State of Alaska
Application for Drinking Water Laboratory Certification

Section D – Analytical Methods

1. Methods and analytes for Drinking Water Certification
2. Designations correspond to those in Section C – Calculation of Fees

Application number _____
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A. Processing and QA Plan Review
$396 **$ 396**

B. Gas Chromatography/Mass Spectrometry
$554 per method

- ☐ EPA 524.2 Purge & Trap; Capillary Column-Gas Chromatography/Mass Spectroscopy
- ☐ EPA 525.2 Capillary Column-Gas Chromatography-Liquid/Solid Extractions/Mass Spectroscopy
- ☐ EPA 548.1 Capillary Column-Gas Chromatography-ion Exchange Extraction/Acidic-Methanol Methylation/Mass spectroscopy
- ☐ EPA 1613 (Dioxin) Capillary Column-Gas Chromatography-Liquid/Liquid Extraction High Resolution Mass Spectroscopy

Total # requested this section _____ x $554 $ _____

C. Gas Chromatography/Non-Mass Spectroscopy
$348 per method

- ☐ EPA 502.2 Purge & Trap; Capillary Column-Gas Chromatography-Photoionization Detector-Electrolytic Conductivity Detector
- ☐ EPA 504.1 Gas Chromatography-Microextraction-Electron Capture Detector
- ☐ EPA 505 Gas Chromatography-Microextraction-Electron Capture Detector
- ☐ EPA 506 Gas Chromatography-Liquid/Liquid or Liquid/Solid Extraction-Photoionization Detector
- ☐ EPA 507 Gas Chromatography-Nitrogen Phosphorus Detector
- ☐ EPA 508 Gas Chromatography-Electron Capture Detector
- ☐ EPA 508A PCBs as Decachlorobiphenyl
- ☐ EPA 508.1 Chlorinated Pesticides, Herbicides, Organohalides by Liquid/Solid Extraction Electron Capture Detector
- ☐ EPA 515.1 Gas Chromatography-Electron Capture Detector
- ☐ EPA 515.2 Capillary Column-Gas Chromatography Liquid/Solid Extraction Electron Capture Detector
- ☐ EPA 551 Capillary Column-Gas Chromatography-Liquid/Liquid Extraction-Electron Capture Detector
- ☐ EPA 552.1 Capillary Column-Gas Chromatography-Liquid/Solid Extraction-Electron Capture Detector

Total # requested this section _____ x $348 $ _____

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D. High Pressure Liquid Chromatography
$348 per method

- ☐ EPA 531.1 High Performance Liquid Chromatography-Post Column Reactor
- ☐ EPA 547 High Performance Liquid Chromatography-Post Column Reactor-Fluorescent Detector
- ☐ EPA 549.1 High Performance Liquid Chromatography Liquid/Solid Extraction-Ultraviolet Detector
- ☐ EPA 550.1 High Performance Liquid Chromatography-Microextraction-Ultraviolet and Fluorescent Detectors
- ☐ EPA 554 High Performance Liquid Chromatography-DNPH derivization
- ☐ EPA 555 High Performance Liquid Chromatography-Post Column Reactor-Photodiode Ultraviolet Detector
- ☐ Standard Methods 6651 High Performance Liquid Chromatography-Glyphosate

Total # requested this section _____ x $348 $ _____

E. Atomic Absorption Spectroscopy
$244 per method

- ☐ EPA 200.9 Atomic Absorption-Platform Technique
- ☐ SM 3113B Atomic Absorption-Furnace Technique
- ☐ SM 3111B Atomic Absorption-Direct Aspiration
- ☐ SM 3111D Direct Nitrous-Oxide-Acetylene Flame Technique
- ☐ ASTM D3697-92 Antimony AA Direct Aspiration
- ☐ ASTM D2972-93C Arsenic-Atomic Absorption-Furnace Technique
- ☐ ASTM D3645-93B Beryllium-Atomic Absorption-Furnace Technique
- ☐ ASTM D511-93B Calcium Atomic Absorption-Direct Aspiration
- ☐ ASTM D1688-90A Copper Atomic Absorption-Direct Aspiration
- ☐ ASTM D1688-90C Copper-Atomic Absorption-Furnace Technique
- ☐ ASTM D3559-90D Lead Atomic Absorption-Furnace Technique
- ☐ ASTM D3859-93B Selenium Absorption-Furnace Technique
- ☐ SM 3111D Zinc-Direct Nitrous Oxide-Acetylene Flame Technique

Total # requested this section _____ x $244 $ _____

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F. Inductively Coupled Plasma/Mass Spectroscopy
$554 per method

☐ EPA 200.8 Inductively Coupled Plasma/Mass Spectroscopy

Total # requested this section _____ x $554 $ _____

G. Inductively Couples Plasma/Non-Mass Spectroscopy
$417 per method

☐ EPA 200.7 Inductively Coupled Plasma/Atomic Emission Spectroscopy

☐ SM 3120B Inductively Coupled Plasma (ICP)

Total # requested this section _____ x $417 $ _____

H. Cold Vapor & Hydride Atomic Absorption
$244 per method

☐ ASTM D3697-92 Antimony-Gaseous Hydride Technique

☐ SM 3114B Arsenic & Selenium Gaseous Hydride Technique

☐ ASTM D2972-93B Arsenic-Gaseous Hydride Technique

☐ EPA 245.2 Mercury-Automated Cold Vapor Technique

☐ EPA 245.1 Mercury-Cold Vapor Technique

☐ ASTM D3223-91 Mercury Manual Cold Vapor

☐ SM 3112B Mercury Manual Cold Vapor

☐ ASTM D3859-93A Selenium-Gaseous Hydride Technique

Total # requested this section _____ x $244 $ _____

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I. Radiochemistry EPA Methods

$409 per method

- ☐ EPA 900.0 Gross Alpha and Beta Evaporation
- ☐ EPA 900.1 Gross Alpha Co-precipitation
- ☐ EPA 901.0 Radioactive Cesium-precipitation
- ☐ EPA 901.1 Gamma/Photon emitters-gamma ray spectrometry
- ☐ EPA 902.0 Radioactive Iodine – precipitation
- ☐ EPA 903.0 Radium 226 - radiochemical
- ☐ EPA 903.1 Radium 226 Radon emanation
- ☐ EPA 904 Radium 228 - radiochemical
- ☐ EPA 905.0 Radioactive Strontium 89, 90 – precipitation
- ☐ EPA 908.0 Uranium - radiochemical
- ☐ EPA 908.1 Uranium – fluorometric

Total # requested this section _____ x $409 $ _____

J. Liquid Scintillation Counting

$264 per method

- ☐ Radon 222 liquid scintillation counting
- ☐ Radon 222 Lucus Cell
- ☐ EPA 906.0 Tritium liquid scintillation counting

Total # requested this section _____ x $264 $ _____

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K. Per Analyte Charges
$53 per analyte

- ☐ EPA 353.2 Nitrate Automated Cadmium Reduction
- ☐ SM 4500-NO_3-D Nitrate Ion Selective Electrode
- ☐ SM 4500-NO_3-E Nitrate Manual Cadmium Reduction
- ☐ SM 4500-NO_3-F Nitrate Automated Cadmium Reduction
- ☐ ASTM D3867-90A Nitrate Automated Cadmium Reduction
- ☐ ASTM D3867-90B Nitrate Manual Cadmium Reduction
- ☐ ATI 601-Nitrate Ion Selective Electrode
- ☐ EPA 353.2 Nitrite Automated Cadmium Reduction
- ☐ ASTM D3867-90A Nitrite Automated Cadmium Reduction
- ☐ ASTM D3867-90B Nitrite Manual Cadmium Reduction
- ☐ SM 4500-NO_2-B Nitrite Spectrophotometric
- ☐ SM 4500-NO_3-E Nitrite Manual Cadmium Reduction
- ☐ SM 4500-NO_3-F Nitrite Automated Cadmium Reduction
- ☐ EPA 365.1 O-Phosphate Automated Ascorbic Acid
- ☐ SM 4500-P-F O-Phosphate Automated Ascorbic Acid Reduction
- ☐ SM 4500-P-E O-Phosphate Ascorbic Acid Method
- ☐ ASTM D515-88A O-Phosphate Ascorbic Acid Single Reagent Method

Total # requested this section _____ x $53 $ _____

L. Per Analyte Charges
$53 per analyte

- ☐ SM 2320B Alkalinity Titrimetric
- ☐ ASTM D1067-92B Alkalinity Titrimetric
- ☐ EPA 150.1 pH Electrometric Single determination
- ☐ EPA 150.2 pH Electrometric On-Line determination
- ☐ SM 4500-H-B pH Electrometric
- ☐ ASTM D1293-84 pH Electrometric
- ☐ SM 2150B Threshold Odor Test
- ☐ SM 2120B Color
- ☐ SM 2510B Conductivity

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- ☐ ASTM D1125-91A Conductivity
- ☐ ASTM D511-93A Calcium EDTA Titrimetric
- ☐ SM 3500-Ca-D Calcium EDTA Titrimetric
- ☐ EPA 180.1 Turbidity Nephelometric
- ☐ SM 2130B Turbidity
- ☐ EPA 130.1 Automated Hardness
- ☐ EPA 130.2 Titrimetric Hardness
- ☐ SM 2340C EDTA Titrimetric Hardness
- ☐ EPA SM 4500-Cl-D Chloride Potentiometric
- ☐ SM 5540C Foaming Agents
- ☐ SM 2330B Corrosivity

Total # requested this section _____ x $53 $ _____

M. Per Analyte Charges

$244 per analyte

- ☐ ASTM D1179-93B Fluoride Manual Electrode
- ☐ SM 4500-F-B, D Fluoride SPADNS with Distillation
- ☐ SM 4500-F-C Fluoride Ion-Selective Electrode
- ☐ SM 4500-F-E Fluoride Complexone Method
- ☐ SM 2540 C Total Dissolved Solids
- ☐ EPA 375.2 Sulfate Automated Methyl Thymol Blue
- ☐ SM 4500-SO_4-C Sulfate Gravimetric – Ignition
- ☐ SM 4500-SO_4-D Sulfate Gravimetric – Drying
- ☐ SM 4500-SO_4-F Sulfate Automated Methyl Thymol Blue

Total # requested this section _____ x $244 $ _____

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N. Per Analyte Charges

$262 per analyte

- ☐ EPA 335.4 Cyanide Spectrophotometric semi-automated
- ☐ SM 4500-CN-C, E Cyanide Manual Distillation Spectrophotometric semi-automated
- ☐ SM 4500-CN-C,F Cyanide Manual Distillation Selective Electrode
- ☐ SM 4500-CN-C,G Cyanide Manual Distillation Amenable to Chlorination
- ☐ ASTM D2036-91B Cyanide Manual Distillation Amenable to Chlorination
- ☐ ASTM D2036-91A Cyanide Manual Distillation Spectrophotometric

Total # requested this section _____ x $262 $ _____

O. Ion Chromatography

$348 per method

- ☐ EPA 300.0 Determination of Inorganic Anions by Ion Chromatography
- ☐ SM 4110-B Ion Chromatography
- ☐ ASTM D4327-91 Ion Chromatography

Total # requested this section _____ x $348 $ _____

P. Electron Microscopy

- ☐ EPA 100.1 Asbestos Transmission Electron Microscopy. Total = $175
- ☐ EPA 100.2 Asbestos Transmission Electron Microscopy. Total = $175

Total # requested this section _____ x $175 $ _____

The minimum elements of the lab Quality Assurance Plan should include:

1. Title Page
2. Table of Contents
3. Quality Assurance Policy Statement
4. Corporate Ethics Policy on Fraud, Waste, and Abuse
5. Quality Assurance Management
6. Administrative Organization
7. Personnel Qualifications
8. Facility Description and Capital Equipment
9. Preventive Maintenance
10. Corrective Action
11. Laboratory Evaluation and Audits
12. Quality Assurance Reports to Management
13. Lab Documents and Forms
14. Sub-Contracting of Services
15. Standard Operating Procedures
16. Laboratory Personnel and Training Record