



FBI Laboratory

REPORT OF EXAMINATION

To: Salt Lake City
Squad 3
SA [REDACTED]

Date: April 16, 2010

Case ID No.: 7A-SU-66520 -12

Lab No.: 100302017 ABL RL

Reference: Communication dated February 26, 2010

Your No.:

Title: UNSUB;
SUSAN M. POWELL - VICTIM

Date specimens received: March 2, 2010

The following items were examined in the Chemistry unit:

Q1 Three pieces of wire (1B2, E04051235)

Q2 Metal fragments (1B1, E04051234)

This report contains the results of the metallurgy examinations.

Results of Examinations:

Metallurgical examinations of the Q1 wires determined that they are segments of multi-strand copper wire. The overall conductor gauge of each segment is 10 to 12 AWG (American Wire Gage), with a consistent strand gauge of 30 AWG. Although the strands are partially broken and, in places, substantially fused, physical manipulation revealed approximately 62-64 strands in one of the segments. These are aligned in a left lay, bunch geometry. No discernible remains of tin coating or polymer insulation were found.

A common wire that could exhibit the above characteristics is size 12 AWG (65x30) single conductor hook (or lead) wire. The (65x30) designation indicates the conductor consists of 65 strands of 30 AWG wire. The Q1 segments could have originated from single conductor or from multi-conductor wire. Conductors consisting of bunched, fine (30 AWG) copper strands

are generally insulated to maintain strand alignment. However, fire hot enough to fuse the strands would be sufficiently hot to burn insulation, as well as tin plating, if any were present, off of the conductor surface.

The Q2 fragments are predominantly steel. Calcium and strontium are present in significant amounts on many of the pieces. The source of the Q2 fragments remains unidentified.

Physical measurements, optical microscopy, x-ray radiography and x-ray fluorescent spectroscopy (XRF) were used to conduct the analyses.

Remarks:

The items listed above are retained in the FBI Laboratory. The final disposition will be the subject of a separate communication.

For questions about the content of this report, please contact Examiner [REDACTED]

For questions about the status of your submission, please contact Request Coordinator [REDACTED]

This report contains the opinions/interpretations of the examiner(s) who issued the report.