

INTERNATIONAL CLIMBING AND MOUNTAINEERING FEDERATION
UNION INTERNATIONALE DES ASSOCIATIONS D'ALPINISME



Safe Com – anchor corrosion group

UIAA Wall Sample Kit

Purpose:

This kit is designed to provide a sample of the surface chemical environment of the cliff face. On return to the laboratory, the sample will be analysed for the primary electrolytes, sodium, calcium, magnesium, chloride, sulphate and bicarbonate. In addition, an estimate is made of any calcium sulphate that might be loosely adhering to the surface. This basic data will be used to inform the anchor corrosion group's understanding of the various corrosion processes that affect climbing anchors across the world, and ultimately will underpin UIAA standards and/or recommendations.

Kit Contents:

1. One sample jar containing 40ml of deionised water with Dettol™ at the rate of 0.4ml per litre to act as a bactericide and preservative.
2. Two cotton wool balls for use as a swab.
3. One pair of latex gloves.
4. One 20cm x 20cm paper template to aid marking out of the sample area.

Sampling Process:

1. Using the template as a guide, mark the corners of a 20cm x 20cm square sampling area on the cliff face. A sharp stone is a convenient way to mark the corners, but a solvent-based marking pen would also be ok. **Don't use blackboard chalk (calcium sulphate) or climbing chalk (magnesium carbonate) because they will contaminate the sample.** The marking out does not have to be very accurate, and an error of +/- 20% is acceptable. We are more interested in the ratios of electrolytes within the sample than we are in the absolute amount.
2. Put on the latex gloves. The wash solution is simply dilute household disinfectant so won't harm you, but, **your fingers will certainly contaminate the sample if you don't wear gloves.**
3. Soak the cotton wool ball in the wash liquid, squeeze out the excess, and dab/scrub the rock surface in a methodical manner to ensure the entire surface is covered. Return the cotton wool ball to the container and squeeze it out several times to wash its contents into the container. Repeat this entire process at least five times, or as many times as it takes to get the surface clean. You may need to use the second cotton wool ball if the rock surface is very rough.
4. Place the cotton wall ball in the container and screw the lid on tightly.

Documenting the Location Details:

1. Location details are as important as the sample itself. Please take the time to fill out the included form as completely as possible. At the very least, make sure you record the country, the crag and the nearest route.
2. Before filling out the location details form, please ensure the ID number on the form matches that on the container.

Returning the Sample(s):

1. Place sample(s) in the original zip-lock plastic bag(s) and then place that in a padded bag along with the location details form(s) and mail to

*David Reeve
40 Burbong St
Chapel Hill
Queensland 4069
Australia*

2. Mark the customs label as “Geotechnical Sample” and “No Commercial Value”
3. If the postage is excessive, please contact me at the email address below to arrange a refund.

Choosing a Site for Sampling:

1. Samples from areas known to be very corrosive are good.
2. Samples from areas known to be benign are also good.
3. Samples from overhung areas not washed by rain are good.
4. Samples from areas exposed to the weather are also good.
5. Samples should be somewhat adjacent to existing bolts
6. **But do avoid chalked-up holds.**
7. Photos of the adjacent bolt(s) are especially useful.

For further information:

Contact David Reeve drscientific@powerup.com.au

MSDS:

<http://www.rbnainfo.com/MSDS/US/Dettol-US-English.pdf>

