

Ecology SOPs – Master List

EAP/LAU/HQ/REGIONAL SOPs					
Project Code	Index Number	SOP Title	Status	Author	Due date
	EAP001	Use of Semi-Permeable Membrane Devices	Final	Johnson	NA
	EAP002	Determination of Total Dissolved Gas	Final	Pickett	NA
	EAP003	Pesticide Sampling in Fresh Water	Final	Burke	NA
	EAP004	Weekly/Monthly Procedures - EAP Operations Center	Withdrawn	Strong	NA
	EAP005	New Employee Orientation - EAP Operations Center	Withdrawn	Strong	NA
	EAP006	Daily and Emergency Procedures - EAP Operations Center	Withdrawn	Strong	NA
	EAP007	Resecting Finfish Whole Body, Body Parts or Tissue Samples	Final	Sandvik	NA
	EAP008	Resecting DNA Samples and Aging for Finfish	Final	Sandvik	NA
	EAP009	Collection, Processing and Preservation of Finfish Samples	Final	Sandvik	NA
	EAP010	Field Measurement of Conductivity/Salinity	Withdrawn	Ahmed	NA
	EAP011	Instantaneous Measurement of Temperature in Water	Final	Nipp	NA
	EAP012	Sampling Bacteria in Water	Withdrawn	Mathieu	NA
	EAP013	Determining Global Positioning System Coordinates	Final	Janisch	NA
	EAP014	Surveying Morphology and Surface Flow of Headwaters Channels	Final	Janisch	NA
	EAP015	Grab Sampling – Fresh Water	Final	Joy	NA
	EAP016	Freshwater Drift Collection, Processing and Analysis	Final	Estrella	NA
	EAP017	Litterfall Collection, Processing, and Analysis	Final	Estrella	NA
	EAP018	Turbidity Threshold Sampling	Final	Estrella	NA
	EAP019	Estimating Stream Flows Using a Flume	Final	Estrella	NA
	EAP020	Bedload Collection, Processing and Analysis	Final	Estrella	NA
	EAP021	Estimating Large Woody Debris Loads Intersecting Headwaters	Final	Janisch	NA
	EAP022	Estimating and Delineation of Headwaters Wetlands	Final	Janisch	NA
	EAP023	Winkler Determination of Dissolved Oxygen	Final	Ward	NA
	EAP024	Estimating Streamflow	Provisional	Sullivan	NA
	EAP025	Seawater Sampling	Final	Stutes/Bos	NA
	EAP026	Analysis of Chlorophyll a	Final	Stutes/Bos	NA
	EAP027	Seawater Dissolved Oxygen Analysis (Dosimat)	Final	Stutes/Bos	NA
	EAP028	Reagent Preparation	Final	Stutes/Bos	NA
	EAP029	Metals Sampling	Final	Ward	NA
	EAP030	Fecal Coliform Sampling	Final	Ward	NA
	EAP031	Collection and Analysis of pH Samples	Final	Ward	NA
	EAP032	Collection and Analysis of Conductivity Samples	Final	Ward	NA

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	EAP033	Hydrolab DataSonde and MiniSonde Multiprobes	Final	Swanson	NA
	EAP034	Collection, Processing, and Analysis of Stream Samples	Final	Ward	NA
	EAP035	Measurement of Dissolved Oxygen in Surface Water	Withdrawn	Mathieu	NA
	EAP036	Benthic Flux Chambers	Final	Roberts	NA
08-503	EAP037	Time of Travel Dye Studies	Final	Carroll	NA
08-504	EAP038	Collection of Fresh Water Sediment Cores	Final	Furl	NA
08-505	EAP039	Sampling Marine Sediment	Final	Aasen	NA
08-506	EAP040	Obtaining Fresh Water Sediment Samples	Final	Blakley	NA
08-507	EAP041	Collecting Freshwater Suspended Particulate Matter Samples using In-line Filtration	Final	Meredith	NA
08-508	EAP042	Stream Stage Height Determination	Final	Shedd	NA
08-509	EAP043	Benthic Infaunal Rescreening, Tracking, Sorting and Taxonomic Identification	Final	Aasen	NA
04-502	EAP044	Continuous Temperature Monitoring of Fresh Water Rivers and Streams conducted in a Total Maximum Daily Load (TMDL) Study	Final	Stohr	NA
08-514	EAP045	Hemispherical Digital Photography Conducted for a Temperature TMDL Study	Final	Stohr	NA
08-515	EAP046	Analysis of Hemispherical Digital Photography Conducted for a Temperature TMDL Study	Final	Stohr	NA
08-516	EAP047	Channel Geometry Studies Conducted for a Temperature TMDL Study	Needed	TBD	Pending
04-503	EAP048	Riparian Vegetation Surveys Conducted for a Temperature TMDL Study	Needed	TBD	Pending
	EAP049	Maintaining EAP's Internet and Intranet Web Sites	Final	Lord	NA
	EAP050	Marine Currents using ADCPs SOP (Acoustic Doppler Current Profiler)	Final	Albertson	NA
	EAP051	Field Service and Maintenance of Sea-Bird Electronics © (SBE) 16 and 16+ Mooring Stations	Final	Holt/Jaeger	NA
	EAP052	Manual Depth-to-Water Level Measurements	Final	Marti	NA
	EAP053	GW Sampling	Cancelled	Marti	NA
	EAP054	Collecting Gaging Data from Campbell Scientific Instruments	Final	Watt	NA
	EAP055	Use of StreamPro Acoustic Doppler Current Profiler	Final	Shedd	NA
	EAP056	Measuring and Calculating Stream Discharge	Final	Shedd	NA
	EAP057	Conducting Stream Hydrology Site Visits	Final	Myers	NA
	EAP058	Operation of SonTek® FlowTracker® Handheld ADV®	Final	Burks	NA
	EAP059	Operation of Mechanical Velocity Indicators	Final	Holt	NA
	EAP060	Measuring Stream Discharge from a Bridge	Final	Holt	NA
	EAP061	Use of Piezometers	Final	Sinclair, Pitz	NA

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Index Number	SOP Title	Author	Due date
Air Program			
	Ozone Monitoring		Final
	Carbon Dioxide Monitoring		Final
	Nitrogen Dioxide Monitoring		Final
	Nephelometer Operations		Final
	Aethalometer Operations		Final
	PM 2.5 Single Channel Sampler Operations		Final
	PM 2.5 Tapered Element Oscillation Microbalance		Final
	PM 10 Tapered Element Oscillation Microbalance		Final
	Automated Method Data Documentation and Validation		Final
Nuclear Waste Program			
	Shipping samples to NWP Contracted Analytical Labs		Draft
Spills Program			
SPL001	Collecting Oil Spill Source Samples	Davis	Final
SPL002	Collecting Oil Spill HCID Samples	Davis	Final
SPL003	Collecting Oil Spill Water Samples	Davis	Final
SPL004	Collecting Oil Spill Intertidal Sediment Samples	Davis	Final
SPL005	Collecting Oil Spill Shellfish Tissue Samples	Davis	Final
SPL006	Collecting Soil or Sediment Samples for Gasoline Spills	Davis	Final
Spl007	Collecting Samples from Fish Kills	Davis	Final
Stormwater Program			
ECY001	Collecting Grab Samples from Stormwater Discharges	Lowe et. al.	Final
ECY002	Automatic Sampling for Stormwater Monitoring	Lowe et. al.	Final
ECY003	Collecting Stormwater Sediments Using In-line Sediment Traps	Lowe et. al.	Final
ECY004	Calculating Pollutant Loads for Stormwater Discharges	Lowe et. al.	Final

Index Number	MEL - Standard Operating Procedures for Microbiology
710001	%KES Membrane Filter Technique, G. Jay Vasconcelos, EPA Region 10 Microbiologist, "The Detection and Significance of <u>Klebsiella</u> in Water", Modified
710005	Autoclave
710013	Microbiology Dishwasher
710014	<u>Escherichia coli</u> Detection by Most Probable Number, EPA 1104
710015	<u>Escherichia coli</u> Detection Membrane Filter Technique, EPA 1105
710017	Enterococcus in Water by Most Probable Number, Standard Method 9230 B
710018	Fecal Coliforms Membrane Filter Technique, Standard Method 9222 D, Modified
710021	Fecal Coliforms in Water by Most Probable Number, Standard Method 9221 E
710022	Fecal Streptococcus Membrane Filter Technique, Standard Method 9230 C
710039	Total Coliforms Membrane Filter Technique, Standard Method 9222 B, Modified
710042	Total Coliforms in Water by Most Probable Number, Standard Method 9221 B, Modified
710073	Fecal Coliforms in Water by Most Probable Number Using A-1 Media, Standard Methods 9221 E-2
710075	Heterotrophic Plate Count & Nuisance Organisms Iron & Sulfate
710076	EPA Method 1600: Membrane Filter Test Method for Enterococci in Water
710079	Total Nonvolatile Solids (Fixed) and Volatile Solids ignited at 550°C, Standard Method 2540 E
710081	pH for Microbiology section
710083	Membrane Filter Test Method for Escherichia coli in Water (mTEC2), EPA Method 1103.1
710084	Microbiology Quality Assurance Procedures
Index Number	MEL - Standard Operating Procedures for General & Physical Chemistry
710002	Alkalinity, SM 2320B
710004	Ash Free Weight, SM 10300 C, Modified
710007	Biochemical Oxygen Demand Using the Dissolved Oxygen Probe EPA Method 415.1
710008	Fluoride/Chloride/Sulfate by Ion Chromatography, EPA Method 300.0
710009	Conductivity, SM 2510B
710012	Fluorometric Determination of Chlorophyll <i>a</i> in Saltwater and Freshwater Samples, Standard Method 10200 H, Modified
710028	Total Organic Carbon and Dissolved Organic Carbon EPA Method 415.1 (Combustion and NDIR Detection)
710029	Ammonia (phenolate) Method by Colorimetric Flow Injection Analysis, Standard Methods 4500-NH ₃ H
710030	Nitrogen, Nitrate-Nitrite, SM 4500-NO ₃ I, Modified (Colorimetric, Automated, Cadmium Reduction)
710031	Nitrogen, Nitrite, SM 4500-NO ₃ I, Modified (Colorimetric, Automated)
710032	Oil and Grease EPA Method 1664: N-Hexane Extractable Material (HEM; Oil and Grease), by extraction and Gravimetry, Modified

710033	Orthophosphate in Waters by Colorimetric Flow Injection Analysis, SM 4500 P G
710034	pH (Electrometric), EPA Method 150.1
710038	Settleable Solids (Settleable Matter), SM 2540 F
710043	Total Dissolved Solids (Residue, Filterable), SM 2540 G
710045	Total Non-Volatile Solids and Percent Total Volatile Solids, SM 2540E, Modified
710046	Total Non-Volatile Suspended Solids (Residue, Volatile), SM 2540E, Modified
710047	Total Solids and Total Percent Solids (Total Residue, Sediment or Water Samples), SM 2540B
710048	Total Nitrogen in Waters by Colorimetric Flow Injection Analysis, Standard Method 4500-N B.
710050	Total Phosphorus, SM 4500 P I, Modified (Colorimetric, Automated, Ascorbic Acid Two Reagent)
710052	Total Suspended Solids (Residue, Non-Filterable), SM 2540D, Modified
710054	Turbidity, SM 2130 B, Modified
710055	Ultimate Biochemical Oxygen Demand (UBOD)
710056	Analysis of Bulk Asbestos, <u>Federal Register</u> , 40 CFR 763, Appendix A to Subpart F, Modified
710057	Asbestos Fiber Counting by the NIOSH 7400 Method, Modified
710058	Gravimetric Analysis of High Volume Air Filters, <u>Federal Register</u> , 40 CFR 50, Appendix J, Modified
710059	Metal Analysis of Air Filters, <u>Federal Register</u> , 40 CFR 50, Appendix G, Modified
710060	Spiking Filter Strips with Lead
710068	Soil and Waste pH Electrometric SW846 Method 9045C
710070	Total Organic Carbon in Soil/Sediment, PSEP-TOC
710071	Determination of Salinity by Refractometer
710074	Low level Total Phosphorus by Manual Digestion and Lachat
710078	Gravimetric Analysis of PM _{2.5} Fine Particulate Air Filters, Federal Register, 40 CFR 50, Appendix L, Modified
710080	Percent Total Solids for TOC PSEP samples at 70 °C and 104 °C
710085	Suspended Sediment Concentration; ASTM Method D3977-97 (re-approved 2002), Test Method B - Filtration
710086	Alkalinity in Seawater; Fisheries Research Board of Canada; Bulletin 167, Second Edition, I.4.I.2
Index Number	MEL - Standard Operating Procedures for Metals
720002	Metals Water Sample Preparation, EPA Method 200.2
720004	ICP: TJA Solutions IRIS Advantage, EPA Method 200.7
720009	Determination of Mercury in Water by Cold Vapor Atomic Absorbance, U.S. EPA Methods 245.1, Modified and SW846 7470, Modified
720011	Metals Low Level Cold Vapor Mercury Analysis of Water Samples Using Bromine Oxidation, U.S. EPA Method 245.7, Modified
720012	Metals Sediment Sample Preparation by Hotblock Digestion, SW846 Method 3050B, Modified
720013	Metals Water Sample Preparation, EPA method 200.2
720015	Sediment Preparation by Microwave Digestion, SW846 Method 3051

720016	Toxicity Characteristic Leaching Procedure for Metals SW846 Method 1311
720017	Metals Data Review
720018	ICP Mass Spectrometer VG PQ ExCell, EPA Method 200.8
720021	Determination of Mercury by Cold Vapor Atomic Absorbance in Sediment, SW846 7471 Modified, and EPA Method 245.5, Modified
720022	Solid Preparation by Microwave Digestion, SW846 Method 3052
720024	Low Level Phosphorus by ICP-MS, EPA Method 200.8
720025	Metals Water Sample Preparation, EPA method 3010A
720026	Metals Water and Aqueous Waste Sample Preparation for Analysis by ICP/MS, EPA SW-846 Method 3020
720027	Determination of Mercury by Cold Vapor Atomic Absorbance in Tissues by EPA SW-846 Method 7471B, Modified, and EPA Method 245.6, Modified
Index Number	MEL - Standard Operating Procedures for Organics
730002	Analysis of Water/Soil/Sediment/Fish Tissue Samples for Organochlorine Pesticides and Polychlorinated Biphenyls by GC/ECD SW846, Methods 8081 and 8082
730003	Analysis of EDB (Ethylene Dibromide), DBCP (Dibromochloropropane) and Trichloropropane in Drinking Water and Waste Water by Liquid/Liquid Extraction, EPA 504 and 504.1, Modified
730005	Butyltin Analysis
730009	Determination of Percent Lipids in Tissue
730011	Extraction of Semivolatile Organic Analytes (BNAs), Dinoseb and PCP in Water
730012	Extraction of BNAs/Pesticides/PCBs/Op-Pesticides in Soils, Sediments and Sludges, SW-846 Method 3540
730013	Analysis of Chlorinated Acid Herbicides from Soils and Sediments (EPA Method 8151B)
730018	Florisil® Column Cleanup
730021	Semivolatile Base/Neutral/Acid (BNA) Organic Compounds by Gas Chromatograph Mass Spectrometer (GC/MS): Capillary Column
730022	GC/MS Data Final Review
730024	Gel Permeation Chromatography Treatment
730028	Hydrocarbon Identification
730049	Silica Gel Column Cleanup (SW846 Method 3630B)
730061	Volatile Organic Analysis - Method 8260A
730065	Water, Sludge, Sediment, Soil WTPH-D _x Extraction, Oil Preparation Methods [Total Petroleum Hydrocarbons as Diesel in Soil]
730066	Analysis of WTPH-D _x Semivolatile Petroleum Products in Environmental Soil, Sediment and Water Extracts
730067	Analysis of NWTPH-G _x and BTEX Analysis Methods for Soil and Water
730069	Water, sludge, Sediment, Soil NWTPH-HCID Analysis Methods
730070	Polynuclear Aromatic Hydrocarbons (PAH) by Gas Chromatography/Selective Ion Monitoring Mass Spectroscopy (GC/SIM-MS)
730072	Extraction of Fish Tissue for Semi-Volatile Analytes, including Pesticides, PCBs and BNAs by GC/AED, GC/ECD and/or GC/MS

730073	Fish Tissue Florisil Column and Acetonitrile Back Extraction Cleanup (Macro)
730080	Extraction and GC/MS Analysis of 1-Naphthol and Carbaryl in Soil/Sediment
730081	Accelerated Solvent Extraction of Solid Samples
730082	Determining Flash Point by Pensky – Martens Closed Cup Tester
730083	Isotopic Dilution Polynuclear Aromatic Hydrocarbons (PAH) by Gas Chromatography/Selective Ion Monitoring Mass Spectrometry (GC/ID-SIM-MS)
730085	Extraction of PAH only, Pesticides and/or PCBs in Water
730087	Butyltin in Tissue Analysis
730088	Sulfur Removal by SW-846 Method 3660B
730091	Micro-Florisil® Column Cleanup
730092	Micro-Florisil® Cleanup for Phthalate Esters, by Method 3620B
730093	Acid-Base Partition Cleanup, by Method 3650B
730096	PBDE Tissue Analysis by GC/MS/MS
730097	Analyzing Chlorinated, Organophosphorus, and Nitrogenous Pesticides by GC/MS, Method 8270
730098	Methoprene by GC/MS, USGS Method O-2134-01
730095	Herbicide Analysis by Gas Chromatography/Mass Spectrometry (GC/MS)
730096	PBDE Tissue Analysis by GC/MS/MS
730097	Analyzing Chlorinated, Organophosphorus, and Nitrogenous Pesticides by GC/MS, Method 8270
730098	Methoprene by GC/MS, USGS Method O-2134-01
730099	Solid Phase Extraction (SPE) of Semi-Volatile Petroleum Products (NWTPH-Dx) in Water by EPA SW-846 Method 3535
730100	Solid Phase Extraction (SPE) of Herbicides in Water by EPA SW-846 Method 3535
730101	Extraction of BNA's/Pesticides/PCB's/Op-Pesticides in Soils, Sediments and Sludges by Soxtherm, SW 846 Method 3541
730102	Solid Phase Extraction of Carbamates for High Performance Liquid Chromatography Mass Spectrometer Analysis (HPLCMS), EPA SW 846 Method 3535M
730103	Micro-acetonitrile back extraction cleanup
730104	PBDE Analysis by GC/MS Selective ion Monitoring (SIM)
730105	Fish Tissue Florisil Column and Acetonitrile Back Extraction Cleanup (Micro)
730106	Carbamate Analysis by EPA Method 8321A, Modified
730107	Solid Phase Extraction (SPE) of Pesticides in Water by EPA SW-846 Method 3535
730108	Solid Phase Extraction (SPE) of PBDEs in Water by EPA SW-846 Method 3535
Index Number	MEL - Standard Operating Procedures for Sample and Data Management
770001	Sample Check-In
770003	Purchasing Analytical Services
770005	Reviewing Contract Laboratory Data
770009	Filling Sample Container Orders
770014	Processing Purchases for Payment

770016	Radiation Screening of Samples Entering the Manchester Laboratory
770017	Sample Data Filing System
770018	Documentation of Administrative Standard Operating Procedures
770019	Documentation of Analytical Standard Operating Procedures
770020	Use of the OHS Material Safety Data Sheets on CD-ROM Software
770023	Waste Collection, Storage and Pickup
770026	Sample Disposal
770027	Construction and Use of Precision Control Charts
770028	LIMS Log in of Samples
770029	Cleaning Sample Containers with a Laboratory-Grade Dishwasher
770030	Laboratory Balances in the General Chemistry Section

SM = Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998.