TITLE 9. HEALTH SERVICES

CHAPTER 14. DEPARTMENT OF HEALTH SERVICES

LABORATORIES

ARTICLE 6. LICENSING OF ENVIRONMENTAL LABORATORIES

Section

ARTICLE 6. LICENSING OF ENVIRONMENTAL LABORATORIES

R9-14-601. Definitions

In addition to the definitions in A.R.S. § 36-495, the following definitions apply in this Article, unless otherwise specified:

1. "Acceptance criteria" means the range of satisfactory test results for a parameter.
2. "ADEQ" means the Arizona Department of Environmental Quality.
3. "Affiliate" means a business organization that:
   a. Controls or has the power to control the business organization that owns the laboratory,
   b. Is controlled by or could be controlled by the business organization that owns the laboratory, or
   c. Could be controlled by a third business organization that could also control the business organization that owns the laboratory.
4. "Alternate method" means an analytical test procedure or technique that is not an approved method and for which approval is requested under R9-14-610(C).
5. "Analyst" means an individual who performs compliance testing at a laboratory.
6. "Analyte" means the substance or chemical constituent being sought or measured in an analytical procedure.
7. "Applicant" means a person or persons requesting an initial or renewal license under R9-14-603, approval of an alternate method or method alteration under R9-14-610(C), or approval of an exemption under R9-14-615(D), and includes, as required under A.R.S. § 36-495.03(D), the owner and, if the owner is not the laboratory director, the laboratory director.
8. "Approved method" means an analytical test procedure or technique authorized by the Department to test for the presence of a particular contaminant or characteristic and includes:
   a. An alternate method approved by the Department under R9-14-610(E), and
   b. An analytical test procedure or technique currently authorized by the Department that is used with a method alteration approved by the Department under R9-14-610(E).
9. "ASTM" means American Society for Testing and Materials.
10. "Blind proficiency testing" means the Department's determination of a laboratory analyst's ability to analyze samples correctly, accomplished by submitting samples for

testing in such a manner that the laboratory analyst is not aware that the proficiency testing is occurring.

11. "Business organization" means an entity such as a sole proprietorship, an unincorporated association, a corporation, a limited liability company, a partnership, or a governmental entity.
12. "Calibration curve" means a graphical display of the functional relationship between the instrument or analytical device response and the analyte amount.
13. "Calibration model" means a mathematical form for a calibration curve.
14. "CCC" means calibration check compounds.
15. "CCV" means continuing calibration verification standard.
16. "Client" means a person that submits a sample to a laboratory for compliance testing.
17. "Contaminant" means a matter, pollutant, hazardous substance, or other substance for which a sample is being tested.
18. "Contiguous grounds" means real property that can be enclosed by a single unbroken boundary line that does not enclose property owned or leased by another.
19. "Critical step" means a task in the testing procedure that is required to be performed within a specified time period by regulation, method, standard operating procedure, or quality assurance plan.
20. "Current" means up-to-date and extending to the present time.
21. "Data outlier" means a test result that falls outside of acceptance criteria.
22. "Days" means calendar days, excluding the day of the act, event, or default from which a designated period of time begins to run and excluding the last day of the period if it is a Saturday, a Sunday, or a legal holiday, in which event the period runs until the end of the next day that is not a Saturday, a Sunday, or a legal holiday.
23. "DBCP" means 1,2-Dibromo-3-chloropropane.
24. "DDT" means dichloro-diphenyl-trichloroethane.
25. "DOC" means dissolved organic carbon.
26. "ECD" means electron capture detector.
27. "EDB" means 1,2-Dibromoethane.
28. "Effluent" means an outflow, as of a stream that flows out of a facility.
29. "EOX" means extractable organic halides.
30. "EP" means extraction procedure.
31. "EPA" means the United States Environmental Protection Agency.
32. "FID" means flame ionization detector.

33. "FL" means fluorescence.
34. "FT-IR" means Fourier transform infrared.
35. "GC" means gas chromatography.
36. "HEM" means n-Hexane extractable material.
37. "HPLC" means high performance liquid chromatography.
38. "HRGC" means high resolution gas chromatography.
39. "HRMS" means high resolution mass spectrometry.
40. "ICV" means initial calibration verification.
41. "Initial Demonstration of Capability" or "IDOC" means a test performed by an analyst, as prescribed by a method, to document the analyst's ability to perform the method.
42. "Investigation" means an evaluation of a licensee's or applicant's compliance with A.R.S. Title 36, Chapter 4.3 and this Article conducted by the Department upon its own initiative or upon receipt of a written complaint and may include a laboratory inspection.
43. "IPC" means instrument performance check.
44. "Key reference" means a document incorporated by reference in R9-14-610(B).
45. "Laboratory inspection" means the Department's assessment of operations at a laboratory to determine an applicant's or a licensee's compliance with A.R.S. Title 36, Chapter 4.3 and this Article.
46. "LCS" means laboratory control sample.
47. "LDO" means Luminescence Measurement of Dissolved Oxygen.
48. "Level I license" means an approval issued by the Department authorizing compliance testing of one to nine total parameters at a laboratory.
49. "Level II license" means an approval issued by the Department authorizing compliance testing of 10 to 17 total parameters at a laboratory.
50. "Level III license" means an approval issued by the Department authorizing compliance testing of more than 17 total parameters at a laboratory.
51. "LFB" means laboratory fortified blank.
52. "LFM" means laboratory fortified sample matrix.
53. "Licensee" means a person or persons to whom the Department issues a license to operate a laboratory and includes, as required under A.R.S. § 36-495.03(D), the owner and, if the owner is not the laboratory director, the laboratory director.
54. "Limit of detection" means an analyte- and matrix-specific estimate of the minimum amount of a substance that an analytical process can reliably detect.
55. "Limit of quantitation" or "LOQ" means the minimum levels, concentrations, or

quantities of a target variable such as an analyte that can be reported with a specific degree of confidence.

56. "LRMS" means low resolution mass spectrometry.
57. "Maximum holding time" means the greatest number of minutes, hours, or days that a sample may be kept between sampling and the beginning of analysis and still be considered a valid sample for compliance testing.
58. "Method" means an analytical test procedure or technique.
59. "Method alteration" means a change to an established method.
60. "Method reporting limit" means the minimum concentration of a contaminant reported after analyzing a sample in a given parameter, determined after corrections have been made for sample dilution and sample weight.
61. "Mobile laboratory" means a non-stationary facility where compliance testing is performed.
62. "MPN" means most probable number.
63. "MRL" means minimum reporting level.
64. "MS" means mass spectrometry.
65. "MSE" means microscale solvent extraction.
66. "MSRV" means Modified Semisolid Rappaport-Vassiliadis.
67. "NPD" means nitrogen phosphorous detector.
68. "NPDES" means national pollutant discharge elimination system.
69. "NTIS" means the National Technical Information Service, which is part of the U.S. Department of Commerce.
70. "NTU" means nephelometric turbidity units.
71. "ONPG-MUG" means ortho-nitrophenyl-ß-D-galactopyranoside-4-methylumbelliferyl-ß-D-glucuronide.
72. "Owner" means a person that has controlling legal or equitable interest in and authority over a laboratory's operations.
73. "PAH" means polynuclear aromatic hydrocarbon.
74. "Parameter" means the combination of a particular type of sample with a particular approved method by which the sample will be analyzed for a particular analyte or characteristic.
75. "PB" means particle beam.
76. "PCB" means polychlorinated biphenyls.
77. "PCDD" means polychlorinated dibenzodioxins.

78. "PCDF" means polychlorinated dibenzofurans.
79. "PDA" means photodiode array.
80. "PID" means photoionization detection.
81. "POX" means purgeable organic halides.
82. "Precision" means repeatability of measurement data, specifically the similarity of successive independent measurements of a single magnitude generated by repeated applications of a process under specified conditions.
83. "Proficiency testing" means a mechanism in which samples with known characteristics are submitted to a laboratory for analysis to determine a laboratory analyst's ability to analyze samples correctly.
84. "Proficiency testing service" means an independent company or other person acceptable to the EPA or, if the EPA has not indicated acceptance of an independent company or other person for a parameter, acceptable to the Department based on recognition from a national organization such as the National Environmental Laboratory Accreditation Program that:
    a. Is the source for samples with known characteristics for proficiency testing, and
    b. Assesses the acceptability of a laboratory analyst's results from the samples with known characteristics during proficiency testing.
85. "Qualified" means explained in documentation.
86. "Quality assurance plan" means documentation that meets the requirements of R9-14-615(B).
87. "Quality control checks" means the steps taken by laboratory analysts to monitor the accuracy and precision of sample analysis.
88. "QCS" means quality control sample.
89. "RDX" means Hexahydro-1,3,5-trinitro-1,3,5-triazine.
90. "Records" means all written, recorded, and electronic documentation necessary to reconstruct all laboratory activities that produce data and includes all information relating to the laboratory's equipment, analytical test methods, and related activities.
91. "RPD" means relative percent difference.
92. "Ruggedness" means the ability of a method to withstand changes in environmental factors and produce repeatable results.
93. "Sample" means a specimen that is a representative part of a whole or a single item from a group.
94. "Single laboratory" means an individual laboratory facility or multiple laboratory

facilities located on contiguous grounds and having the same owner.

95. "Small business" means a business organization, including its affiliates, that is independently owned and operated, that is not dominant in its field, and that employs fewer than 100 full-time employees or had gross annual receipts of less than $4 million in its last fiscal year.
96. "SOUR" means specific oxygen uptake rate.
97. "SPE" means solid-phase extraction.
98. "SPLP" means synthetic precipitation leaching procedure.
99. "Standard operating procedure" means a documented process for carrying on business, analysis, or action, with instructions for performing routine or repetitive tasks.
100. "Statistical outlier" means an individual data point that has a value far from those of the other data points in a set and that has been determined through statistical analysis to have been derived from a different population than the other data points.
101. "TCLP" means toxicity characteristics leaching procedure.
102. "TDS" means total dissolved solids.
103. "TE" means thermal extraction.
104. "TNT" means trinitrotoluene.
105. "TOC" means total organic carbon.
106. "TOX" means total organic halides.
107. "Traceability" means the establishment of an unbroken chain of comparisons to the reference of origin.
108. "TS" means thermospray.
109. "TSS" means total suspended solids.
110. "UV" means ultraviolet.
111. "Valid" means that a license, certificate, or other form of authorization is in full force and effect and not suspended.
112. "VOC" means volatile organic compound.
113. "VOST" means volatile organic sampling train.

R9-14-602. Exemptions from Applicability

This Article does not apply to:

1. The laboratories exempted by A.R.S. § 36-495.02(A);
2. Compliance testing performed under the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. 136-136y;

3. An out-of-state laboratory at which only microbiology testing of bottled water is performed and for which the owner holds a current and valid environmental laboratory license or certificate, issued by another state of the United States, that specifically authorizes drinking water testing;
4. A person that:
    a. Employs methods approved by either ADEQ or the Department; and
    b. Tests compliance samples either:
        i. For turbidity or conductivity at the time of sampling, or
        ii. With a maximum holding time of 15 minutes after sampling; or
5. A laboratory that only performs compliance testing on daily chlorine dioxide or chlorite drinking water samples or ultra-low-range total residual chlorine wastewater samples as long as that laboratory is:
    a. Employing methods approved by either ADEQ or the Department; and
    b. Testing compliance samples immediately at the time of sampling, from which results may be obtained more than 15 minutes after sampling.

R9-14-603. License Application and Process; Transferability

A. To obtain an initial or renewal license to operate a laboratory, an applicant shall submit to the Department, within the time prescribed in subsection (B), an application that contains:

1. The following information in a Department-provided format:
    a. The name of the laboratory;
    b. The current Arizona license number for the laboratory, if any;
    c. The current EPA certification number for the laboratory, if any;
    d. Whether the applicant is applying to license:
        i. A single laboratory,
        ii. Multiple laboratories located on contiguous grounds according to subsection (C)(2), or
        ii. One of multiple laboratories under a single license according to subsection (C)(3);
    e. The physical and mailing addresses for each laboratory for which the application is being submitted;
    f. The telephone number, fax number, and e-mail address for the laboratory;
    g. The type of laboratory:
        i. Governmental;
        ii. Company, performing internal work only;

iii. Commercial, for profit; or

iv. Other, with a description of the type of laboratory operation;

h. For a type of laboratory specified in subsection (A)(1)(g)(ii) through (iv):

i. The name and address of the owner and of each additional person that has an ownership interest in the laboratory; and

ii. For each person specified in subsection (A)(1)(h)(i), the name of each officer, principal, and statutory agent;

i. The name of the laboratory director;

j. Whether the applicant is applying for a:

i. Level I license,

ii. Level II license, or

iii. Level III license;

k. If the applicant is applying to license a mobile laboratory:

i. The vehicle make, vehicle identification number, and Arizona vehicle license number of the mobile laboratory; and

ii. If the mobile laboratory is affiliated with a non-mobile laboratory, the name of the non-mobile laboratory;

l. If the application is for an initial license:

i. A list of the parameters for which the applicant is requesting to be licensed,

ii. A list of the instruments and equipment to be used at the laboratory for compliance testing,

iii. A list of the software to be used at the laboratory for instrument control and data reduction interpretation, and

iv. A list of the states in which the laboratory is licensed or certified and the corresponding license or certificate number for each state;

m. If the application is for a renewal license, whether the applicant:

i. Is requesting to be licensed for the same parameters as on the current license;

ii. Is using the same instruments and equipment as used under the current license;

iii. Is using the same software as used under the current license; and

iv. Is requesting to make payments in installments, as permitted under R9-14-608, and, if so, an indication of the monthly, bimonthly, or quarterly schedule for the payments;

n. If the information provided according to subsection (A)(1)(m) indicates a change in parameters, instruments or equipment, or software for a renewal license, the changes to the:
   i. Parameters on the current license,
   ii. Instruments or equipment used under the current license, or
   iii. Software used under the current license;

o. If the applicant is applying for an out-of-state laboratory, whether the applicant wants to receive technical updates at the laboratory by fax or by e-mail;

p. Whether the applicant agrees to allow the Department to submit supplemental requests for information; and

q. The dated signature of the laboratory director and:
   i. If the owner is an individual, the individual;
   ii. If the owner is a corporation, an officer of the corporation;
   iii. If the owner is a partnership, one of the partners;
   iv. If the owner is a limited liability company, a manager or, if the limited liability company does not have a manager, a member of the limited liability company;
   v. If the owner is an association or cooperative, a member of the governing board of the association or cooperative;
   vi. If the owner is a governmental agency, the individual in the senior leadership position with the agency or an individual designated in writing by that individual; or
   vii. If the owner is a business organization type other than those described in subsections (A)(1)(q)(ii) through (v), an individual who is a member of the business organization;

2. A notarized attestation in a Department-provided format, made under oath, and signed by the individuals in subsection (A)(1)(q) stating that:
   a. The owner and the laboratory director will comply with all applicable requirements in A.R.S. Title 36, Chapter 4.3 and this Article; and
   b. The information and documents provided as part of the application are true and accurate;

3. If the application is for an initial license:
   a. A copy of a proficiency testing report, for the current or most recently completed year, for the state in which the laboratory is located or, if that state does not require proficiency testing, for another state in which the laboratory is licensed or certified, for each of the parameters for which licensure is requested; and

b. A copy of a current quality assurance plan for the laboratory;

4. If the application is for a renewal license, a copy of a current standard operating procedure, limit of detection, and, if available, proficiency testing report for each new parameter specified according to subsection (A)(1)(n)(i); and

5. Except as provided in subsection (I), the fees required under R9-14-607 and R9-14-608, payable to the Arizona Department of Health Services by credit card; certified check; business check; money order; or, if the owner is an Arizona state agency, purchase order.

B. An applicant shall submit an application:

1. For an initial license for an in-state laboratory, at least 30 days before the applicant intends to begin operating the in-state laboratory;

2. For an initial license for an out-of-state laboratory, at least 60 days before the applicant intends to begin performing Arizona compliance testing;

3. For a renewal license for an in-state laboratory, at least 30 days before the expiration date of the current license; and

4. For a renewal license for an out-of-state laboratory, at least 60 days before the expiration date of the current license.

C. The Department may issue a single laboratory license for:

1. A single laboratory;

2. Multiple laboratories that are located on contiguous grounds and have the same owner, if the applicant submits one application and combined fees for the laboratories; or

3. Multiple laboratories, including mobile laboratories, that have the same owner but are not located on contiguous grounds, if:

a. The applicant submits a separate application and fees for each laboratory,

b. Each non-mobile laboratory is located in Arizona, and

c. Each mobile laboratory has a current and valid Arizona vehicle registration.

D. The Department shall not issue a single laboratory license for multiple laboratories that do not meet the requirements of subsection (C)(2) or (3).

E. The Department shall not consider an applicant to be in compliance with the requirements for licensure, as provided under A.R.S. § 36-495.09(A)(5), if the applicant does not pay the appropriate fees required under R9-14-607 and R9-14-608.

F. The Department shall process an application as provided in R9-14-621.

G. A laboratory license is valid only for the facility or facilities for which the license is issued and cannot be transferred to another facility.

H. A laboratory license is valid only in the name of the persons to whom it is issued and expires upon a change in laboratory name, laboratory director, or ownership, unless within 20 business days after the change, the Department receives written notice of the change and an application for a new license.

I. The Department shall not charge a fee for a license application submitted under subsection ~~(I)~~ (H) and shall issue a new license reflecting the change upon determining continued compliance with A.R.S. Title 36, Chapter 4.3 and this Article.

R9-14-604. Third Party Accreditation

A. A laboratory that holds current and valid accreditation issued by the National Voluntary Laboratory Accreditation Program administered by the National Institute of Standards and Technology is exempt from licensure under this Article, as authorized under A.R.S. § 36-495.02, for the term of the accreditation.

B. If a laboratory's accreditation issued by the National Voluntary Laboratory Accreditation Program expires or is suspended, revoked, or voluntarily terminated, the laboratory is required to be licensed as provided under A.R.S. Title 36, Chapter 4.3 and this Article.

R9-14-605. Compliance Monitoring

A. The Department may conduct a laboratory inspection, investigation, or proficiency testing, or any combination of the three, at any time before or during a laboratory's license period.

B. The Department shall conduct at least an initial laboratory inspection and a follow-up annual laboratory inspection before determining how often to conduct subsequent laboratory inspections, as provided under subsection (C).

C. In determining how often to conduct a laboratory inspection, the Department shall consider:

1. The Department's findings at the last two laboratory inspections;
2. The licensee's adherence to any corrective action plans created as a result of the last two laboratory inspections;
3. Whether there has been a change in ownership or laboratory director since the last laboratory inspection;
4. The extent to which the compliance testing performed at the laboratory has changed since the last laboratory inspection or would change as a result of a renewal application; and
5. Performance on the most recent proficiency testing completed at the laboratory.

D. For a laboratory at which drinking water compliance testing is performed, the Department shall conduct a laboratory inspection at least once every three years or as otherwise required by the EPA.

E. The Department shall comply with A.R.S. § 41-1009 in conducting laboratory inspections and investigations that occur at a laboratory.

F. If the Department determines, based on a laboratory inspection, investigation, or proficiency testing, or any combination of the three, that a laboratory owner, officer, agent, or employee has engaged in conduct described under A.R.S. § 36-495.09(A), the Department shall request that the licensee or applicant submit to the Department a written corrective action plan, unless the Department determines one of the following, in which case the Department may take action under A.R.S. § 36-495.09:

1. That the deficiencies were committed intentionally;
2. That the deficiencies cannot be corrected within a reasonable period of time;
3. That the deficiencies are evidence of a pattern of noncompliance;
4. That the deficiencies are a risk to any person; the public health, safety, or welfare; or the environment; or
5. That there is a reasonable belief, as stated in A.R.S. § 36-495.09(B), that a violation of A.R.S. § 36-495.09(A)(5) has occurred and that the life or safety of the public is immediately affected.

G. Within 30 days after receiving a request for a written corrective action plan, a licensee or applicant shall submit to the Department a written corrective action plan that includes the following for each identified deficiency:

1. A description of how the deficiency will be corrected, and
2. A date of correction for the deficiency.

H. The Department shall accept a written corrective action plan if the plan:

1. Describes how each identified deficiency will be corrected, and
2. Includes a date for correcting each deficiency as soon as practicable based upon the actions necessary to correct the deficiency.

I. If the Department disapproves a corrective action plan, the Department shall send to the licensee or applicant a written notice of disapproval requesting that the licensee or applicant submit to the Department a revised corrective action plan for the items that the Department disapproves.

1. A licensee or applicant shall submit a revised corrective action plan to the Department within 21 days after the date of a written notice of disapproval.

2. If a licensee or applicant does not submit a revised corrective action plan within 21 days after the date of a written notice of disapproval, the Department may take action under A.R.S. § 36-495.09.

J. A licensee or applicant shall notify the Department when corrective action has been completed.

K. Within 30 days after receiving notice that corrective action has been completed, the Department shall determine whether each deficiency has been corrected and whether the corrective action brings the laboratory operations into substantial compliance with A.R.S. Title 36, Chapter 4.3 and this Article.

L. If the Department determines that a licensee or applicant has not corrected a deficiency or that the licensee or applicant has not corrected a deficiency within a reasonable period of time, the Department may take any enforcement action authorized by law as a result of the deficiency.

M. Under A.R.S. § 41-1009(G), the Department's decision regarding whether a licensee or applicant may submit a corrective action plan or whether a deficiency has been corrected or has been corrected within a reasonable period of time is not an appealable agency action as defined by A.R.S. § 41-1092.

R9-14-606. Provisional Licensing

A. The Department may issue a provisional license to a licensee when the Department suspends the licensee's regular license because of deficiencies identified in an investigation, laboratory inspection, or proficiency testing, or any combination of the three, if the licensee agrees to carry out a corrective action plan acceptable to the Department to eliminate the deficiencies.

B. In determining whether to issue a provisional license, the Department shall consider:

1. The nature of the deficiencies upon which the suspension is based;
2. The licensee's history of compliance with A.R.S. Title 36, Chapter 4.3 and this Article;
3. The extent to which the public health and safety may be impacted by the continued operation of the laboratory with a provisional license; and
4. The extent to which the public's interests are served by allowing the licensee the opportunity to correct the deficiencies and continue operating with a provisional license.

C. The Department shall issue an amended list of parameters for a provisional license.

D. A licensee shall return its regular license to the Department within 14 days after receiving written notification of license suspension.

E. A provisional license is valid for a period established by the Department, not to exceed 12 months.

F. A licensee with a provisional license may submit an application to obtain a regular initial license according to R9-14-603 at least 30 days before the provisional license expires.

G. The Department shall issue a regular initial license as described in subsection (F) only upon determining that a licensee is in full compliance with the corrective action plan developed according to subsection (A); A.R.S. Title 36, Chapter 4.3; and this Article.

H. The Department shall not issue a provisional license to an applicant submitting an application for an initial license according to R9-14-603.

R9-14-607. Fees

A. Except as provided in R9-14-608, an applicant shall submit the following fees to the Department with each application for an initial or renewal license:

1. The cumulative method and instrumentation fees for each laboratory, as determined according to Tables 6.2.A, 6.2.B, 6.2.C, 6.2.D, 6.2.E, and 6.3;
2. The following application fees:
   a. If applying for a single license for a single laboratory, which may include multiple laboratories located on contiguous grounds and having the same owner, the following fee:
      i. For a Level I license, $1,677;
      ii. For a Level II license, $2,130; or
      iii. For a Level III license, $2,348; or
   b. If applying for a single license for multiple laboratories not located on contiguous grounds, the following fee for each laboratory:
      i. For a Level I license, $1,442;
      ii. For a Level II license, $1,895; and
      iii. For a Level III license, $2,130;
3. An administrative fee of $130 for the proficiency testing to occur during the license period; and
4. If applying for an out-of-state laboratory, an annual information update fee of $126.

B. The fees paid to the Department under this Article are nonrefundable, unless A.R.S. § 41-1077 applies.

R9-14-608. Installment Payment of Fees by Small Businesses

A. A licensee may, for license renewal, pay the fees calculated under R9-14-607(A)(1), (3), and (4) to the Department in 12 or fewer installments if the owner is a small business.

B. A licensee who desires to make payments in installments as described in subsection (A) shall indicate this on the application for license renewal and shall indicate a monthly, bimonthly, or quarterly schedule for the payments, which shall result in full payment within 12 or fewer months.

C. A licensee making installment payments shall submit the first installment payment to the Department along with the application for license renewal and the application fee calculated under R9-14-607(A)(2), and each subsequent installment payment on a monthly, bimonthly, or quarterly basis, as indicated on the application, or until the fees are paid in full, whichever comes first.

D. A licensee shall ensure that each installment payment is:

1. Paid by the first day of the month in which it is due; and
2. At least equal to the amount calculated by dividing the total fees due under R9-14-607(A)(1), (3), and (4) by the number of payments indicated on the application for license renewal.

E. If a licensee fails to submit an installment payment within seven days after its due date, the Department shall charge a $50 fee for processing the late payment.

F. If a licensee fails more than twice during the license period to submit an installment payment within seven days after the due date of the installment payment, the Department may suspend the licensee's authorization to make installment payments and require the licensee to pay all pending fees.

G. If a licensee fails to submit an installment payment within 30 days after its due date, the Department may initiate action under A.R.S. § 36-495.09.

R9-14-609. Proficiency Testing

A. At least once in each 12-month period, and more often if requested by the Department, each licensee or applicant shall have at least one laboratory analyst participate in proficiency testing provided by the Department, the EPA, or a proficiency testing service that:

1. Includes at least one proficiency testing sample for each parameter for which an initial license or renewal license has been issued or requested and for which proficiency testing samples are available;
2. Demonstrates the laboratory analyst's proficiency in compliance testing of:
    a. Applicable drinking water parameters in Table 6.2.A, if:
        i. The applicant plans to perform compliance testing of drinking water parameters, or

ii. The licensee is approved to perform compliance testing of drinking water parameters; and

b. Applicable parameters other than drinking water parameters, if:

i. The applicant plans to perform compliance testing of the parameters, or

ii. The licensee is approved to perform compliance testing of the parameters; and

3. If the licensee or applicant has been issued or has requested a license that includes approval for testing an analyte by different methods, may use the same proficiency testing sample for each method.

B. To demonstrate proficiency for a parameter, test results reported for the parameter shall be within acceptance limits established for:

1. Drinking water inorganic chemistry parameters by the EPA, as provided in 40 CFR 141.23;
2. Drinking water organic chemistry parameters by the EPA, as provided in 40 CFR 141.24;
3. Lead or copper in drinking water by the EPA, as provided in 40 CFR 141.89;
4. Disinfection byproducts in drinking water by the EPA, as provided in 40 CFR 141.131; and
5. Other parameters by the EPA or the proficiency testing service.

C. A licensee or applicant shall ensure that:

1. Each proficiency testing sample accepted at the licensee's or applicant's laboratory is analyzed at the licensee's or applicant's laboratory;
2. Each proficiency testing sample is tested within the maximum holding times allowed for its parameter, using the same procedures and techniques employed for routine sample testing, and calculating the holding time from the time the sample seal is broken or as indicated in the instructions accompanying the sample;
3. A proficiency testing service provides proficiency testing results directly to the Department;
4. If proficiency testing is provided by the Department, the licensee or applicant submits to the Department payment for the actual costs of the proficiency testing materials; and
5. If proficiency testing is not provided by the Department or the EPA, the licensee or applicant selects a proficiency testing service and contracts with and pays the proficiency testing service directly for proficiency testing.

D. The Department may submit blind proficiency testing samples to a licensed laboratory at any time during the license period.

R9-14-610. Approved Methods and References

A. A licensee or applicant shall ensure that compliance testing is performed according to an approved method and may use method alterations approved by the Department under subsection (C).

B. The approved methods listed by parameter in Tables 6.2.A through 6.2.D are found in the following references, which are incorporated by reference with the modifications described below; are on file with the Department; include no future editions or amendments; and are available as provided below.

Key Reference

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A2 Environmental Monitoring Systems Laboratory, EPA, Pub. No. EPA/600/R-93/100 (600R93100), Methods for the Determination of Inorganic Substances in Environmental Samples (August 1993), available at http://nepis.epa.gov/EPA/html/pubs/pubtitle.html or by calling (800) 490-9198.

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A4 National Service Center for Environmental Publications (NSCEP), Online EPA Publication Title List available at http://nepis.epa.gov/EPA/html/Pubs/pubtitle.html or by calling (800) 490-9198. Publication numbers for the methods that are listed under this reference are:

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2. Method 314.1, Rev 1.0, May 2005, EPA 815-R-05-009
3. Method 326.0, Rev 1.0, June 2000, EPA 815-R-03-007
4. Method 327.0, Rev 1.1, May 2005, EPA 815-R-05-008
5. Method 331.0, Rev 1.0, January 2005, EPA 815-R-05-007
6. Method 515.4, Rev 1.0, April 2000, EPA 800-R-00-016

7. Method 527, Rev 1.0, April 2005, EPA 815-R-05-005
8. Method 531.2, Rev 1.0, September 2001, EPA 815-B-01-002
9. Method 552.3, Rev 1.0, July 2003, EPA 815-B-03-002
10. Method 200.5, Rev 4.2, October 2003, EPA 600-R-06-115
11. Method 332, Rev 1.0, March 2005, EPA 600-R-05-049
12. Method 415.3, Rev 1.1, February2005, EPA 600-R-05-055
13. Method 415.3, Rev 1.2, September 2009, EPA 600-R-09-122
14. Method 521, Version 1.0, September 2004, EPA 600-R-05-054
15. Method 529, Rev 1.0, September 2002, EPA 600-R-05-052
16. Method 535, Rev 1.1, April 2005, EPA 600-R-05-053
17. Method 1631, Rev E, August 2002, EPA 821-R-02-019
18. Method 557, Version 1.0, September 2009, EPA 815-B-09-012
19. Method 524.4, May 2013, EPA 815-R-13-002
20. Method 524.3, Version 1.0, June 2009, EPA 815-B-09-009
21. Method 522, Version 1.0, September 2008, EPA 600-R-08-101
22. Method 1613, Rev B, October 1994, EPA 821-B-94-005
23. Method 245.7, Rev 2.0, February 2005, EPA 821-R-05-001
24. Method 1664, Rev B, February 2010, EPA 821-R-10-001
25. Method 1638, April 1995, EPA 821-R-95-031
26. Method OIA-1677 DW, January 2004, EPA 821-R-04-001
27. Method 1627, December 2011, Acid Mine Drainage, EPA 821-R-09-002
28. PCBs in Transformer Fluid and Oils, September 1982, EPA 600/4-81-045
29. Asbestos in Bulk Samples, December 1982, EPA 600/M4-82-020
30. Method 100.1, Asbestos Fibers, September 1993, EPA 600/4-83-043
31. Method 100.2, Asbestos Structures over 10m in Length, EPA/600/R-94/134
32. Method 1622, Cryptosporidium in Water, December 2005, EPA 815-R-05-001
33. Method 1623.1, Cryptosporidium and Giardia in Water, January 2012, EPA 816-R-12-001
34. Method 1682, Salmonella in Sewage Sludge, July 2006, EPA 821-R-06-014
35. Method 1605, Aeromonas in Finished Water by MF, October 2001, EPA 821-/R/01/034
36. Method 1604, Total coliforms and E.coli by MF, September 2002, EPA-821-02-024
37. Method 1601, Coliphage, April 2001, EPA 821-R-01-030
38. Method 1602, Coliphage, April 2001, EPA 821-R-01-029
39. Method 1623, Cryptosporidium and Giardia, December 2005, EPA 815-R-05-002

40. Method 537, September 2009, EPA/600/R-08/092
41. Method 302.0, September 2009, EPA-815-B-09-014
42. Method 539, November 2010, EPA 815-B-10-001
43. Method 218.7, November 2011, EPA 815-R-11-005
44. Method 334.0. September 2009, EPA 815-B-09-013

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W Environmental Monitoring and Support Laboratory Las Vegas, EPA, Pub. No. EMSL-LV-0539-17 (EMSLLV053917), Radiochemical Analytical Procedures for Analysis of Environmental Samples (March 1979), available at http://nepis.epa.gov/EPA/html/pubs/pubtitle.html or by calling (800) 490-9198.

X Office of Ground Water and Drinking Water, EPA, Pub. No. EPA/600/4-91/016 (600491016), Test Methods for *Escherichia coli* in Drinking Water: EC Medium with Mug Tube Procedure, Nutrient Agar with Mug Membrane Filter Procedure (July 1991), available at http://nepis.epa.gov/EPA/html/pubs/pubtitle.html or by calling (800) 490-9198.

Y Method OIA-1677-09, Available Cyanide by Ligand Exchange and Flow Injection Analysis (FIA). 2010, available from ALPKEM, a Division of OI Analytical, 151 Graham Road, College Station, TX 77845 or by calling (979) 690-1711.

Z IDEXX Colilert*-18 and Quanti-Tray* Test Method for the Detection of Fecal Coliforms in Wastewater, available from IDEXX Laboratories, Inc., One IDEXX Dr., Westbrook, ME 04092 or by calling 1-800-548-6733.

Z1 EPA Method 1681, July 2006, EPA-821-R-06-013, Fecal Coliform in Sewage Sludge (Biosolids) by Multiple Tube Fermentation using A-1 Medium, available at http://nepis.epa.gov/EPA/html/pubs/pubtitle.html or by calling (800) 490-9198.

Z2 EPA, Pub. No. EPA-821-R-02-013 (821R02013), Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (4th edition October 2002), available at http://nepis.epa.gov/EPA/html/pubs/pubtitle.html or by calling (800) 490-9198.

Z3 IDEXX Laboratories, Inc., IDEXX SimPlate TM HPC Method for Heterotrophs in Water (November 2000), available from IDEXX Laboratories, Inc., One IDEXX Dr., Westbrook, ME 04092.

Z4 William A. Yanko, EPA, Pub. No. EPA/600/1-87/014 (600187014), Occurrence of Pathogens in Distribution and Marketing Municipal Sludges (1987), available at http://nepis.epa.gov/EPA/html/pubs/pubtitle.html or by calling (800) 490-9198.

Z5 CPI International Colitag® Product as a Test for Detection and Identification of Coliforms and *E.*

coli Bacteria in Drinking Water and Source Water as Required in National Primary Drinking Water Regulations, August 2001, available from CPI International, 5580 Skylane Blvd, Santa Rosa, CA 95403, at http://www.cpiinternational.com, or by calling 1-800-878-7654.

Z6 m-ColiBlue 24 Test, Total Coliforms and *E. coli* Membrane Filtration Method with m-ColiBlue 24 Broth, Method No. 10029, Revision 2, August 17, 1999, available at Hach Company, P.O. Box 389, Loveland, Colorado 80539-0389 or by calling 1-800-227-4224.

Z7 Colisure Test, IDEXX Laboratories Inc., February 28, 1994, available from IDEXX Laboratories, Inc., One IDEXX Dr., Westbrook, ME 04092 or by calling 1-800-548-6733.

Z8 Presence/Absence for Coliforms and *E. coli* in Water, Charm Sciences, Inc., December 21, 1997, available at 659 Andover Street, Lawrence, MA 01843, 987-687-9200, http://www.charm.com.

Z9 OI Analytical/ALPKEM, Nitrogen, Total Kjeldahl, Method PAI-DK01 (Block Digestion, Steam Distillation, Titrimetric Detection) (rev. December 22, 1994), available from OI Analytical/ALPKEM, P.O. Box 9010, College Station, TX 77842.

Z10 OI Analytical/ALPKEM, Nitrogen, Total Kjeldahl, Method PAI-DK02 (Block Digestion, Steam Distillation, Colorimetric Detection) (rev. December 22, 1994), available from OI Analytical/ALPKEM, P.O. Box 9010, College Station, TX 77842.

Z11 OI Analytical/ALPKEM, Nitrogen, Total Kjeldahl, Method PAI-DK03 (Block Digestion, Automated FIA Gas Diffusion) (rev. December 22, 1994), available from OI Analytical/ALPKEM, P.O. Box 9010, College Station, TX 77842.

Z12 EPA, Pub. No. EPA-821-R-02-012, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (5th edition October 2002), available http://nepis.epa.gov/EPA/html/pubs/pubtitle.html or by calling (800) 490-9198.

Z13 Lozarchak, J. 2001, "Short-term Chronic Toxicity Tests on *Daphnia magna* (Survival and Growth Tests)", USEPA, available from the Department at 250 N. 17th Ave, Phoenix, AZ 85007, and at http://www.azdhs.gov/documents/preparedness/state-laboratory/lab-licensure-certification/technical-resources/additional-resources/lazorchak-toxicity-method.pdf.

Z14 ReadyCult Coliforms 100 Presence/Absence Test for Detection and Identification of Coliform Bacteria and *Escherichia coli* in Finished Waters, Version 1.1, January 2007, available from EM Science, EMD Millipore, 290 Concord Road, Billerica, MA 01821, at http://www.emdmillipore.com, or by calling 781-533-6000.

Z15 Chromocult® Coliform Agar Presence/Absence Membrane Filter Test Method for Detection and Identification of Coliform Bacteria and *Escherichia coli* in Finished Waters, Version 1.0, November 2000, available from EM Science, EMD Millipore, 290 Concord Road, Billerica, MA 01821, at http://www.emdmillipore.com, or by calling 781-533-6000.

C. If an approved method is not available for a particular parameter, or a method or method alteration that is not an approved method is required or authorized to be used for a particular parameter by the EPA, ADEQ, the U.S. Food and Drug Administration, or 9 A.A.C. 8, a licensee or a person exempt under R9-14-602(4) or (5) may request approval of an alternate method or method alteration by submitting to the Department:

1. For an alternate method or method alteration required or authorized by the EPA, ADEQ, the U.S. Food and Drug Administration, or 9 A.A.C. 8, the following information:
   a. The name, address, and telephone number of the licensee or person exempt under R9-14-602(4) or (5) submitting the request;
   b. The name, address, and telephone number of the laboratory for which approval of the alternate method or method alteration is requested;
   c. Identification of the parameter for which approval of the alternate method or method alteration is requested; and
   d. Reference to the EPA, ADEQ, U.S. Food and Drug Administration, or 9 A.A.C. 8 requirement or authorization for the use of the alternate method or method alteration for which approval is requested;
2. For an alternate method or method alteration to be used because an approved method is not available for a particular parameter, the following information:
   a. The name, address, and telephone number of the licensee or person exempt under R9-14-602(4) or (5) submitting the request;
   b. The name, address, and telephone number of the laboratory for which approval of the alternate method or method alteration is requested;
   c. Identification of the parameter for which approval of the alternate method or method alteration is requested; and
   d. Written justification for using the alternate method or method alteration for which approval is requested, including the following:
      i. A detailed description of the alternate method or method alteration;
      ii. References to published or other studies confirming the general applicability of the alternate method or method alteration to the parameter for which its use is intended;
      iii. Reference to the EPA, ADEQ, U.S. Food and Drug Administration, or 9 A.A.C. 8 requirement to test the parameter; and
      iv. Data that demonstrate the performance of the alternate method or method alteration in terms of accuracy, precision, reliability, ruggedness, ease of

use, and ability to achieve a detection limit appropriate for the proposed use of the alternate method or method alteration; and

3. An alternate method or method alteration approval fee of $50, payable to the Arizona Department of Health Services, in the form of a certified check, business check, money order, or credit card payment.

D. Before approving an alternate method or method alteration that is not required or authorized by the EPA, ADEQ, the U.S. Food and Drug Administration, or 9 A.A.C. 8, the Department may require that the alternate method or method alteration be performed by a laboratory designated by the Department to verify that, using the parameter for which its use is intended, the alternate method or method alteration produces data that comply with subsection (C)(2)(d)(iv).

E. The Department may approve an alternate method or method alteration if the Department determines:

1. One of the following:
   a. Use of the alternate method or method alteration is required or authorized by the EPA, ADEQ, the U.S. Food and Drug Administration, or 9 A.A.C. 8; or
   b. Use of the alternate method or method alteration is justified as described in subsection (C)(2)(d); and
2. If the alternate method or method alteration pertains to drinking water compliance testing, the EPA concurs that the alternate method or method alteration may be used.

F. The Department may rescind the approval of an alternate method or method alteration approved by the Department according to subsection (E), if, as applicable:

1. For an alternate method or method alteration requested under subsection (C)(1), the alternate method or method alteration is no longer required or authorized by the EPA, ADEQ, the U.S. Food and Drug Administration, or 9 A.A.C. 8; or
2. For an alternate method or method alteration requested under subsection (C)(2), an approved method becomes available for the particular parameter.

R9-14-611. Compliance Testing for Drinking Water Parameters

A. A licensee for a laboratory at which compliance testing for drinking water parameters is performed, including compliance testing performed according to 9 A.A.C. 8, Article 2, shall ensure that:

1. Except as provided in subsection (B), the laboratory is operated in compliance with the guidelines in Key References D4, D5, and D6, excluding the requirements for laboratory personnel education and experience;

2. Each sample for Arizona drinking water parameter compliance testing is analyzed:
   a. Using an approved method:
      i. Listed in Table 6.2.A; or
      ii. Approved by the Department for compliance testing for drinking water parameters under R9-14-610(E); and
   b. If the approved method is from Key Reference C, following the quality control guidelines in Key Reference C associated with the approved method; and
3. If the licensee requests approval to perform testing for vinyl chloride, the licensee also obtains approval to perform testing for each of the analytes listed in 40 CFR 141.61(a)(2)-(21).

B. If an approved method does not include a specific quality control guideline, a licensee for a laboratory at which compliance testing for drinking water parameters is performed shall ensure that the laboratory is operated in compliance with the guidelines in Key References C4, D7, D9, D10, D11, D12, D13, or D14, as applicable.

R9-14-612. Compliance Testing for Wastewater Parameters

A licensee for a laboratory at which compliance testing for wastewater parameters is performed shall ensure that:

1. The laboratory is operated in compliance with the guidelines in Key References C5 and C6; and
2. Each sample for Arizona wastewater parameter compliance testing is analyzed:
   a. Using an approved method:
      i. Listed in Table 6.2.B; or
      ii. Approved by the Department for wastewater parameter compliance testing under R9-14-610(E); and
   b. If the approved method is from Key Reference C, following the quality control guidelines in Key Reference C associated with the approved method.

R9-14-613. Compliance Testing for Waste Parameters

A. A licensee for a laboratory at which compliance testing for waste parameters is performed shall ensure that each waste sample for Arizona compliance testing is analyzed using an approved method:

1. Listed in Table 6.2.C; or
2. Approved by the Department-for waste compliance testing under R9-14-610(E).

B. A licensee for a laboratory at which compliance testing for waste parameters is performed using an 8000 series method from Key Reference F shall:

1. If the method includes specific quality control requirements, follow the specific quality control requirements in the method;
2. If the method does not include specific quality control requirements, follow all requirements in Key Reference F14; and
3. If the method does not include specific sample extraction procedures, follow the procedures in the following from Key Reference F, as applicable:
    a. Method 3500B,
    b. Method 3600C, or
    c. Method 5000.

C. A licensee for a laboratory at which compliance testing for waste parameters is performed using a non-8000 series method from Key Reference F shall comply with the following from Key Reference F, as applicable, according to the requirements of the specific method:

1. Method 4000, or
2. Methods 7000B and 7010.

D. A licensee for a laboratory at which compliance testing for waste parameters is performed using a method from Key Reference F shall comply with Chapters 1 through 8 of Update IV, February 2007, of Key Reference F, as applicable, according to the requirements of the specific method.

R9-14-614. Compliance Testing for Air and Stack Parameters

A licensee for a laboratory at which compliance testing for air or stack parameters is performed shall ensure that each air or stack sample for Arizona compliance testing is analyzed using an approved method:

1. Listed in Table 6.2.D; or
2. Approved by the Department for compliance testing for air or stack parameters under R9-14-610(E).

R9-14-615. Quality Assurance

A. A licensee or applicant shall ensure that the analytical data produced at the licensee's or applicant's laboratory are of known and acceptable precision and accuracy, as prescribed by the approved method for each analysis or as prescribed by the limits described under subsection (C)(8), and are scientifically valid and defensible.

B. A licensee or applicant shall establish, implement, and comply with a written quality assurance plan that contains the following and is available at the laboratory for Department review:

1. A title page identifying the laboratory and date of review and including the laboratory director's signature of approval;
2. A table of contents;
3. An organization chart or list of the laboratory personnel, including names, lines of authority, and identification of principal quality assurance personnel;
4. A copy of the current laboratory license and a list of licensed parameters;
5. A statement of quality assurance objectives, including data quality objectives with precision and accuracy goals and the criteria for determining the acceptability of each testing;
6. Specifications for:
    a. Sample containers,
    b. Preparation of sample containers,
    c. Preservation of samples, and
    d. Maximum holding times allowed;
7. A procedure for documenting laboratory receipt of samples and tracking of samples during laboratory testing;
8. A procedure for analytical instrument calibration, including frequency of calibration and complying with the requirements for calibration in subsection (C);
9. A procedure for compliance testing data reduction and validation and reporting of final results, including the identification and treatment of data outliers, the determination of the accuracy of data transcription, and all calculations;
10. A statement of the frequency of all quality control checks;
11. A statement of the acceptance criteria for all quality control checks;
12. Preventive maintenance procedures and schedules;
13. Assessment procedures for data acceptability, including appropriate procedures for manual integration of chromatograms and when manual integration is inappropriate;
14. Corrective action procedures to be taken when results from analytical quality control checks are unacceptable, including steps to demonstrate the presence of any interference if the precision, accuracy, or limit of quantitation of the reported compliance testing result is affected by the interference; and

15. Procedures for chain-of-custody documentation, including procedures for the documentation and reporting of any deviation from the sample handling or preservation requirements listed in this Section.

C. A licensee or applicant shall:

1. Have available at the laboratory all methods, equipment, reagents, and glassware necessary for the compliance testing for which the licensee or applicant is licensed or is requesting a license;
2. Use only reagents of a grade equal to or greater than that required by the approved methods and document the use of the reagents;
3. Maintain and require each analyst to comply with a complete and current standard operating procedure that meets the requirements for each licensed method, which shall include at least:
   a. A description of all procedures to be followed when the method is performed;
   b. A list of the concentrations for calibration standards, check standards, and spikes;
   c. Requirements for instrumental conditions and set up;
   d. A requirement for frequency of calibration;
   e. The quantitative methods to be used to calculate the final concentration of an analyte in samples, including any factors used in the calculations and the calibration algorithm used; and
   f. Requirements for preventative maintenance;
4. Calibrate each instrument as required by each approved method for which the equipment is used, as follows:
   a. If a calibration model is specified in the method, using the specified calibration model or, if another calibration model has been approved by the Department as a method alteration, using the calibration model approved as a method alteration;
   b. If multiple calibration models are included as options in the method, using one of the included calibration models or, if another calibration model has been approved by the Department as a method alteration, using the calibration model approved as a method alteration; or
   c. If the method does not include a calibration model, using the manufacturer's specifications for calibration;
5. Maintain calibration documentation, including documentation that demonstrates the calculations performed using each calibration model;

6. Develop, document, and maintain a current limit of detection and limit of quantitation for each compliance parameter for each instrument;
7. Develop each limit of detection using:
   a. The protocol in the applicable test method;
   b. The protocol in the applicable federal regulation; or
   c. A process that complies with the guidelines in Section D.1.2 of Chapter 5, Appendix D—Essential Quality Control Requirements, in Key Reference H;
8. For each parameter tested at the laboratory for which quality control acceptance criteria are not specified in the approved method or by EPA or ADEQ:
   a. Use default limits provided in Table 6.4; or
   b. Statistically develop limits from historical data by:
      i. Determining the mean and standard deviation for a minimum of 20 data points not invalidated for cause, excluding statistical outliers;
      ii. Setting the limits no more than three standard deviations from the mean and in the detectable range, using as the lower end of the detectable range the limit of quantitation or the lowest standard value represented in the initial calibration; and
      iii. Explaining the origin of the lower end of the detectable range in the laboratory's standard operating procedure;
9. Discard or segregate all expired standards or reagents;
10. Maintain a record showing the traceability of reagents; and
11. Ensure that a calibration model is not used or changed to avoid necessary instrument maintenance.

D. A licensee or applicant may submit a written request to the Department for an exemption from subsection (C)(1) for a specific parameter if the licensee or applicant documents:

1. That the approved method has been performed at the laboratory and that the analytical data generated were scientifically valid and defensible and of known and acceptable precision and accuracy; and
2. The licensee's or applicant's ability to obtain the equipment, reagent, or glassware necessary to perform the approved method.

E. The written request for an exemption under subsection (D) shall include:

1. The name, address, and main telephone number of the laboratory;
2. The name, address, and telephone number of the licensee or applicant submitting the request;

3. Identification of the parameter and the equipment, reagent, or glassware for which the licensee or applicant is requesting an exemption; and
4. The documentation described in subsections (D)(1) and (2).

F. The Department may approve a request for an exemption under subsection (D) if the Department determines that the:

1. Approved method has been performed at the laboratory;
2. Analytical data generated were scientifically valid and defensible and of known and acceptable precision and accuracy; and
3. Licensee or applicant is able to obtain the equipment, reagent, or glassware necessary to perform the approved method.

G. A licensee or applicant shall ensure that a laboratory's written quality assurance plan is a separate document available at the laboratory and includes all of the components required in subsection (B), but a licensee or applicant may satisfy the components required in subsections (B)(3) through (15) through incorporating by reference provisions in separate documents, such as standard operating procedures.

H. Except as provided in subsection (I), a licensee or applicant shall ensure that each laboratory standard operating procedure is a separate document available at the laboratory and includes all of the components required in subsection (C)(3).

I. A licensee or applicant may satisfy the components required in subsections (C)(3)(e) and (f) through incorporating by reference provisions in separate documents, such as other standard operating procedures.

R9-14-616. Operation

A licensee shall ensure that:

1. A compliance testing sample accepted at the licensee's laboratory is analyzed at:
   a. The licensee's laboratory,
   b. Another laboratory licensed under this Article, or
   c. A laboratory exempt under R9-14-602;
2. The facility and utilities required to operate equipment and perform compliance testing are maintained;
3. Environmental controls are maintained within the laboratory to ensure that laboratory environmental conditions do not affect analytical results beyond quality control limits established for the methods performed at the laboratory;

4. Storage, handling, and disposal of hazardous materials at the laboratory are in accordance with all state and federal regulations;
5. The following information is maintained for all supervisory, quality assurance, and analytical personnel:
    a. A summary of each individual's education and professional experience;
    b. Documentation of each individual's review of the quality assurance plan required under R9-14-615(B) and the approved methods and laboratory standard operating procedures for each area of testing performed by the individual or for which the individual has supervisory or quality assurance responsibility;
    c. Documentation of each analyst's completion of training on the use of equipment and of proper laboratory technique, including the name of the analyst, the name of the instructor, the duration of the training, and the date of completion of the training;
    d. Documentation of each analyst's completion of training classes, continuing education courses, seminars, and conferences that relate to the testing procedures used by the analyst for compliance testing;
    e. Documentation of each analyst's completion of Initial Demonstration of Capability as required ~~by~~ for each approved method performed by the analyst, as applicable;
    f. Documentation of each analyst's performance of proficiency testing, as applicable;
    g. Documentation of each analyst's completion of training related to instrument calibration that includes:
        i. Instruction on each calibration model that the analyst will use or for which the analyst will review data;
        ii. For each calibration model described in subsection (5)(g)(i), the specific aspects of the calibration model that might compromise the data quality, such as detector saturation, lack of detector sensitivity, the calibration model's not accurately reflecting the calibration points, inappropriate extension of the calibration range, weighting factors, and dropping of mid-level calibration points without justification; and
        iii. Instruction that a calibration model shall not be used or changed to avoid necessary instrument maintenance; and

h. Documentation of each individual's applicable certifications and specialized training; and

6. The licensee complies with all applicable federal, state, and local occupational safety and health regulations.

R9-14-617. Laboratory Records and Reports

A licensee or applicant shall ensure that:

1. Each record and report required to be maintained by this Article is available for inspection and copying by the Department during a laboratory's normal business hours;
2. The Department is permitted to remove copied records and reports from a laboratory;
3. The licensee or applicant maintains records and reports of compliance testing for at least five years after the date of compliance testing, with:
   a. All records and reports for at least the most current two years maintained onsite at the laboratory and the remaining records and reports stored in a secure storage facility;
   b. Each hard copy document containing data either maintained as a hard copy document or scanned into a PDF file or another electronic file format that preserves an exact copy of the hard copy data; and
   c. All instrument-generated electronic data maintained in a reproducible format from which reports can be produced and printed;
4. No portion of a record or report of compliance testing is altered or deleted to hide or misrepresent any part of the data;
5. The licensee or applicant produces all records and reports requested by the Department within 24 hours after the request or, if the licensee or applicant requests a period longer than 24 hours, the longer period of time agreed upon by the Department;
6. Upon Department request, the licensee or applicant makes available for inspection and copying the requested data from non-Arizona compliance samples;
7. A compliance testing record contains:
   a. Sample information, including the following:
      i. A unique sample identification assigned at the laboratory,
      ii. The location or location code of sample collection,
      iii. The sample collection date and time,
      iv. The type of testing to be performed, and
      v. The name of the individual who collected the sample;

b. The name and address of the client submitting the sample to the laboratory;

c. The name of the individual who submitted the sample to the laboratory;

d. The date and time of receipt of the sample at the laboratory;

e. The name of the individual who received the sample at the laboratory;

f. The dates and times of testing, including the date and time of each critical step;

g. The actual results of compliance testing, including all raw data, work sheets, and calculations performed;

h. The actual results of quality control data validating the test results, including the calibration and calculations performed;

i. The name of each analyst or who performed the testing; and

j. A copy of the final report; and

8. A final report of compliance testing contains:

a. The name, address, and telephone number of the laboratory;

b. The license number assigned to the laboratory by the Department;

c. Actual scientifically valid and defensible results of compliance testing in appropriate units of measure, obtained in accordance with an approved method and quality assurance plan;

d. Qualified results of compliance testing not obtained in accordance with an approved method and quality assurance plan;

e. A list of each approved method used to obtain the reported results;

f. Sample information, including the following:

i. The unique sample identification assigned at the laboratory,

ii. The location or location code of sample collection,

iii. The sample collection date and time,

iv. The name of the individual who collected the sample,

v. The name of the client that submitted the sample to the laboratory, and

vi. The name of the individual who submitted the sample to the laboratory;

g. The date of analysis for each parameter reported;

h. The date of the final report; and

i. The laboratory director's or designee's signature.

R9-14-618. Mobile Laboratories

A. An applicant shall obtain a license for each mobile laboratory, unless the applicant chooses the single license option for multiple laboratories as described in R9-14-603(D).

B. A licensee or applicant for a mobile laboratory shall ensure that the mobile laboratory is operated in compliance with all of the requirements of this Article.

C. Upon Department request, a licensee or applicant for a mobile laboratory shall provide to the Department the mobile laboratory's location and a list of the parameters for which testing is performed at the mobile laboratory.

R9-14-619. Out-of-State Environmental Laboratory Licensing

A. A licensee or applicant for an out-of-state laboratory at which Arizona compliance testing is performed shall comply with the requirements of A.R.S. Title 36, Chapter 4.3 and this Article.

B. A licensee or applicant for an out-of-state laboratory shall pay all actual expenses incurred by the Department as a result of the laboratory's location, including:

1. The estimated costs of each laboratory inspection or investigation at the laboratory;
2. The amount by which the actual costs of each laboratory inspection or investigation at a laboratory exceed the estimated costs;
3. Additional expenses incurred by the Department for each investigation at the laboratory; and
4. A zone fee for each Department representative required to appear at the laboratory to perform the laboratory inspection or investigation, as follows:
   a. For zone 1, including California, Nevada, Utah, Colorado, and New Mexico: $114;
   b. For zone 2, including all states west of the Mississippi River not listed in subsection (B)(4)(a): $179;
   c. For zone 3, including all states east of the Mississippi River and Alaska and Hawaii: $290; and
   d. For zone 4, including all countries outside of the United States: $516.

C. The Department shall:

1. Determine the estimated costs and zone fees for a laboratory inspection or investigation after making travel arrangements to visit an out-of-state laboratory;
2. Send the licensee or applicant for an out-of-state laboratory a bill for the estimated costs and zone fees, with instructions to submit the amount billed to the Department within 20 days after the date that the Department sends the bill; and
3. After a laboratory inspection or investigation is completed, determine the actual costs for the inspection or investigation and any additional expenses incurred for an investigation and:

a. If the actual costs and additional expenses exceed the estimated costs and zone fees already paid, send a bill to the licensee or applicant for the out-of-state laboratory for the amount by which the actual costs and expenses exceed the estimated costs and zone fees paid, with instructions to submit the amount billed to the Department within 20 days after the date that the Department sends the bill; or

b. If the actual costs and expenses are less than the estimated costs and zone fees already paid, notify the licensee or applicant, determine whether the licensee or applicant desires a refund or a credit, and send a refund or issue a credit within 45 days after the date that the licensee or applicant specifies the desired form of payment.

R9-14-620. Changes to a License

A. During the term of a license, a licensee may request to have one or more parameters added to the license.

B. To request to have one or more parameters added to a license, a licensee shall submit to the Department:

1. A written request that includes:
   a. The name, address, and telephone number of the licensee submitting the request;
   b. The name, address, and telephone number of the laboratory for which the addition is requested; and
   c. Identification of each parameter requested to be added;
2. The applicable method and instrumentation fees, as determined according to Tables 6.2.A, 6.2.B, 6.2.C, 6.2.D, 6.2.E, and 6.3, payable to the Arizona Department of Health Services by credit card; certified check; business check; or money order; or, if the owner is an Arizona state agency, purchase order;
3. If the addition results in a different Level of license, the difference between the application fee paid with the most recent application and the application fee for the new Level of license required under R9-14-607(A)(2), payable to the Arizona Department of Health Services as provided in subsection (B)(2); and
4. The following for each parameter requested to be added:
   a. The limit of detection, if applicable;
   b. A copy of a proficiency testing report; and
   c. A copy of the standard operating procedure.

C. The Department may conduct a laboratory inspection during the substantive review period for a request to have one or more parameters added to a license.

D. The Department shall process a request to have one or more parameters added to a license as provided in R9-14-621.

E. A licensee may submit up to three requests for deletion of parameters during a license period at no charge, but shall pay $17 per request for each subsequent request for deletion of parameters submitted during the license period.

R9-14-621. Time-frames

A. The overall time-frame described in A.R.S. § 41-1072 for each type of approval granted by the Department under this Article is set forth in Table 6.1.

1. An applicant and the Department may agree in writing to extend the substantive review time-frame and the overall time-frame.
2. An extension of the substantive review time-frame and the overall time-frame may not exceed 25% of the overall time-frame.

B. The administrative completeness review time-frame described in A.R.S. § 41-1072 for each type of approval granted by the Department under this Article is set forth in Table 6.1 and begins on the date that the Department receives an application or request for approval.

1. The Department shall send a notice of administrative completeness or deficiencies to an applicant within the administrative completeness review time-frame.
    a. A notice of deficiencies shall list each deficiency and the information or items needed to complete the application or request for approval.
    b. The administrative completeness review time-frame and the overall time-frame are suspended from the date that a notice of deficiencies is sent until the date that the Department receives all of the missing information or items from an applicant.
2. If an applicant fails to submit to the Department all of the information and items listed in a notice of deficiencies within 60 days after the date that the Department sent the notice of deficiencies, the Department shall consider the application or request for approval withdrawn.
3. If the Department issues a license or other approval to an applicant during the administrative completeness review time-frame, the Department shall not issue a separate written notice of administrative completeness.

C. The substantive review time-frame described in A.R.S. § 41-1072 is set forth in Table ~~1~~ 6.1 and begins on the date of a notice of administrative completeness.

1. As part of the substantive review for an initial license application, the Department may conduct a laboratory inspection, investigation, or proficiency testing, or a combination of the three, as described in R9-14-605.
   a. The Department shall commence a laboratory inspection, investigation, or proficiency testing, or combination of the three, no more than 30 days after notice of administrative completeness has been mailed for an in-state laboratory or no more than 60 days after notice of administrative completeness has been mailed for an out-of-state laboratory.
   b. The Department and an applicant may mutually agree in writing to schedule a laboratory inspection, proficiency testing, or investigation later than the date required under subsection (C)(1)(a).
2. The Department shall send written notification of approval or denial of a license or other approval to an applicant within the substantive review time-frame.
3. During the substantive review time-frame, the Department may make one comprehensive written request for additional information, unless the Department and applicant have agreed in writing to allow the Department to submit supplemental requests for information.
4. If the Department issues a comprehensive written request or a supplemental request for information, the substantive review time-frame and the overall time-frame are suspended from the date that the Department issues the request until the date that the Department receives all of the information requested.
5. If an applicant fails to submit to the Department all of the information and items listed in a comprehensive written request or a supplemental request for information within 60 days after the date that the Department sent the comprehensive written request or supplemental request for information, the Department shall deny the license or other approval requested.
6. The Department shall grant a license or other approval unless:
   a. An applicant fails to submit requested information or a requested item as described in subsection (B)(2) or (C)(5);
   b. For an initial license application or a regular license renewal application where the regular license is not suspended, the Department determines that grounds to deny the license exist under A.R.S. § 36-495.09;

c. For a regular license renewal application where the regular license is suspended, the Department determines that the licensee is not in full compliance with the corrective action plan; A.R.S. Title 36, Chapter 4.3; or this Article;

d. For a request for approval of an alternate method or method alteration, the Department determines that the alternate method or method alteration does not meet the standard for approval under R9-14-610(E); or

e. For a request for approval of an exemption under R9-14-615(D), the Department determines that the request does not meet the standard for approval under R9-14-615(F).

7. If the Department denies a license or other approval, the Department shall send to the applicant a written notice of denial setting forth the reasons for denial and all other information required by A.R.S. § 41-1076.

Table 6.1. Time-frames (in days)

Type of Approval	Statutory Authority	Overall Time-frame	Administrative Completeness Review Time-frame	Substantive Review Time-frame
Initial License–In-State Laboratory	A.R.S. §§ 36-495.01, 36-495.03, 36-495.06, 36-495.07	201	21	180
Initial License–Out-of-State Laboratory	A.R.S. §§ 36-495.01, 36-495.03, 36-495.06, 36-495.07	231	21	210
Regular License Renewal–In-State Laboratory	A.R.S. §§ 36-495.01, 36-495.03, 36-495.06, 36-495.07	37	14	23
Regular License Renewal–Out-of-State Laboratory	A.R.S. §§ 36-495.01, 36-495.03, 36-495.06, 36-495.07, 36-495.14	67	14	53
Regular License Renewal–In-State Laboratory with Provisional License	A.R.S. §§ 36-495.01, 36-495.03, 36-495.05, 36-495.06, 36-495.07	70	21	49
Regular License Renewal–Out-of-State Laboratory with Provisional License	A.R.S. §§ 36-495.01, 36-495.03, 36-495.05, 36-495.06, 36-495.07, 36-495.14	100	21	79
Request for Approval of an Alternate Method or Method Alteration–Required or Authorized by EPA/ADEQ	A.R.S. §§ 36-495.01, 36-495.06	105	15	90

Request for Approval of an Alternate Method or Method Alteration Due to an Approved Method Not Being Available	A.R.S. §§ 36-495.01, 36-495.06	210	30	180
Request for Approval of an Exemption under R9-14-615(D)	A.R.S. § 36-495.01	60	15	45
Request to Have One or More Parameters Added to a License under R9-14-620 – In-State Laboratory	A.R.S. §§ 36-495.01, 36-495.03, 36-495.06, 36-495.07	91	21	70
Request to Have One or More Parameters Added to a License under R9-14-620 –Out-of-State Laboratory	A.R.S. §§ 36-495.01, 36-495.03, 36-495.06, 36-495.07	121	21	100

Table 6.2.A. Approved Methods and Method Fees for Drinking Water Parameters

1. Microbiology of Drinking Water			
Description	**Reference**	**Method/s**	**Fee Per Method**
Aeromonas	A4.35	1605	$228
Coliforms, Fecal	C	9221E (2006)	$228
		9222D (2006)	$228
Coliforms, Total and *E. coli,* by Colilert (ONPG-MUG)	C and Z	9223B (2004) and IDEXX	$152
Coliforms, Total, and *E.* coli, by Colisure	C2 and Z7	9223B (2004) and IDEXX	$152
Coliforms, Total, by Membrane Filtration	C	9222B (2006)	$228
		9222C (2006)	$228
Coliforms, Total and *E. coli,* by Membrane Filtration	A4.36	1604	$228
Coliforms,Total, and *E. coli* by Colitag	C and Z5	9223B (2004) and CPI	$152
Coliforms,Total, and *E. coli* by Modified Colitag	C and D8	9223B (2004) and Modified Colitag	$152
Coliforms,Total, and *E. coli* by E.colite	C and Z8	9223B (2004) and Charm Sciences, Inc.	$152
Coliforms,Total, and *E. coli* by m-ColiBlue24 Test	C and Z6	9222H (2006) and Hach 10029	$228
Coliforms,Total, and *E. coli* by Readycult Coliforms 100 Presence/Absence	C and Z14	9223B (2004) and EM Science	$152
Coliforms,Total, and *E. coli* by MF using Chromocult Coliform Agar	C and Z15	9223B (2004) and EM Science	$152
Coliforms, Total, by Multiple Tube Fermentation	C	9221B and C (2006)	$228
Coliforms, Total, by Presence/Absence	C	9221D (2006)	$228
Escherichia coli	C	9222G (2006)	$228
	X	Tube Procedure	$228
		Membrane Filter Procedure	$228
Cryptosporidium	A4.32	1622	$381
Giardia and *Cryptosporidium*	A4.39	1623	$381
	A4.33	1623.1	$381
Heterotrophic Plate Count	C	9215B (2004)	$152
	Z3	SimPlate	$152
Heterotrophic Plate Count (For Bottled Water Only)	C	9215D (2004)	$152
Microscopic Particulate Analysis	P1	910/9-92-029	$228

Viruses	P2	600/R-95/178	$381
Coliphage	A4.37	1601	$228
	A4.38	1602	$228
2. Inorganic Chemistry and Physical Properties of Drinking Water			
Description	**Reference**	**Method/s**	**Fee Per Method**
Alkalinity	C	2320B (2011)	$19
Asbestos	A4.30	100.1 (9/83)	$503
	A4.31	100.2 (6/94)	$503
Bromate	A4.1	317.0 (2.0)	$76
	A4.3	326.0 (1.0)	$76
	A5	300.1 (1.0)	$26
		321.8 (1.0)	$152
	A4.41	302.0 (1.0)	$26
Bromide	A2	300.0 (2.1)	$26
	A4.1	317.0 (2.0)	$76
	A4.3	326.0 (1.0)	$76
	A5	300.1 (1.0)	$26
Calcium	A1	200.7 (4.4)	$10
	A4.10	200.5 (4.2)	$10
	C	3111B (2011)	$26
		3500-Ca B (2011)	$76
Carbon, Dissolved Organic	A4.12	415.3 (1.1)	$76
	A4.13	415.3 (1.2)	$76
	C	5310B (2011)	$39
		5310C (2011)	$39
		5310D (2011)	$39
Carbon, Total Organic	A4.12	415.3 (1.1)	$76
	A4.13	415.3 (1.2)	$76
	C	5310B (2011)	$39
		5310C (2011)	$39
		5310D (2011)	$39

Chloride	A2	300.0 (2.1)	$26
	A5	300.1 (1.0)	$26
	C	4500-Cl B (2011)	$39
		4500-Cl D (2011)	$39
		4110B (2011)	$26
Chloramine	C	4500-Cl F (2011)	$39
		4500-Cl G (2011)	$76
Chlorate	A5	300.1 (1.0)	$26
Chlorine, Total Residual and Free	A4.44	334.0 (9/2000)	$39
	C	4500-Cl D (2011)	$39
		4500-Cl E (2011)	$39
		4500-Cl F (2011)	$39
		4500-Cl G (2011)	$39
		4500-Cl H (2011)	$39
		4500-Cl I (2011)	$39
Chlorine Dioxide	A4.4	327.0 (1.1)	$76
	C	4500-ClO_2 E (2011)	$39
	C7	ChlordioX Plus	$79
Chlorite	A2	300.0 (2.1)	$26
	A4.1	317.0 (2.0)	$76
	A4.3	326.0 (1.0)	$76
	A4.4	327.0 (1.1)	$76
	A5	300.1 (1.0)	$26
	C	4500-ClO_2 E (2011)	$39
	C7	ChlordioX Plus	$79
Color	C	2120B (2011)	$32
Corrosivity	C	2330B (2010)	$39
Cyanide	A2	335.4 (1.0)	$76
	A6	QuikChem 10-204-00-1-X (2.1)	$76
	C	4500-CN B (2011)	$7
		4500-CN C (2011)	$13

		4500-CN E (2011)	$76
		4500-CN F (2011)	$76
	E7	Kelada-01	$76
Cyanide, Available/Amenable	A4.26	OIA-1677 DW	$76
	C	4500-CN G (2011)	$76
	I	D6888-04	$76
Fluoride	A2	300.0 (2.1)	$26
	A3	380-75WE (2/76)	$39
	A5	300.1 (1.0)	$26
	C	4500-F B (2011)	$39
		4500-F C (2011)	$26
		4500-F D (2011)	$39
		4500-F E (2011)	$39
		4110B (2011)	$26
Hardness	A1	200.7 (4.4), Sum of Ca and Mg as their carbonates	$10
	C	2340 B (2011), Sum of Ca and Mg as their carbonates	$10
		2340 C (2011)	$39
Magnesium	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
	A4.10	200.5 (4.2)	$10
	C	3111B (2011)	$26
		3500-Mg B (1997)	$76
Methylene Blue Active Substances	C	5540 C (2011)	$39
Nitrate	A2	300.0 (2.1)	$26
		353.2 (2.0)	$76
	A5	300.1 (1.0)	$26
	C	4500-NO_3 D (2011)	$39
		4500-NO_3 E (2011)	$76
		4500-NO_3 F (2011)	$76
		4110B (2011)	$26

Nitrite	A2	300.0 (2.1)	$26
		353.2 (2.0)	$76
	A5	300.1 (1.0)	$26
	C	4500-NO_2 B (2011)	$76
		4500-NO_3 E (2011)	$76
		4500-NO_3 F (2011)	$76
		4110B (2011)	$26
Odor	C	2150B (2011)	$32
Orthophosphate	A2	300.0 (2.1)	$26
		365.1 (2.0)	$76
	A5	300.1 (1.0)	$26
	C	4500-P E (2011)	$76
		4500-P F (2011)	$76
		4110B (2011)	$26
Ozone	C	4500-O_3 B (2011)	$39
Perchlorate	A4.2	314.1 (1.0)	$76
	A4.5	331.0 (1.0)	$76
	A4.11	332.0 (1.0)	$76
	A5	314.0 (1.0)	$76
pH (Hydrogen Ion)	A	150.1	$39
		150.2	$39
	C	4500-H B (2011)	$39
Residue, Filterable (TDS)	C	2540C (2011)	$39
Sediment Concentration	I	D 3977-97	$13
Silica	A1	200.7 (4.4)	$10
	A4.10	200.5 (4.2)	$10
	C	4500-SiO_2 C (2011)	$76
		4500-SiO_2 D (2011)	$76
		4500-SiO_2 E (2011)	$76
Sodium	A1	200.7 (4.4)	$10
	A4.10	200.5 (4.2)	$10

	C	3111B (2011)	$26
Specific Conductance	C	2510B (2011)	$39
Sulfate	A2	300.0 (2.1)	$26
		375.2 (2.0)	$76
	A5	300.1 (1.0)	$26
	C	4500-SO_4 C (2011)	$76
		4500-SO_4 D (2011)	$76
		4500-SO_4 E (2011)	$76
		4500-SO_4 F (2011)	$76
		4110B (2011)	$26
Temperature, Degrees Celsius	C	2550 (2010)	$13
Turbidity, Nephelometric (NTU)	A2	180.1 (2.0)	$39
	C	2130B (2011)	$39
UV-Absorption at 254 nm	A4.12	415.3 (1.1)	$76
	A4.13	415.3 (1.2)	$76
	C	5910B (2011)	$76

3. Metals in Drinking Water

a. Sample Preparation for Metals in Drinking Water

Description	**Reference**	**Method/s**	**Fee Per Method**
Acid Extractable Metals	C	3030C (2004)	$7
Microwave Assisted Digestion	C	3030K (2004)	$7
Nitric Acid	C	3030E (2004)	$7
Nitric Acid/Hydrochloric Acid	C	3030F (2004)	$7
Nitric Acid/Perchloric Acid	C	3030H (2004)	$7
Nitric Acid/Perchloric Acid/Hydrofluoric Acid	C	3030I (2004)	$7
Nitric Acid/Sulfuric Acid	C	3030G (2004)	$7
Preliminary Filtration	C	3030B (2004)	$7

b. Methods to Analyze Metals in Drinking Water

Description	**Reference**	**Method/s**	**Fee Per Method**
Aluminum	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26

	A4.10	200.5 (4.2)	$10
	C	3111D (2011)	$26
		3113B (2010)	$26
Antimony	A1	200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3113B (2010)	$26
Arsenic	A1	200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3113B (2010)	$26
		3114B (2011)	$76
Barium	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
	A4.10	200.5 (4.2)	$10
	C	3111D (2011)	$26
		3113B (2010)	$26
Beryllium	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3113B (2010)	$26
Cadmium	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3113B (2010)	$26
Chromium, Hexavalent by IC	A4.43	218.7 (1.0)	$116
Chromium, Total	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3113B (2010)	$26
Cobalt	A1	200.8 (5.4)	$26

Copper	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3111B (2011)	$26
		3113B (2010)	$26
Iron	A1	200.7 (4.4)	$10
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3111B (2011)	$26
		3113B (2010)	$26
Lead	A1	200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3113B (2010)	$26
Manganese	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	C	3111B (2011)	$26
		3113B (2010)	$26
Mercury	A	245.2	$52
	A1	245.1 (3.0)	$52
		200.8 (5.4)	$26
	C	3112B (2011)	$52
Molybdenum	A1	200.8 (5.4)	$26
Nickel	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3111B (2011)	$26
		3113B (2010)	$26
Selenium	A1	200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10

	C	3113B (2010)	$26
		3114B (2011)	$76
Silver	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3111B (2011)	$26
		3113B (2010)	$26
Strontium	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
	C	3500-Sr B (2011)	$26
		3500-Sr C (2011)	$20
		3500-Sr D (2011)	$26
Thallium	A1	200.8 (5.4)	$26
		200.9 (2.2)	$26
Uranium	A1	200.8 (5.4)	$26
	C	7500 U-C (2011)	$206
	I	D3972-97, 02	$206
		D5174-97, 02	$206
Vanadium	A1	200.8 (5.4)	$26
Zinc	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
	A4.10	200.5 (4.2)	$10
	C	3111B (2011)	$26
4. Organic Chemistry of Drinking Water			
a. Methods to Comply with National Primary Drinking Water Regulations			
Description	**Reference**	**Method/s**	**Fee Per Method**

Disinfectant Byproducts, Solvents and Pesticides: Alachlor Atrazine Dibromochloropropane Endrin Ethylene dibromide Heptachlor Heptachlorepoxide Hexachlorobenzene Hexachlorocyclopentadiene Lindane Methoxychlor Simazine 1,1,2-Trichloroethane Trichloroethylene 1,1,1-Trichloroethane Tetrachloroethylene Carbontetrachloride Chloroform Bromodichloromethane Dibromochloromethane Bromoform Total Trihalomethanes	D3	551.1 (1.0)	$116
VOCs by GC: Benzene Carbon Tetrachloride (mono) Chlorobenzene o-Dichlorobenzene para-Dichlorobenzene 1,2-Dichloroethane cis-1,2-Dichloroethylene Trans-1,2-Dichloroethylene Dichloromethane 1,2-Dichloropropane Ethylbenzene Styrene Tetrachloroethylene 1,1,1-Trichlorothane Trichloroethylene Toluene 1,2,4-Trichlorobenzene 1,1-Dichloroethylene 1,1,2-Trichloroethane Vinyl chloride Xylenes, Total Chloroform Bromodichloromethane Dibromochloromethane Bromoform Total Trihalomethanes	D3	502.2 (2.1)	$152

VOCs by GC-MS: Benzene Carbon Tetrachloride (mono) Chlorobenzene o-Dichlorobenzene para-Dichlorobenzene 1,2-Dichloroethane cis-1,2-Dichloroethylene Trans-1,2-Dichloroethylene Dichloromethane 1,2-Dichloropropane Ethylbenzene Styrene Tetrachloroethylene 1,1,1-Trichlorothane Trichloroethylene Toluene 1,2,4-Trichlorobenzene 1,1 Dichloroethylene 1,1,2-Trichloroethane Vinyl Chloride Xylenes, Total Chloroform Bromodichloromethane Dibromochloromethane Bromoform Total Trihalomethanes	A4.19	524.4	$152
	D3	524.2 (4.1)	$152
VOCs by GC: Benzene Carbon Tetrachloride (mono) Chlorobenzene o-Dichlorobenzene para-Dichlorobenzene 1,2-Dichloroethane cis-1,2-Dichloroethylene Trans-1,2-Dichloroethylene Dichloromethane 1,2-Dichloropropane Ethylbenzene Styrene Tetrachloroethylene 1,1,1-Trichlorothane Trichloroethylene Toluene 1,2,4-Trichlorobenzene 1,1-Dichloroethylene 1,1,2-Trichloroethane Vinyl chloride Xylenes, Total Chloroform Bromodichloromethane Dibromochloromethane Bromoform Total Trihalomethanes Dibromochloropropane Ethylenedibromide	A4.20	524.3 (1.0)	$152
EDB/DBCP	D3	504.1 (1.1)	$116

Pesticides and PCBs by GC (Microextraction): Alachlor Atrazine Chlorodane Endrin Heptachlor Heptachlor Epoxide Hexachlorobenzene Hexachlorocyclopentadiene Lindane Methoxychlor Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1260 Simazine Toxaphene	D3	505 (2.1)	$152
Phthalate and Adipate Esters by GC-PID: Di (2-ethylhexyl)adipate Di (2-ethylhexyl)phthalate	D3	506 (1.1)	$116
Pesticides by GC-NPD Atrazine Alachlor Simazine	D3	507 (2.1)	$116
Chlorinated Pesticides by GC-ECD: Chlordane Endrin Heptachlor Heptachlor Epoxide Hexachlorobenzene Hexachlorocyclopentadiene Lindane Methoxychlor Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1260 Toxaphene	D3	508 (3.1)	$152

Chlorinated Pesticides, Herbicides, Organohalides by GC-ECD: Alachlor Atrazine Chlorodane Endrin Heptachlor Heptachlor Epoxide Hexachlorobenzene Hexachlorocyclopentadiene Lindane Methoxychlor Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1260 Simazine Toxaphene	D3	508.1(2.0)	$152
Organics by GC-MS: Alachlor Atrazine Benzo(a)pyrene Chlorodane Di (2-ethylhexyl)adipate Di (2-ethylhexyl)phthalate Endrin Heptachlor Heptachlor Epoxide Hexachlorobenzene Hexachlorocyclopentadiene Lindane Methoxychlor Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1260 Pentachlorophenol Simazine Toxaphene	D3	525.2 (2.0)	$152
1, 4-Dioxane by GC/MS	A4.21	522	$152
Carbamates by HPLC/Post Column: Carbofuran Oxamyl	A4.8	531.2 (1.0)	$116
	D3	531.1 (3.1)	$116
Chlorinated Acids and Dalapon by GC-ECD: 2,4-D Dalapon Dinoseb Pentachlorophenol Picloram Silvex (2,4,5-TP)	A4.6	515.4 (1.0)	$116
	A5	515.3 (1.0)	$116
	D	515.1 (4.0)	$116

Chlorinated Acids By GC-ECD 2,4-D Dinoseb Pentachlorophenol Picloram Silvex (2,4,5-TP)	D3	515.2 (1.1)	$116
Haloacetic Acids, Bromate and Dalapon By IC-ESI-MS/MS	A4.18	557 (1.0)	$152
Perfluorinated Compounds by LC/MS/MS	A4.40	537 (1.1)	$152
Hormones by LC/MS/MS	A4.42	539	$152
PAHs By HPLC/UV/FL: Benzo(a)pyrene	D1	550 (7/90)	$116
		550.1 (7/90)	$116
Haloacetic Acids and Dalapon by GC-ECD: Dalapon Monochloracetic Acid Dichloracetic Acid Trichloroacetic Acid Monobromoacetic Acid Dibromoacetic Acid HAA5	D2	552.1 (1.0)	$116
	D3	552.2 (1.0)	$116
Haloacetic Acids: Monochloroacetic Acid Dichloroacetic Acid Trichloroacetic Acid Monobromoacetic Acid Dibromoacetic Acid Dalapon HAA5	A4.9	552.3 (1.0)	$116
Disinfection Byproducts by Micro Liquid-Liquid Extraction/GC-ECD	C8	6251B (1994)	$116
Chlorinated Acids By HPLC/PDA/UV: 2,4-D Dinoseb Pentachlorophenol Picloram Silvex (2,4,5-TP)	D2	555 (1.0)	$116
1,4 Dioxane by GC/MS	A4.21	522 (1.0)	$152
Dioxin	A4.22	1613 Rev B (10/94)	$258
Diquat	A5	549.2 (1.0)	$116
Endothall	D2	548.1 (1.0)	$116
Glyphosate	D1	547 (7/90)	$116
PCBs (as decachlorobiphenyl)	D	508A (1.0)	$152
b. Additional Methods and Compounds Required by Other Programs			
Description	**Reference**	**Method/s**	**Fee Per Method**
Disinfectant Byproducts, Solvents and Pesticides	D3	551.1 (1.0)	$26
VOCs by GC	D3	502.2 (2.1)	$26

VOCs by GC-MS	A4.20	524.3 (1.0)	$26
	D3	524.2 (4.1)	$26
EDB/DBCP	D3	504.1 (1.1)	$26
Pesticides and PCBs by GC (Microextraction)	D3	505 (2.1)	$26
Phthalate and Adipate Esters by GC-PID	D3	506 (1.1)	$26
Pesticides by GC-NPD	D3	507 (2.1)	$26
Chlorinated Pesticides by GC-ECD	D3	508 (3.1)	$26
Chlorinated Pesticides, Herbicides, Organohalides by GC-ECD	D3	508.1(2.0)	$26
Organics by GC-MS	D3	525.2 (2.0)	$26
Carbamates by HPLC/Post Column	A4.8	531.2 (1.0)	$26
	D3	531.1 (3.1)	$26
Chlorinated Acids and Dalapon by GC-ECD	A4.6	515.4 (1.0)	$26
	A5	515.3 (1.0)	$26
	D	515.1 (4.0)	$26
Chlorinated Acids By GC-ECD	D3	515.2 (1.1)	$26
PAHs By HPLC/UV/FL	D1	550 (7/90)	$26
		550.1 (7/90)	$26
Haloacetic Acids and Dalapon by GC-ECD	D2	552.1 (1.0)	$26
	D3	552.2 (1.0)	$26
Chlorinated Acids By HPLC/PDA/UV	D2	555 (1.0)	$26
Dioxins and Furans	A4.22	1613 Rev B (10/94)	$65
Paraquat	A5	549.2 (1.0)	$26
Benzidines and Nitrogen Compounds	D2	553 (1.1)	$116
Carbonyl Compounds	D2	554 (1.0)	$116
Phenols	A5	528 (1.0)	$152
Phenylurea Compounds	A5	532 (1.0)	$116
Selected Semivolatiles	A5	526 (1.0)	$152
Pesticides and Flame Retardants by GCMS	A4.7	527 (1.0)	$152
Explosives and Related Compounds	A4.15	529 (1.0)	$152
Acetanilide Degradation Products	A4.16	535 (1.1)	$194

Acetanilide Parent Compound	D3	525.2 (2.0)	$26
Nitrosamines by MS/MS	A4.14	521 (1.0)	$194
5. Radiochemistry of Drinking Water			
Description	**Reference**	**Method/s**	**Fee Per Method**
Cesium	B	p. 4	$206
	C	7500-Cs B (2011)	$206
		7120 (2011)	$206
	J	R-1110-76	$206
		R-1111-76	$206
	L	901	$206
		901.1	$206
	U	Ga-01-R	$206
	W	p. 92	$206
Gamma Emitters	C	7500-Cs B (2011)	$206
		7500-I B (2011)	$206
		7120 (2011)	$206
	L	901.1	$206
		901.0	$206
		902.0	$206
	U	Ga-01-R	$206
	W	p. 92	$206
Gross Alpha	B	EPA 00-02	$206
	C	7110C (2011)	$206
	L	900.0	$206
	V	00-01	$206
		00-02	$206
Gross Alpha and Beta	B	p. 1	$206
	C	7110B (2011)	$206
	J	R-1120-76	$206
	L	900.0	$206
	V	00-01	$206
	W	p. 1	$206

Iodine	B	p. 6, p. 9	$206
	C	7120 (2011)	$206
		7500-I B (2011)	$206
		7500-I C (2011)	$206
		7500-I D (2011)	$206
	L	901.1	$206
		902.0	$206
	U	Ga-01-R	$206
	W	p. 92	$206
Radium 226	B	p. 13, p. 16	$206
	C	7500-Ra B (2011)	$206
		7500-Ra C (2011)	$206
	L	903.0	$206
		903.1	$206
	U	Ra-04	$206
		Ra-05	$206
	V	EPA Ra-03	$206
		EPA Ra-04	$206
	W	p. 19	$206
Radium 228	B	p. 24	$206
	C	7500-Ra D (2011)	$206
	L	904.0	$206
	V	Ra-05	$206
	W	p. 19	$206
Strontium	B	p. 29	$206
	C	7500-Sr B (2011)	$206
	J	R-1160-76	$206
	L	905.0	$206
	U	Sr-01	$206
		Sr-02	$206
	V	Sr-04	$206
	W	p. 65	$206
Tritium	B	p. 34	$206
	C	7500-^{3}H B (2011)	$206
	J	R-1171-76	$206

	L	906.0	$206
	V	H-02	$206
	W	p.87	$206
Uranium	A1	200.8 (5.4)	$26
	A7	D5174-97, 02	$206
	C	7500-U B (2011)	$206
		7500-U C (2011)	$206
	J	R-1180-76	$206
		R-1181-76	$206
		R-1182-76	$206
	L	908.0	$206
		908.1	$206
	U	U-02	$206
		U-04	$206
	V	00-07	$206
	W	p. 33	$206

Table 6.2.B. Approved Methods and Method Fees for Wastewater Parameters

1. Microbiology of Wastewater and Sewage Sludge			
Description	**Reference**	**Method/s**	**Fee Per Method**
Ascaris lumbricoides	C8	10550	$228
	P3	UofA2000	$228
Coliforms, Fecal, number per 100 ml or number per gram dry weight, by Membrane Filter	C	9222D (2006)	$228
Coliforms, Fecal, by Multiple Tube Fermentation (may be used for sewage sludge), number per 100 ml by MPN	C	9221C, E (2006)	$228
Coliforms, Total, by Membrane Filter	C	9222B (2006)	$228
Coliforms, Total, by Multiple Tube Fermentation	C	9221B (2006)	$228
Control of pathogens and vectors in sewage	E3	625/R-92/013	$76
Cryptosporidium	A4.32	1622	$381
Cryptosporidium and *Giardia*	A4.39	1623	$381
	C	9711B (2011)	$381
	P2	600/R-95/178	$381
E. coli, number per 100 ml, MPN multiple tube	C	9222B (2006)	$228
E. coli, number per 100 ml, MPN multiple tube/multiple well	C	9223B (2004)	$228
E. coli by m-ColiBlue	C1 and Z6	Hach 10029	$228
Enterococci, number per 100 ml MF	C	9230C (2007)	$228
Escherichia coli by Colilert MPN, in conjunction with SM 9221B and 9221C	C	9223B (2004)	$152
Escherichia coli in conjunction with SM 9221B and 9221C	C	9221F (2006)	$152
Entamoeba histolytica	C	9711C (2011)	$228
Enteric viruses	I	D4994-89	$381
Enteric viruses in sewage sludge	E3	EPA 625/R-92/103	$381
Fecal Coliforms by Colilert-18 (APP and Reuse only)	C	9020B (2005)/9223B (2004)	$152
Fecal Coliforms by Colilert-18 (NPDES-ATP Permits only)	C	9020B (2005)/9223B (2004)	$152
Fecal Coliforms in sewage sludge by MTF	Z1	EPA 1681	$228
Helminth Ova in sludge	Z4	600/1-87-014	$381
Salmonella in sludge MPN	E5	9260D (1988)	$228
Salmonella in Sewage Sludge (Biosolids) by Modified MSRV	A4.34	1682	$228
Streptococcus, Fecal, by Membrane Filter	C	9230C (2007)	$194
Streptococcus, Fecal, by Multiple Tube Fermentation	C	9230B (2007)	$194
Viruses	C	9510 (2011)	$381

	P	Methods for Virology	$381
	P2	600/R-95/178	$381
2. Wastewater Inorganic Chemistry, Nutrients and Demand			
Description	**Reference**	**Method/s**	**Fee Per Method**
Acid Mine Drainage	A4.27	1627	$303
Acidity	C	2310B (2011)	$39
Alkalinity, Total	A	310.2 (1974)	$19
	C	2320B (2011)	$19
Ammonia	A2	350.1 (2.0)	$39
	C	4500-NH_3 B (2011)	$39
		4500-NH_3 C (2011)	$39
		4500-NH_3 D (2011)	$39
		4500-NH_3 E (2011)	$39
		4500-NH_3 G (2011)	$39
	C1	Hach 10205	$39
Ammonia in sludge only	E5	4500-NH3B&C (1990)	$39
Biochemical Oxygen Demand/Carbonaceous Biochemical Oxygen Demand	C	5210B (2011)	$152
	C3	Hach 10360	$152
Boron	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
	A4.10	200.5 (4.2)	$10
	C	4500-B B (2011)	$76
Bromide	A2	300.0 (2.1)	$26
	A5	300.1 (1.0)	$26
Calcium	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
	A4.10	200.5 (4.2)	$10
	C	3111B (2011)	$26
		3500-Ca B (2011)	$39
Carbon, Total Organic (TOC)	C	5310 B (2011)	$39
		5310 C (2011)	$39
		5310D (2011)	$39
Chemical Oxygen Demand	A	410.3 (1978)	$39
	A2	410.4 (2.0)	$76

	C	5220 B (2011)	$39
		5220 C (2011)	$39
		5220 D (2011)	$76
	C1	Hach 8000	$39
Chloride	A2	300.0 (2.1)	$26
	A5	300.1 (1.0)	$26
	C	4500-Cl B (2011)	$39
		4500-Cl C (2011)	$39
		4500-Cl D (2011)	$39
		4500-Cl E (2011)	$39
Chlorine, Total Residual	C	4500-Cl B (2011)	$39
		4500-Cl C (2011)	$39
		4500-Cl D (2011)	$39
		4500-Cl E (2011)	$39
		4500-Cl F (2011)	$39
		4500-Cl G (2011)	$39
	C1	Hach 10014	$39
Color	C	2120 B (2011)	$32
Cyanide, Available	C	4500-CN G (2011)	$76
	E7	Kelada-01	$76
	Y	OIA-1677-09 (8/99)	$76
Cyanide, Free	Y	OIA-1677-09 (8/99)	$76
Cyanide, Total	A2	335.4 (1.0)	$76
	A6	QuickChem 10-204-00-1-X (2.1)	$76
	C	Combination of 4500-CN B (2011) and 4500-CN C (2011), followed by 4500-CN D (2011), 4500-CN E (2011), or 4500-CN F (2011)	$89
	E7	Kelada-01	$76
Fluoride	A2	300.0 (2.1)	$26
	A5	300.1 (1.0)	$26
	C	4500-F B (2011)	$39
		4500-F C (2011)	$39
		4500-F D (2011)	$39

		4500-F E (2011)	$39
Hardness	A	130.1 (1976)	$10
	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
	A4.10	200.5 (4.2)	$10
	C	2340B (2011)	$39
		2340C (2011)	$39
Kjeldahl, Total Nitrogen	A	351.1 (1978)	$76
	A2	351.2 (2.0)	$76
	C	Combination of 4500-NH_3 B (2011) and either 4500-N_{org} B (2011) or 4500-N_{org} C (2011)	$115
		4500-NH_3 C (2011)	$39
		4500-NH_3 D (2011)	$39
		4500-NH_3 E (2011)	$39
		4500-NH_3 F (2011)	$39
		4500-NH_3 G (2011)	$39
		4500-NH_3 H (2011)	$39
	Z9	PAI-DK01 (12/94)	$76
	Z10	PAI-DK02 (12/94)	$76
	Z11	PAI-DK03 (12/94)	$76
Methylene Blue Active Substances	C	5540C (2011)	$39
Nitrate (as N)	A	352.1 (1971)	$76
	A2	300.0 (2.1)	$26
	A5	300.1 (1.0)	$26
	C	3500-NO_3 D (2011)	$39
Nitrate-Nitrite (as N)	A2	300.0 (2.1)	$26
		353.2 (2.0)	$76
	A5	300.1 (1.0)	$26
	C	4500-NO_3 E (2011)	$76
		4500-NO_3 F (2011)	$76
		4500-NO_3 H (2011)	$76
Nitrite (as N)	A2	300.0 (2.1)	$26
		353.2 (2.0)	$76
	A5	300.1 (1.0)	$26
	C	4500-NO_2 B (2011)	$76

		4500-NO_3 E (2011)	$76
		4500-NO_3 F (2011)	$76
Oil and Grease and Total Petroleum Hydrocarbons	A4.24	1664 Rev B	$76
	C	5520B (2011)	$76
Orthophosphate	A	365.3 (2.0)	$76
	A2	300.0 (2.1)	$26
		365.1 (2.0)	$76
	A5	300.1 (1.0)	$26
	C	4500-P E (2011)	$76
		4500-P F (2011)	$76
Oxygen-consumption Rate (SOUR)	C	2710B (2011)	$39
Oxygen, Dissolved	C	4500-O B (2011)	$26
		4500-O C (2011)	$26
		4500-O D (2011)	$26
		4500-O E (2011)	$26
		4500-O F (2011)	$26
		4500-O G (2011)	$26
	C1	1002-8-2009	$26
	C3	Hach 10360	$26
pH (Hydrogen Ion)	A	150.2	$39
	C	4500-H B (2011)	$39
Phenols	A	420.1 (1978)	$116
	A2	420.4 (1.0)	$116
	C	5530 B (2010)	$116
		5530 D (2010)	$116
Phosphorus, Total	A	365.3 (1978)	$76
		365.4 (1974)	$76
	A1	200.7 (4.4)	$10
	A2	365.1 (2.0)	$76
	C	4500-P B (2011)	$76
		4500-P E (2011)	$76
		4500-P F (2011)	$76
		4500-P G (2011)	$76
		4500-P H (2011)	$76
Potassium	A1	200.7 (4.4)	$10

		200.8 (5.4)	$26
	C	3111B (2011)	$26
		3500-K B (2011)	$26
Residue, Filterable (TDS)	C	2540C (2011)	$39
	E8	I-1750-85	$39
Residue, Nonfilterable (TSS)	C	2540D (2011)	$39
Residue, Settleable Solids	C	2540F (2011)	$39
Residue, Total	C	2540B (2011)	$39
Residue, Volatile	A	160.4 (1971)	$39
	C	2540E (2011)	$39
Silica, Dissolved	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
	A4.10	200.5 (4.2)	$10
	C	4500-SiO_2 B (2011)	$76
		4500-SiO_2 C (2011)	$76
		4500-SiO_2 E (2011)	$76
		4500-SiO_2 F (2011)	$76
Sodium	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
	A4.10	200.5 (4.2)	$10
	C	3500-Na B (2011)	$26
		3500-Na D (2011)	$26
		3111B (2011)	$26
Sodium Azide	C	4110C (2011)	$76
Specific Conductance	A	120.1 (1982)	$39
	C	2510B (2011)	$39
Sulfate	A2	300.0 (2.1)	$26
		375.2 (2.0)	$76
	A5	300.1 (1.0)	$26
	C	4500-SO_4 C (2011)	$76
		4500-SO_4 D (2011)	$76
		4500-SO_4 E (2011)	$76
		4500-SO_4 F (2011)	$76

		4500-SO_4 G (2011)	$76
Sulfide (includes total and soluble)	C	4500-S^{2-} B (2011)	$39
		4500-S^{2-} D (2011)	$76
		4500-S^{2-} F (2011)	$39
		4500-S^{2-} G (2011)	$39
	C1	Hach 8131	$39
Sulfite	C	4500-SO_3 B (2011)	$76
Temperature, Degrees Celsius	C	2550B (2010)	$13
Total, Fixed and Volatile Solids in Solid and Semisolid Samples in Sludge	C	2540G (2011)	$39
Turbidity, NTU	A2	180.1 (2.0)	$39
	C	2130B (2011)	$39

3. Metals in Wastewater

a. Sample Preparation for Metals in Wastewater

Description	**Reference**	**Method/s**	**Fee Per Method**
Acid Extractable Metals	C	3030C (2004)	$7
Digestion for Metals	C	3030D (2004)	$7
Microwave Digestion	E6	CEM Microwave Digestion	$7
Nitric Acid	C	3030E (2004)	$7
Nitric Acid/Hydrochloric Acid	C	3030F (2004)	$7
Nitric Acid/Perchloric Acid	C	3030H (2004)	$7
Nitric Acid/Perchloric Acid/Hydrofluoric Acid	C	3030I (2004)	$7
Nitric Acid/Sulfuric Acid	C	3030G (2004)	$7
Preliminary Filtration	C	3030B (2004)	$7

b. Methods to Analyze Metals in Wastewater

Description	**Reference**	**Method/s**	**Fee Per Method**
Aluminum	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3113B (2010)	$26
		3111D (2011)	$26
Antimony	A1	200.7 (4.4)	$10

		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	A4.25	1638	$26
	C	3111B (2011)	$26
		3113B (2010)	$26
Arsenic	A	206.5 (1978)	$39
	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3113B (2010)	$26
		3500-As B (2011)	$76
Barium	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
	A4.10	200.5 (4.2)	$10
	C	3111D (2011)	$26
		3113B (2010)	$26
Beryllium	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3111D (2011)	$26
		3111E (2011)	$26
		3113B (2010)	$26
Cadmium	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	A4.25	1638	$26
	C	3111B (2011)	$26
		3111C (2011)	$26
		3113B (2010)	$26
		3500-Cd D (2011)	$76

Chromium (VI) Hexavalent	A1	218.6 (3.3)	$26
	C	3500-Cr B (2011)	$39
		3111C (2011)	$26
Chromium, Total	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3111B (2011)	$26
		3111C (2011)	$26
		3113B (2010)	$26
		3500-Cr B (2011)	$76
Cobalt	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3111B (2011)	$26
		3111C (2011)	$26
		3113B (2010)	$26
Copper	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	A4.25	1638	$26
	C	3111B (2011)	$26
		3111C (2011)	$26
		3113B (2010)	$26
		3500-Cu B (2011)	$76
		3500-Cu C (2011)	$76
Gold	A	231.2 (1978)	$26
	A1	200.8 (5.4)	$26
	C	3111B (2011)	$26
Iridium	A	235.2 (1978)	$26
	C	3111B (2011)	$26
Iron	A1	200.7 (4.4)	$10

		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3111B (2011)	$26
		3111C (2011)	$26
		3113B (2010)	$26
		3500-Fe B (2011)	$76
Lead	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	A4.25	1638	$26
	C	3111B (2011)	$26
		3111C (2011)	$26
		3113B (2010)	$26
		3500-Pb B (2011)	$76
Lithium	A1	200.7 (4.4)	$10
Magnesium	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
	A4.10	200.5 (4.2)	$10
	C	3111B (2011)	$26
Manganese	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3111B (2011)	$26
		3113B (2010)	$26
		3500-Mn B (2011)	$76
Mercury	A	245.2 (1974)	$52
	A1	200.7 (4.4)	$10
		245.1 (3.0)	$52
	A4.17	1631E	$152
	A4.23	245.7 (2.0)	$15
	C	3112B (2011)	$52

Molybdenum	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
	A4.10	200.5 (4.2)	$10
	C	3111D (2011)	$26
		3113B (2010)	$26
Nickel	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	A4.25	1638	$26
	C	3111B (2011)	$26
		3111C (2011)	$26
		3113B (2010)	$26
Osmium	A	252.2 (1978)	$26
	C	3111D (2011)	$26
Palladium	A	253.2 (1978)	$26
	C	3111B (2011)	$26
Platinum	A	255.2 (1978)	$26
	C	3111B (2011)	$26
Rhodium	A	265.2 (1978)	$26
	C	3111B (2011)	$26
Ruthenium	A	267.2 (1978)	$26
	C	3111B (2011)	$26
Selenium	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3113B (2010)	$26
		3114B (2011)	$76
Silver	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3111B (2011)	$26

		3111C (2011)	$26
		3113B (2010)	$26
Strontium	A1	200.7 (4.4)	$10
	C	3111B (2011)	$26
		3500-Sr B (2011)	$26
		3500-Sr C (2011)	$20
		3500-Sr D (2011)	$26
Thallium	A	279.2 (1978)	$26
	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	A4.25	1638	$26
	C	3111B (2011)	$26
Tin	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
		200.9 (2.2)	$26
	A4.10	200.5 (4.2)	$10
	C	3111B (2011)	$26
		3113B (2010)	$26
Titanium	A	283.2 (1978)	$26
	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
	C	3111D (2011)	$26
Vanadium	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
	A4.10	200.5 (4.2)	$10
	C	3111D (2011)	$26
		3500-V B (2011)	$76
Zinc	A	289.2 (1978)	$26
	A1	200.7 (4.4)	$10
		200.8 (5.4)	$26
	A4.10	200.5 (4.2)	$10
	A4.25	1638	$26
	C	3111B (2011)	$26

		3111C (2011)	$26
		3500 Zn B (2011)	$76
4. Aquatic Toxicity Bioassay of Wastewater			
Description	**Reference**	**Method/s**	**Fee Per Method**
Toxicity, Acute	M1	EPA/600/4-90/027F	$194
	Z12	821-R-02-012	$194
Toxicity, Chronic	N1	EPA/600/4-91/002	$194
	Z2	821-R-02-013	$194
	Z13	Lozarchak, J. 2001	$194
5. Organic Chemicals of Wastewater			
Description	**Reference**	**Method/s**	**Fee Per Method**
Volatile Organics for Pharmaceuticals	D3	524.2 (4.1)	$152
Purgeable Hydrocarbons	E	601	$76
Purgeable Aromatics	E	602	$76
Acrolein and Acrylonitrile	E	603	$76
		624	$152
Phenols	E	604	$116
Benzidines	E	605	$116
Phthalate ester	E	606	$116
Nitrosamines	E	607	$116
Organochlorine Pesticides and PCBs	E	608	$152
	E2	608.1	$152
		608.2	$152
	E4	608 (3M)	$152
Nitroaromatics and Isophorone	E	609	$116
PAHs	E	610	$116
Haloethers	E	611	$116
Chlorinated Hydrocarbons	E	612	$116
2, 3, 7, 8-Tetrachlorodibenzo-p-Dioxin	E	613	$457
Chlorinated Herbicides	E2	615	$116
Organohalide Pesticides and PCB	E2	617	$116
Triazine Pesticides	E2	619	$116
Thiophosphate Pesticides	E2	622.1	$116
Purgeables	E	624	$152

Base/Neutrals and Acids (all analytes excluding pesticides)	E	625	$152
Base/Neutrals and Acids (pesticides only)	E	625	$152
Carbamate and Urea Compounds	E2	632	$116
Tetra- through Octa-Chlorinated Dioxins and Furans	A4.22	1613 Rev B (10/94)	$258
VOCs by Isotope Dilution GC/MS	E	1624B	$152
Semivolatile Organic Compounds by Isotope Dilution GC/MS	E	1625B	$152
Organophosphorus Pesticides	E1	1657	$116
	E2	614	$116
		614.1	$116
		622	$116
VOCs Specific to the Pharmaceutical Manufacturing Industry by Isotope Dilution GC/MS	K1	1666 (A)	$152
Herbicides	C	6640B (2006)	$116
Ethylene Glycol	K	BLS-188	$152
6. Radiochemistry of Wastewater			
Description	**Reference**	**Method/s**	**Fee Per Method**
Alpha-Total pCi per liter	C	7110B (2011)	$206
	L	900.0	$206
Alpha Counting Error, pCi per liter	C	7110B (2011)	$206
Beta-Total pCi per liter	C	7110B (2011)	$206
	L	900.0	$206
Beta Counting Error, pCi	C	7110B (2011)	$206
Radium, Total pCi per liter	C	7500-Ra B (2011)	$206
	L	903.0	$206
Radium	C	7500-Ra C (2011)	$206
	L	903.1	$206

Table 6.2.C. Approved Methods and Method Fees for Waste Parameters

1. Microbiology of Waste			
Description	**Reference**	**Method/s**	**Fee Per Method**
Coliforms, Total, by Membrane Filter	F	9132	$228
Coliforms, Total, by Multiple Tube Fermentation	F	9131	$228
2. Sample Preparation for Waste			
Description	**Reference**	**Method/s**	**Fee Per Method**
Acid Digestion of Water	F	3005A	$7
Alkaline Digestion for Hex Chome	F	3060A	$7
Bomb Preparation Method for Solid Waste	F	5050	$7
EP for Oily Wastes	F	1330A	$76
EP Toxicity	F	1310B	$76
Microwave Assisted Digestions	F	3015A	$7
		3051A	$7
		3052	$7
		3546	$7
Multiple EP	F	1320	$152
Oils, Greases, and Waxes	F	3040A	$7
Oils	F	3031	$7
Sediments, Sludges, and Soils	F	3050B	$7
SPLP	F	1312	$303
TCLP	F	1311	$303
Total Metals	F	3010A	$7
		3020A	$7
Total Recoverable in Water	F	3005A	$7
3. Inorganic Chemistry and Metals of Solid Waste			
Description	**Reference**	**Method/s**	**Fee Per Method**
Aluminum	F	6010C	$10
		6020A	$26
		7000B	$26
	F and F13	6010D	$10
		6020B	$26
Ammonia	A	350.3	$39

Antimony	F	6010C	$10
		6020A	$26
		7062	$76
		7000B	$26
		7010	$26
	F and F13	6010D	$10
		6020B	$26
Arsenic	F	6010C	$10
		6020A	$26
		7010	$26
		7061A	$76
		7062	$76
		7063	$76
	F and F13	6010D	$10
		6020B	$26
Barium	F	6010C	$10
		6020A	$26
		7000B	$26
		7010	$26
	F and F13	6010D	$10
		6020B	$26
Beryllium	F	6010C	$10
		6020A	$26
		7000B	$26
		7010	$26
	F and F13	6010D	$10
		6020B	$26
Boron	F	6010C	$10
	F and F13	6010D	$10
Bromide	F	9056A	$26
		9211	$39
Cadmium	F	6010C	$10
		6020A	$26
		7000B	$26
		7010	$26

	F and F13	6010D	$10
		6020B	$26
Calcium	F	6010C	$10
		6020A	$26
		7000B	$26
	F and F13	6010D	$10
		6020B	$26
Cation-Exchange Capacity of Soils	F	9080	$34
		9081	$34
Chloride	F	9056A	$26
		9057	$76
		9212	$39
		9250	$76
		9251	$76
		9253	$39
Chlorine, Total, in New and Used Petroleum Products	F	9075	$76
		9076	$39
		9077	$39
Chromium, Hexavalent	F	7195	$26
		7196A	$76
		7197	$26
		7198	$40
		7199	$76
Chromium, Total	F	6010C	$10
		6020A	$26
		7000B	$26
		7010	$26
	F and F13	6010D	$10
		6020B	$26
Cobalt	F	6010C	$10
		6020A	$26
		7000B	$26
		7010	$26
	F and F13	6010D	$10
		6020B	$26

Compatibility Test for Wastes and Membrane Liners	F	9090A	$152
Copper	F	6010C	$10
		6020A	$26
		7000B	$26
		7010	$26
	F and F13	6010D	$10
		6020B	$26
Corrosive to Steel	F	1110A	$63
Corrosivity pH Determination	F	9040C	$63
Cyanide	F	9010C	$13
		9012B	$76
		9213	$76
		9014	$76
	F9	9015	$76
Cyanide Extraction for Solids and Oils	F10	9013A	$39
Dermal Corrosion	F	1120	$63
Ignitability of Solids	F	1030	$32
Flash Point by Pensky Martems Cup	F	1010A	$32
Flash Point by Set-a Flash	F	1020B	$32
Fluoride	F	9056A	$26
		9214	$39
Iron	F	6010C	$10
		6020A	$26
		7000B	$26
		7010	$26
	F and F13	6010D	$10
		6020B	$26
Kjeldahl Total, Nitrogen	A	351.4	$76
Lead	F	6010C	$10
		6020A	$26
		7000B	$26
		7010	$26
	F and F13	6010D	$10
		6020B	$26
Liquid Release Test Procedure	F	9096	$39

Lithium	F	6010C	$10
		7000B	$26
	F and F13	6010D	$10
Magnesium	F	6010C	$10
		6020A	$26
		7000B	$26
	F and F13	6010D	$10
		6020B	$26
Manganese	F	6010C	$10
		6020A	$26
		7000B	$26
		7010	$26
	F and F13	6010D	$10
		6020B	$26
Mercury	F	6010C	$10
		6020A	$26
		7470A	$52
		7471B	$52
		7472	$152
		7473	$152
		7474	$152
	F and F13	6010D	$10
		6020B	$26
Molybdenum	F	6010C	$10
		7000B	$26
		7010	$26
	F and F13	6010D	$10
Nickel	F	6010C	$10
		6020A	$26
		7000B	$26
		7010	$26
	F and F13	6010D	$10
		6020B	$26
Nitrate	F	9210A	$39
		9056A	$26

Nitrite	F	9056A	$26
		9216	$39
Oil and Grease and Petroleum Hydrocarbons	A4.24	1664B	$76
O-Phosphate-P	F	9056A	$26
Osmium	F	7000B	$26
Paint Filter Liquids Test	F	9095B	$19
Perchlorate	A5	314.0	$76
	F	6850	$152
pH (Hydrogen Ion)	F	9041A	$39
		9045D	$39
Phosphorus	F	6010C	$10
	F and F13	6010D	$10
Phosphorus, Total	A	365.3	$76
Potassium	F	6010C	$10
		6020A	$26
		7000B	$26
	F and F13	6010D	$10
		6020B	$26
Saturated Hydraulic and Leachate Conductivity and Intrinsic Permeability	F	9100	$152
Selenium	F	6010C	$10
		6020A	$26
		7010	$26
		7741A	$26
		7742	$76
	F and F13	6010D	$10
		6020B	$26
Silica	F	6010C	$10
	F and F13	6010D	$10
Silver	F	6010C	$10
		6020A	$26
		7000B	$26
		7010	$26
	F and F13	6010D	$10
		6020B	$26

Sodium	F	6010C	$10
		6020A	$26
		7000B	$26
	F and F13	6010D	$10
		6020B	$26
Sodium Azide	C	4110C (2011)	$76
Specific Conductance	F	9050A	$39
Strontium	F	6010C	$10
		7000B	$26
	F and F13	6010D	$10
Sulfate	F	9035	$76
		9036	$76
		9038	$76
		9056A	$26
Sulfides	F	9030B	$76
		9031	$76
		9034	$76
		9215	$76
Thallium	F	6010C	$10
		6020A	$26
		7000B	$26
		7010	$26
	F and F13	6010D	$10
		6020B	$26
Tin	F	6010C	$10
		7000B	$26
	F and F13	6010D	$10
Titanium	F	6010C	$10
Vanadium	F	6010C	$10
		6020A	$26
		7000B	$26
		7010	$26
	F and F13	6010D	$10
		6020B	$26
Water	F	9000	$32

		9001	$32
White Phosphorus by GC	F	7580	$116
Zinc	F	6010C	$10
		6020A	$26
		7000B	$26
		7010	$26
	F and F13	6010D	$10
		6020B	$26

4. Organics Procedures in Waste

Description	**Reference**	**Method/s**	**Fee Per Method**
Separatory Funnel Liquid-Liquid Extraction	F	3510C	$13
Organic Compounds in Water by Microextraction	F5	3511	$13
Continuous Liquid-Liquid Extraction	F	3520C	$13
SPE	F	3535A	$13
Soxhlet Extraction	F	3540C	$13
Automated Soxhlet Extraction	F	3541	$13
Pressurized Fluid Extraction	F	3545A	$13
Ultrasonic Extraction	F	3550C	$13
Supercritical Fluid Extraction of Total Recoverable Petroleum Hydrocarbons	F	3560	$13
Supercritical Fluid Extraction of PAHs	F	3561	$13
SFE of PCBs and Organochlorine Pesticides	F	3562	$13
MSE	F4	3570	$13
Waste Dilution	F	3580A	$13
Waste Dilution for Volatile Organics	F	3585	$13
Alumina Cleanup	F	3610B	$13
Alumina Column Cleanup and Separation of Petroleum Wastes	F	3611B	$13
Florisil Cleanup	F	3620C	$13
Silica Gel Cleanup	F	3630C	$13
Gel-Permeation Cleanup	F	3640A	$13
Acid-Base Partition Cleanup	F	3650B	$13
Sulfur Cleanup	F	3660B	$13
Sulfuric Acid/Permanganate Cleanup	F	3665A	$13
Screening Solids for VOCs	F	3815	$76

Hexadecane Extraction and Screening for Purgeable Organincs	F	3820	$76
Screening for Pentachlorophenol by Immunoassay	F	4010A	$76
Screening for 2,4-Dichlorophenoxyacetic Acid by Immunoassay	F	4015	$76
Screening for PCBs by Immunoassay	F	4020	$76
Screening for PCDDs and PCDFs by Immunoassay	F3	4025	$76
Soil Screening for Petroleum Hydrocarbons by Immunoassay	F	4030	$76
Soil Screening for PAHs by Immunoassay	F	4035	$76
Soil Screening for Toxaphene by Immunoassay	F	4040	$76
Soil Screening for Chlordane by Immunoassay	F	4041	$76
Soil Screening for DDT by Immunoassay	F	4042	$76
TNT Explosives in Soil by Immunoassay	F	4050	$76
RDX in Soil by Immunoassay	F	4051	$76
Screening Environmental Samples for Planar Organic Compounds	F	4425	$76
Triazine Herbicides by Quantitative Immunoassay	F	4670	$76
VOCs in Various Sample Matrices Using Equilibrium Headspace Analysis	F8	5021A	$13
Purge-and-Trap for Aqueous Samples	F6	5030C	$13
Volatile, Nonpurgeable, Water-Soluble Compounds by Azeotropic Distillation	F	5031	$13
VOCs by Vacuum Distillation	F	5032	$13
Closed-System Purge-and-Trap and Extraction for Volatile Organics in Soil and Waste Samples	F2	5035A	$13
Analysis for Desorption of Sorbent Cartridges from VOST	F	5041A	$13
EDB and DBCP by Microextraction and GC	F	8011	$116
$C_{10} – C_{32}$ Hydrocarbons	K	8015AZ 1	$116
Nonhalogenated Organics Using GC/FID	F7	8015D	$116
Aromatic and Halogenated Volatiles by GC Using Photoionization and/or Electrolytic Conductivity Detectors	F	8021B	$152
Acrylonitrile by GC	F	8031	$76
Acrylamide by GC	F	8032A	$76
Acetonitrile by GC with Nitrogen-Phosphorus Detection	F	8033	$76
Phenols by GC	F	8041A	$116
Phthalate Esters by GC/ECD	F	8061A	$116
Nitrosamines by GC	F	8070A	$116

Organochlorine Pesticides by GC	F	8081B	$152
Elemental Quantitation by GC/AED	F	8085	$116
PCBs by GC	F	8082A	$152
Nitroaromatics and Cyclic Ketones by GC	F	8091	$116
Explosives by GC	F	8095	$116
PAHs	F	8100	$116
Haloethers by GC	F	8111	$116
Chlorinated Hydrocarbons by GC: Capillary Column Technique	F	8121	$116
Aniline and Selected Derivatives by GC	F	8131	$116
Organophosphorus Compounds by GC	F	8141B	$152
Chlorinated Herbicides by GC Using Methylation or Pentafluorobenzylation Derivatization	F	8151A	$152
VOCs by GC/MS, including n-Hexane	F	8260B	$152
	F12 and F13	8260C/8000D	$152
VOCs by VD/GC/MS	F	8261	$152
Semivolatile Organic Compounds by GC/MS	F	8270C	$152
	F and F13	8270D/8000D	$152
Semivolatile Organic Compounds (PAHs and PCBs) in Soils/Sludges and Solid Wastes Using TE/GC/MS	F	8275A	$152
8280A: Polychlorinated Dibenzo-*p*-Dioxins and PCDFs by HRGC/LRMS	F	8280B	$258
PCDDs and PCDFs by HRGC/HRMS	F	8290A	$258
PAHs	F	8310	$116
Determination of Carbonyl Compounds by HPLC	F	8315A	$116
Acrylamide, Acrylonitrile, and Acrolein by HPLC	F	8316	$116
N-Methylcarbamates by HPLC	F	8318A	$116
Solvent-Extractable Nonvolatile Compounds by HPLC/TS/MS or UV Detection	F	8321B	$152
Solvent Extractable Nonvolatile Compounds by HPLC/PB/MS	F	8325	$152
Nitroaromatics and Nitramines by HPLC	F	8330A	$116
Nitroaromatics, Nitramines, and Nitrate Esters	F11	8330B	$116
Tetrazene by Reverse Phase HPLC	F	8331	$116
Nitroglycerine by HPLC	F	8332	$116
GC/FT-IR Spectrometry for Semivolatile Organics: Capillary Column	F	8410	$116
Analysis of Bis (2-chloroethyl) Ether and Hydrolysis Products by Direct Aqueous Injection GC/FT-IR	F	8430	$116

Total Recoverable Petroleum Hydrocarbons by Infrared Spectrophotometry	F	8440	$116
Screening for RDX/MDX in Soil	F	8510	$76
Colorimetric Screening Method for TNT in Soil	F	8515	$76
Screening for Total VOH in Water	F	8535	$76
PCP by UV Colorimetry	F	8540	$108
TOX	F	9020B	$76
POX	F	9021	$76
TOX by Neutron Activation Analysis	F	9022	$114
EOX in Solids	F	9023	$114
TOCs	F	9060A	$76
Phenolics	F	9065	$152
		9066	$152
		9067	$152
HEM for Aqueous Samples	F	9070A	$76
HEM for Sludge, Sediment, and Solid Samples	F	9071B	$76
Screening for TRPH in Soil	F	9074	$76
Screening for PCBs in Soil	F	9078	$76
Screening for PCBs in Oil	F	9079	$76
PCBs in Waste Oil	A4.28	600/4-81-045	$152
5. Bulk Asbestos Analysis of Waste			
Description	**Reference**	**Method/s**	**Fee Per Method**
Bulk Asbestos Analysis	A4.29	Bulk Asbestos	$228
	G	9002	$228
	G1 and A4.29	Bulk Asbestos	$228
Fiber Counting	G	7400	$228
		7402	$228
6. Radiochemistry of Waste			
Description	**Reference**	**Method/s**	**Fee Per Method**
Alpha-Emitting Radium Isotopes	F	9315	$206
Gross Alpha and Beta	F	9310	$206
Radium-228	F	9320	$206

Table 6.2.D. Approved Methods and Method Fees for Air and Stack Parameters

1. Ambient Air Primary and Secondary Pollutants			
Description	**Reference**	**Method/s**	**Fee Per Method**
Carbon Monoxide	O	Appendix C	$393
Formaldehyde	F	8520	$393
Lead	O	Appendix G	$393
Nitrogen Dioxide	O	Appendix F	$393
Ozone	O	Appendix D	$393
Particulate Matter	O	Appendix B	$393
		Appendix J	$393
		Appendix L	$393
		Appendix O	$393
Sulfur Oxides	O	Appendix A	$393
2. Stationary and Stack Sources			
Description	**Reference**	**Method/s**	**Fee Per Method**
Carbon Dioxide, Oxygen, and Excess Air	Q	Method 3C	$393
Carbon Monoxide	Q	Method 10	$393
		Method 10A	$393
		Method 10B	$393
Carbonyl Sulfide, Hydrogen Sulfide, and Carbon Disulfide	Q	Method 15	$393
Fluoride	Q	Method 13A	$393
		Method 13B	$393
		Method 14	$393
Fugitive Emissions	Q	Method 22	$393
Gaseous Organic Compounds	Q	Method 18	$393
		Method 25	$393
		Method 25A	$393
		Method 25B	$393
Hydrogen Sulfide	Q	Method 11	$393
Inorganic Lead	Q	Method 12	$393
Mercury, Total Vapor Phase	Q1	PS-12B	$393
Moisture Content	Q	Method 4	$393

Nitrogen Oxide	Q	Method 7	$393
		Method 7A	$393
		Method 7B	$393
		Method 7C	$393
		Method 7D	$393
		Method 7E	$393
		Method 20	$393
Non-methane Organic Compounds	Q	Method 25C	$393
Particulate Emissions by Asphalt Processing and Roofing	Q	Method 5A	$152
Particulate Emissions by Fiberglass Insulation Plants	Q	Method 5E	$152
Particulate Emissions of Nonsulfates	Q	Method 5F	$152
Particulate Emissions by Nonsulfuric Acid	Q	Method 5B	$152
Particulate Emissions by Pressure Filters	Q	Method 5D	$152
Particulate Emissions by Stationary Sources	Q	Method 5	$152
		Method 17	$152
Particulate Emissions by Wood Heaters	Q	Method 5G	$152
		Method 5H	$152
Petroleum Products, Heat of Combustion	I	D240-92	$76
		D240-87	$76
Petroleum Products, Hydrometer Method	I	D287-92	$76
Petroleum Products, Sulfur	I	D4294-90	$152
Sulfur and Total Reduced Sulfur	Q	Method 15A	$393
		Method 16	$393
		Method 16A	$393
		Method 16B	$393
Sulfur Dioxide	Q	Method 6	$393
		Method 6A	$393
		Method 6B	$393
		Method 6C	$393
		Method 8	$393
		Method 19	$393
		Method 20	$393
Sulfur Dioxide Removal and SO2/NO Emission Rates	Q	Method 19	$152
Sulfuric Acid Mist	Q	Method 8	$393
Vapor Tightness, Gasoline Delivery Tank	Q	Method 27	$393

Volatile Matter Density, Solids and Water from Surface Coatings	Q	Method 24	$393
		Method 24A	$393
Volatile Matter and Density of Printing Inks	Q	Method 24A	$393
VOCs	Q	Method 21	$393
	S1	TO-3	$152
		TO-14A	$152
		TO-15	$152
VOCs in Vapor	F1	8260B AZ (Vapor) (0.0)	$152
Wood Heaters, Certification and Burn Rates	Q	Method 28	$393
		Method 28A	$393
3. ADEQ Emission Test			
Description	**Reference**	**Method/s**	**Fee Per Method**
Particulate Emissions in the Presence of Sulfuric Acid Mist/Sulfur Oxides	R	Method A1	$393
4. National Emission Standards for Hazardous Air Pollutants			
Description	**Reference**	**Method/s**	**Fee Per Method**
Arsenic	S	Method 108	$393
		Method 108A	$393
		Method 108B	$393
		Method 108C	$393
Beryllium	S	Method 103	$393
		Method 104	$393
Mercury	S	Method 101	$393
		Method 101A	$393
		Method 102	$393
		Method 105	$393
Polonium 210	S	Method 111	$393
Vinyl Chloride	S	Method 106	$393
		Method 107	$393
		Method 107A	$393
5. Determination of Metals in Ambient Particulate Matter			
Description	**Reference**	**Method/s**	**Fee Per Method**

Digestion of Ambient Matter	O3	IO-3.1	$7
Aluminum	O1	IO-3.4	$10
	O2	IO-3.5	$26
Antimony	O1	IO-3.4	$10
	O2	IO-3.5	$26
Arsenic	O1	IO-3.4	$10
	O2	IO-3.5	$26
	Q	Method 29 – ICP	$10
		Method 29 – ICPMS	$26
Barium	O1	IO-3.4	$10
	O2	IO-3.5	$26
	Q	Method 29 – ICP	$10
		Method 29 – ICPMS	$26
Beryllium	O1	IO-3.4	$10
	O2	IO-3.5	$26
	Q	Method 29 – ICP	$10
		Method 29 – ICPMS	$26
Bismuth	O1	IO-3.4	$10
Cadmium	O1	IO-3.4	$10
	O2	IO-3.5	$26
	Q	Method 29 – ICP	$10
		Method 29 – ICPMS	$26
Calcium	O1	IO-3.4	$10
Cesium	O1	IO-3.4	$10
Chromium	O1	IO-3.4	$10
	O2	IO-3.5	$26
	Q	Method 29 – ICP	$10
		Method 29 – ICPMS	$26
Cobalt	O1	IO-3.4	$10
	O2	IO-3.5	$26
	Q	Method 29 – ICP	$10
		Method 29 – ICPMS	$26
Copper	O1	IO-3.4	$10
	O2	IO-3.5	$26

	Q	Method 29 – ICP	$10
		Method 29 – ICPMS	$26
Germanium	O1	IO-3.4	$10
Gold	O1	IO-3.4	$10
Indium	O1	IO-3.4	$10
Iron	O1	IO-3.4	$10
Lanthanum	O1	IO-3.4	$10
Lead	O1	IO-3.4	$10
	O2	IO-3.5	$26
	O4	EQL-0510-191	$26
	Q	Method 29 – ICP	$10
		Method 29 – ICPMS	$26
Lithium	O1	IO-3.4	$10
Magnesium	O1	IO-3.4	$10
Manganese	O1	IO-3.4	$10
	O2	IO-3.5	$26
	Q	Method 29 – ICP	$10
		Method 29 – ICPMS	$26
Mercury	O1	IO-3.4	$10
	Q	Method 29 – CVAA	$52
Molybdenum	O1	IO-3.4	$10
	O2	IO-3.5	$26
Nickel	O1	IO-3.4	$10
	O2	IO-3.5	$26
	Q	Method 29 – ICP	$10
		Method 29 – ICPMS	$26
Niobium	O1	IO-3.4	$10
Palladium	O1	IO-3.4	$10
Phosphorus	O1	IO-3.4	$10
	Q	Method 29 – ICP	$10
Platinum	O1	IO-3.4	$10
Potassium	O1	IO-3.4	$10
Rhenium	O1	IO-3.4	$10
Rhodium	O1	IO-3.4	$10

Ruthenium	O1	IO-3.4	$10
Samarium	O1	IO-3.4	$10
Selenium	O1	IO-3.4	$10
	O2	IO-3.5	$26
	Q	Method 29 – ICP	$10
		Method 29 – ICPMS	$26
Silicon	O1	IO-3.4	$10
Silver	O2	IO-3.5	$26
	Q	Method 29 – ICP	$10
		Method 29 – ICPMS	$26
Sodium	O1	IO-3.4	$10
Strontium	O1	IO-3.4	$10
Tantalum	O1	IO-3.4	$10
Tellurium	O1	IO-3.4	$10
Thallium	O1	IO-3.4	$10
	O2	IO-3.5	$26
	Q	Method 29 – ICP	$10
		Method 29 – ICPMS	$26
Thorium	O2	IO-3.5	$26
Tin	O1	IO-3.4	$10
Titanium	O1	IO-3.4	$10
Tungsten	O1	IO-3.4	$10
Uranium	O2	IO-3.5	$26
Vanadium	O1	IO-3.4	$10
	O2	IO-3.5	$26
Ytrrium	O1	IO-3.4	$10
Zinc	O1	IO-3.4	$10
	O2	IO-3.5	$26
	Q	Method 29 – ICP	$10
		Method 29 – ICPMS	$26
Zirconium	O1	IO-3.4	$10

Table 6.2.E. Methods Director-Approved under R9-14-610(E) and Method Fees

Description	Reference	Method/s	Fee Per Method
Chromatographic Method	-	Any	$116
Mass Spectrometric Method	-	Any	$152
Toxicity Method	-	Any	$194
Other Method	-	Any	$75

Table 6.3. Instrumentation Fees

Description	Subtype, if any	Fee Per Instrument
Atomic Absorption	Cold Vapor	$76
	Flame Burner	$76
	Graphite Furnace	$76
	Hydride Generator	$76
	Other	$76
Counters for Radioactivity	-	$76
Gas Chromatograph	Electron Capture	$76
	Flame Ionization	$76
	Flame Photometric	$76
	Halide Specific	$76
	Nitrogen/Phosphorus	$76
	Photoionization	$76
	Other	$76
Gas Chromatograph/Mass Spectrometer	High Resolution	$194
	Other than High Resolution	$152
High Pressure Liquid Chromatograph	Ultraviolet	$76
	Fluorescence	$76
	Other	$76
High Pressure Liquid Chromatograph/Mass Spectrometer	-	$152
Inductively Coupled Plasma	-	$76
Inductively Coupled Plasma/Mass Spectrometer	-	$152
Ion Chromatograph	-	$76
Automated Autoanalyzer	-	$76
Mercury Analyzer	-	$76
Organic Halide, Total	-	$76
Transmission Electron Microscope	-	$396
X-Ray Diffraction Unit	-	$76

Table 6.4. Alternate Default Limits

QUALITY CONTROL PARAMETERS WITHOUT ACCEPTANCE CRITERIA SPECIFIED IN THE METHOD	DEFAULT LIMITS
Matrix Spike/LFM (processed or non-processed)	LCS/LFB
Matrix Spike/LCS for 8000 methods	±30%.
LCS/LFB (processed or non-processed)/Second source reference standard	CCV/continuing IPC
LOQ/MRL (non-processed)	CCV/continuing IPC or ± 50%
LOQ/MRL (processed)	LCS/LFB or ± 50%
Methods that do not specify the LOQ/MRL	± 50%
QCS (non-processed)	ICV/continuing IPC/manufacturer's limits
QCS (processed)	LCS/LFB/manufacturer's limits
IDOC limits	LFB/LCS
LFB/LCS/LFM/duplicate RPD	IDOC limits/□20%
Non-CCC compounds	CCC limits
ICV/CCV	± 10%
500, 600, 1600, and 8000 series methods that do not specify surrogates or acceptance limits for surrogates	70-130%.
500, 600, 1600, and 8000 series methods that do not specify internal standards or acceptance limits for internal standards	70-130%.
Methods that do not list a precision measurement	20% RPD