TCEQ Drinking Water Lab Approval Form

Requirements

Public Water System (PWS) Labs, Commercial Labs, Water Treatment Facilities, Operators, or Operating Companies that intend to analyze drinking water samples for their own or other PWSs must complete this form, Lab Approval Form TCEQ-10450, and meet these requirements. If a PWS sends approved-lab analytes to a commercial lab, that commercial lab must be TCEQ-approved in the appropriate analysis. Evidence of the commercial lab's approval must be attached to the PWS's Monitoring Plan.

Frequency of Submission

A Lab Approval Form must be completed upon an initial request for approval, renewal of existing approval prior to "valid to" date on current approval, or if changes occur to the analytes, instruments or methods used within the lab.

Procedure

For a commercial lab and/or a PWS lab to be approved, the lab must complete the Lab Approval Form, indicating the methods and quality control procedures used at the lab. All Drinking Water Lab Approval Requirements must be met. The form must be signed by the individual with responsibility for lab operations. TCEQ will review these forms upon receipt and contact the lab if the form is incomplete or if the methods noted are not acceptable. The lab will be sent a record indicating whether approval has been granted. There is no fee associated with commercial lab approval.

Analytes Run by Other Labs

PWSs may have approved lab analytes run by commercial labs or other PWS labs if that outside lab is approved by the TCEQ. The outside lab must give the PWS a copy of their Lab Approval Form, any NELAP certifications, or Proficiency Testing Studies so the PWS can attach it to their Monitoring Plan.

Approved-Lab Analytes

PWSs must run a variety of samples at a lab approved by TCEQ. Most PWS will get their lab approved and analyze these samples at their own lab. The approved lab analytes are as follows:

- Alkalinity
- Calcium
- Chlorine Dioxide
- Chlorite (point-of-entry)
- Conductivity
- Silica
- Disinfectant Residual (Free or Total)
- Hardness (as CaCO3)
- Orthophosphate
- pH
- Turbidity
- Temperature
- Total Organic Carbon (TOC)
- Ultraviolet Light Absorbance at 254 nm (UV254)

Accredited-Lab Analytes

PWSs must have the following analyses performed by a lab accredited by TCEQ:

- Bacteriological (total coliform and fecal coliform)
- Bromate
- Chlorite (distribution system - monthly)
- Copper
- Haloacetic acids (HAA5)
- Inorganic Chemicals (IOC)
- Lead
- Magnesium
- Radionuclides
- Synthetic Organic Chemicals (SOC)
- Trihalomethanes (TTHM)
- Volatile Organic Chemicals (VOC)

Except for the bacteriological samples, lead and copper samples, bromate and monthly chlorite samples, all the accredited-lab analyte samples used for compliance under the Safe Drinking Water Act are collected by TCEQ's Drinking Water Compliance Sampling contractor. The contractor delivers samples for analysis to the Texas Department of State Health Services (DSHS) lab, Lower Colorado River Authority (LCRA) lab, or lab specified by the PWSSP for asbestos. Only these labs are approved to analyze samples for compliance purposes. Any accredited lab may run accredited lab analytes, but not for compliance purposes (e.g., For process control, research, etc.).

Form Instructions

Multiple drop-down menus are used in this form. If you need assistance completing this form, call 512-239-1064 and request to speak with Lab Approval, or email LABAPPRO@tceq.texas.gov.

Per Column on Analytes and Methods Table:

Analyte

Analyte is the chemical or value that you are analyzing. The heading of this column does not read "chemicals" because temperature, UV254, and turbidity are not chemicals. **Note:** All analytes listed on this form are those that can be analyzed at an approved lab. Your lab may not analyze all the listed analytes.

Analytical Method

Use the drop-down menus to enter the method that you use to measure each analyte (for example: Standard Method Cl-4500D). If you are not required or do not run one or more of the tests, select "Not Required". You must use EPA Approved Reference Methods, see Table 1.

Instrument Name

Enter the make and model number of the instrument or test kit you use to run the test (for example: Hach 1720D).

Accuracy

Report the number of decimal places you can accurately report the value for. Some analytes have required accuracy levels, see Table 1.

Calibration Frequency

Report the frequency with which you calibrate or verify the accuracy of your equipment. Some analytes have a minimum calibration requirement, see Table 1.

Calibration Method

Report the method with which you calibrate or verify the accuracy of your equipment. For some methods, TCEQ has rules about calibration or verification of accuracy. These include pH meters, turbidimeters, chemical disinfectant residual analyzers, and UV light disinfection analyzers.

PT Study

If your lab or PWS tests for point-of-entry chlorite, the lab or PWS must send a copy of an acceptable Proficiency Testing (PT) Studies result and point-of-entry chlorite results within six months of submitting the Lab Approval Form.

Submitting the Form and related Documentation

Use any of the following methods to submit the Lab Approval Form to TCEQ.

Mail

TCEQ Drinking Water Standards Section
MC-155 Attn: Lab Approval Coordinator
PO Box 13087
Austin TX 78711-3087

Email

LABAPPRO@tceq.texas.gov

Drinking Water Lab Approval Form

Analytes and Methods:

Use the instructions on the previous page to complete this table.

Analyte	Analytical Method	Instrument Name	Accuracy	Calibration Frequency	Calibration Method	PT Study
Point-of-Entry Chlorite[1]			± mg/L			
Turbidity			± NTU			[redacted]
pH			± pH unit			
Temperature			± °C			
TOC			± mg/L			
UV_{254}			± cm^{-1}			
Alkalinity			± mg/L			
Free Chlorine[2]			± mg/L			
Total Chlorine[2]			± mg/L			
Chlorine Dioxide[3]			± mg/L			
Calcium[4]			± mg/L			
Orthophosphate[4]			± mg/L			
Conductivity[4]			± µmho/cm			
Silica[4]			± mg/L			
Hardness (as $CaCO_3$)[5]			± mg/L			

For Analytes Sent to an Outside Lab:

If samples are sent to an outside lab, enter the analyte and lab or entity name where the samples are sent into the table below. Include as an attachment either an Approval Form, NELAP Certification, or Proficiency Study from that lab for that analyte.

Analyte	Lab/Entity Name

[1] Proficiency Testing (PT) result required for Point-of-entry chlorite approval dated within six months of lab approval.

[2] If your PWS has chloraminated water (the water has a total chlorine residual) at any point, a Nitrification Action Plan (NAP) is required. The analytical requirements for chloramine effectiveness (monochloramine, free ammonia, nitrate, and nitrite), required by 30 TAC 290.110(d), can be documented in your NAP. Download TCEQ's NAP template and document the analytical methods used for monitoring chloramine effectiveness on the List of Analytical Methods Sheet. The NAP template is available at https://www.tceq.texas.gov/goto/nitrification

[3] According to 290.119(a)(2), if your PWS uses chlorine dioxide you must list the method used to measure these analytes.

[4] Required only if your PWS is reporting water quality parameters for Lead and Copper Rule.

[5] SM 2340 B for hardness can be approved if the lab is approved for calcium and accredited for magnesium in the drinking water matrix.

Contact Information:

Complete the information for the entity seeking lab approval. A signature is required for approval.

Lab, PWS, or Plant name:	
PWS ID (TCEQ Issued):	
Lab ID (if applicable)[6]:	
Lab Address:	
City:	
Zip:	
Lab Phone:	
Lab Email:	

I, _____, certify that I am familiar with the information contained in this report and that, to the best of my knowledge, this information is true, complete, and accurate.

Signature:	
Your Title:	
Date Form Completed:	

[6] If this is the first time for the lab or entity to apply for approval, then it will not have a Lab ID. Enter "None" if this is the first time to seek approval for this lab or entity.

Table 1: Approved Methods, Calibration Frequency, and Minimum Accuracy

Analyte	Minimum Calibration Frequency	Approved Calibration Methods	Minimum Accuracy	EPA Methods	ASTM Methods	SM Methods	Other
Point-of-entry Chlorite			±0.05 mg/L	300.0 Rev 2.1, 300.1 Rev 1.0, 317.0 Rev 2.0, 326.0 Rev 1.0, 327.0 Rev 1.1	D6581-08A, D6581-08B	4500-ClO2 E, 4500-ClO2 E-00	Palintest ChlordioX Plus
Turbidity	**Bench top:** calibrate at least once every 90 days **On-line:** calibrate at least once every 90 days; check at least once every week	**Bench top:** Primary Standards **On-line:** Primary Standards, Secondary Standards, calibration confirmation device or compare results with a properly calibrated bench top unit	±0.05 NTU	180.1 Rev 2.0		2130 B, 2130 B-01	Hach Co: 10133 Rev 2.0, Hach 10258, GLI: Method 2, Mitchell M5271, Mitchell M5331, AMI Turbiwell, Orion AQ4500
pH	**Bench top:** calibrate at least once daily **On-line:** calibrate at least once every 30 days; check at least once every week	**Bench top:** check with at least one buffer each time a series of samples is run or with manufacturers specifications **On-line:** check with a primary standard or compare results with a properly calibrated bench top unit	±0.1 pH unit	150.1, 150.2, 150.3	D1293-12, D1293-95, D1293-99, D1293-18	4500-H+ B, 4500-H+ B-00	
Temperature			±0.5°C			2550; 2550-00	
TOC				415.3 Rev 1.2		5310 B, 5310 B-00, 5310 C, 5310 C-00, 5310 D, 5310 D-00	Hach 10267
UV254				415.3 Rev 1.2		5910 B, 5910 B-00	

Analyte	Minimum Calibration Frequency	Approved Calibration Methods	Minimum Accuracy	EPA Methods	ASTM Methods	SM Methods	Other
Alkalinity					D1067-02B, D1067-06B, D1067-11B, D1067-92B	2320 B, 2320 B-97	USGS: I-1030-85
Free Chlorine	**Manual:** check at least once every 90 days **Continuous:** check at least once every 7 days; calibrate if not within 15% of expected result	Check with chlorine solution of known concentration (Primary Standards) or by comparing results from the on-line analyzer with the result of approved bench top method	±0.1 mg/L	334.0[7]	D99-003, D1253-03, D1253-08, D1253-14, D1253-86	4500-Cl D, 4500-Cl D-00, 4500-Cl F, 4500-Cl F-00, 4500-Cl G, 4500-Cl G-00, 4500-Cl H, 4500-Cl H-00	Hach Co.: 10241 Rev 1.2, Hach Co.: 10260 Rev 1.0, Palintest ChloroSense e-sens AMCD
Total Chlorine	**Manual:** check at least once every 90 days **Continuous:** check at least once every 7 days; calibrate if not within 15% of expected result	Check with chlorine solution of known concentration (Primary Standards) or by comparing results from the on-line analyzer with the result of approved bench top method	±0.1 mg/L	EPA method 127, 334.0[7]	D1253-03, D1253-08, D1253-14, D1253-86	4500-Cl D, 4500-Cl D-00, 4500-Cl E, 4500-Cl E-00, 4500-Cl F, 4500-Cl F-00, 4500-Cl G, 4500-Cl G-00, 4500-Cl I, 4500-Cl I-00	Hach Co.: 10260 Rev 1.0, Palintest ChloroSense e-sens AMCD
Chlorine Dioxide			±0.05 mg/L	327.0 Rev 1.1		4500-ClO2 C, 4500-ClO2 D, 4500-ClO2 E, 4500-ClO2 E-00	Palintest ChlordioX Plus
Calcium				200.5 Rev 4.2, 200.7 Rev 4.4	D511-03A, D511-03B, D511-09A, D511-09B, D511-14A, D511-14B, D511-93A, D511-93B, D6919-03, D6919-09, D6919-17	3111 B, 3111 B-99, 3120 B, 3120 B-99, 3500-Ca B, 3500-Ca B-97, 3500-Ca D	

[7] If your PWS uses an online chlorine analyzer that does not use an EPA approved method, you must submit a Method 334.0 Initial Demonstration of Capability form.

Analyte	Minimum Calibration Frequency	Approved Calibration Methods	Minimum Accuracy	EPA Methods	ASTM Methods	SM Methods	Other
Ortho-phosphate			±0.1 mg/L	300.0 Rev 2.1, 300.1 Rev 1.0, 365.1 Rev 2.0	D511-88A, D4327-03, D4327-11, D4327-97, D6508-15, D4327-17	4110 B, 4110 B-00, 4500-P E, 4500-P E-99, 4500-P F, 4500-P F-99	USGS: I-1601-85, I-2598-85, I-2601-90, Thermo Fisher Discrete Analyzer
Conductivity					D1125-14A, D1125-95A	2510 B, 2510 B-97	
Silica				200.5 Rev 4.2, 200.7 Rev 4.4	D859-00, D859-05, D859-10, D859-94	3120 B, 3120 B-99, 4500-Si D, 4500 Si E, 4500 Si F, 4500 SiO2 C, 4500 SiO2 C-97, 4500 SiO2 D, 4500 SiO2 D-97, 4500 SiO2 E, 4500 SiO2 E-97	USGS: I-1700-85, I-2700-85
Hardness - as CaCO3						2340 B	