

Monthly Meeting (September 2021)

Date: September 30, 2021

Time: 2:15 pm - 3:20 pm EST

Location: Park Seismic Office

Attendees:

In the office: Choon Park (CP) [Jin Park (JP) was absent while traveling in South Korea.]

Via Zoom: Josefin Starkhammar (JS) and Nils Ryden (NR)

1. Administrative Topics:

- CP discussed admin topics on behalf of Jin and mentioned the requested contract amendment was approved as of August 26, 2021. He also recommended a new format of the reporting work hours that should use more hours from task #4 ("Demonstration of Acquisition System and Software") and task #5 ("Final Report").

2. Technical Topics:

- CP and JS discussed how the "ARM", "DISARM", and "STOP" commands work in the PXI system. Both discussed how to utilize the last TDMS file, which is currently not used by ParkSEIS-HMA because of the algorithmic complications.
- CP presented the intermediate analysis results from the recent 2nd JFT data. CP compared the results to those from the 1st JFT. He stressed the overall temperature was above 30 °C, while it was only 8 °C during the 1st JFT. All discussed the overall quality of data and reliability in the results of velocity (Vs) and thickness (H) evaluation in association with the temperature influence. All agreed the overall signal-to-noise ratio (S/N) (~50%) is significantly lower than that from the 1st JFT (~95%). CP mentioned the quality seems still excellent despite the high temperature of HMA. NR cautioned that actual temperature inside the pavement might be lower like 20 °C because the data showed the temperature of pavement surface, which was under sunlight at the time of survey.
- CP discussed possible ways of increasing S/N by increasing the impact strength. All discussed how the dynamic range and measurement voltage range can influence the S/N.
- CP mentioned the possibility that sound from the exhaust pipe on the back of a regular gasoline engine may trigger the system.

3. Agreed:

- All should focus on the 2D system development from now on.
- The "exhaustion pipe" will be tested in the future.
- CP will execute further analysis on the 2nd JFT data sets.