



Empirical Laboratories, LLC

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Laboratory Instrumentation

| TYPE OF EQUIPMENT | MANUFACTURER | MODEL # | ANALYTICAL METHOD |
|--|-----------------|--------------------------|-------------------------|
| Laboratory Information System (LIMS) | Promium | Element | NA |
| (4) Stand-alone Data Processing Stations | Hewlett Packard | D3946A | GC/MS |
| | Hewlett Packard | D3946A | GC/MS |
| | Hewlett Packard | D3946A | GC |
| | Hewlett Packard | D3946A | GC |
| (7) Gas Chromatograph/Mass Spectrometer | Hewlett Packard | 5890 Series II GC | GC/MS Volatiles |
| | Hewlett Packard | 5971 MSD | GC/MS Volatiles |
| | Hewlett Packard | 5890 Series II GC | GC/MS Volatiles |
| | Hewlett Packard | 5972 MSD | GC/MS Volatiles |
| | Hewlett Packard | 5890 GC/EPC | GC/MS Volatiles |
| | Hewlett Packard | 5972 MSD | GC/MS Volatiles |
| | Hewlett Packard | 6890 GC/EPC | GC/MS Volatiles |
| | Hewlett Packard | 5973 MSD | GC/MS Volatiles |
| | Hewlett Packard | 5890A Series II GC w/EPC | GC/MS Semi-Volatiles |
| | Hewlett Packard | 5971 MSD | GC/MS Semi-Volatiles |
| | Hewlett Packard | 6890 GC/EPC | GC/MS Semi-Volatiles |
| | Hewlett Packard | 5973 MSD | GC/MS Volatiles |
| | Hewlett Packard | 6890 GC/EPC | GC/MS Semi-Volatiles |
| | Hewlett Packard | 5975 MSD | GC/MS Semi-Volatiles |
| (4) Purge & Trap/Auto Sampler | Tekmar | LSC 2000 | GC/MS Volatiles |
| | Varian | Archon 5100 | GC/MS Volatiles |
| | Tekmar | LSC 3100 | GC/MS Volatiles |
| | Varian | Archon 5100 | GC/MS Volatiles |
| | Tekmar/Dohrman | LSC 3100 | GC/MS Volatiles |
| | Varian | Archon 5100 | GC/MS Volatiles |
| | Tekmar/Dohrman | LSC 3100 | GC/MS Volatiles |
| | Varian | Archon 5100 | GC/MS Volatiles |
| (2) Autosampler Controller | Hewlett Packard | 7673A | GC/MS Semi-Volatiles |
| | Hewlett Packard | 7673C | GC/MS Semi-Volatiles |
| HP Unix Chemserver 4920 Data System | Hewlett Packard | Series 735 | GC and GC/MS (Backup) |
| (5) Chemstation | Generic | 486/66 | GC/MS Volatiles |
| | Hewlett Packard | Vectra | GC/MS Volatiles |
| | Hewlett Packard | Kayak XA Series | GC/MS Volatiles |
| | Hewlett Packard | XA6/400 Series | GC/MS Volatiles |
| | Generic | 486/66 | GC/MS Semi-Volatiles |
| Liquid Chromatograph/Mass Spectrometer | Agilent | 1200 series | HPLC |
| | | 6140 Quadropole | MSD |
| | Hewlett Packard | 5890 FID/FID | GC Volatiles Screen/EPH |
| ECD-1 | Hewlett Packard | 5890 Series II ECD/ECD | GC Pest/PCB/Herb |
| ECD-2 | Hewlett Packard | 5890 ECD/ECD | GC Pest/PCB/Herb |
| ECD-3 | Agilent | 6890 ECD/ECD | GC Pest/PCB/Herb |
| ECD-4 | Agilent | 6890 ECD/ECD | GC Pest/PCB/Herb |
| | Hewlett Packard | 5890 Series II PID/FID | GC Volatiles |
| Purge and Trap Autosampler | OI Analytical | 4560 | GC Volatiles |
| | Varian | Archon 5100 | GC Volatiles |
| Headspace Analyzer | Tekmar | 7000 | GC Volatiles |
| Headspace Autosampler | Tekmar | 7050 | GC Volatiles |
| (8) Autosamplers | Hewlett Packard | 7673A | GC Pest/PCB/Herb |
| | Hewlett Packard | 7673A | GC Pest/PCB/Herb |
| | Hewlett Packard | 7673 | GC Pest/PCB/Herb |
| | Hewlett Packard | 7673 | GC Pest/PCB/Herb |
| | Hewlett Packard | 7673A | EPH |
| | Hewlett Packard | controller | EPH |
| | Hewlett Packard | 7673A | EPH |
| | Hewlett Packard | controller | EPH |
| | Agilent | 7683 | GC Pest/PCB/Herb |
| | Agilent | 7683 | GC Pest/PCB/Herb |



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| | Agilent | 7683 | GC Pest/PCB/Herb |
| (2) Data Acquisition Box | PE Nelson | 970 | HPLC |
| | PE Nelson | 970 | GC Volatiles |
| GPC(23 position) | ABC | AP-1000 | Organic Extraction |
| GPC Detector | ABC | UVD-1 | Organic Extraction |
| GPC Detector | ABC | UVD-1 | Organic Extraction |
| Turbo-Vap | Zymark | Turbo-Vap II | Organic Extraction |
| Turbo-Vap | Zymark | Turbo-Vap II | Organic Extraction |
| Turbo-Vap | Zymark | Turbo-Vap II | Organic Extraction |
| Soxhlet/Soxtherm | OI-Analytical | SE-3A | Organic Extraction |
| Soxhlet/Soxtherm | OI-Analytical | SE-3A | Organic Extraction |
| Soxhlet/Soxtherm | ABC | Extractor | Organic Extraction |
| Microwave Extraction Unit | CEM | 1953 | Organic Extraction |
| Total Organic Carbon Analyzer | OI-Analytical | IR 700 | TOC |
| Auto Sampler | OI-Analytical | SALR | TOC |
| Integrator | OKIDATA | Microline 182 | TOC |
| Total Organic Carbon Analyzer | OI-Analytical | NDIR 1010 | TOC |
| Solids Module | OI-Analytical | S/N | TOC |
| Integrator | OI-Analytical | WinTOC /REV. 3.0 | TOC |
| CPU | | Pentium II | TOC |
| HPLC | Hewlett Packard | 1050 | HPLC |
| UV/VIS Detector | Hewlett Packard | 79853C | HPLC |
| Vacuum Degassing Module | Hewlett Packard | G1303A | HPLC |
| Autosampler | Hewlett Packard | | HPLC |
| Solvent Module | Hewlett Packard | 79856A | HPLC |
| Integrator | Hewlett Packard | G2170AA | HPLC |
| | HPLC Chem Station | | |
| HPLC | Hewlett Packard | 1050 | HPLC |
| UV/VIS Detector | Hewlett Packard | 79853A | HPLC |
| Vacuum Degassing Module | Hewlett Packard | G1303A | HPLC |
| Autosampler &Upgrade | Hewlett Packard | 79855A | HPLC |
| Solvent Module | Hewlett Packard | 79856A | HPLC |
| Integrator | Hewlett Packard | G2170AA | HPLC |
| | HPLC Chem Station | | |
| Fluorescence Detector | Hewlett Packard | 1046AX | HPLC |
| HPLC 1100 | Agilent | 1100 | HPLC |
| Degasser | Agilent | G1379A | HPLC |
| Quarternary Pump | Agilent | G1311A | HPLC |
| Autosampler | Agilent | G1313A | HPLC |
| Column Compartment | Agilent | G1316A | HPLC |
| UV Detector | Agilent | G1314A | HPLC |
| Total Organic Halogen Analyzer | COSA Instrument | TOX-100 | TOX 9020B |
| Flow Injection Analyzer | LACHAT | 2300-000 | 9251, 9012, 351.2, 353.2, 9066, 7196A, 350.1 |
| Ion Chromatograph | Dionex Corp. | DX500/LC 20 | General Chemistry |
| Gradient Pump | Dionex Corp. | GP50 | General Chemistry |
| Detector | Dionex Corp. | CD20 | General Chemistry |
| | | | |
| UV-VIS Spectrophotometer | Turner | 340 | 365.2, 410.4, 354.1, 7196A, 425.1, 9066 |
| | Thermo Spectronic | Genesys 20 | 365.2, 410.4, 354.1, 7196A, 425.1, 9066 |
| Turbidimeter | HACH | 2100A | 9038, 180.1 |
| Mercury Analyzer | Perkin-Elmer | FIMS 100 | 7470/7471 |
| Autosampler | Perkin-Elmer | AS9C | 7470/7471 |
| Conductivity Bridge | Orion | 105A+ | 120.1 |
| Dissolved Oxygen Meter | YSI | 5000 | BOD |
| Scale | Mettler | BB300 | Gravimetrics |
| | Mettler | AE100 | Gravimetrics |



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| | Denver | XP300 | Gravimetrics |
| ICAP | Thermo Jarrell Ash | 6500 | 6010 |
| Ion Meter | Orion Research | 407A/F | ISEs |
| pH Meter | Orion Research | 301 | 150.1 |
| | Orion Research | 420A | 9040/150.1 |
| | Corning | 240 | 9040/150.1 |
| Pulverizing Mill | Essa | LM2-P | 8330B/MIS |

| Supporting Computer Software | | | |
|------------------------------|------------------|-------------|--|
| Lab | PC Name | Instrument | Software Version |
| VOA | NSH-VOA1 | 5890A | HP ChemStation Ver B.02.05 |
| VOA | NSH-VOA5 | 5890 | HP ChemStation G1701BA Ver B.01.00 |
| VOA | NSH-BNA2 | 5890 | HP ChemStation G1701CA Ver C.00.00 |
| VOA | NSH-VO4 | 6890 | HP ChemStation G1701BA Ver B.01.00 |
| BNA | NSH-BNA3 | 6890 | HP ChemStation G1701BA Ver B.01.00 |
| BNA | NSH-BNA1 | 5890 | HP ChemStation G1034C Ver C.03.00 |
| BNA | ELNSH-BNA4 | 7890 | MSD ChemStation E.02.00.493 |
| Metals | NSH-IONC | Dionex EG40 | Dionex PeakNet Ver 5.21 |
| Metals | ELNSH-GXHSHH1 | ICAP | Thermo Fisher iTEVA Ver 2.2.0.51 |
| Metals | ELNSH-FDOR421 | Shimadzu | TOC-Control V Ver 1.07.00 SP1 |
| GC | NSH-ECD3 | 6890N | HP GC ChemStation Ver A.09.01 [1206] |
| GC | NSH-ECD4 | 6890N | HP GC ChemStation Ver A.09.01 [1206] |
| GC | NSHLAB5 | 5890A | 3365 Series II Ver A.03.34 |
| GC | NSH-HPLC1 | 1100 Series | HP ChemStation for LC Ver A.10.02 [1757] |
| GC | NSH-HPLC3 | 1100 Series | HP ChemStation for LC Ver A.10.02 [1757] |
| GC | ELNSH-AIRCPU028 | 5890 | HP GC ChemStation REV A.10.02 [1757] |
| GC | ELNSH-AIRCPU0488 | 5890 | HP GC ChemStation REV A.10.02 [1757] |
| WetChem | NSH-MERCURY | FIMS | AA Winlab Ver 2.5 |
| WasteWtr | D4KNQ421 | Lachat | Omnion Ver 3.0.220.10 |
| WasteWtr | NSH-SPARE1 | TOX | TOX 100 Ver 2.17 |