

EMWoG Telephone Conference Call
Thursday February 8, 2007, 4.00-5.00 pm ET
Minutes and Action Items

Present: Phil Wannamaker, Gary Egbert, Shane Ingate, Dean Livelybrooks, Kevin Mickus (left after 30 min), Adam Schultz, Martyn Unsworth.

Apologies: Rob Evans, Steve Park.

Meeting Minutes

December 11 2006 and January 9 2007 meeting minutes were approved, and will be placed on the website <http://www.emscope.org>.

Collaboration with OK Geological Survey at TUL

Randy Keller (U of OK) has indicated an interest in reviving the long e-line MT station at TUL, maintained by Jim Lawson (OK GS). Ingate had provided a high-end budget (including Reftek equipment, telemetry and non-local permit/construction/install costs) of constructing a permanent station there. Mickus reports that the recent ice storm that devastated the mid-west cancelled his meeting with Keller (U of OK) and Larry Grillot (Dean of College). Mickus will meet with Keller at GSA.

EMWoG discussed the value of another permanent station 170 miles from MTB03 (Braden). MTB03 has only short e-lines, and so a station with long e-lines would be of value.

MT System Procurement

Narod has now tested 80 cores, as the following tables shows:

JRB ID	Jan 11 2007			Jan 18 2007			Jan 22 2007			Feb 4 2007		
	HX	HY	HZ	HX	HY	HZ	HX	HY	HZ	HX	HY	HZ
(1) 2006.11.29/1												
(2) 2006.11.29/2	18.5	20.5	14	19.3	17.8	12.7				19.1	16.6	12.7
(3) 2006.11.29/3	25	16.8	15.8	21	16.3	13.8	13.9	18.1	14.6	14.7	16.7	15.2
(4) 2007.01.06/1	19.7	16.6	17	16.7	13.8	15.5				18.6	14.6	16.5
(5) 2007.01.06/2	20	24.6	14.9	18.4	19.2	15.6				19.5	18.6	17.8
(6) 2007.01.06/3	17	18.7	21.5	16.8	18	17.8				17.8	13	17.7
(7) 2007.01.06/4	24.5	16.9	19.8	24.8	16.7	32.6				25.7	15.4	16
(8) 2007.01.06/5	18	16.2	23	17.8	17.2	19.3				17.8	19.9	19.4
(9) 2007.01.06/6	12.8	16.5	24.1	15.8	18.9	20.4	25.1	15.7	19.4			
(10) 2007.01.28/1										19.5	14.9	14.7
(11) 2007.01.28/2										17.8	13.6	16.5
(12) 2007.01.28/3										18.7	14.9	12
(13) 2007.01.28/4										19.4	15.2	18.3
(14) 2007.01.28/5										17	14.2	19.6
(15) 2007.01.28/6										14.2	15.5	15.1
(16) 2007.022.00/1												
(17) 2007.022.00/2												
(18) 2007.022.00/3												
(19) 2007.022.00/4												

EMWoG agrees that sensors (3) and (15) destined for 2 more Backbone systems should be used and shipped immediately to OSU. EMWoG agrees that the progress of the Backbone systems will be sufficient to complete the order.

EMWoG discussed the origin of the RFP minimum magnetometer noise requirement of

20 p/(root)Hz. This value was used based on the performance of the older EMSOC NIMS, and were set according to Narod's advice that he could meet. The RFP requirement was not based on error budgets designed to achieve science goals. Egbert does not believe that doubling of the noise will impact science goals. EMSLAB units were 100 pT/(root)Hz, and yet returned outstanding science.

Schultz reports that a quiet EMSOC NIMS and noisier EarthScope NIMS were installed at Soap Creek OR with common e-lines on Jan 12. Data are being collected and a data run will be made to retrieve the data on 2/9. Egbert will analyze the data immediately. EMWoG will await the analysis of this side-by-side experiment to determine if new minimum-noise level requirements for the magnetometer are appropriate to meet EarthScope goals.

Backbone

Schultz reports that he is having trouble finding suitable Backbone sites in VA, due to mining activity and population density. Wannamaker suggests working within a State Forest, and will provide some contact information.

Schultz reports that his engineer, Jan Bauer is leaving in mid-April to commence a PhD in New Zealand. Bauer should complete a site-selection and permitting trip to MT and WI/MI before he departs.

Schultz reports that he has 2 Backbone systems in the lab, and that installation at Socorro (MTB04) and Parkfield (MTB01) are a priority. Due to the rising water table and hydraulic pressure that ejected the vaults, the Soap Creek vaults need to be rebuilt. A high water table will necessitate a vault redesign, to using a shallow vault with a small enclosing structure over the top. MTB03 (Braden) will need to be checked for similar problems.

EarthScope O&M Proposal deadlines

- Notification of intent to provide 1-pager for ES O&M Proposal to Ray Willemann (ray@iris.edu) Feb 11
- 1-pagers for ES O&M Proposal to Ray Willemann (ray@iris.edu) Feb 19

Egbert reports that he will write a 1-pager, if he can be provided with (updated) inversion data from GSY-USA..

2007 Calendar

- Notification of intent to provide 1-pager for ES O&M Proposal to Ray Willemann (ray@iris.edu) Feb 11
- EarthScope National Meeting Registration deadline 16 Feb
- 1-pagers for ES O&M Proposal to Ray Willemann (ray@iris.edu) Feb 19
- (Negotiate CascadiaEM contract with GSY-USA. late-Feb)
- Absolute non-negotiable deadline for input (including figures) for ES O&M Proposal Mar 1
- (Commence CascadiaEM permitting, mid-Mar)
- Submit EarthScope O&M proposal, 16 Mar

- EarthScope National Meeting 27-30 Mar
- SSA (Kona, HI) 11-13 Apr
- IRIS CoCom/BoD meeting, 24-26 Apr
- Western GeoSwath Workshop 26-29 Apr (see EOS, 2006,87, 221/224)
- NSF Review of USArray 15-17 May
- AGU Joint Assembly, 22-25 May
- [Complete CascadiaEM, Oct]

Next telecon (second Thursday of the month)

Thu 8 Mar 2007 4-5 pm ET.

Action Item Status

- **Action Item (from 4/11/06)** Schultz to contact Narod if NIMS could be toggled between 1 and 8 Hz, enabling interchangeability of systems.
- **Resolution: Resolved.** All EarthScope MT systems are 1 Hz, as required by the RFP.
- **Action Item (from 4/11/06):** Ingate will request that the data from recent Quantec testing of the Billingsly cores at Battle Mountain, NV, will be made available to EMWoG for analysis.
- **Resolution: Resolved.** Ingate has contacted Reftek. Quantec is reluctant to part with the data, and per a conversation with L. Zimakov, Quantec will not provide EarthScope with magnetometers fearing competition from GSY-USA.
- **Action Item (from 12/11/06):** Schultz to contact M. Kitchens (GSY-USA) about privately-owned 80 acres in Michigan as a potential Backbone site.
- **Resolution: On-going.** Discussion with Kitchens have commenced, as well as with the ANSS operator in WI.
- **Action Item (from 12/11/06):** Evans and Schultz will continue to explore offshore Cascade deployment and make contacts.
- **Resolution: Resolved.** Schultz reports that a proposal has been received by NSF for ship-time off Cascadia in 2009. The PI's name cannot be released. If we are to stage a multi-disciplinary experiment beyond the high-tide line, then a proposal should be prepared for offshore MT in August 2007.
- **Action Item (from 12/11/06):** Egbert to wrap his single-site impedance and tipper functions in XML-code required by SPADE. Egbert will also provide to the DMC a simple mini-SEED to ASCII converter that could be used by EM users. Egbert will also provide a metadata to system response converter, as well as XML log notes
- **Resolution: Outstanding.** Due to other obligations, this cannot be fulfilled until at least March. Egbert indicates that the products are freely available from him.

- **Action Item (from 12/11/06):** Egbert to provide to GSY-USA Matlab routines for plotting uploaded NIMS data when in the field. Egbert and GSY-USA to agree on a format for meta-data collected in the field.
- **Resolution: *On-going.*** GSY have indicated they want a single operating system for use in the field, and do not wish to toggle between DOS for communicating with the NIMS, and Linux for Matlab. Schultz has converted NIMSread to run under Mac OS X.

- **Action Item (from 12/11/06):** Group suggests conducting a test, perhaps at Soap Creek, comparing the Hungarian with Park/Booker electrodes, and also to test armored cables and flexible conduit as methods to mitigate animal damage.
- **Resolution: *Resolved.*** Quotes for armored cable prohibitive at \$5/foot. Non-polarizable (Pb-PbCl) receiver electrodes are sourced from ELGI, Budapest: Andras Simon (simon@elgi.hu). The physical characteristics suffer in very cold conditions (<10°C), and they should not be stored in sub-zero conditions. They should be maintained and stored moist. If allowed to dry, they are useless and usually don't recover too well (internal cracks, separates from central Pb rod etc.). They need to be replaced every 12-18 months. It is too late now to obtain the Hungarian electrodes for the test.

Meeting Adjourned

1710 pm.