

# Technology Committee Report

## National Association of Ordnance Contractors

Board of Directors Meeting

December 5<sup>th</sup>, 2017



[www.naoc.org](http://www.naoc.org)



# Committee Members (63)

- ❑ Jeff Leberfinger, PIKA - Chair
- ❑ **Craig Murray, Parsons – Deputy Chair**
- ❑ **David Bell, TetraTech**
- ❑ **Tim Deignan, HGL**
- ❑ Brian Brunette, AECOM
- ❑ Steve Stacy, ARCADIS
- ❑ Darrel Hall, CH2MHill
- ❑ Mike McGuire, EA Engineering
- ❑ Kent Boler, Matrix Design Group
- ❑ John Allan, NAEVA Geophysics
- ❑ John Breznick, NAEVA Geophysics
- ❑ Allison Paski, NAEVA Geophysics
- ❑ Mark Howard, NAEVA Geophysics
- ❑ Bill Rottner, Alpine
- ❑ Steve Saville, CH2MHill
- ❑ Colin Kennedy, Buffalo
- ❑ Kevin Kingdon, Black Tusk
- ❑ James Stuby, ERT
- ❑ Jeff Sabol, Kemron
- ❑ Ben Konshak, GSI
- ❑ Heesoo Chung, Indepth
- ❑ Rob Mecarini, Alpine
- ❑ Wendy Church, Pika
- ❑ Boban Stojanovic, FPM
- ❑ Darren Mortimer, Geosoft
- ❑ Dean Keiswetter, Acorn SI
- ❑ Erin Atkinson, TetraTech
- ❑ Mike Warminsky, GSI
- ❑ Al Crandall, USA
- ❑ Ryan Steigerwalt, Weston
- ❑ Brian Junck, Arcadis
- ❑ Tom King, Weston Solutions
- ❑ Brian Hecker, InDepth
- ❑ Sandra Takata, APTIM
- ❑ Max Zelenevich, Battelle
- ❑ Terry Northcutt, Timberline
- ❑ Andy Gascho, Gilbane
- ❑ Raul Fonda, TetraTech
- ❑ Jeff Gamey, TetraTech
- ❑ John Williams, Weston
- ❑ Josh Jarnie, Arcadis
- ❑ Elise Goggin, TetraTech
- ❑ Greg Schultz, White River
- ❑ Mike Tambroni, EA
- ❑ Greg Abrams, Weston
- ❑ Cheryl Gannon, AECOM
- ❑ Dennis Mills, EXI
- ❑ Brian Guthrie, Weston
- ❑ Bill Doll, TetraTech
- ❑ Eric North, HDR
- ❑ Garrick Marcoux, AECOM
- ❑ Harry Wagner, AECOM
- ❑ John McCormick, ECM
- ❑ Jon Miller, White River
- ❑ Andreas Kothleitner, AECOM
- ❑ Lynelle Brode, TPMC
- ❑ Matt Barner, TetraTech
- ❑ Nick Odlum, Geometrics
- ❑ Bart Hoekstra, Geometrics
- ❑ Nick Valleau, Geosoft
- ❑ Raul Fonda, HDR
- ❑ Mac Reed AECOM
- ❑ Steve Hodges, Zapata

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# Technology Committee

## Discussion Topics

- ❑ Committee Conference Calls
- ❑ SERDP-ESTCP In-Progress Reviews (IPRs)
- ❑ UXOCOE Info Request
- ❑ DoD Advanced Geophysical Classification Accreditation Program (DAGCAP) Support
- ❑ Supporting BOD and Committees

# Technology Committee Committee Conference Calls

- ❑ 9 Committee Conference Calls
  - ❖ January 25<sup>th</sup> (41 attendees)
  - ❖ March 2<sup>nd</sup> (28 attendees)
  - ❖ May 18<sup>th</sup> (28 attendees)
  - ❖ April 12<sup>th</sup> (30 attendees)
  - ❖ June 14<sup>th</sup> (26 attendees)
  - ❖ July 26<sup>th</sup> (21 attendees)
  - ❖ September 7<sup>th</sup> (28 attendees)
  - ❖ October 5<sup>th</sup> (26 attendees)
  - ❖ November 9<sup>th</sup> (28 attendees)
- ❑ Discussed DAGCAP updates, UX Analyze and MM 2 x 2 updates, ESTCP/SERDP IPR Meetings, Webinars, and support of other NAOC Committees

# IPR Meetings

- ❑ Winter IPR meeting – February 28<sup>th</sup>
- ❑ Spring IPR meeting - May 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>

Projects include topics on:

- ❖ Underwater Munitions Burial and Transport Models
  - ❖ Munition Depth Penetration Modeling
  - ❖ Underwater Munition Demolition Technologies
  - ❖ Acoustic/Sonar for Underwater Munitions
- ❑ Agenda, Presentations, and project summaries uploaded to committee FTP site.
  - ❑ Agenda, presentations, and notes will be posted to NAOC Technology Website.
- ❑ SERDP – ESTCP Technical Symposium – November 28<sup>th</sup> – 30<sup>th</sup>, 2017.
    - ❖ Approximately 1000 attendees – Many NAOC representatives

# UXOCOE Info Request

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**(U//FOUO) Geosoft UX-Analyze Software** 

**BU//FOUO Budget Activity Level 4**  
**BU//FOUO Technology Readiness Level: 7**  
**BU//FOUO Threat Lane: Detection**

**BU//FOUO Purpose:** UXO Target Classification, Modeling and Analysis.  
 UX-Analyze provides proven capabilities to classify buried metal as unexploded ordnance (UXO) or not, based on multi-coil, classification-grade, electromagnetic induction (EMI) sensor data. Documents decisions in standardized presentations. A comprehensive toolset within the Oasis montaj software environment.

The streamlined processing flows and quality control measures allow users to focus on tasks that require critical thinking, while efficiently managing data handling and visualization. Users select target signatures of interest, process and model the data, compare results to known UXO, and make quantitative decisions whether the targets need to be excavated.

**BU//FOUO Points of Contact:** ESTCP Munitions Response PM Herb Nelson at (371) 372-6400, [herb.nelson@ocean.gov](mailto:herb.nelson@ocean.gov); Geosoft PM, Nick Valleau at (416) 369-0111, [nick.valleau@geosoft.com](mailto:nick.valleau@geosoft.com); UX-Analyze Principal Investigator: Dean Eisenbiller at (303) 454-4774, [deane@ocean.gov](mailto:deane@ocean.gov); UXOCOE: Melissa Mottishaw at (703) 708-1962, [melissa.mottishaw@us.af.mil](mailto:melissa.mottishaw@us.af.mil)

**BU//FOUO Product:** UXO Target Classification, Modeling and Analysis.  
 The UX-Analyze system contains a streamlined menu for working with electromagnetic data including the following:

- Importing the target data, data corrections
- Defining and refining anomaly footprints
- Batch fitting a lot of targets
- Inspecting and refining existing targets
- Adding new targets
- Classifying targets
- Managing target sets
- Producing maps and a progress report

While helping to streamline complex tasks, the tools within UX-Analyze do require knowledge of geophysics for effective use and interpretation of results.

**BU//FOUO Warfighter Payoff:** Save millions of dollars through physics-based decision capability to not dig scrap metal at munitions clearance sites.

For more information:  
<http://www.geosoft.com/products/government-sponsored-software>

**BU//FOUO Schedule and Cost**

| Activity by Fiscal Year (approx.)                             | FY06 | FY07 | FY08 | FY10 | FY11 | FY12 | FY13 | FY14 | FY15 |
|---|------|------|------|------|------|------|------|------|------|
| Implement modelling for magnetic & EMI sensors                |      |      |      |      |      |      |      |      |      |
| Implement classification with advanced sensors (used mode)    |      |      |      |      |      |      |      |      |      |
| Implement classification with advanced sensors (dynamic mode) |      |      |      |      |      |      |      |      |      |
| Simplification and robustness                                 |      |      |      |      |      |      |      |      |      |
| Delivery to US Gov't, Contractors & Regulators                |      |      |      |      |      |      |      |      |      |
| Ongoing software maintenance                                  |      |      |      |      |      |      |      |      |      |
| Annual free public training                                   |      |      |      |      |      |      |      |      |      |
| Ongoing technical support for users                           |      |      |      |      |      |      |      |      |      |

Total ESTCP /DoD Funding to date approx \$1.8M (\$1.800M)

**Current as of 31 October 2014**

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- ❑ UXOCOE requested innovative and new MMRP technologies for their FY 17 annual report from NAOC companies
- ❑ Provided similar info in FY 14 and FY16 report.
- ❑ Submitted info from White River Technologies, Geonics, and Geosoft on October 16<sup>th</sup> for their report

# DAGCAP Program Support

## Supported DAGCAP Root Cause Analysis Training

- ❑ DAGCAP Root Cause Analysis training for NAOC was held March 13, 2017 at the A2LA facility in Frederick, Maryland.
- ❑ The class was geared for anyone who would be working on root cause analysis for DAGCAP projects including PMs, Project and QC Geophysicists, and DAGACP quality managers
- ❑ EDQW and DoD came up with 3 or 4 likely technical scenarios where root cause would be needed on an AGC project and the class worked through the root cause for those scenarios and then discuss them with the class.
- ❑ There were 29 NAOC attendees representing 23 NAOC firms.

# DAGCAP Accreditation

## Organizations Accredited to Perform Advanced Geophysical Classification

AcornSI and NAEVA Joint Venture, LLC (AN JV)  
2928 South Buchanan Street, Suite C-1  
Arlington, VA 22206  
Accrediting Body: ANAB  
Terms of validation: 03/29/2017 through 03/29/2019

APTIM FEDERAL SERVICES LLC  
2410 Cherahala Blvd.  
Knoxville, TN 37932  
Accrediting Body: A2LA  
Terms of validation: 09/28/2017 through 09/28/2019

ARCADIS U.S., INC.  
2101 L. St. NW, Suite 200  
Washington, D.C. 20037  
Accrediting Body: A2LA  
Terms of validation: 08/15/2017 through 10/31/2019

Black Tusk Geophysics  
1755 West Broadway, Suite 401  
Vancouver, BC Canada  
Accrediting Body: A2LA  
Terms of validation: 7/13/2017 through 7/31/2019.

CH2M Hill, Inc.  
2411 Dulles corner Park, Suite 500  
Herndon, VA 20171  
Accrediting Body: ANAB  
Terms of validation: 05/03/2017 through 05/03/2019

Parsons Corporation  
1776 Lincoln Street, Suite 600  
Denver, CO 80203  
Accrediting Body: A2LA  
Terms of validation: 03/13/2017 through 05/31/2019

Tetra Tech EC, Inc.  
350 Indiana Street  
Golden, CO 80401  
Accrediting Body: A2LA  
Terms of validation: 08/9/2017 through 09/30/2019

TPMC-WRT LLC JV accredited  
November 30<sup>th</sup>

Eight (8) DAGCAP approved firms  
as of 12/5

4 or 5 still working on their  
accreditation at various levels

<http://www.denix.osd.mil/mmrp/advanced-geophysical-classification-accreditation-and-other-tools/>

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# UX-Analyze Update

- ❑ Geosoft held UX-Analyze classes for industry in June (Denver) and July (Washington DC)
- ❑ UX-Analyze class for USACE in November in Huntsville.
- ❑ Geosoft had recent release of new version in late November.
  - ❖ The main updates concern importing and working with the MM2x2 data.
  - ❖ Version still needs to be DAGCAP approved.
- ❑ Planned UX-Analyze class March 29<sup>th</sup> and 30<sup>th</sup> at SAGEEP 2018 in Nashville (if enough attendee interest).

# MM 2x2 Update

- ❑ MM 2 x 2 Validation Testing at the APG DAGCAP Blind Seed Site in September.
- ❑ Based on scoring results, the data collected with a MM 2x2 was of sufficient quality to detect all expected TOI on a site seeded to be representative of a real UXO site.
- ❑ Based on scoring results, the data collected with a MM 2x2 was of sufficient quality to classify 99 previously detected anomalies on a site seeded to be representative of a real UXO site.
- ❑ The testing also identified an overheating issue in dynamic mode, the MM 2 x 2 can operate under ambient conditions for only 1 – 3 hours before a significant rest break is required.
- ❑ Geometrics has been working on cooling fixes for the system.
- ❑ Possible fix in 4 – 6 weeks. May be a combination of a firmware and hardware fix.
- ❑ Geometrics is also working on in-field inversion.



# MM 2x2 Update

- ❑ ARCADIS currently working in Florida since mid September collecting static data. Collected approximately 8000 static measurements. MM 2 x 2 seems to be functioning OK and provide good static data. Does not appear to have warmup problem seen in EXI system. They have had an issue with:
  - ❖ Standard Function Tests (SFT)
  - ❖ And lack of Infield inversion causes the need for additional recollects.
  
- ❑ CH2M's MM 2X2 is at Hawthorne for cued surveys. Have had issues with their MM 2 x 2 but are up and running as of last week using loaner from Geometrics while their system is repaired..
  
- ❑ Ft Ord System - NAEVA has only been able to do testing. Cued work on EM61 targets after the first of the year.
  
- ❑ EXI MM 2 x 2 being used by Nova to test possible Geometrics firmware fixes for dynamic heat issue.
  
- ❑ Parsons has only done testing this fall but has projects in 2018 for MM 2 x 2
  
- ❑ FPM has only been testing their system



# SAGEEP 2018

- ❑ SAGEEP next year March 25<sup>th</sup> – 29<sup>th</sup> in Nashville, TN
- ❑ MMRP geophysics to be one of the focus areas of the conference.
- ❑ Planning committee – Bill Doll, John Jackson, Jon Miller, Greg Schultz, Jeff Leberfinger, Laurens Beran, Sandra Takata.
- ❑ Approximately 35 abstracts submitted to date.
- ❑ Sessions:
  - ❖ Perspectives on MMRP Geophysics
  - ❖ Recent Results in Marine Acoustic Methods for Detection and Classification
  - ❖ Non-acoustic (EM and other) Methods for Marine MEC Detection and Classification
  - ❖ Lessons Learned from ESTCP Live Site Demonstrations
  - ❖ Site Application of Classification Technologies – contractor experiences both good and bad
  - ❖ Innovative Applications of Geophysics on MMRP Projects
- ❑ Possible UX-Analyze class

# Supporting BOD/Committees

- ❑ Support Analog QC Requirement Recommendations with OSC for Government MR\_QAPP working group
- ❑ Support OSC review of ITRC Draft Technical Guidance “Quality Considerations for Multiple Aspects of Munitions Response Sites”. Due next week to ITRC.
- ❑ Support OSC webinar development team

# 2018 Planned Activities

- ❑ Technology Committee Update Conference Calls
- ❑ ESTCP/SERDP IPR Meetings and Updates
- ❑ Support SAGEEP 2018
- ❑ Continue to update committee/membership on DAGCAP information
- ❑ Support BOD and Committees
  - ❖ Webinars
  - ❖ Coordinating comments with OSC on MR-QAPP and other documents.

# Strategic Plan

- ❑ Hold membership meetings, technology-sharing events and other Association gatherings, attracting government, military and industry leaders, including international guests to maximize opportunities for members to interact with key government decision makers
- ❑ Improve communication via webinars, video-teleconferencing and website information/access
- ❑ Work with DoD ESTCP/SERDP and other agencies to stay abreast of latest technologies and share related information with NAOC members
- ❑ Increase NAOC presence at domestic and international events
- ❑ Address policy and regulation encumbrances (e.g. DoD instructions, onerous ATF regulations)

# Technology Committee Contact

## QUESTIONS ?

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Chair, Technology Committee

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