



Many states have established NPDES limits for metals at very low levels based on maintaining water quality standards in the receiving streams. The limits can approach or even be less than the detection limit of routine analytical methods, because they may be based on marine water quality standards.

To ensure that reliable data is produced at these trace levels additional emphasis must be placed on clean sampling and clean laboratory practices to minimize contamination. The following procedures are recommended:

- Document sampling cleanliness through the use of trip blanks and field sampling blanks.
- Use non-metallic sampling equipment and do not allow any metal object to come into direct or indirect contact with the sample or sample containers.
- Use non-talc gloves.
- Collect samples directly into sample containers that are documented clean at your levels of concern.
- Double bag all sample containers.
- May need to designate one “clean hands” sampler to perform all operations involving direct contact with the sample, and one “dirty hands” sampler for all other operations.
- The laboratory should use ultra clean reagent, specially cleaned glassware and other precautions such as the use of laminar flow hoods for sample digestion and preparation.
- Laboratory method detection limits (MDLs) should be significantly lower than the maximum compliance level specified.

In response to our clients’ needs, each Columbia Analytical location has developed varying levels of field sampling and field chemistry capabilities. This additional flexibility allows us to offer a complete service package, from sampling to data delivery.

Our in-house or contracted sampling crews are fully trained and OSHA certified for work on hazardous waste sites. Specialties include groundwater monitoring, soil coring to depths of six feet, soil-gas direct push, and automated effluent sampling.