

Standard operating Procedure – Physical Property lab

Nov. 2003

I. PORTCALL:

- Cross over with off going technician.
- Check Helium tank pressure. Change out tank if pressure is 200 psi or less.
- Calibrate Pycnometer: Both Vadded and Vcells should be calibrated. It is also necessary to recalibrate both the Vadded and Vcells whenever the Helium is changed.
- Calibrate Electronic Balance: Balance calibration should be carried out while the ship is in port and is as stable as possible.

II. SITE PREPARATION

- Place log sheets at each station.
- Reset all run numbers prior to calibrations
- Multi-Sensor Track (MST): For more detail consult WC-IMS Manual
 1. Configure Track and Set up Core Boat.
 2. Enter a working Parameter File. The file should be finalized by the Physical Properties Scientists and updated according to the goals of each Site. (WC-IMS Manual 6:1)
 3. Calibrations: Standards must be defined prior to each calibration, and uploaded to JANUS before the calibration files are uploaded.
 - Magnetic Susceptibility Loop: No calibration necessary.
 - GRAPE: Define GRAPE Standard, update Preference File, Calibrate. (WC-IMS Manual, GRAPE Addendum 6:1-7:2)
 - P-Wave Logger: Define PWL Standard, update Preference File, Calibrate. (WC-IMS Manual, PWL Addendum 4:4-4:5)
 - NGR: Use the MAESTRO program to adjust the gain on the amplifier for each of the four sensors (See IMS WC-MST, NGR section in PP Tech Help). Calibrate the NGR, measure background with the distilled water core, Save and update Preference File. (WC-IMS Manual, NGR Addendum 2:3)
- Thermal Conductivity: For more detail consult TK04 Manual and Thermcon Cookbook.
 1. Set up appropriate directory and data file.
 2. No calibration is necessary for the TK04 device.
- V&S Track (Working Half Only): For more detail consult IMS VS Manual.
 1. Track Configuration: The track should be configured at the beginning of each leg, and checked periodically. It will need to be reconfigured when depths seem unreasonable, or are inaccurate. (p.5-8)
 2. Reset all run numbers.
 3. Calibrations:
 - PWS 1, 2& 3: Define calibration standards prior to calibration. Calibrate and Save. (p. 8-16)

- AVS: Ensure that the spring and vane being used match what is entered in the IMS VS software. No calibration is necessary for the Automated Vane Shear unless a new Vane or Spring is being added to the database. (p. 17-21 IMS VS Manual, and IMS VS section in PP Tech Help)
- Index Properties: For more detail consult Mad Cookbook and PP Tech Help.
 1. Calibrations:
 - Balance: Carried out while in port.
 - Pycnometer: Calibrate using the MAD program.
 2. Turn on Ovens (100 +/- 5 C).
- Instruct Scientists on Lab Procedures.

III. ON SITE ACTIVITIES

- Assist with all Corelab activities.
- Create Site/Hole folder for each instrument in the Janus_Q directory on the local drive and DATA 1.
- Upload data files to JANUS using the Generic Uploader.
- Modify Thermal Conductivity data to the correct format so it can be uploaded using the JANUS application. Place a copy of the raw data file, and the modified file in a folder on USERVOL and DATA 1. (See Thermcon Cookbook)
- Calibrate GRAPE, PWL, PWS 1, 2, & 3, and Pycnometer as needed.
- Calibration of NGR usually performed only at onset of leg. Reasons for performing calibration during a leg include amplifier adjustment/tuning, and long transits between Sites.
- Dry out/replace silica desiccant as needed.

VI. DURING THE CRUISE

- Periodically clean MST and Velocity Tracks.
- Inventory supplies and update SIMAN.
- Delete data files from local drives as needed.

V. END OF LEG:

- Delete Data files from the local drives.
- Write Cross-over/Lab Report.
- Pack up log sheets and any other materials being shipped back to ODP. For equipment Include: ODP inventory number, model number, serial number, and the approximate weight and value on the packaging slip.
- Clean Lab.

VI. PORT CALL—OFF GOING

- Find the oncoming Marine Lab Specialist(s) for your lab and cross over. Make sure the technicians that are replacing you are aware of any changes made to the lab, procedures, current equipment status, and port purchases if necessary.
- Attend the port call meeting.
- Unload off going airfreight and frozen shipment, or any freight as required. Load on coming freight if time permits.