



# Priority Action Report

## Materials (Trace)

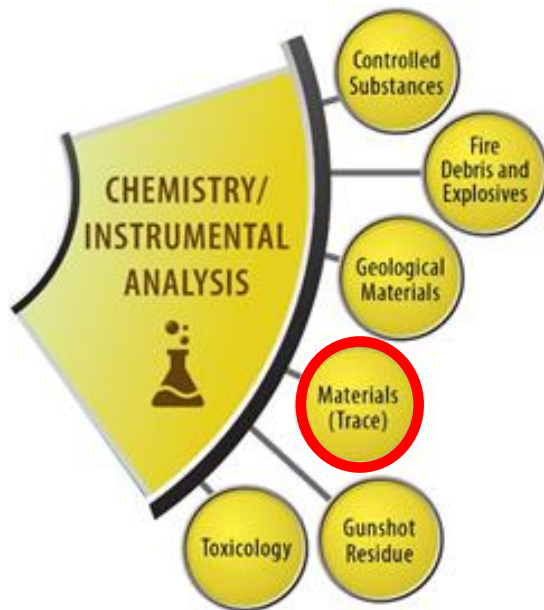
Chemistry/Instrumental Analysis

Susan Gross, Chair

February 23, 2016



# Materials (Trace)



The subcommittee on Materials (Trace) will focus on standards and guidelines related to examination and interpretation of physical evidence that may result from the transfer of small or minute quantities of materials (e.g., hairs, fibers, paint, tape, glass).



# Subcommittee Leadership

Position	Name	Organization	Term	Email
Chair	Susan Gross	Minnesota BCA	3	sue.t.gross@state.mn.us
Vice Chair	Diana Wright	FBI Laboratory	4	diana.wright@ic.fbi.gov
Executive Secretary	Cheryl Lozen	Michigan State Police	2	lozenc@michigan.gov



# Subcommittee Members



#	Name	Organization	Term	Email
1	Leanora Bender	Retired BATF Laboratory	2	Leebrunconti.yahoo.com
2	Jodi Blakely Webb	FBI Laboratory	4	jodi.webb@ic.fbi.gov
3	Alicia L. Carriquiry	Iowa State University	2	alicia@iastate.edu
4	David A. Green	Lake County (Ohio) Crime Lab	3	david.green@lakecountyohio.gov
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6	Tammy Jergovich	Georgia Bureau of Investigation	2	tammy.jergovich@gbi.ga.gov
7	Sandy Koch	Penn State University	3	slk336.psu.edu
8	Amy Michaud	BATF Laboratory	2	amy.michaud@atf.gov
9	Christopher S. Palenik	Microtrace LLC (Illinois)	4	cpalenik@microtracellc.com
10	Sandy Parent	TX Dept of Public Safety Crime Lab	3	sandy.parent@dps.texas.gov
11	Chip Pollock	Sacramento County (California) District Attorney's Office Laboratory	3	pollockc@sacda.org
12	Jennifer L. Remy	North Carolina State Crime Laboratory	3	jremy@ncdoj.gov
13	Stephen Shaw	FBI Laboratory	3	stephen.shaw@ic.fbi.gov
14	Chantelle Taylor	Arkansas State Crime Laboratory	2	chantelle.taylor@crimelab.arkansas.gov
15	Tatiana Trejos	Florida International University	4	trejost@fiu.edu
16	Jennifer Verkouteren	National Institute of Standards and Technology (NIST)	4	jennifer.verkouteren@nist.gov
17	Robyn Weimer	Virginia Dept of Forensic Science	3	robyn.weimer@dfs.va.gov

# MATERIALS (Trace) Subcommittee



# Subcommittee Liaisons



<b>Position</b>	<b>Name</b>
<b>QIC Liaison</b>	<b>David Green</b>
<b>HFC Liaison</b>	<b>Andria Mehlretter</b>
<b>LRC Liaison</b>	<b>Sandy Koch</b>
<b>KAVI Liaison</b>	<b>Tatiana Trejos</b>



# Task Group Chairs



<b>Task Group</b>	<b>Name</b>
Interpretations	Andria Mehlretter
Outreach and Strategic Plan	Sandy Parent
Fibers	Jen Remy
Glass	Jodi Webb
Hairs	Amy Michaud/Sandy Koch
Paint	Diana Wright
Tape	Tammy Jergovich
Research	Alicia Carriquiry/Tatiana Trejos



# Summary of Standards/Guidelines Priority Actions



Priority	Working Title of Document
1	Standard Practice for Interpretation and Report Writing in Forensic Comparisons of Trace Materials
1	OUTREACH
1	E2809 Standard Guideline for Using SEM/EDS in Forensic Paint Examinations E2927 LA-ICP-MS for glass E2224 Standard Guide for Forensic Analysis of Fibers by IR Spectroscopy Forensic Human Hair Training E1967 Standard Test Method for the automated Determination of RI of Glass Samples IR of tape Tape training document E2225 Standard Guide for Forensic Examination of Fabrics and Cordage E2228 Standard Guide for Microscopic Examination of Textile Fibers E2808 Standard Guideline for using MSP for forensic paint examinations Paint training document Forensic Human Hair Examination Guidelines Tape general guide PGC for polymers





# Standards to move Forward



Title	Organization
<p>(RA2) Standard Test Method for Forensic Comparison of Glass Using Micro X-ray Fluorescence Spectrometry</p> <p>Comments adjudicated. SAC voted to put on registry. At FSSB.</p>	ASTM E2926
<p>(RA-3) Standard Test Method for Determination of Trace Elements in Soda-Lime Glass Samples Using Laser Ablation Inductively Coupled Plasma Mass Spectrometry for Forensic Comparisons</p> <p>SAC did not approve. Glass task group editing.</p>	ASTM E2927
<p>(RA-4) Standard Test Method for Determination of Concentrations of Elements in Glass Samples Using Inductively Coupled Plasma Mass Spectrometry (ICP-MS) for Forensic Comparisons</p> <p>Comments adjudicated. SAC voted to put on registry. At FSSB.</p>	ASTM E2330
<p>(RA-1) Standard Test Method for the Automated Determination of Refractive Index of Glass Samples Using the Oil Immersion Method and a Phase Contrast Microscope</p> <p>SAC did not approve. Glass task group editing.</p>	ASTM E1967





# Guidelines to move Forward

Title	Organization
(RA-5) Standard Guide for Forensic Paint Analysis and Comparison <i>SAC voted to proceed. Went out for public comment.</i>	ASTM E1610
(RA-6) Standard Guide for using Infrared Spectroscopy in Forensic Paint Examinations <i>SAC voted to proceed. Went out for public comment.</i>	ASTM E2937
(RA-7) Standard Guide for Using Scanning Electron Microscopy/X-ray Spectrometry in Forensic Paint Examinations <i>Subcommittee voting on Registry Packet.</i>	ASTM E2809
(SDO-04) Standard Guide for Microspectrophotometry and Color Measurement in Forensic Paint Analysis <i>Task group editing it with some current updates per ASTM required 5 year review.</i>	ASTM E2808





# Topic 1: Trace Evidence Interpretation

**Document Title:** Standard Practice for Interpretation and Report Writing in Forensic Comparisons of Trace Materials

**Scope:** Document describes the information that must be included in trace evidence written reports for interpretation of the overall results of comparative examinations.

**Objective/rationale:** to provide recommendations and requirements to the trace evidence community regarding how to interpret and describe the significance of the overall results of a comparative examination.

**Task Group Name:** Trace Evidence Interpretation

**Task Group Chair Name:** Andria Mehlretter

**Task Group Chair Contact Information:**

[andria.mehltretter@ic.fbi.gov](mailto:andria.mehltretter@ic.fbi.gov)

**Date of Last Task Group Meeting:** January 29, 2016



# Topic 1: (SDO-06) Standard Practice for Interpretation and Report Writing in Forensic Comparisons of Trace Materials

## Key Components of Standard:

- Context of association
- Significance assessment
- Fiber reporting
- Glass reporting
- Hair reporting
- Paint reporting
- Tape reporting



# Topic 1: (SDO-06) Interpretations Document

## Task Group Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Wrote draft copy of interpretations document addressing fibers, glass, hair, paint and tape comparisons		Entire task group	
Solicited feedback from the Materials subcommittee at January meeting		Entire task group	
Incorporate feedback from the Materials subcommittee on draft	SDO-200	Entire task group	February 2016
Send appendices to discipline task groups for feedback/editing of discipline specific sections		Fiber, glass, hair, paint and tape group chairs	May 2016
Send out entire document to subcommittee for comment	SDO-300	Andria Mehlretter	July 2016





# Topic 2: Trace Evidence Strategic Plan and Outreach Initiative

- Identify the perception, reality and needs of the Trace Evidence (TE) community, which will determine our strategic planning goals.
- Determine opportunities to promote TE by communicating its significance to ensure preservation of the field and ultimately move TE forward.
- Create educational material to be distributed to various levels of the community (e.g., crime scene analysts, law enforcement agencies, labs (without trace), court systems, etc.).

**Task Group Name:** Trace Outreach

**Task Group Chair Name:** Sandy Parent

**Task Group Chair Contact Information:**

[sandy.parent@dps.texas.gov](mailto:sandy.parent@dps.texas.gov)

**Date of last Task Group Meeting:** January 29, 2016



# Topic 2: Outreach Task Group



Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Developed and reviewed 2 surveys: Lab managers and trace practitioners.			
Creating educational material for crime scene personnel.		Sandy Parent	
Send out survey to Attorneys		Sandy Parent	February 29, 2016
Compile and review results of Attorney survey		Sandy Parent	June 1, 2016
Create strategic plan based on results of all surveys		All members	October 1, 2016
Compose relevant/position paper for trace evidence and strategic plan		All members	April 2017



# Topic 3: Fiber Documents

## Document Titles:

- (SDO-02) E2224 Standard Guide for Forensic Analysis of Fibers by IR
  - (SDO-03) E2225 Standard Guide for Analysis of Fabrics/Cordage
  - (SDO-05) E2228 Standard Guide for Micro Exam of Textile Fibers
- Fiber training

Scope: Standard guides for different fiber techniques

**Task Group Name:** Fibers

**Task Group Chair Name:** Jen Remy

**Task Group Chair Contact Information:** [jremy@ncdoj.gov](mailto:jremy@ncdoj.gov)

**Date of last Task Group Meeting:** January 29, 2016







## Topic 3: Fiber Documents

# Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
E2224 put forward to subcommittee/SAC/RC for comment			
Adjudicate comments for E2224	SDO-400	Entire task group	
Update E2225 (fabrics/cordage) and put forward to subcommittee/SAC/RC for comment	SDO-200	Jen Remy	February 28, 2016
Update E2228 (Micro exams of textiles)	SDO-200	Stephen Shaw	July 2016
Start fiber training guide	SDO-0	TBD	



# Topic 4: Hair Documents

Document Titles: (SDO-01) Hair training document  
(SDO-08) Human hair examination document

Scope: Provide standard for training in human hair comparisons as well as a guideline for the examination of human hair comparisons

**Task Group Name:** Hair

**Task Group Chair Name:** Amy Michaud

**Task Group Chair Contact Information:**

amy.michaud@atf.gov

**Date of last task group meeting:** January 29, 2016



## Topic 4: Hair Documents



# Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Sent hair training guide to subcommittee, SAC and RC			
Adjudicate comments for hair training			
Send hair document to subcommittee and SAC for vote prior to SDO	SDO-400	Sandy Koch	March 2016
Format hair exam guide into ASTM format and send to subcommittee, SAC, and RC for comments	SDO-200	Amy Michaud	April 1, 2016





# Topic 5: Glass Documents

Document Title: (RA-1) E1967 Standard Method for RI  
(RA-3) E2927 Standard Method for LA-ICP-MS for glass

Scope: Standard test methods for two different types of glass analysis

Issues/Concerns: Updated document with comments from subcommittee, SAC and Resource committees

**Task Group Name:** Glass

**Task Group Chair Name:** Jodi Webb

**Task Group Chair Contact Information:**

[jodi.webb@ic.fbi.gov](mailto:jodi.webb@ic.fbi.gov)

**Date of Last Task Group Meeting:** January 29, 2016



# Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Adjudicated comments for E2330			
Adjudicated comments for E2926			
Edited E1967 (will send out for comment /vote to subcommittee, SAC, RC)			
Resubmit E1967 to ASTM	SDO-400	David Green	July 2016
Edit E2927 and resubmit to ASTM	SDO-400	Tatiana Trejos	July 2016
Write general guideline for forensic glass analysis and comparison	SDO-200	Jodi Webb	January 2017
Submit glass guideline to subcommittee, SAC, and RC for comment	SDO-400	Jodi Webb	January 2017



# Topic 6: Tape and Paint Documents (1)

## Document Title:

- (RA-7) E2809 Standard Guide for SEM for forensic paint analysis
- (SDO-04) E2808 Standard Guide for MSP for forensic paint analysis
- (SDO-07) Standard Guide for IR for forensic tape analysis  
Standard Guide for PGC for forensic polymer analysis

Scope: Standard guides for different paint and tape techniques

**Task Group Name:** Paint/Tape

**Task Group Chair Name:** Diana Wright

**Task Group Chair Contact Information:**

[diana.wright@ic.fbi.gov](mailto:diana.wright@ic.fbi.gov)

**Date of last task group meeting:** January 29, 2016





# Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Registry packets for E1610 and E2937			
Formatted PGC for polymers and sent to subcommittee for comment/vote			
Edited IR for tape (sent to ASTM)			
Registry packet for E2809 (SEM for paint)	RA-200	Diana Wright	February 2016
Adjudicating comments for IR of tape (from ASTM)	SDO-1000	Diana Wright	February 2016
Reviewing E2808 (MSP for paint) for ASTM 5 year review	SDO-200	Chris Palenik	April 2016
Adjudicating subcommittee comments for PGC for polymers	SDO-300	Tammy Jergovich	June 2016



# Topic 7: Tape and Paint Documents (2)

Document Title: (SDO-09)      Standard guide for tape training  
Standard guide for paint training  
Standard guide for forensic tape analysis

Scope: Standard practice for training in paint and tape  
Standard guide for forensic tape analysis

**Task Group Name:** Paint/Tape (2)

**Task Group Chair Name:** Tammy Jergovich

**Task Group Chair Contact Information:**

tammy.jergovich@gbi.ga.gov

**Date of last task group meeting:** January 29, 2016





# Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Create tape training document			
Incorporate comments from LRC from hair training			
Summit tape training document to subcommittee, SAC and RC for comment	SDO-400	Tammy Jergovich	
Adjudicate comments and submit to ASTM		Tammy Jergovich	April 30, 2016
Write paint training guideline	SDO-200	Chantelle Taylor	April 30, 2016
Write tape general guideline	SDO-200	Kathy Boone	June 30, 2016





# Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Create a research priority master list using resources such as existing SWGMAT research recommendations, survey from Trace Evidence Community and research interests from main funding agencies		Entire task group	
Complete OSAC research assessment form for top 2 research needs		Tatiana Trejos	
Incorporate feedback from the Materials subcommittee		Entire task group	



# Research Gaps Identified

- Development of an Integrated and Multidisciplinary Approach for the Advancement of Data Collection, Data Management and Data Analysis to Aid Interpretation of Trace Evidence.
- Evaluation of Combined Information Value of Microscopic Comparisons and Mitochondrial DNA Analysis for Hair Examinations.



# Additional Items of Interest

- Interpretation document is a focus because the community has asked specifically for us to provide guidance in this area
- Working with other subcommittees on a Terminology document specific for Trace (Materials, Geology, Fire Debris/Explosives and Gun Shot Residue)
- We are looking to replace some members on the 2 year term as well as the Materials subcommittee will be increasing in size. We are also adding affiliates when needed. If interested, keep application current within OSAC for ease of our reference.

