

Minimum Required QC batching for WWTP parameters

The examples below are for cases where one influent (INF) and one effluent (EFF) are analyzed. If 20 or less samples are analyzed in a week then these examples can also be followed. The sample number count column helps you keep track of how many samples are analyzed at one time so you don't exceed 20 samples. These examples apply to Standard Method versions of these tests only.

TSS *

Sample Number Count	Unique Sample ID
1	EFF 9.1.08
2	INF 9.1.08

* No daily QC samples are required for TSS. A monthly balance-weight check is required along with annual PT samples and a one-time IDC per analyst. For TSS, there is no change in the required QC samples if more than 20 samples are analyzed in a day.

BOD *

Sample Number Count	Unique Sample ID
{ICAL}	DO saturated standard 9.1.08
QC	Method Blank 9.1.08
1	EFF 9.1.08
2	INF 9.1.08

* Once a week a GGA standard (LCS) must also be analyzed. In addition, annual PT samples are required and a one-time IDC per analyst. For BOD, if more than 20 samples are analyzed in a week then a GGA standard (LCS) is required after every 20 samples analyzed.

NH₃-N *

Sample Number Count	Unique Sample ID
{ICAL}	2.0 mg/L standard
{ICAL}	20 mg/L standard
QC	Method Blank 9.1.08
QC	LCS 1.0 mg/L 9.1.08
1	EFF 9.1.08
2	INF 9.1.08

* Annual MDL studies must be performed. Annual PT samples must be analyzed. One-time IDC studies, per analyst, are also required. For NH₃-N, if more than 20 samples are analyzed in an analysis day then a CCV) is required after every 20 samples analyzed.

TP

Example when the calibration curve is analyzed with samples (curve is digested)

Sample Number Count	Unique Sample ID
QC	Instrument Blank (zero the spectrophotometer)
{ICAL}	Calibration Blank = 0.0 mg/L standard **
{ICAL}	0.1 mg/L standard
{ICAL}	0.5 mg/L standard
{ICAL}	1.0 mg/L standard
QC	ICV 0.5 mg/L (2 nd source) *
QC	Method Blank 9.1.08
1	EFF 9.1.08
2	INF 9.1.08

* Only required if NOT performing QCS (blind) samples. The ICV also covers the LCS requirement because it is digested.

** Use 0.0 mg/L for concentration and document the absorbance detected by the spectrophotometer.

Example on days when the calibration curve is not analyzed (associated curve was digested)

Sample Number Count	Unique Sample ID
QC	Instrument Blank (zero the spectrophotometer)
QC	CCV/LCS standard *
QC	Method Blank 9.1.08
1	EFF 9.1.08
2	INF 9.1.08

* CCV is equivalent to the LCS if the curve and CCV is digested. Therefore a separate LCS QC sample would not be required.

Annual MDL studies must be performed. Annual PT samples must be analyzed. One-time IDC studies, per analyst, are also required. If the ICV is not analyzed then QCS samples must be analyzed 3 times a year. For TP, if more than 20 samples are analyzed in an analysis day then a CCV is required to be analyzed after every 20 samples in a batch.

QC samples do not count towards the total sample count of 20 samples.

If your laboratory does not digest the calibration standards along with the samples, then talk to your auditor to get a different version of the minimum required QC under new NR149 for your TP case.