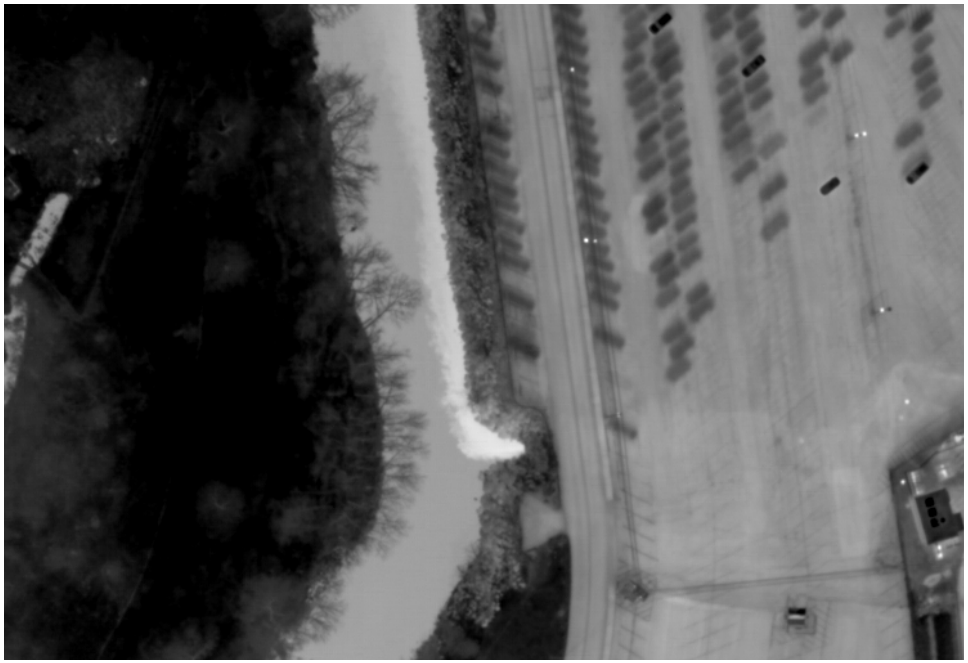
Infrared Thermal Imaging Survey of Selected Areas along the South River and South Fork Shenandoah River



South River Science Team
July 21, 2009

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Survey Overview

Flown by Stockton Infrared Thermographic Services, Inc., on March 24, 2009

Objective –

- Identify areas of groundwater discharge based on temperature changes in surface water

Survey Area –

- South River from Greenville, VA to confluence with North River
- South Fork Shenandoah River to Island Ford

Method –

- Aerial acquisition of IR imagery (outside visible spectrum)
- Grayscale pictures
  - Shades of gray indicate the relative temperature difference between objects in the image
  - Thermal resolution ~ 0.5 ^{o}F
- Image analysis to identify thermal “anomalies”

Results -

- ~8,900 individual images, 28 mosaic images
- 44 thermal anomalies identified by surveyor – more subtle ones still to be identified

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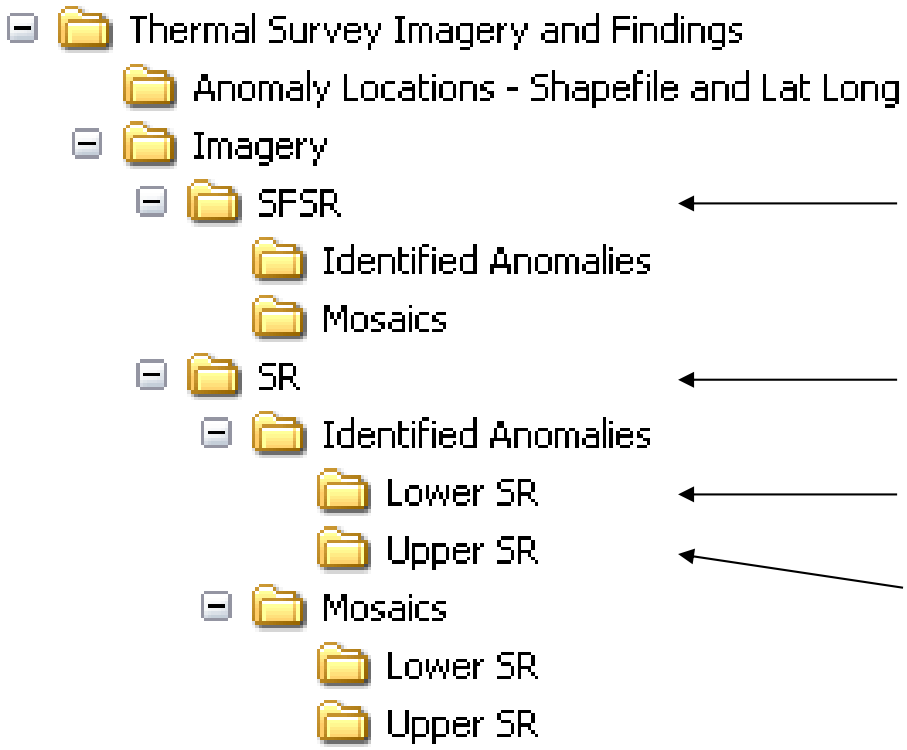
Where to find it …

Mosaics and images of “anomalies” on the SR ftp site



South Fork Shen R. from Port Republic to Island Ford

South River

Waynesboro to Port Republic

Greenville to Waynesboro (I64)

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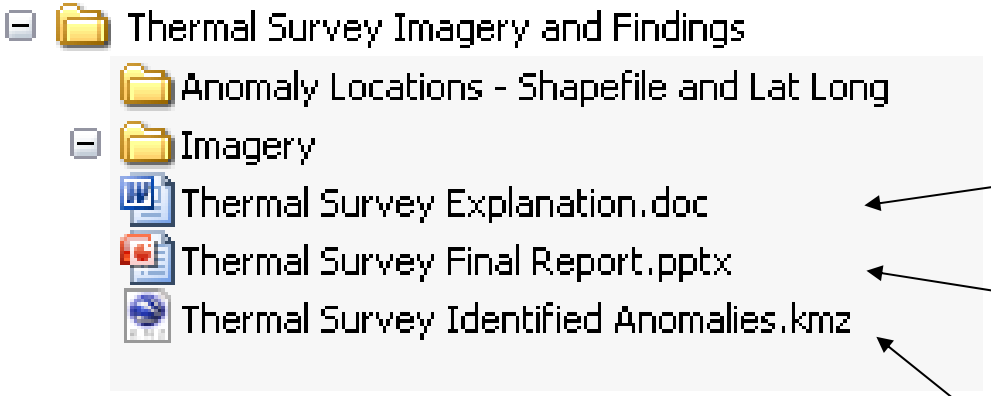
What to do with it after you find it …



Read this file first!

Powerpoint with images of anomalies identified by surveyor

Google Earth point file showing anomaly location – use to locate anomalies and navigate through mosaics

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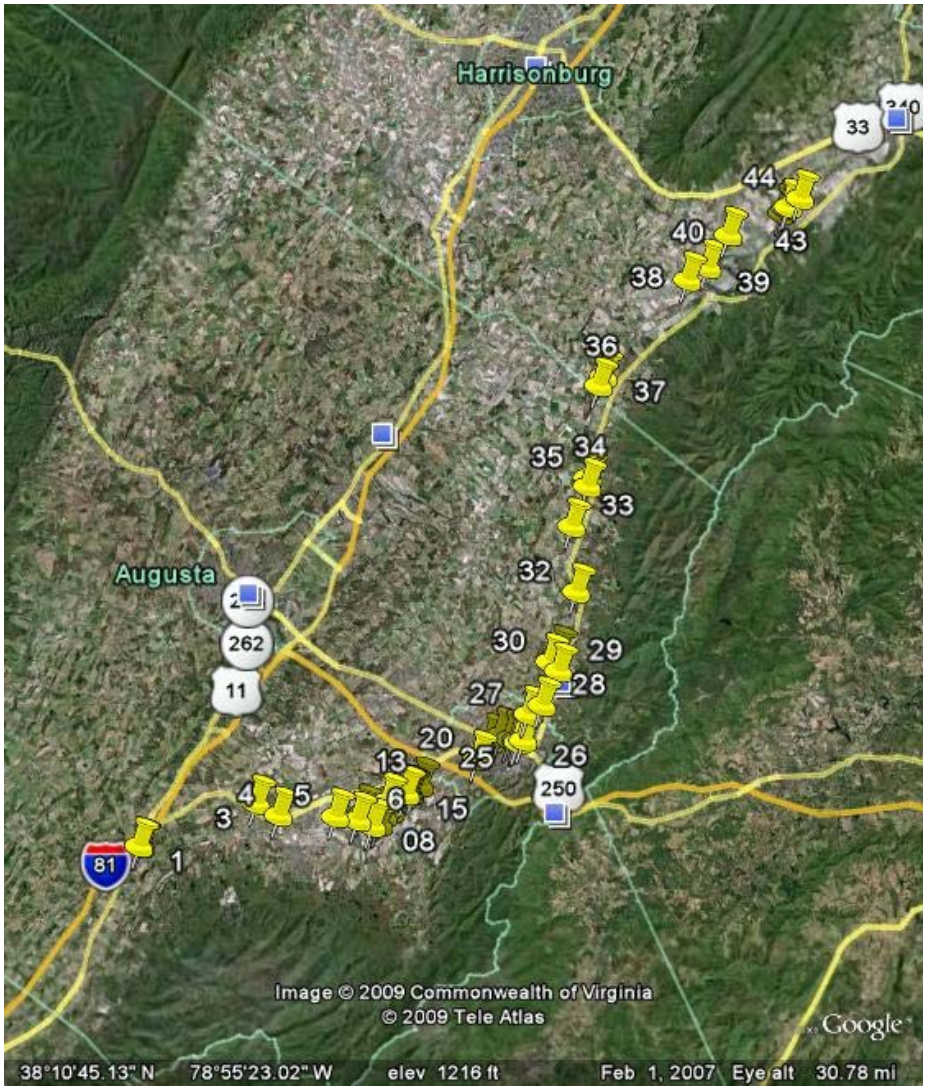
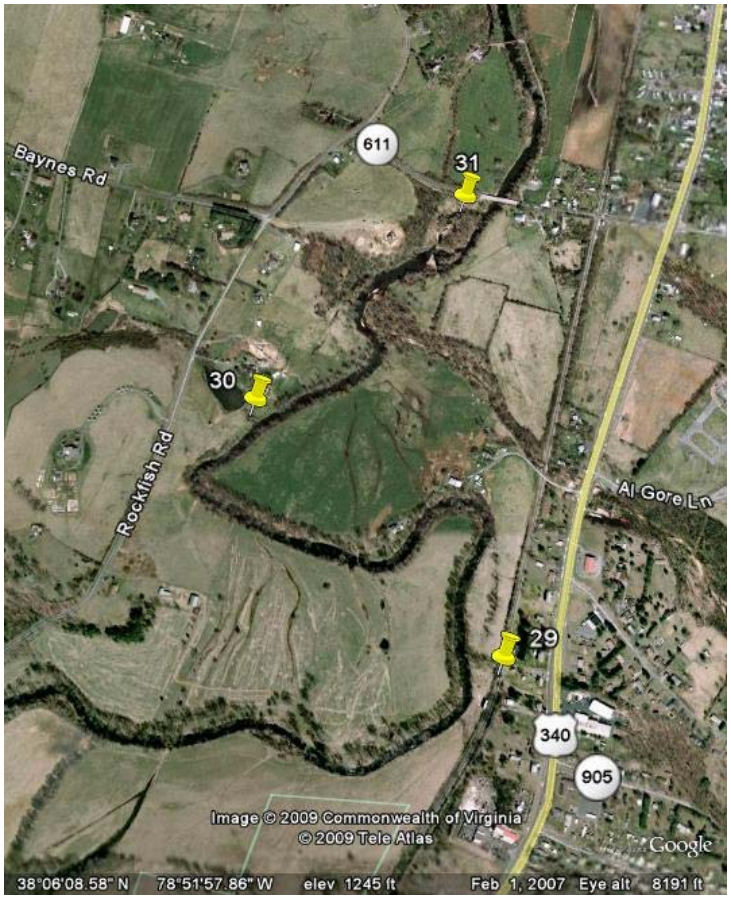
Anomaly Locations (Google Earth file)





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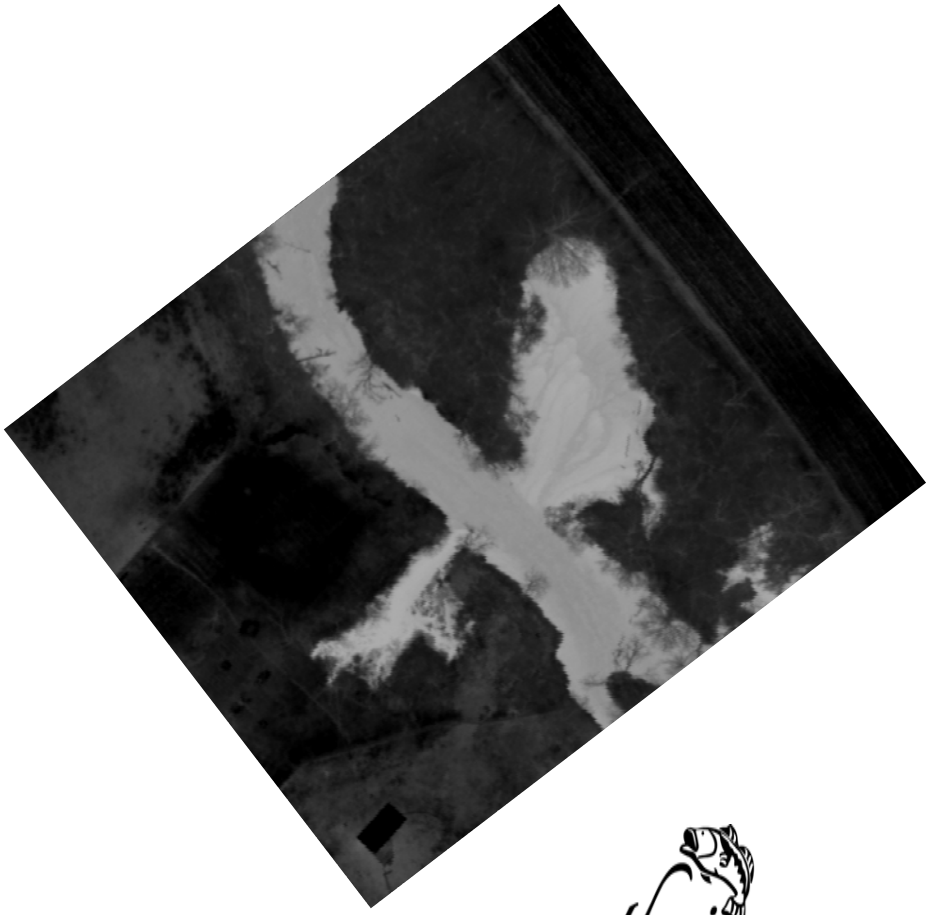
Springs (?) at Lyndhurst (Anomalies 14, 15, and 16)



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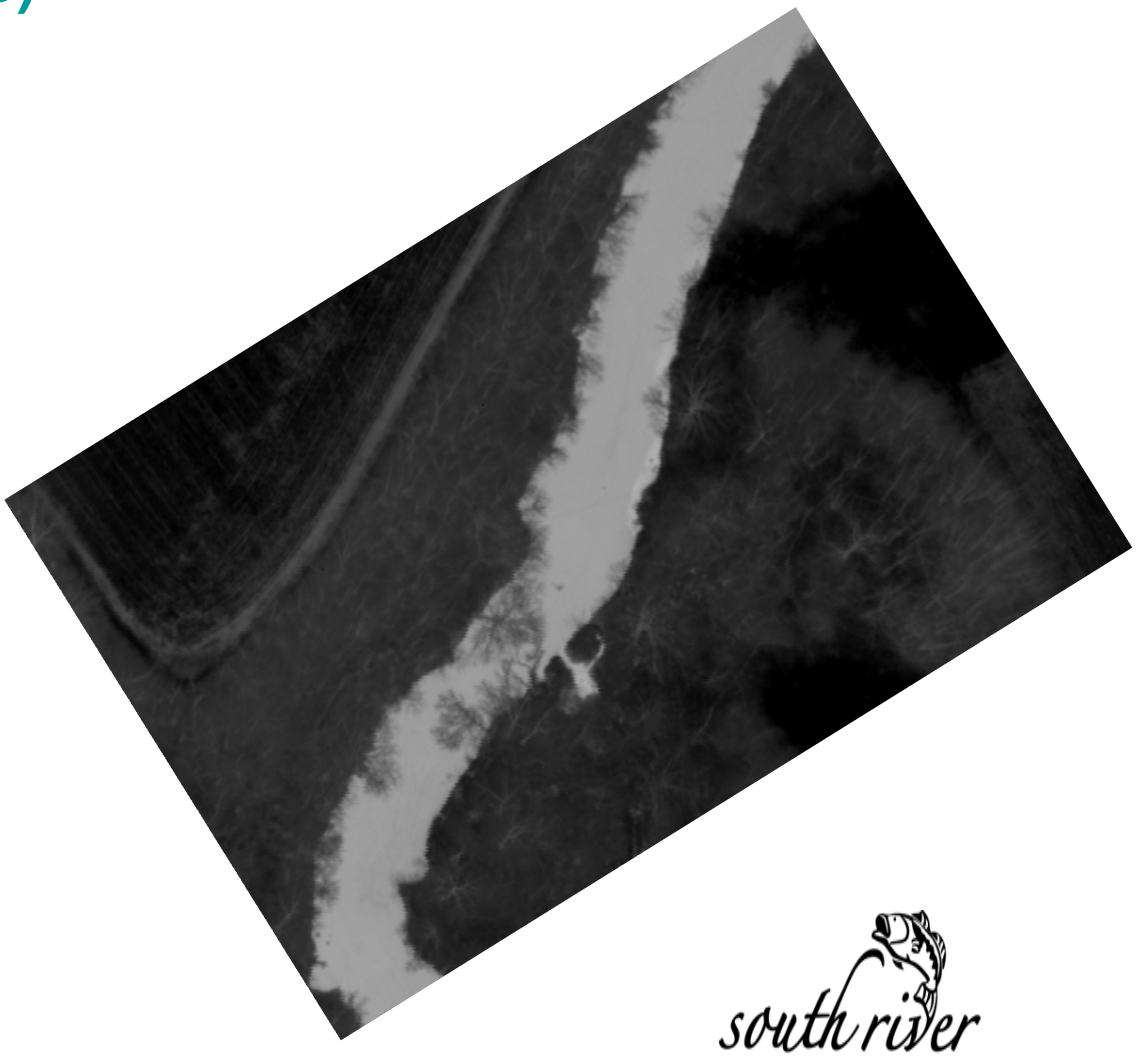
Spring and Bank Discharge (?) at Lyndhurst (Anomalies 17 and 18)



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Spring (?) at Dooms (Anomaly 31)

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Spring (?) at Island Ford (anomaly 41)

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