Technology Committee Report
National Association of Ordnance Contractors

Committee Monthly Update

January 18th, 2022

NAOC Technology Committee

- ❑ Tech Chair – Jeffrey Leberfinger (PIKA)
- ❑ Deputy Technology Chair – Craig Murray (Parsons)
- ❑ Deputy Technology Chair – Harry Wagner (Weston)
- ❑ BOD Liaison – Brian Skubin (ECC)

SAGEEP 2023 / 2nd Munitions Response Meeting

- April 2 – 6, 2023
- Deadline for Abstract Submissions: January 17, 2023
- 158 abstracts submitted
- Jordan Adelson – Keynote Speaker – Monday morning
- RCA Panel / Training – Monday afternoon
- Training Courses
    - Kaarta Stencil SLAM class - Sunday
    - Seequent – Dynamic Classification - Thursday
- Hotel and Conference Registration open by Mid February
- https://www.eegs.org/sageep-2023

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New Working Group

On January 13th discussions with USACE and EDQW about NAOC's ranked comments on the MR-QAPP toolkit module 2

Action item from call was forming a working group to resolve the two comments/topic below. 10 NAOC Volunteers

- EM61 reanalysis (page 86)
- Remapping of 100% of excavated locations (page 87)

Working group call – Thursday January 19th

EDQW wants Module 2 Tool Kit signed and available by March 1, 2023.

SEEQUENT

Oasis montaj 2022.2

NAOC Tech Committee – What's New

Darren Mortimer, Product Owner - Geophysics

Preamble

- Release Date: **December 13th, 2022**

- DAGCAP Validation
    - v2022.1 – in process, close to complete.
    - v2022.2 – beginning…

    We are working to automate more of the validation testing, to reduce the time to complete the validation

CONTENTS

Todays presentation:
- **UAV** – Support Surveys planned outside of Oasis montaj
- **UXO Marine** – Support for Side Scan Sonar
- **UX-Analyze** – Support HDF v1 data file format, new sensors and Classification from Dynamic Data

Other improvements:
- 2D Section Viewer
- **VOXI** – 2.5D TDEM commercial release
- **VOXI** – TDEM Improvements
- **Airborne QC** – Workflow improvements

UAV Merge Sorties

UAV Merge Sorties

Problems:

- Previous workflow *required* you to plan survey and sorties in Oasis montaj
- Difficulties importing survey data
- Poor KML support

Solutions:

- You can provide Survey Parameters, rather than full plan
- Provide parallel workflow for when sorties aren't explicitly planned
- Import KML Polygons
- Better coordinate system behavior
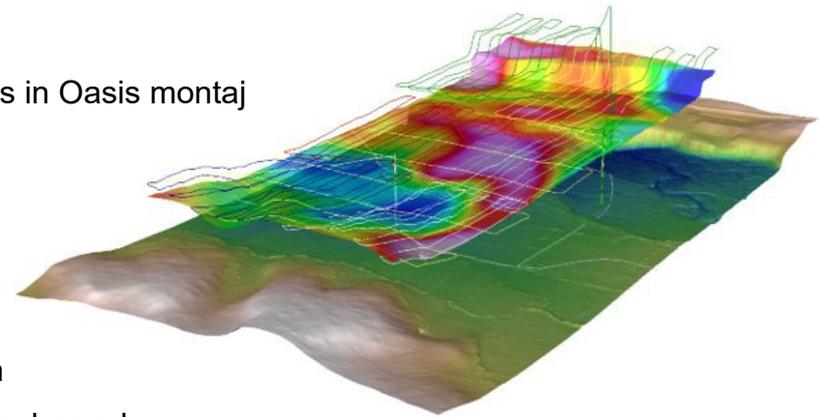
1. Specify survey parameters
2. Import the sorties
3. Clean the data
4. Split each sortie
5. Merge sortie segments into coherent flightlines
6. Level the lines
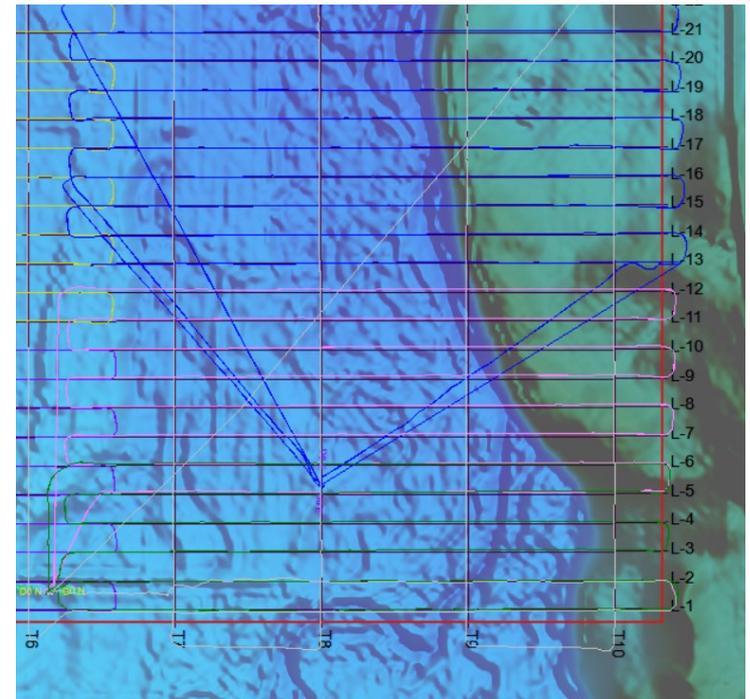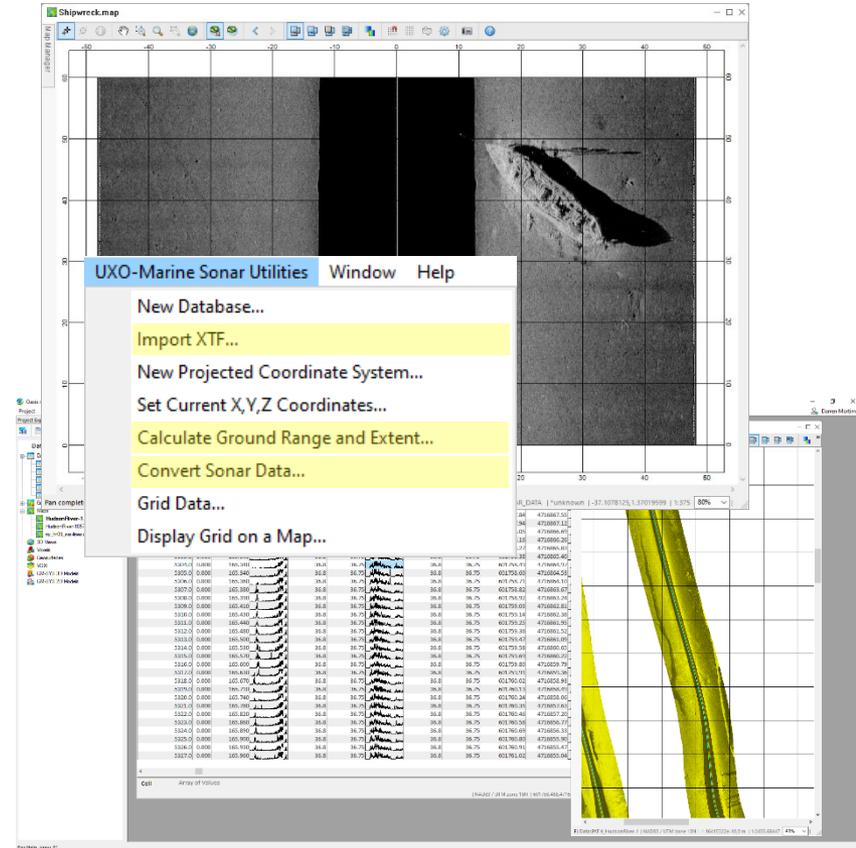
UXO Marine

UXO Marine – Support of Side Scan Sonar

Problem:

Be able view side scan sonar when interpretating their magnetic data, not just image that was create by someone else.

New feature:

A workflow in UXO Marine to:

- Import XTF format data files (processed)
- Visualize the sonar data of a region or scale as desired

UX-Analyze

Problem:

For AGC surveys, the raw data files, in addition to the data should fully describe the sensor; the initial HDF schema (v0) was incomplete, a new version (v1) has been defined.

All new DoD projects starting after June 2022 are to collect data with the HDF v1

New feature:

Support raw data files using the HDF v1 schema:

- Import

- Processing

UX-Analyze – Support Validated Sensors

Problem:

The NovaTEM TEMSENSE sensor has been validated by DAGCAP and I want to use it for my AGC survey.

New feature:

Support import and processing of AGC data collected by the TEMSENSE sensor (HDF v1)

UX-Analyze – Support Validated Sensors

For v2022.2, the AGC sensors we support are:

Sensor	Manufacturer	CSV	HDF v0	HDF v1
Metal Mapper	Geometrics	**Supported**	n/a	n/a
TEM 2x2	NRL	**Supported**	n/a	n/a
MPV	G&G Geosciences	**Supported**	n/a	n/a
Metal Mapper 2x2	Geometrics	n/a	**Supported**	Pending for 2023.1
TEMSense	NovaTEM	n/a	n/a	**Supported**
MPV	AcornSI	**Supported**	n/a	Pending for 2023.1
APEX	White River Technologies	n/a	n/a	Pending for 2023.1
UltraTEM	Black Tusk Geophysics	n/a	n/a	Pending for 2023.1

See: Validated UX-Analyze Versions | Geosoft UX-Analyze - Seequent

# UX-Analyze – Target Classification from Dynamic Data

Problem:

AGC projects currently required two surveys, a dynamic survey to map the target locations, followed by a static survey to perform the classification. There will be time and cost savings if we can perform one-step classification from the dynamic data.

New feature:

Enhance the classification tools to support dynamic data and build an easy to tool perform classify and ranking targets like what we have for static data.

Note: You should use data from a sensor validated for one-pass classification.
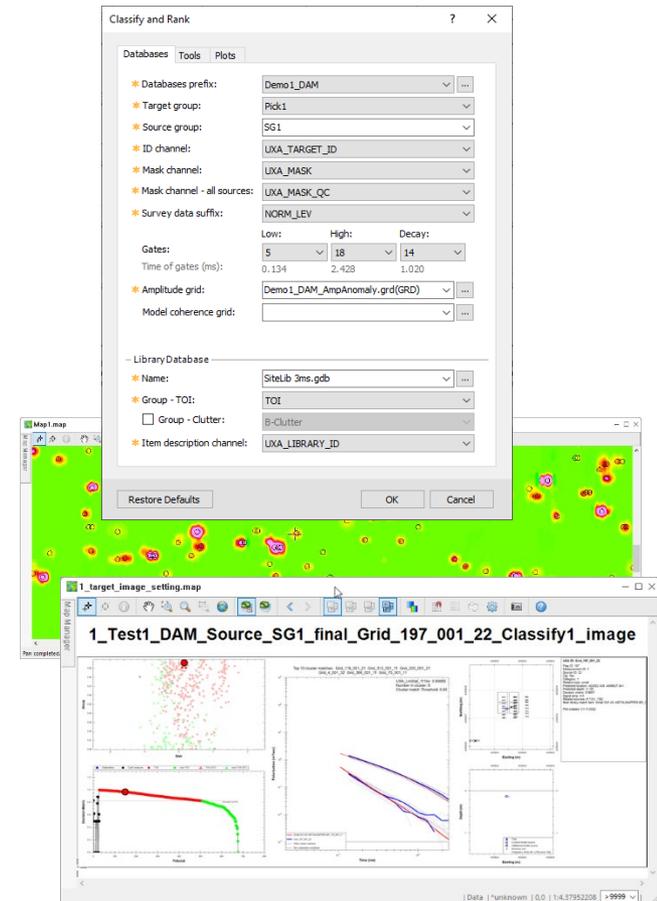
- # Questions?

- For a demo or to learn about the other improvements for v2022.2 - contact Laura

- We are seeking your feedback and examples datasets

- Contacts:
    - Darren Mortimer darren.mortimer@seequent.com
    - Laura Quigley laura.quigley@seequent.com
    - Veronica Hayes veronica.hayes@seequent.com
    - Rina Hartmann rina.hartmann@seequent.com

Sequent Updates

❑ **Seequent Connect Denver – Feb 16th @ 330pm to 7pm America/Denver (FREE @ the Denver Office):**
Seequent Connect is an interactive afternoon with drinks, food, learning and socializing at our Denver office located in the RiNo district. We are excited to share with you how our connected ecosystem has grown, incorporating geotechnical, geological, geophysical, and data management solutions for your subsurface projects.
Join this opportunity to connect with peers in your industry, and Seequent and Bentley experts who will be happy to answer all of your technical questions.

Event highlights you won't want to miss:

- Enjoy complimentary drinks and appetizers
- See the subsurface like never before through a HoloLens virtual reality experience
- Solution Stations where you can interact with our technical experts!

You can register here:
https://events.seequent.com/seequentconnectecedenver20231

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Seequent Updates

Training Events:

❑ Oasis montaj Fundamentals (remote) – January 31 at 1130am to Feb 1st 330pm EST ($450 USD)
- https://events.seequent.com/oasismontajfundamentalsremote-january-2023

❑ Oasis montaj Fundamentals (remote) – February 14th at 1130am to Feb 15th @ 330pm EST ($450 USD)
- https://events.seequent.com/oasismontajfundamentalsremote-february-2023

❑ Oasis montaj UXO Marine (remote) – February 21st at 1130am to Feb 24th 330pm EST ($900 USD)
- https://events.seequent.com/oasismontajuxomarineremote-february2023

❑ Voxi Fundamentals (remote) – February 21st at 1130am to February 22nd @ 330pm EST ($450 USD)
- https://events.seequent.com/voxifundamentalsremote-february-2023

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MM2x2 Issues and Potential Solutions

Kolby Pedrie

Land Product Manager

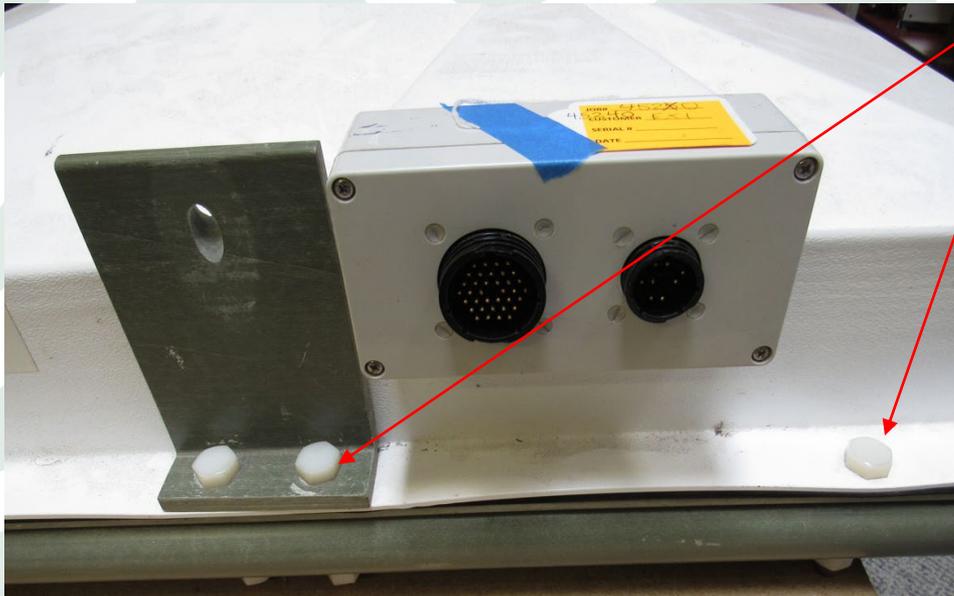GEOMETRICS
Simplify your search

Issue List:

1. The cart housing modified to prevent dust ingress
2. Intermittent cabling issues are now easier to identify
3. DC offset / Drift with temperature changes requires operator to perform multiple background measurements throughout the day. Testing in the works.
4. Tablet network connector adaptor added to reduce breakage
5. Plastic connectors improved with back potting
6. Connectors are located close to the ground creating susceptibility to dust.
7. BMB7 failures.
8. FMC ADC failures.
9. Interface board failures
10. Long lead time chips
11. Field inversion software function requested to be added.

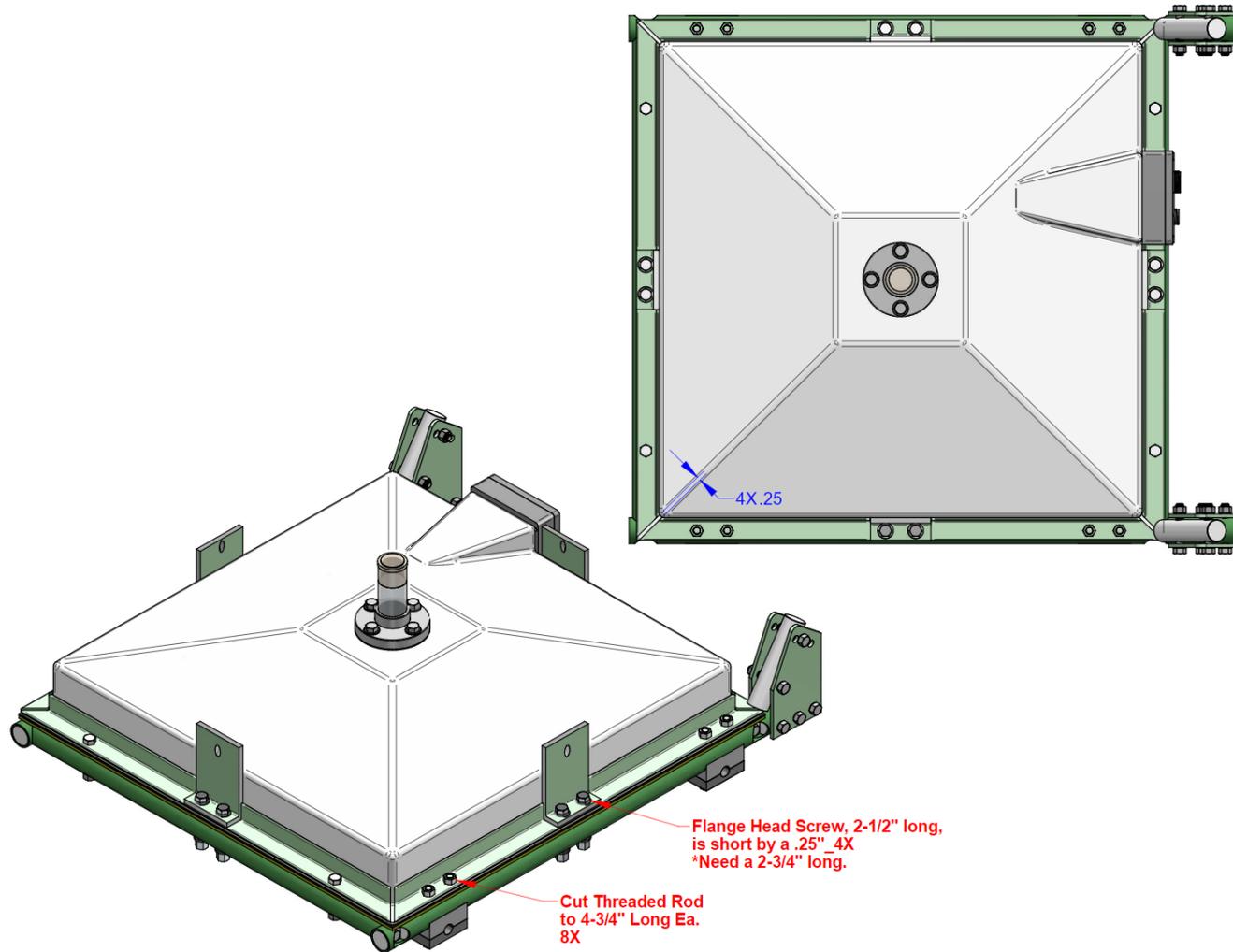# 1. The cart housing breaks and warps allowing dust or moisture to enter.
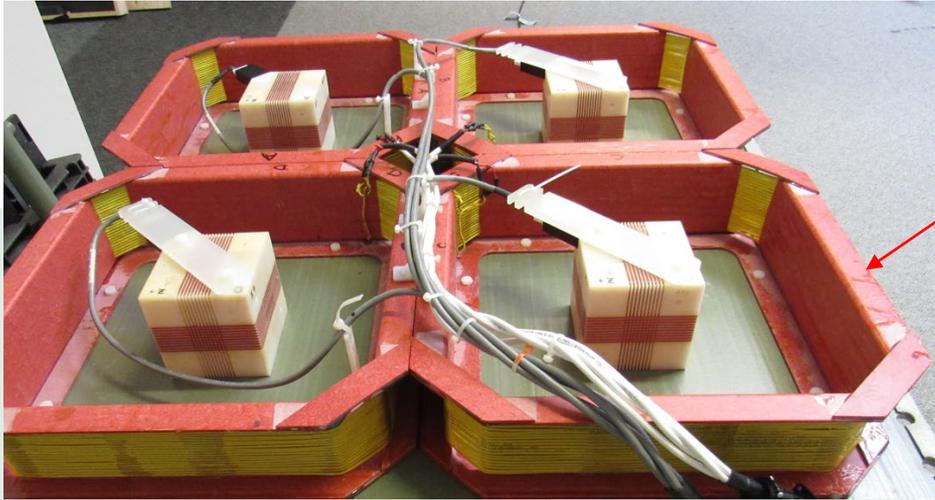
Tx coil edge touching the plastic cover: trimming edge

Cover not evenly pressed down: adding an angled bar

4X .25

Flange Head Screw, 2-1/2" long,
is short by a .25"_4X
*Need a 2-3/4" long.

Cut Threaded Rod
to 4-3/4" Long Ea.
8X

2. Intermittent cabling issues – hard to diagnose when not moving.

New MATLAB code freely available for analyzing dynamic data. We can diagnose intermittent cabling issues easier now by recording the dynamic data while shaking the cables.
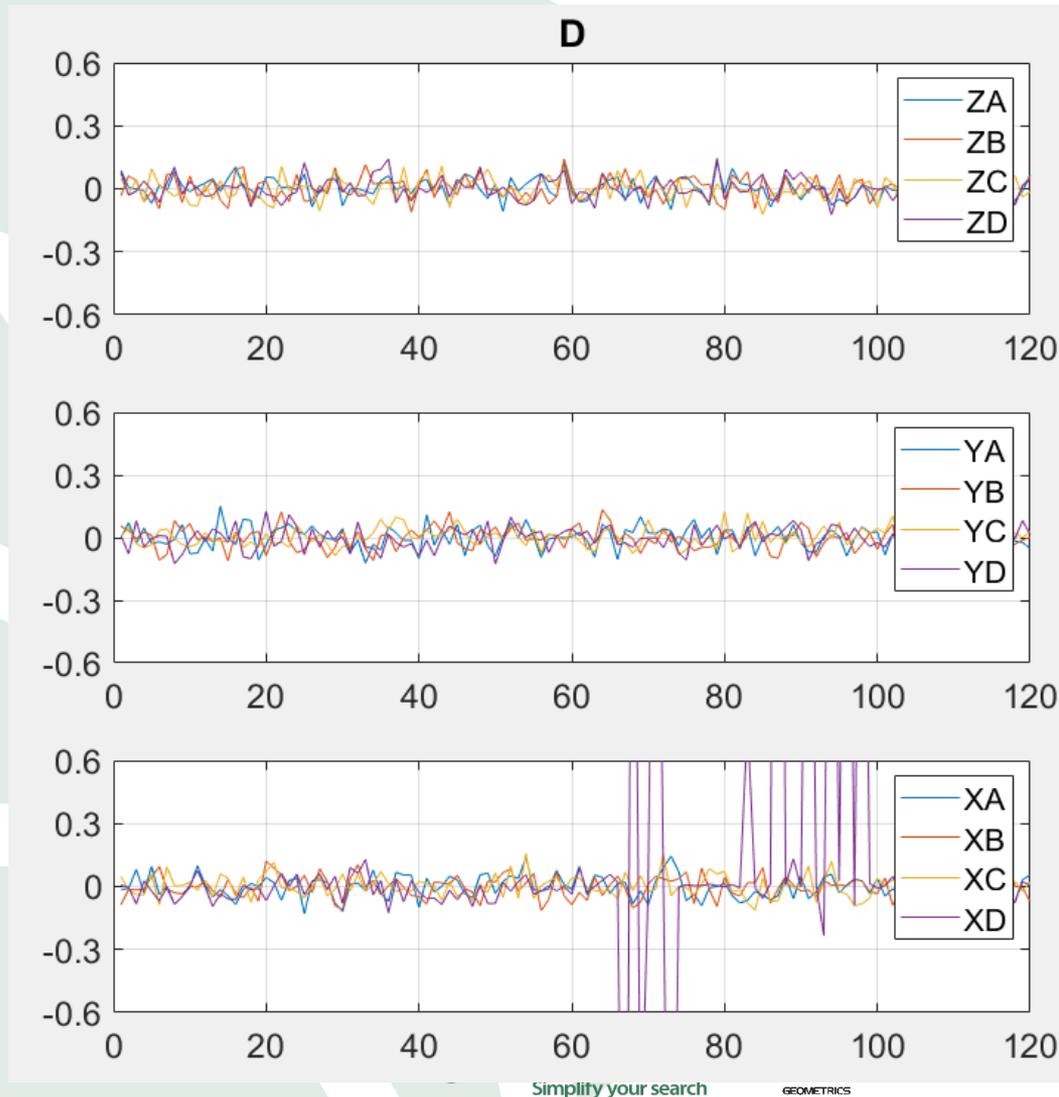
3.   Background Drift with temperature changes requires customer to perform multiple background measurements throughout the day.

The background drift is related to the ambient temperature. Currently testing solutions (different wire gauges, twisted wire, temperature coefficient software option)

Dot and circles were taken at the same location but at different times
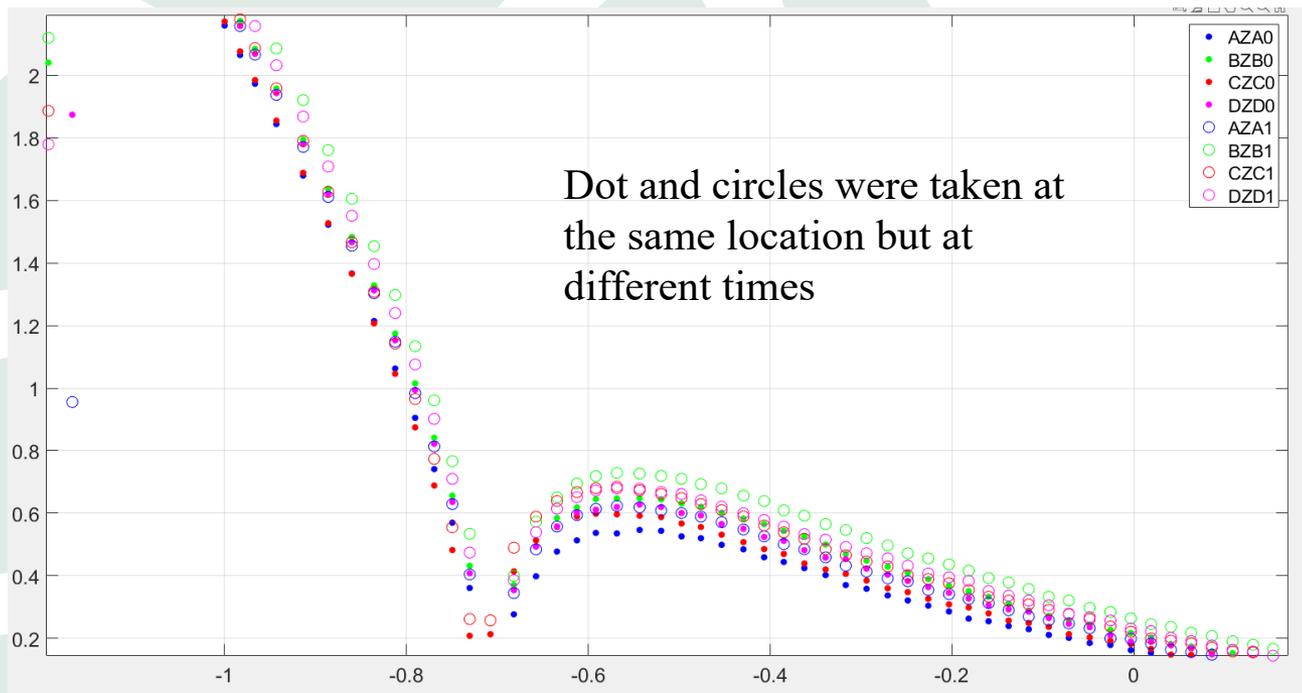
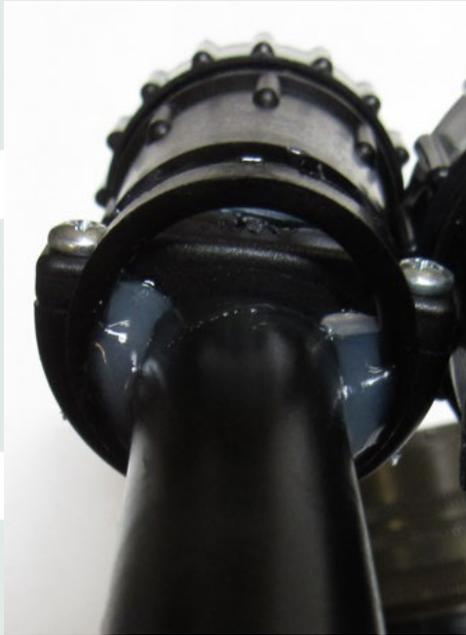# 4. Tablet network connector breaks frequently.

After implementing an Ethernet adapter this has improved.
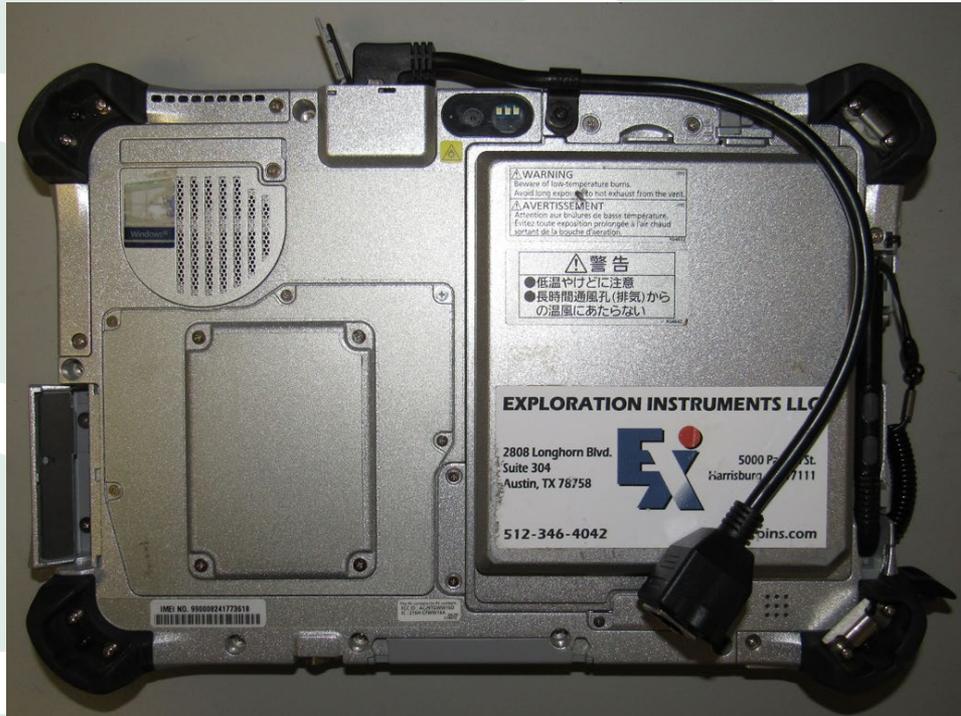
5. Plastic connectors create reliability issues.

back-potting to the plastic connectors on both the cables and the cart added.

New

Old

6. Connectors are located close to the ground creating susceptibility to dust.

Please clean connectors with an acid brush and a can of compressed air regularly.
Taping cable connectors to protect from dust ingress can help

7. BMB7 failures
8. FMC ADC failures
9. IF board failures

Larger heat sinks
In new EDA's

Metal plate added to
Reduce interface board
Breakage

Evaluating complete
Redesign of EDA case
-Could be ~3lbs heavier
-We would appreciate
Customer feedback

10. Long lead time boards.

Stocking up significantly higher, we have started this process months ago and are still in the process of getting on the right side of inventory

Feedback

Issues with ~3lbs more with a new EDA case?
MM2x2 feedback to kpedrie@geometrics.com

Portable UltraTEM Classifier Update

Kevin Kingdom

Person Potable Mode

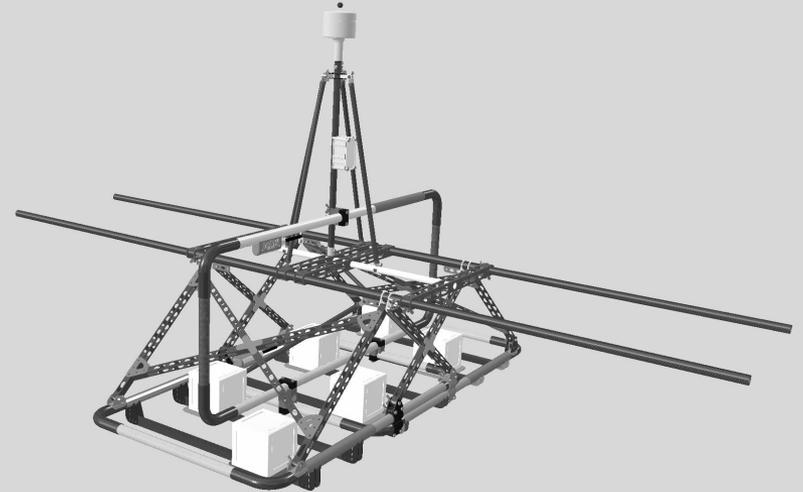# Portable UltraTEM Classifier

Approved for one pass classification use on DAGCAP projects in December 2022

Cart Mode
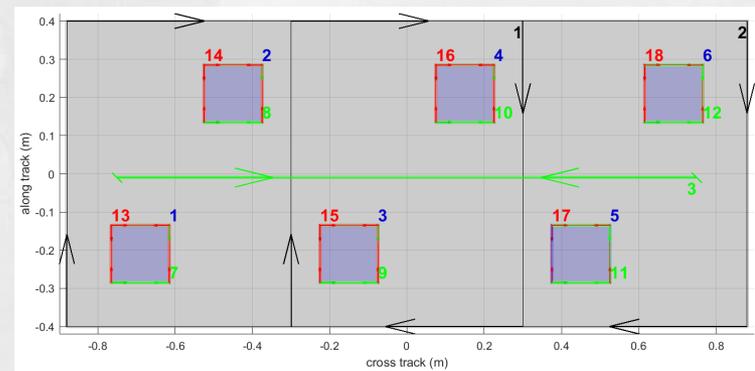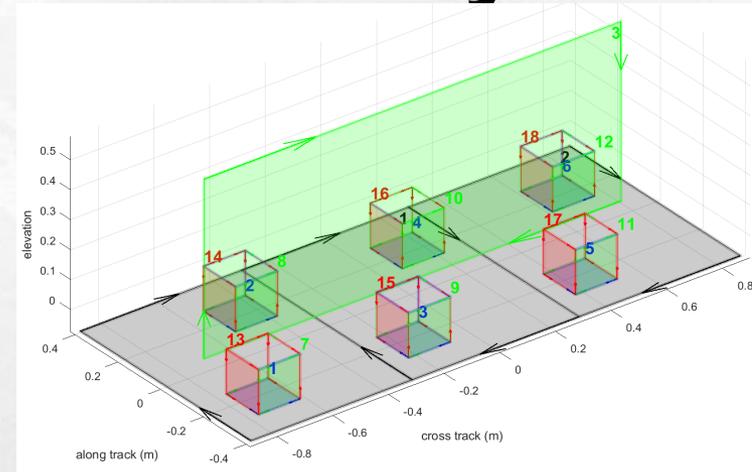
Person Portable Mode

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Portable Classifier Geometry

- ❑ 3 Transmitter Loops
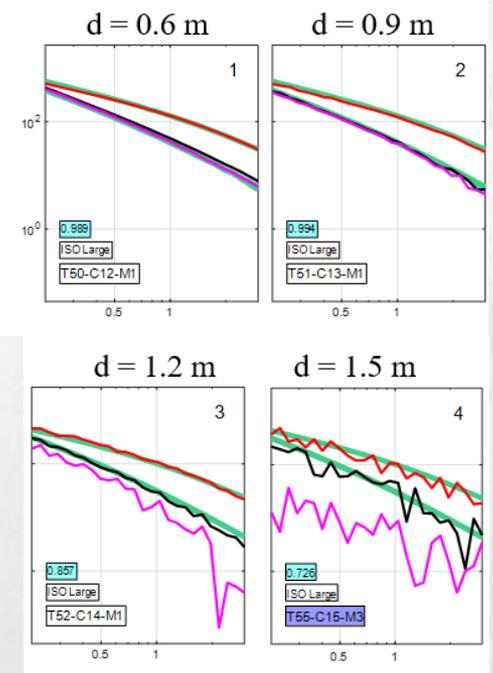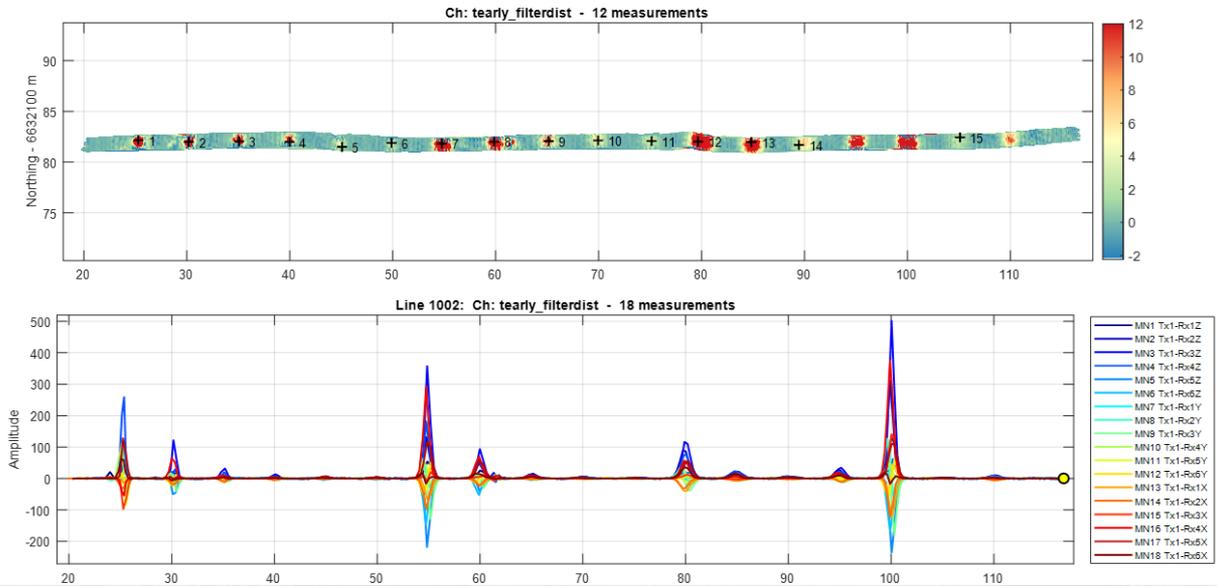
- ❑ 6 Sensor Cubes

- ❑ 1.65 m swath width

Portable Classifier: Sensor prototype testing

Australian test-plot: Single object scenarios
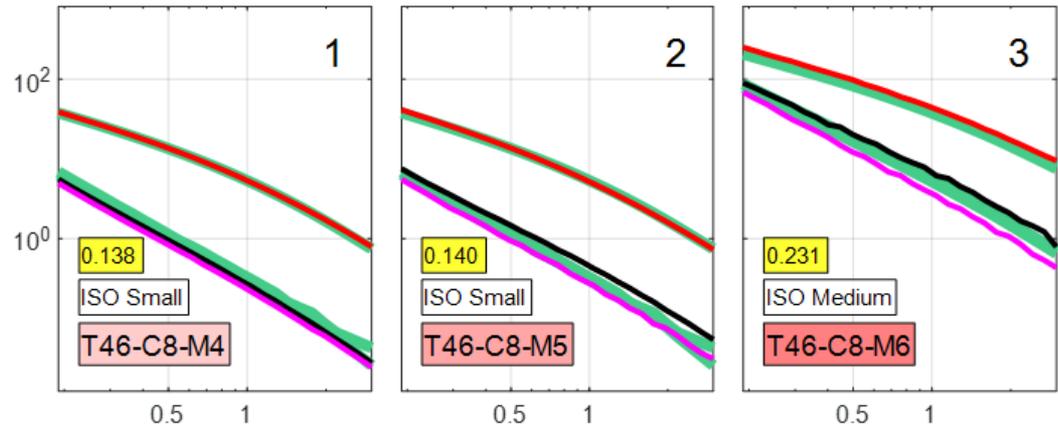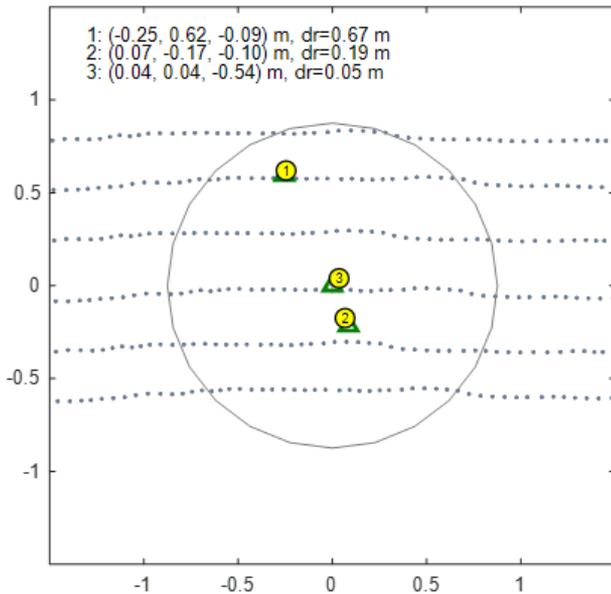
Small ISOs: 0.1m-0.5cm, Medium ISOs: 0.2m-1.0m, Large ISOs: 0.6m-1.5m
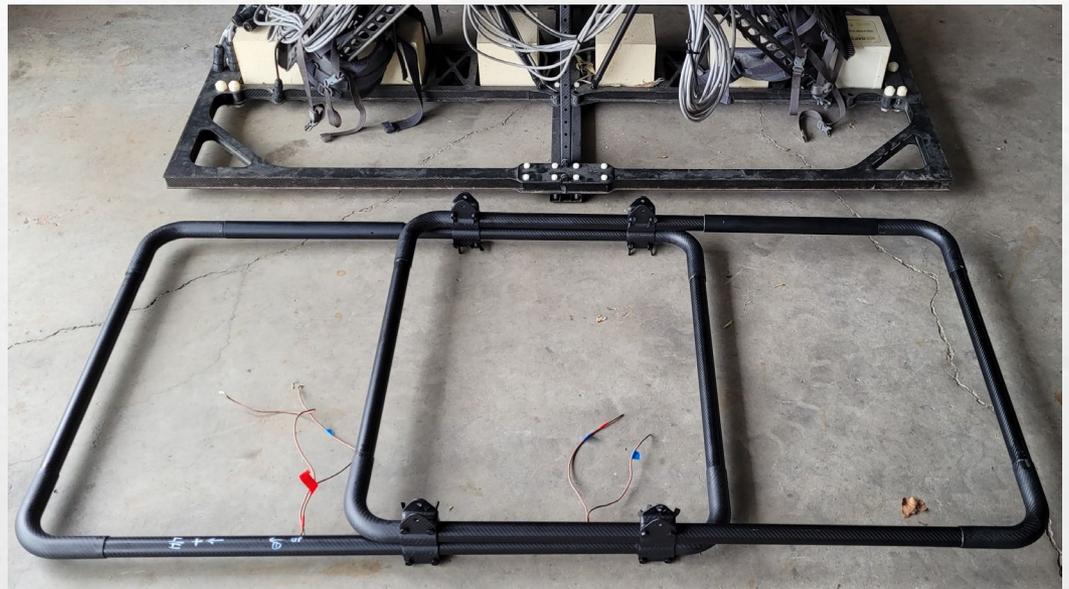
Large ISO Polarizabilties

Australian test-plot: Multi object scenarios

Medium ISO at 40cm, 2 small ISOs on surface

Portable Classifier: Production sensor assembly

- GapEOD has started initial production run of portable Classifier Sensors.
- Initial three Portable Classifier sensors are anticipated to be available in USA in April 2023
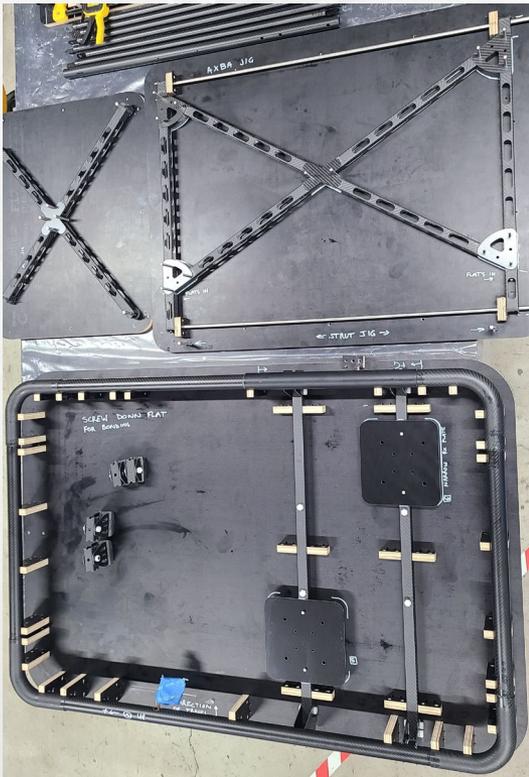
2 Portable Classifier Z coils mocked up next to the old 1Tx Screener

Portable Classifier frame assembled in jig to ensure standardization of parts

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M2G2 Geophysics Webex

❑ M2G2 Geophysics Quarterly Call with NAOC and USACE – February 8th, 2:00-3:30 PM Eastern

❑ Topics:

    1. DAGCAP issues – John Jackson
    2. Synthetic Seeding – Darren Mortimer (Elise was going to contact Darren about this)
    3. TBD

❑ Please let Jeffrey Leberfinger or Craig Murray know if you have discussion or presentation topics for this or future M2G2 calls

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Miscellaneous Topics

❑ Attached " Transfer of Innovative Remediation Technologies, FY 22 Annual Report: Military Munitions Response Program" (USACE EMCX)

❑ IVS Memo Template – EMCX requested template reformatted into DID. Greg Abrams (USACE) reformatted the template and submitted to EMCX again. Early to Mid Feb DID should be available for use.

❑ EM-200-1-15 – Completed - waiting for USACE HG approval – expected 1st quarter of 2023.

❑ M2S2 Webinars – NAOC Led

❖ Webinar #1 – "**One Project, One Team: Lessons Learned in Military Munitions Response Program (MMRP) Contracting and Systematic Project Planning**"– Led by Ryan Steigerwalt (Weston) and Amanda Sticker (USACE) February 15th 2023 1300 – 1500 Eastern

❖ Webinar #2 – *Best of SAGEEP* - June 28th 2023 1300 – 1500 Eastern

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Technology Committee Contact

QUESTIONS ?

Jeffrey Leberfinger, PGp, PG

Chair, Technology Committee

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