

Bare Bones Treatability Testing FAQs

Q: What are “Bare Bones” Treatability Tests?

A: *Bare Bones* Treatability Tests are simplified versions of some of PRIMA’s most commonly performed tests. Each is designed to answer a very specific question such as “Can ISCO using ozone generate Cr(VI) at my site?” or “Will permanganate destroy the TCE in my groundwater as it is expected to do?”.

Q: How are *Bare Bones* tests “simpler” than traditional treatability studies?

A: Traditional treatability studies usually have several goals and therefore consist of several components, including measurement of soil oxidant demand, assessment of COC removal and evaluation of the effect of treatment on secondary parameters. Even the COC removal test often consists of two or more treatment doses with samples collected over time. *Bare Bones* tests, on the other hand, address a very narrow question and consist only of a control reactor and a treatment reactor, which are sampled once.

Q: When is a *Bare Bones* test appropriate?

A: *Bare Bones* tests are ideal for situations in which you need a yes/no answer or confirmation of an expected result. For example, ISCO sometimes generates Cr(VI), but predicting whether Cr(VI) will be formed at your site is difficult because Cr(VI) formation does not correlate well with the amount of chromium in soil. A *Bare Bones* Cr(VI) Formation Potential test can tell you if Cr(VI) is likely to be generated and if so, estimate the amount. Alternatively, you know that permanganate destroys PCE, but your client may not be so sure. A *Bare Bones* COC Removal Confirmation test can put your client’s mind at ease.

Q: Can the *Bare Bones* COC Removal Confirmation test be used as a screening tool?

A: It depends. If you are reasonably certain the COC will be destroyed, then the *Bare Bones* COC Removal Confirmation test is an excellent method of confirming your hypothesis. However, if you don’t know whether the COC will be destroyed, a traditional COC Removal test is recommended to ensure that a negative result is not due to under-dosing or insufficient reaction time. *Please contact PRIMA for more information.*

Q: Why is dissolved chromium measured for the *Bare Bones* Cr(VI) Formation Potential test that uses permanganate as the oxidant?

A: Residual permanganate interferes with the analysis of Cr(VI). Dissolved chromium is therefore used as a surrogate and any dissolved Cr is assumed to be Cr(VI).

Q: Which oxidant do you use for the *Bare Bones* Cr(VI) Formation Potential test?

A: The choice is yours. We routinely evaluate ozone, permanganate, persulfate (activated and unactivated), PersulfOx™, hydrogen peroxide and catalyzed hydrogen peroxide (aka modified Fenton's reagent). Note that different oxidants often generate different amounts of Cr(VI).

Q: Which treatment technologies do you use in the *Bare Bones* Metal Mobilization Potential tests?

A: The choice is yours. We routinely evaluate oxidants, reductants (ZVI, calcium polysulfide), and electron donors (emulsified oils, EHC®).

Q: Which metal(s) you do analyze for in the *Bare Bones* Metal Mobilization Potential test?

A: The choice is yours and depends upon the needs of the site as well as regulator concerns.

Q: Which treatment technologies do you use in the *Bare Bones* COC Removal Confirmation tests?

A: The choice is yours, but please contact PRIMA to discuss which technologies are most suitable for this test.

Q: Which COCs you do analyze for in the *Bare Bones* COC Removal Confirmation tests?

A: *Bare Bones* COC Removal Confirmation tests are recommended for COCs that are known to be destroyed/removed by the technology of interest. Please contact PRIMA for more information.

Q: Is PRIMA certified to perform *Bare Bones* tests?

A: The *Bare Bones* tests are not standard methods and therefore cannot be certified. Most analyses, however, are subcontracted to a certified analytical laboratory, usually Alpha Analytical, Inc. (Sparks, NV).