

# Priority Action Report

## Geological Materials

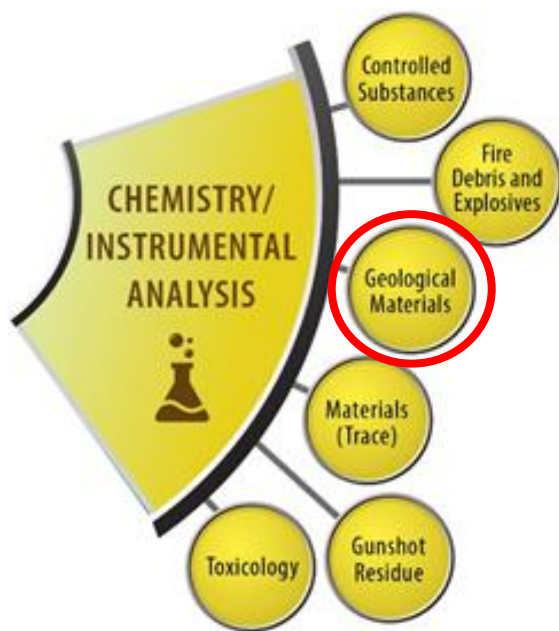
Chemistry/Instrumental Analysis

Brad Lee

February 23, 2016



# Discipline Description



Develop consensus standards and guidelines for the **collection and analysis of soils and other geological materials**; create a framework for the **interpretation and reporting of analytical results**; establish **educational and training requirements** for forensic practitioners; and foster the **publication and presentation of research** within the forensic geosciences community.



# Subcommittee Leadership

<b>Position</b>	<b>Name</b>	<b>Organization</b>	<b>Term</b>	<b>Email</b>
Chair	Vacant	N/A	N/A	N/A
Vice Chair	<b>Andrew Bowen</b>	<b>U.S. Postal Inspection Service</b>	<b>3 years</b>	<b>ambowen@uspis.gov</b>
Executive Secretary	<b>Kim Mooney</b>	<b>US Army Criminal Investigation Lab</b>	<b>3 years</b>	<b>kim.e.mooney.civ@mail.mil</b>



# Subcommittee Members



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1	Bill Schneck	Washington State Patrol Crime Lab	4	bill.schneck@wsp.wa.gov
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# Subcommittee Members





# Summary of Standards/Guidelines Priority Actions

<b>Priority</b>	<b>Working Title of Document</b>
<b>High</b>	<b>Standard Guide for the Collection of Soils and Other Geological Evidence for Forensic Applications</b>
<b>Medium</b>	<b>Standard Terminology for Forensic Analysis of Soils and Other Geological Materials</b>
<b>High</b>	<b>Standard Guide for the Forensic Analysis of Soil</b>





# Standards/Guidelines Development Priority 1 Document



Document Title: Standard **Guide for the Collection of Soils and Other Geological Evidence** for Forensic Applications

Scope: This guide is **designed as a resource** for forensic scientists, law enforcement personnel, and other professionals whose job responsibilities include the collection and preservation of soil evidence at crime scenes.

Objective/rationale: This guide is intended to serve as a resource for the **development of individual agency procedures** regarding the collection of soils and other geological evidence for forensic applications.

Issues/Concerns: **No standard currently exists** for this process.





# Standards/Guidelines Development Priority 1 Document

Key Components of Standard:

- Collection **strategies**
- Collection **tools**
- Collection **techniques**
- Documentation, preservation, packaging, and transportation of samples**







# Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Address comments from SAC	SDO-200	Andrew Bowen	March 2016
Test fit for purpose in workshops (MAFS, CAC)	SDO-200	Brad Lee Marianne Stam Andrew Bowen	Fall 2016
Evaluate technical merit	SDO-200	Marianne Stam Dave Szymanski	December 2016
Submit to SAC with SDO Process Submission Form	SDO-300	Andrew Bowen	December 2016
Submit to SDO	SDO-700	Andrew Bowen	2017

*Priority 1: Standard Guide for the Collection of Soils and Other Geological Evidence for Forensic Applications*





# Standards/Guidelines Development Priority 2 Document

**Document Title: Standard Terminology for Forensic Analysis of Soils and Other Geological Materials**

**Scope: This guide is intended to standardize the terminology used by the forensic community.**

**Objective/rationale: This document is intended to improve communication about geological evidence within and between the relevant communities.**

**Issues/Concerns: No standard terminology document currently exists for this forensic discipline.**

**Task Group Name:** Terminology Task Group

**Task Group Chair Name:** Kim Mooney

**Task Group Chair Contact Information:**

kim.e.mooney.civ@mail.mil

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





# Standards/Guidelines Development Priority 2 Document

Key Components of Standard:

- Terms
- Definitions
- Sources



# Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Subcommittee Review of Draft Document	SDO-100	All	July 2016
Coordination with SAC Terminology Task Group	SDO-100	Dave Szymanski	Ongoing
Revise document and select SDO	SDO-200	Kim Mooney	August 2016

*Priority 2: Standard Terminology for Forensic Analysis of Soils and Other Geological Materials*





# Standards/Guidelines Development Priority 3 Document

Document Title: Standard Guide for the **Forensic Analysis of Soil**

Scope: This guide is **designed as a resource** for forensic scientists, researchers, and other professionals whose job responsibilities include the **analysis of soil evidence** in laboratories.

Objective/rationale: This guide is intended to serve as a resource for the **development of technical procedures regarding the analysis of soils for forensic applications.**

Issues/Concerns: No standard currently exists for this process.



# Standards/Guidelines Development Priority 3 Document

Key Components of Standard:

- Sample **description**
- Alternative sample **processing methods**
- Alternative **instrumental methods**
- **Minimum standards for analytical schemes, methods, and interpretation**



# Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Evaluation of existing relevant documents	SDO-0	Kim Mooney	August 2016
Create initial outline	SDO-0	All	December 2016
Populate relevant sections	SDO-0	All	2017

*Priority 3: Standard Guide for the Forensic Analysis of Soil*





# Summary of Standards/Guidelines Priority Actions

Priority	Working Title of Document
High	Standard Guide for the Collection of Soils and Other Geological Evidence for Forensic Applications
Medium	Standard Terminology for Forensic Analysis of Soils and Other Geological Materials
High	Standard Guide for the Forensic Analysis of Soil





# Standards/Guidelines Reviewed For Technical Merit

Title	Developing Organization	Status*	OSAC Process Stage (e.g., RA 100)
Standard Guide for the Collection of Soils and Other Geological Evidence for Forensic Applications	Geological Materials Subcommittee	Still Evaluating	SDO-200



# Research Gaps Identified

Is it possible to anticipate scales of compositional heterogeneity of surface soils across a particular region?

Investigation into the effects of different variables on the relative abundance of soil components after transfer.

Development and evaluation of quantitative methods of soil analysis for forensic comparisons.



# Additional Items of Interest

Workshops

Communication with Federal Agencies

Bibliography

Geolocation / Provenance

Education and Outreach

Expanding Areas of Expertise (e.g. Palynology)

Participation in SAC Task Groups

Terminology

Education and Training

Quality Assurance

Proficiency Testing



