



Standards Oversight Council (SOC)

Developing effective technical standards that protect Wisconsin's natural resources

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01 Verification of Depth to Bedrock Standard Team

(Formerly known as Verification of Land Features in Silurian Bedrock/Karst Areas)

MEETING NOTES

Tuesday, December 17, 2019 ▲ 9:30am – 3:00pm ▲

UW Division of Extension - 625 E. County Road Y, Meeting Room D, Oshkosh, WI

9:30 Welcome, Introduction, Notes Approval (Kate, Team)

Goal: Welcome, review meeting objective, and review and approve 10/24/19 draft meeting notes.

Attendance: Kate, Rachel, Matt W, Joe, Amy, Matt K, Jamie, Francisco, Travis, Tony, Dave, Maureen
Absent: Jason

The team work is nearly done. Our objective today is to leave this meeting with the initial draft text, so we'll have to keep the meeting tight. We plan on sending this out for initial expert review view soon.

10/24 draft notes – No changes or questions. **Kate** will finalize and post.

A side project by team member Matt Komiskey. The team has identified need for better maps. He's talked to USGS and put together staff and funding through DATCP to do some flights for EM to create better mapping, particularly 5-20' bedrock depth. He may reach wider for funding from counties or others to cover a larger area. They hope to get much of karst area bedrock mapped better. He's talking to representatives from DNR, DATCP and WGNHS to ID higher priority areas. They will likely start in Door County and move south and will fly this summer. He'll talk to WI Land and Water for outreach to the counties – for funding and making sure appropriate people know since this will be relatively low flying helicopter.

Matt is looking for input for the distance between flight lines. **Team** should get in touch with Matt if you have insight on width of flight lines for effective mapping while still getting wide coverage.

Comparison of In-Field Results

Goal: Present initial findings of depth to bedrock results of in-field geophysics on same field.

In late Nov, Dave Hart worked with others at WGNHS and UW, joined by Nathen, Amy, Travis and Tony to use various geophysical methods to survey a field in Kewaunee Co. Dave presents a summary of the preliminary results of this work. Powerpoint slides present details on methods and available results for each method used. Some key points:

- This study site had exposed bedrock, sinkholes and fractures. It was subject of UWGB hand probes so they had existing intrusive data.
- Decisions about interpreting which contour of geophysical response is rock is based on ground truthing.

- ER took about 1 hr for 120 m. Not so good for 2' or 3' differentiation, but good for deeper rock.
- GPR – doesn't work well in clayey soils. They saw some correlations but not at all clear; not worth the time for this field.
- Dual EM took about 2 hours for five 10' swaths. Results corresponded well for even 2' and 3' rock.
- More work is needed to understand reliability and accuracy for using specific geophysics technologies in determining depth to shallow bedrock. Ground truthing is also appropriate in conjunction with geophysics.

Decisions for Percent Reduction

Make team decision on percent reduction of intrusive sample density when combined with geophysics.

Density for geophysical surveying should correspond with that for intrusive sampling. Team has previously discussed the idea that the user would be allowed to reduce the intrusive sample density if they also use geophysics.

Table 3 was previously developed by Dave (with Dante Fratta), when we were looking at varying methods by depth. Team revisits this draft and changes some details together on-screen. Some key points of discussion below:

- Team agrees that it no longer makes sense for % reduction to change by depth.
- % reduction will instead change by geophysical method, appropriate to the depth. If space allows, we may merge this table with addition of a column to Table 2.
- % reduction will be confirmed at next meeting, after ground truthing language refined by Maureen, Dave and Francisco.

Review of Definitions Section

Identify what definitions to be included in the standard.

Team refines some definitions in the Glossary section together on-screen. Some key items from our discussion:

- "Field" definition will be adjusted as homework by **Joe** to better match the intent of NR 151
- "Hole plug" – It's a colloquial term. Abandonment details team previously worked out by the team may be further adjusted by DNR and DATCP based on existing rule/program requirements. The abandonment wording may be adjusted so this definition or use of this word is postponed until abandonment criteria confirmed.
- Team opts to avoid use of "transect" and remove that from glossary.

Review Draft Standard Text

Review specific standard sections identified as focus areas by team review. Finalize draft text for initial review.

The draft standard text was emailed to the team for review last week. It has been compiled from discrete homework assignments and segments that we've reviewed at previous meetings. Some of the language was pulled from other technical standards or rules (e.g., 590 standard NR 141 or 151).

Today, the team focuses on substantive comments; things that require team input. We have received suggestions for consistency and editorial items from some of you already and we'd like to continue to receive this input. The team should send these and any other suggested edits via email to Kate and Rachel ASAP so they are incorporated in to next draft.

The team reviewed the draft text before this meeting and identified their top 2 specific areas they'd like to discuss. The team then reviews these together and completes some edits on-screen. Some key areas of discussion:

- Site assessment – list is long and not all really required to determine depth to bedrock. Team agrees a separate companion document may be appropriate. **Tony** will prepare language for a Site Assessment companion document.
- Table 1 – sample density language reworked; Kate and Rachel will make consistency edits to other parts of the document.
- Ground truthing – Ground truthing is typically done after geophysical survey so 2 trips may be necessary. Team likes the idea of dividing the surveyed area into “zones” with cutoffs based on the data, as Veris software does. Ground truthing could be determined within each of these site-specific zones. As homework, **Dave, Maureen and Francisco** will develop language for ground truthing criteria that would be clear to an outside reader. This may include reference to reduction in intrusive sampling density when geophysics is used.
- Considerations – Hand probe size and shape changes effectiveness of the tool. Hand probe can get false refusal on plow pan or gravel or cobbles.
- Field map requirements – ultimately the landowner will need to update the NMP restriction map, though we don't need to reiterate those requirements here. Team adjusts the Plans and Specifications section.

Rachel and **Kate** will clean up text with comments from today and those via email from team; send revised draft to team for final review before next meeting.

Initial Review

Discuss initial review process and identify the initial experts for review of this tech standard.

Team identifies the key sectors that should be represented in our review. These sectors generally match qualifications of those on the team, with the addition of producers.

The team then comes up with a list of names of potential reviewers.

Initial review is typically around 8-10 people. To get broad sector participation, we narrow it down to just 13. The rest will still be invited to comment in the Broad Review step.

Kate will reach out to each person on this short list of 13 potential initial reviewers and confirm interest and availability. If anyone isn't willing or able, Kate will work with Rachel to identify a replacement from the longer list.

During Initial Review, we may have each of these reviewers paired with a team member who they can go to for questions if they want background information. The team member shouldn't color their review, only answer reviewer questions. We'll discuss this option at next meeting.

This is a blind review process so the reviewers will provide comments and suggested edits in writing to Kate. Kate compiles all the comments into one document. Each written comment will need a written response. DATCP will draft responses and the team will confirm and adjust responses and any appropriate text revisions, expected to be the goal for the team meeting on March 16. The scope of this meeting depends on the extent of the comments received.

Plan of Action

Goal: Review Action Items. Identify the milestones and timeline for the remaining steps. Set goals for future meetings (1/23/2020 and 3/16/2020).

Timeline:

- 1/23/2020 meeting will be to focus on the percent reduction and ground truthing of geophysics. We'll finalize the draft text at this meeting and plan on sending it out for review soon after, targeting early February. This meeting was originally scheduled as a full-day meeting but we're changing it to shorter meeting via remote participation – Kate will send around revised time and webinar log-in details with calendar entry and agenda.
- Early February – draft text out for Initial Review– Kate will take in all the comments and compile them into one document. Rachel will prepare draft responses, then circulate to the team for additional input.
- 3/16/2020 meeting to finalize responses to Initial Review comments, then we'll plan to go out for Broad Review soon after.

Action Items:

- Regarding USGS aerial EM mapping project: Team should get in touch with Matt if anyone has insight on width of flight lines for effective mapping while still getting wide coverage.
- Team – send Kate and Rachel additional comments to draft standard via email ASAP
- Maureen, Dave, Francisco – prepare language for ground truthing criteria – send to Rachel and Kate by Jan 13th
- Joe – revise “Field” definition in glossary
- Tony – prepare language for a Site Assessment companion document
- Rachel – clean up text with comments from today and those via email from team; send revised draft to team for final review before next meeting.
- Kate – contact Initial Reviewers to confirm interest and availability
- Kate – finalize notes from last meeting, draft and circulate notes from today

3:00 *End*