



# North Carolina Department of Public Safety

## Emergency Management North Carolina Geodetic Survey

Pat McCrory, Governor  
Frank L. Perry, Secretary

Michael A. Sprayberry, Director

### Aerial Imagery Quality Control Report – 26 North Carolina Western Piedmont - Northern Mountains Counties 2014 Western Piedmont - Northern Mountains Project

The North Carolina Geodetic Survey (NCGS) performed a horizontal quality control (QC) survey of aerial imagery collected in twenty-six North Carolina counties. The purpose of the QC survey was to test the horizontal accuracy of the aerial imagery collected as part of the 2014 Western Piedmont and Northern Mountains Orthoimagery Project, which is funded by the NC 911 Board.

NCGS contracted private surveying firms to collect the horizontal QC test points and submit a report, which are on file at NCGS.

In addition to the contractor collected QC test points, NCGS personnel, who were under the supervision of Joe H. Scott (L-3254), collected supplemental QC test points using the following GNSS survey parameters:

<b>Class of survey:</b>	Urban Land Class A
<b>Horizontal accuracy:</b>	0.020 meters (0.065 USft) at the 95% confidence level
<b>Type of field procedure used:</b>	North Carolina Real Time Network (NCRTN) and Online Positioning User Service (OPUS)
<b>Dates of survey:</b>	10/02/13 – 5/13/14
<b>Horizontal datum/epoch</b>	North American Datum 83(2011) epoch 2010.0
<b>Vertical datum/epoch</b>	North American Vertical Datum of 1988 (NAVD88)
<b>Published fixed control used:</b>	North Carolina Continuously Operating Reference Station (CORS) Network and North Carolina Real-Time Network (NCRTN)
<b>Geoid model:</b>	Geoid12A
<b>Combined grid factor:</b>	See attached fixed control spreadsheet
<b>Units:</b>	US Survey Feet

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Fax: (919) 733-4407



# North Carolina Department of Public Safety

## Emergency Management North Carolina Geodetic Survey

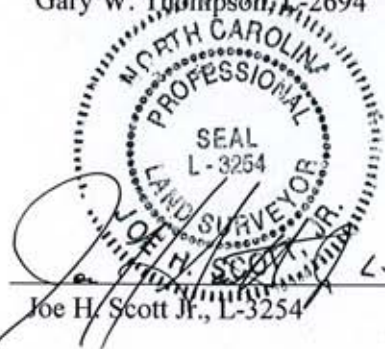
Pat McCrory, Governor  
Frank L. Perry, Secretary

Michael A. Sprayberry, Director

The attached report contains the results of the horizontal QC surveys conducted by the contractors and the supplemental QC surveys conducted by NCGS personnel. The review of the field data and the generation of the final QC report were performed under the supervision of Steven A Kaufman (L-5167) and Gary W. Thompson (L-2694).



*[Signature]*  
Gary W. Thompson, L-2694                      2/18/15  
date



*[Signature]*  
Joe H. Scott Jr., L-3254                      2/18/15  
date



*[Signature]*  
Steven A Kaufman, L-5167                      2/18/15  
date

This report contains the horizontal QC reports for the following counties:

- Alamance
- Alexander
- Alleghany
- Ashe
- Avery
- Burke
- Caldwell
- Caswell
- Catawba
- Davidson
- Davie
- Forsyth
- Guilford
- Iredell
- Madison
- McDowell
- Mitchell
- Randolph
- Rockingham
- Rowan
- Stokes
- Surry
- Watauga
- Wilkes
- Yadkin
- Yancey

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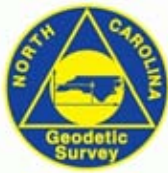
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## 2014 Orthoimagery Statistics Summary

NAD 83/2011 US Survey Feet

County	MinΔX:	MinΔY:	MaxΔX:	MaxΔY:	MeanΔX	MeanΔY	RmseX:	RmseY:	RmseH:	CE90:	CE95:	CI:	No.Obs.:	NSSDA:
Alamance	-1.758	-1.367	1.628	1.107	0.004	-0.143	<b>0.586</b>	<b>0.472</b>	0.752	1.130	1.289	0.188	30	1.302
Alexander	-1.107	-1.367	1.107	0.846	0.113	-0.140	<b>0.485</b>	<b>0.544</b>	0.729	1.088	1.241	0.182	30	1.262
Alleghany	-0.456	-0.065	0.846	1.237	0.136	0.379	<b>0.329</b>	<b>0.502</b>	0.600	0.686	0.782	0.114	30	1.039
Ashe	-1.497	-0.586	1.107	2.148	-0.221	0.104	<b>0.742</b>	<b>0.575</b>	0.939	1.390	1.585	0.232	30	1.625
Avery	-0.716	-1.628	1.237	1.758	-0.030	0.221	<b>0.472</b>	<b>0.605</b>	0.767	1.128	1.287	0.188	30	1.328
Burke	-1.237	-0.586	0.977	0.977	-0.026	0.043	<b>0.434</b>	<b>0.326</b>	0.543	0.825	0.941	0.138	30	0.939
Caldwell	-1.758	-1.497	3.711	1.367	0.095	0.069	<b>0.819</b>	<b>0.549</b>	0.986	1.482	1.691	0.247	30	1.707
Caswell	-0.456	-0.586	0.456	0.977	-0.056	0.165	<b>0.317</b>	<b>0.409</b>	0.517	0.748	0.853	0.125	30	0.895
Catawba	-2.539	-1.888	1.107	1.107	-0.039	-0.023	<b>0.766</b>	<b>0.538</b>	0.936	1.421	1.621	0.237	30	1.620
Davidson	-1.888	-1.367	0.065	1.758	-0.634	-0.061	<b>0.809</b>	<b>0.563</b>	0.986	1.160	1.323	0.193	30	1.706
Davie	-1.107	-0.716	0.195	0.846	-0.314	-0.091	<b>0.517</b>	<b>0.347</b>	0.623	0.815	0.929	0.136	30	1.079
Forsyth	-0.846	-0.195	0.326	0.977	-0.187	0.260	<b>0.365</b>	<b>0.379</b>	0.526	0.055	0.642	0.732	30	0.910
Guilford	-0.977	-1.237	0.456	2.539	-0.104	0.213	<b>0.339</b>	<b>0.610</b>	0.698	0.977	1.114	0.163	30	1.209
Iredell	-0.977	-0.456	3.841	0.846	0.127	0.195	<b>0.858</b>	<b>0.407</b>	0.950	1.316	1.501	0.219	30	1.644
Madison	-1.367	-1.888	1.758	1.237	0.025	-0.061	<b>0.688</b>	<b>0.588</b>	0.905	1.388	1.583	0.231	30	1.566
McDowell	-1.758	-0.977	2.539	1.107	-0.126	-0.091	<b>0.727</b>	<b>0.489</b>	0.876	1.306	1.490	0.218	30	1.517
Mitchell	-2.279	-0.586	1.367	0.716	-0.321	0.087	<b>0.812</b>	<b>0.362</b>	0.889	1.197	1.366	0.200	30	1.539
Randolph	-1.497	-0.846	1.367	0.716	-0.208	-0.182	<b>0.601</b>	<b>0.381</b>	0.712	0.981	1.119	0.164	30	1.232
Rockingham	-1.237	-1.497	0.586	1.628	-0.087	0.000	<b>0.422</b>	<b>0.536</b>	0.682	1.035	1.181	0.173	30	1.180
Rowan	-1.628	-0.977	0.716	0.586	-0.503	-0.330	<b>0.785</b>	<b>0.519</b>	0.942	1.096	1.250	0.183	30	1.630
Stokes	-0.846	-0.977	0.977	0.846	0.065	0.043	<b>0.402</b>	<b>0.372</b>	0.548	0.836	0.954	0.139	30	0.948
Surry	-0.716	-1.758	0.846	1.237	0.143	0.417	<b>0.395</b>	<b>0.670</b>	0.778	0.975	1.112	0.163	30	1.347
Watauga	-1.497	-1.367	0.977	1.367	-0.221	0.095	<b>0.631</b>	<b>0.481</b>	0.793	1.159	1.322	0.193	30	1.373
Wilkes	-1.497	-1.367	1.107	0.586	-0.017	-0.078	<b>0.557</b>	<b>0.453</b>	0.718	1.095	1.249	0.183	30	1.243
Yadkin	-1.367	-0.586	1.497	0.716	-0.217	0.135	<b>0.519</b>	<b>0.349</b>	0.626	0.866	0.988	0.144	30	1.083
Yancey	-2.409	-1.758	0.716	2.279	-0.781	-0.178	<b>1.132</b>	<b>0.764</b>	1.365	1.704	1.944	0.284	30	2.363
						Average	<b>0.597</b>	<b>0.492</b>	0.784	1.072	1.245	0.207		1.357





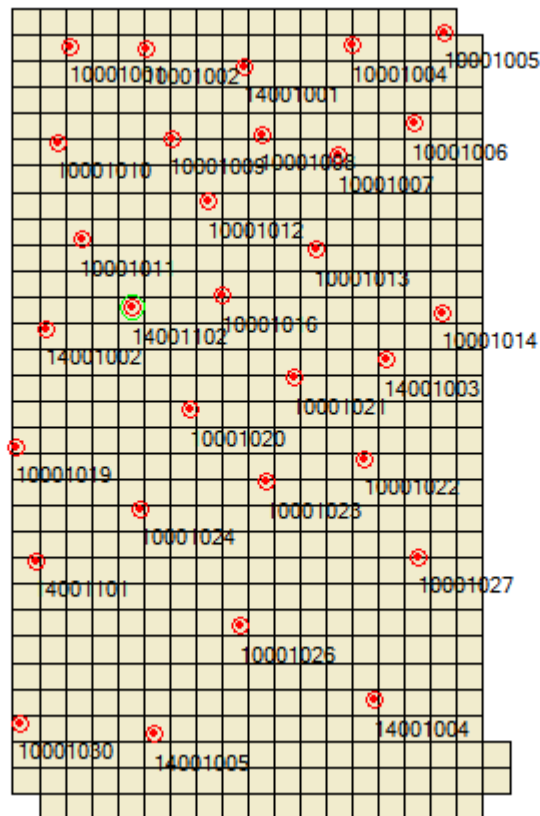
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Project Name: 2014 Imagery QC  
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Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 12/22/2014 Finish: 12/22/2014

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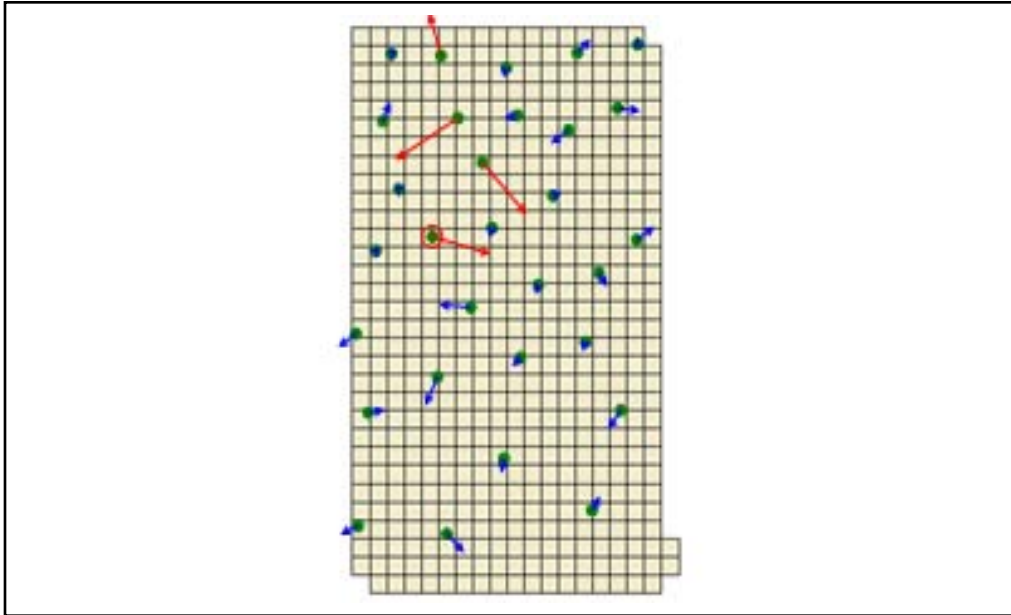
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Threshold: CE90: 1.13  
Scaling Used: 1:150

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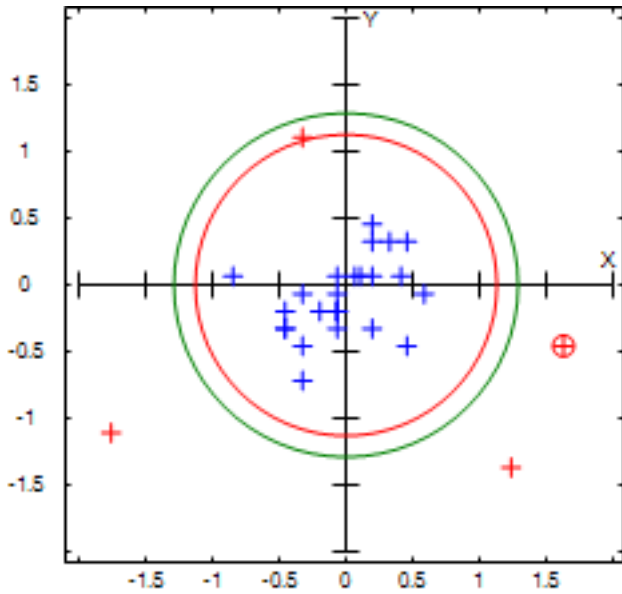


Vector Offset



Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-1.758
Min $\Delta Y$ :	-1.367
Max $\Delta X$ :	1.628
Max $\Delta Y$ :	1.107
Mean $\Delta X$ :	0.004
Mean $\Delta Y$ :	-0.143
RmseX:	0.586
RmseY:	0.472
RmseH:	0.752
NSSDA:	1.302
No. Obs.:	30
CE 90:	1.13
CE 95:	1.289
CI:	0.188



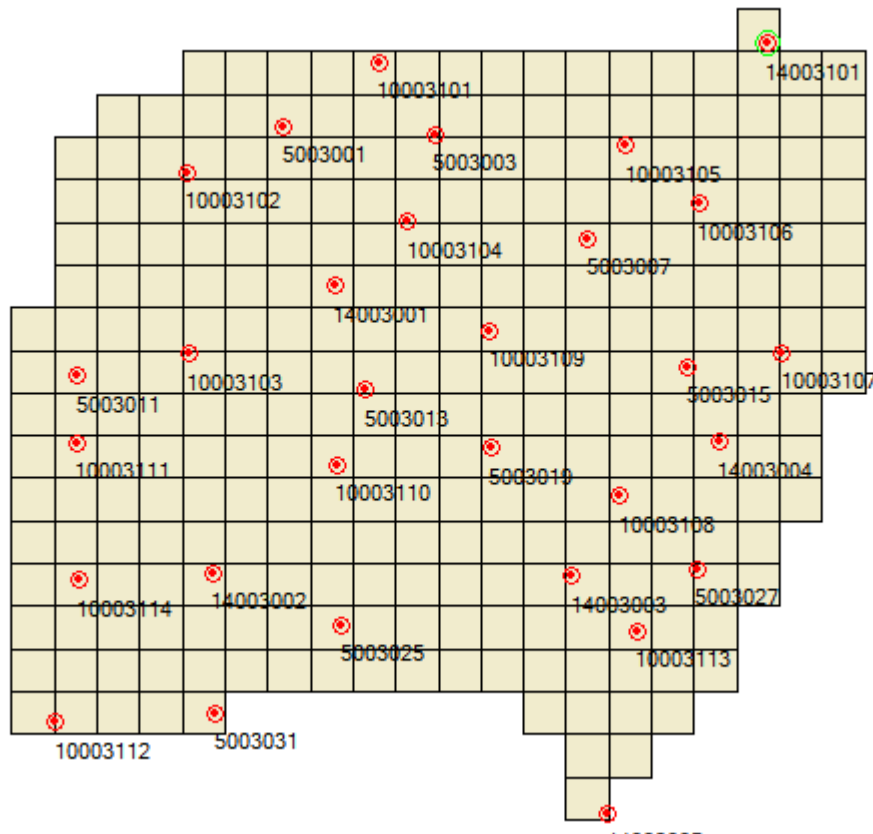
## Project Information

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Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 12/22/2014 Finish: 12/22/2014

## Metadata Information

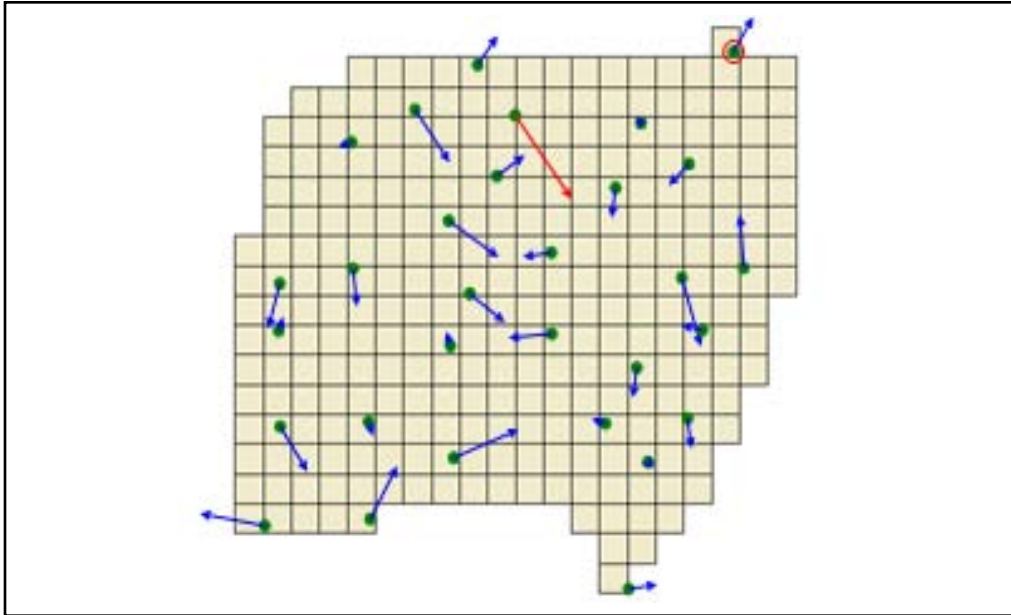
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Scaling Used: 1:25050

## Tiled-Image Area



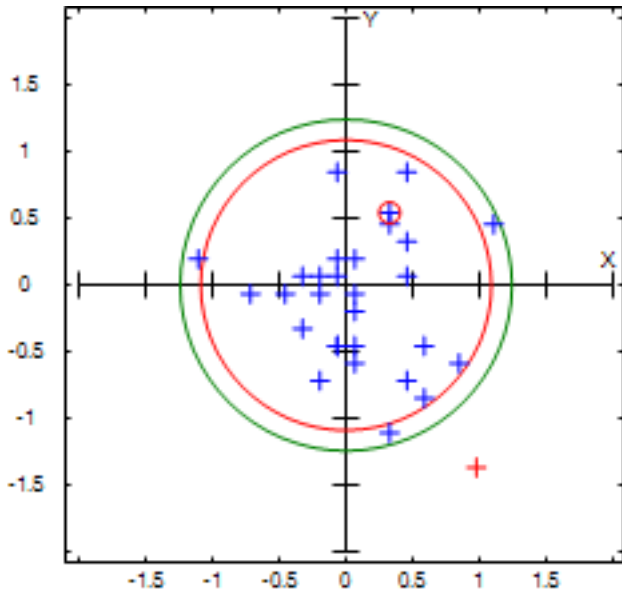


Vector Offset



Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-1.107
Min $\Delta Y$ :	-1.367
Max $\Delta X$ :	1.107
Max $\Delta Y$ :	0.846
Mean $\Delta X$ :	0.113
Mean $\Delta Y$ :	-0.14
RmseX:	0.485
RmseY:	0.544
RmseH:	0.729
NSSDA:	1.262
No. Obs.:	30
CE 90:	1.088
CE 95:	1.241
CI:	0.182



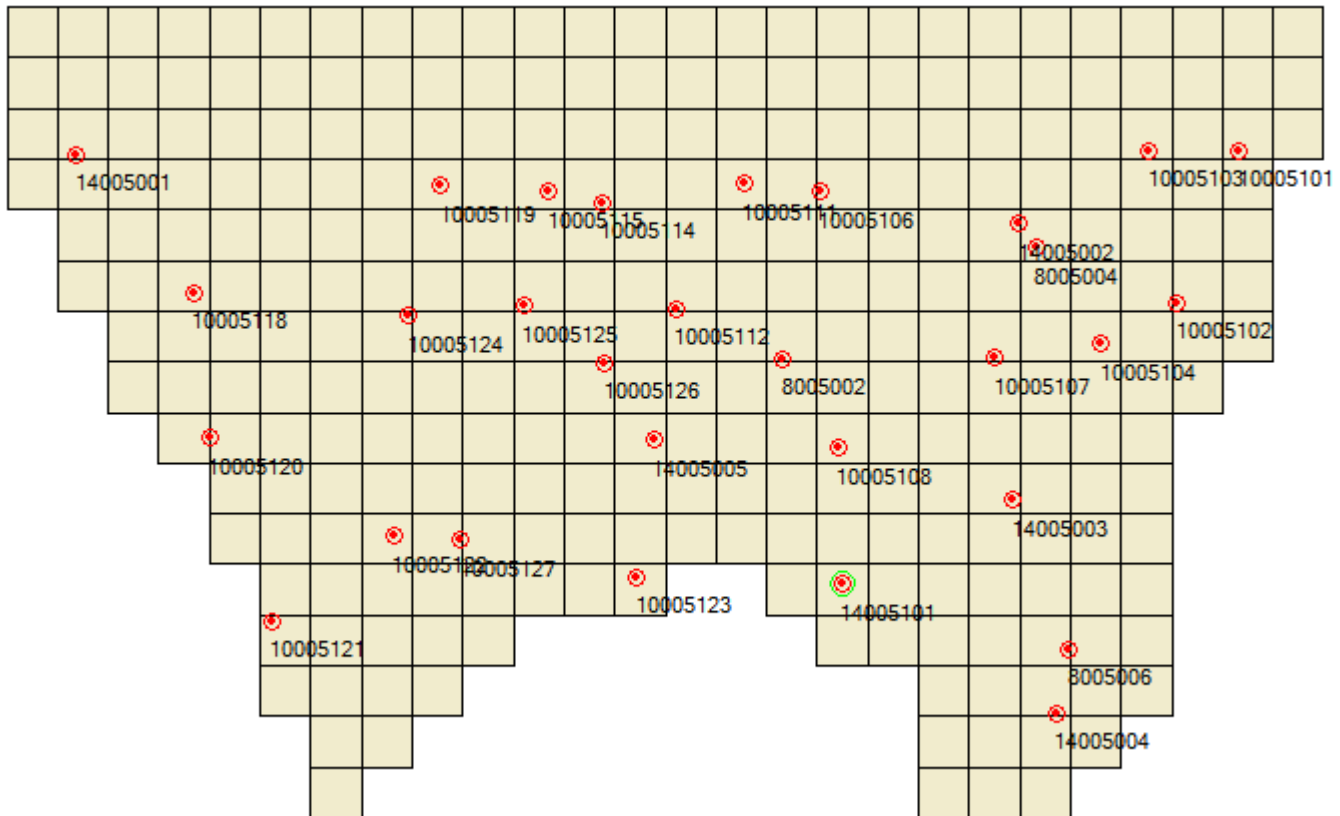
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 12/8/2014 Finish: 12/8/2014

## Metadata Information

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# of Matching Images: 301  
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Scaling Used: 1:150

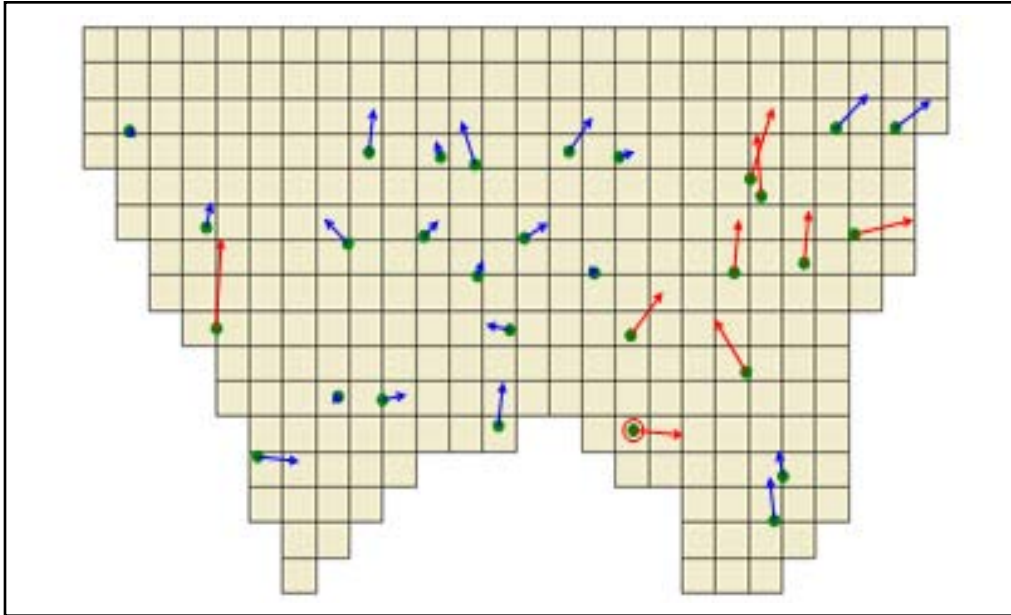
## Tiled-Image Area





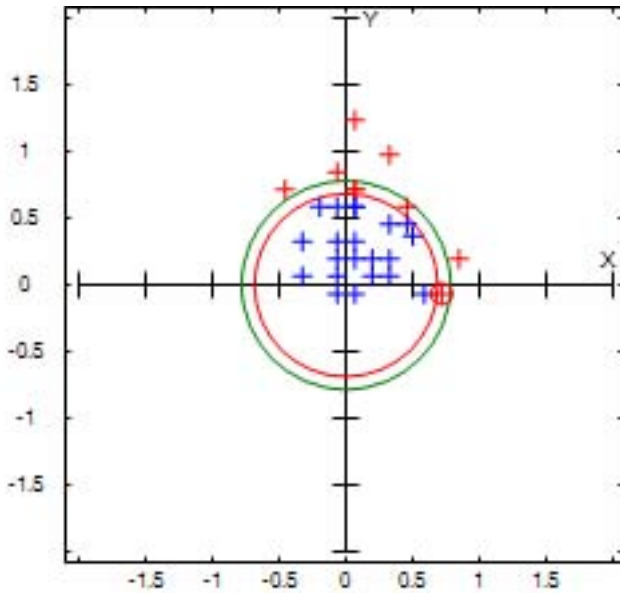


### Vector Offset



Scaling Factor: 10000

### Circular Error



### Error Statistics

Min $\Delta X$ :	-0.456
Min $\Delta Y$ :	-0.065
Max $\Delta X$ :	0.846
Max $\Delta Y$ :	1.237
Mean $\Delta X$ :	0.136
Mean $\Delta Y$ :	0.379
RmseX:	0.329
RmseY:	0.502
RmseH:	0.6
NSSDA:	1.039
No. Obs.:	30
CE 90:	0.686
CE 95:	0.782
CI:	0.114



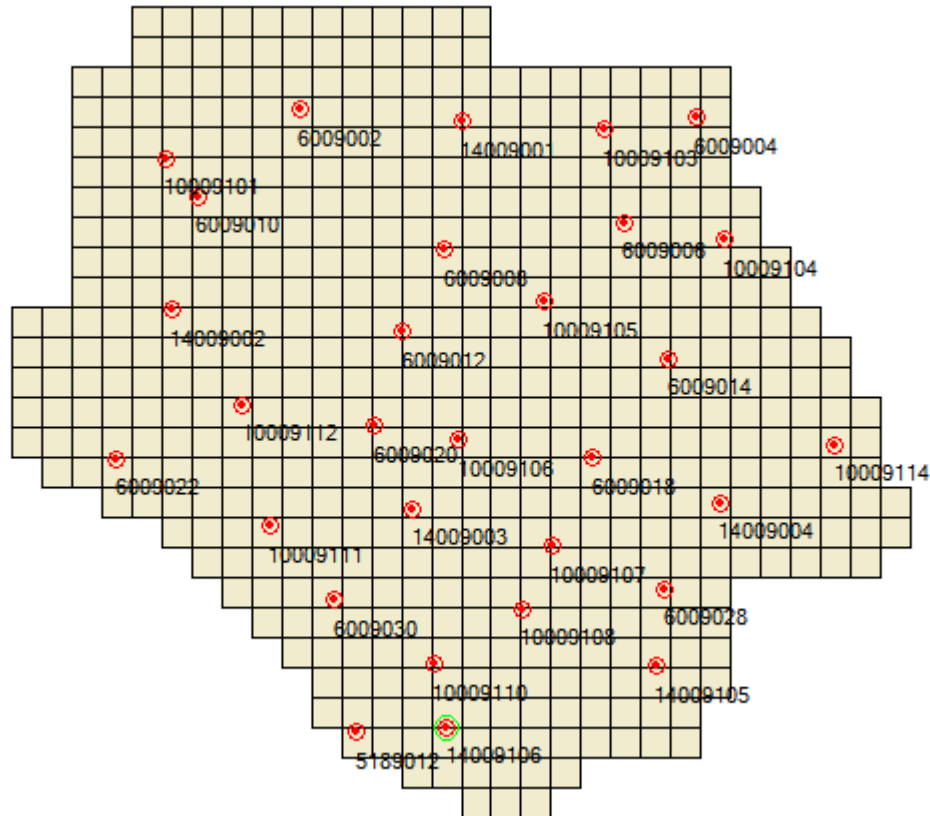
## Project Information

Prepared By: Steve Kaufman  
 Project Name: 2014 Imagery QC  
 Sensor Info: na  
 Sensor Resolution: 0.5  
 Vendor Name: na  
 Date of Aquisition:    Start: 1/5/2015    Finish: 1/5/2015

## Metadata Information

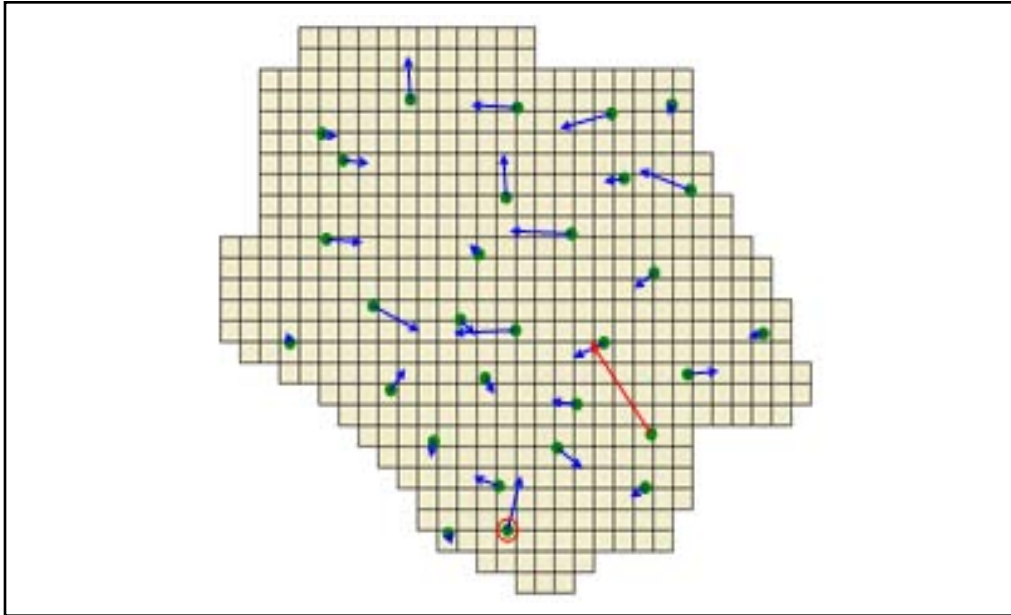
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 Threshold: NSSDA: 1.625  
 Scaling Used: 1:150

## Tiled-Image Area



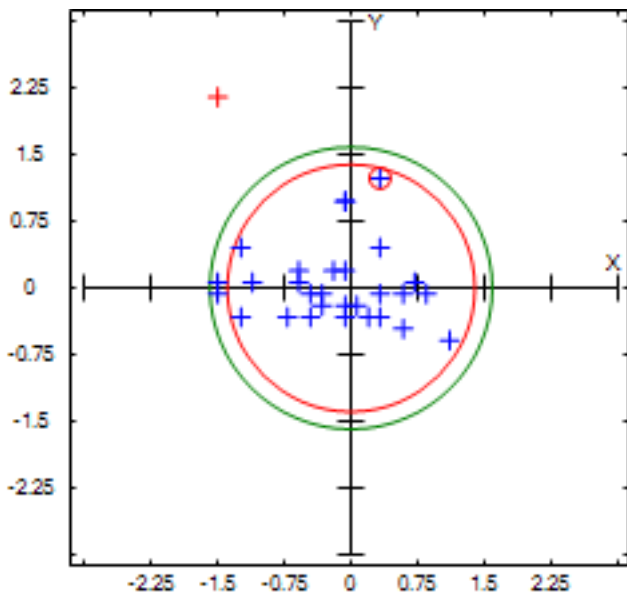


Vector Offset



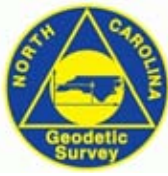
Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-1.497
Min $\Delta Y$ :	-0.586
Max $\Delta X$ :	1.107
Max $\Delta Y$ :	2.148
Mean $\Delta X$ :	-0.221
Mean $\Delta Y$ :	0.104
RmseX:	0.742
RmseY:	0.575
RmseH:	0.939
NSSDA:	1.625
No. Obs.:	30
CE 90:	1.39
CE 95:	1.585
CI:	0.232



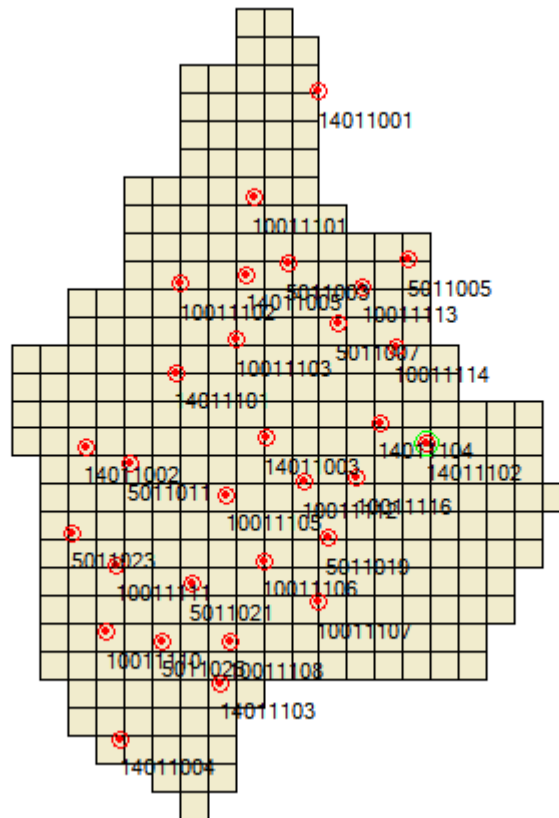
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 1/5/2015 Finish: 1/5/2015

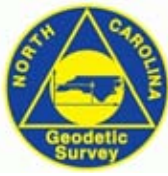
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Scaling Used: 1:150

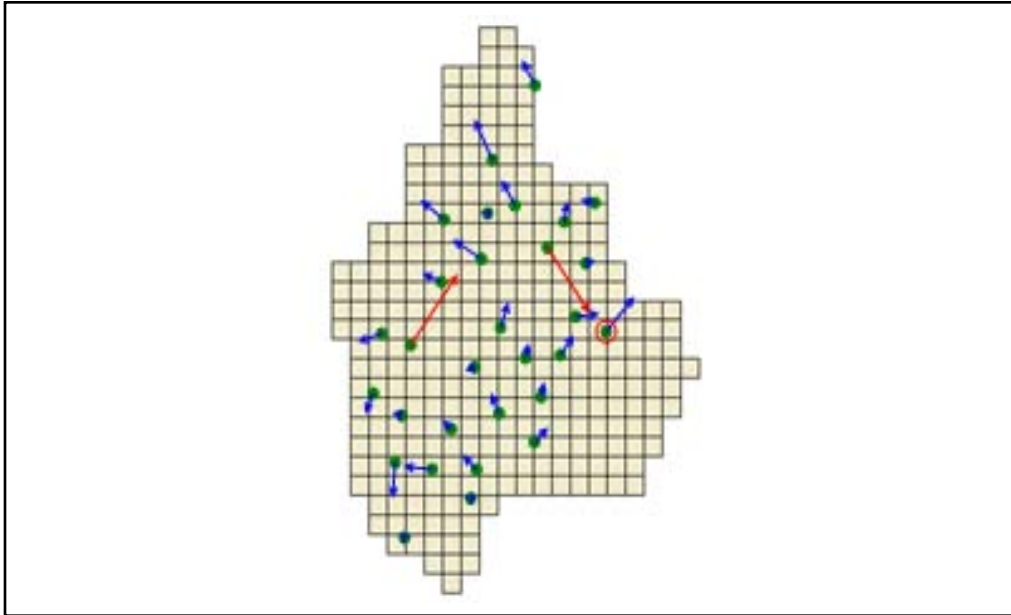
## Tiled-Image Area





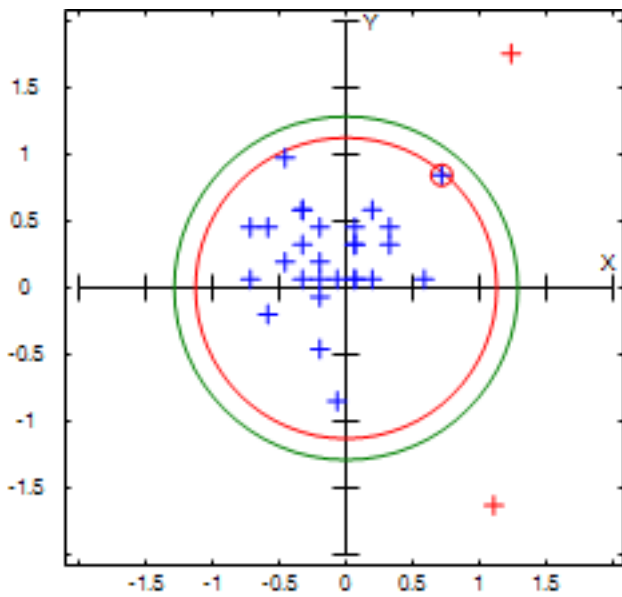


Vector Offset



Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-0.716
Min $\Delta Y$ :	-1.628
Max $\Delta X$ :	1.237
Max $\Delta Y$ :	1.758
Mean $\Delta X$ :	-0.03
Mean $\Delta Y$ :	0.221
RmseX:	0.472
RmseY:	0.605
RmseH:	0.767
NSSDA:	1.328
No. Obs.:	30
CE 90:	1.128
CE 95:	1.287
CI:	0.188



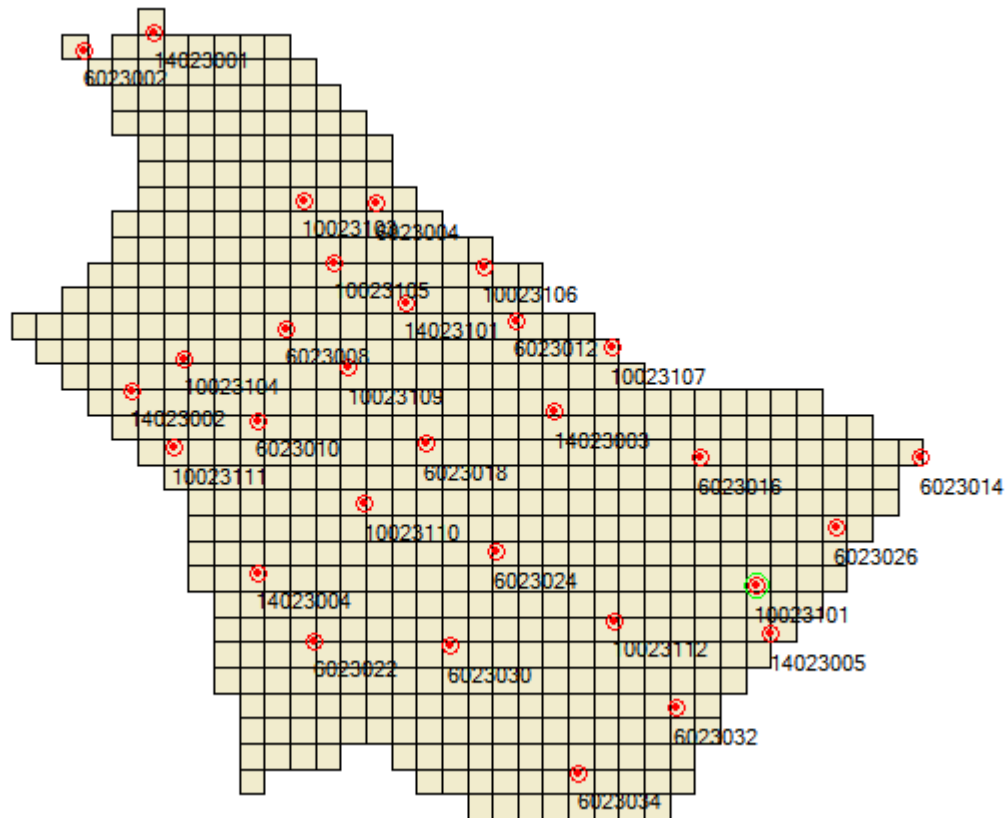
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 1/5/2015 Finish: 1/5/2015

## Metadata Information

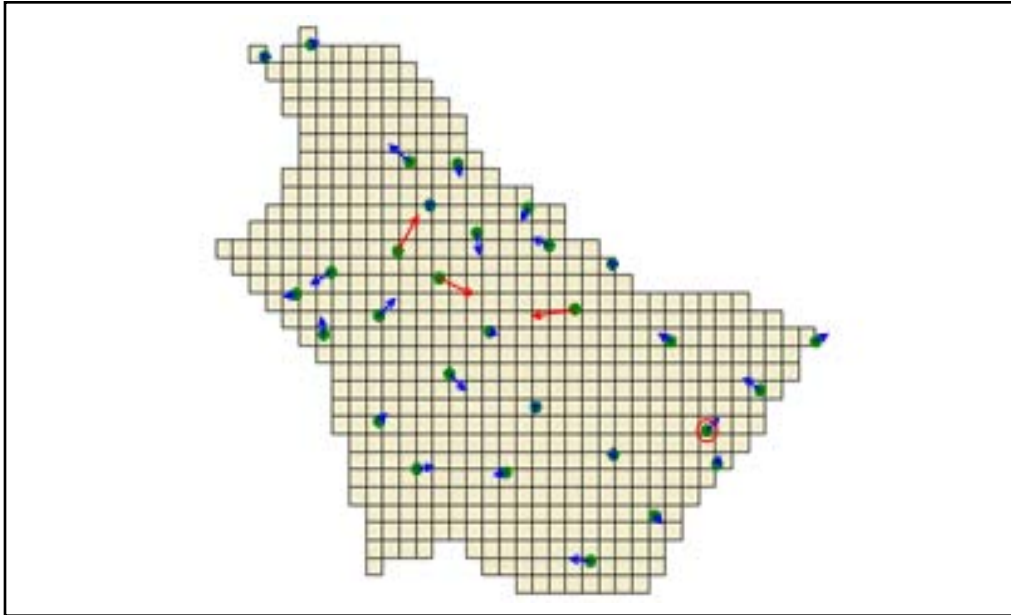
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# of Matching Images: 592  
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Units: Feet  
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Threshold: CE90: 0.825  
Scaling Used: 1:150

## Tiled-Image Area



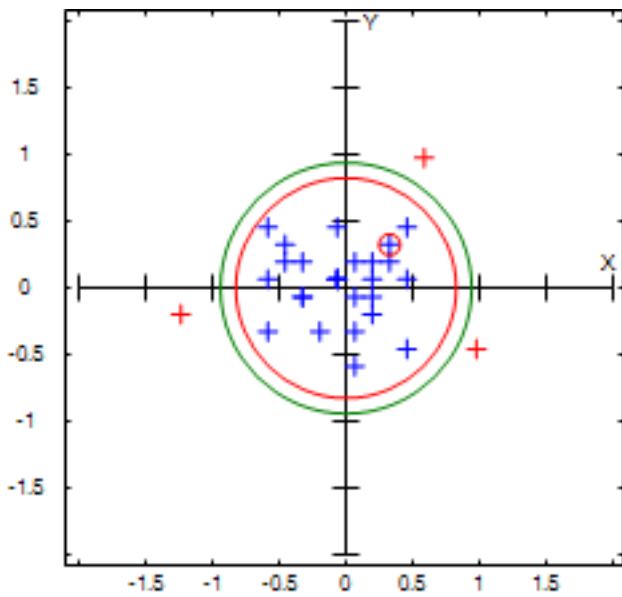


Vector Offset



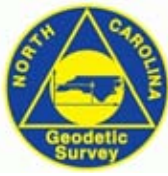
Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-1.237
Min $\Delta Y$ :	-0.586
Max $\Delta X$ :	0.977
Max $\Delta Y$ :	0.977
Mean $\Delta X$ :	-0.026
Mean $\Delta Y$ :	0.043
RmseX:	0.434
RmseY:	0.326
RmseH:	0.543
NSSDA:	0.939
No. Obs.:	30
CE 90:	0.825
CE 95:	0.941
CI:	0.138



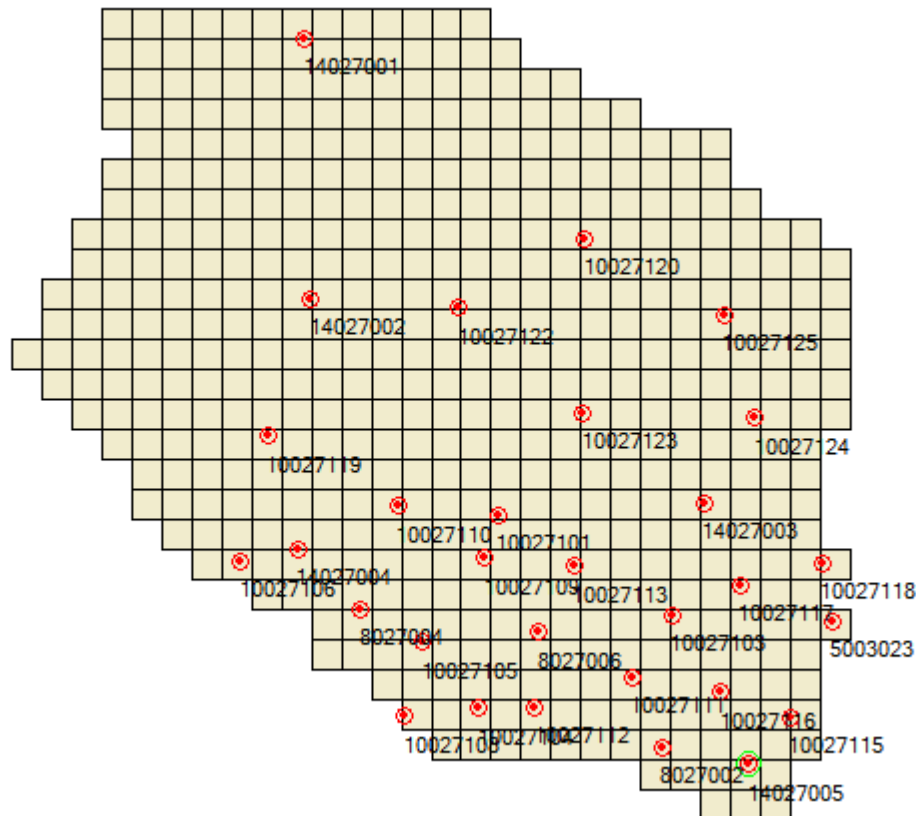
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 1/5/2015 Finish: 1/5/2015

## Metadata Information

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# of Matching Images: 528  
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Scaling Used: 1:150

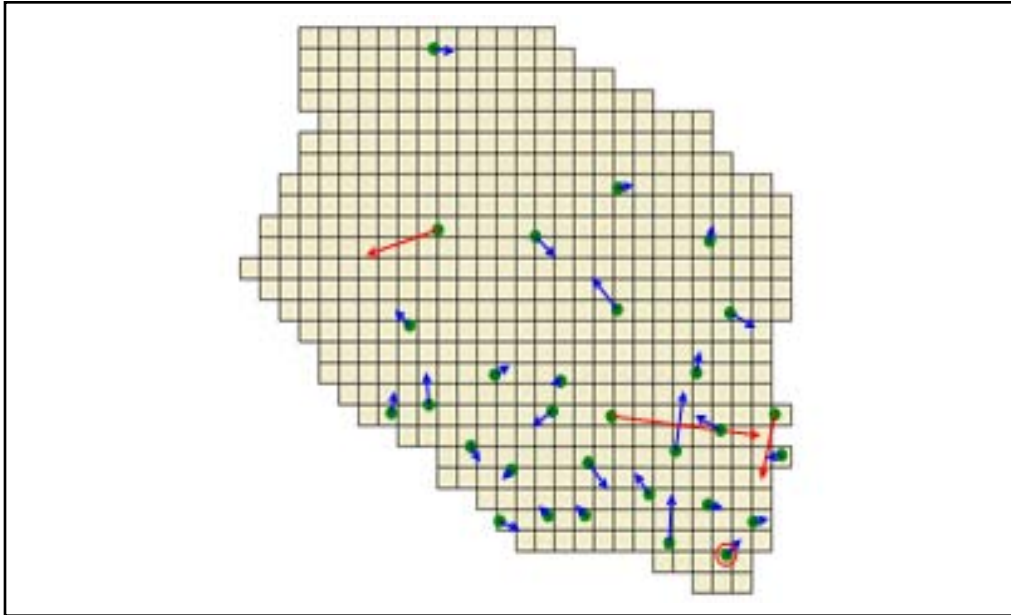
## Tiled-Image Area





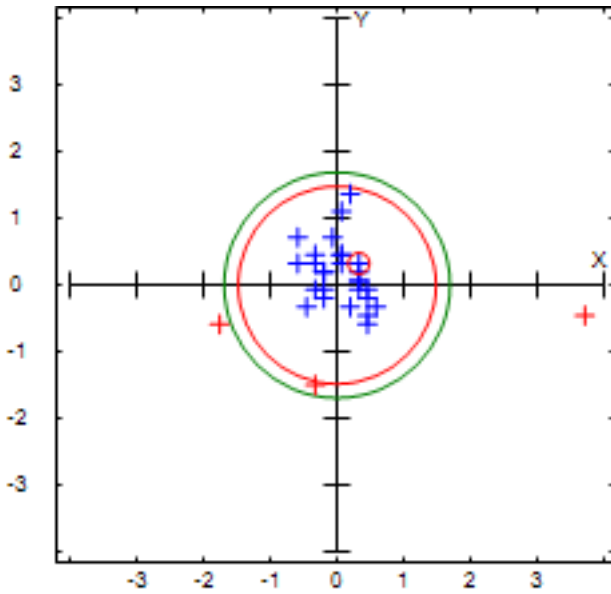


## Vector Offset



Scaling Factor: 10000

## Circular Error



## Error Statistics

Min $\Delta X$ :	-1.758
Min $\Delta Y$ :	-1.497
Max $\Delta X$ :	3.711
Max $\Delta Y$ :	1.367
Mean $\Delta X$ :	0.095
Mean $\Delta Y$ :	0.069
RmseX:	0.819
RmseY:	0.549
RmseH:	0.986
NSSDA:	1.707
No. Obs.:	30
CE 90:	1.482
CE 95:	1.691
CI:	0.247



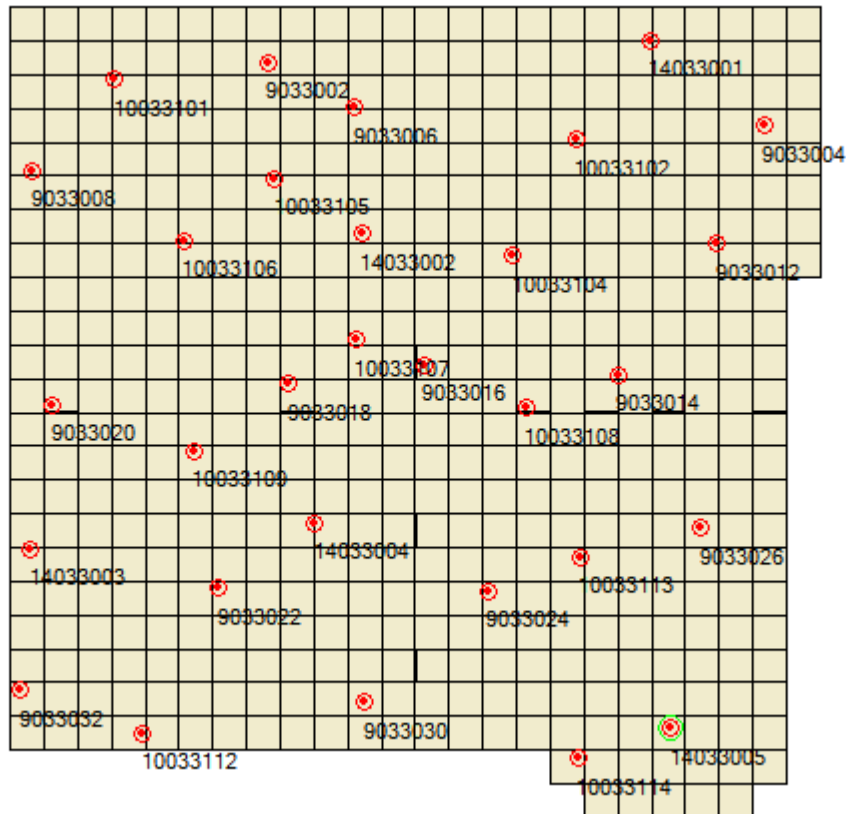
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 12/22/2014 Finish: 12/22/2014

## Metadata Information

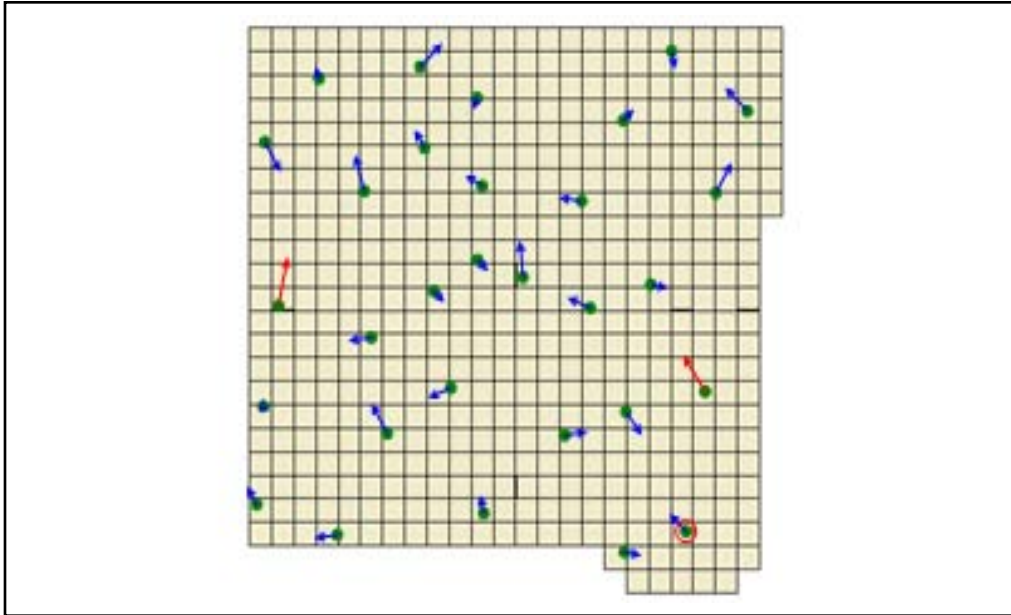
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Threshold: CE90: 0.748  
Scaling Used: 1:150

## Tiled-Image Area



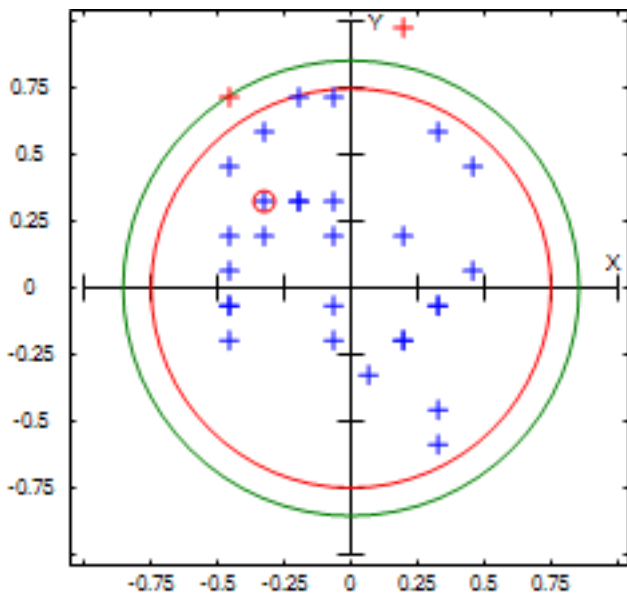


Vector Offset



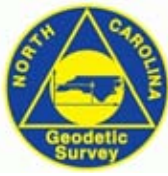
Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-0.456
Min $\Delta Y$ :	-0.586
Max $\Delta X$ :	0.456
Max $\Delta Y$ :	0.977
Mean $\Delta X$ :	-0.056
Mean $\Delta Y$ :	0.165
RmseX:	0.317
RmseY:	0.409
RmseH:	0.517
NSSDA:	0.895
No. Obs.:	30
CE 90:	0.748
CE 95:	0.853
CI:	0.125



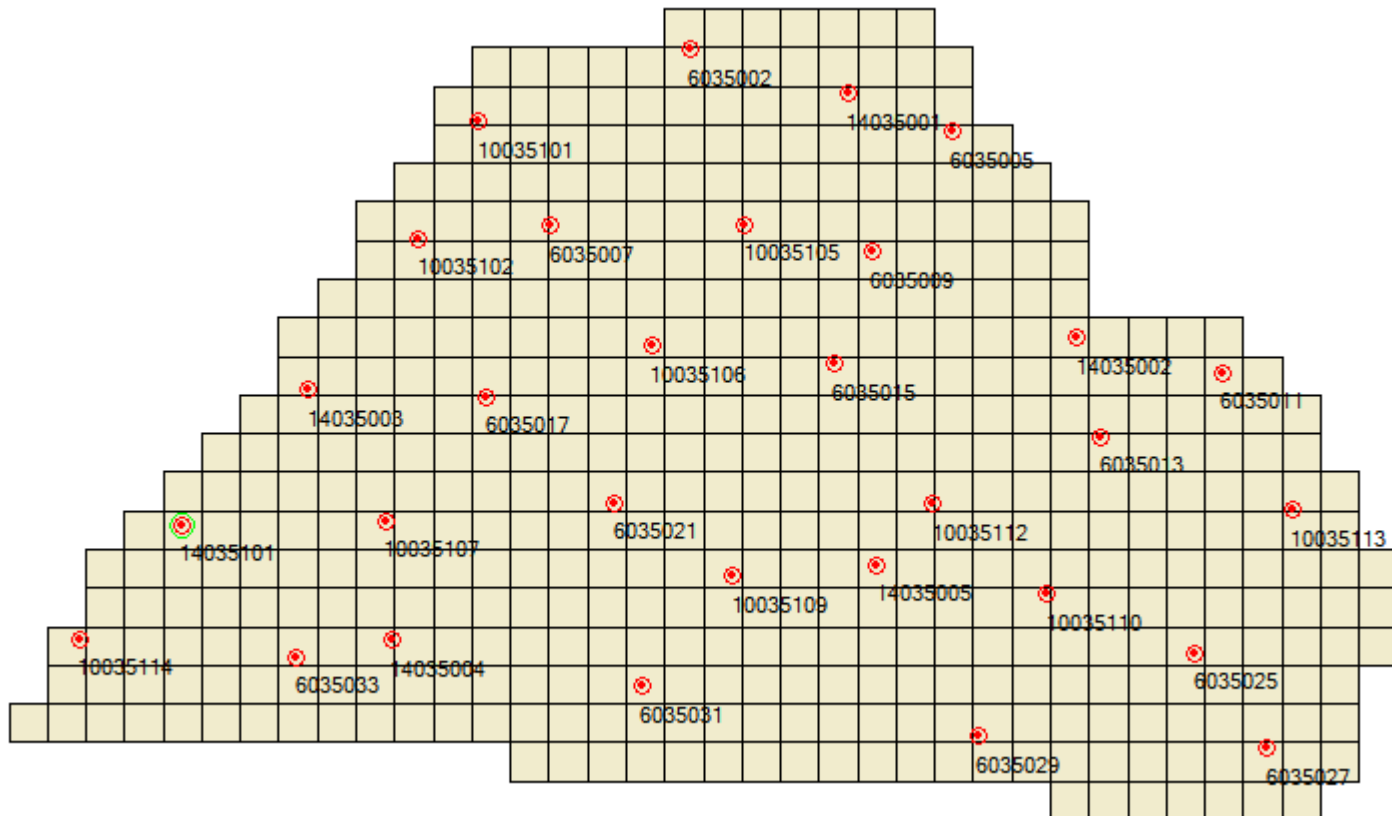
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 12/8/2014 Finish: 12/8/2014

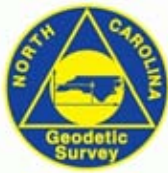
## Metadata Information

Index File Name: catawba\_index.shp  
# of Polygons: 496  
# of Matching Images: 496  
Polygon ID: location  
Units: Feet  
Image Folder Path: P:\Catawba2014\Imagery\TIFF  
Threshold: CE90: 1.421  
Scaling Used: 1:150

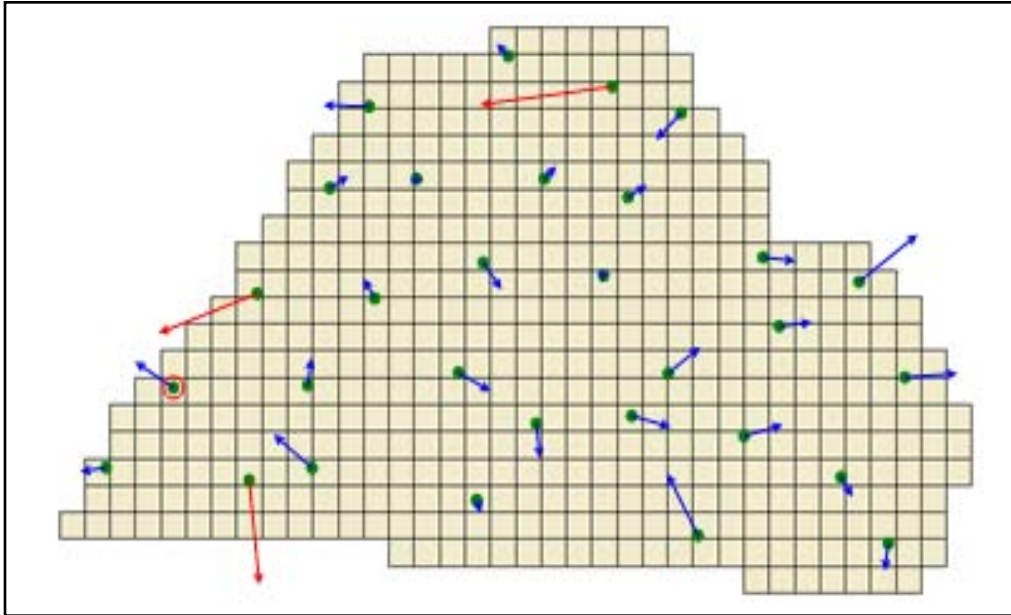
## Tiled-Image Area





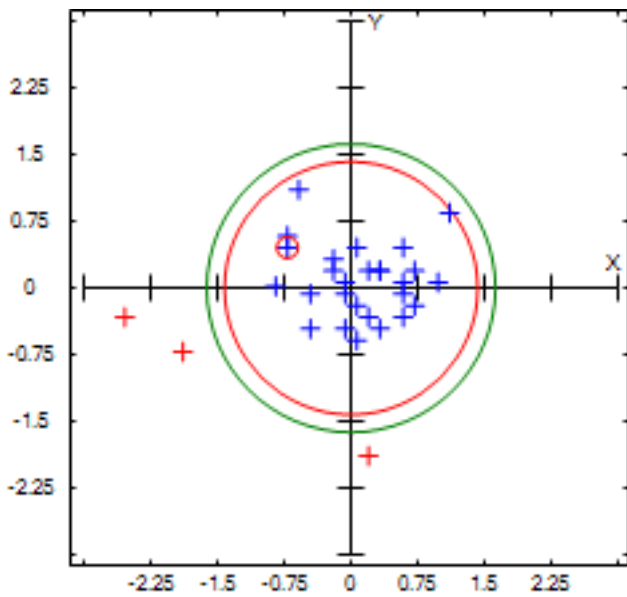


Vector Offset



Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-2.539
Min $\Delta Y$ :	-1.888
Max $\Delta X$ :	1.107
Max $\Delta Y$ :	1.107
Mean $\Delta X$ :	-0.039
Mean $\Delta Y$ :	-0.023
RmseX:	0.766
RmseY:	0.538
RmseH:	0.936
NSSDA:	1.62
No. Obs.:	30
CE 90:	1.421
CE 95:	1.621
CI:	0.237



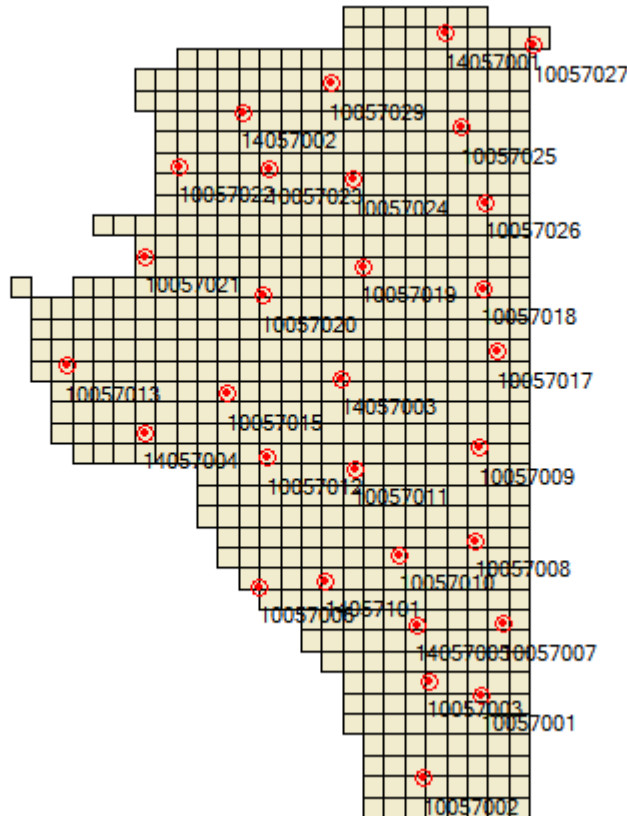
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 1/5/2015 Finish: 1/5/2015

## Metadata Information

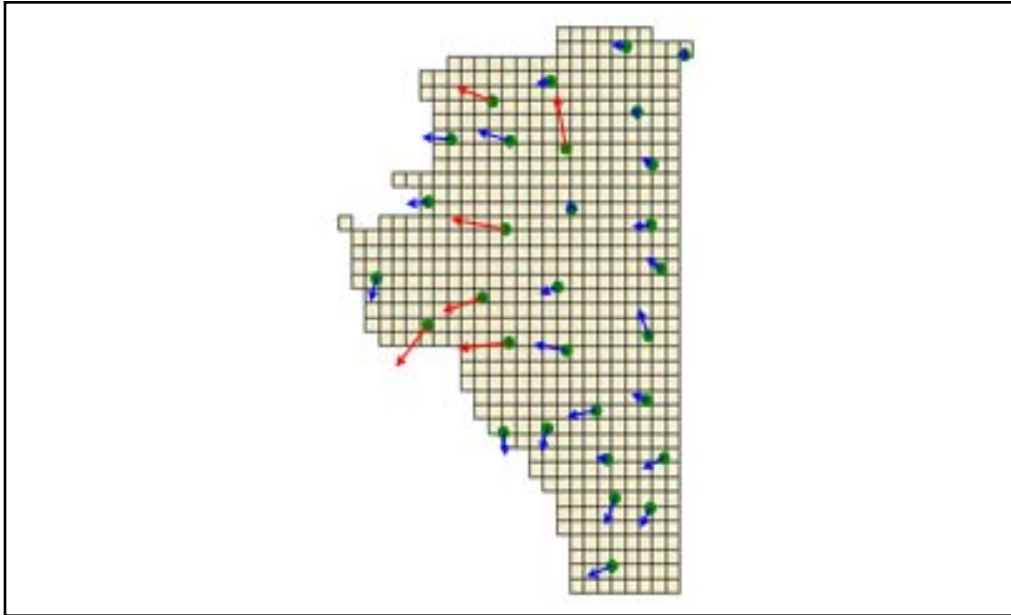
Index File Name: davidson\_index.shp  
# of Polygons: 627  
# of Matching Images: 627  
Polygon ID: location  
Units: Feet  
Image Folder Path: P:\DAVIDSON2014\Imagery\TIFF  
Threshold: CE90: 1.16  
Scaling Used: 1:150

## Tiled-Image Area



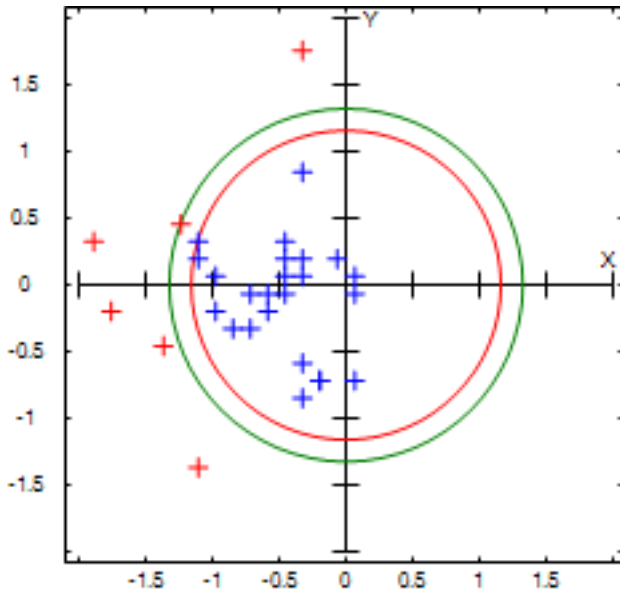


Vector Offset



Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-1.888
Min $\Delta Y$ :	-1.367
Max $\Delta X$ :	0.065
Max $\Delta Y$ :	1.758
Mean $\Delta X$ :	-0.634
Mean $\Delta Y$ :	-0.061
RmseX:	0.809
RmseY:	0.563
RmseH:	0.986
NSSDA:	1.706
No. Obs.:	30
CE 90:	1.16
CE 95:	1.323
CI:	0.193



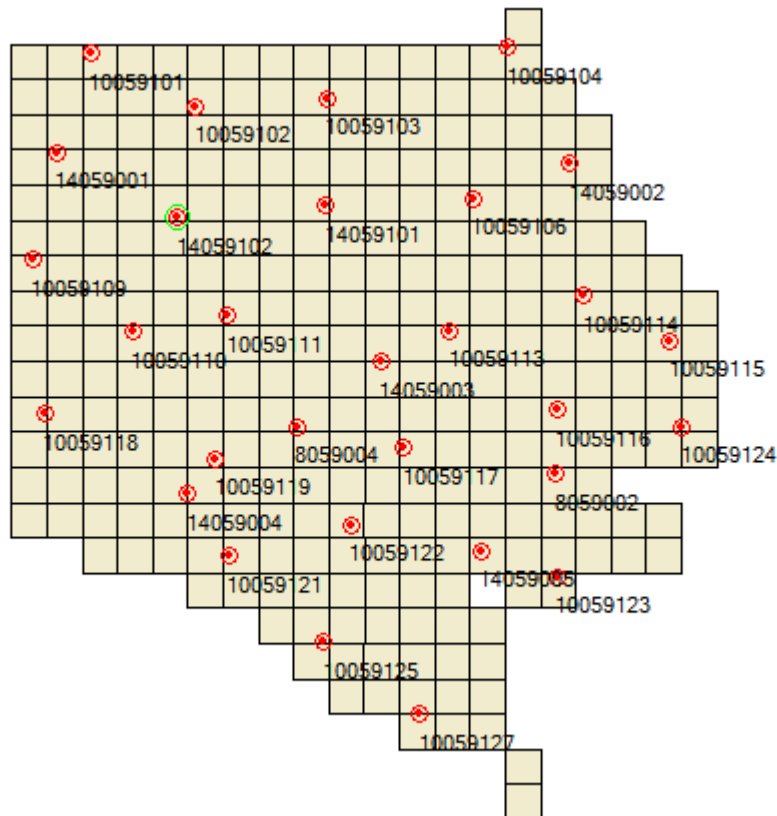
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 12/8/2014 Finish: 12/8/2014

## Metadata Information

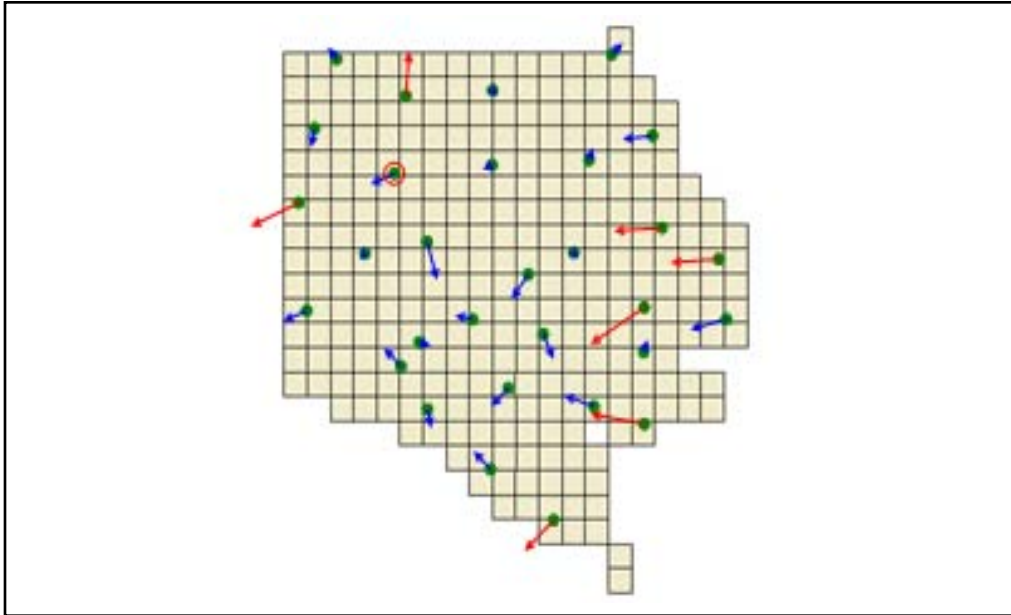
Index File Name: davie\_index.shp  
# of Polygons: 306  
# of Matching Images: 306  
Polygon ID: location  
Units: Feet  
Image Folder Path: P:\DAVIE2014\Imagery\TIFF  
Threshold: CE90: 0.815  
Scaling Used: 1:150

## Tiled-Image Area



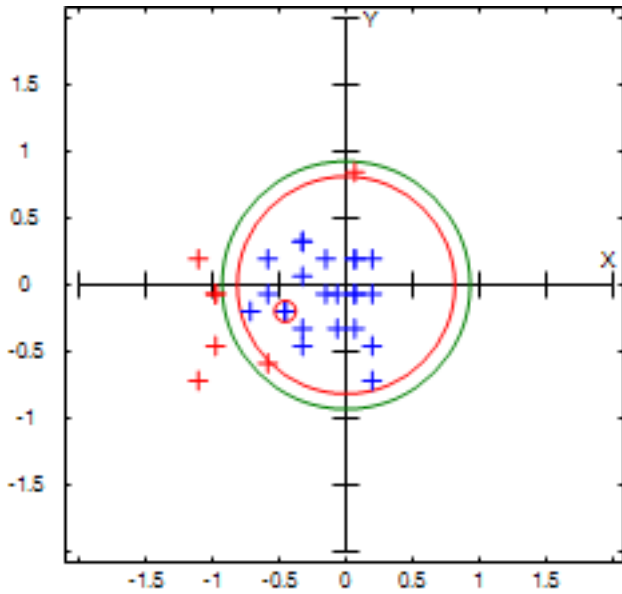


Vector Offset



Scaling Factor: 10000

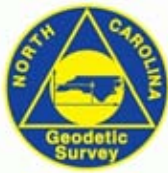
Circular Error



Error Statistics

Min $\Delta X$ :	-1.107
Min $\Delta Y$ :	-0.716
Max $\Delta X$ :	0.195
Max $\Delta Y$ :	0.846
Mean $\Delta X$ :	-0.314
Mean $\Delta Y$ :	-0.091
RmseX:	0.517
RmseY:	0.347
RmseH:	0.623
NSSDA:	1.079
No. Obs.:	30
CE 90:	0.815
CE 95:	0.929
CI:	0.136





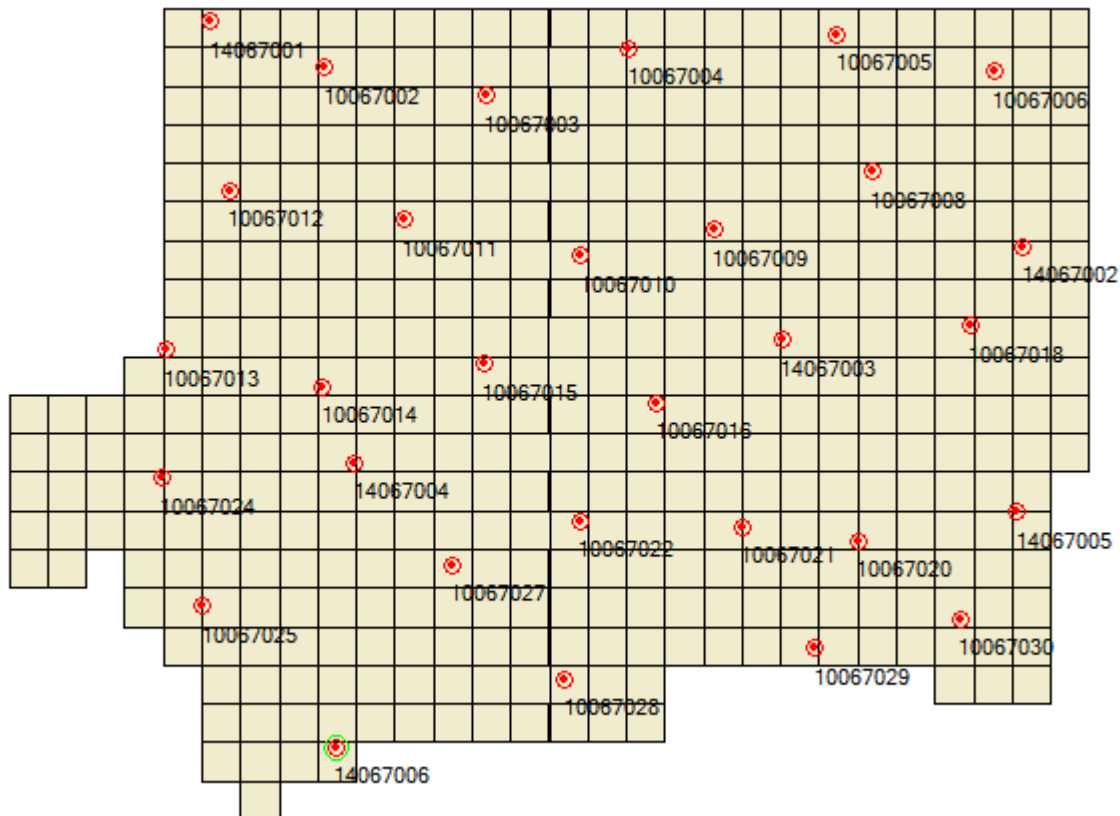
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 12/5/2014 Finish: 12/5/2014

## Metadata Information

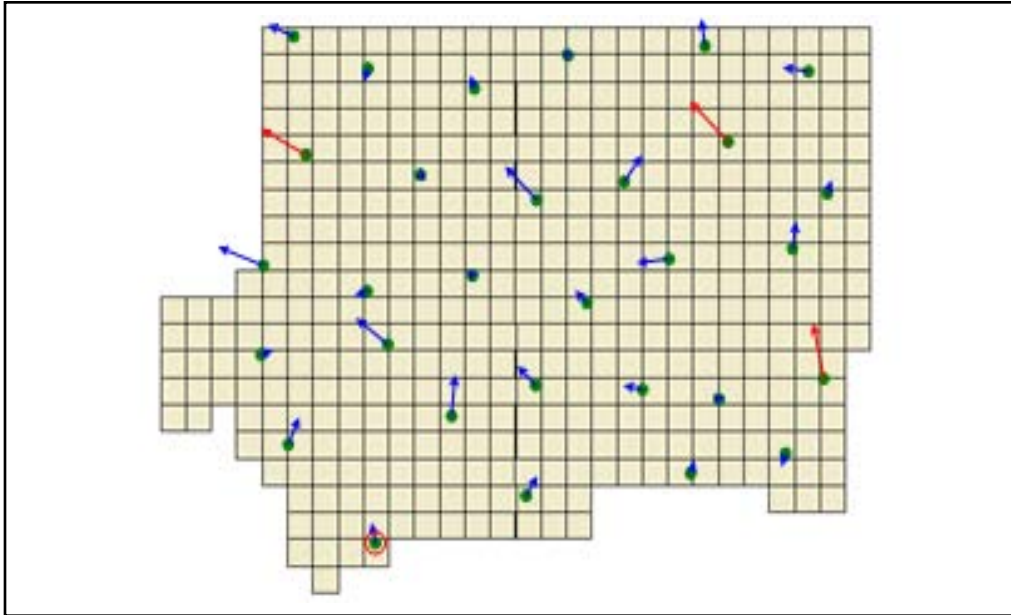
Index File Name: forsyth\_index.shp  
# of Polygons: 456  
# of Matching Images: 456  
Polygon ID: location  
Units: Feet  
Image Folder Path: P:\Forsyth2014\Imagery\TIFF  
Threshold: NSSDA: 0.91  
Scaling Used: 1:150

## Tiled-Image Area



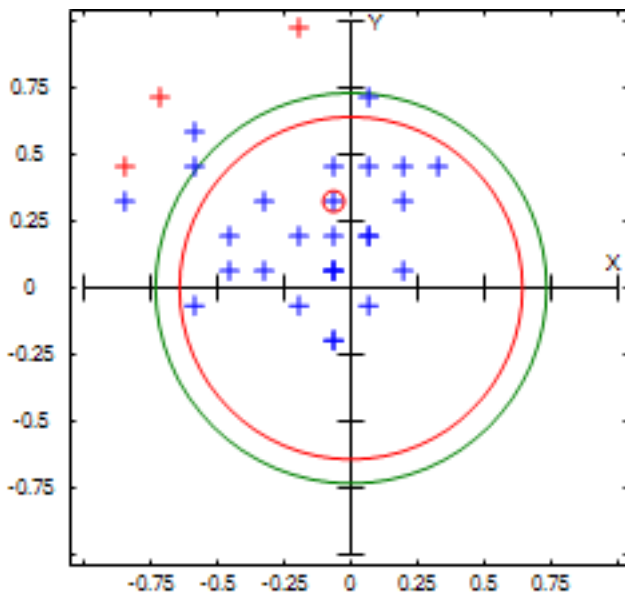


Vector Offset



Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-0.846
Min $\Delta Y$ :	-0.195
Max $\Delta X$ :	0.326
Max $\Delta Y$ :	0.977
Mean $\Delta X$ :	-0.187
Mean $\Delta Y$ :	0.26
RmseX:	0.365
RmseY:	0.379
RmseH:	0.526
NSSDA:	0.91
No. Obs.:	30
CE 90:	0.642
CE 95:	0.732
SRMSE H:	0.055



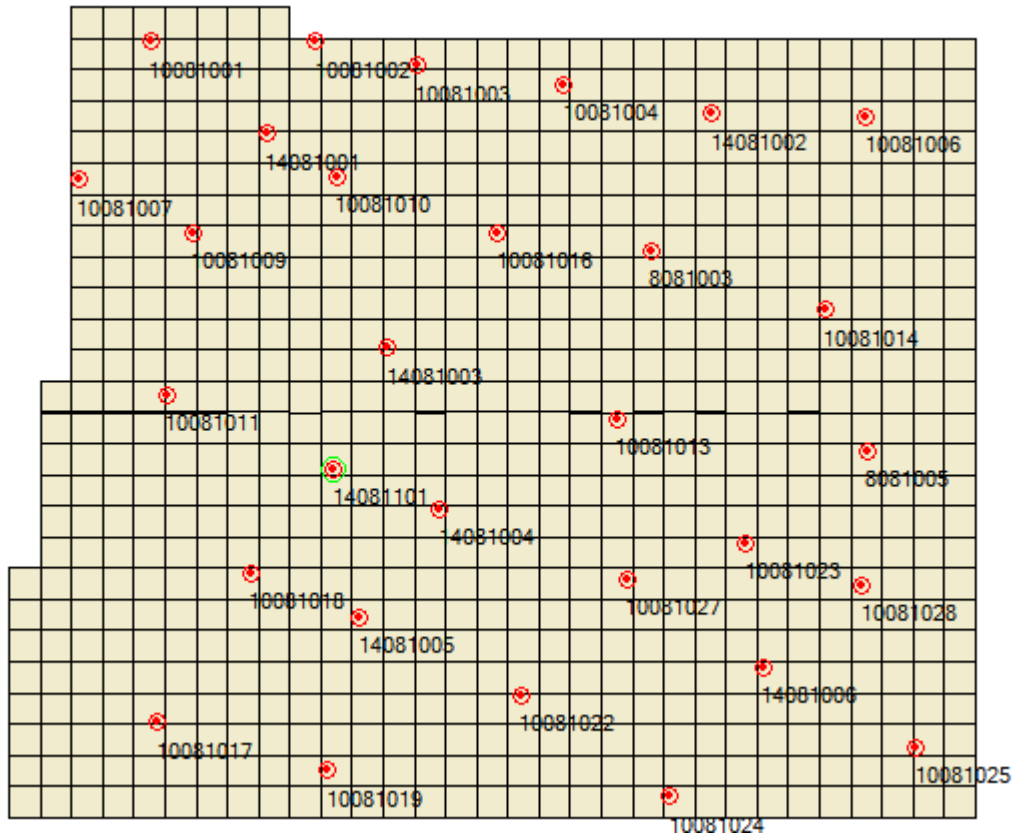
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 12/5/2014 Finish: 12/5/2014

## Metadata Information

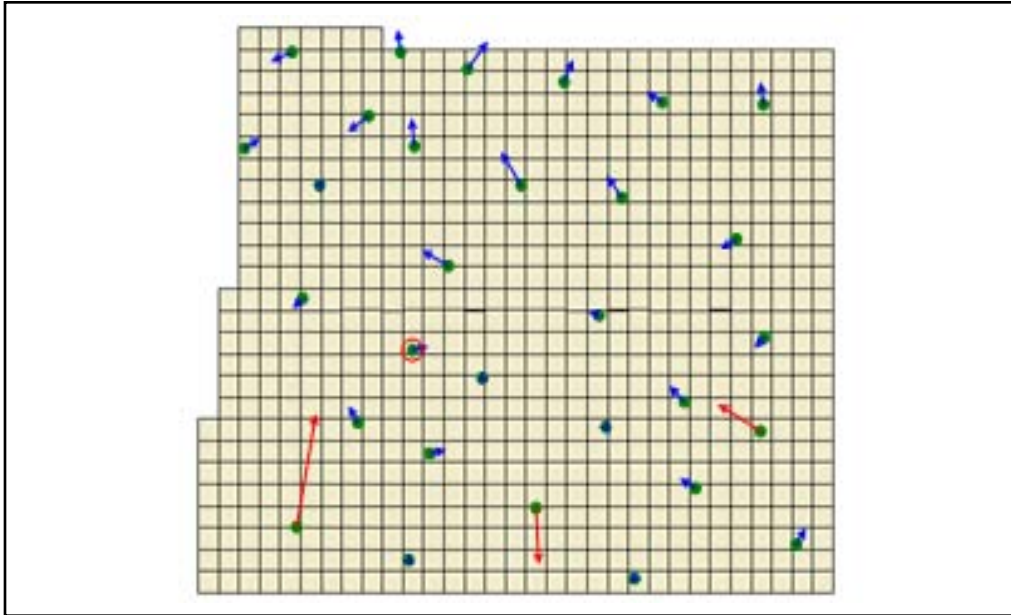
Index File Name: guilford\_index.shp  
# of Polygons: 754  
# of Matching Images: 754  
Polygon ID: location  
Units: Feet  
Image Folder Path: P:\Guilford2014\Imagery\TIFF  
Threshold: CE90: 0.977  
Scaling Used: 1:150

## Tiled-Image Area



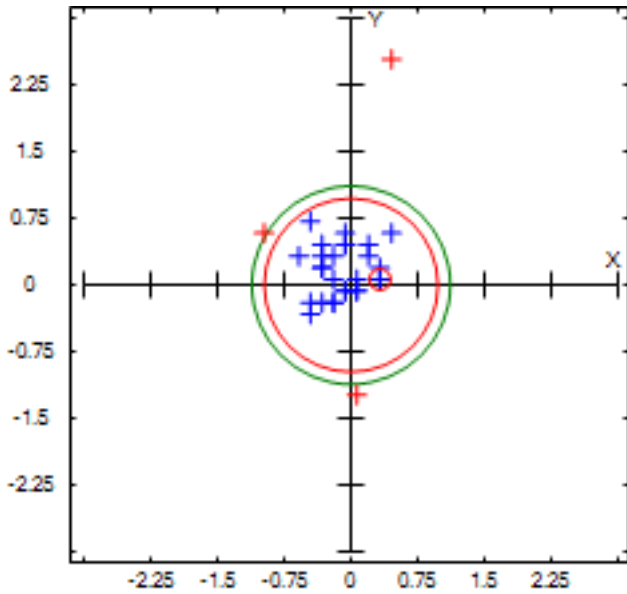


Vector Offset



Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-0.977
Min $\Delta Y$ :	-1.237
Max $\Delta X$ :	0.456
Max $\Delta Y$ :	2.539
Mean $\Delta X$ :	-0.104
Mean $\Delta Y$ :	0.213
RmseX:	0.339
RmseY:	0.61
RmseH:	0.698
NSSDA:	1.209
No. Obs.:	30
CE 90:	0.977
CE 95:	1.114
CI:	0.163



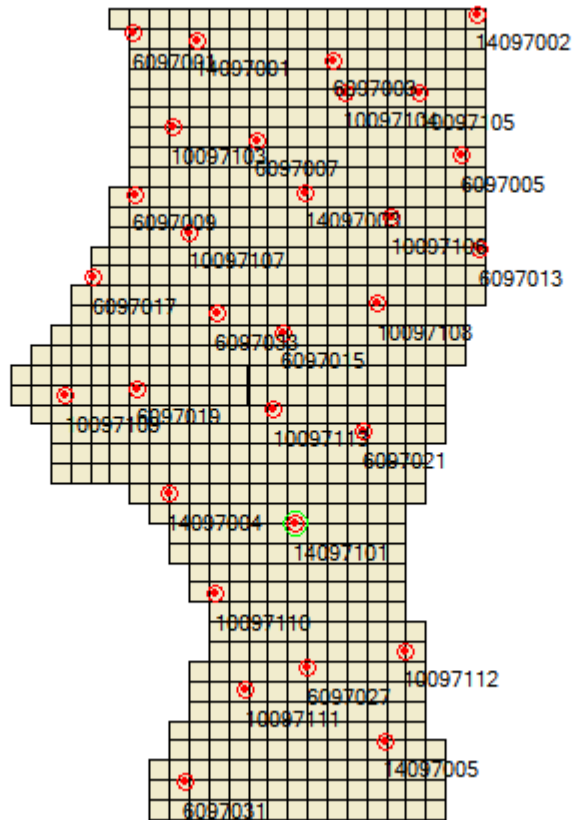
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 12/8/2014 Finish: 12/8/2014

## Metadata Information

Index File Name: ire dell\_index.shp  
# of Polygons: 681  
# of Matching Images: 681  
Polygon ID: location  
Units: Feet  
Image Folder Path: P:\IRED ELL2014\Imagery\TIFF  
Threshold: CE90: 1.316  
Scaling Used: 1:150

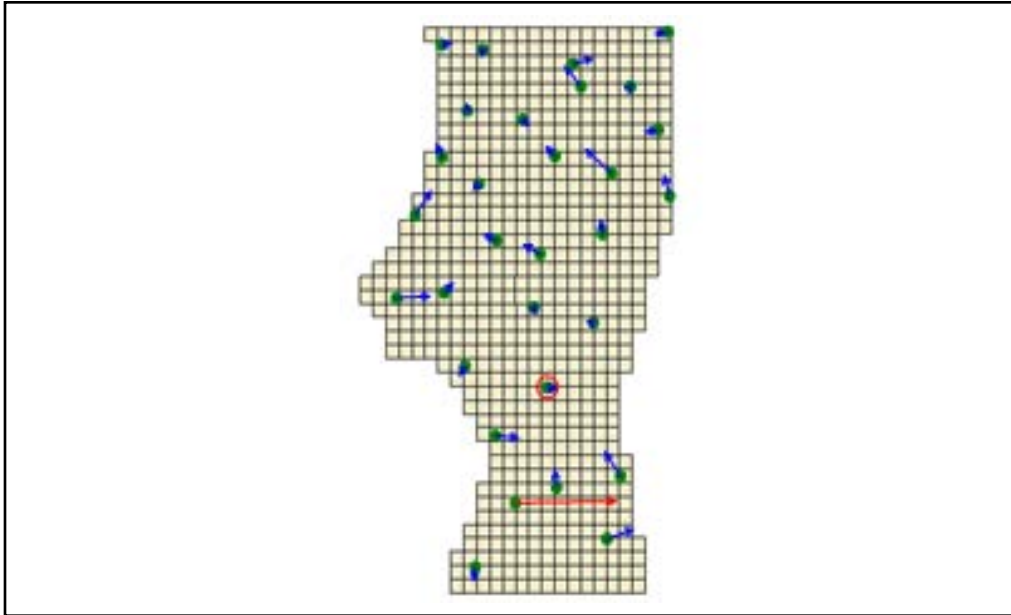
## Tiled-Image Area





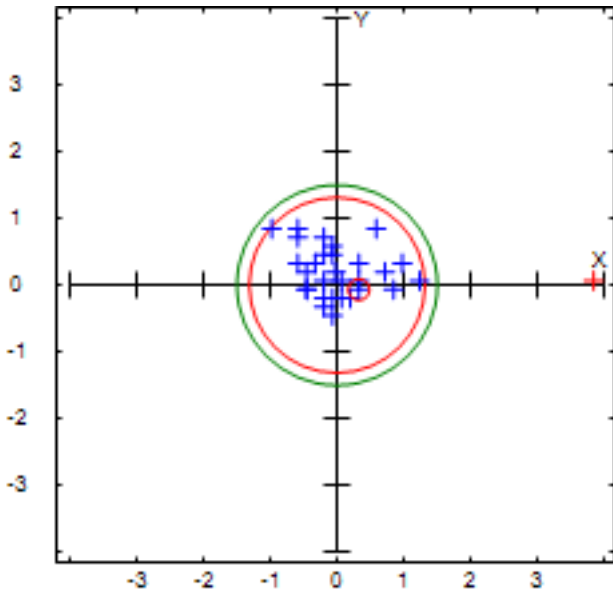


## Vector Offset



Scaling Factor: 10000

## Circular Error



## Error Statistics

Min $\Delta X$ :	-0.977
Min $\Delta Y$ :	-0.456
Max $\Delta X$ :	3.841
Max $\Delta Y$ :	0.846
Mean $\Delta X$ :	0.127
Mean $\Delta Y$ :	0.195
RmseX:	0.858
RmseY:	0.407
RmseH:	0.95
NSSDA:	1.644
No. Obs.:	30
CE 90:	1.316
CE 95:	1.501
CI:	0.219



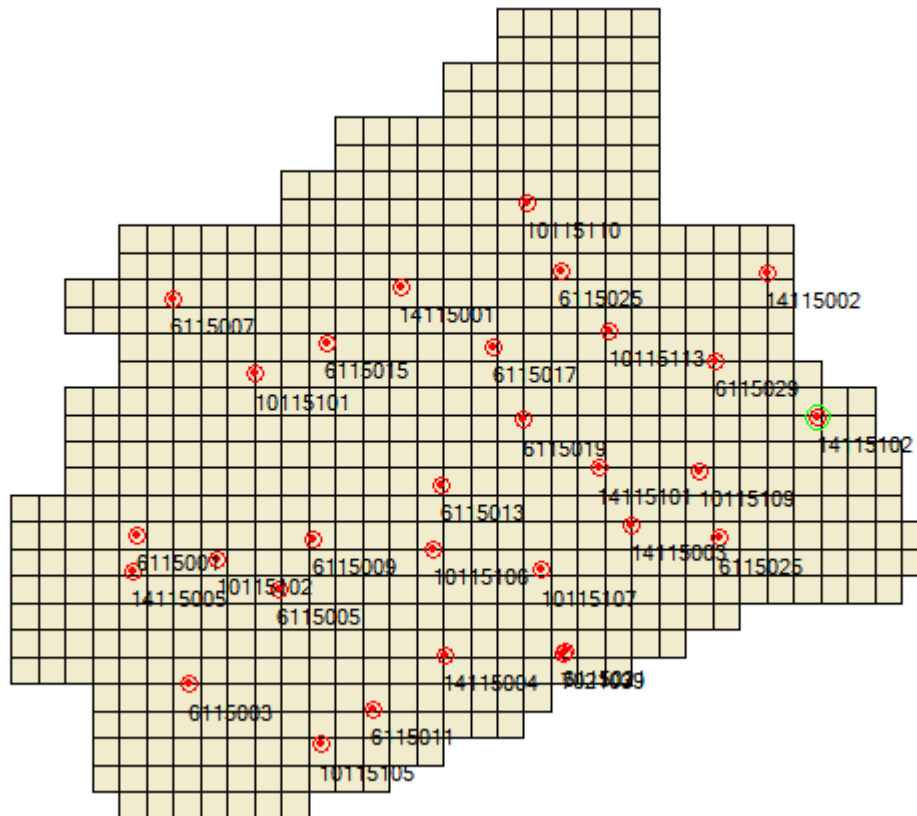
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 12/17/2014 Finish: 12/17/2014

## Metadata Information

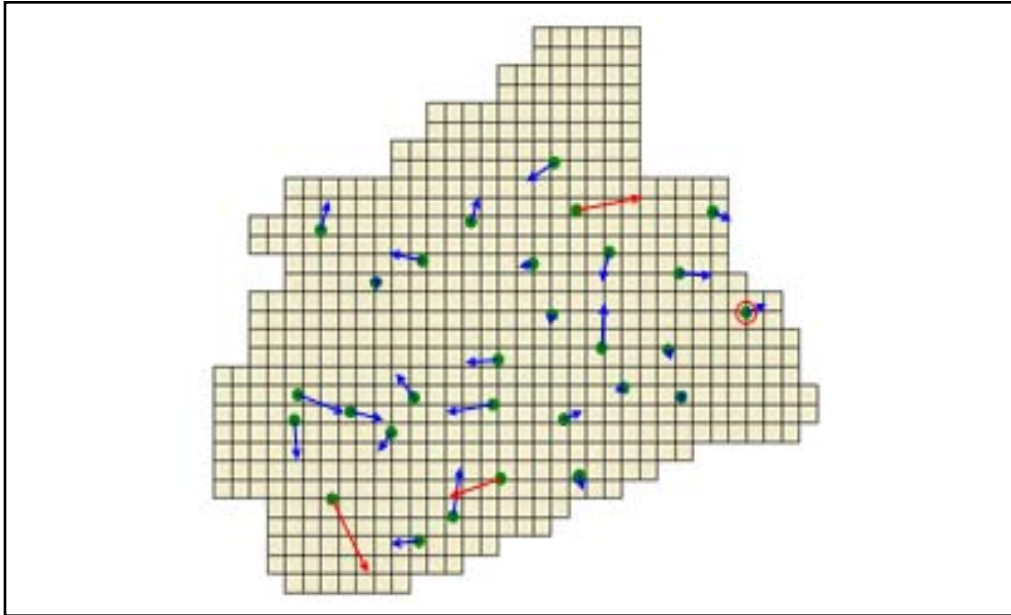
Index File Name: madison\_index.shp  
# of Polygons: 630  
# of Matching Images: 630  
Polygon ID: location  
Units: Feet  
Image Folder Path: I:\Madison2014\Imagery\TIFF  
Threshold: CE90: 1.388  
Scaling Used: 1:150

## Tiled-Image Area



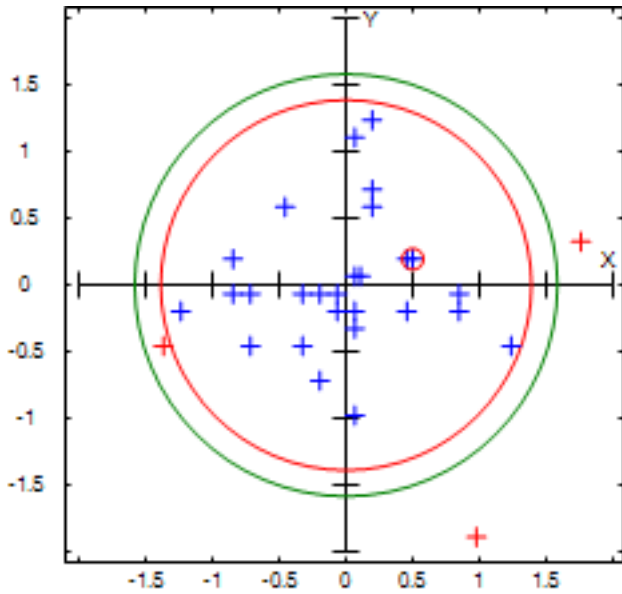


Vector Offset



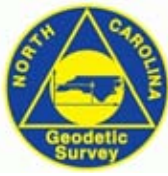
Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-1.367
Min $\Delta Y$ :	-1.888
Max $\Delta X$ :	1.758
Max $\Delta Y$ :	1.237
Mean $\Delta X$ :	0.025
Mean $\Delta Y$ :	-0.061
RmseX:	0.688
RmseY:	0.588
RmseH:	0.905
NSSDA:	1.566
No. Obs.:	30
CE 90:	1.388
CE 95:	1.583
CI:	0.231



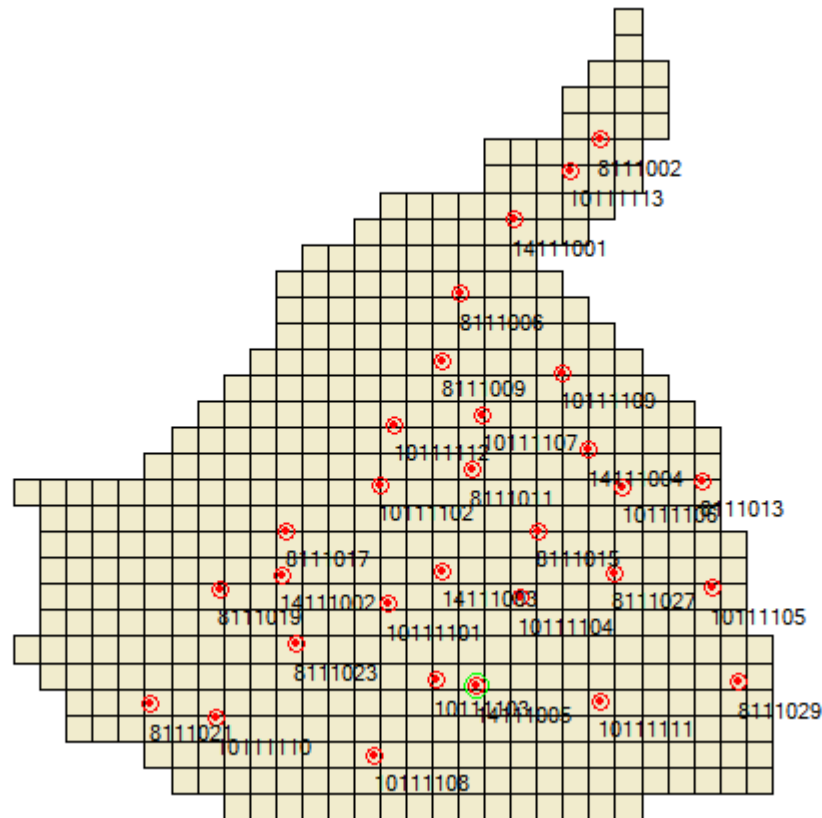
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 12/18/2014 Finish: 12/18/2014

## Metadata Information

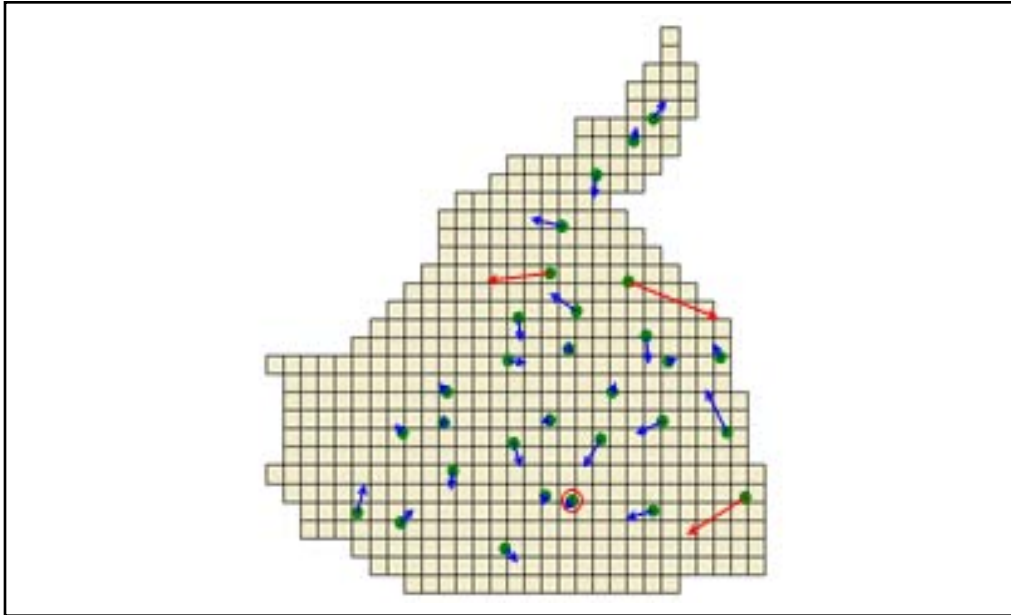
Index File Name: mcdowell\_index.shp  
# of Polygons: 517  
# of Matching Images: 517  
Polygon ID: location  
Units: Feet  
Image Folder Path: I:\McDowell2014\Imagery\TIFF  
Threshold: NSSDA: 1.517  
Scaling Used: 1:150

## Tiled-Image Area



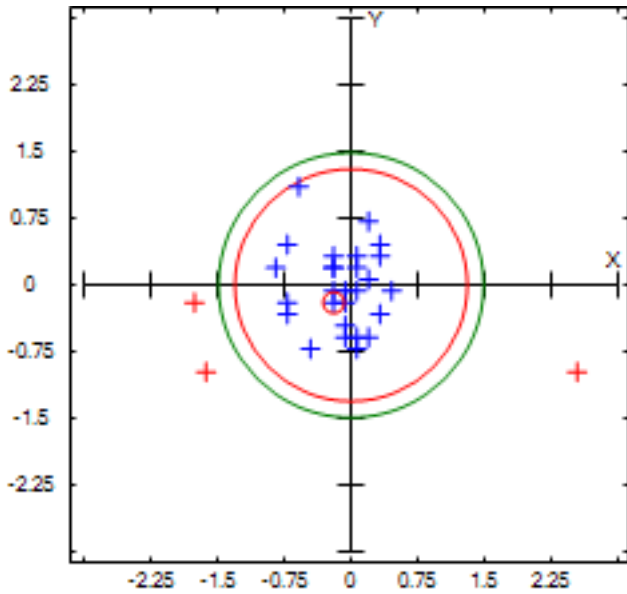


Vector Offset



Scaling Factor: 10000

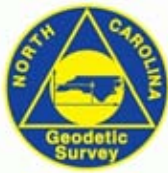
Circular Error



Error Statistics

Min $\Delta X$ :	-1.758
Min $\Delta Y$ :	-0.977
Max $\Delta X$ :	2.539
Max $\Delta Y$ :	1.107
Mean $\Delta X$ :	-0.126
Mean $\Delta Y$ :	-0.091
RmseX:	0.727
RmseY:	0.489
RmseH:	0.876
NSSDA:	1.517
No. Obs.:	30
CE 90:	1.306
CE 95:	1.49
CI:	0.218





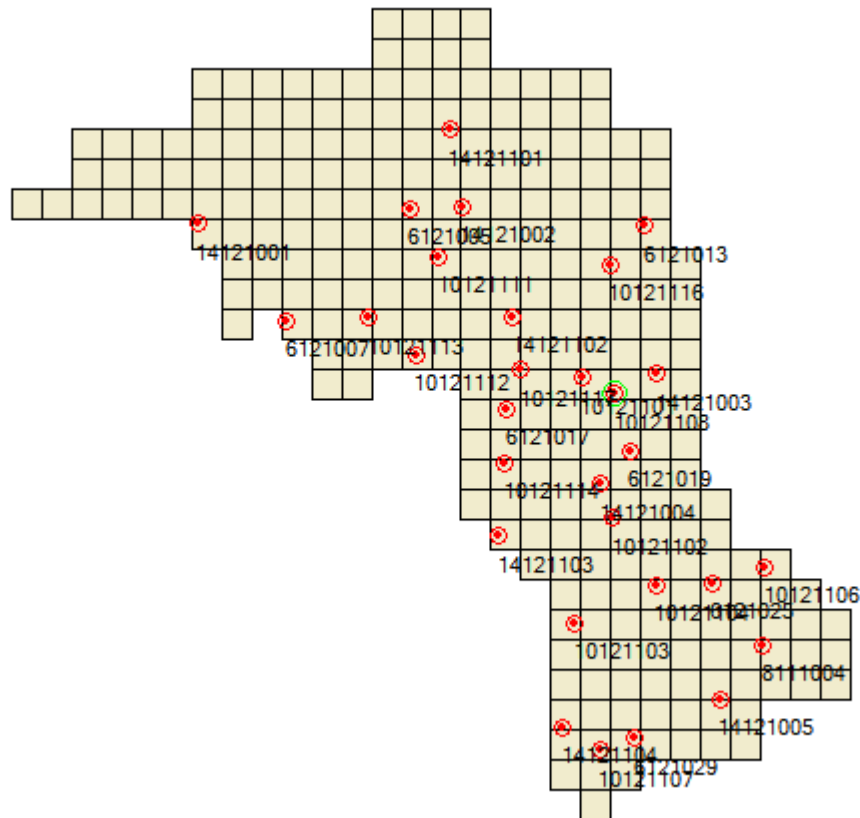
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 1/5/2015 Finish: 1/5/2015

## Metadata Information

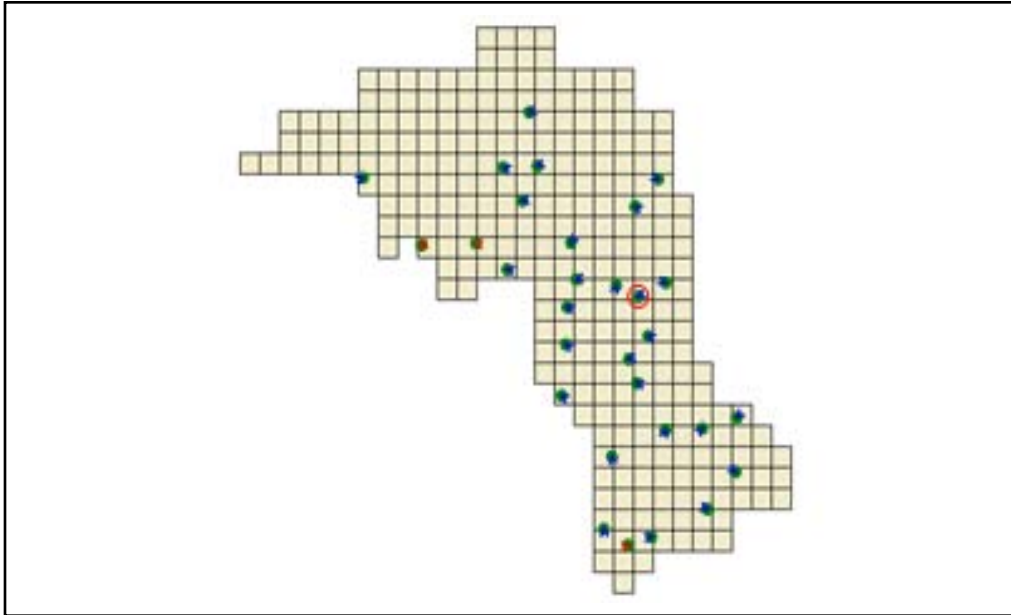
Index File Name: mitchell\_index.shp  
# of Polygons: 291  
# of Matching Images: 291  
Polygon ID: location  
Units: Feet  
Image Folder Path: P:\Mitchell2014\Imagery\TIFF  
Threshold: CE90: 1.197  
Scaling Used: 1:25050

## Tiled-Image Area



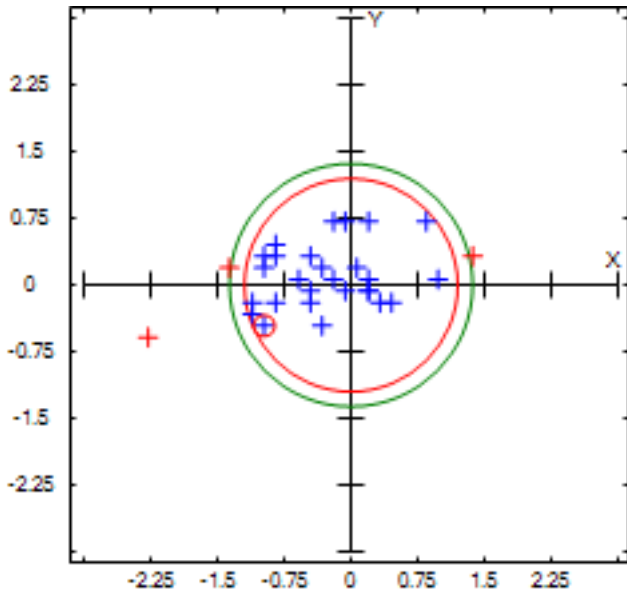


Vector Offset



Scaling Factor: 200

Circular Error



Error Statistics

Min $\Delta X$ :	-2.279
Min $\Delta Y$ :	-0.586
Max $\Delta X$ :	1.367
Max $\Delta Y$ :	0.716
Mean $\Delta X$ :	-0.321
Mean $\Delta Y$ :	0.087
RmseX:	0.812
RmseY:	0.362
RmseH:	0.889
NSSDA:	1.539
No. Obs.:	30
CE 90:	1.197
CE 95:	1.366
CI:	0.2



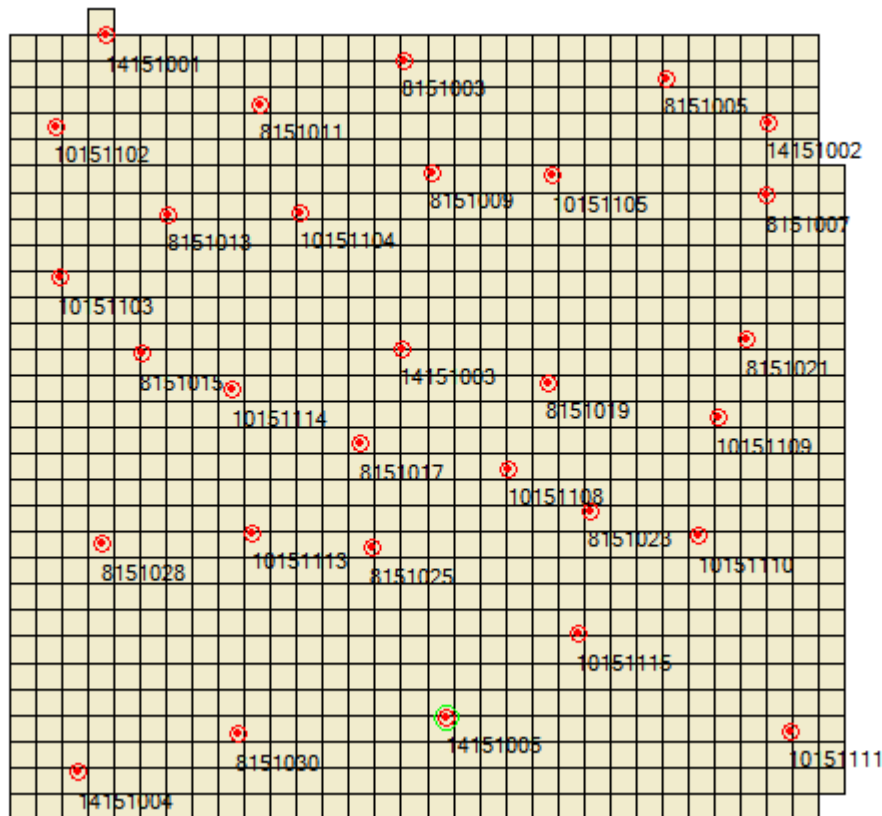
## Project Information

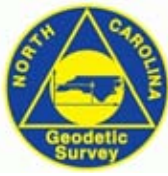
Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 1/5/2015 Finish: 1/5/2015

## Metadata Information

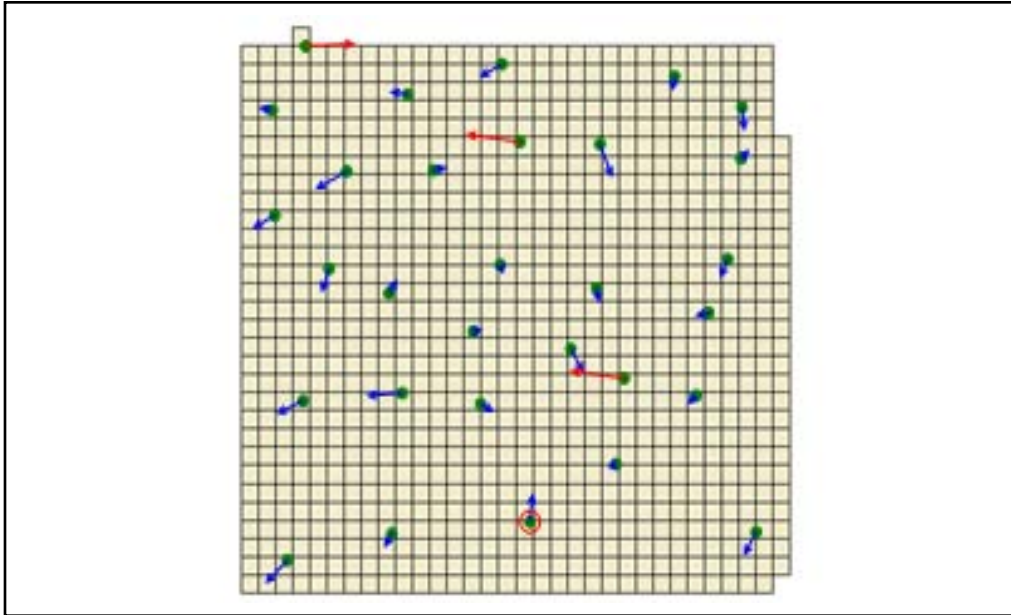
Index File Name: randolph\_index.shp  
# of Polygons: 955  
# of Matching Images: 955  
Polygon ID: location  
Units: Feet  
Image Folder Path: P:\RANDOLPH2014\Imagery\TIFF  
Threshold: CE90: 0.981  
Scaling Used: 1:150

## Tiled-Image Area



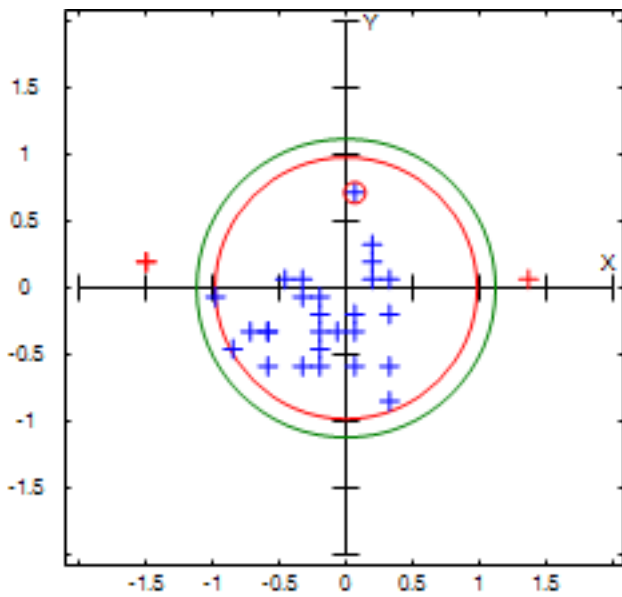


Vector Offset



Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-1.497
Min $\Delta Y$ :	-0.846
Max $\Delta X$ :	1.367
Max $\Delta Y$ :	0.716
Mean $\Delta X$ :	-0.208
Mean $\Delta Y$ :	-0.182
RmseX:	0.601
RmseY:	0.381
RmseH:	0.712
NSSDA:	1.232
No. Obs.:	30
CE 90:	0.981
CE 95:	1.119
CI:	0.164



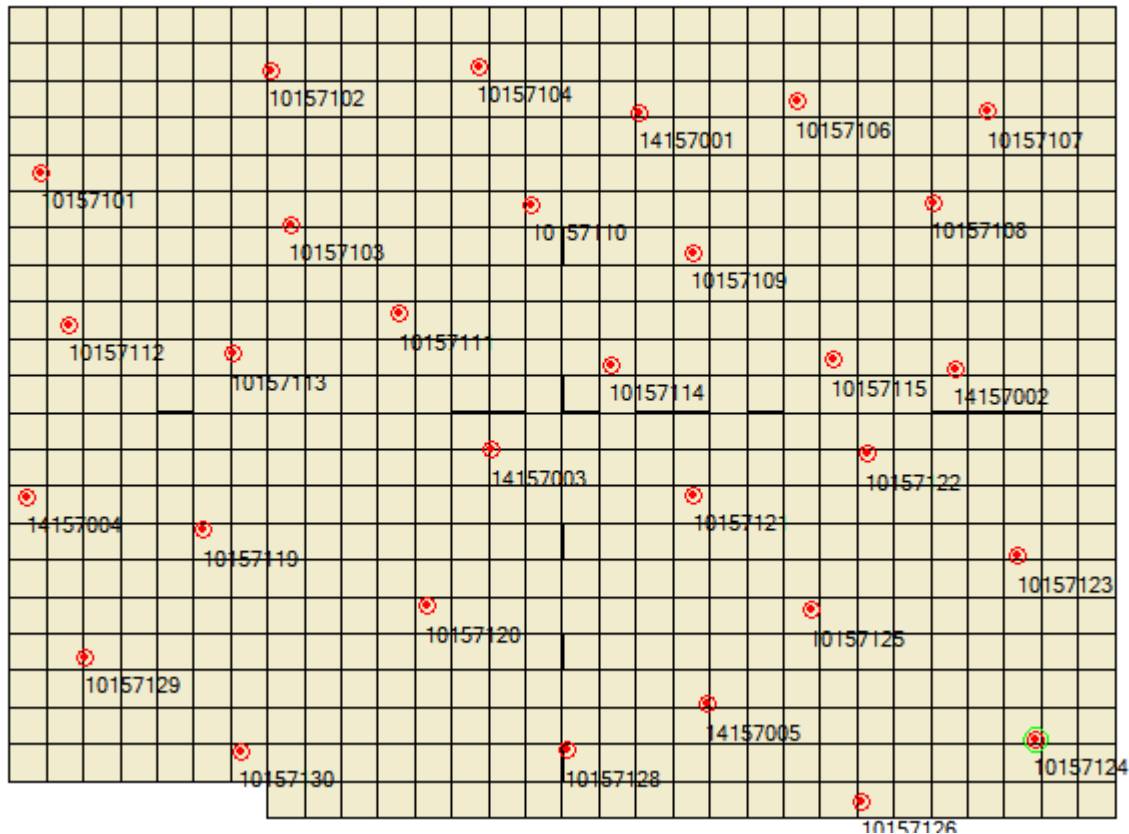
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 12/5/2014 Finish: 12/5/2014

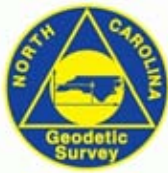
## Metadata Information

Index File Name: rockingham\_index.shp  
# of Polygons: 653  
# of Matching Images: 653  
Polygon ID: location  
Units: Feet  
Image Folder Path: P:\Rockingham2014\Imagery\TIFF  
Threshold: CE90: 1.035  
Scaling Used: 1:150

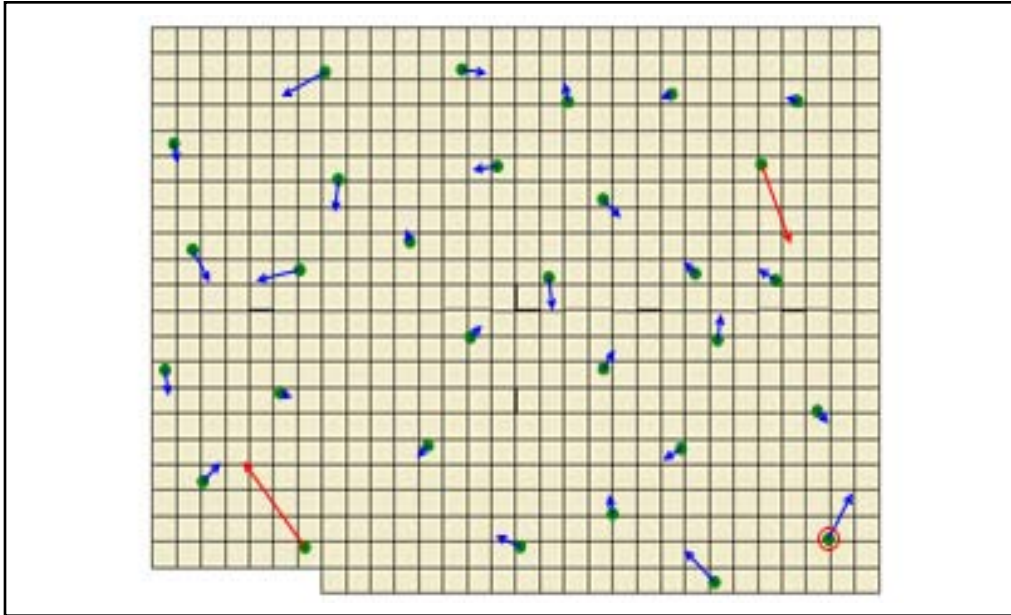
## Tiled-Image Area





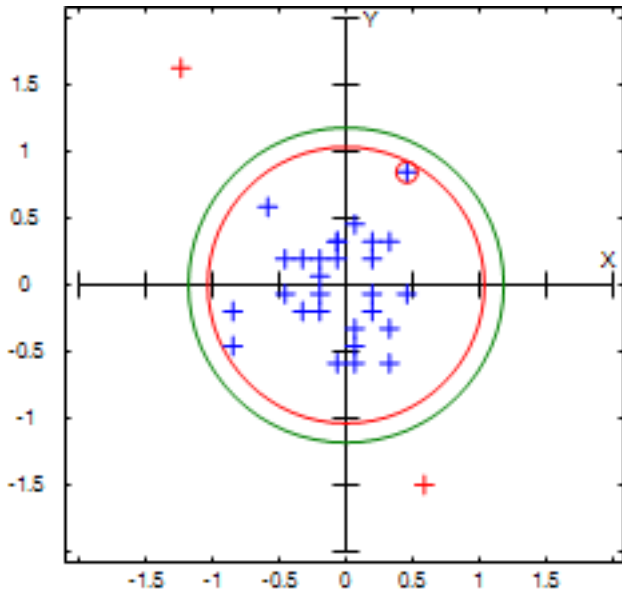


### Vector Offset



Scaling Factor: 10000

### Circular Error



### Error Statistics

Min $\Delta X$ :	-1.237
Min $\Delta Y$ :	-1.497
Max $\Delta X$ :	0.586
Max $\Delta Y$ :	1.628
Mean $\Delta X$ :	-0.087
Mean $\Delta Y$ :	0
RmseX:	0.422
RmseY:	0.536
RmseH:	0.682
NSSDA:	1.18
No. Obs.:	30
CE 90:	1.035
CE 95:	1.181
CI:	0.173



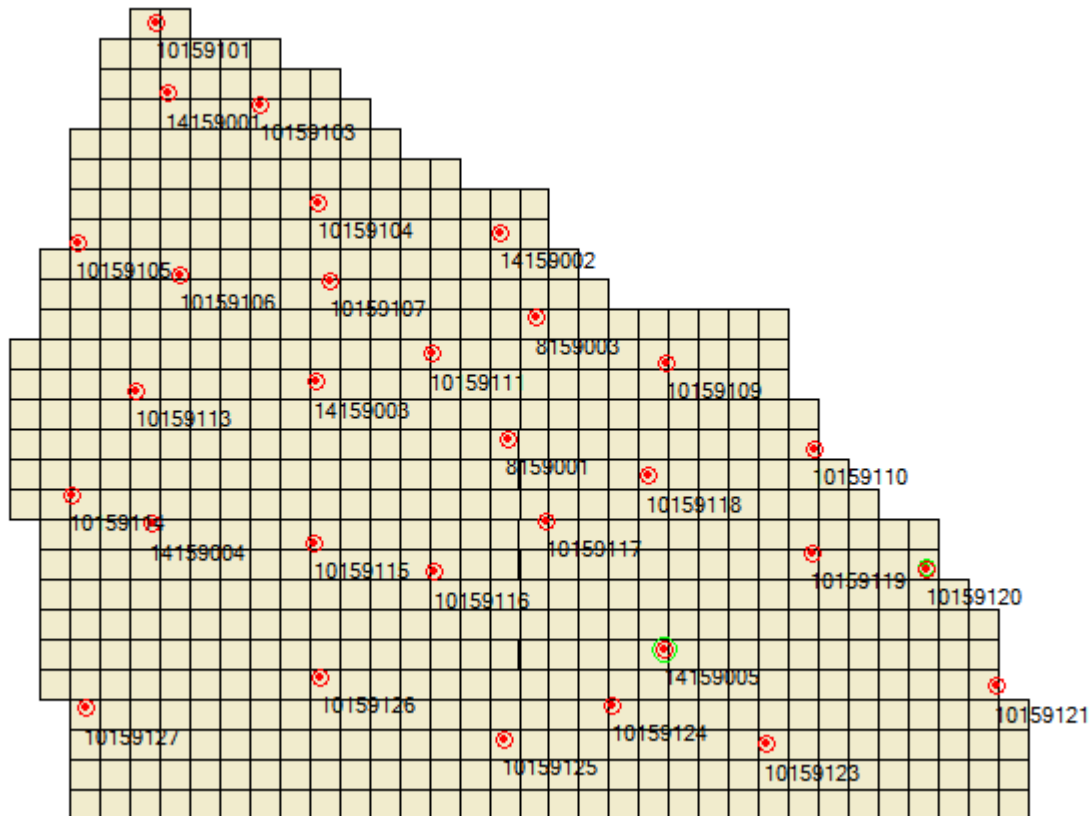
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 12/15/2014 Finish: 12/15/2014

## Metadata Information

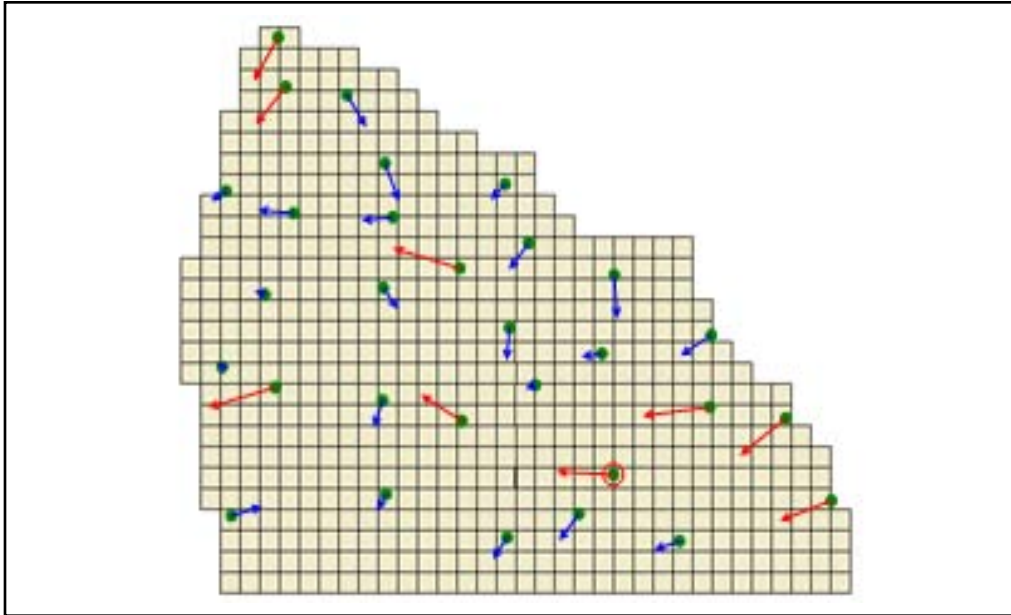
Index File Name: rowan\_index.shp  
# of Polygons: 621  
# of Matching Images: 621  
Polygon ID: location  
Units: Feet  
Image Folder Path: P:\ROWAN2014\Imagery\TIFF  
Threshold: CE90: 1.096  
Scaling Used: 1:150

## Tiled-Image Area



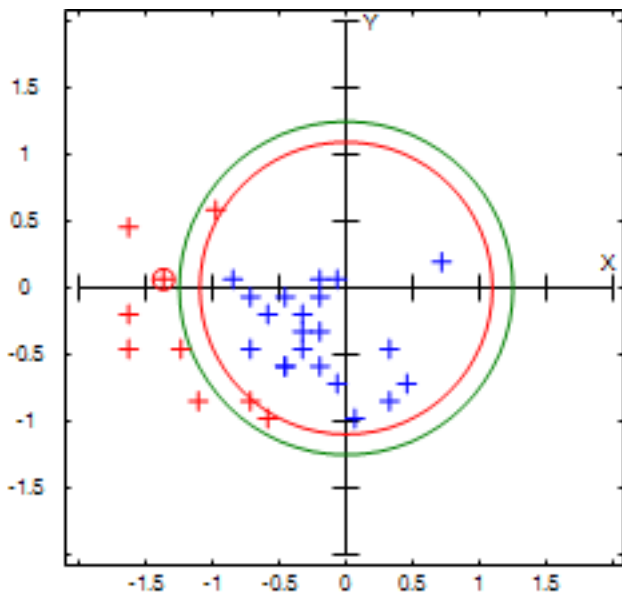


Vector Offset



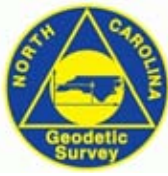
Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-1.628
Min $\Delta Y$ :	-0.977
Max $\Delta X$ :	0.716
Max $\Delta Y$ :	0.586
Mean $\Delta X$ :	-0.503
Mean $\Delta Y$ :	-0.33
RmseX:	0.785
RmseY:	0.519
RmseH:	0.942
NSSDA:	1.63
No. Obs.:	30
CE 90:	1.096
CE 95:	1.25
CI:	0.183



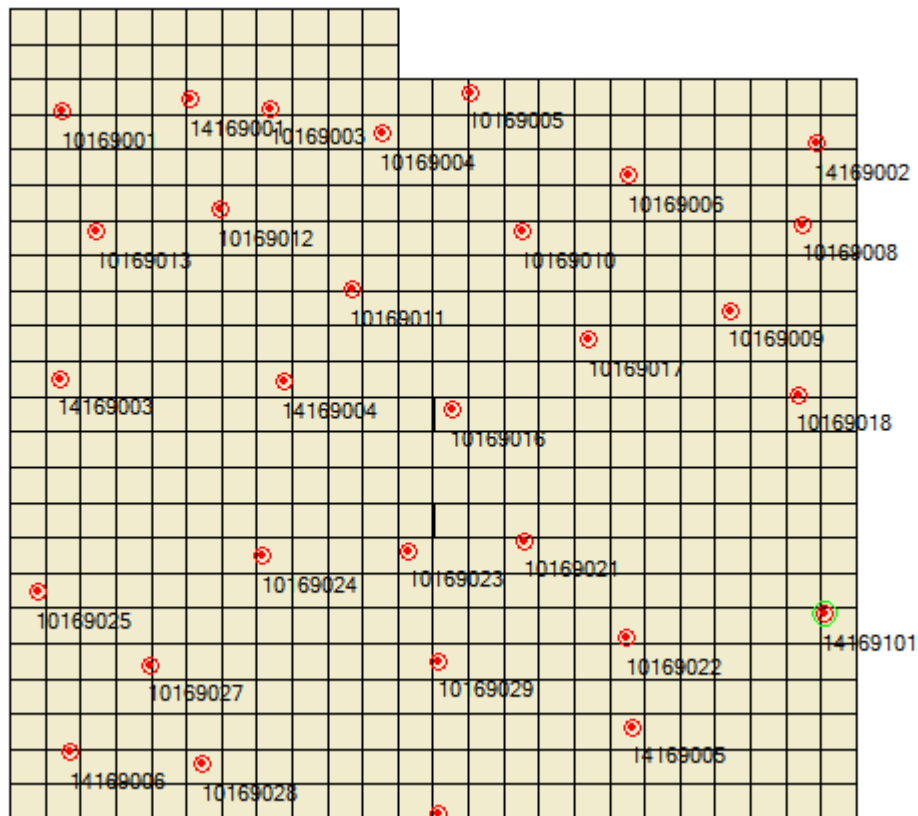
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 12/5/2014 Finish: 12/5/2014

## Metadata Information

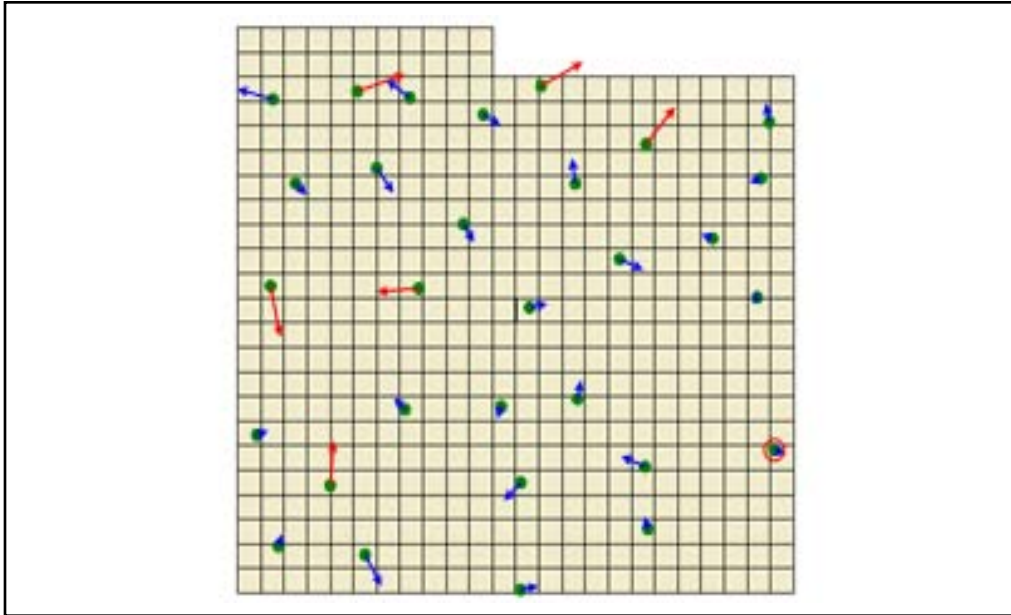
Index File Name: stokes\_index.shp  
# of Polygons: 526  
# of Matching Images: 526  
Polygon ID: location  
Units: Feet  
Image Folder Path: P:\Stokes2014\Imagery\TIFF  
Threshold: CE90: 0.836  
Scaling Used: 1:150

## Tiled-Image Area



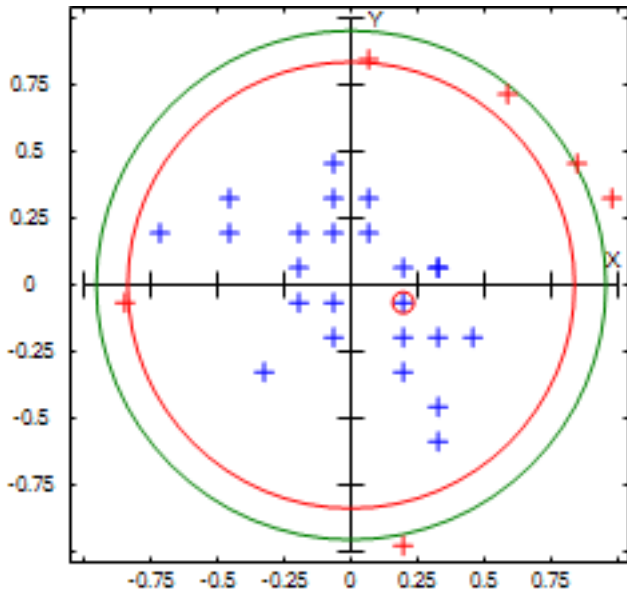


Vector Offset



Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-0.846
Min $\Delta Y$ :	-0.977
Max $\Delta X$ :	0.977
Max $\Delta Y$ :	0.846
Mean $\Delta X$ :	0.065
Mean $\Delta Y$ :	0.043
RmseX:	0.402
RmseY:	0.372
RmseH:	0.548
NSSDA:	0.948
No. Obs.:	30
CE 90:	0.836
CE 95:	0.954
CI:	0.139





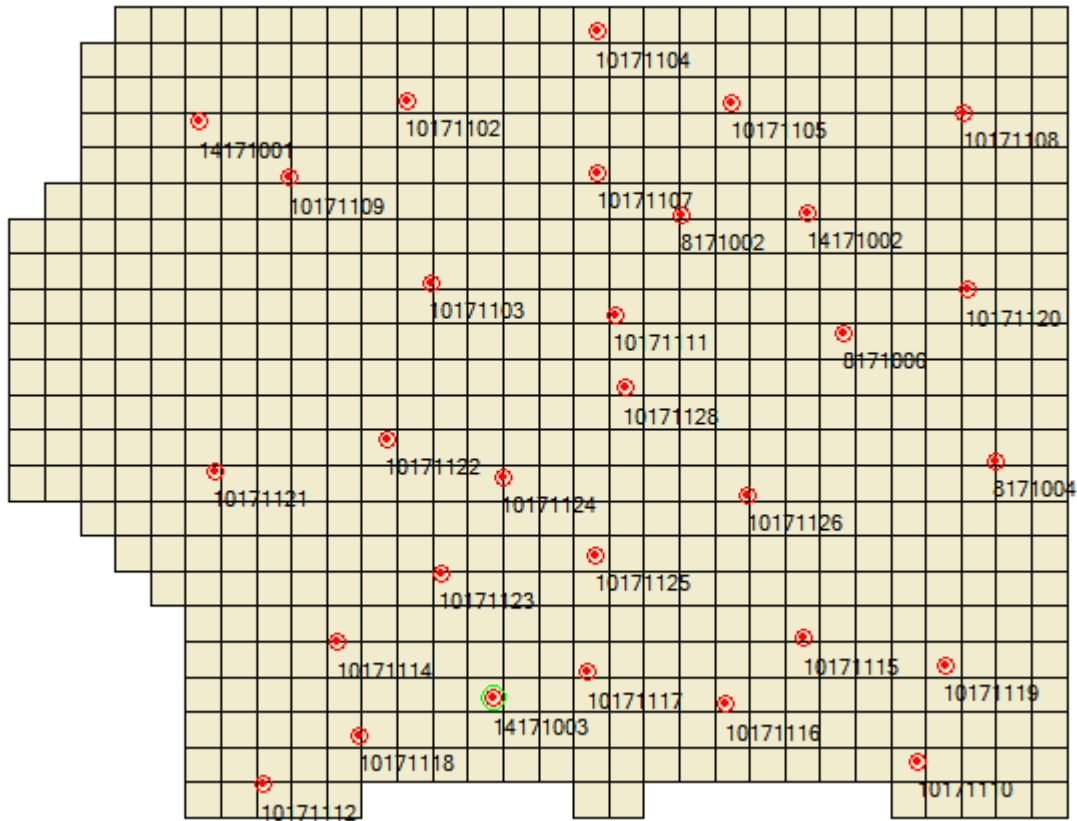
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 12/15/2014 Finish: 12/15/2014

## Metadata Information

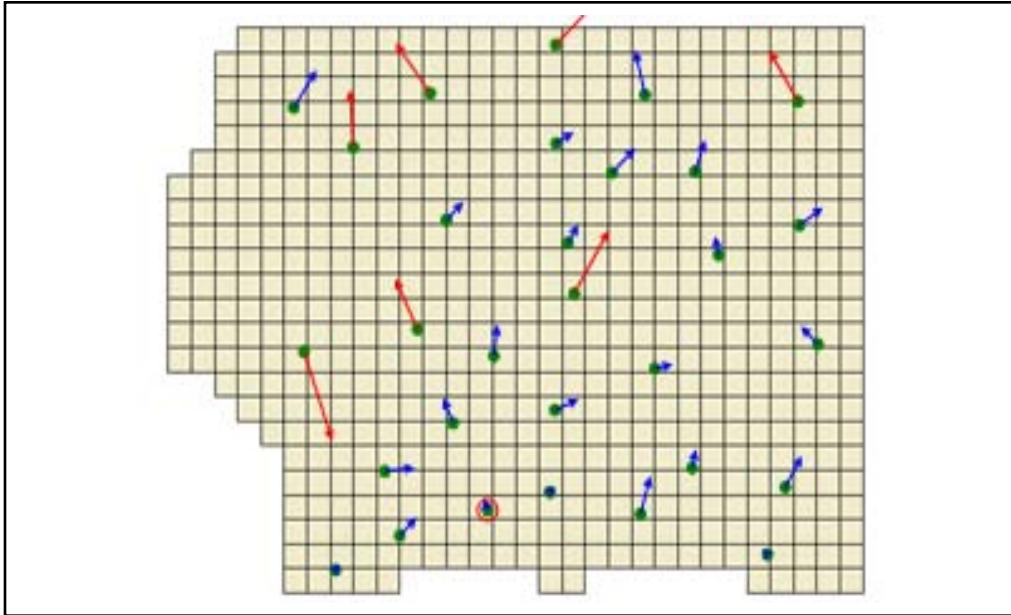
Index File Name: surry\_index.shp  
# of Polygons: 626  
# of Matching Images: 626  
Polygon ID: location  
Units: Feet  
Image Folder Path: P:\Surry2014\Imagery\TIFF  
Threshold: CE90: 0.975  
Scaling Used: 1:150

## Tiled-Image Area



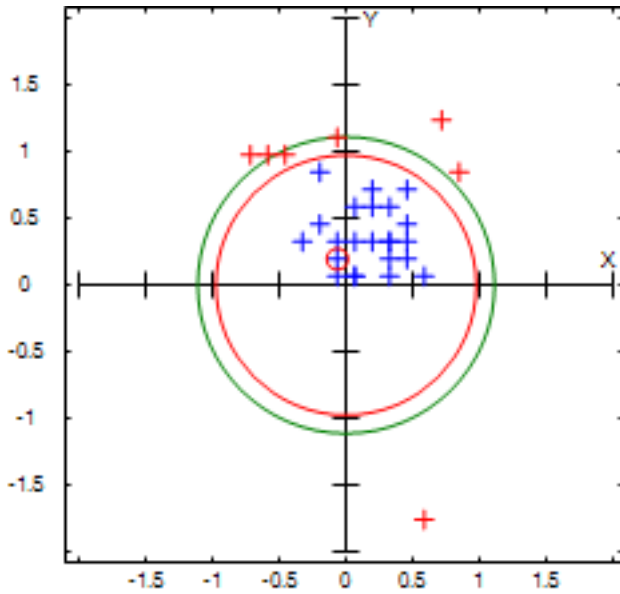


### Vector Offset



Scaling Factor: 10000

### Circular Error



### Error Statistics

Min $\Delta X$ :	-0.716
Min $\Delta Y$ :	-1.758
Max $\Delta X$ :	0.846
Max $\Delta Y$ :	1.237
Mean $\Delta X$ :	0.143
Mean $\Delta Y$ :	0.417
RmseX:	0.395
RmseY:	0.67
RmseH:	0.778
NSSDA:	1.347
No. Obs.:	30
CE 90:	0.975
CE 95:	1.112
CI:	0.163



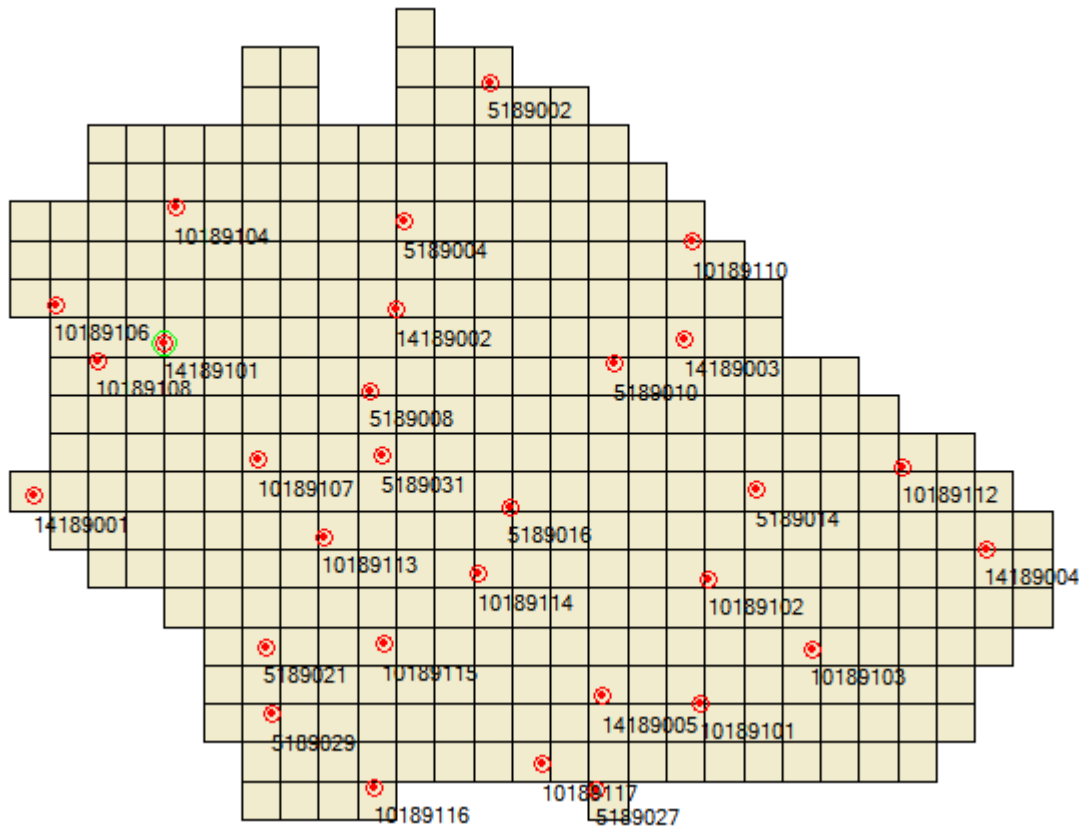
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 1/5/2015 Finish: 1/5/2015

## Metadata Information

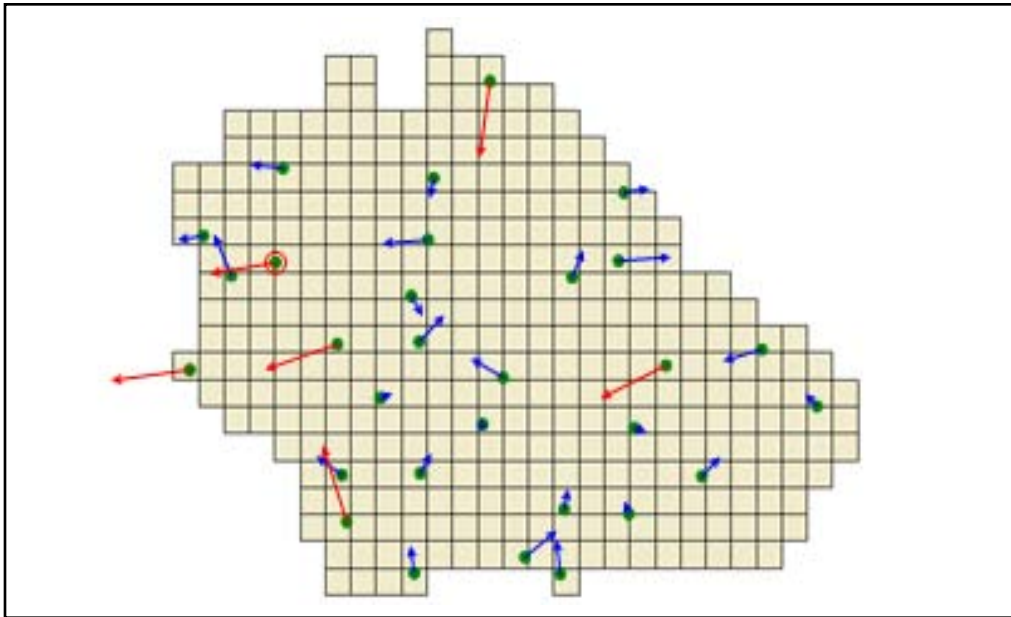
Index File Name: watauga\_index.shp  
# of Polygons: 369  
# of Matching Images: 369  
Polygon ID: location  
Units: Feet  
Image Folder Path: P:\Watauga2014\Imagery\TIFF  
Threshold: CE90: 1.159  
Scaling Used: 1:150

## Tiled-Image Area



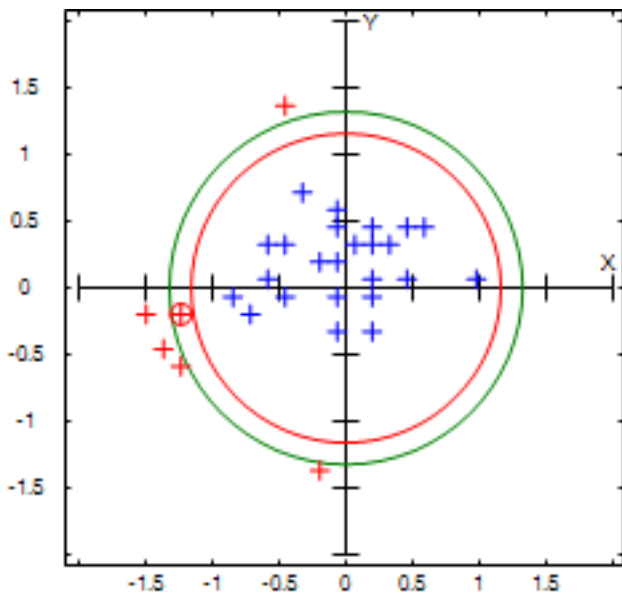


Vector Offset



Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-1.497
Min $\Delta Y$ :	-1.367
Max $\Delta X$ :	0.977
Max $\Delta Y$ :	1.367
Mean $\Delta X$ :	-0.221
Mean $\Delta Y$ :	0.095
RmseX:	0.631
RmseY:	0.481
RmseH:	0.793
NSSDA:	1.373
No. Obs.:	30
CE 90:	1.159
CE 95:	1.322
CI:	0.193



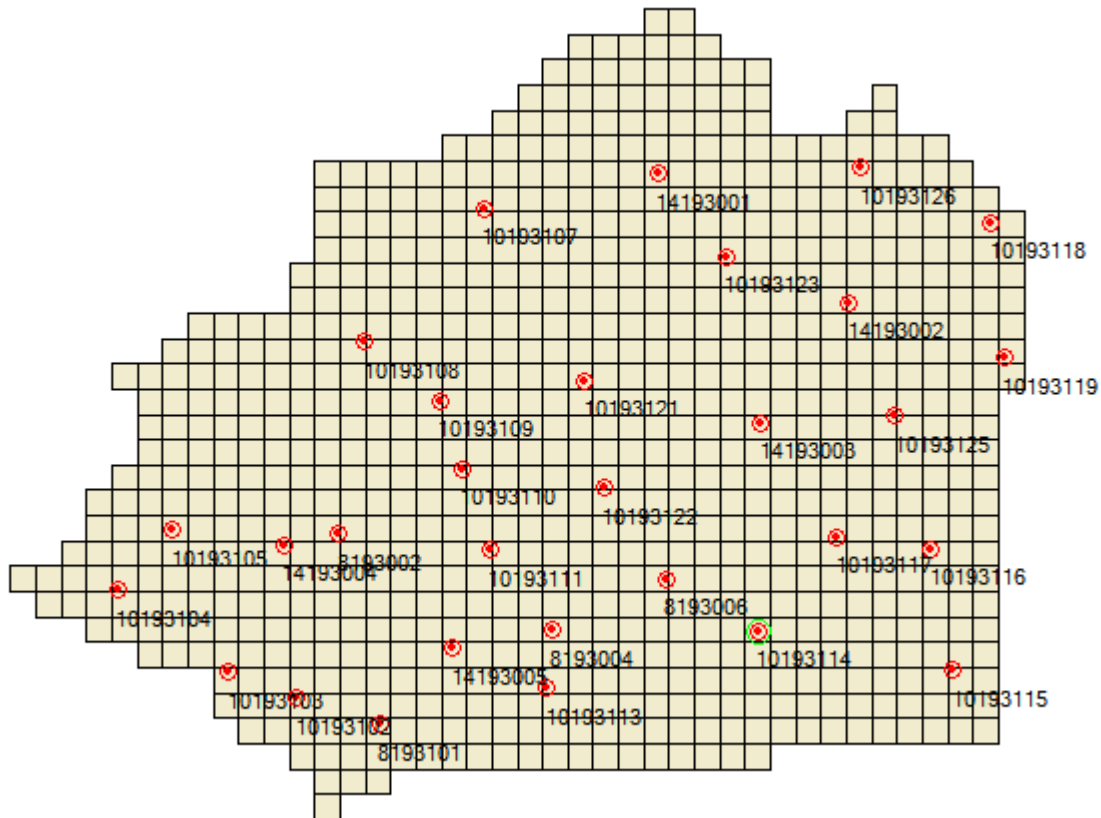
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 12/22/2014 Finish: 12/22/2014

## Metadata Information

Index File Name: wilkes\_index.shp  
# of Polygons: 839  
# of Matching Images: 839  
Polygon ID: location  
Units: Feet  
Image Folder Path: I:\Wilkes2014\Imagery\TIFF  
Threshold: CE90: 1.095  
Scaling Used: 1:150

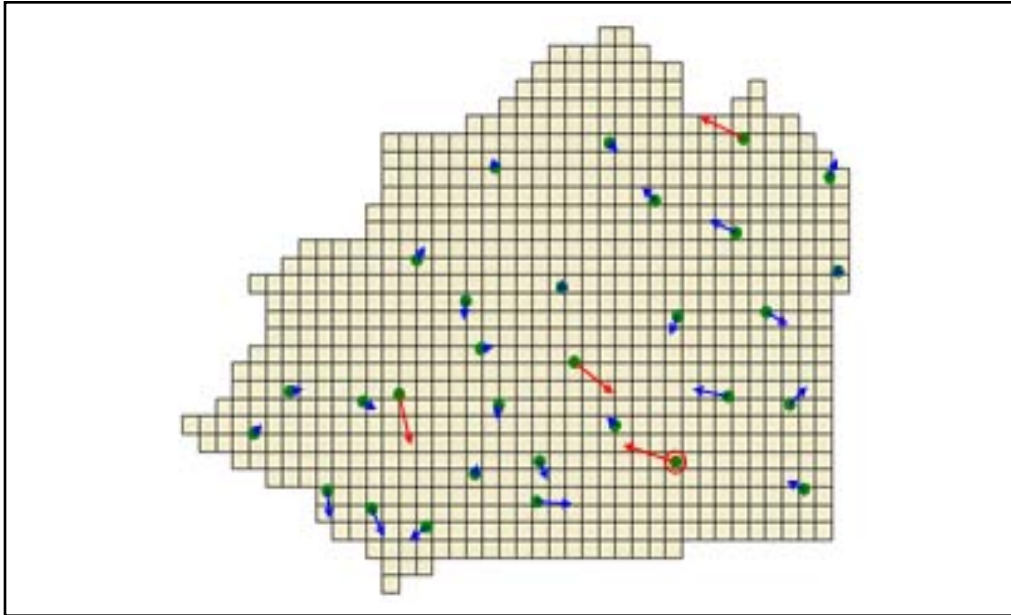
## Tiled-Image Area





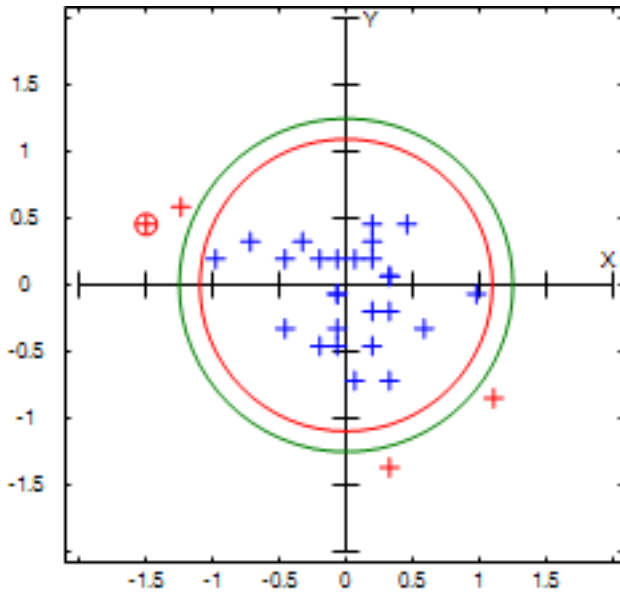


Vector Offset



Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-1.497
Min $\Delta Y$ :	-1.367
Max $\Delta X$ :	1.107
Max $\Delta Y$ :	0.586
Mean $\Delta X$ :	-0.017
Mean $\Delta Y$ :	-0.078
RmseX:	0.557
RmseY:	0.453
RmseH:	0.718
NSSDA:	1.243
No. Obs.:	30
CE 90:	1.095
CE 95:	1.249
CI:	0.183



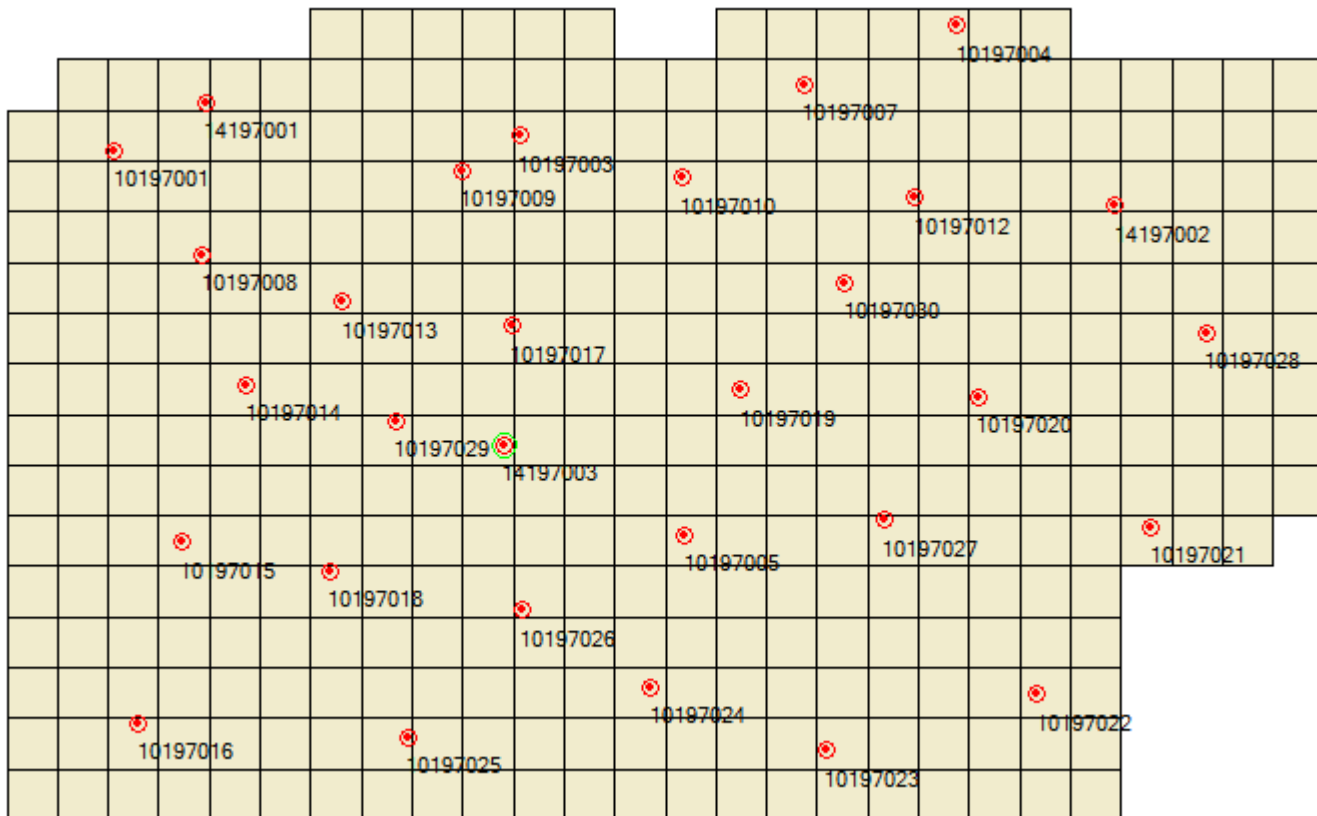
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 12/16/2014 Finish: 12/16/2014

## Metadata Information

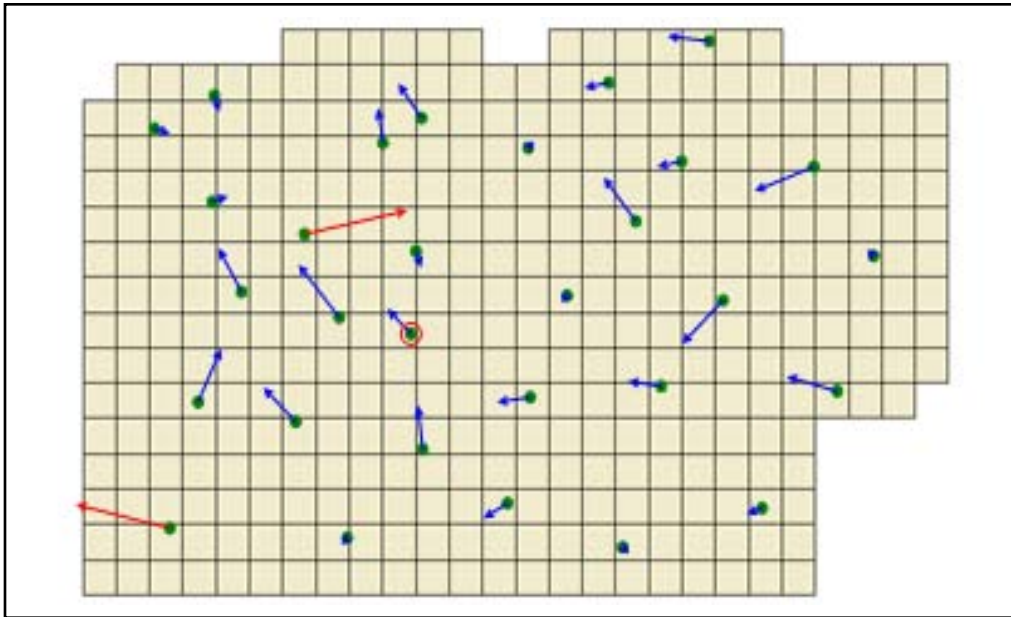
Index File Name: yadkin\_index.shp  
# of Polygons: 381  
# of Matching Images: 381  
Polygon ID: location  
Units: Feet  
Image Folder Path: P:\Yadkin2014\Imagery\TIFF  
Threshold: NSSDA: 1.083  
Scaling Used: 1:150

## Tiled-Image Area



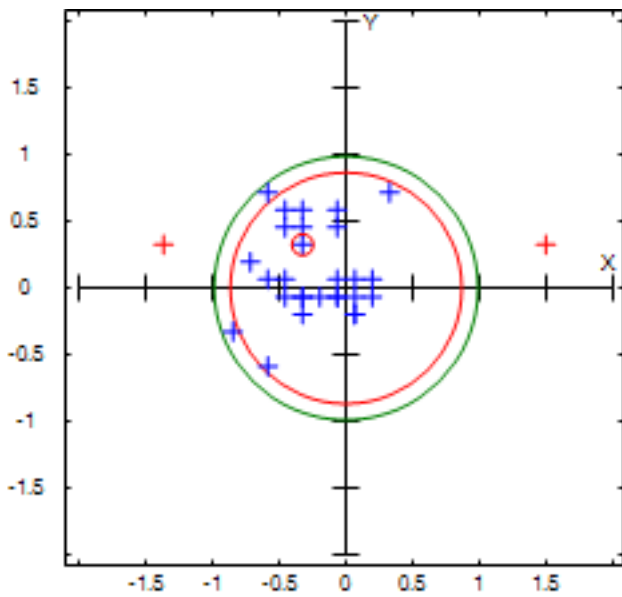


Vector Offset



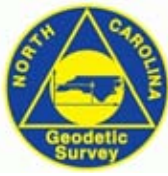
Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-1.367
Min $\Delta Y$ :	-0.586
Max $\Delta X$ :	1.497
Max $\Delta Y$ :	0.716
Mean $\Delta X$ :	-0.217
Mean $\Delta Y$ :	0.135
RmseX:	0.519
RmseY:	0.349
RmseH:	0.626
NSSDA:	1.083
No. Obs.:	30
CE 90:	0.866
CE 95:	0.988
CI:	0.144



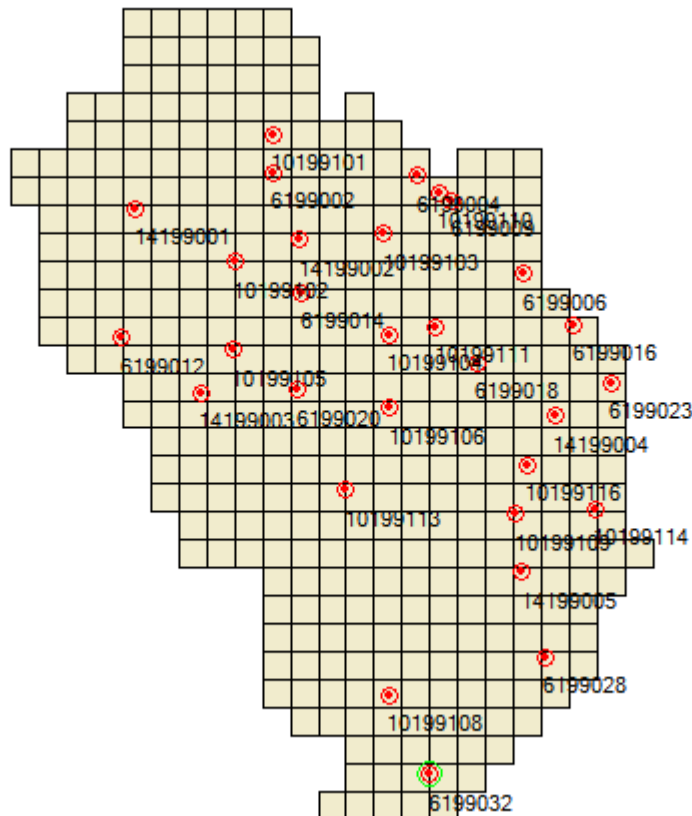
## Project Information

Prepared By: Steve Kaufman  
Project Name: 2014 Imagery QC  
Sensor Info: na  
Sensor Resolution: 0.5  
Vendor Name: na  
Date of Aquisition: Start: 1/5/2015 Finish: 1/5/2015

## Metadata Information

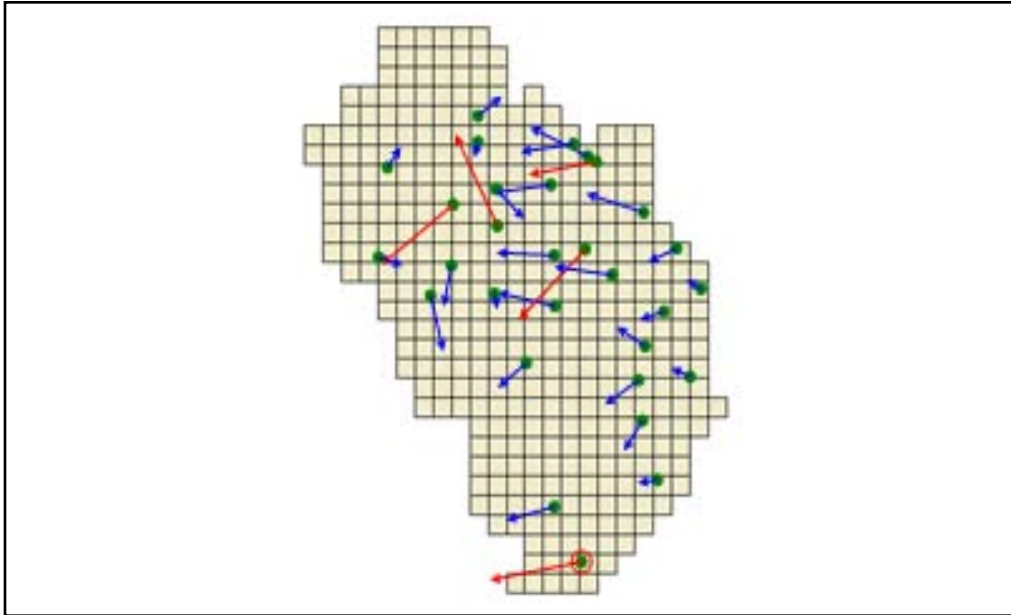
Index File Name: yancey\_index.shp  
# of Polygons: 397  
# of Matching Images: 397  
Polygon ID: location  
Units: Feet  
Image Folder Path: I:\Yancey2014\Imagery\Tiff  
Threshold: CE90: 1.704  
Scaling Used: 1:150

## Tiled-Image Area



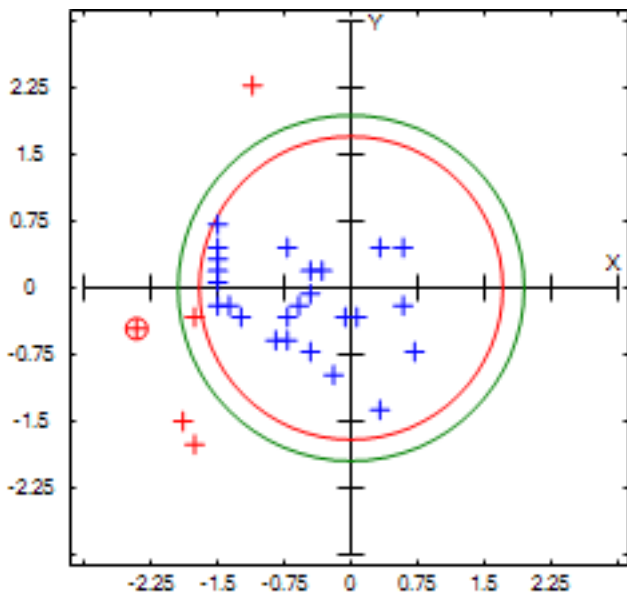


Vector Offset



Scaling Factor: 10000

Circular Error



Error Statistics

Min $\Delta X$ :	-2.409
Min $\Delta Y$ :	-1.758
Max $\Delta X$ :	0.716
Max $\Delta Y$ :	2.279
Mean $\Delta X$ :	-0.781
Mean $\Delta Y$ :	-0.178
RmseX:	1.132
RmseY:	0.764
RmseH:	1.365
NSSDA:	2.363
No. Obs.:	30
CE 90:	1.704
CE 95:	1.944
CI:	0.284



Station Name	PID	Ellipsoid	NAVD88	NAD83(2011)		SPC		SPC Combined Factor
		Height (m)	Orthometric Height (m)	Epoch 2010.0 Latitude DMS	Longitude DMS	SPC North (m)	SPC East (m)	
HIGH POINT CORS ARP	AI4198	267.939	299.220	35 57 56.48686 N	080 00 48.93737 W	246260.723 m	518178.455 m	0.99990805
MARION CORS ARP	DE8230	366.998	398.800	35 39 13.38510 N	081 57 16.17206 W	215162.325 m	342120.619 m	0.99983954
LEXINGTON CORS ARP	DG5757	194.102	225.340	35 48 53.14318 N	080 13 46.20206 W	229736.512 m	498497.891 m	0.99989030
MORGANTON CORS ARP	DH7137	344.821	377.000	35 42 27.07386 N	081 39 23.99857 W	220367.093 m	369236.777 m	0.99985003
WALNUT COVE CORS ARP	DL1894	276.318	309.540	36 22 19.68806 N	080 11 05.62514 W	291528.706 m	503266.558 m	1.00002047
HICKORY CORS ARP	DM3523	326.303	358.510	35 44 31.01014 N	081 18 30.93483 W	223397.889 m	400811.751 m	0.99985789
WEST JEFFERSON CORS ARP	DL2082	934.812	966.060	36 23 34.94821 N	081 28 42.26843 W	295989.718 m	387260.230 m	0.99992435
ASU-BOONE CORS ARP	DF4365	957.898	989.120	36 12 50.84473 N	081 40 54.64789 W	276616.959 m	368477.452 m	0.99986327
STATESVILLE CORS ARP	DK7549	228.846	261.190	35 51 19.72891 N	080 50 55.47790 W	235120.895 m	442629.732 m	0.99989207
NORTH WILKESBORO CORS ARP	DK4047	270.407	303.570	36 09 59.27542 N	081 07 57.22423 W	270132.288 m	417741.217 m	0.99995750
SPARTA CORS ARP	DL1707	839.994	871.970	36 29 51.90632 N	081 06 52.93270 W	306852.726 m	420130.758 m	0.99997743
BURNSVILLE 2007 CORS ARP	DL6201	748.699	778.830	35 54 29.30454 N	082 20 49.87834 W	244501.699 m	307532.708 m	0.99982060
ASHEBORO 2 CORS ARP	DL6900	210.381		35 37 49.38501 N	079 45 53.75304 W	208859.939 m	540319.797 m	0.99986134
BURLINGTON CORS ARP	DF9213	173.385	203.610	36 05 29.58604 N	079 26 12.17620 W	259845.465 m	570271.809 m	0.99995269
MARSHALL CORS ARP	DG7400	560.636	590.850	35 48 47.31356 N	082 41 22.67321 W	235064.443 m	276250.707 m	0.99983251
NEWLAND 2007 CORS ARP	DM3991	1124.534	1155.410	36 04 39.95811 N	081 54 40.29398 W	262073.985 m	347419.061 m	0.99979994
REIDSVILLE CORS ARP	DM3525	234.815	266.700	36 21 42.71489 N	079 39 56.54007 W	289954.707 m	549851.005 m	1.00002348
DOBSON CORS ARP	DF5767	340.649	373.920	36 25 31.51455 N	080 43 11.71069 W	298143.588 m	455359.078 m	1.00002904
MOORESVILLE CORS ARP	DH3838	266.211	297.570	35 34 46.87707 N	080 48 12.53662 W	204453.424 m	446161.276 m	0.99984714
JORDAN LAKE CORS ARP	DL3891	46.013	77.43	35 46 52.49646 N	079 02 03.92766 W	225330.877 m	606489.109 m	0.99990797
WINSTON SALEM 2 CORS ARP		252.005		36 06 20.42399 N	080 14 16.05963 W	262020.720 m	498150.922 m	0.99994400