The Current State of Affairs and Trends in the Crime Laboratory

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Deputy Assistant Director of the Crime Laboratory
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I’m Telling Ya “I DON’T GET NO RESPECT”

- Rodney Dangerfield
The Trace Evidence section examines a wide variety of evidence not elsewhere analyzed.

*180 day study report - ASCLD
Trace Evidence Disciplines

- Fibers
- Paint
- Glass
- Hair
- Arson
- GSR
- Explosives
- Other
- Soil
- Lamps
- Shoeprints
- Retracks
Status of Trace Evidence Services

24% Decreased services.

34% Increased services.

42% Offerings have remained the same.
<table>
<thead>
<tr>
<th>Percentage</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>44%</td>
<td>Decreased submissions</td>
</tr>
<tr>
<td>40%</td>
<td>Increased submissions</td>
</tr>
<tr>
<td>16%</td>
<td>Submissions remained the same</td>
</tr>
</tbody>
</table>
Impact of DNA on Trace Evidence

3-10 Range of Impact

7.7 Average Impact
The Role of Trace Evidence

Is it diminishing in the eyes of law enforcement?

62% Yes 38% No

Reasons:
- They are not aware of what we can do
- They are not familiar with collection techniques and what to collect
- Collection is time consuming
Other Factors Impacting Trace

80% Other impacting factors, to include:
- Decreasing Budgets
- Lack of trained personnel
- Lack of availability of training and continuing education classes

20% No other impacting Factors
# Strength of Conclusions

<table>
<thead>
<tr>
<th></th>
<th>Increased</th>
<th>Decreased</th>
<th>Remained the Same</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hair</td>
<td>0</td>
<td>46%</td>
<td>54%</td>
</tr>
<tr>
<td>Fiber</td>
<td>5%</td>
<td>0</td>
<td>95%</td>
</tr>
<tr>
<td>Paint</td>
<td>6%</td>
<td>0</td>
<td>94%</td>
</tr>
<tr>
<td>Glass</td>
<td>6%</td>
<td>0</td>
<td>94%</td>
</tr>
</tbody>
</table>
Availability of Resources

Do you have sufficient instrumentation?
62% Yes
38% No

Do you have sufficient training opportunities?
52% Yes
48% No
Challenges...
Forensics to cut trace analysis due to budget
“Trace requests make up less than one percent of the total cases.”

“Authorities say cases usually are not solved on trace evidence alone.”
“More than $500,000 in new equipment would be needed to continue the trace program.”

“Is it wise to the tax payers of the state to continue with this when we have rapes, murders, and burglaries that can be solved by DNA?”
## Typical Equipment Needs (Costs)

<table>
<thead>
<tr>
<th>Section</th>
<th>Estimated Cost</th>
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<tbody>
<tr>
<td>Controlled Substances</td>
<td>$454,000</td>
</tr>
<tr>
<td>Trace</td>
<td>750,000</td>
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<tr>
<td>Firearms</td>
<td>74,350</td>
</tr>
<tr>
<td>Questioned Documents</td>
<td>90,000</td>
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<tr>
<td>Latent Prints (without laser)</td>
<td>116,625</td>
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<tr>
<td>Toxicology</td>
<td>153,800</td>
</tr>
<tr>
<td>Arson</td>
<td>200,500</td>
</tr>
</tbody>
</table>

ASCLD  
180 Day Study
The Curse of Numbers
Cases vs. Items

“All administrators want is numbers”

“Many trace analysts are notoriously slow”
Leadership...
City and county laboratories are often under the control of Law Enforcement. The agency head may be a sheriff or police chief who may not be fully aware of the needs of the forensic laboratory.

-Public Forensic Laboratory Budget Issues
Federal DNA Grants
Issues to Ponder...
The Future of Trace Evidence:

Increasing Significance

“Could Have”
The Future of Trace Evidence:

Databases

- PDQ
- Glass
- Fibers
The Future of Trace Evidence:

Statistics:
“The Tyranny of Numbers”

‘If statistics are to be applied to trace evidence they must be applied in a way appropriate to the discipline, unbiased in interpretations and accessible to the trier of fact.”

-- Max Houck
The Future of Trace Evidence:
Improved Analysis / Collection Techniques

- LA - ICP-MS of glass
- Static Secondary Ion Mass Spectrometry (SIMS)
- Teflon Wipes
- micro – XRF
- micro - XRD
The Future of Trace Evidence...

- SWGMAT Guidelines
- High Throughput
- Consolidation of Trace
- Trace Evidence Web Site
- Take advantage of Management Opportunities
The Future of Trace Evidence: Raising Awareness – Advertising!

- Police
- Attorneys
- Laboratory Administrators

** 62% of labs reported that Trace Evidence has diminished in the eyes of law enforcement!
Trace Evidence should be viewed as a complimentary aspect of evidence analysis – it shouldn’t be regarded as “last resort evidence.”
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Long Live Trace!