

Hyper-K site and cavern

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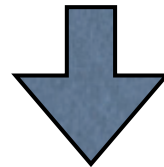
Open Hyper-K meeting, June-21-2013

Cavity and Tank Session

- 20” Hyper-K site and cavern SHIOZAWA
- 15” Hyper-K tank and photo-sensor support structure TANAKA
- 10” Geomagnetic compensation coils NAKAYAMA

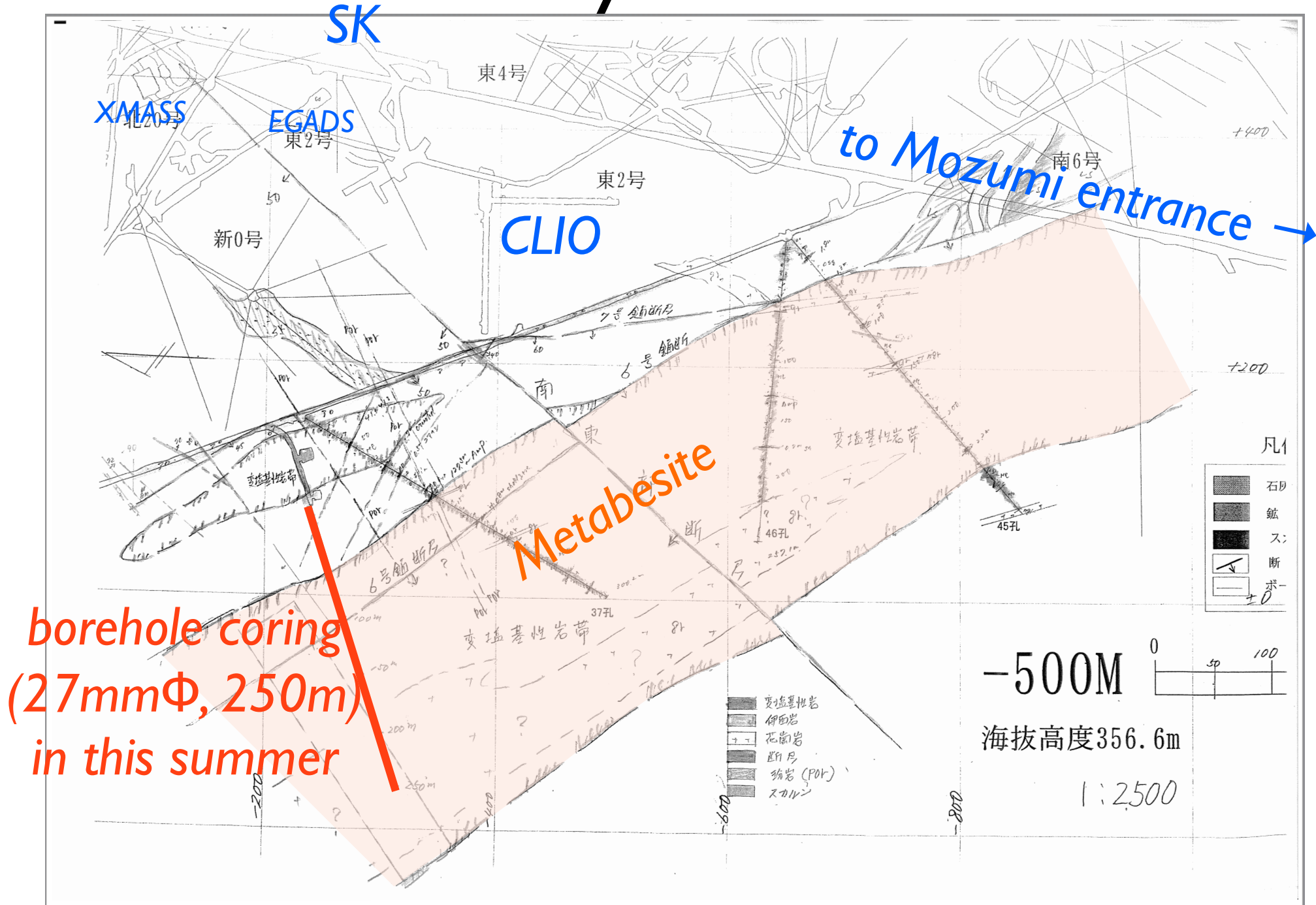
Summary

- Detailed cavern analysis has been completed.
 - The cavern construction is feasible.
 - Egg-shape cross section, Design of supports was made.
 - The study shows that the the rock quality is essential for construction cost and period. Final tuning of the shape and size might be necessary when more data become available.



- Studying the possibility of deeper site (Mozumi mine)
- Documentation Plan (version 2)

Initial survey at Mozumi site



West Mozumi

- Overburden >700m
 - CR muon rate is about twice of SK. $\leftarrow \rightarrow 10 \times \text{SK}$ at Tochibora site
- Geological information not available
 - No info. on rock mass class, in-situ rock stress
 - No show stopper but need survey (money)
- Water source to be identified.
- Nationally-owned land (need confirmation)
- Tunnels for access and waste rock transportation
 - Can we use the existing Atotsu tunnel? We probably need new tunnel to avoid interference w/ existing projects (SK, XMASS, KAMLAND etc).
- Rock disposal place candidate is Maruyama.
- Need to check impact of HK construction (blasting vibration etc) on SK, KamLAND, GW...



13年6月22日土曜日

Prospects of Mozumi

- Initial geological survey in this summer.
 - Judgement should be made to continue further studies or not.
 - Requiring same or better rock quality than Tochibora.
- In the case of green light, cavern analysis, estimation of construction schedule and cost will be made.
- Expect higher cost for waste rock disposal (new tunnels)
- Cavern excavation cost might also change depending on the rock quality.

1st version document

- 1st version excavation document is ready and available to the working group
 - Summary of geological survey, results of elastic cavern analysis
 - English and Japanese
 - Posted on the Hyper-K WG page
 - [Home](#) >> [Hyper-K Working Group](#) >> [Documents](#) >> [Engineering Document](#) >> [Excavation](#)
- **Your comments are welcome.**
 - we will make feedback to the next document.

2nd version document

- 2nd version excavation document is under preparation
 - Summary of geological survey, results of elastic cavern analysis and elasto-plastic analysis.
 - Record of other cavern shape studies.
 - Discussion on Mozumi as much as we can.
 - English and Japanese
 - to be ready by December