

	<b>SAMPLE PREPARATION MANUALS</b>	K. Lünsdorf 14. 12. 2011
University of Göttingen	<b>Big jaw crusher</b>	Series editor: I. Dunkl

### User manual for the big (old) jaw crusher



1. Clean your sample by a stiff brush and dry it properly.
2. Reduce the size of the fragments of the sample down to approximately walnut-size:
  - a. Go into the rough-preparation room (basement; room number: 03)
  - b. Put your sample in a plastic bag or two and smash it with a hammer
  - c. Collect your broken sample material from the torn bag (only the parts > 1cm; very high potential for contamination at this step!!!) and put it in a new bag with the sample code written onto it.
  - d. Thoroughly clean the area where you smashed your sample.
3. Jaw-breaking:
  - a. Control if the main current is off, control if the jaw-crusher is off!
  - b. Check if the jaw-crusher is clean:
    - i. If it is clean continue at step 3c.
    - ii. If it is dirty perform the thorough cleaning procedure given at step 4.
  - c. Check if the rotational axis of the jaw-crusher are sufficiently greased:
    - i. Sufficient greasing is indicated by grease being pressed out of the valves (fig. 1) and when the jaw-crusher is operating silently (no grinding noises) without sample material fed to it.
    - ii. If the jaw-crusher is not greased properly follow the 'Greasing the jaw-crusher'-protocol.
  - d. Position the air outlet hood (fig. 2) above the sample inlet of the jaw-crusher.
  - e. Start the air outlet, level 5. The control is on the right-hand side of the door when facing the jaw-crusher room from the outside.
  - f. Switch on the main current and turn on the jaw-crusher:
    - i. If you have long hair, tie it back to avoid accidents!
  - g. Using the regulation screw (fig. 1) adjust the jaws to minimally touch each other:
    - i. Turn the regulation screw back by 2 to 3 rotation to create a larger gap between the jaws.
  - h. Slowly insert your smashed sample through the inlet (fig. 1) into the jaw-crusher.
  - i. Collect your jaw-broken sample in a container or pour it onto a stiff and large sheet of paper.
  - j. Readjust the jaws to touch each other:
    - i. Now turn the regulation screw back by about a ½ rotation to create a small gap between the jaws.
  - k. Fill your sample into the jaw-crusher. Repeat this step 4 – 5 times until the sample is sufficiently ground.
4. Thorough cleaning (usually done after a new sample is introduced):
  - a. Turn off the jaw-crusher and switch of the main current!
  - b. Vacuum clean the whole jaw-crusher and the foundation block:
    - i. Work from top to bottom and from the outside to the inside.
    - ii. Remove the inlet cover plate and vacuum clean the jaws.
    - iii. Remove the stationary jaw by pulling the fastening bolt (fig. 1) and lifting the jaw out of the jaw-crusher. Place the stationary jaw on a table.
    - iv. Vacuum clean the now accessible inner part of the jaw-crusher.

 	<b>SAMPLE PREPARATION MANUALS</b>	K. Lünsdorf 14. 12. 2011
University of Göttingen	<b>Big jaw crusher</b>	Series editor: I. Dunkl

- c. Very carefully air-clean the inner part of the jaw-crusher with the compressed-air-gun (wear ear protection!!). If there was a major dust blow out repeat vacuum cleaning procedure.
  - d. Thoroughly scrub the both jaws with a wire brush.
  - e. Clean all the inner surfaces of the jaw-crusher and the jaws with a wet cloth (note: not dripping wet!).
  - f. Wipe off all wet surfaces with a cloth soaked with Aceton.
    - i. If there was too much water used, carefully use the air-gun to pre-dry the inner surfaces and the jaws.
  - g. Reassemble the jaw-crusher.
5. Finishing
- a. When you are done, put all used tools back to their original places, vacuum clean the whole floor and free all surfaces (tables, etc.) from dust.
  - b. Register your usage of the jaw-crusher in the lab-book.
  - c. Turn off the air outlet and lock the room.



**Fig. 1: The jaw-crusher and important components. Viewed from the side.**

 	<b>SAMPLE PREPARATION MANUALS</b>	K. Lünsdorf 14. 12. 2011
University of Göttingen	<b>Big jaw crusher</b>	Series editor: I. Dunkl



**Fig. 2: The jaw-crusher and important components. Viewed from the front.**