The Case of the Missing Ballot Boxes 2001 National Science Olympiad Finals

Science Crime Busters Exam CU Colorado Springs

ANSWER KEY

I. UNKNOWN SUBSTANCE ANALYSIS: (20)

UNKNOWN 1: flour & sugar UNKNOWN 9: cornstarch & salt

UNKNOWN 2: baking soda
UNKNOWN 10: water
UNKNOWN 3: gelatin
UNKNOWN 11: zinc
UNKNOWN 4: yeast
UNKNOWN 12: sand

UNKNOWN 5: hydrogen peroxide
UNKNOWN 13: sodium acetate
UNKNOWN 6: iron
UNKNOWN 14: magnesium
UNKNOWN 7: vitamin C
UNKNOWN 15: plaster of Paris

UNKNOWN 8: alka seltzer & calcium carbonate UNKNOWN 16: baking soda & flour

II. HAIR ANALYSIS: (2)

Slide A: dog Slide B: human

III. SHOE PRINT ANALYSIS: (2)

Whose shoes made the prints found at the crime scenes? Both match Chancy Charming

IV. FINGERPRINT ANALYSIS: (2)

Whose prints were found?

Both match Chancy Charming

V. DNA FINGERPRINT: (2)

Whose DNA matches the blood samples?

Both match Chancy Charming

VI. CHROMATOGRAPHY: (6)

Whose pen was used to write the note? Chancy Charming

VII: WRITTEN ANALYSIS: (10)

All evidence points to Chancy Charming and is consistent with his description in the story. Residues of flour, sugar and baking soda result from his bread baking and sand from walks along the beach. Vitamin C was also found, but it doesn't have a direct link to Chancy Charming.

For information on how to obtain a packet containing six previously administered <u>Science Crime Busters</u> exams similar in style to "The Case of the Missing Ballot Boxes," visit the following web site:

http://www.otherworlds-edu.com