



## B. LABORATORY INSTRUMENTATION

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### 1. Gas Chromatography Instrumentation

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#### a. Hydrocarbons

TPH(g/ss)- MBTEX (EPA 8015Bm / 8020A / 8021B)

5 HP 5890 GCs with OI PID-FID tandem detectors; 5 autosamplers (1 Archon, 4 Tekmar)

TPH(ss /jf /k /d /mo) (EPA 8015Bm)

5 HP 5890 / 6890 GCs with 6 FID detectors, 5 liquid autosamplers with 10 injection towers

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#### b. Volatiles Including Soil Gas & Indoor Air

Volatile Organics by GC-MS (EPA 524.2/624/8240B/8260B)

6 HP 6890 / 7890 GCs with 6 HP 5973 / 5975 MSDs; 6 Archon autosamplers

Volatile Organics by GC-MS (EPA TO14, TO15, TO3)

2 HP 6890 GC with 1 HP 5975 MSD & 1 FID; autosamplers

Volatile & Semi-Volatile Organics by GC-MS (EPA TO17)

1 HP 6890 GC with 1 HP 5975 MSD and 1 PE TD unit & autosampler

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#### c. Pesticides & Herbicides & R&D

Chlorinated Pesticides / PCBs (EPA 505 / 508 / 508.1 / 608 / 8080A / 8081A / 8082)

4 HP 5890 / 6890 GCs each with 2 ECD detectors, 1 liquid autosampler, with 2 injection towers

Nitrogen-Phosphorous Pesticides (EPA 507 / 614 / 8140B / 8141A)

1 HP 6890 GC with 2 NPD detectors, 1 liquid autosampler with 2 injection towers

Nitrogen-Phosphorous Pesticides (EPA 507 / 614 / 8140B / 8141A)

1 Varian Saturn 4000 GC-MS (IT); 1 liquid autosampler

1 Varian GC-MS-MS (3Q); 1 liquid autosampler

Chlorinated Herbicides (515.1 / 515.2 / 8150B / 8151A)

1 HP 6890 GC with 2 ECD detectors, liquid autosampler with 2 injection towers

Pyrethrins & Toxaphene

1 Agilent 5975 CI-MS with 7890 GC, 1 liquid autosampler and injection tower

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**d. Semi-Volatiles By GC-MS**

Semi-Volatile Organics by GC-MS (EPA 525.2 / 625 / 8270C)

- 3 HP 6890 GCs with 3 HP 5973 MSDs; 3 liquid autosamplers with 3 injection towers
- 1 Varian Saturn 4000 Ion Trap GC-MS with autosampler
- 1 HP 5975 MSD with HP 7890 GC and liquid autosampler & injection tower

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**e. Dioxins & Dibenzofurans**

- 1 Waters Autospec Premier with Agilent 7890 GC, liquid autosampler with injection tower
- 1 Varian 450 GC-MS-MS with autosampler & injection tower

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**f. Organometallics**

Organic Tins (Mono thru tetra-butyl tin, some phenyl tins)

- 1 HP 6890 GC with 1 FPD detector, liquid autosampler with injection tower

Organic Mercury (Methyl mercury, EPA 1630)

- 1 HP 5890 GC with 1 AFS detector, autosampler

Organic Lead (Tetraethyl & Tetramethyl lead)

- 1 HP 5890 GC with 2 ECD detectors, liquid autosampler with 2 injection towers

Organic As, Se, S, etc. Hydride-Forming Elements

- 1 PSA Millenium Excalibur hydride generator-AAF detector coupled to 1 IC & 1 GC

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**g. Light Gases by GC-PDD / TCD / FID**

Light Gases by GC-FID (RSK 175, EPA TO-3), GC-TCD / PDD (EPA 3C, ASTM D 1946-90)

- 1 Varian GC with 2 TCDs, 1 PDD, 1 FID, 1 autosampler

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**2. Liquid Chromatography Instrumentation**

**a. Pesticides, Aldehydes & PNAs (531.1, 547, 549.2, 550, 554, 610, 8310, 8315, 8318, 8330)**

- 5 HP LC-1100 with Tandem UV-VIS - fluorescence detectors. 1 Post-column derivitizer, 1 ELSD detector

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**b. Pharmaceuticals, PPCP, Polars, Perchlorate**

- 2 Varian 325 LC-MS-MS (3Q) (EPA 1694, 6860, ASTM, UCRM 3)
  - 1 Varian 500 LC-MS (IT)
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### **3. Ion Chromatography Instrumentation**

3 ICs, all with Conductivity detectors and 2 with UV-VIS detectors.

1 IC with Cationic Ion Chromatography ability

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### **4. IR Instrumentation**

Computer controlled Bomem MB-120 scanning IR spectrometer; laser irradiation, resolution of 1 wave number and a scanning range of 500-5000cm<sup>-1</sup>.

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### **5. Metals Instrumentation**

2 Agilent 7500c ICP-MS, 1 with hydride capability

1 high resolution ICP with autosampler.

Hitachi Z5700 graphite furnace and autosampler.

2 PSA AFS / AA instruments for mercury analysis

PSA Millenium Excalibur for As, Se, S etc. hydride-forming elements

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### **6. Wet Chemistry, Elemental Analysis Instrumentation & Miscellaneous**

1 TOC - TN analyzer including soil module

1 CNS elemental analyzer for solids & liquids

2 Auto-analyzers with autosamplers

2 Auto-titrators

1 Karl Fischer apparatus

Fish Toxicity Lab

Bacteria Lab

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### **7. Solids Analysis**

1 Rigaku R-Axis IV XRD

1 Oxford ED2000 XRF

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### **8. Software**

HP Chem Station data acquisition software plus various other data acquisition software

Omega LIMS software with output to California DHS EDT, ACE COELT, EQUIS, GISTKEY or virtually any electronic data format.