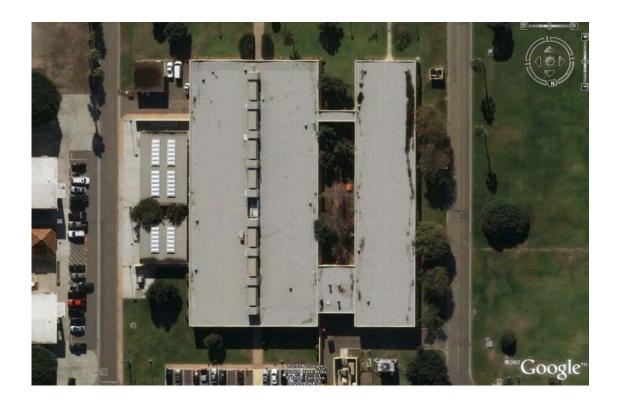


# Qualitative On-Roof Infrared Moisture Survey Report



Prepared by:
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Toll-Free 888-SCAN-4-IR (888-772-6447)



August 7, 2009

Mr. John Jones JABC Properties, Inc. 358 Midway Road Anywhere, USA 98765

Dear Mr. Jones:

Enclosed please find the Qualitative On-Roof Infrared Moisture Survey Report which we conducted for you on August 6, 2009 at:

358 Midway Road Anywhere, USA 98765

Our report is designed to be clear, easy to understand and useful. Please take the time to review it carefully. If there is anything you would like us to explain, or if there is other information you would like, please feel free to call us. We would be happy to answer any questions.

We appreciate this opportunity to be of service.

Sincerely,

Peter Hopkins

Peter Hopkins
Level II Certified Thermographer #5637
SoCal Infrared
Authorized RoofScanIR™ Contractor



# **ON-ROOF INFRARED REPORT**

#### **General Information**

The building roofs of ABC Properties in Anywhere, USA were the subjects of an infrared (IR) survey on the night of August 6, 2009. On-roof photographs were taken as we performed the survey. Notes are placed on each thermographic report.

### This report includes:

- Printed copy of this report booklet,
- Digital image files of thermographs and photographs,
- CD-ROM containing all files from this project.

SoCal Infrared, an Authorized RoofScanIR™ Contractor, was retained for an infrared survey of the roof in an effort to identify areas of potential moisture and to mark these areas for further review. Our inspection is designed to comply with ASTM Standard C1153 -"Standard Practice for Location of Wet Insulation in Roofing Systems Using Infrared Imaging". When anomalies were identified a secondary method of non-destructive moisture detection was used to confirm the moisture content. We took an average reading in a known dry area and marked areas of probable and possible elevated moisture content. We marked an outline of identified areas of moisture with marking paint directly on the roof and then took a thermograph and photograph to document the area in this report.

There may be specific areas and items that were inaccessible during our survey. We can make no representations regarding conditions that may be present but were concealed or inaccessible during the survey. With access and an opportunity for inspection, reportable conditions may be discovered. Inspection of the inaccessible areas will be performed upon arrangement and at an additional cost after access is provided. Also, our report is based on information obtained at the site at the given date and time. Over time, conditions change and the information contained in this report may no longer be accurate. Should additional information become available at a later date, we reserve the right to determine the impact, if any, the new information may have on our discovery and recommendations and to revise our opinions and conclusions if necessary and warranted.

#### **Understanding Building Roof IR Imagery**

Infrared imagery is often a picture where scales (or shades/colors) represent the differences in temperature and emissivity of objects in the image. As a general rule, objects in the image that are lighter in color are warmer, and darker objects are cooler. No object in the images is detected via visible light wavelengths (400-700 nanometers) rather, only from infrared wavelengths in the 3000-5000 nanometers or 8000-14000 micrometers range. Lights and other relatively hot objects are very evident, but as a result of their heat...not light emissions. When an image is taken with our infrared camera, it is digitally saved to an on-board media card. The image may be then modified in a number of ways to enhance its value to the end user. In the case of the printouts enclosed with this package, the building images were digitized, colorized, and then adjusted for color, contrast and brightness before being scaled and placed in this file.



After sunset, roof areas that contain moisture (more mass) are a different color because the heat (from daylight sunshine and the resulting thermal gain) radiates from these areas longer than those areas that are dry (lower mass). When the building structure cools down, we scan the roof with a sensitive infrared camera to detect the sources of heat and record them for later analysis. It should be noted that while the infrared method, which detects heat signatures, works well on absorbent roofs and is an excellent method for identifying these wet areas, is not perfect and water can leak straight into the building and leave no trace of moisture in the roof substrate.

## **Analysis and Recommendations**

Areas of wet insulation are marked directly on the roof. We recommend that a roof professional and your maintenance team carefully review this report. Then, with reference to the images contained herein and the marked areas on the roof, these areas should be physically located and given a thorough visual examination. When warranted, these areas should be subjected to a destructive test (core sample) to confirm the analysis.

#### **Thermography Report**

**Client:** ABC Properties

Client's representative present at inspection: John Jones Building location: 358 Midway Road, Anywhere, USA

Certified Infrared Thermographer, CIT#: Peter Hopkins #5637

Survey date: August 6, 2009 Survey start time: 10:30PM

**High ambient temperature of the day:** 88F **Daytime weather conditions:** Clear and Sunny

Last recordable rainfall: August 2

Weather conditions at survey start time: Clear, light winds, scattered high clouds

Wind speed/direction at survey start time: 3 miles per hour/NNW

Ambient temperature at the survey start time: 72F

Imager used: FLIR Systems T-400

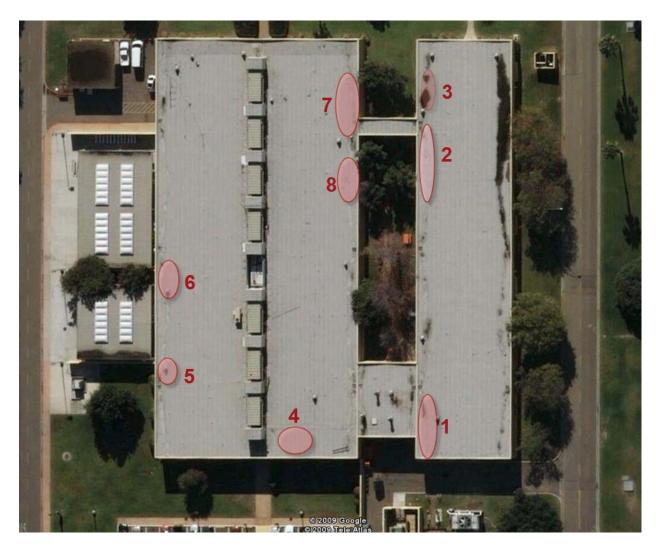
Roof Deck: Metal

**Insulation:** 2" Fiberboard **Membrane:** Modified Bitumen

**Notes:** Most of the suspect areas are along the edges of the roof.



# **AREAS WITH PROBABLE MOISTURE**



Circles on the image above represent areas of suspect moisture. The areas were scanned with a moisture meter and elevated moisture readings were taken. The numbers above, match the report number in the reports below.









