 288	0. 261	0. 792	0. 013

1205 0. 148	REL_9091_2 0. 119	1657534. 391	5435488. 429	1979. 776	0. 172	0. 171	0. 265	0. 148
1206 0. 031	REL_9092_2 0. 018	1656846. 707	5432100. 690	2045. 309	0. 303	0. 271	0. 781	0. 061
1207 0. 030	REL_9093_2 0. 001	1653640. 239	5433111. 076	1952. 710	0. 200	0. 216	0. 452	0. 050
1208 0. 008	REL_9094_2 0. 004	1652843. 180	5429638. 392	1837. 914	0. 294	0. 266	0. 798	0. 016
1209 0. 188	REL_9101_2 0. 108	1660371. 164	5430503. 502	2000. 832	0. 172	0. 170	0. 262	0. 185
1210 0. 029	REL_9102_2 0. 017	1659333. 050	5427168. 417	2089. 639	0. 303	0. 267	0. 768	0. 058
1211 0. 061	REL_9103_2 0. 010	1656027. 101	5428400. 839	2055. 559	0. 199	0. 215	0. 446	0. 178
1212 0. 023	REL_9104_2 0. 011	1655342. 938	5424961. 397	1995. 416	0. 288	0. 259	0. 773	0. 045
1213 0. 114	REL_9111_2 0. 109	1662470. 857	5425745. 504	2009. 595	0. 165	0. 167	0. 251	0. 191
1214 0. 003	REL_9112_2 0. 002	1661741. 380	5422403. 824	2108. 454	0. 296	0. 264	0. 745	0. 006
1215 0. 041	REL_9113_2 0. 005	1658407. 377	5423658. 414	2141. 786	0. 196	0. 212	0. 433	0. 120
1216 0. 031	REL_9114_2 0. 016	1657755. 065	5420193. 998	2111. 341	0. 283	0. 251	0. 747	0. 062
1217 0. 176	REL_9121_2 0. 148	1665382. 076	5420934. 694	2085. 075	0. 151	0. 155	0. 224	0. 204
1218 0. 009	REL_9122_2 0. 005	1664237. 430	5417516. 667	2123. 329	0. 286	0. 249	0. 707	0. 018
1219 0. 123	REL_9123_2 0. 025	1661039. 082	5418510. 379	2192. 495	0. 191	0. 201	0. 406	0. 077
1220 0. 027	REL_9124_2 0. 013	1660226. 562	5415340. 120	2231. 201	0. 280	0. 243	0. 723	0. 053
1221 0. 118	REL_9131_2 0. 111	1667400. 404	5416148. 963	2177. 846	0. 146	0. 147	0. 211	0. 184
1222 0. 011	REL_9132_2 0. 006	1666399. 382	5412598. 035	2173. 345	0. 276	0. 248	0. 716	0. 021
1223 0. 095	REL_9133_2 0. 010	1663141. 779	5413624. 633	2201. 878	0. 190	0. 200	0. 404	0. 129
1224 0. 002	REL_9134_2 0. 001	1662535. 885	5410326. 130	2246. 518	0. 282	0. 254	0. 718	0. 003
1225 0. 216	REL_9135_2 0. 161	1659493. 651	5411875. 180	2268. 286	0. 275	0. 239	0. 460	0. 307
1226 0. 129	REL_9141_2 0. 104	1670145. 239	5411356. 819	2159. 666	0. 158	0. 159	0. 236	0. 170
1227 0. 005	REL_9142_2 0. 003	1669467. 178	5407697. 486	2183. 511	0. 309	0. 260	0. 740	0. 009
1228 0. 110	REL_9143_2 0. 024	1666183. 080	5408832. 835	2117. 162	0. 193	0. 209	0. 422	0. 114
1229 0. 042	REL_9144_2 0. 019	1665380. 240	5405736. 355	2199. 064	0. 271	0. 250	0. 732	0. 083

1230 0. 064	REL_9151_2 0. 084	1672863. 274	5406294. 783	2285. 513	0. 161	0. 164	0. 242	0. 142
1231 0. 008	REL_9152_2 0. 006	1671763. 607	5403064. 286	2300. 131	0. 307	0. 267	0. 745	0. 018
1232 0. 162	REL_9153_2 0. 036	1668699. 521	5404009. 245	2161. 740	0. 195	0. 211	0. 433	0. 117
1233 0. 018	REL_9154_2 0. 009	1667812. 361	5400510. 056	2218. 806	0. 279	0. 260	0. 771	0. 039
1234 0. 115	REL_9161_2 0. 090	1674923. 276	5401296. 442	2255. 983	0. 156	0. 159	0. 233	0. 131
1235 0. 016	REL_9162_2 0. 009	1674017. 123	5397636. 635	2296. 979	0. 292	0. 244	0. 706	0. 033
1236 0. 106	REL_9163_2 0. 019	1670765. 327	5399145. 408	2215. 231	0. 196	0. 210	0. 436	0. 057
1237 0. 008	REL_9164_2 0. 004	1670105. 692	5395630. 761	2276. 746	0. 278	0. 256	0. 744	0. 016
1238 0. 152	REL_9165_2 0. 129	1666990. 289	5397312. 521	2334. 775	0. 278	0. 252	0. 494	0. 248
1239 0. 130	REL_9171_2 0. 085	1677371. 980	5396323. 049	2244. 248	0. 147	0. 148	0. 208	0. 120
1240 0. 028	REL_9172_2 0. 016	1676093. 914	5392947. 449	2834. 433	0. 279	0. 240	0. 634	0. 058
1241 0. 125	REL_9173_2 0. 036	1673094. 619	5393998. 989	2704. 602	0. 195	0. 200	0. 389	0. 013
1242 0. 015	REL_9174_2 0. 009	1672356. 590	5390630. 531	2492. 615	0. 307	0. 270	0. 756	0. 032
1243 0. 211	REL_9175_2 0. 100	1669971. 542	5392747. 751	2366. 348	0. 256	0. 247	0. 484	0. 117
1244 0. 083	REL_9181_2 0. 101	1679380. 946	5391604. 392	2214. 915	0. 208	0. 212	0. 332	0. 245
1245 0. 049	REL_9183_2 0. 002	1675443. 499	5389566. 717	2613. 055	0. 294	0. 309	0. 763	0. 100
1246 0. 070	REL_9185_2 0. 095	1671462. 017	5387579. 564	2436. 613	0. 421	0. 509	0. 949	0. 203
1247 0. 009	RE_26103 0. 000	1657508. 702	5362476. 884	2095. 347	0. 643	0. 734	1. 857	0. 018
0. 061	0. 039	0. 125		mean	0. 333	0. 304	0. 772	0. 096

Mean Predicted Standard Errors			
(including Control Points)		(excluding Control Points)	
	0. 329	Sx	0. 333
	0. 301	Sy	0. 304
	0. 760	Sz	0. 772

--- 0.881 Spherical 0.894 ---

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AeroSys-AT Bundle Adjustment, <PRO Pkg> AeroSys-AT v7.2 © 1989-2009 MHS  
Project ID: 8-15combined  
System Memory Storage Summary

10/20/2009

No. of Cameras = 1 ==> 0.0 Kbytes  
No. of Photos = 288 ==> 56.3 Kbytes  
No. of Points = 1247 ==> 116.9 Kbytes  
No. of Photo Coordinates = 3769 ==> 147.2 Kbytes

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Total Data Storage Required ==> 320.4 Kbytes

#### System Computing Time Summary

##### Number of Iterations:

Reading Data Input Files: 0 Hrs 0 Min 0.27 Sec  
Initializing Data Structures: 0 Hrs 0 Min 0.51 Sec  
  
Forming & Solving Normal Equations: 0 Hrs 0 Min 8.89 Sec  
Per Iteration: 0 Hrs 0 Min 0.68 Sec  
  
Cholesky Solution Per Iteration: 0 Hrs 0 Min 0.08 Sec  
Details:  
Decomposition -->: 0 Hrs 0 Min 0.06 Sec  
Forward Elimination -->: 0 Hrs 0 Min 0.02 Sec  
Back Substitution -->: 0 Hrs 0 Min 0.00 Sec

Forming Normal Eqns Per Iteration: 0 Hrs 0 Min 0.61 Sec  
Details:  
Init Variables -->: 0 Hrs 0 Min 0.00 Sec  
Add APs Obs -->: 0 Hrs 0 Min 0.00 Sec  
Add AB-GPS Spc -->: 0 Hrs 0 Min 0.00 Sec  
Add Photo Obs -->: 0 Hrs 0 Min 0.00 Sec  
Add Pointwise -->: 0 Hrs 0 Min 0.45 Sec  
Invert N dldot -->: 0 Hrs 0 Min 0.00 Sec  
Form SE sgl dot -->: 0 Hrs 0 Min 0.02 Sec  
Form S sgl dot OffDiag -->: 0 Hrs 0 Min 0.09 Sec  
Transfer SE2 Diag&Rhs -->: 0 Hrs 0 Min 0.02 Sec

Normal Equations Inverse: 0 Hrs 0 Min 1.09 Sec  
Statistics: 0 Hrs 0 Min 13.89 Sec

Total Computing Time: 0 Hrs 0 Min 24.81 Sec

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9/22/2009

Foothills West Flight Lines 16 thru 19  
AeroSys-AT Bundle Adjustment, <PRO Pkg> AeroSys-AT v7.2 © 1989-2009 MHS  
Project ID: Foothills 16-19

----- General Statistics -----

No. of Cameras used: 1  
No. of Photos: 77  
No. of Object Points: 328  
No. of Flight Strips: 4  
No. of A-GPS Drift Params: 6  
Total Unknowns: 1452  
  
No. of Image Points: 991  
No. of Surveying Obsv: 0  
No. of APs: 0

DOFs due to camera center obsrv: 231  
DOFs due to ground control pts: 24  
DOFs due to image coord obsrv: 1982

Total Degrees of Freedom (Nobsrv - Nunkns): 785

----- Block Reliability Statistic (Average Degrees of Freedom) -----

for single strip blocks, want Avg\_DOF >= (~) 0.25  
for corridor multi-strip blocks, want Avg\_DOF >= (~) 0.35  
for rectangular blocks, want Avg\_DOF >= 0.50

Average Degrees of Freedom (DOFs / Nunkns): 0.54

----- Image Ray Distribution -----

Number of 2-Fold points = 162 Pct = 49.4  
Number of 3-Fold points = 105 Pct = 32.0  
Number of 4-Fold points = 6 Pct = 1.8  
Number of 5-Fold points = 2 Pct = 0.6  
Number of 6-Fold points = 53 Pct = 16.2  
Number of 7-Fold points = 0 Pct = 0.0  
Number of 8-Fold points = 0 Pct = 0.0  
Number of 9-Fold points = 0 Pct = 0.0  
Number of 10-Fold points = 0 Pct = 0.0  
Number of 11-Fold points = 0 Pct = 0.0  
Number of 12-Fold points = 0 Pct = 0.0

-----  
Final Sigma0 Statistic (Post-Adjustment Standard Deviation of Unit Weight)

---

For a reliable block adjustment, the final Sigma0 must reside within the Chi-squared interval surrounding the value of 1.0

The size of this statistical interval, i.e., [Low\_So <--- 1.0 ---> High\_So] is determined by the total number of DOFs in the adjustment.  
The larger total DOFs, the smaller the Chi-squared interval.

An optimum adjustment solution can be obtained by balancing the observational weights to achieve a Final Sigma0 of exactly 1.0 .... typically the weights of the photocoordinate observations are balanced against the ground control weights.

Final Sigma0 (for this adjustment) = 1.00

Override Option Mode = ON

Scal ed (photocoordinate weight) Sx = 0.0049 (units = mm)  
Scal ed (photocoordinate weight) Sy = 0.0049 (units = mm)

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Standardized Photocoordinate Residuals:  $Wi = Vi / (\sqrt{1/WT - A(N^{**}-1)AT}) * \Sigma \sigma_0$

Points | (Pht No., Wx, Wy) Note: Wx & Wy are UNIT-LESS statistics; Outlier Criterion  $Wi > 3.29$

---

0 possible blunders/outliers detected

---

\* Denotes that Critical Value of 3.29 exceeded, i.e. possible gross error

Maximum Standardized Residual = 2.49 from Point No. REL\_17131 on Photo No. 312

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Population Distribution of Standardized Residuals in X

---

Bl under	0
-3.20	0

-3.00	0
-2.80	0
-2.60	0
-2.40	0
-2.20	0
-2.00	0
-1.80	1
-1.60	1
-1.40	2
-1.20	3
-1.00	10
-0.80	18
-0.60	45
-0.40	71
-0.20	123
0.00	
475	
0.20	141
0.40	45
0.60	28
0.80	19
1.00	4
1.20	2
1.40	1
1.60	1
1.80	0
2.00	1
2.20	0
2.40	0
2.60	0
2.80	0
3.00	0
3.20	0
BI under	0

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-----  
Population Distribution of Standardized Residuals in Y

BI under	0
-3.20	0
-3.00	0
-2.80	0
-2.60	0
-2.40	0
-2.20	2

-2.00	4	:
-1.80	8	:
-1.60	15	.....
-1.40	24	.....
-1.20	28	.....
-1.00	36	.....
-0.80	47	.....
-0.60	50	.....
-0.40	58	.....
-0.20	138	.....
0.00		
183		.....
0.20	134	.....
0.40	71	.....
0.60	52	.....
0.80	31	.....
1.00	27	.....
1.20	18	.....
1.40	20	.....
1.60	12	.....
1.80	12	.....
2.00	7	....
2.20	8	....
2.40	6	....
2.60	0	
2.80	0	
3.00	0	
3.20	0	
BL under	0	

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<----->  
< Ten Largest Photocoordinate Residuals >  
< PointNo, PhotoNo, Vx, Vy (units=mm) >

REL_17171	216	-0.002	0.011
REL_17131	312	-0.003	0.012
REL_16161	115	0.004	0.012
REL_17171	316	0.001	0.011
REL_19201	419	0.000	-0.011
REL_18121	411	-0.002	0.011
REL_16031	102	-0.003	0.011
REL_16081	107	0.002	0.011
REL_16041	103	-0.001	0.011
REL_18041	403	0.001	0.011

--- Root Mean Square Image Coordinate Errors, ---  
 --- Average Magnitude of Residuals (AMR) ---  
 --- and ---  
 --- Mean of Image Coordinate Errors ---  
 -----  
 --- image system units = microns ---  
 --- Overall Ctrl Pts Pass Pts ---  
 ---  
 Rays = 991 29 962 ---  
 ---  
 RMS Vx = 1.7 3.4 1.6 ---  
 RMS Vy = 3.8 3.6 3.8 ---  
 RMS Vxy = 4.1 5.0 4.1 ---  
 ---  
 AMR Vx = 1.0 2.4 1.0 ---  
 AMR Vy = 2.7 2.9 2.7 ---  
 AMR Vxy = 2.9 3.8 2.9 ---  
 ---  
 mean Vx = -0.1 -0.9 -0.1 ---  
 mean Vy = 0.0 -0.2 0.0 ---  
 mean Vxy = -0.1 -1.1 -0.1 ---  
 -----

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----- Adjusted Control Points & Least Squares Residuals -----

Statistics -> ----- Object Space or Ground Control Units -----> <- Units  
 No. <--- Point ID ---><--- Xg ---><--- Yg ---><--- Zg ---> <Res X> <Res Y> <Res Z> <Std Wx> <Std Wy> <Std Wz>

		Xg	Yg	Zg	Res X	Res Y	Res Z	Std Wx	Std Wy	Std Wz
1	1307	1431032.641	5614857.789	524.725	0.015	0.006	-0.002	0.40		
0.15	-0.12									
2	1312	1511241.562	5607543.582	364.283	-0.035	-0.054	0.013	-1.17		
-1.59	1.15									
3	1306	1429583.355	5631634.909	220.386	-0.046	-0.018	0.025	-0.99		

-0.41	0.95									
4		1309	1496310.525	5625629.877	515.092	0.026	0.024	0.017	0.53	
0.50	0.57									
5		1311	1519996.366	5622344.951	431.806	-0.116	-0.003	-0.038	-2.13	
-0.05	-1.00									
6		1310	1525872.976	5631373.721	521.740	0.033	0.019	0.004	0.61	
0.35	0.10									
7		1308	1468977.220	5634653.811	464.919	0.010	-0.010	-0.008	0.28	
-0.28	-0.50									
8		1305	1431695.376	5643245.095	643.738	0.114	0.036	-0.011	3.55	
1.12	-1.05									
						rms	0.063	0.026	0.018	
						amr	0.049	0.021	0.015	
						mean	0.000	0.000	0.000	

\*\*#@! --> Denotes an AUTO\_DETECTED gross error

Maximum Standardized Residual = 3.55 from Control Point No. 1305

----- Control Point Root Mean Square Errors -----

-- Axis --- 3D Control --- Horizontal Control --- Vertical Control ---

RMS Vx	0.063	0.063
RMS Vy	0.026	0.026
RMS Vz	0.018	0.018
RMS Vs	0.243	

<--ground coordinate units-->

<----unit-less----->

<Space Intersection Residuals>

< Lst-Sqrs Standardized Wxyz >

< POINT_ID >< Rays >< Dx >< Dy >< Dz >< GCP Type >< Std Wx >< Std Wy >< Std Wz >
1307 3 0.054 0.022 -0.004 FCP 0.40 0.15 -0.12
1312 2 -0.248 -0.212 0.467 FCP -1.17 -1.59 1.15
1306 4 -0.134 -0.072 0.176 FCP -0.99 -0.41 0.95
1309 4 0.069 0.067 0.085 FCP 0.53 0.50 0.57
1311 6 -0.273 -0.009 -0.128 FCP -2.13 -0.05 -1.00
1310 6 0.078 0.045 0.011 FCP 0.61 0.35 0.10
1308 2 0.063 0.017 -0.247 FCP 0.28 -0.28 -0.50

1305	2	0. 580	0. 138	-0. 204	FCP	3. 55	1. 12	-1. 05
RMS		0. 252	0. 098	0. 217				
				0. 191				

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Airborne GPS Drift Parameters: SetNo, Cx, Cy, Cz, Lx, Ly, Lz  
Significance Numbers: SetNo, Ncx, Ncy, Ncz, Nlx, Nly, Nlz Flags

AB-GPS Drift Params: 1 0. 257 -0. 713 2. 043 0. 000 0. 001 0. 000  
Significance Test: 1 1. 4 1. 7 10. 0 1. 9 2. 2 0. 1 ? ? . ? . ?

-----  
Camera Center AB-GPS Deltas:

Photo\_ID, StripNo, PhotoNo, Shift\_X, Shift\_Y, Shift\_Z, Drift\_X, Drift\_Y, Drift\_Z, dX, dY,  
dZ

--											
117 2. 062	1	18	0. 257	-0. 713	2. 043	-0. 449	1. 374	0. 019	-0. 191	0. 661	
116 2. 062	1	17	0. 257	-0. 713	2. 043	-0. 454	1. 391	0. 019	-0. 197	0. 678	
115 2. 062	1	16	0. 257	-0. 713	2. 043	-0. 459	1. 408	0. 019	-0. 202	0. 695	
114 2. 062	1	15	0. 257	-0. 713	2. 043	-0. 465	1. 424	0. 020	-0. 207	0. 711	
113 2. 062	1	14	0. 257	-0. 713	2. 043	-0. 470	1. 441	0. 020	-0. 213	0. 728	
112 2. 063	1	13	0. 257	-0. 713	2. 043	-0. 475	1. 457	0. 020	-0. 218	0. 744	
111 2. 063	1	12	0. 257	-0. 713	2. 043	-0. 481	1. 474	0. 020	-0. 224	0. 761	
110 2. 063	1	11	0. 257	-0. 713	2. 043	-0. 486	1. 490	0. 020	-0. 229	0. 777	
109 2. 063	1	10	0. 257	-0. 713	2. 043	-0. 491	1. 505	0. 021	-0. 234	0. 792	
108 2. 064	1	9	0. 257	-0. 713	2. 043	-0. 497	1. 522	0. 021	-0. 239	0. 809	
107	1	8	0. 257	-0. 713	2. 043	-0. 502	1. 538	0. 021	-0. 245	0. 825	



200											
2. 053	2	1	0. 257	-0. 713	2. 043	-0. 244	0. 749	0. 010	0. 013	0. 036	
201											
2. 053	2	2	0. 257	-0. 713	2. 043	-0. 239	0. 733	0. 010	0. 018	0. 020	
319											
2. 059	3	1	0. 257	-0. 713	2. 043	-0. 400	1. 227	0. 017	-0. 143	0. 514	
318											
2. 059	3	2	0. 257	-0. 713	2. 043	-0. 395	1. 211	0. 017	-0. 138	0. 498	
317											
2. 059	3	3	0. 257	-0. 713	2. 043	-0. 390	1. 195	0. 016	-0. 133	0. 482	
315											
2. 059	3	5	0. 257	-0. 713	2. 043	-0. 380	1. 165	0. 016	-0. 123	0. 452	
316											
2. 059	3	4	0. 257	-0. 713	2. 043	-0. 385	1. 180	0. 016	-0. 128	0. 467	
314											
2. 058	3	6	0. 257	-0. 713	2. 043	-0. 375	1. 149	0. 016	-0. 118	0. 436	
312											
2. 058	3	8	0. 257	-0. 713	2. 043	-0. 365	1. 118	0. 015	-0. 108	0. 405	
313											
2. 058	3	7	0. 257	-0. 713	2. 043	-0. 370	1. 134	0. 016	-0. 113	0. 421	
311											
2. 058	3	9	0. 257	-0. 713	2. 043	-0. 360	1. 103	0. 015	-0. 103	0. 390	
310											
2. 058	3	10	0. 257	-0. 713	2. 043	-0. 355	1. 087	0. 015	-0. 098	0. 374	
309											
2. 057	3	11	0. 257	-0. 713	2. 043	-0. 350	1. 072	0. 015	-0. 092	0. 359	
308											
2. 057	3	12	0. 257	-0. 713	2. 043	-0. 345	1. 056	0. 015	-0. 087	0. 343	
307											
2. 057	3	13	0. 257	-0. 713	2. 043	-0. 340	1. 041	0. 014	-0. 082	0. 328	
306											
2. 057	3	14	0. 257	-0. 713	2. 043	-0. 335	1. 026	0. 014	-0. 077	0. 313	
305											
2. 057	3	15	0. 257	-0. 713	2. 043	-0. 330	1. 010	0. 014	-0. 072	0. 297	
304											
2. 056	3	16	0. 257	-0. 713	2. 043	-0. 325	0. 995	0. 014	-0. 067	0. 282	
303											
2. 056	3	17	0. 257	-0. 713	2. 043	-0. 320	0. 980	0. 013	-0. 062	0. 267	
301											
2. 056	3	19	0. 257	-0. 713	2. 043	-0. 310	0. 948	0. 013	-0. 052	0. 235	
302											
2. 056	3	18	0. 257	-0. 713	2. 043	-0. 315	0. 964	0. 013	-0. 057	0. 251	
300											
2. 055	3	20	0. 257	-0. 713	2. 043	-0. 304	0. 933	0. 013	-0. 047	0. 220	
419											
2. 047	4	1	0. 257	-0. 713	2. 043	-0. 096	0. 295	0. 004	0. 161	-0. 418	
418											
2. 046	4	2	0. 257	-0. 713	2. 043	-0. 091	0. 280	0. 004	0. 166	-0. 433	

417	4	3	0. 257	-0. 713	2. 043	-0. 086	0. 264	0. 004	0. 171	-0. 449
2. 046										
416	4	4	0. 257	-0. 713	2. 043	-0. 081	0. 248	0. 003	0. 176	-0. 465
2. 046										
415	4	5	0. 257	-0. 713	2. 043	-0. 076	0. 232	0. 003	0. 182	-0. 481
2. 046										
414	4	6	0. 257	-0. 713	2. 043	-0. 071	0. 217	0. 003	0. 187	-0. 496
2. 046										
413	4	7	0. 257	-0. 713	2. 043	-0. 066	0. 201	0. 003	0. 192	-0. 512
2. 045										
412	4	8	0. 257	-0. 713	2. 043	-0. 060	0. 185	0. 003	0. 197	-0. 528
2. 045										
411	4	9	0. 257	-0. 713	2. 043	-0. 055	0. 170	0. 002	0. 202	-0. 543
2. 045										
410	4	10	0. 257	-0. 713	2. 043	-0. 050	0. 154	0. 002	0. 207	-0. 559
2. 045										
409	4	11	0. 257	-0. 713	2. 043	-0. 045	0. 139	0. 002	0. 212	-0. 574
2. 045										
408	4	12	0. 257	-0. 713	2. 043	-0. 040	0. 123	0. 002	0. 217	-0. 590
2. 044										
407	4	13	0. 257	-0. 713	2. 043	-0. 035	0. 107	0. 001	0. 222	-0. 606
2. 044										
406	4	14	0. 257	-0. 713	2. 043	-0. 030	0. 091	0. 001	0. 228	-0. 622
2. 044										
405	4	15	0. 257	-0. 713	2. 043	-0. 025	0. 076	0. 001	0. 233	-0. 637
2. 044										
404	4	16	0. 257	-0. 713	2. 043	-0. 020	0. 061	0. 001	0. 238	-0. 652
2. 043										
403	4	17	0. 257	-0. 713	2. 043	-0. 015	0. 046	0. 001	0. 242	-0. 667
2. 043										
402	4	18	0. 257	-0. 713	2. 043	-0. 010	0. 031	0. 000	0. 247	-0. 682
2. 043										
401	4	19	0. 257	-0. 713	2. 043	-0. 005	0. 016	0. 000	0. 252	-0. 697
2. 043										
400	4	20	0. 257	-0. 713	2. 043	0. 000	0. 000	0. 000	0. 257	-0. 713
2. 043										

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----- Final Adjusted Exterior Orientations, Standard Errors and Residuals -----

-----><-----Adjusted EO Observations-----><-----Predicted Standard

Deviations----->		E0 Residuals----->		Standardized Residuals><	
><		><		><	
<PhtNo><----Omega-----><----Phi-----><----Kappa-----><----So-----><----Sp-----><----Sk-----><----Vo----->		<----Vp-----><----Vk-----><----Wo-----><----Wp-----><----Wk----->		<----X-----><----Y-----><----Z-----><----Sx-----><----Sy-----><----Sz-----><----Vx----->	
<----Vy-----><----Vz-----><----Wx-----><----Wy-----><----Wz----->					
419	0° 54' 52"	0° 31' 17"	178° 49' 1"	178° 49' 1"	0° 0' 12"
52"	0° 31' 17"	178° 49' 1"	5635324.602	9531.133	0° 0' 10"
419	1531675.312	0.021	-0.187	0.451	0.534
0.340					0.260
319	0° 14' 1"	0° 1' 15"	176° 53' 7"	0° 0' 9"	0° 0' 10"
1"	0° 1' 15"	176° 53' 7"	5625579.359	9536.869	0° 0' 9"
319	1530671.067	-0.097	-0.100	0.459	0.502
0.228					0.241
418	-0° 17' 18"	0° 34' 6"	179° 39' 6"	0° 0' 10"	0° 0' 9"
18"	0° 34' 6"	179° 39' 6"	5635687.039	9589.081	0° 0' 9"
418	1526272.296	-0.139	0.200	0.407	0.494
-0.661					0.236
417	-0° 15' 17"	-0° 33' 49"	178° 41' 54"	0° 0' 10"	0° 0' 8"
17"	-0° 33' 49"	178° 41' 54"	5636136.609	9622.166	0° 0' 6"
417	1520800.450	-0.396	-0.037	0.413	0.483
0.060					0.229
218	-0° 21' 40"	-0° 12' 5"	352° 5' 49"	0° 0' 10"	0° 0' 10"
40"	-0° 12' 5"	352° 5' 49"	5617455.076	9678.888	0° 0' 10"
218	1524457.564	-0.234	0.162	0.460	0.497
0.384					0.244
318	-0° 4' 54"	0° 2' 20"	176° 38' 55"	0° 0' 9"	0° 0' 8"
54"	0° 2' 20"	176° 38' 55"	5626132.495	9529.818	0° 0' 5"
318	1525281.038	-0.098	-0.105	0.388	0.457
-0.423					0.196
317	-0° 20' 10"	-0° 56' 25"	175° 53' 50"	0° 0' 8"	0° 0' 7"
10"	-0° 56' 25"	175° 53' 50"	5626727.348	9517.621	0° 0' 4"
317	1519843.307	-0.233	-0.030	0.366	0.420
-0.516					0.189
117	-0° 20' 10"	0° 34' 52"	351° 56' 33"	0° 0' 12"	0° 0' 11"
10"	0° 34' 52"	351° 56' 33"	5608243.638	9652.955	0° 0' 12"
117	1518111.048	0.064	-0.055	0.465	0.535
0.125					0.243
217	0° 13' 18"	-0° 36' 29"	352° 35' 46"	0° 0' 9"	0° 0' 8"
18"	-0° 36' 29"	352° 35' 46"	5618020.198	9650.863	0° 0' 6"
217	1518998.255	-0.169	0.124	0.399	0.451
1.017					0.222
116	0° 51' 58"	-0° 7' 10"	353° 21' 52"	0° 0' 11"	0° 0' 9"
58"	-0° 7' 10"	353° 21' 52"	5608854.246	9701.097	0° 0' 8"
116	1512729.967	0.173	0.167	0.409	0.499
0.646					0.228
216	-0° 1' 39"	0° 2' 38"	353° 40' 13"	0° 0' 8"	0° 0' 4"
					-0° 1'

39"	0° 2' 38"	353° 40' 13"	9645.960	0.391	0.423	0.215
216	1513633.366	5618446.876				
-0.172	-0.267	0.048				
416	0° 11' 9"	0° 3' 31"	177° 32' 30"	0° 0' 11"	0° 0' 8"	0° 0' 6"
9"	3' 31"	177° 32' 30"				0° 11'
416	1515383.410	5636681.416	9543.925	0.409	0.497	0.239
-0.319	-0.062	-0.049				
415	0° 6' 4"	0° 2' 31"	177° 13' 49"	0° 0' 11"	0° 0' 8"	0° 0' 6"
4"	2' 31"	177° 13' 49"				0° 6'
415	1509992.931	5637260.186	9552.389	0.413	0.505	0.242
-0.126	0.277	0.008	4.02			
315	1° 2' 59"	-0° 3' 11"	175° 24' 58"	0° 0' 9"	0° 0' 8"	0° 0' 4"
59"	3' 11"	175° 24' 58"				1° 2'
315	1509100.794	5628040.501	9459.546	0.395	0.440	0.215
-0.345	0.123	-0.088				
316	1° 22' 37"	-0° 17' 41"	174° 11' 40"	0° 0' 8"	0° 0' 7"	0° 0' 4"
37"	17' 41"	174° 11' 40"				1° 22'
316	1514452.536	5627406.899	9460.716	0.384	0.422	0.200
-0.479	0.449	0.171	16.33			
115	-0° 40' 59"	-0° 24' 7"	352° 30' 7"	0° 0' 10"	0° 0' 8"	0° 0' 6"
59"	24' 7"	352° 30' 7"				-0° 40'
115	1507256.197	5609427.616	9689.102	0.410	0.495	0.224
0.274	-0.204	-0.019				
215	-0° 57' 27"	0° 8' 8"	352° 45' 38"	0° 0' 9"	0° 0' 8"	0° 0' 4"
27"	8' 8"	352° 45' 38"				-0° 57'
215	1508187.765	5618929.233	9613.117	0.402	0.437	0.223
0.539	-0.143	-0.053				
114	0° 14' 6"	-0° 27' 14"	354° 28' 49"	0° 0' 11"	0° 0' 8"	0° 0' 6"
6"	-0° 27' 14"	354° 28' 49"				0° 14'
114	1501858.807	5609921.957	9665.695	0.409	0.504	0.227
0.358	-0.049	-0.031				
214	-0° 44' 40"	0° 19' 54"	352° 49' 52"	0° 0' 9"	0° 0' 8"	0° 0' 4"
40"	19' 54"	352° 49' 52"				-0° 44'
214	1502813.447	5619449.918	9599.897	0.397	0.433	0.220
0.388	0.186	0.043				
414	0° 20' 46"	-0° 0' 4"	176° 53' 0"	0° 0' 11"	0° 0' 8"	0° 0' 7"
46"	0' 4"	176° 53' 0"				0° 20'
414	1504618.795	5637857.788	9551.381	0.417	0.506	0.243
-0.065	0.106	0.021				
314	0° 13' 45"	-0° 3' 5"	176° 21' 12"	0° 0' 9"	0° 0' 8"	0° 0' 4"
45"	3' 5"	176° 21' 12"				0° 13'
314	1503690.612	5628564.923	9474.407	0.395	0.439	0.215
-0.199	0.279	0.040				
113	-1° 16' 15"	0° 29' 0"	353° 16' 6"	0° 0' 11"	0° 0' 8"	0° 0' 6"
15"	29' 0"	353° 16' 6"				-1° 16'
113	1496454.111	5610407.562	9667.946	0.412	0.505	0.229
0.554	-0.481	0.051	-6.63			
213	-0° 24' 32"	0° 3' 34"	352° 53' 23"	0° 0' 8"	0° 0' 8"	0° 0' 4"
32"	3' 34"	352° 53' 23"				-0° 24'
213	1497408.100	5620014.398	9571.808	0.383	0.424	0.211



23"	-0°	12'	5"	180°	13'	2"											
410		1482889.	516		5639751.	757	9537.	228		0.	421	0.	529	0.	245		
-0.	126		0.082		0.	007											
310	0°	0°	26'	2"	0°	14'	4"	176°	46'	8"	0°	0'	9"	0°	0'	8"	
2"	0°	14'	4"	176°	46'	8"										0°	26'
310		1482036.	887		5630849.	892	9542.	543		0.	396	0.	432	0.	217		
-0.	611		-0.	057		0.	047										
409	1°	25'	16"		0°	37'	7"	177°	50'	8"	0°	0'	12"	0°	0'	9"	
16"	0°	37'	7"	177°	50'	8"										0°	25'
409		1477567.	016		5640270.	514	9504.	531		0.	424	0.	536	0.	246		
0.	207		-0.	128		-0.	024										
309	0°	51'	19"		-0°	7'	28"	176°	31'	20"	0°	0'	9"	0°	0'	4"	
19"	-0°	7'	28"	176°	31'	20"										0°	51'
309		1476631.	171		5631346.	492	9548.	898		0.	399	0.	431	0.	216		
-0.	505		0.	125		0.	076										
109	-0°	25'	20"		0°	54'	15"	354°	24'	22"	0°	0'	11"	0°	0'	8"	
20"	0°	54'	15"	354°	24'	22"										-0°	25'
109		1474847.	752		5612341.	295	9607.	961		0.	422	0.	525	0.	230		
-0.	271		0.	008		-0.	056										
108	-1°	12'	24"		0°	57'	2"	352°	42'	12"	0°	0'	11"	0°	0'	7"	
24"	0°	57'	2"	352°	42'	12"										-1°	12'
108		1469426.	811		5612906.	410	9669.	393		0.	428	0.	531	0.	232		
0.	047		-0.	170		0.	158										
209	-0°	49'	60"		0°	30'	26"	353°	40'	36"	0°	0'	8"	0°	0'	4"	
60"	0°	30'	26"	353°	40'	36"										-0°	49'
209		1475795.	179		5622064.	955	9569.	868		0.	398	0.	422	0.	220		
0.	658		-0.	089		-0.	003										
208	-0°	10'	5"		0°	19'	10"	354°	3'	39"	0°	0'	8"	0°	0'	4"	
5"	0°	19'	10"	354°	3'	39"										-0°	10'
208		1470383.	385		5622567.	347	9607.	842		0.	404	0.	424	0.	220		
0.	478		0.	097		-0.	047										
408	-0°	54'	18"		0°	5'	6"	179°	43'	4"	0°	0'	12"	0°	0'	7"	
18"	0°	5'	6"	179°	43'	4"										-0°	54'
408		1472081.	978		5640813.	622	9539.	527		0.	426	0.	535	0.	247		
-0.	402		0.	242		0.	031										
308	0°	0'	45"		-0°	11'	41"	177°	20'	43"	0°	0'	9"	0°	0'	4"	
45"	-0°	11'	41"	177°	20'	43"									0°	0'	
308		1471218.	986		5631814.	654	9533.	090		0.	390	0.	427	0.	213		
-0.	491		0.	056		0.	028										
107	-0°	0'	29"		0°	25'	15"	352°	55'	13"	0°	0'	11"	0°	0'	7"	
29"	0°	25'	15"	352°	55'	13"										-0°	0'
107		1464035.	717		5613559.	625	9716.	326		0.	436	0.	536	0.	232		
0.	206		-0.	011		0.	003										
207	-0°	38'	26"		-0°	4'	20"	354°	0'	45"	0°	0'	8"	0°	0'	4"	
26"	-0°	4'	20"	354°	0'	45"										-0°	38'
207		1464929.	348		5623050.	292	9606.	544		0.	409	0.	427	0.	221		
0.	323		-0.	107		-0.	118										
407	0°	28'	29"		-0°	28'	29"	176°	58'	51"	0°	0'	12"	0°	0'	7"	
29"	-0°	28'	29"	176°	58'	51"										0°	28'
407		1466698.	317		5641383.	987	9496.	791		0.	434	0.	543	0.	248		



19"	0° 37' 4"	176° 40' 40"										
304	1449659.725	5633839.911	9583.854	0.402	0.430	0.220						
-0.383	0.218	0.070										
103	-0° 17' 46"	0° 33' 11"	354° 33' 42"	0° 0' 11"	0° 0' 8"	0° 0' 6"	-0° 17'					
46"	0° 33' 11"	354° 33' 42"										
103	1442419.571	5615703.908	9535.310	0.413	0.530	0.230						
0.004	0.070	0.042										
203	-0° 47' 10"	0° 1' 11"	354° 57' 32"	0° 0' 8"	0° 0' 7"	0° 0' 4"	-0° 47'					
10"	0° 1' 11"	354° 57' 32"										
203	1443281.838	5624912.177	9558.849	0.399	0.422	0.221						
0.656	0.049	-0.004										
403	0° 7' 36"	-0° 24' 4"	178° 41' 51"	0° 0' 12"	0° 0' 8"	0° 0' 7"	0° 7'					
36"	-0° 24' 4"	178° 41' 51"										
403	1445081.999	5643916.362	9505.362	0.423	0.552	0.252						
-0.420	-0.180	-0.020										
303	-0° 19' 49"	0° 2' 32"	177° 20' 43"	0° 0' 8"	0° 0' 8"	0° 0' 4"	-0° 19'					
49"	0° 2' 32"	177° 20' 43"										
303	1444167.543	5634281.777	9650.864	0.404	0.428	0.220						
-0.376	0.051	0.012										
102	0° 6' 22"	0° 3' 23"	355° 42' 27"	0° 0' 11"	0° 0' 8"	0° 0' 5"	0° 6'					
22"	0° 3' 23"	355° 42' 27"										
102	1436954.664	5616161.044	9487.987	0.408	0.530	0.221						
0.107	0.108	-0.100										
202	-0° 42' 1"	0° 6' 60"	354° 37' 54"	0° 0' 8"	0° 0' 8"	0° 0' 4"	-0° 42'					
1"	0° 6' 60"	354° 37' 54"										
202	1437844.785	5625396.970	9529.019	0.406	0.423	0.220						
0.555	0.220	-0.049										
402	-0° 47' 56"	0° 52' 17"	178° 42' 45"	0° 0' 12"	0° 0' 8"	0° 0' 7"	-0° 47'					
56"	0° 52' 17"	178° 42' 45"										
402	1439711.508	5644359.051	9538.131	0.427	0.556	0.252						
-0.276	-0.287	-0.031										
401	1° 10' 29"	0° 11' 58"	176° 48' 13"	0° 0' 12"	0° 0' 9"	0° 0' 8"	1° 10'					
29"	0° 11' 58"	176° 48' 13"										
401	1434288.284	5644969.260	9656.971	0.421	0.553	0.254						
-0.411	0.197	-0.003										
400	0° 57' 1"	-0° 5' 28"	178° 38' 27"	0° 0' 13"	0° 0' 11"	0° 0' 14"	0° 57'					
1"	-0° 5' 28"	178° 38' 27"										
400	1428877.427	5645612.600	9688.057	0.471	0.594	0.272						
-0.431	-0.080	0.039										
301	1° 26' 12"	0° 25' 14"	175° 44' 9"	0° 0' 8"	0° 0' 8"	0° 0' 5"	1° 26'					
12"	0° 25' 14"	175° 44' 9"										
301	1433381.301	5635284.413	9621.602	0.408	0.417	0.210						
-0.949	0.008	0.014										
302	0° 7' 57"	-0° 7' 26"	176° 25' 45"	0° 0' 8"	0° 0' 8"	0° 0' 4"	0° 7'					
57"	-0° 7' 26"	176° 25' 45"										
302	1438712.504	5634752.532	9647.984	0.407	0.423	0.218						
-0.444	0.043	0.088										
300	-0° 19' 58"	0° 28' 59"	177° 34' 53"	0° 0' 9"	0° 0' 9"	0° 0' 7"	-0° 19'					
58"	0° 28' 59"	177° 34' 53"										
300	1427953.216	5635760.408	9622.505	0.444	0.473	0.233						

-0.527	-0.131	0.165														
200	0° 28' 9"	0° 51' 55"	353° 17' 41"	0°	0'	9"	0°	0'	9"	0°	0'	8"	-0°	28'		
9"	0° 51' 55"	353° 17' 41"														
200	1427091.301	5626562.480	9551.229				0.441			0.474		0.232				
0.067	0.292	-0.205														
201	-1° 2' 17"	0° 29' 59"	353° 20' 24"	0°	0'	8"	0°	0'	8"	0°	0'	5"	-1°	2'		
17"	0° 29' 59"	353° 20' 24"														
201	1432477.206	5625952.295	9522.971				0.406			0.413		0.214				
0.794	-0.202	0.013														
101	-0° 35' 2"	0° 16' 49"	355° 29' 22"	0°	0'	12"	0°	0'	9"	0°	0'	7"	-0°	35'		
2"	0° 16' 49"	355° 29' 22"														
101	1431561.979	5616576.918	9470.124				0.404			0.538		0.232				
0.032	0.240	0.097														
100	-1° 50' 23"	0° 33' 43"	352° 54' 13"	0°	0'	13"	0°	0'	9"	0°	0'	11"	-1°	50'		
23"	0° 33' 43"	352° 54' 13"														
100	1426132.520	5617110.014	9461.637				0.463			0.595		0.250				
-0.222	-0.144	-0.075														

-- Mean Standard Deviations for the Elements of Exterior Orientation --

Omega	0° 0' 10"	(dms)
Phi	0° 0' 8"	(dms)
Kappa	0° 0' 6"	(dms)
XL	0.413	(ground units)
YL	0.481	(ground units)
ZL	0.228	(ground units)

-- RMSE for the Elements of Exterior Orientation --

Omega	0° 44' 29"	(dms)
Phi	0° 25' 55"	(dms)
Kappa	276° 29' 1"	(dms)
XL	0.406	(ground units)
YL	0.183	(ground units)
ZL	0.080	(ground units)

♀KMI  
AeroSys-AT Bundle Adjustment, <PRO Pkg> AeroSys-AT v7.2 © 1989-2009 MHS  
Project ID: Foothills 16-19

9/22/2009

----- Final Adjusted Object Space Coordinates, Standard Errors, and Residuals -----

<----- XYZ Ground Coordinates ----->-> Predicted Standard Error -><-----

Observation (GCP) Residuals ---->

<No> <----Point

ID-----><----Xg-----><----Yg-----><----Zg-----><---Sx---><---Sy---><---Sz---><---Vx---><---Vy---><---Vz---><---Vs--->

---

<CONTROL POINTS> <3D>

1 0.036	-0.011	1305 0.120	1431695.262	5643245.059	643.749	0.095	0.095	0.099	0.114
2 -0.018	0.025	1306 0.055	1429583.401	5631634.927	220.361	0.089	0.090	0.097	-0.046
3 0.006	-0.002	1307 0.016	1431032.626	5614857.783	524.727	0.093	0.091	0.098	0.015
4 -0.010	-0.008	1308 0.016	1468977.210	5634653.821	464.927	0.094	0.093	0.099	0.010
5 0.024	0.017	1309 0.039	1496310.499	5625629.853	515.075	0.087	0.088	0.096	0.026
6 0.019	0.004	1310 0.038	1525872.943	5631373.702	521.736	0.084	0.084	0.093	0.033
7 -0.003	-0.038	1311 0.122	1519996.482	5622344.954	431.844	0.084	0.083	0.093	-0.116
8 -0.054	0.013	1312 0.066	1511241.597	5607543.636	364.270	0.095	0.094	0.099	-0.035

<CONTROL POINTS> <Horizontal>

<CONTROL POINTS> <Vertical>

<AUTO ELIMINATED CONTROL BLUNDER POINTS>

<-- Re-Scaled Input Weights -->  
<Final\_Sx> <Final\_Sy> <Final\_Sz>

<---Projected Image Ray AMR Residuals-->

<PASS/TIE POINTS>

<---Sx---><---Sy---><---Sz---><--amrX--><--amrY--><--amrZ--><--rmsS-->

9 0.187	REL_16011 0.079	1426543.803	5621713.668	310.871	0.263	0.234	0.422	0.050
10 0.036	REL_16012 0.007	1429111.221	5618892.925	347.572	0.262	0.318	0.871	0.003
11 0.041	REL_16013 0.001	1425900.705	5616816.244	515.846	0.384	0.305	0.898	0.004
12 0.028	REL_16014 0.008	1428577.537	5614145.557	513.842	0.271	0.376	0.889	0.003

13	REL_16015	1425476. 945	5611921. 272	538. 116	0. 521	0. 666	1. 124	0. 029
0. 233	0. 116							
14	REL_16021	1432002. 470	5621301. 719	314. 266	0. 179	0. 165	0. 276	0. 051
0. 151	0. 069							
15	REL_16022	1434436. 532	5618790. 285	354. 421	0. 251	0. 326	0. 842	0. 001
0. 016	0. 004							
16	REL_16023	1431397. 106	5616586. 565	453. 958	0. 209	0. 200	0. 437	0. 023
0. 045	0. 006							
17	REL_16024	1434178. 992	5613953. 128	412. 757	0. 261	0. 339	0. 873	0. 004
0. 049	0. 012							
18	REL_16025	1431035. 956	5611800. 943	510. 508	0. 256	0. 346	0. 532	0. 023
0. 131	0. 059							
19	REL_16031	1437080. 706	5621111. 833	406. 400	0. 167	0. 166	0. 265	0. 127
0. 278	0. 114							
20	REL_16032	1439926. 859	5618358. 751	507. 371	0. 263	0. 335	0. 857	0. 002
0. 028	0. 007							
21	REL_16033	1436718. 393	5616238. 333	493. 443	0. 226	0. 209	0. 484	0. 034
0. 077	0. 009							
22	REL_16034	1439574. 073	5613594. 163	502. 650	0. 285	0. 365	0. 937	0. 004
0. 047	0. 011							
23	REL_16035	1436374. 624	5611316. 108	484. 783	0. 270	0. 379	0. 589	0. 034
0. 262	0. 121							
24	REL_16041	1442846. 763	5620636. 872	350. 015	0. 168	0. 172	0. 272	0. 085
0. 188	0. 105							
25	REL_16042	1445327. 987	5617751. 289	496. 673	0. 277	0. 345	0. 928	0. 001
0. 011	0. 003							
26	REL_16043	1442054. 030	5615626. 502	453. 516	0. 243	0. 224	0. 523	0. 009
0. 101	0. 001							
27	REL_16044	1444907. 481	5613068. 371	502. 584	0. 313	0. 401	1. 058	0. 003
0. 034	0. 008							
28	REL_16045	1441674. 320	5610876. 874	522. 735	0. 290	0. 406	0. 626	0. 041
0. 217	0. 098							
29	REL_16051	1448318. 629	5619941. 238	457. 062	0. 171	0. 176	0. 274	0. 118
0. 247	0. 093							
30	REL_16052	1450817. 546	5617267. 383	483. 381	0. 288	0. 357	0. 956	0. 000
0. 001	0. 000							
31	REL_16053	1447730. 612	5615115. 355	531. 950	0. 257	0. 233	0. 548	0. 042
0. 036	0. 011							
32	REL_16054	1450340. 679	5612318. 770	477. 330	0. 334	0. 443	1. 121	0. 003
0. 026	0. 007							
33	REL_16055	1447178. 009	5610244. 701	488. 998	0. 314	0. 444	0. 679	0. 057
0. 242	0. 117							
34	REL_16061	1453757. 151	5619477. 304	248. 195	0. 176	0. 183	0. 289	0. 142
0. 152	0. 057							
35	REL_16062	1456489. 150	5616857. 733	234. 072	0. 301	0. 377	1. 020	0. 001
0. 006	0. 001							
36	REL_16063	1453057. 837	5614798. 289	470. 261	0. 264	0. 240	0. 568	0. 034
0. 040	0. 008							
37	REL_16064	1456004. 198	5611922. 288	241. 730	0. 343	0. 447	1. 186	0. 004
0. 034	0. 008							

38	REL_16065	1452717. 276	5609669. 523	365. 709	0. 329	0. 469	0. 718	0. 036
0. 245	0. 115							
39	REL_16071	1459115. 383	5619360. 405	229. 754	0. 176	0. 184	0. 292	0. 067
0. 217	0. 117							
40	REL_16072	1461997. 005	5616532. 690	236. 444	0. 301	0. 394	1. 011	0. 005
0. 053	0. 014							
41	REL_16073	1458627. 872	5614213. 562	234. 712	0. 272	0. 250	0. 599	0. 103
0. 048	0. 025							
42	REL_16074	1461317. 926	5611377. 064	243. 784	0. 345	0. 448	1. 188	0. 000
0. 001	0. 000							
43	REL_16075	1457956. 646	5609060. 274	239. 683	0. 339	0. 487	0. 748	0. 030
0. 232	0. 108							
44	REL_16081	1464496. 103	5618532. 662	235. 135	0. 176	0. 185	0. 290	0. 082
0. 275	0. 128							
45	REL_16082	1467022. 070	5615634. 893	484. 290	0. 289	0. 371	0. 975	0. 001
0. 010	0. 002							
46	REL_16083	1463754. 704	5613778. 042	238. 432	0. 271	0. 250	0. 598	0. 005
0. 049	0. 003							
47	REL_16084	1466566. 433	5610838. 933	511. 702	0. 338	0. 434	1. 140	0. 012
0. 091	0. 022							
48	REL_16085	1463310. 118	5609092. 653	265. 761	0. 331	0. 439	0. 726	0. 023
0. 174	0. 071							
49	REL_16091	1469830. 828	5617296. 970	486. 490	0. 174	0. 185	0. 277	0. 084
0. 208	0. 128							
50	REL_16092	1472399. 746	5614587. 379	495. 471	0. 288	0. 342	0. 963	0. 003
0. 030	0. 006							
51	REL_16093	1469223. 780	5612647. 835	500. 048	0. 269	0. 250	0. 576	0. 031
0. 108	0. 005							
52	REL_16094	1471828. 791	5609899. 771	514. 474	0. 341	0. 465	1. 133	0. 007
0. 068	0. 019							
53	REL_16095	1468643. 806	5607844. 217	437. 080	0. 337	0. 485	0. 724	0. 055
0. 058	0. 032							
54	REL_16101	1475166. 251	5616976. 580	502. 118	0. 172	0. 184	0. 274	0. 118
0. 270	0. 125							
55	REL_16102	1477752. 832	5614370. 921	514. 110	0. 283	0. 357	0. 956	0. 001
0. 008	0. 002							
56	REL_16103	1474617. 179	5612236. 540	511. 510	0. 264	0. 246	0. 566	0. 040
0. 069	0. 012							
57	REL_16104	1477273. 633	5609699. 012	510. 278	0. 331	0. 433	1. 120	0. 003
0. 037	0. 009							
58	REL_16105	1474330. 383	5607360. 836	483. 141	0. 328	0. 473	0. 707	0. 096
0. 231	0. 114							
59	REL_16111	1480385. 652	5616746. 864	480. 223	0. 171	0. 182	0. 273	0. 082
0. 226	0. 104							
60	REL_16112	1483260. 739	5613936. 613	510. 410	0. 283	0. 353	0. 938	0. 000
0. 006	0. 001							
61	REL_16113	1480147. 487	5611839. 412	501. 618	0. 260	0. 243	0. 559	0. 095
0. 078	0. 023							
62	REL_16114	1482789. 392	5609169. 701	507. 610	0. 328	0. 431	1. 096	0. 002
0. 019	0. 005							

63	REL_16115	1479801. 534	5606957. 686	520. 563	0. 323	0. 461	0. 693	0. 074
0. 208	0. 096							
64	REL_16121	1486030. 591	5616122. 854	452. 330	0. 171	0. 181	0. 273	0. 056
0. 183	0. 084							
65	REL_16122	1488593. 747	5613545. 005	485. 780	0. 281	0. 354	0. 934	0. 001
0. 012	0. 003							
66	REL_16123	1485606. 002	5611380. 025	502. 868	0. 260	0. 240	0. 554	0. 050
0. 040	0. 013							
67	REL_16124	1488372. 072	5608536. 938	511. 674	0. 327	0. 439	1. 089	0. 002
0. 020	0. 005							
68	REL_16125	1485369. 496	5606445. 753	524. 764	0. 320	0. 456	0. 684	0. 085
0. 122	0. 060							
69	REL_16131	1491608. 506	5615820. 087	513. 919	0. 169	0. 176	0. 268	0. 132
0. 232	0. 117							
70	REL_16132	1494077. 159	5613094. 458	519. 375	0. 276	0. 354	0. 939	0. 001
0. 014	0. 003							
71	REL_16133	1491018. 411	5610889. 131	506. 338	0. 257	0. 235	0. 552	0. 002
0. 029	0. 000							
72	REL_16134	1493658. 261	5608480. 332	511. 859	0. 317	0. 391	1. 084	0. 003
0. 027	0. 006							
73	REL_16135	1490471. 301	5606093. 521	521. 999	0. 316	0. 438	0. 675	0. 042
0. 190	0. 085							
74	REL_16141	1496872. 727	5614949. 326	499. 545	0. 166	0. 172	0. 263	0. 062
0. 197	0. 092							
75	REL_16142	1499444. 261	5612259. 684	501. 064	0. 271	0. 325	0. 914	0. 000
0. 003	0. 001							
76	REL_16143	1496163. 123	5610154. 634	534. 745	0. 252	0. 229	0. 541	0. 030
0. 005	0. 008							
77	REL_16144	1498948. 263	5607460. 001	524. 376	0. 314	0. 419	1. 052	0. 007
0. 077	0. 021							
78	REL_16145	1495758. 692	5605390. 537	519. 728	0. 313	0. 436	0. 665	0. 037
0. 226	0. 108							
79	REL_16151	1502360. 857	5614857. 998	364. 386	0. 167	0. 170	0. 266	0. 157
0. 263	0. 120							
80	REL_16152	1505092. 027	5612113. 884	356. 699	0. 264	0. 341	0. 900	0. 002
0. 020	0. 005							
81	REL_16153	1501877. 898	5610070. 345	480. 322	0. 240	0. 218	0. 515	0. 057
0. 044	0. 014							
82	REL_16154	1504591. 051	5607242. 084	368. 507	0. 288	0. 375	0. 991	0. 005
0. 052	0. 012							
83	REL_16155	1501507. 161	5605177. 301	546. 594	0. 291	0. 390	0. 622	0. 047
0. 193	0. 085							
84	REL_16161	1507919. 979	5614337. 028	345. 110	0. 167	0. 169	0. 269	0. 167
0. 177	0. 144							
85	REL_16162	1510652. 495	5611370. 347	351. 239	0. 261	0. 319	0. 861	0. 008
0. 084	0. 019							
86	REL_16163	1507372. 526	5609307. 045	362. 629	0. 233	0. 216	0. 516	0. 004
0. 104	0. 004							
87	REL_16164	1509804. 028	5606479. 714	367. 988	0. 277	0. 376	0. 943	0. 000
0. 001	0. 000							

88	REL_16165	1506603. 719	5604364. 095	373. 226	0. 287	0. 410	0. 639	0. 060
0. 331	0. 166							
89	REL_16171	1513263. 124	5614013. 148	348. 386	0. 178	0. 172	0. 283	0. 152
0. 295	0. 111							
90	REL_16172	1515958. 195	5611062. 300	420. 695	0. 293	0. 369	0. 961	0. 004
0. 038	0. 010							
91	REL_16173	1512311. 901	5608990. 443	354. 213	0. 242	0. 218	0. 562	0. 171
0. 126	0. 052							
92	REL_16174	1515245. 921	5606340. 000	385. 389	0. 333	0. 399	1. 154	0. 006
0. 053	0. 012							
93	REL_16175	1512077. 123	5603860. 718	373. 472	0. 310	0. 465	0. 754	0. 078
0. 165	0. 082							
94	REL_16181	1518764. 215	5613258. 323	434. 223	0. 227	0. 217	0. 363	0. 097
0. 104	0. 067							
95	REL_16182	1518292. 944	5608580. 280	402. 645	0. 464	0. 318	1. 049	0. 007
0. 066	0. 002							
96	REL_16183	1517810. 437	5604067. 916	397. 827	0. 571	0. 693	1. 339	0. 048
0. 215	0. 085							
97	REL_17011	1427418. 741	5631108. 295	220. 144	0. 212	0. 194	0. 343	0. 053
0. 172	0. 080							
98	REL_17012	1430431. 206	5628163. 394	268. 422	0. 248	0. 298	0. 837	0. 013
0. 126	0. 025							
99	REL_17013	1426830. 001	5626497. 590	287. 090	0. 380	0. 270	0. 889	0. 017
0. 146	0. 002							
100	REL_17014	1429518. 688	5623693. 053	322. 233	0. 274	0. 352	0. 925	0. 018
0. 153	0. 040							
101	REL_17021	1433000. 141	5630653. 414	331. 829	0. 155	0. 151	0. 236	0. 166
0. 221	0. 088							
102	REL_17022	1435511. 839	5627475. 965	314. 465	0. 246	0. 291	0. 833	0. 007
0. 072	0. 013							
103	REL_17023	1432392. 747	5625781. 538	279. 778	0. 217	0. 201	0. 475	0. 043
0. 162	0. 017							
104	REL_17024	1435046. 301	5622993. 339	276. 521	0. 256	0. 351	0. 877	0. 005
0. 044	0. 012							
105	REL_17031	1438130. 210	5630274. 987	255. 333	0. 158	0. 157	0. 245	0. 106
0. 312	0. 122							
106	REL_17032	1440876. 596	5627620. 699	253. 920	0. 255	0. 336	0. 861	0. 004
0. 052	0. 013							
107	REL_17033	1437705. 834	5625270. 487	291. 067	0. 215	0. 203	0. 464	0. 031
0. 100	0. 011							
108	REL_17034	1440496. 304	5622545. 763	305. 795	0. 258	0. 350	0. 873	0. 005
0. 050	0. 013							
109	REL_17041	1443521. 962	5629621. 971	306. 600	0. 162	0. 162	0. 251	0. 131
0. 219	0. 095							
110	REL_17042	1446361. 554	5627001. 922	296. 560	0. 261	0. 334	0. 887	0. 001
0. 017	0. 004							
111	REL_17043	1443160. 746	5624777. 450	299. 197	0. 219	0. 208	0. 475	0. 072
0. 056	0. 020							
112	REL_17044	1445884. 241	5622084. 360	371. 426	0. 263	0. 359	0. 899	0. 003
0. 029	0. 008							

113	REL_17051	1449124. 888	5629257. 922	263. 332	0. 164	0. 165	0. 257	0. 196
0. 269	0. 098							
114	REL_17052	1451760. 608	5626573. 322	423. 620	0. 262	0. 335	0. 873	0. 003
0. 035	0. 008							
115	REL_17053	1448700. 763	5624386. 907	457. 684	0. 221	0. 209	0. 471	0. 059
0. 106	0. 018							
116	REL_17054	1451304. 811	5621721. 108	486. 475	0. 265	0. 354	0. 885	0. 003
0. 031	0. 008							
117	REL_17061	1454225. 784	5628488. 085	383. 787	0. 164	0. 164	0. 253	0. 096
0. 268	0. 124							
118	REL_17062	1457146. 776	5626519. 944	214. 043	0. 266	0. 370	0. 918	0. 003
0. 034	0. 009							
119	REL_17063	1453998. 237	5623935. 467	482. 761	0. 223	0. 211	0. 473	0. 028
0. 106	0. 009							
120	REL_17064	1456669. 955	5621292. 061	230. 963	0. 271	0. 363	0. 940	0. 001
0. 014	0. 003							
121	REL_17071	1459881. 084	5628211. 570	213. 091	0. 164	0. 165	0. 260	0. 092
0. 273	0. 100							
122	REL_17072	1462589. 938	5625641. 416	229. 635	0. 264	0. 340	0. 898	0. 002
0. 023	0. 005							
123	REL_17073	1459525. 632	5623373. 899	221. 801	0. 227	0. 217	0. 496	0. 063
0. 149	0. 013							
124	REL_17074	1462459. 186	5620485. 855	232. 337	0. 273	0. 385	0. 933	0. 002
0. 016	0. 004							
125	REL_17081	1465387. 148	5627929. 869	305. 218	0. 163	0. 163	0. 255	0. 121
0. 208	0. 106							
126	REL_17082	1468056. 149	5625091. 546	347. 082	0. 261	0. 333	0. 875	0. 002
0. 028	0. 007							
127	REL_17083	1464834. 654	5622944. 799	327. 019	0. 225	0. 214	0. 483	0. 033
0. 028	0. 008							
128	REL_17084	1467383. 960	5620268. 366	490. 381	0. 266	0. 356	0. 881	0. 008
0. 097	0. 025							
129	REL_17091	1470830. 872	5627470. 602	364. 321	0. 162	0. 162	0. 252	0. 084
0. 184	0. 089							
130	REL_17092	1473463. 278	5624808. 201	318. 852	0. 261	0. 346	0. 883	0. 000
0. 001	0. 000							
131	REL_17093	1470343. 839	5622519. 029	472. 256	0. 221	0. 211	0. 468	0. 060
0. 118	0. 016							
132	REL_17094	1472986. 967	5619848. 938	485. 121	0. 263	0. 349	0. 879	0. 000
0. 003	0. 001							
133	REL_17101	1476274. 369	5626687. 827	450. 913	0. 161	0. 161	0. 248	0. 173
0. 239	0. 114							
134	REL_17102	1478757. 599	5624044. 934	462. 315	0. 256	0. 325	0. 857	0. 001
0. 011	0. 003							
135	REL_17103	1475615. 120	5621932. 773	400. 388	0. 221	0. 211	0. 473	0. 098
0. 066	0. 025							
136	REL_17104	1478317. 541	5619216. 653	415. 322	0. 263	0. 360	0. 889	0. 001
0. 016	0. 004							
137	REL_17111	1481613. 793	5626181. 357	481. 001	0. 160	0. 160	0. 245	0. 094
0. 303	0. 114							

138	REL_17112	1484200. 460	5623660. 369	499. 506	0. 254	0. 327	0. 845	0. 004
0. 046	0. 011							
139	REL_17113	1481215. 156	5621466. 502	482. 896	0. 218	0. 208	0. 463	0. 033
0. 012	0. 009							
140	REL_17114	1483697. 967	5618756. 205	411. 790	0. 261	0. 354	0. 880	0. 002
0. 023	0. 006							
141	REL_17121	1487043. 353	5625969. 034	481. 113	0. 158	0. 157	0. 241	0. 045
0. 281	0. 131							
142	REL_17122	1489698. 676	5623309. 467	503. 177	0. 250	0. 329	0. 823	0. 003
0. 031	0. 008							
143	REL_17123	1486583. 738	5621008. 071	498. 925	0. 216	0. 205	0. 456	0. 060
0. 031	0. 016							
144	REL_17124	1489148. 457	5618412. 500	500. 353	0. 256	0. 335	0. 848	0. 001
0. 014	0. 004							
145	REL_17131	1492587. 322	5625424. 790	509. 434	0. 152	0. 149	0. 230	0. 093
0. 324	0. 149							
146	REL_17132	1494939. 186	5622359. 590	492. 038	0. 238	0. 294	0. 796	0. 002
0. 017	0. 004							
147	REL_17133	1491936. 980	5620572. 117	494. 785	0. 211	0. 199	0. 446	0. 058
0. 041	0. 016							
148	REL_17134	1494443. 734	5617806. 585	518. 577	0. 251	0. 333	0. 835	0. 006
0. 056	0. 014							
149	REL_17141	1497754. 221	5624369. 378	403. 848	0. 151	0. 148	0. 230	0. 081
0. 260	0. 130							
150	REL_17142	1500519. 416	5622058. 801	343. 371	0. 251	0. 318	0. 839	0. 007
0. 067	0. 016							
151	REL_17143	1497192. 814	5619826. 470	487. 413	0. 208	0. 197	0. 443	0. 059
0. 086	0. 016							
152	REL_17144	1499817. 243	5617261. 185	526. 472	0. 252	0. 331	0. 836	0. 014
0. 129	0. 033							
153	REL_17151	1503384. 605	5624171. 808	315. 951	0. 157	0. 153	0. 242	0. 106
0. 246	0. 120							
154	REL_17152	1505953. 387	5621632. 166	324. 422	0. 253	0. 330	0. 856	0. 003
0. 033	0. 008							
155	REL_17153	1502622. 150	5619308. 930	340. 680	0. 214	0. 201	0. 462	0. 062
0. 197	0. 020							
156	REL_17154	1505295. 213	5616483. 680	341. 879	0. 255	0. 353	0. 873	0. 008
0. 076	0. 021							
157	REL_17161	1508673. 932	5623734. 070	325. 869	0. 156	0. 153	0. 242	0. 073
0. 202	0. 132							
158	REL_17162	1511305. 456	5620886. 871	354. 137	0. 249	0. 311	0. 835	0. 008
0. 093	0. 020							
159	REL_17163	1508110. 578	5618622. 977	330. 231	0. 214	0. 203	0. 466	0. 074
0. 179	0. 025							
160	REL_17164	1510742. 025	5616003. 545	339. 338	0. 255	0. 349	0. 867	0. 003
0. 034	0. 009							
161	REL_17171	1514164. 918	5623348. 646	400. 044	0. 151	0. 148	0. 235	0. 124
0. 327	0. 155							
162	REL_17172	1516761. 208	5620586. 896	371. 055	0. 246	0. 316	0. 832	0. 008
0. 114	0. 027							

163	REL_17173	1513564. 556	5618355. 454	368. 838	0. 216	0. 200	0. 472	0. 030
0. 113	0. 006							
164	REL_17174	1516221. 155	5615657. 085	376. 966	0. 266	0. 350	0. 918	0. 007
0. 085	0. 022							
165	REL_17181	1519655. 911	5622837. 087	467. 387	0. 144	0. 141	0. 216	0. 158
0. 154	0. 071							
166	REL_17182	1522195. 504	5620147. 147	522. 358	0. 253	0. 331	0. 821	0. 001
0. 012	0. 003							
167	REL_17183	1519145. 173	5618033. 153	491. 321	0. 220	0. 198	0. 467	0. 017
0. 083	0. 006							
168	REL_17184	1521518. 787	5615217. 674	527. 067	0. 307	0. 378	1. 017	0. 011
0. 106	0. 027							
169	REL_17191	1525076. 948	5622247. 890	481. 944	0. 191	0. 180	0. 312	0. 149
0. 199	0. 048							
170	REL_17193	1524675. 536	5617410. 003	496. 625	0. 412	0. 294	0. 932	0. 000
0. 003	0. 000							
171	REL_17195	1523815. 325	5612468. 575	536. 676	0. 490	0. 704	1. 193	0. 002
0. 009	0. 004							
172	REL_18011	1428065. 519	5640793. 878	193. 525	0. 247	0. 238	0. 415	0. 190
0. 080	0. 041							
173	REL_18012	1430872. 697	5638203. 469	188. 249	0. 264	0. 359	0. 915	0. 004
0. 053	0. 014							
174	REL_18013	1427769. 629	5635727. 869	207. 919	0. 369	0. 266	0. 893	0. 003
0. 039	0. 000							
175	REL_18014	1430730. 395	5633060. 792	216. 076	0. 246	0. 330	0. 850	0. 010
0. 104	0. 025							
176	REL_18021	1433736. 428	5640613. 574	188. 126	0. 174	0. 171	0. 274	0. 124
0. 274	0. 125							
177	REL_18022	1436580. 738	5637968. 052	196. 679	0. 264	0. 378	0. 911	0. 006
0. 068	0. 020							
178	REL_18023	1433384. 296	5635472. 464	210. 170	0. 214	0. 204	0. 475	0. 109
0. 115	0. 024							
179	REL_18024	1436014. 862	5632802. 044	317. 383	0. 246	0. 319	0. 857	0. 003
0. 024	0. 005							
180	REL_18031	1439080. 352	5639782. 789	195. 159	0. 171	0. 178	0. 277	0. 075
0. 205	0. 096							
181	REL_18032	1441863. 982	5637102. 142	224. 967	0. 266	0. 355	0. 904	0. 006
0. 074	0. 019							
182	REL_18033	1438784. 759	5634765. 554	295. 236	0. 215	0. 206	0. 468	0. 072
0. 141	0. 020							
183	REL_18034	1441453. 603	5632083. 333	235. 685	0. 257	0. 340	0. 885	0. 000
0. 004	0. 001							
184	REL_18041	1444403. 276	5639154. 257	266. 522	0. 173	0. 182	0. 281	0. 085
0. 242	0. 129							
185	REL_18042	1447264. 680	5636644. 783	313. 715	0. 268	0. 358	0. 900	0. 013
0. 166	0. 043							
186	REL_18043	1444067. 280	5634239. 469	276. 383	0. 222	0. 211	0. 479	0. 070
0. 060	0. 017							
187	REL_18044	1447007. 499	5631588. 044	264. 024	0. 262	0. 345	0. 889	0. 003
0. 039	0. 009							

188	REL_18051	1449781. 198	5639102. 873	294. 855	0. 175	0. 185	0. 283	0. 125
0. 290	0. 100							
189	REL_18052	1452571. 226	5636305. 822	208. 652	0. 271	0. 376	0. 942	0. 002
0. 024	0. 006							
190	REL_18053	1449521. 729	5633611. 170	257. 646	0. 224	0. 213	0. 487	0. 030
0. 112	0. 005							
191	REL_18054	1452495. 140	5631387. 814	232. 051	0. 262	0. 332	0. 910	0. 013
0. 129	0. 028							
192	REL_18061	1455481. 044	5638165. 204	203. 468	0. 174	0. 185	0. 287	0. 122
0. 245	0. 071							
193	REL_18062	1458083. 991	5635865. 502	210. 208	0. 270	0. 379	0. 926	0. 004
0. 040	0. 011							
194	REL_18063	1455005. 338	5633388. 811	217. 995	0. 224	0. 212	0. 489	0. 056
0. 147	0. 017							
195	REL_18064	1457651. 837	5631052. 665	214. 016	0. 260	0. 319	0. 899	0. 004
0. 038	0. 008							
196	REL_18071	1460945. 624	5637916. 429	211. 827	0. 172	0. 184	0. 285	0. 141
0. 209	0. 113							
197	REL_18072	1463489. 048	5635253. 702	219. 521	0. 261	0. 364	0. 894	0. 000
0. 000	0. 000							
198	REL_18073	1460315. 686	5632880. 280	215. 452	0. 221	0. 210	0. 481	0. 172
0. 263	0. 049							
199	REL_18074	1463120. 047	5630023. 878	220. 985	0. 257	0. 344	0. 884	0. 007
0. 067	0. 017							
200	REL_18081	1466093. 119	5637151. 902	291. 530	0. 167	0. 178	0. 278	0. 145
0. 239	0. 087							
201	REL_18082	1468859. 995	5634437. 940	463. 065	0. 246	0. 321	0. 810	0. 007
0. 092	0. 023							
202	REL_18083	1465717. 824	5632173. 778	296. 069	0. 215	0. 204	0. 464	0. 069
0. 097	0. 018							
203	REL_18084	1468607. 222	5629525. 957	362. 523	0. 249	0. 333	0. 835	0. 002
0. 022	0. 006							
204	REL_18091	1471543. 796	5636857. 293	307. 273	0. 168	0. 178	0. 278	0. 159
0. 226	0. 094							
205	REL_18092	1474242. 080	5634190. 950	436. 802	0. 257	0. 346	0. 852	0. 004
0. 043	0. 011							
206	REL_18093	1471248. 835	5631734. 509	443. 080	0. 212	0. 201	0. 451	0. 032
0. 030	0. 008							
207	REL_18094	1474077. 923	5629224. 058	474. 554	0. 251	0. 326	0. 836	0. 009
0. 101	0. 024							
208	REL_18101	1476916. 629	5636127. 638	458. 353	0. 169	0. 177	0. 276	0. 131
0. 236	0. 075							
209	REL_18102	1479531. 895	5633808. 598	474. 737	0. 261	0. 360	0. 870	0. 007
0. 079	0. 022							
210	REL_18103	1476604. 873	5631461. 315	459. 780	0. 217	0. 205	0. 458	0. 038
0. 119	0. 013							
211	REL_18104	1479342. 599	5628950. 229	483. 470	0. 254	0. 317	0. 846	0. 004
0. 045	0. 010							
212	REL_18111	1482233. 033	5635819. 065	454. 964	0. 170	0. 180	0. 278	0. 114
0. 256	0. 070							

213	REL_18112	1484922. 024	5633225. 862	486. 138	0. 260	0. 354	0. 858	0. 001
0. 012	0. 003							
214	REL_18113	1481903. 098	5630898. 671	470. 669	0. 218	0. 206	0. 459	0. 018
0. 097	0. 007							
215	REL_18114	1484708. 270	5628405. 619	512. 258	0. 252	0. 314	0. 829	0. 001
0. 007	0. 001							
216	REL_18121	1487996. 899	5635196. 727	451. 832	0. 170	0. 178	0. 274	0. 116
0. 231	0. 137							
217	REL_18122	1490514. 422	5632562. 179	502. 176	0. 256	0. 345	0. 844	0. 008
0. 068	0. 018							
218	REL_18123	1487443. 028	5630430. 657	471. 110	0. 216	0. 203	0. 452	0. 091
0. 168	0. 029							
219	REL_18124	1490230. 191	5627743. 919	471. 877	0. 246	0. 312	0. 820	0. 001
0. 012	0. 003							
220	REL_18131	1493342. 530	5634491. 251	492. 624	0. 167	0. 175	0. 267	0. 134
0. 288	0. 102							
221	REL_18132	1495897. 310	5631920. 839	481. 544	0. 249	0. 335	0. 825	0. 007
0. 060	0. 016							
222	REL_18133	1492730. 441	5629782. 192	489. 697	0. 209	0. 198	0. 441	0. 038
0. 241	0. 004							
223	REL_18134	1495502. 160	5627005. 790	484. 088	0. 236	0. 309	0. 787	0. 014
0. 119	0. 029							
224	REL_18141	1498584. 200	5633871. 706	289. 710	0. 168	0. 176	0. 274	0. 122
0. 161	0. 074							
225	REL_18142	1501332. 385	5631423. 087	302. 066	0. 257	0. 343	0. 855	0. 005
0. 052	0. 014							
226	REL_18143	1498125. 977	5628942. 593	335. 450	0. 209	0. 198	0. 445	0. 011
0. 095	0. 002							
227	REL_18144	1501042. 231	5626187. 317	312. 172	0. 248	0. 337	0. 831	0. 002
0. 016	0. 004							
228	REL_18151	1503997. 000	5633415. 511	299. 273	0. 169	0. 177	0. 275	0. 080
0. 244	0. 092							
229	REL_18152	1506634. 671	5630901. 985	309. 019	0. 256	0. 346	0. 860	0. 003
0. 028	0. 007							
230	REL_18153	1503599. 605	5628583. 598	304. 654	0. 214	0. 202	0. 456	0. 010
0. 062	0. 003							
231	REL_18154	1506511. 028	5625908. 214	320. 063	0. 249	0. 325	0. 836	0. 006
0. 060	0. 014							
232	REL_18161	1509594. 567	5632800. 846	338. 373	0. 166	0. 176	0. 272	0. 071
0. 208	0. 090							
233	REL_18162	1512137. 036	5630415. 981	351. 145	0. 252	0. 347	0. 844	0. 005
0. 044	0. 012							
234	REL_18163	1508928. 431	5628217. 111	318. 813	0. 212	0. 201	0. 454	0. 055
0. 138	0. 010							
235	REL_18164	1511782. 799	5625495. 764	383. 983	0. 242	0. 309	0. 814	0. 001
0. 012	0. 003							
236	REL_18171	1515042. 635	5632488. 867	383. 407	0. 162	0. 171	0. 262	0. 116
0. 239	0. 077							
237	REL_18172	1517701. 734	5629747. 377	417. 935	0. 242	0. 332	0. 795	0. 009
0. 073	0. 020							

238	REL_18173	1514531. 758	5627524. 143	381. 243	0. 205	0. 195	0. 435	0. 051
0. 106	0. 010							
239	REL_18174	1517091. 259	5624888. 983	370. 935	0. 233	0. 295	0. 781	0. 004
0. 029	0. 006							
240	REL_18181	1520272. 625	5631499. 835	504. 205	0. 153	0. 157	0. 238	0. 128
0. 254	0. 116							
241	REL_18182	1523014. 793	5628911. 278	481. 189	0. 234	0. 309	0. 763	0. 002
0. 019	0. 005							
242	REL_18183	1519864. 908	5626663. 353	492. 584	0. 193	0. 187	0. 399	0. 114
0. 046	0. 028							
243	REL_18184	1522658. 801	5624058. 274	514. 477	0. 236	0. 305	0. 775	0. 006
0. 053	0. 013							
244	REL_18191	1525523. 153	5630912. 584	518. 675	0. 145	0. 145	0. 210	0. 099
0. 198	0. 077							
245	REL_18192	1528188. 271	5628381. 258	521. 151	0. 243	0. 332	0. 804	0. 002
0. 017	0. 004							
246	REL_18193	1525085. 574	5626216. 829	500. 274	0. 204	0. 192	0. 433	0. 022
0. 048	0. 005							
247	REL_18194	1528063. 945	5623604. 288	521. 026	0. 279	0. 338	0. 916	0. 000
0. 004	0. 001							
248	REL_18201	1530922. 298	5630601. 369	510. 995	0. 215	0. 231	0. 377	0. 048
0. 280	0. 150							
249	REL_18203	1530967. 625	5625800. 512	486. 395	0. 403	0. 278	0. 908	0. 002
0. 023	0. 001							
250	REL_18205	1530381. 482	5620953. 519	519. 661	0. 462	0. 624	1. 101	0. 045
0. 194	0. 087							
251	REL_19011	1429057. 795	5650605. 729	692. 194	0. 605	0. 832	1. 397	0. 000
0. 001	0. 001							
252	REL_19012	1431864. 438	5648001. 439	271. 244	0. 349	0. 445	1. 211	0. 012
0. 097	0. 026							
253	REL_19013	1428811. 533	5645394. 540	623. 567	0. 407	0. 292	0. 967	0. 009
0. 080	0. 002							
254	REL_19021	1434647. 582	5649838. 727	209. 940	0. 349	0. 479	0. 808	0. 070
0. 216	0. 095							
255	REL_19022	1437277. 501	5647584. 650	187. 933	0. 325	0. 454	1. 123	0. 009
0. 074	0. 022							
256	REL_19023	1434195. 105	5644996. 800	208. 572	0. 252	0. 222	0. 566	0. 118
0. 129	0. 026							
257	REL_19024	1437091. 212	5642477. 264	193. 854	0. 270	0. 334	0. 933	0. 002
0. 020	0. 004							
258	REL_19031	1439596. 088	5649182. 188	183. 627	0. 318	0. 444	0. 722	0. 088
0. 186	0. 084							
259	REL_19032	1442496. 319	5646648. 849	180. 526	0. 323	0. 428	1. 122	0. 003
0. 033	0. 008							
260	REL_19033	1439447. 108	5644254. 439	189. 479	0. 252	0. 232	0. 562	0. 086
0. 122	0. 022							
261	REL_19034	1442585. 225	5641754. 158	196. 115	0. 279	0. 360	0. 967	0. 005
0. 060	0. 014							
262	REL_19041	1445294. 411	5648923. 919	181. 424	0. 326	0. 467	0. 717	0. 080
0. 159	0. 076							

263	REL_19042	1448084. 550	5646391. 129	201. 872	0. 340	0. 465	1. 147	0. 001
0. 013	0. 004							
264	REL_19043	1445052. 577	5643888. 591	202. 180	0. 261	0. 242	0. 570	0. 093
0. 114	0. 026							
265	REL_19044	1447997. 264	5641400. 280	289. 913	0. 286	0. 353	0. 958	0. 009
0. 080	0. 018							
266	REL_19051	1450855. 449	5648460. 554	180. 119	0. 334	0. 482	0. 726	0. 030
0. 115	0. 056							
267	REL_19052	1453585. 339	5645897. 924	194. 891	0. 346	0. 484	1. 167	0. 000
0. 001	0. 000							
268	REL_19053	1450814. 621	5643300. 603	196. 277	0. 267	0. 246	0. 579	0. 057
0. 133	0. 019							
269	REL_19054	1453279. 280	5641032. 378	202. 305	0. 289	0. 344	0. 982	0. 001
0. 010	0. 002							
270	REL_19061	1456230. 489	5647869. 687	197. 768	0. 333	0. 487	0. 731	0. 022
0. 109	0. 053							
271	REL_19062	1458974. 187	5645223. 835	204. 583	0. 341	0. 476	1. 162	0. 008
0. 065	0. 019							
272	REL_19063	1455961. 328	5642832. 330	196. 682	0. 266	0. 247	0. 582	0. 014
0. 059	0. 005							
273	REL_19064	1458670. 553	5640339. 212	209. 869	0. 285	0. 347	0. 979	0. 004
0. 028	0. 006							
274	REL_19071	1461721. 470	5647050. 670	216. 124	0. 326	0. 466	0. 711	0. 058
0. 293	0. 139							
275	REL_19072	1464417. 389	5644497. 029	309. 905	0. 331	0. 456	1. 103	0. 001
0. 005	0. 001							
276	REL_19073	1461331. 777	5642028. 901	215. 189	0. 261	0. 244	0. 567	0. 044
0. 070	0. 013							
277	REL_19074	1464200. 948	5639614. 731	319. 433	0. 279	0. 343	0. 938	0. 006
0. 044	0. 009							
278	REL_19081	1466994. 467	5646399. 495	281. 294	0. 320	0. 459	0. 699	0. 039
0. 242	0. 110							
279	REL_19082	1469754. 440	5643803. 486	285. 478	0. 325	0. 447	1. 101	0. 002
0. 019	0. 005							
280	REL_19083	1466823. 164	5641473. 680	297. 703	0. 257	0. 242	0. 559	0. 011
0. 093	0. 005							
281	REL_19084	1469527. 587	5638850. 300	296. 834	0. 276	0. 351	0. 941	0. 002
0. 014	0. 003							
282	REL_19091	1471952. 509	5645599. 840	268. 392	0. 313	0. 437	0. 689	0. 090
0. 116	0. 078							
283	REL_19092	1474916. 176	5643222. 903	267. 047	0. 325	0. 441	1. 090	0. 003
0. 027	0. 007							
284	REL_19093	1471912. 769	5640584. 205	278. 317	0. 254	0. 239	0. 551	0. 013
0. 126	0. 008							
285	REL_19094	1474914. 551	5638268. 376	307. 943	0. 278	0. 350	0. 927	0. 006
0. 056	0. 013							
286	REL_19101	1477743. 069	5645399. 885	380. 416	0. 319	0. 464	0. 689	0. 044
0. 208	0. 101							
287	REL_19102	1480403. 698	5642792. 973	388. 293	0. 326	0. 457	1. 108	0. 007
0. 065	0. 018							

288	REL_19103	1477358. 318	5640597. 084	313. 126	0. 258	0. 244	0. 560	0. 070
0. 074	0. 015							
289	REL_19104	1480166. 151	5637949. 121	450. 825	0. 277	0. 339	0. 937	0. 004
0. 041	0. 009							
290	REL_19111	1482828. 961	5644699. 836	450. 279	0. 315	0. 447	0. 681	0. 041
0. 210	0. 099							
291	REL_19112	1485782. 158	5642042. 298	448. 194	0. 325	0. 419	1. 072	0. 005
0. 071	0. 018							
292	REL_19113	1482802. 963	5639768. 778	366. 750	0. 257	0. 239	0. 553	0. 014
0. 158	0. 001							
293	REL_19114	1485807. 179	5637123. 574	438. 300	0. 279	0. 360	0. 923	0. 001
0. 012	0. 003							
294	REL_19121	1488550. 536	5643782. 450	451. 895	0. 311	0. 409	0. 666	0. 040
0. 104	0. 043							
295	REL_19122	1491077. 928	5641765. 101	493. 439	0. 324	0. 428	1. 080	0. 004
0. 058	0. 015							
296	REL_19123	1488306. 060	5639364. 649	452. 403	0. 257	0. 235	0. 548	0. 049
0. 116	0. 014							
297	REL_19124	1491157. 910	5636984. 454	469. 155	0. 276	0. 344	0. 922	0. 004
0. 059	0. 013							
298	REL_19131	1493888. 797	5644436. 401	261. 303	0. 330	0. 497	0. 723	0. 131
0. 152	0. 072							
299	REL_19132	1496808. 587	5641883. 523	270. 470	0. 340	0. 495	1. 152	0. 003
0. 029	0. 009							
300	REL_19133	1493844. 304	5639497. 026	475. 619	0. 260	0. 241	0. 554	0. 008
0. 067	0. 003							
301	REL_19134	1496839. 244	5636914. 910	283. 826	0. 283	0. 325	0. 960	0. 007
0. 062	0. 011							
302	REL_19141	1499448. 595	5643712. 532	278. 936	0. 326	0. 473	0. 710	0. 041
0. 127	0. 061							
303	REL_19142	1502175. 144	5641083. 008	304. 959	0. 334	0. 466	1. 121	0. 014
0. 119	0. 035							
304	REL_19143	1499018. 139	5638710. 765	285. 151	0. 261	0. 238	0. 564	0. 082
0. 167	0. 015							
305	REL_19144	1501903. 763	5636094. 005	291. 743	0. 279	0. 335	0. 944	0. 001
0. 007	0. 001							
306	REL_19151	1504915. 622	5642815. 416	376. 237	0. 315	0. 445	0. 682	0. 101
0. 170	0. 076							
307	REL_19152	1507596. 205	5640338. 237	390. 872	0. 322	0. 448	1. 088	0. 007
0. 059	0. 017							
308	REL_19153	1504479. 478	5637788. 823	347. 214	0. 255	0. 234	0. 551	0. 051
0. 067	0. 012							
309	REL_19154	1507361. 180	5635309. 824	355. 614	0. 275	0. 344	0. 935	0. 001
0. 008	0. 002							
310	REL_19161	1510177. 847	5642315. 418	361. 528	0. 304	0. 446	0. 665	0. 034
0. 196	0. 093							
311	REL_19162	1512854. 420	5639732. 553	329. 525	0. 309	0. 434	1. 049	0. 006
0. 054	0. 015							
312	REL_19163	1509853. 656	5637264. 149	390. 089	0. 249	0. 233	0. 539	0. 048
0. 187	0. 014							

313 0. 031	REL_19164 0. 008	1512675. 645	5634552. 452	349. 659	0. 267	0. 347	0. 906	0. 004
314 0. 250	REL_19171 0. 111	1515565. 978	5641644. 195	365. 829	0. 295	0. 430	0. 645	0. 070
315 0. 020	REL_19172 0. 005	1518345. 078	5639046. 079	434. 803	0. 301	0. 402	1. 000	0. 002
316 0. 109	REL_19173 0. 005	1515428. 790	5637968. 283	338. 525	0. 253	0. 250	0. 552	0. 028
317 0. 017	REL_19174 0. 004	1518069. 955	5634127. 084	409. 223	0. 259	0. 327	0. 869	0. 002
318 0. 171	REL_19175 0. 011	1515142. 165	5635839. 056	339. 796	0. 238	0. 226	0. 519	0. 071
319 0. 196	REL_19181 0. 090	1521015. 475	5641003. 248	464. 471	0. 322	0. 428	0. 699	0. 033
320 0. 022	REL_19182 0. 006	1523751. 558	5638484. 634	501. 839	0. 326	0. 392	1. 066	0. 002
321 0. 036	REL_19183 0. 012	1520765. 055	5636052. 643	467. 049	0. 242	0. 213	0. 517	0. 050
322 0. 051	REL_19184 0. 012	1523703. 398	5633604. 692	488. 987	0. 252	0. 314	0. 833	0. 005
323 0. 221	REL_19191 0. 101	1526181. 036	5640471. 721	490. 704	0. 369	0. 451	0. 826	0. 045
324 0. 011	REL_19192 0. 003	1528976. 604	5638050. 681	517. 338	0. 372	0. 448	1. 261	0. 001
325 0. 123	REL_19193 0. 012	1526066. 958	5635537. 569	497. 063	0. 244	0. 205	0. 525	0. 041
326 0. 144	REL_19194 0. 034	1529003. 048	5633164. 419	519. 243	0. 259	0. 353	0. 872	0. 010
327 0. 483	REL_19201 0. 240	1531654. 224	5640487. 253	506. 863	0. 688	0. 873	1. 558	0. 064
328 0. 013	REL_19203 0. 000	1531882. 588	5635608. 763	485. 430	0. 476	0. 351	1. 111	0. 001
0. 107	0. 037	0. 124		mean	0. 262	0. 312	0. 705	0. 040

---	Mean	Predicted	Standard	Errors	---
---	(i ncl udi ng Control Points)		(excl udi ng Control Points)		---
---	0. 258	Sx	0. 262		---
---	0. 306	Sy	0. 312		---
---	0. 690	Sz	0. 705		---
---	0. 798	Spheri cal	0. 814		---

AeroSys-AT Bundle Adjustment, <PRO Pkg> AeroSys-AT v7.2 © 1989-2009 MHS  
Project ID: Foothills 16-19  
System Memory Storage Summary

No. of Cameras = 1 =====> 0.0 Kbytes  
No. of Photos = 77 =====> 15.0 Kbytes  
No. of Points = 328 =====> 30.8 Kbytes  
No. of Photo Coordinates = 991 =====> 38.7 Kbytes

Total Data Storage Required =====> 84.5 Kbytes

System Computing Time Summary

Number of Iterations:

Reading Data Input Files: 0 Hrs 0 Min 0.05 Sec  
Initializing Data Structures: 0 Hrs 0 Min 0.03 Sec

Forming & Solving Normal Equations: 0 Hrs 0 Min 2.66 Sec  
Per Iteration: 0 Hrs 0 Min 0.22 Sec

Cholesky Solution Per Iteration: 0 Hrs 0 Min 0.02 Sec

Details:  
Decomposition -->: 0 Hrs 0 Min 0.02 Sec  
Forward Elimination -->: 0 Hrs 0 Min 0.00 Sec  
Back Substitution -->: 0 Hrs 0 Min 0.00 Sec

Forming Normal Eqns Per Iteration: 0 Hrs 0 Min 0.21 Sec

Details:  
Init Variables -->: 0 Hrs 0 Min 0.00 Sec  
Add APs Obs -->: 0 Hrs 0 Min 0.00 Sec  
Add AB-GPS Spc -->: 0 Hrs 0 Min 0.00 Sec  
Add Photo Obs -->: 0 Hrs 0 Min 0.00 Sec  
Add Pointwise -->: 0 Hrs 0 Min 0.14 Sec  
Invert N dldot -->: 0 Hrs 0 Min 0.00 Sec  
Form SE sgl dot -->: 0 Hrs 0 Min 0.00 Sec  
Form S sgl dot OffDiag -->: 0 Hrs 0 Min 0.03 Sec  
Transfer SE2 Diag&Rhs -->: 0 Hrs 0 Min 0.00 Sec

Normal Equations Inverse: 0 Hrs 0 Min 0.20 Sec  
Statistics: 0 Hrs 0 Min 4.56 Sec

Total Computing Time: 0 Hrs 0 Min 7.59 Sec

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Foothills West Flight Lines 20 thru 23  
AeroSys-AT Bundle Adjustment, <PRO Pkg> AeroSys-AT v7.2 © 1989-2009 MHS  
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----- General Statistics -----

No. of Cameras used: 1  
No. of Photos: 65  
No. of Object Points: 278  
No. of Flight Strips: 4  
No. of A-GPS Drift Params: 6  
Total Unknowns: 1230  
  
No. of Image Points: 828  
No. of Surveying Obsv: 0  
No. of APs: 0

DOFs due to camera center obsrv: 195  
DOFs due to ground control pts: 21  
DOFs due to image coord obsrv: 1656

Total Degrees of Freedom (Nobsrv - Nunkns): 642

----- Block Reliability Statistic (Average Degrees of Freedom) -----

for single strip blocks, want Avg\_DOF >= (~) 0.25  
for corridor multi-strip blocks, want Avg\_DOF >= (~) 0.35  
for rectangular blocks, want Avg\_DOF >= 0.50

Average Degrees of Freedom (DOFs / Nunkns): 0.52

----- Image Ray Distribution -----

Number of 2-Fold points = 139 Pct = 50.0  
Number of 3-Fold points = 90 Pct = 32.4  
Number of 4-Fold points = 6 Pct = 2.2  
Number of 5-Fold points = 2 Pct = 0.7  
Number of 6-Fold points = 41 Pct = 14.7  
Number of 7-Fold points = 0 Pct = 0.0  
Number of 8-Fold points = 0 Pct = 0.0  
Number of 9-Fold points = 0 Pct = 0.0  
Number of 10-Fold points = 0 Pct = 0.0  
Number of 11-Fold points = 0 Pct = 0.0  
Number of 12-Fold points = 0 Pct = 0.0

-----  
Final Sigma0 Statistic (Post-Adjustment Standard Deviation of Unit Weight)  
-----

For a reliable block adjustment, the final Sigma0 must reside within the Chi-squared interval surrounding the value of 1.0

The size of this statistical interval, i.e., [Low\_So <--- 1.0 ---> High\_So] is determined by the total number of DOFs in the adjustment.  
The larger total DOFs, the smaller the Chi-squared interval.

An optimum adjustment solution can be obtained by balancing the observational weights to achieve a Final Sigma0 of exactly 1.0 .... typically the weights of the photocoordinate observations are balanced against the ground control weights.

Final Sigma0 (for this adjustment) = 1.00

Override Option Mode = ON  
Scaled (photocoordinate weight) Sx = 0.0048 (units = mm)  
Scaled (photocoordinate weight) Sy = 0.0048 (units = mm)

---

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Standardized Photocoordinate Residuals:  $Wi = Vi / (\sqrt{1/WT - A(N^{**}-1)AT}) * \Sigma \sigma_0$

Points | (Pht No., Wx, Wy) Note: Wx & Wy are UNIT-LESS statistics; Outlier Criterion  $Wi > 3.29$

---

0 possible blunders/outliers detected

---

\* Denotes that Critical Value of 3.29 exceeded, i.e. possible gross error

Maximum Standardized Residual = 2.96 from Point No. 22151 on Photo No. 314

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Population Distribution of Standardized Residuals in X

---

Bl under	0
-3.20	0

-3.00	0
-2.80	0
-2.60	0
-2.40	0
-2.20	0
-2.00	0
-1.80	1
-1.60	0
-1.40	1
-1.20	7
-1.00	7
-0.80	19
-0.60	37
-0.40	67
-0.20	100
0.00	
380	
0.20	97
0.40	49
0.60	32
0.80	18
1.00	9
1.20	2
1.40	2
1.60	0
1.80	0
2.00	0
2.20	0
2.40	0
2.60	0
2.80	0
3.00	0
3.20	0
BI under	0

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---

#### Population Distribution of Standardized Residuals in Y

---

BI under	0
-3.20	0
-3.00	0
-2.80	0
-2.60	0
-2.40	1
-2.20	2
-2.00	3

-1.80	6	:
-1.60	15	..
-1.40	19	....
-1.20	22	.....
-1.00	27	....
-0.80	29	....
-0.60	37	.....
-0.40	56	.....
-0.20	115	.....
0.00	170	.....
0.20	119	.....
0.40	64	.....
0.60	32	.....
0.80	22	....
1.00	14	....
1.20	21	....
1.40	15	....
1.60	17	....
1.80	12	....
2.00	6	..
2.20	1	.
2.40	0	.
2.60	1	.
2.80	1	.
3.00	1	.
3.20	0	.
Bl under	0	

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<----->  
< Ten Largest Photocoordinate Residuals >  
< PointNo, PhotoNo, Vx, Vy (units=mm) >

20121	111	-0.002	0.011
22131	312	0.003	0.010
20131	112	0.002	0.013
22151	314	-0.003	0.014
20141	113	-0.003	0.013
20075	106	0.002	-0.011
22151	315	-0.001	-0.012
20091	108	-0.001	0.010
21031	202	0.000	-0.011
20081	107	0.000	0.010

--- Root Mean Square Image Coordinate Errors, ---  
---

Average Magnitude of Residuals (AMR)

and

Mean of Image Coordinate Errors

---

Image system units = microns

	Overall	Ctrl Pts	Pass Pts
Rays	= 828	20	808
RMS Vx	= 1.8	2.8	1.7
RMS Vy	= 3.7	3.1	3.7
RMS Vxy	= 4.1	4.2	4.0
AMR Vx	= 1.1	2.3	1.1
AMR Vy	= 2.6	2.5	2.6
AMR Vxy	= 2.8	3.4	2.8
mean Vx	= -0.1	-0.6	-0.1
mean Vy	= 0.0	-1.8	0.0
mean Vxy	= -0.1	-2.4	0.0

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## Adjusted Control Points & Least Squares Residuals

----- Object Space or Ground Control Units ----- <-- Unitless  
Statistics ->  
No. <-- Point ID --><-- Xg --><-- Yg --><-- Zg --> <Res X> <Res Y> <Res Z> <Std Wx> <Std Wy> <Std Wz>

0.69	-0.34									
5										
1.06	-0.40	1305	1431695.239	5643245.092	643.745	-0.023	0.033	-0.004	-0.75	
6										
1.52	-2.37	1304	1404990.293	5636702.538	517.928	0.001	0.052	-0.032	0.03	
7										
0.22	0.54	1301	1355632.035	5627611.097	696.448	0.033	0.010	0.010	0.84	
						rms	0.033	0.049	0.019	
						amr	0.027	0.042	0.015	
						mean	0.000	0.000	0.000	

\*\*#@! --> Denotes an AUTO\_DETECTED gross error

\* Denotes that critical value of 3.29 is exceeded, i.e. possible gross error!

Maximum Standardized Residual = -2.77 from Control Point No. 1303

----- Control Point Root Mean Square Errors -----

-- Axis --- 3D Control --- Horizontal Control --- Vertical Control ---

RMS Vx	0.033	0.033
RMS Vy	0.049	0.049
RMS Vz	0.019	0.019
RMS Vs	0.243	

<--ground coordinate units-->

<----unit-less----->

<Space Intersection Residuals>

< Lst-Sqrs Standardized Wxyz >

< POINT_ID	><Rays><	Dx	><	Dy	><	Dz	><GCP Type><	Std Wx	><	Std Wy	><	Std Wz
1303	2	0.198		-0.519		-0.643	FCP	0.65		-2.77		-0.67
1307	3	-0.041		-0.124		0.304	FCP	-0.25		-1.18		2.15
1306	4	-0.197		0.056		0.040	FCP	-1.36		0.42		0.38
1302	4	0.120		0.096		-0.045	FCP	0.81		0.69		-0.34
1305	2	-0.107		0.227		0.203	FCP	-0.75		1.06		-0.40
1304	2	-0.042		0.037		-0.774	FCP	0.03		1.52		-2.37
1301	3	0.116		0.029		0.092	FCP	0.84		0.22		0.54
RMS		0.131		0.224		0.407						

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Airborne GPS Drift Parameters: SetNo, Cx, Cy, Cz, Lx, Ly, Lz  
 Significance Numbers: SetNo, Ncx, Ncy, Ncz, NIx, NIy, NIz Flags

AB-GPS Dri ft Params: 1 -1. 094 1. 121 1. 892 0. 001 -0. 001 0. 000  
 Si gni fi cance Test: 1 4. 5 3. 5 5. 1 4. 7 3. 9 1. 1 . . . . ?

## Camera Center AB-GPS Del tas:

Photo\_ID, StripNo, PhotoNo, Shift\_X, Shift\_Y, Shift\_Z, Drift\_X, Drift\_Y, Drift\_Z, dX, dY, dZ

114 1. 892	1	15	-1. 094	1. 121	1. 892	0. 000	0. 000	0. 000	-1. 094	1. 121
113 1. 886	1	14	-1. 094	1. 121	1. 892	0. 016	-0. 019	-0. 007	-1. 078	1. 102
112 1. 879	1	13	-1. 094	1. 121	1. 892	0. 032	-0. 038	-0. 013	-1. 062	1. 084
111 1. 873	1	12	-1. 094	1. 121	1. 892	0. 048	-0. 056	-0. 020	-1. 046	1. 065
110 1. 866	1	11	-1. 094	1. 121	1. 892	0. 064	-0. 075	-0. 026	-1. 030	1. 046
109 1. 860	1	10	-1. 094	1. 121	1. 892	0. 081	-0. 094	-0. 033	-1. 014	1. 027
108 1. 853	1	9	-1. 094	1. 121	1. 892	0. 097	-0. 113	-0. 039	-0. 998	1. 009
107 1. 847	1	8	-1. 094	1. 121	1. 892	0. 112	-0. 131	-0. 045	-0. 982	0. 990
106 1. 840	1	7	-1. 094	1. 121	1. 892	0. 128	-0. 149	-0. 052	-0. 966	0. 972
105 1. 834	1	6	-1. 094	1. 121	1. 892	0. 144	-0. 168	-0. 058	-0. 950	0. 953
104 1. 827	1	5	-1. 094	1. 121	1. 892	0. 160	-0. 187	-0. 065	-0. 934	0. 935
103 1. 821	1	4	-1. 094	1. 121	1. 892	0. 176	-0. 205	-0. 071	-0. 918	0. 916
102 1. 815	1	3	-1. 094	1. 121	1. 892	0. 192	-0. 224	-0. 078	-0. 902	0. 897

101										
1. 808	1	2	-1. 094	1. 121	1. 892	0. 208	-0. 242	-0. 084	-0. 886	0. 879
100										
1. 802	1	1	-1. 094	1. 121	1. 892	0. 223	-0. 261	-0. 090	-0. 871	0. 861
214										
1. 637	2	1	-1. 094	1. 121	1. 892	0. 630	-0. 735	-0. 255	-0. 464	0. 386
213										
1. 644	2	2	-1. 094	1. 121	1. 892	0. 614	-0. 716	-0. 248	-0. 480	0. 405
212										
1. 650	2	3	-1. 094	1. 121	1. 892	0. 598	-0. 698	-0. 242	-0. 496	0. 424
211										
1. 657	2	4	-1. 094	1. 121	1. 892	0. 582	-0. 679	-0. 236	-0. 512	0. 442
209										
1. 670	2	6	-1. 094	1. 121	1. 892	0. 550	-0. 642	-0. 223	-0. 544	0. 480
210										
1. 663	2	5	-1. 094	1. 121	1. 892	0. 566	-0. 661	-0. 229	-0. 528	0. 461
208										
1. 676	2	7	-1. 094	1. 121	1. 892	0. 534	-0. 623	-0. 216	-0. 561	0. 499
207										
1. 683	2	8	-1. 094	1. 121	1. 892	0. 517	-0. 604	-0. 209	-0. 577	0. 517
206										
1. 689	2	9	-1. 094	1. 121	1. 892	0. 501	-0. 585	-0. 203	-0. 593	0. 536
205										
1. 696	2	10	-1. 094	1. 121	1. 892	0. 485	-0. 566	-0. 196	-0. 609	0. 555
203										
1. 709	2	12	-1. 094	1. 121	1. 892	0. 454	-0. 529	-0. 184	-0. 641	0. 592
204										
1. 702	2	11	-1. 094	1. 121	1. 892	0. 469	-0. 548	-0. 190	-0. 625	0. 573
202										
1. 715	2	13	-1. 094	1. 121	1. 892	0. 438	-0. 511	-0. 177	-0. 656	0. 611
200										
1. 728	2	15	-1. 094	1. 121	1. 892	0. 405	-0. 473	-0. 164	-0. 689	0. 648
201										
1. 722	2	14	-1. 094	1. 121	1. 892	0. 421	-0. 492	-0. 171	-0. 673	0. 629
316										
1. 551	3	17	-1. 094	1. 121	1. 892	0. 843	-0. 984	-0. 341	-0. 251	0. 138
315										
1. 545	3	16	-1. 094	1. 121	1. 892	0. 858	-1. 002	-0. 347	-0. 236	0. 119
314										
1. 538	3	15	-1. 094	1. 121	1. 892	0. 874	-1. 021	-0. 354	-0. 220	0. 101
313										
1. 532	3	14	-1. 094	1. 121	1. 892	0. 890	-1. 039	-0. 360	-0. 204	0. 082
312										
1. 525	3	13	-1. 094	1. 121	1. 892	0. 906	-1. 057	-0. 367	-0. 188	0. 064
311										
1. 519	3	12	-1. 094	1. 121	1. 892	0. 922	-1. 076	-0. 373	-0. 172	0. 045
310										
1. 512	3	11	-1. 094	1. 121	1. 892	0. 938	-1. 095	-0. 380	-0. 156	0. 026

309	3	10	-1.094	1.121	1.892	0.954	-1.113	-0.386	-0.140	0.008
1.506										
308	3	9	-1.094	1.121	1.892	0.970	-1.132	-0.393	-0.124	-0.011
1.500										
307	3	8	-1.094	1.121	1.892	0.986	-1.151	-0.399	-0.108	-0.029
1.493										
306	3	7	-1.094	1.121	1.892	1.002	-1.169	-0.406	-0.092	-0.048
1.487										
305	3	6	-1.094	1.121	1.892	1.018	-1.188	-0.412	-0.076	-0.067
1.480										
304	3	5	-1.094	1.121	1.892	1.034	-1.206	-0.418	-0.061	-0.085
1.474										
303	3	4	-1.094	1.121	1.892	1.050	-1.225	-0.425	-0.044	-0.104
1.467										
302	3	3	-1.094	1.121	1.892	1.066	-1.244	-0.431	-0.028	-0.123
1.461										
301	3	2	-1.094	1.121	1.892	1.082	-1.263	-0.438	-0.012	-0.142
1.454										
300	3	1	-1.094	1.121	1.892	1.098	-1.282	-0.445	0.004	-0.161
1.448										
417	4	1	-1.094	1.121	1.892	1.551	-1.811	-0.628	0.457	-0.689
1.264										
416	4	2	-1.094	1.121	1.892	1.535	-1.792	-0.622	0.441	-0.671
1.271										
415	4	3	-1.094	1.121	1.892	1.519	-1.774	-0.615	0.425	-0.652
1.277										
414	4	4	-1.094	1.121	1.892	1.503	-1.755	-0.609	0.409	-0.634
1.283										
413	4	5	-1.094	1.121	1.892	1.488	-1.737	-0.602	0.394	-0.615
1.290										
411	4	7	-1.094	1.121	1.892	1.457	-1.701	-0.590	0.363	-0.579
1.302										
412	4	6	-1.094	1.121	1.892	1.472	-1.719	-0.596	0.378	-0.597
1.296										
410	4	8	-1.094	1.121	1.892	1.441	-1.682	-0.583	0.347	-0.561
1.309										
409	4	9	-1.094	1.121	1.892	1.425	-1.663	-0.577	0.331	-0.542
1.315										
408	4	10	-1.094	1.121	1.892	1.409	-1.645	-0.570	0.315	-0.523
1.322										
407	4	11	-1.094	1.121	1.892	1.393	-1.626	-0.564	0.299	-0.505
1.328										
406	4	12	-1.094	1.121	1.892	1.377	-1.607	-0.557	0.283	-0.486
1.335										
405	4	13	-1.094	1.121	1.892	1.360	-1.588	-0.551	0.266	-0.467
1.341										
404	4	14	-1.094	1.121	1.892	1.344	-1.569	-0.544	0.250	-0.448
1.348										
403	4	15	-1.094	1.121	1.892	1.328	-1.551	-0.538	0.234	-0.429

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## Final Adjusted Exteri or Orientations, Standard Errors and Residuals

```

-----><-----Adjusted EO Observations-----><-----Predicted Standard
Devi ations-----><-----EO Residuals-----><-----Standardized Residuals>
-----><-----><-----><-----><----->
<PhtNo><-----Omega-----><-----Phi-----><-----Kappa-----><-----So-----><-----Sp-----><-----Sk-----><-----Vo-----
-----><-----Vp-----><-----Vk-----><-----Wo-----><-----Wp-----><-----Wk----->
<PhtNo><-----X-----><-----Y-----><-----Z-----><-----Sx-----><-----Sy-----><-----Sz-----><-----Vx-----
-----><-----Vy-----><-----Vz-----><-----Wx-----><-----Wy-----><-----Wz----->

```

316	-0° 52' 30"	-0° 37' 41"	12° 48' 28"	12° 48' 28"	0° 0' 10"	0° 0' 9"	0° 0' 7"	-0° 52'
316	1431599.035	5635982.924		9573.639	0.453	0.507	0.260	
0.515	0.079	0.166						
417	-0° 9' 12"	0° 20' 5"	197° 56' 22"	197° 56' 22"	0° 0' 13"	0° 0' 11"	0° 0' 14"	-0° 9'
417	1434567.370	5646655.709		9552.732	0.467	0.556	0.364	
0.443	-0.324	-0.061						
416	-0° 10' 0"	-0° 7' 48"	196° 42' 7"	196° 42' 7"	0° 0' 12"	0° 0' 9"	0° 0' 9"	-0° 10'
416	1429281.797	5645228.923		9587.696	0.429	0.515	0.343	
-0.467	-0.036	0.042						
415	1° 7' 60"	0° 9' 4"	195° 33' 54"	195° 33' 54"	0° 0' 11"	0° 0' 8"	0° 0' 6"	1° 7'
415	1424011.969	5643960.960		9593.375	0.415	0.506	0.337	
0.267	0.200	0.033						
315	-0° 34' 27"	0° 6' 9"	12° 59' 13"	12° 59' 13"	0° 0' 9"	0° 0' 8"	0° 0' 5"	-0° 34'
315	1426359.182	5634695.730		9578.065	0.417	0.444	0.235	
0.778	0.155	0.097						

414	1° 0' 11"	0° 0' 0"	195° 58' 49"	195° 58' 49"	0° 0' 11"	0° 0' 8"	0° 0' 6"	1° 0'
11"	0° 0' 0"	195° 58' 49"	5642691.636	9588.833	0.417	0.510	0.337	
414	1418723.345	-0.401	-0.051	-4.07				
-0.277								
314	-0° 31' 33"	0° 3' 0"	13° 15' 35"	13° 15' 35"	0° 0' 9"	0° 0' 8"	0° 0' 4"	-0° 31'
33"	0° 3' 0"	13° 15' 35"						
314	1421051.036	0.073	0.000	9555.577	0.410	0.452	0.242	
0.194								
413	0° 42' 6"	-0° 18' 7"	196° 25' 32"	196° 25' 32"	0° 0' 11"	0° 0' 8"	0° 0' 6"	0° 42'
6"	-0° 18' 7"	196° 25' 32"						
413	1413412.025	0.072	-0.052	9591.518	0.415	0.501	0.331	
-0.018								
214	-0° 6' 16"	0° 5' 5"	197° 45' 17"	197° 45' 17"	0° 0' 10"	0° 0' 9"	0° 0' 8"	-0° 6'
16"	0° 5' 5"	197° 45' 17"						
214	1433834.070	0.230	-0.246	9631.510	0.456	0.503	0.268	
-0.241								
114	-0° 6' 27"	0° 17' 9"	13° 36' 49"	13° 36' 49"	0° 0' 11"	0° 0' 10"	0° 0' 11"	-0° 6'
27"	0° 17' 9"	13° 36' 49"						
114	1436016.350	0.125	-0.034	9561.281	0.491	0.547	0.399	
0.310								
113	0° 7' 21"	-0° 14' 38"	14° 14' 6"	14° 14' 6"	0° 0' 10"	0° 0' 9"	0° 0' 8"	0° 7'
21"	-0° 14' 38"	14° 14' 6"						
113	1430711.606	0.330	0.002	9588.354	0.427	0.490	0.385	
0.494								
213	-0° 17' 49"	-0° 27' 19"	196° 12' 53"	196° 12' 53"	0° 0' 8"	0° 0' 8"	0° 0' 5"	-0° 17'
49"	-0° 27' 19"	196° 12' 53"						
213	1428576.210	0.074	-0.053	9629.352	0.413	0.447	0.260	
-0.413								
112	-0° 6' 12"	-0° 4' 32"	14° 41' 4"	14° 41' 4"	0° 0' 10"	0° 0' 8"	0° 0' 6"	-0° 6'
12"	-0° 4' 32"	14° 41' 4"						
112	1425459.410	0.175	0.064	9613.377	0.425	0.481	0.367	
0.077								
212	0° 23' 23"	-0° 30' 51"	194° 48' 30"	194° 48' 30"	0° 0' 8"	0° 0' 8"	0° 0' 4"	0° 23'
23"	-0° 30' 51"	194° 48' 30"						
212	1423282.608	0.310	-0.162	9606.444	0.408	0.438	0.267	
-0.487								
211	1° 6' 24"	1° 1' 2"	194° 25' 59"	194° 25' 59"	0° 0' 8"	0° 0' 7"	0° 0' 4"	1° 6'
24"	1° 1' 2"	194° 25' 59"						
211	1418052.561	0.012	0.099	9586.261	0.403	0.434	0.270	
-0.285								
111	-1° 12' 20"	-0° 18' 10"	14° 3' 27"	14° 3' 27"	0° 0' 10"	0° 0' 8"	0° 0' 6"	-1° 12'
20"	-0° 18' 10"	14° 3' 27"						
111	1420227.022	0.150	-0.020	9622.827	0.436	0.493	0.380	
0.040								
110	-0° 43' 36"	-0° 1' 44"	13° 26' 59"	13° 26' 59"	0° 0' 10"	0° 0' 8"	0° 0' 6"	-0° 43'
36"	-0° 1' 44"	13° 26' 59"						
110	1414923.185	0.197	-0.021	9637.934	0.440	0.497	0.383	
0.095								
313	-1° 8' 26"	-0° 7' 58"	11° 46' 53"	11° 46' 53"	0° 0' 9"	0° 0' 8"	0° 0' 4"	-1° 8'
26"	-0° 7' 58"	11° 46' 53"						

313	1415753.902	5632157.800	9529.222	0.411	0.452	0.244
0.222	-0.193	-0.011				
312	-0° 17' 30"	0° 37' 44"	12° 54' 14"	0° 0' 9"	0° 0' 8"	0° 0' 4"
30"	0° 37' 44"	12° 54' 14"				-0° 17'
312	1410480.115	5630928.478	9554.225	0.414	0.446	0.245
0.210	0.231	0.066				
411	0° 41' 17"	0° 37' 42"	194° 55' 28"	0° 0' 10"	0° 0' 8"	0° 0' 6"
17"	0° 37' 42"	194° 55' 28"				0° 41'
411	1402960.899	5638846.165	9629.813	0.399	0.481	0.320
-0.089	0.213	0.117				
209	1° 7' 6"	0° 28' 55"	196° 20' 44"	0° 0' 8"	0° 0' 7"	0° 0' 4"
6"	0° 28' 55"	196° 20' 44"				1° 7'
209	1407415.312	5620412.611	9620.458	0.406	0.440	0.275
-0.322	0.258	-0.038				
412	-0° 32' 28"	-0° 8' 50"	196° 29' 8"	0° 0' 11"	0° 0' 8"	0° 0' 6"
28"	-0° 8' 50"	196° 29' 8"				-0° 32'
412	1408206.407	5640090.998	9586.495	0.407	0.501	0.320
0.017	-0.053	-0.086				
210	0° 54' 37"	0° 28' 51"	195° 47' 17"	0° 0' 8"	0° 0' 7"	0° 0' 4"
37"	0° 28' 51"	195° 47' 17"				0° 54'
210	1412676.390	5621713.166	9647.701	0.409	0.440	0.274
-0.477	-0.158	0.114				
109	-0° 9' 30"	-0° 7' 16"	14° 18' 9"	0° 0' 10"	0° 0' 8"	0° 0' 6"
30"	-0° 7' 16"	14° 18' 9"				-0° 9'
109	1409650.307	5611287.737	9636.576	0.441	0.499	0.380
0.025	0.179	-0.108	5.38			
311	-0° 4' 55"	0° 2' 58"	13° 33' 6"	0° 0' 9"	0° 0' 8"	0° 0' 4"
55"	0° 2' 58"	13° 33' 6"				-0° 4'
311	1405200.363	5629630.696	9555.785	0.416	0.452	0.246
0.013	0.003	0.016				
410	1° 24' 59"	0° 37' 29"	195° 13' 6"	0° 0' 10"	0° 0' 8"	0° 0' 6"
59"	0° 37' 29"	195° 13' 6"				1° 24'
410	1397619.042	5637635.680	9686.050	0.418	0.488	0.319
0.165	-0.207	0.092				
208	-0° 3' 35"	-0° 26' 15"	197° 16' 19"	0° 0' 8"	0° 0' 7"	0° 0' 4"
35"	-0° 26' 15"	197° 16' 19"				-0° 3'
208	1402176.770	5619037.888	9597.233	0.405	0.438	0.276
-0.065	-0.364	0.000				
108	-0° 0' 11"	-0° 18' 34"	14° 51' 52"	0° 0' 10"	0° 0' 8"	0° 0' 6"
11"	-0° 18' 34"	14° 51' 52"				-0° 0'
108	1404394.235	5609927.299	9618.141	0.439	0.491	0.376
-0.041	0.149	0.005				
107	-0° 40' 20"	0° 5' 17"	15° 1' 1"	0° 0' 10"	0° 0' 8"	0° 0' 6"
20"	0° 5' 17"	15° 1' 1"				-0° 40'
107	1399137.418	5608484.849	9592.122	0.432	0.485	0.370
-0.042	-0.010	0.005				
310	0° 5' 15"	-0° 8' 39"	14° 33' 39"	0° 0' 9"	0° 0' 8"	0° 0' 4"
15"	-0° 8' 39"	14° 33' 39"				0° 5'
310	1399882.878	5628289.133	9525.955	0.415	0.450	0.246
0.120	0.030	-0.050				

409	0° 52' 50"	0° 14' 2"	196° 55' 42"	196° 55' 42"	0° 0' 10"	0° 0' 8"	0° 0' 6"	0° 52'
50"	1392311.685	5636326.038	9695.252	0.420	0.484	0.319		
409	0.421	0.034	3.40					
0.311								
207	0° 17' 55"	0° 4' 46"	195° 36' 12"	0° 0' 8"	0° 0' 7"	0° 0' 4"	0° 17'	
55"	0° 4' 46"	195° 36' 12"	195° 36' 12"	0° 0' 8"	0° 0' 7"	0° 0' 4"	0° 17'	
207	1396917.166	5617678.135	9544.043	0.405	0.439	0.276		
-0.148	-0.329	0.118						
106	-1° 46' 11"	-0° 3' 3"	12° 48' 16"	0° 0' 10"	0° 0' 8"	0° 0' 6"	-1° 46'	
11"	-0° 3' 3"	12° 48' 16"	12° 48' 16"	0° 0' 10"	0° 0' 8"	0° 0' 6"	-1° 46'	
106	1393909.297	5607208.829	9581.440	0.423	0.479	0.363		
-0.043	-0.277	-0.048						
309	-0° 46' 34"	-0° 3' 9"	14° 18' 59"	0° 0' 9"	0° 0' 8"	0° 0' 4"	-0° 46'	
34"	-0° 3' 9"	14° 18' 59"	14° 18' 59"	0° 0' 9"	0° 0' 8"	0° 0' 4"	-0° 46'	
309	1394651.208	5626881.652	9509.872	0.412	0.453	0.247		
0.189	0.068	0.014						
408	1° 41' 35"	0° 36' 17"	197° 6' 55"	0° 0' 10"	0° 0' 8"	0° 0' 6"	1° 41'	
35"	0° 36' 17"	197° 6' 55"	197° 6' 55"	0° 0' 10"	0° 0' 8"	0° 0' 6"	1° 41'	
408	1387036.780	5634946.172	9689.700	0.425	0.488	0.318		
-0.086	0.262	0.017						
206	0° 11' 43"	-0° 20' 43"	195° 49' 9"	0° 0' 8"	0° 0' 8"	0° 0' 4"	0° 11'	
43"	-0° 20' 43"	195° 49' 9"	195° 49' 9"	0° 0' 8"	0° 0' 8"	0° 0' 4"	0° 11'	
206	1391572.758	5616422.097	9553.552	0.405	0.439	0.277		
-0.412	-0.088	0.042						
105	-0° 29' 2"	0° 11' 21"	13° 11' 41"	0° 0' 10"	0° 0' 8"	0° 0' 6"	-0° 29'	
2"	0° 11' 21"	13° 11' 41"	13° 11' 41"	0° 0' 10"	0° 0' 8"	0° 0' 6"	-0° 29'	
105	1388624.981	5605994.284	9601.250	0.403	0.462	0.359		
-0.246	0.261	0.012						
308	-0° 5' 23"	0° 3' 27"	15° 34' 25"	0° 0' 9"	0° 0' 8"	0° 0' 4"	-0° 5'	
23"	0° 3' 27"	15° 34' 25"	15° 34' 25"	0° 0' 9"	0° 0' 8"	0° 0' 4"	-0° 5'	
308	1389439.422	5625450.946	9502.433	0.418	0.462	0.249		
0.008	0.003	-0.139						
407	0° 51' 2"	0° 25' 59"	198° 19' 15"	0° 0' 10"	0° 0' 9"	0° 0' 7"	0° 51'	
2"	0° 25' 59"	198° 19' 15"	198° 19' 15"	0° 0' 10"	0° 0' 9"	0° 0' 7"	0° 51'	
407	1381857.567	5633522.206	9674.266	0.424	0.493	0.316		
-0.063	-0.127	0.016						
205	0° 33' 58"	-0° 10' 2"	195° 0' 51"	0° 0' 9"	0° 0' 7"	0° 0' 4"	0° 33'	
58"	-0° 10' 2"	195° 0' 51"	195° 0' 51"	0° 0' 9"	0° 0' 7"	0° 0' 4"	0° 33'	
205	1386292.217	5615178.012	9540.708	0.405	0.444	0.279		
-0.029	0.003	0.056						
307	-1° 36' 18"	0° 3' 47"	13° 11' 2"	0° 0' 9"	0° 0' 8"	0° 0' 5"	-1° 36'	
18"	0° 3' 47"	13° 11' 2"	13° 11' 2"	0° 0' 9"	0° 0' 8"	0° 0' 5"	-1° 36'	
307	1384187.141	5624080.704	9522.165	0.424	0.467	0.251		
0.496	0.355	-0.137						
406	-0° 48' 25"	0° 13' 12"	198° 34' 32"	0° 0' 10"	0° 0' 8"	0° 0' 6"	-0° 48'	
25"	0° 13' 12"	198° 34' 32"	198° 34' 32"	0° 0' 10"	0° 0' 8"	0° 0' 6"	-0° 48'	
406	1376598.519	5632013.315	9672.366	0.425	0.493	0.312		
-0.032	-0.036	-0.038						
104	-0° 11' 45"	-0° 4' 8"	13° 20' 54"	0° 0' 9"	0° 0' 8"	0° 0' 6"	-0° 11'	
45"	-0° 4' 8"	13° 20' 54"	13° 20' 54"	0° 0' 9"	0° 0' 8"	0° 0' 6"	-0° 11'	



305	-0° 38' 14"	-0° 31' 47"	12° 55' 56"	12° 55' 56"	0° 0' 9"	0° 0' 8"	0° 0' 4"	-0° 38'
14"	305	1373578.719	5621542.174	9476.066	0.413	0.462	0.248	
-0.169		-0.074	-0.114					
304	0° 13' 3"	0° 25' 55"	14° 49' 1"	14° 49' 1"	0° 0' 9"	0° 0' 8"	0° 0' 4"	0° 13'
3"	0° 25' 55"	14° 49' 1"						
304	1368350.107	5620195.374	9499.053	0.414	0.455	0.239		
0.458		-0.027	-0.072					
403	0° 47' 54"	-0° 0' 6"	195° 31' 51"	195° 31' 51"	0° 0' 10"	0° 0' 7"	0° 0' 5"	0° 47'
54"	-0° 0' 6"	195° 31' 51"						
403	1360715.818	5628255.329	9549.663	0.396	0.459	0.266		
-0.292		0.195	-0.004					
303	-1° 20' 6"	0° 5' 25"	13° 5' 13"	13° 5' 13"	0° 0' 9"	0° 0' 8"	0° 0' 5"	-1° 20'
6"	0° 5' 25"	13° 5' 13"						
303	1363076.825	5618875.707	9515.893	0.401	0.449	0.236		
0.291		0.325	-0.089					
302	-1° 10' 50"	-0° 15' 52"	12° 56' 10"	12° 56' 10"	0° 0' 9"	0° 0' 8"	0° 0' 7"	-1° 10'
50"	-0° 15' 52"	12° 56' 10"						
302	1357768.083	5617613.217	9520.365	0.421	0.463	0.249		
0.504		0.217	0.113					
401	0° 17' 38"	0° 12' 60"	196° 14' 55"	196° 14' 55"	0° 0' 10"	0° 0' 8"	0° 0' 9"	0° 17'
38"	0° 12' 60"	196° 14' 55"						
401	1350140.082	5625658.740	9521.303	0.419	0.478	0.285		
-0.357		-0.087	0.028					
301	-0° 45' 36"	0° 7' 51"	12° 14' 6"	12° 14' 6"	0° 0' 10"	0° 0' 8"	0° 0' 9"	-0° 45'
36"	0° 7' 51"	12° 14' 6"						
301	1352491.296	5616422.944	9556.316	0.427	0.465	0.259		
0.687		-0.141	0.126					
402	1° 2' 17"	-0° 13' 35"	196° 16' 5"	196° 16' 5"	0° 0' 10"	0° 0' 8"	0° 0' 7"	1° 2'
17"	-0° 13' 35"	196° 16' 5"						
402	1355394.318	5627022.421	9551.474	0.378	0.454	0.286		
-0.393		-0.206	0.033					
400	-0° 1' 46"	1° 17' 24"	195° 59' 48"	195° 59' 48"	0° 0' 13"	0° 0' 11"	0° 0' 14"	-0° 1'
46"	1° 17' 24"	195° 59' 48"						
400	1344919.506	5624342.553	9537.799	0.470	0.538	0.316		
-0.364		-0.064	-0.047					
300	-1° 11' 37"	-0° 7' 3"	11° 18' 43"	11° 18' 43"	0° 0' 13"	0° 0' 11"	0° 0' 14"	-1° 11'
37"	-0° 7' 3"	11° 18' 43"						
300	1347154.316	5615249.896	9574.506	0.477	0.519	0.284		
0.004	-0.130	-0.192						

-- Mean Standard Deviations for the Elements of Exterior Orientation --

Omega	0° 0' 10"	(dms)
Phi	0° 0' 8"	(dms)
Kappa	0° 0' 6"	(dms)
XL	0.423	(ground units)
YL	0.475	(ground units)
ZL	0.302	(ground units)

-- RMSE for the Elements of Exterior Orientation --

Omega	0° 47' 6"	(dms)
Phi	0° 22' 29"	(dms)
Kappa	140° 6' 15"	(dms)
XL	0. 334	(ground units)
YL	0. 205	(ground units)
ZL	0. 089	(ground units)

♀KMI

9/22/2009

AeroSys-AT Bundle Adjustment, <PRO Pkg> AeroSys-AT v7.2 © 1989-2009 MHS  
Project ID: Foothills 20-23

----- Final Adjusted Object Space Coordinates, Standard Errors, and Residuals -----

<----- XYZ Ground Coordinates -----><- Predicted Standard Error -><-----  
Observation (GCP) Residuals ----->

<No> <---Point  
ID---><---Xg---><---Yg---><---Zg---><---Sx---><---Sy---><---Sz---><---Vx---><---Vy---><---Vz---><---Vs--->

<CONTROL POINTS> <3D>

1	0.010	1301	1355632.002	5627611.087	696.438	0.092	0.090	0.098	0.033
2	0.010	1302	1364117.195	5623681.726	263.824	0.088	0.088	0.096	0.039
0.032	-0.010	1303	1387298.878	5604940.257	565.725	0.095	0.094	0.099	0.021
-0.098	-0.007	1304	1404990.292	5636702.486	517.960	0.094	0.094	0.099	0.001
0.052	-0.032	1305	1431695.262	5643245.059	643.749	0.095	0.095	0.099	-0.023
0.033	-0.004	1306	1429583.401	5631634.927	220.361	0.089	0.089	0.096	-0.063
0.019	0.010	1307	1431032.626	5614857.783	524.727	0.094	0.091	0.099	-0.009
-0.048	0.033								

<CONTROL POINTS> <Horizontal>

<CONTROL POINTS> <Vertical >

<AUTO ELIMINATED CONTROL BLUNDER POINTS>

<-- Re-Scaled Input Weights -->  
<Final\_Sx> <Final\_Sy> <Final\_Sz>

<---Projected Image Ray AMR Residuals-->

## **<PASS/TIE POINTS>**

<--Sx---><--Sy---><--Sz---><--amrX---><--amrY---><--amrZ---><--rmSS--->

8		20011	1360760. 102	5604353. 445	551. 549	0. 325	0. 342	0. 572	0. 123	
0. 198	9	0. 116	20013	1361967. 272	5599552. 623	513. 846	0. 590	0. 474	1. 358	0. 021
0. 082	10	0. 000	20014	1364167. 531	5602456. 118	544. 781	0. 377	0. 443	1. 202	0. 010
0. 040	11	0. 009	20015	1363261. 553	5594937. 840	561. 504	0. 639	1. 119	1. 723	0. 116
0. 295	12	0. 147	20016	1365685. 003	5597705. 305	572. 886	0. 462	0. 609	1. 493	0. 005
0. 022	13	0. 006	20021	1366300. 849	5605617. 214	531. 188	0. 217	0. 221	0. 364	0. 119
0. 228	14	0. 103	20023	1367609. 817	5600929. 410	562. 876	0. 328	0. 292	0. 723	0. 037
0. 047	15	0. 011	20024	1369573. 031	5603810. 392	471. 114	0. 322	0. 379	1. 051	0. 002
0. 007	16	0. 002	20025	1368785. 122	5596434. 939	527. 282	0. 417	0. 579	0. 948	0. 052
0. 189	17	0. 100	20026	1370772. 541	5598888. 747	477. 821	0. 399	0. 528	1. 306	0. 012
0. 051	18	0. 015	20031	1371713. 588	5607137. 384	542. 522	0. 187	0. 193	0. 309	0. 106
0. 221	19	0. 126	20033	1372888. 612	5602414. 039	506. 652	0. 288	0. 251	0. 632	0. 015
0. 096	20	0. 009	20034	1374892. 376	5605170. 066	552. 887	0. 292	0. 352	0. 951	0. 013
0. 056	21	0. 013	20035	1374014. 702	5597680. 862	570. 691	0. 364	0. 490	0. 804	0. 094
0. 158	22	0. 082	20036	1376011. 603	5600680. 290	545. 579	0. 344	0. 406	1. 121	0. 001
0. 005	23	0. 001	20041	1377023. 078	5608294. 801	495. 244	0. 174	0. 180	0. 282	0. 115
0. 229	24	0. 108	20043	1378239. 997	5603536. 075	514. 555	0. 261	0. 230	0. 572	0. 111
0. 015	25	0. 028	20044	1380049. 470	5606578. 440	445. 153	0. 275	0. 345	0. 900	0. 013
0. 055	26	0. 014	20045	1379293. 376	5598824. 722	541. 733	0. 322	0. 433	0. 708	0. 097

0. 168	0. 088								
27	20046	1381481. 177	5601743. 801	543. 034	0. 309	0. 378	0. 999	0. 001	
0. 003	0. 001								
28	20051	1382421. 567	5609410. 562	519. 071	0. 167	0. 170	0. 265	0. 130	
0. 215	0. 121								
29	20053	1383602. 873	5604727. 578	521. 582	0. 238	0. 212	0. 521	0. 060	
0. 102	0. 013								
30	20054	1385422. 309	5607540. 941	518. 548	0. 254	0. 310	0. 828	0. 002	
0. 008	0. 002								
31	20055	1384680. 827	5599966. 450	545. 713	0. 289	0. 392	0. 628	0. 130	
0. 186	0. 102								
32	20056	1386822. 197	5602735. 206	545. 356	0. 287	0. 359	0. 898	0. 009	
0. 040	0. 012								
33	20061	1387688. 271	5610766. 198	513. 288	0. 166	0. 166	0. 260	0. 070	
0. 165	0. 099								
34	20063	1388899. 927	5605968. 999	526. 163	0. 236	0. 207	0. 504	0. 047	
0. 114	0. 017								
35	20064	1390795. 083	5608970. 406	524. 167	0. 263	0. 334	0. 879	0. 008	
0. 035	0. 009								
36	20065	1390050. 295	5601232. 690	542. 141	0. 298	0. 368	0. 602	0. 058	
0. 233	0. 114								
37	20066	1392145. 319	5604274. 811	514. 345	0. 314	0. 360	0. 984	0. 010	
0. 044	0. 011								
38	20071	1392974. 689	5611959. 651	516. 556	0. 172	0. 172	0. 269	0. 138	
0. 212	0. 109								
39	20073	1394173. 549	5607212. 200	513. 391	0. 255	0. 221	0. 550	0. 026	
0. 097	0. 000								
40	20074	1396218. 048	5609972. 794	385. 239	0. 283	0. 340	0. 970	0. 020	
0. 079	0. 017								
41	20075	1395273. 706	5602400. 449	525. 205	0. 325	0. 405	0. 665	0. 151	
0. 319	0. 166								
42	20076	1397371. 348	5605246. 854	540. 389	0. 341	0. 424	1. 094	0. 006	
0. 026	0. 007								
43	20081	1398317. 485	5612828. 177	496. 989	0. 178	0. 182	0. 283	0. 094	
0. 211	0. 112								
44	20083	1399451. 888	5608193. 453	538. 799	0. 272	0. 239	0. 589	0. 084	
0. 097	0. 017								
45	20084	1401462. 359	5611117. 399	502. 088	0. 294	0. 334	0. 982	0. 023	
0. 082	0. 016								
46	20085	1400480. 871	5603458. 605	563. 062	0. 344	0. 460	0. 714	0. 113	
0. 239	0. 130								
47	20086	1402789. 923	5606477. 435	524. 266	0. 363	0. 459	1. 145	0. 027	
0. 101	0. 031								
48	20091	1403322. 343	5614494. 828	554. 848	0. 179	0. 185	0. 289	0. 166	
0. 354	0. 116								
49	20093	1404731. 083	5609725. 674	522. 987	0. 280	0. 246	0. 610	0. 044	
0. 077	0. 011								
50	20094	1406766. 639	5612926. 939	535. 123	0. 296	0. 362	0. 990	0. 004	
0. 014	0. 003								
51	20095	1405837. 041	5605099. 713	519. 950	0. 353	0. 461	0. 739	0. 104	

0. 159	0. 087								
52	20096	1407893. 419	5607995. 051	546. 197	0. 362	0. 454	1. 163	0. 025	
0. 098	0. 028								
53	20101	1408803. 361	5616040. 909	509. 742	0. 180	0. 184	0. 294	0. 120	
0. 181	0. 134								
54	20103	1409978. 788	5611404. 597	501. 883	0. 281	0. 243	0. 616	0. 024	
0. 150	0. 007								
55	20104	1412089. 929	5614237. 999	425. 088	0. 296	0. 359	1. 004	0. 009	
0. 034	0. 008								
56	20105	1411157. 463	5606608. 996	533. 117	0. 356	0. 455	0. 749	0. 056	
0. 152	0. 076								
57	20106	1413202. 829	5609471. 053	540. 773	0. 361	0. 436	1. 154	0. 002	
0. 008	0. 002								
58	20111	1414266. 113	5616896. 929	371. 009	0. 181	0. 185	0. 296	0. 148	
0. 259	0. 082								
59	20113	1415237. 768	5612671. 411	525. 217	0. 277	0. 238	0. 605	0. 049	
0. 050	0. 016								
60	20114	1417218. 239	5615598. 347	504. 246	0. 288	0. 349	0. 955	0. 005	
0. 020	0. 005								
61	20115	1416447. 086	5607910. 419	534. 592	0. 348	0. 445	0. 736	0. 112	
0. 187	0. 100								
62	20116	1418410. 172	5610770. 600	532. 098	0. 343	0. 418	1. 104	0. 015	
0. 064	0. 018								
63	20121	1419290. 668	5618616. 127	352. 084	0. 174	0. 177	0. 289	0. 151	
0. 164	0. 121								
64	20123	1420502. 382	5613806. 897	423. 155	0. 263	0. 230	0. 586	0. 070	
0. 197	0. 026								
65	20124	1422410. 959	5616752. 515	506. 773	0. 274	0. 323	0. 910	0. 020	
0. 075	0. 017								
66	20125	1421713. 812	5609077. 617	487. 927	0. 324	0. 431	0. 702	0. 206	
0. 233	0. 124								
67	20126	1423613. 742	5612369. 931	516. 954	0. 305	0. 363	0. 998	0. 011	
0. 041	0. 010								
68	20131	1424714. 456	5619812. 711	444. 427	0. 171	0. 168	0. 276	0. 124	
0. 357	0. 179								
69	20133	1425773. 576	5615264. 979	506. 715	0. 235	0. 210	0. 517	0. 089	
0. 029	0. 023								
70	20134	1428018. 930	5617991. 382	378. 309	0. 254	0. 302	0. 855	0. 006	
0. 022	0. 004								
71	20135	1427150. 852	5610364. 676	558. 973	0. 290	0. 394	0. 620	0. 162	
0. 242	0. 137								
72	20136	1429202. 872	5613262. 484	519. 089	0. 286	0. 359	0. 883	0. 011	
0. 043	0. 013								
73	20141	1429836. 842	5621370. 917	302. 966	0. 186	0. 169	0. 296	0. 133	
0. 239	0. 124								
74	20143	1430983. 296	5616635. 080	449. 180	0. 214	0. 202	0. 454	0. 043	
0. 033	0. 013								
75	20144	1433193. 259	5619829. 766	348. 011	0. 280	0. 358	0. 922	0. 009	
0. 033	0. 008								
76	20145	1432182. 284	5612004. 076	491. 834	0. 270	0. 343	0. 542	0. 019	

0. 283	0. 126								
77	20146	1434547. 031	5614979. 855	383. 161	0. 300	0. 369	0. 950	0. 015	
0. 065	0. 017								
78	20151	1435243. 335	5623084. 034	276. 466	0. 296	0. 249	0. 488	0. 123	
0. 189	0. 121								
79	20153	1436315. 455	5618097. 443	498. 243	0. 401	0. 322	0. 983	0. 036	
0. 145	0. 000								
80	20155	1437393. 451	5613376. 515	528. 691	0. 592	0. 601	1. 208	0. 013	
0. 109	0. 050								
81	21011	1358138. 008	5613307. 260	268. 201	0. 231	0. 221	0. 375	0. 076	
0. 156	0. 061								
82	21013	1360107. 154	5608544. 358	554. 826	0. 424	0. 328	1. 024	0. 000	
0. 001	0. 000								
83	21014	1361777. 765	5612031. 198	266. 835	0. 307	0. 392	1. 003	0. 014	
0. 051	0. 014								
84	21016	1363618. 305	5607400. 784	393. 394	0. 332	0. 385	1. 119	0. 025	
0. 096	0. 022								
85	21021	1363764. 543	5614997. 213	268. 115	0. 177	0. 173	0. 289	0. 099	
0. 186	0. 084								
86	21023	1365582. 929	5610270. 811	526. 271	0. 249	0. 224	0. 555	0. 056	
0. 067	0. 015								
87	21024	1367436. 279	5613799. 118	258. 530	0. 272	0. 390	0. 922	0. 015	
0. 056	0. 017								
88	21026	1369255. 079	5608866. 349	510. 938	0. 307	0. 333	0. 955	0. 036	
0. 152	0. 035								
89	21031	1369273. 999	5616836. 354	261. 181	0. 165	0. 165	0. 269	0. 173	
0. 163	0. 117								
90	21033	1370750. 552	5611964. 769	353. 708	0. 232	0. 215	0. 510	0. 061	
0. 040	0. 013								
91	21034	1372510. 054	5615715. 223	270. 485	0. 269	0. 427	0. 899	0. 001	
0. 004	0. 001								
92	21036	1373885. 821	5610283. 546	536. 441	0. 273	0. 308	0. 878	0. 000	
0. 000	0. 000								
93	21041	1374546. 513	5618180. 930	256. 142	0. 164	0. 166	0. 263	0. 166	
0. 203	0. 131								
94	21043	1375864. 476	5613221. 285	362. 576	0. 223	0. 210	0. 485	0. 085	
0. 130	0. 018								
95	21044	1378044. 018	5616315. 883	306. 846	0. 260	0. 374	0. 877	0. 014	
0. 058	0. 018								
96	21046	1379244. 543	5611573. 869	380. 770	0. 269	0. 301	0. 869	0. 002	
0. 010	0. 002								
97	21051	1379749. 420	5619117. 437	254. 482	0. 164	0. 166	0. 264	0. 133	
0. 174	0. 093								
98	21053	1381351. 861	5614122. 453	360. 584	0. 220	0. 207	0. 476	0. 185	
0. 125	0. 052								
99	21054	1383286. 324	5617560. 130	313. 668	0. 259	0. 377	0. 876	0. 006	
0. 024	0. 007								
100	21056	1384531. 352	5612534. 618	391. 980	0. 267	0. 311	0. 860	0. 001	
0. 003	0. 001								
101	21061	1385337. 257	5620366. 891	274. 109	0. 165	0. 167	0. 262	0. 073	

0. 178	0. 080								
102	21063	1386443. 239	5615572. 829	371. 519	0. 219	0. 207	0. 473	0. 048	
0. 103	0. 012								
103	21064	1388850. 810	5618485. 892	298. 336	0. 259	0. 358	0. 883	0. 023	
0. 091	0. 025								
104	21066	1389829. 415	5613436. 615	495. 914	0. 271	0. 332	0. 858	0. 002	
0. 007	0. 002								
105	21071	1389987. 757	5621071. 728	243. 728	0. 166	0. 167	0. 263	0. 097	
0. 176	0. 090								
106	21073	1391921. 761	5616741. 223	297. 939	0. 225	0. 211	0. 485	0. 040	
0. 017	0. 011								
107	21074	1393841. 057	5620213. 958	262. 115	0. 266	0. 395	0. 894	0. 009	
0. 035	0. 011								
108	21076	1395244. 231	5614590. 824	404. 026	0. 282	0. 346	0. 888	0. 000	
0. 002	0. 000								
109	21081	1395408. 867	5622933. 832	243. 097	0. 166	0. 168	0. 261	0. 153	
0. 145	0. 096								
110	21083	1397208. 529	5618053. 702	344. 476	0. 227	0. 212	0. 490	0. 019	
0. 036	0. 008								
111	21084	1399164. 590	5621447. 716	238. 652	0. 267	0. 393	0. 912	0. 027	
0. 099	0. 031								
112	21086	1400366. 382	5616291. 165	494. 116	0. 279	0. 325	0. 894	0. 003	
0. 013	0. 003								
113	21091	1401213. 645	5624075. 592	235. 042	0. 166	0. 167	0. 261	0. 108	
0. 176	0. 071								
114	21093	1402451. 703	5619237. 579	333. 888	0. 229	0. 214	0. 500	0. 038	
0. 042	0. 013								
115	21094	1404379. 534	5622547. 477	233. 499	0. 269	0. 376	0. 925	0. 011	
0. 039	0. 011								
116	21096	1405543. 953	5617833. 733	494. 909	0. 278	0. 317	0. 905	0. 008	
0. 030	0. 006								
117	21101	1406222. 414	5625522. 589	229. 115	0. 166	0. 166	0. 261	0. 081	
0. 178	0. 091								
118	21103	1407805. 286	5620634. 610	332. 850	0. 230	0. 213	0. 505	0. 115	
0. 056	0. 029								
119	21104	1409659. 537	5623715. 654	330. 022	0. 266	0. 359	0. 905	0. 003	
0. 010	0. 003								
120	21106	1410991. 234	5618763. 945	489. 860	0. 283	0. 340	0. 907	0. 003	
0. 014	0. 004								
121	21111	1411588. 234	5627022. 768	225. 604	0. 165	0. 165	0. 260	0. 107	
0. 194	0. 087								
122	21113	1413000. 839	5622216. 377	284. 032	0. 228	0. 212	0. 497	0. 088	
0. 052	0. 028								
123	21114	1414866. 421	5625588. 580	226. 895	0. 267	0. 397	0. 896	0. 014	
0. 058	0. 019								
124	21116	1416136. 483	5620504. 708	320. 099	0. 274	0. 307	0. 894	0. 001	
0. 006	0. 001								
125	21121	1417059. 841	5628361. 838	216. 375	0. 163	0. 164	0. 256	0. 100	
0. 103	0. 073								
126	21123	1418078. 133	5623349. 932	293. 671	0. 222	0. 208	0. 486	0. 083	

0. 171	0. 023								
127	21124	1420378. 961	5626672. 630	288. 856	0. 255	0. 385	0. 882	0. 028	
0. 120	0. 038								
128	21126	1421232. 996	5621715. 722	339. 483	0. 261	0. 299	0. 884	0. 002	
0. 007	0. 001								
129	21131	1422180. 325	5629399. 360	220. 477	0. 159	0. 159	0. 247	0. 115	
0. 253	0. 105								
130	21133	1423554. 772	5624340. 105	318. 433	0. 216	0. 202	0. 472	0. 055	
0. 013	0. 014								
131	21134	1425567. 910	5627663. 506	324. 289	0. 249	0. 358	0. 842	0. 007	
0. 030	0. 009								
132	21136	1426974. 407	5622458. 437	328. 992	0. 276	0. 322	0. 879	0. 005	
0. 022	0. 005								
133	21141	1427494. 194	5630647. 969	221. 521	0. 155	0. 154	0. 239	0. 085	
0. 216	0. 119								
134	21143	1429138. 749	5625642. 584	277. 255	0. 225	0. 204	0. 493	0. 028	
0. 045	0. 011								
135	21144	1430890. 090	5628197. 043	268. 411	0. 247	0. 321	0. 857	0. 004	
0. 016	0. 003								
136	21146	1432373. 541	5623849. 380	277. 638	0. 319	0. 333	0. 983	0. 029	
0. 117	0. 029								
137	21151	1432438. 700	5631769. 430	215. 636	0. 205	0. 199	0. 342	0. 139	
0. 138	0. 056								
138	21153	1434014. 727	5626822. 809	322. 728	0. 378	0. 292	0. 919	0. 026	
0. 096	0. 001								
139	22011	1346220. 834	5619895. 653	293. 473	0. 324	0. 337	0. 579	0. 183	
0. 168	0. 132								
140	22013	1347307. 222	5615067. 675	288. 726	0. 511	0. 445	1. 216	0. 019	
0. 087	0. 002								
141	22014	1349581. 566	5618387. 725	285. 225	0. 334	0. 439	1. 135	0. 002	
0. 011	0. 003								
142	22015	1348170. 465	5609964. 320	276. 514	0. 604	1. 068	1. 561	0. 089	
0. 246	0. 130								
143	22016	1350529. 908	5613371. 274	273. 359	0. 390	0. 522	1. 311	0. 011	
0. 051	0. 013								
144	22021	1351530. 264	5620981. 062	279. 456	0. 205	0. 203	0. 341	0. 228	
0. 257	0. 100								
145	22023	1352711. 213	5616392. 145	278. 263	0. 278	0. 259	0. 627	0. 081	
0. 027	0. 020								
146	22024	1354963. 103	5619402. 137	272. 535	0. 272	0. 353	0. 925	0. 009	
0. 040	0. 009								
147	22025	1353528. 131	5611567. 349	347. 019	0. 352	0. 511	0. 815	0. 081	
0. 233	0. 119								
148	22026	1356047. 954	5614535. 796	273. 693	0. 326	0. 407	1. 083	0. 002	
0. 011	0. 003								
149	22031	1356960. 673	5622192. 136	272. 119	0. 162	0. 161	0. 252	0. 116	
0. 212	0. 114								
150	22033	1358243. 460	5617498. 834	266. 224	0. 232	0. 215	0. 512	0. 025	
0. 087	0. 010								
151	22034	1360094. 300	5620543. 001	269. 136	0. 252	0. 320	0. 843	0. 017	

0. 071	0. 017								
152	22035	1359142. 974	5612635. 147	271. 098	0. 286	0. 419	0. 664	0. 017	
0. 171	0. 081								
153	22036	1361231. 219	5615501. 933	264. 937	0. 283	0. 380	0. 946	0. 014	
0. 059	0. 017								
154	22041	1362198. 553	5623017. 608	266. 804	0. 152	0. 152	0. 232	0. 121	
0. 203	0. 098								
155	22043	1363353. 631	5618376. 468	264. 158	0. 217	0. 206	0. 476	0. 049	
0. 039	0. 013								
156	22044	1365412. 757	5621586. 890	265. 012	0. 241	0. 296	0. 815	0. 000	
0. 001	0. 000								
157	22046	1366838. 404	5616735. 910	268. 183	0. 275	0. 363	0. 883	0. 018	
0. 077	0. 023								
158	22051	1367121. 309	5624681. 763	259. 225	0. 155	0. 156	0. 241	0. 231	
0. 157	0. 108								
159	22053	1368471. 555	5619401. 893	259. 679	0. 214	0. 206	0. 466	0. 068	
0. 049	0. 019								
160	22054	1370695. 460	5623104. 284	256. 930	0. 251	0. 320	0. 856	0. 002	
0. 006	0. 001								
161	22056	1371903. 409	5617838. 767	249. 715	0. 272	0. 380	0. 883	0. 005	
0. 019	0. 006								
162	22061	1372647. 801	5626137. 205	245. 707	0. 167	0. 173	0. 272	0. 117	
0. 188	0. 116								
163	22063	1373935. 560	5621864. 358	257. 565	0. 219	0. 209	0. 475	0. 007	
0. 077	0. 004								
164	22064	1376145. 164	5624989. 946	252. 573	0. 262	0. 367	0. 884	0. 002	
0. 008	0. 002								
165	22066	1377023. 226	5620146. 115	254. 108	0. 268	0. 317	0. 872	0. 007	
0. 027	0. 006								
166	22071	1378156. 276	5627608. 524	244. 372	0. 174	0. 184	0. 287	0. 156	
0. 199	0. 105								
167	22073	1379350. 020	5622821. 160	250. 550	0. 225	0. 213	0. 486	0. 042	
0. 086	0. 011								
168	22074	1380924. 962	5626125. 695	239. 890	0. 272	0. 367	0. 911	0. 015	
0. 065	0. 018								
169	22076	1382498. 344	5621053. 172	251. 560	0. 277	0. 345	0. 896	0. 012	
0. 053	0. 014								
170	22081	1382962. 326	5628977. 225	243. 178	0. 175	0. 187	0. 289	0. 154	
0. 180	0. 106								
171	22083	1384283. 952	5624451. 246	243. 789	0. 225	0. 216	0. 491	0. 029	
0. 062	0. 008								
172	22084	1386515. 062	5627239. 585	233. 075	0. 267	0. 355	0. 911	0. 015	
0. 055	0. 014								
173	22086	1387696. 643	5622402. 367	243. 973	0. 275	0. 343	0. 897	0. 010	
0. 040	0. 010								
174	22091	1388187. 819	5629792. 774	234. 982	0. 174	0. 184	0. 285	0. 070	
0. 185	0. 114								
175	22093	1389796. 694	5625212. 503	233. 142	0. 225	0. 215	0. 491	0. 040	
0. 064	0. 012								
176	22094	1391539. 034	5628530. 198	235. 641	0. 270	0. 349	0. 914	0. 007	

0. 027	0. 007								
177	22096	1393036. 251	5623288. 336	239. 622	0. 280	0. 380	0. 907	0. 002	
0. 006	0. 002								
178	22101	1393612. 848	5631518. 543	227. 516	0. 173	0. 181	0. 280	0. 187	
0. 161	0. 091								
179	22103	1394626. 735	5627187. 595	227. 314	0. 224	0. 215	0. 489	0. 036	
0. 083	0. 007								
180	22104	1396852. 054	5629538. 804	228. 521	0. 264	0. 318	0. 900	0. 002	
0. 006	0. 001								
181	22106	1398011. 859	5625035. 138	239. 038	0. 271	0. 355	0. 899	0. 006	
0. 024	0. 006								
182	22111	1398699. 696	5632771. 962	227. 981	0. 169	0. 173	0. 270	0. 126	
0. 131	0. 091								
183	22113	1400114. 502	5627983. 268	235. 461	0. 221	0. 212	0. 480	0. 080	
0. 077	0. 017								
184	22114	1402126. 251	5631109. 279	231. 477	0. 262	0. 324	0. 882	0. 009	
0. 036	0. 008								
185	22116	1403476. 344	5626310. 637	233. 608	0. 274	0. 357	0. 887	0. 012	
0. 048	0. 014								
186	22121	1404243. 665	5634370. 771	215. 426	0. 163	0. 165	0. 260	0. 148	
0. 202	0. 086								
187	22123	1405447. 655	5629738. 286	230. 051	0. 220	0. 209	0. 478	0. 104	
0. 114	0. 025								
188	22124	1407505. 311	5632714. 371	223. 239	0. 259	0. 339	0. 885	0. 005	
0. 021	0. 005								
189	22126	1408898. 112	5628238. 668	226. 037	0. 275	0. 318	0. 886	0. 015	
0. 065	0. 015								
190	22131	1409338. 091	5635548. 321	216. 104	0. 163	0. 168	0. 264	0. 147	
0. 246	0. 127								
191	22133	1410613. 875	5630940. 068	224. 003	0. 218	0. 208	0. 477	0. 137	
0. 049	0. 036								
192	22134	1412796. 725	5634000. 929	221. 244	0. 257	0. 339	0. 880	0. 010	
0. 043	0. 011								
193	22136	1413920. 668	5629074. 365	221. 535	0. 267	0. 342	0. 885	0. 002	
0. 008	0. 002								
194	22141	1414726. 650	5637232. 028	208. 768	0. 167	0. 176	0. 274	0. 239	
0. 182	0. 129								
195	22143	1415899. 744	5632158. 781	218. 677	0. 217	0. 207	0. 475	0. 071	
0. 042	0. 015								
196	22144	1418152. 767	5634934. 639	214. 793	0. 255	0. 320	0. 874	0. 013	
0. 055	0. 012								
197	22146	1419266. 462	5630062. 368	217. 300	0. 267	0. 356	0. 878	0. 006	
0. 028	0. 008								
198	22151	1420047. 906	5637847. 168	208. 961	0. 168	0. 175	0. 275	0. 143	
0. 345	0. 167								
199	22153	1421309. 802	5633121. 576	213. 616	0. 215	0. 206	0. 468	0. 057	
0. 112	0. 017								
200	22154	1423386. 423	5636205. 603	211. 447	0. 254	0. 316	0. 862	0. 014	
0. 055	0. 012								
201	22156	1424718. 208	5631367. 664	220. 502	0. 263	0. 346	0. 853	0. 017	

0. 073	0. 021								
202	22161	1425197. 986	5639292. 300	202. 674	0. 170	0. 172	0. 274	0. 119	
0. 219	0. 120								
203	22163	1426494. 485	5634782. 975	208. 283	0. 211	0. 203	0. 462	0. 111	
0. 103	0. 034								
204	22164	1428615. 957	5637671. 411	205. 179	0. 257	0. 331	0. 883	0. 034	
0. 136	0. 032								
205	22166	1429581. 066	5632628. 216	220. 746	0. 252	0. 347	0. 853	0. 014	
0. 057	0. 016								
206	22171	1430639. 273	5640738. 410	189. 578	0. 192	0. 190	0. 311	0. 108	
0. 055	0. 046								
207	22173	1431966. 351	5635996. 314	211. 297	0. 371	0. 271	0. 901	0. 009	
0. 035	0. 000								
208	23011	1343417. 905	5628900. 755	407. 213	0. 820	0. 747	1. 503	0. 037	
0. 301	0. 135								
209	23013	1344888. 145	5624469. 054	430. 180	0. 508	0. 399	1. 187	0. 004	
0. 015	0. 000								
210	23014	1346829. 708	5627449. 268	385. 457	0. 384	0. 468	1. 229	0. 015	
0. 060	0. 016								
211	23016	1348245. 343	5622195. 119	295. 367	0. 330	0. 460	1. 128	0. 000	
0. 001	0. 000								
212	23021	1348557. 468	5630363. 219	610. 862	0. 385	0. 436	0. 750	0. 035	
0. 281	0. 126								
213	23023	1350158. 306	5625659. 933	298. 214	0. 265	0. 238	0. 599	0. 175	
0. 091	0. 038								
214	23024	1352431. 977	5629393. 982	468. 835	0. 278	0. 408	0. 936	0. 003	
0. 009	0. 003								
215	23026	1353727. 855	5624183. 372	286. 891	0. 264	0. 319	0. 861	0. 007	
0. 027	0. 007								
216	23031	1354126. 429	5631942. 394	428. 701	0. 272	0. 357	0. 551	0. 182	
0. 203	0. 117								
217	23033	1355425. 911	5627684. 183	696. 997	0. 204	0. 197	0. 418	0. 038	
0. 075	0. 017								
218	23034	1357597. 944	5630527. 400	560. 553	0. 265	0. 363	0. 859	0. 007	
0. 031	0. 009								
219	23036	1359046. 823	5625861. 448	278. 488	0. 252	0. 280	0. 815	0. 006	
0. 027	0. 005								
220	23041	1359224. 836	5633387. 690	594. 692	0. 278	0. 389	0. 588	0. 168	
0. 223	0. 135								
221	23043	1361036. 034	5628797. 060	297. 924	0. 221	0. 204	0. 485	0. 050	
0. 108	0. 014								
222	23044	1362803. 626	5632156. 210	590. 988	0. 287	0. 427	0. 940	0. 002	
0. 010	0. 004								
223	23046	1364607. 046	5626689. 217	269. 852	0. 268	0. 302	0. 838	0. 012	
0. 058	0. 014								
224	23051	1364913. 919	5634013. 812	673. 277	0. 284	0. 365	0. 598	0. 114	
0. 204	0. 104								
225	23053	1366118. 852	5629876. 457	467. 247	0. 235	0. 210	0. 506	0. 040	
0. 051	0. 007								
226	23054	1368335. 477	5632915. 453	644. 046	0. 308	0. 418	1. 005	0. 001	

0. 003	0. 001								
227	23056	1369455. 315	5627915. 124	264. 099	0. 279	0. 319	0. 916	0. 003	
0. 012	0. 003								
228	23061	1369957. 059	5635884. 700	381. 362	0. 326	0. 455	0. 702	0. 038	
0. 128	0. 068								
229	23063	1371438. 010	5630982. 079	423. 430	0. 257	0. 230	0. 562	0. 029	
0. 097	0. 004								
230	23064	1373559. 118	5633668. 705	548. 781	0. 321	0. 401	1. 061	0. 007	
0. 027	0. 007								
231	23066	1375119. 253	5628985. 192	262. 261	0. 305	0. 355	0. 977	0. 009	
0. 035	0. 009								
232	23071	1375108. 385	5636717. 383	556. 114	0. 331	0. 443	0. 705	0. 156	
0. 197	0. 110								
233	23073	1376631. 460	5631966. 553	450. 990	0. 265	0. 241	0. 583	0. 052	
0. 048	0. 010								
234	23074	1378842. 216	5634914. 102	551. 834	0. 329	0. 400	1. 091	0. 014	
0. 046	0. 010								
235	23076	1379799. 624	5630930. 428	633. 350	0. 290	0. 327	0. 941	0. 001	
0. 005	0. 001								
236	23081	1380397. 885	5637994. 946	761. 446	0. 335	0. 439	0. 698	0. 090	
0. 210	0. 104								
237	23083	1381835. 190	5633623. 266	683. 066	0. 268	0. 246	0. 578	0. 051	
0. 009	0. 013								
238	23084	1383960. 135	5636743. 119	543. 565	0. 341	0. 446	1. 151	0. 003	
0. 009	0. 003								
239	23086	1385419. 127	5631838. 314	481. 138	0. 301	0. 367	0. 980	0. 014	
0. 052	0. 014								
240	23091	1385499. 800	5639980. 987	572. 220	0. 351	0. 483	0. 738	0. 047	
0. 189	0. 098								
241	23093	1386743. 104	5635168. 644	489. 646	0. 272	0. 250	0. 600	0. 051	
0. 010	0. 013								
242	23094	1389183. 814	5637890. 391	690. 756	0. 329	0. 408	1. 084	0. 003	
0. 010	0. 003								
243	23096	1390742. 798	5633447. 924	226. 961	0. 307	0. 355	1. 008	0. 013	
0. 053	0. 013								
244	23101	1390829. 980	5641680. 052	562. 702	0. 345	0. 490	0. 723	0. 155	
0. 263	0. 156								
245	23103	1392440. 819	5636637. 347	749. 872	0. 261	0. 239	0. 557	0. 012	
0. 035	0. 001								
246	23104	1394079. 156	5640103. 935	526. 755	0. 344	0. 485	1. 118	0. 008	
0. 032	0. 011								
247	23106	1396510. 368	5634087. 446	219. 376	0. 313	0. 394	0. 973	0. 001	
0. 005	0. 002								
248	23111	1396095. 362	5642885. 194	473. 833	0. 333	0. 457	0. 695	0. 060	
0. 205	0. 094								
249	23113	1397792. 883	5638161. 009	535. 287	0. 253	0. 231	0. 549	0. 031	
0. 116	0. 007								
250	23114	1400016. 468	5641288. 724	615. 643	0. 310	0. 435	1. 024	0. 007	
0. 032	0. 010								
251	23116	1400926. 202	5636343. 347	624. 890	0. 264	0. 307	0. 867	0. 004	

0. 017	0. 003								
252	23121	1401480. 469	5643999. 713	557. 025	0. 315	0. 413	0. 646	0. 055	
0. 032	0. 008								
253	23123	1402912. 705	5639124. 079	538. 921	0. 236	0. 211	0. 510	0. 042	
0. 032	0. 010								
254	23124	1405042. 030	5642018. 655	729. 262	0. 293	0. 369	0. 942	0. 011	
0. 047	0. 013								
255	23126	1406334. 587	5636692. 200	213. 714	0. 262	0. 354	0. 883	0. 006	
0. 024	0. 007								
256	23131	1406791. 466	5644839. 696	582. 116	0. 304	0. 396	0. 646	0. 176	
0. 091	0. 045								
257	23133	1408109. 146	5640700. 670	535. 865	0. 242	0. 218	0. 530	0. 020	
0. 082	0. 005								
258	23134	1410418. 984	5643225. 181	719. 214	0. 299	0. 380	0. 977	0. 001	
0. 005	0. 001								
259	23136	1411942. 579	5638825. 145	216. 179	0. 290	0. 317	0. 940	0. 007	
0. 028	0. 006								
260	23141	1412134. 576	5646102. 019	581. 798	0. 313	0. 414	0. 669	0. 201	
0. 114	0. 082								
261	23143	1413694. 024	5641799. 946	206. 167	0. 256	0. 233	0. 576	0. 023	
0. 069	0. 003								
262	23144	1415512. 647	5644956. 767	648. 053	0. 319	0. 437	1. 029	0. 008	
0. 034	0. 011								
263	23146	1417126. 336	5639842. 619	214. 261	0. 291	0. 338	0. 945	0. 008	
0. 036	0. 009								
264	23151	1417500. 264	5647819. 938	599. 556	0. 327	0. 457	0. 705	0. 011	
0. 113	0. 056								
265	23153	1419207. 417	5642602. 689	200. 065	0. 257	0. 233	0. 579	0. 089	
0. 121	0. 021								
266	23154	1420991. 599	5645851. 690	694. 834	0. 310	0. 403	1. 018	0. 001	
0. 006	0. 002								
267	23156	1422472. 195	5641226. 663	197. 042	0. 291	0. 331	0. 951	0. 010	
0. 042	0. 010								
268	23161	1422897. 250	5649063. 043	664. 357	0. 331	0. 474	0. 738	0. 057	
0. 065	0. 038								
269	23163	1424142. 444	5644376. 259	619. 539	0. 254	0. 229	0. 557	0. 056	
0. 085	0. 020								
270	23164	1426350. 748	5647438. 000	655. 800	0. 318	0. 429	1. 060	0. 000	
0. 001	0. 000								
271	23166	1427736. 361	5642797. 805	552. 705	0. 277	0. 300	0. 879	0. 005	
0. 022	0. 005								
272	23171	1427669. 199	5650126. 774	655. 040	0. 349	0. 518	0. 844	0. 049	
0. 195	0. 099								
273	23173	1429481. 041	5645614. 801	618. 168	0. 256	0. 217	0. 556	0. 024	
0. 108	0. 002								
274	23174	1431243. 453	5648456. 083	321. 937	0. 362	0. 434	1. 223	0. 019	
0. 072	0. 019								
275	23176	1432676. 548	5643712. 599	594. 470	0. 273	0. 332	0. 860	0. 013	
0. 049	0. 012								
276	23181	1432996. 639	5651540. 156	397. 310	0. 526	0. 912	1. 501	0. 075	

0.188 277	0.098 23183	1434719.345	5646903.381	196.499	0.462	0.332	1.122	0.038
0.138 278	0.003 23185	1435734.246	5642186.037	193.407	0.495	0.518	1.056	0.044
0.275	0.119				mean	0.278	0.323	0.736
0.096	0.040	0.121						0.052

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Mean Predicted Standard Errors

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(including Control Points)	(excluding Control Points)		
0.273	Sx	0.278	---
0.317	Sy	0.323	---
0.720	Sz	0.736	---
0.833	Spherical	0.851	---

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♀KMI  
 AeroSys-AT Bundle Adjustment, <PRO Pkg> AeroSys-AT v7.2 © 1989-2009 MHS  
 Project ID: Foothills 20-23  
 System Memory Storage Summary

9/22/2009

No. of Cameras	=	1	====>	0.0 Kbytes
No. of Photos	=	65	====>	12.7 Kbytes
No. of Points	=	278	====>	26.1 Kbytes
No. of Photo Coordinates	=	828	====>	32.3 Kbytes

Total Data Storage Required =====> 71.1 Kbytes

#### System Computing Time Summary

##### Number of Iterations:

Reading Data Input Files:	0 Hrs	0 Min	0.03 Sec
Initializing Data Structures:	0 Hrs	0 Min	0.03 Sec
Forming & Solving Normal Equations:	0 Hrs	0 Min	2.42 Sec
Per Iteration:	0 Hrs	0 Min	0.20 Sec

Cholesky Solution Per Iteration: 0 Hrs 0 Min 0.02 Sec

##### Details:

Decomposition	-->:	0 Hrs	0 Min	0.02 Sec
Forward Elimination	-->:	0 Hrs	0 Min	0.00 Sec

Back Substitution --> 0 Hrs 0 Min 0.00 Sec

Forming Normal Eqns Per Iteration: 0 Hrs 0 Min 0.19 Sec

Details:

Init Variables	-->	0 Hrs	0 Min	0.00 Sec
Add APs Obs	-->	0 Hrs	0 Min	0.00 Sec
Add AB-GPS Spc	-->	0 Hrs	0 Min	0.00 Sec
Add Photo Obs	-->	0 Hrs	0 Min	0.00 Sec
Add Pointwise	-->	0 Hrs	0 Min	0.14 Sec
Invert N dldot	-->	0 Hrs	0 Min	0.00 Sec
Form SE sgl dot	-->	0 Hrs	0 Min	0.00 Sec
Form S sgl dot OffDi ag	-->	0 Hrs	0 Min	0.02 Sec
Transfer SE2 Di ag&Rhs	-->	0 Hrs	0 Min	0.03 Sec

Normal Equations Inverse: 0 Hrs 0 Min 0.23 Sec

Statistics: 0 Hrs 0 Min 4.00 Sec

Total Computing Time: 0 Hrs 0 Min 6.80 Sec