

How to Take Oil Water Separator Inlet and Outlet Samples

By Kirby Mohr, P.E. email: Kirby@oilandwaterseparator.com

Oil / Water Separator Outlet Sample Method:

There are numerous ways to take non-representative samples of the effluent water from oil water separators. Any of these incorrect methods will yield incorrect analytical concentrations, which may lead to technical, commercial or legal problems.

It is possible to collect samples that will be representative of what is occurring within the process and yield truthful analytical results. MSR recommends the following, based on our experience and assuming our equipment. These recommendations can be modified somewhat to fit the requirements of the particular site. MSR will be glad to offer suggestions for any application.

Suggested method:

1. The system should be operated at the test flow rate for approximately thirty minutes (approximately 5 x the water volume) before taking any samples.
2. Samples should preferably be taken from a flowing line. This is especially true of inlet samples.
3. Inlet samples should not simply be taken by dipping the sample container in the inlet chamber of the separator because it is likely that there will be oil accumulated on top of the water which will give an incorrectly high analytical result.
4. Inlet sample information is useful in determining the state of the performance of the separator, but for legal purposes all that is required is outlet sampling.
5. Outlet samples may be taken from the top of the outlet tee if one is provided or simply dipped from the outlet chamber of the separator. If a sample point is provided in the outlet piping, this may be used.
6. Samples must be taken in *clean, new* liter-size *glass* bottles and prepared / stored according to the requirements of the analytical laboratory.
7. *Do not take samples in plastic bottles.*
8. *Do not rinse bottles with sample before taking the samples.*
9. *It is advisable to take inlet samples and outlet samples simultaneously, or nearly so.*
10. Samples should be taken at approximately thirty-minute intervals. A redundant sample should be taken each time the main sample was taken for use in the event of inadvertent sample loss.
11. To ensure data quality, at least four samples should be taken.
12. Instantaneous flow measurements should be made at each sample time.
13. Flowing water temperature and pH should be measured at the beginning and end of the test.

Samples should be taken by and analyzed by an independent third party laboratory. ***Analysis should be completed utilizing USEPA test method 1664.*** Any environmental laboratory should be able to run that test method.