

## Oil / Tarball Sampling Protocol for NRDA

### Sampling Objectives

The focus of this document is collection of tarballs and bulk oil samples for chemical testing. Oil samples may be collected to support various objectives during a natural resource damage assessment. Samples may be taken to assist in evaluations of weathering and fingerprinting of oil; to investigate the spatial extent and concentrations of an exposure pathway; to measure characteristics for interpreting chemical and biological results; and for other reasons.

These protocols do not address oil sampling objectives; prior to collecting samples a plan should be drawn up that clearly establishes specific sampling objectives including the types (e.g. depth of sample, composite versus discrete) and locations of samples to be collected. These protocols support natural resource damage assessments by providing the procedures that ensure sample integrity and the reliability of chemical characterizations as evidence in a damage assessment case. For detailed step-by-step instructions on how to collect various types of samples, refer to your sampling plan or other agreed upon SOPs.

### Sample Volumes Required for Common Analyses

1 to 100 mL in glass jar; alternatively, non-viscous tarballs may be wrapped in aluminum foil.

### Sampling Equipment/Containers and Collection Methods

- Wearing clean nitrile or other non-contaminating gloves, collect oil samples by scooping into the sample container using a clean utensil (e.g. wooden tongue depressor, spoon). To avoid potential cross-contamination, use pre-cleaned disposable utensils or wrap utensils in foil and discard foil between samples.
- Avoid or remove stones, sticks, and other debris if possible.
- Liquid or semi-liquid samples should be placed in glass containers with Teflon-lined lids, certified clean for semi-volatile analysis. Solid tarballs may also be placed in glass jars or alternatively may be wrapped in aluminum foil and placed inside a Ziploc bag.

### Preservation/Holding Times

- Immediately place all samples into coolers and keep on ice until prepared for shipment. Ship to lab as soon as possible; if same day shipment is not possible, do not freeze oil samples. Oil samples can be held at 4°C in the dark for several months without loss of sample integrity, as long as there is no organic material or water present to serve as nutrients for bacterial growth.

### Labeling / Documentation / Other Considerations

- On the FTP site, the NRDA Field Sampling Checklist generically summarizes pre- and post-field sampling tasks.
- Take photographs of the sampling locations and record GPS coordinates for each sample. (see NRDA Field Photography/GPS guidance for linking GPS and photos).
- Prepare sample labels as presented in NRDA Data Management Protocol for Field Sampling. Affix a sample ID label to each container and cover with clear tape wrapped around the entire container circumference. In addition to this label, it is a good practice to write the same sample ID on the lid with a sharpie pen. The foil-wrapped tarballs should be double bagged, with the sample ID label placed between the inner and outer plastic bags.
- See the event-specific protocol documents for shipping to designated labs (NRDA Sample Shipping Instructions) and for chain of custody and sampling documentation instructions (NRDA Data Management Protocol for Field Sampling).
- The labs have received instructions specifying sample processing and analytic methods.