

Core Description Technician SOP

Standard Operating Procedure - Core Description

January 2018
v375

The Core Description technician shares his/her duties between the Core Lab and Core Description. For details on the Core Lab duties, refer to the [Core Lab SOP](#).

I. PRE EXPEDITION

- See General JRSO Shipboard Technical Staff SOP.
- New hires should be trained to use the software packages used in the core description work flow: DESClogik, LIME, Sample Master, LORE, LIVE, Thin Section Report Writer and Builder, Value List Builder Excel Macro, ImageCapture, SPOT, SEMUploader, and Strater (eventually). The DESClogik training modules found in the "All things DESClogik" folder on IODP share server cover the majority of this information.
- New hires should also see the list of links to core description google sites at the end of this SOP. These sites contain workflows, value lists, component definitions, and many more, useful bits of information.
- Your main task will be generating expedition specific templates in DESClogik and training the science party on all the relevant software. DESClogik templates are usually as follows: A macroscopic template for core description, a microscopic template for smear slide (SS) and thin section (TS) descriptions, and paleontology specific templates for each discipline, e.g. planktonic forams.

II. PORT CALL - Start of an Expedition

- Work on expedition specific introduction presentation for the science party; coordinate with VCD introduction together with publication specialist.
- Read the prospectus and talk with the EPM about likely lithological materials expected. Use this information to select and export an Excel copy of one or two example templates from previous expeditions, with value lists. The description team can review and edit once you introduce DESClogik. Make sure the staff scientists has enough time set aside for core description training. It will take the science description team at least few days to get you a working document.
- Try to arrange DESClogik training after SampleMaster training.
- Check with PP technician if the VCD print on the SHIL works as intended.
- Check the SEM/sputterer/uploader and their supplies. Run test samples and take images.
- Obtain visual confirmation of the Smear Slide Atlas reference slides location (2 sets) from the off going description technician. These need to be kept in Description Computer's desk drawer, in the logging office.
- Provide safety tour to all scientists working in the Core description area. Ensure scientists understand all safety concern and sign document required

• III. SITE PREPARATION - Prior to arrival on site and core on deck

- Present DESClogik to the on-coming micropaleontologists, sedimentologists, petrologists, and structural geologists regarding data entry, uploading, retrieving and in the context of the VCDs, together with publication specialist. Present the work flow process. Explain any best practices and workarounds DESClogik may require. See *V:\VODP_Share\ALL things DESClogik\Technician Guides and Quick Starts* for cheat sheets.
- Ask the curator to set-up user accounts (individual accounts) and privileges, they may need to work with the developers. Make sure they work before your lab introduction and have the description team log into every account during or after intro.
- To aid in communication, ask the MCS' (IT people) to setup email distribution groups for the various teams according to their disciplines. Typically, there will be groups like paleontology, sedimentology, or structure on most sediment cruises. You may break up groups as you see fit by using the shipboard participant lists on the ship website. Include the Publication Specialist and yourself in these e-mail groups.
- Prepare core lab according to Core Lab SOP. This includes bringing out hand lenses, diluted HCl, aluminum core scrapers, clipboards, goniometers etc... Also, check to see that the description table lifts work properly.
- Run SEM and sputterer with test sample if you have not already.
- Hands-on training in Core description workflow, including the SHIL and SHMSL, LIVE, and SEM training for science party.
- Develop new templates for core describers. As applicable, use an analogous template from a previous expedition as the basis for a new template. Scientists may have suggestions for an appropriate similar expedition. This process should be a continuation of your port call activities. Have the scientists code their edits in green, yellow and red on the Excel sheets you give.
- Create an expedition specific template in LIVE that displays core images, lithology, and SHMSL data. Encourage its use for checking for gaps and overlaps.
- Implement changes requested by core describers and paleontologists into templates (incl. value list changes and template reconfigurations, etc.). If time permits, have description team practice describing play core together, and entering data into their DESClogik template under expedition TEST samples.
- Modify an existing smear slide log sheet/microscopic smear slide template to match each other as per scientist wishes. The microscopic template should match the SS Log fairly well. This template should be developed simultaneously, if time permits, with the macroscopic template. However, if you are pressed for time you can prioritize the macroscopic template first, since SS samples are almost always logged on paper.

IV. DURING CORING OPERATIONS

- Act as one of the core lab technical staff, processing cores according to Core Lab SOP.
- Maintain constant communication and collaboration among the Curator/ALO, Publication Specialist, core describers and micropaleontologists, EPM and co-chiefs.
- Ensure samples (smear slides, thin sections, samples taken from the PAL samples) are entered correctly in Sample Master to ensure the SAMPLE can be retrieved in DESClogik in order to attach data to the sample (shared responsibility with curator). Use LIME or ask curator or developers to make changes.

- Work with core describers and micropaleontologists to modify their templates as required. Have the describers e-mail their changes, with the description group copied, so the Publication Specialist will see changes. Keep the pubs person informed of all changes that impact his/her work, who will then change the .xml file for the VCDs accordingly.
- Ensure the Publication Specialist knows what is being plotted on the VCDs and from where it is coming, and has an exact list of values to be mapped.
- Work with the Publication Specialist and scientists to ensure the VCDs represent the data entered in DESClogik.
- Make sure scientists are aware of all tools available to them, such as LORE, LIVE, and SampleMaster.
- Introduce science party to SEM/sputterer. Help preparing samples, introducing samples to the SEM chamber and retrieval if the scientists are uncomfortable doing it themselves.
- Check SEM picture quality. Check oil in sputter pump.
- Update systems manuals, tutorials as needed.
- Make periodic backups of data from DESClogik. Check with the EPM if these can be placed on the uservol and made available to the entire science party.

V. DURING TRANSITS

- Continue processing cores through the lab as described above.
- Check science data with tools available (LIVE, LORE, LIME, SampleMaster, DESClogik) and ask scientists to fill gaps/correct data.
- Scan all paper log sheets, smear slide sheets, etc., to data1.

VI. DURING EXPEDITION

- Receive core and assist as needed in the core lab (i.e. splitting, restocking, boxing core, disposing of trash, and general cleaning and maintenance of core lab). Remember, the core lab is your primary duty and thin section preparation must come secondary to that unless arrangements are made with the Lab Officer to meet special objectives. For details on Core lab responsibilities refer to the [Core lab SOP](#).
- Maintain inventory by performing physical counts. Notify the ALOs if any quantity discrepancy or unusual high usage occurred.

VII. END OF EXPEDITION ACTIVITIES

- Write the end-of-Expedition technical report, give a copy to the Lab Officer.
- Make sure all data are uploaded to LIMS before the Developers/MCSs cut off database access; this requires coordination between the description team, EPM and Developers/MCSs. **You will need 3 hours after database is closed to complete all your exports.** Export DESClogik data workbooks and copy them, value lists, thin section reports, thin section report builder definitions, pdfs of smear slide log sheets and or other paper logs to data1 to be taken to shore. Save all SEM files to data1. Erase all non-essential data from the hard disks of all the computers,
- We are updating our data policy to request log sheets and other paper media generated during an expedition to be scanned and placed in the appropriate shipboard DATA1 folders before the end of each expedition—this is just a formalization as we by and large already digitize these documents. Media that would typically fall in this category include but are not limited to: track system log sheets, curation logs, smear slide logs, various sample request forms, pXRF logs, or any other paper media that is normally shipped to shore in the “databox”. Barrel sheets with handwritten notes are normally handled separately by the seagoing publications specialist. Please scan and save log sheets in pdf format, by log sheet type, and collated either by site or one file for the whole expedition. Place the pdfs in DATA1 subfolders corresponding to the log sheet analysis, or if the documents are not clearly associated with an analysis, place in the subfolder “0.2 CONSIDER THIS STORAGE LOCATION LAST”. Lab SOPs should be updated with this procedure. Unless a sailing scientist requests the physical documents for their personal use hard copies should be discarded at the conclusion of an expedition.
- Keep copies of all exports in the *All things DESClogik* expedition folder in a separate folder called “Final Exports”.
- Pack up equipment being returned for repairs and give the Assistant Lab Officer the following information: IODP inventory number, value, weight, serial number, model number, vendor’s name and country of manufacture. Give the Lab Officer a list for port purchases if any.
- Clean the lab and assigned area following the cleaning instruction listed in the Core Lab Handbook and by the authority of the mighty LO. Bring all the trash to the incinerator. Glass and sharps are disposed of in port call.
- Clean SEM, sputterer. NO acetone!
- Verify all SEM pictures were uploaded to LIMS
- Perform the end of Expedition maintenance as listed in the Core Lab Handbook.

VIII. PORT CALL - Off Going

- See General JRSO Shipboard Technical Staff SOP

IX. OTHER PROCEDURES

- SEM - When the monitor hardware or screen resolution is changed you have to reset the observation screen size. There is a drop down item for this within the program menu. You will measure the green line with a ruler held onto the screen; enter this value into the program prompt.
- SEM – Changing a filament likely requires a beam axis alignment. The instructions for this are tabbed in the manual.
- Some frequent floater scientists created the smear slide atlas reference slides at great time and expense, and are a great resource. They have been misplaced several times in the past to the dismay of scientists who participate in the lab-working group. Be sure you keep track of these between you and your crew counterpart. Return them to your desk when they are no longer in use and have a scientist take responsibility for them when they leave your desk.

Google sites for description:

All on description/templates/VLs:

{+}<https://sites.google.com/a/scientific-ocean-drilling.org/geological-descriptions/>{+}

Component definitions and component list

<https://sites.google.com/a/scientific-ocean-drilling.org/geological-descriptions/descinfo/components>

Description product guideline:

{+}<https://sites.google.com/a/scientific-ocean-drilling.org/description-products/>{+}

DESClogik value lists:

{+}<https://sites.google.com/a/scientific-ocean-drilling.org/geological-descriptions/descinfo/value-lists/descinfo-value-lists/>{+}

Value list manager shore:

{+}<http://web.iodp.tamu.edu/reteasy-desclogik-services/html/index.html>{+}

DESC workbooks:

{+}<https://sites.google.com/a/scientific-ocean-drilling.org/desc-workbook-upload/>{+}

DESC workbooks workflow:

{+}<https://sites.google.com/a/scientific-ocean-drilling.org/description-products/meetings/20131030-desc-workbooks/>{+}

Enhance DESClogik project:

{+}<https://sites.google.com/a/scientific-ocean-drilling.org/enhance-desclogik-ii/>{+}

TS form report:

Website needs to be updated.

TS report issues list:

- <https://docs.google.com/a/scientific-ocean-drilling.org/spreadsheet/ccc?key=0AgrWoVG8vukRdDV2Z3pmYUI3ajh5TjZGc2Zuak0ydGc>