



## **STATEMENT OF QUALIFICATIONS**

### **AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES, INC.**

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# **Agriculture & Priority Pollutants Laboratories, Inc.**

*Analytical Chemistry Excellence for over 20 years.*

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# **Agriculture & Priority Pollutants Laboratories, Inc.**

*Analytical Excellence for over 25 years.*

## *Introduction:*

Located in an 21,000 square foot complex in Clovis, California, APPL, Inc. has been serving clients needs for over 28 years. Our lab is registered as a small, woman-owned, disadvantaged business with the United States Small Business Administration. We provide analytical chemistry services to a variety of clientele, including U.S. Army Corps of Engineers, Air Force, Navy, Department of Energy, municipal authorities and a number of clients from the private sector. With a staff of over 50 employees, APPL, Inc. has the capacity to handle large projects while maintaining the highest data quality.

APPL, Inc. has been under contract to SAIC on the “Methods Contract” for the Office of Solid Waste since 1993. APPL, Inc., under contract to Dyncorp-CSC, has co taught the Certification Training Course to State auditors for the EPA Office of Water. We have an extensive knowledge of EPA methods due to these contracts. Our services help clients meet monitoring and remediation compliance with regulations set forth by California Title 22, Resource Conservation and Recovery Act, Underground Storage Tank programs, Safe Drinking Water Act, National Pollution Discharge Elimination System, Clean Water Act, and a number of Regional Water Quality Control Boards.

APPL, Inc. is registered as a WBE with the California Public Utilities Commission (CPUC). We are registered with the U.S. Small Business Administration as a certified Small Disadvantaged Business (SDB). Additionally, we are approved by the California Unified Certification Program (CUCP) as a Disadvantaged Business Enterprise (DBE). We also have small woman owned designations in a variety of other States and municipalities

## *Laboratory Departments*

The following is a summary of the routine analyses performed by individual laboratory sections. APPL, Inc. SOPs include over 300 methods. If the desired method is not listed, APPL, Inc.’s technical experience and instrumentation allow us to quantify unique analytes of interest.

### **Gas Chromatography**

Our GC department is equipped with twelve Hewlett Packard / Agilent gas chromatographs. Each instrument has dual channels and dual detectors. Common analyses include Organochlorine pesticides (EPA methods 8081A, 608, 508), Organophosphorus and Triazine pesticides (EPA methods 8141A, 619, 507), Herbicides (EPA methods 8151A, 515), Polychlorinated Biphenyls (PCBs) including congeners (EPA methods 8082, 608, 508), Fumigants (EDB/DBCP) (EPA methods 8011, 504.1), and extractable petroleum hydrocarbons (TPH-Diesel) (EPA method 8015 modified). The GC analysts are also experienced in specialty methods such as

TNRCC TX 1005, low level 1,2,3-Trichloropropane analysis, organic tins (TBT), dissolved gases (methane, ethane, ethene) by RSK 175, fumigant analysis using the CA DOHS methodology and Emerging Chemicals analyses. Our experienced chemists and advanced instrumentation allow the ability of defensible low detection limits on most of these methods.

### **Semi-Volatile Organic Compounds (GC-MS)**

Extensive variations of analyte lists are possible for this department. While we perform many GC-MS analyses, the majority of our clients request Semi-Volatiles by EPA 8270C. Our Semi-Volatiles department also analyzes a large number of samples for Polynuclear Aromatic Hydrocarbons (PAHs) using selective ion monitoring (SIM) technology.

### **Organic Extractions**

Our Extractions department performs a long list of EPA and other methods used in the extraction of organic constituents from client's samples. The Extractions department works closely with the GC, GC-MS, and HPLC departments' supervisors. This ensures all samples are extracted in a timely manner.

### **Sample Preparations**

We are also equipped to perform specialized sample preparations. We recently added a Puck Mill Grinder for EPA method 8330B sample preparation. This enables us to do multi incremental sampling using USACE specifications. Additionally, we have Leachate extractors for TCLP, SPLP, STLC, and other leachate tumbling methods.

### **High Performance Liquid Chromatography**

APPL, Inc.'s HPLC/LC-MS department has the capability to analyze a wide array of specialty analytes. Analyses include but are not limited to perchlorate by EPA method 6850, Nitramines and Nitroaromatics by EPA Method 8330A, EPA Method 8321A for carbamates pesticides and phenoxy acid herbicides, EPA method 549.2 for diquat and paraquat along with a variety of other pesticide and pharmaceutical methods.

### **High Resolution Mass Spectrophotometry (HRMS)**

APPL, Inc.'s HRMS department is capable of analyzing PCB Congeners and Dioxins by EPA methods 1668, 8280 and 8290.

### **Volatile Organic Compounds**

The Volatiles section is located in a secured positive pressure room, which minimizes volatile laboratory contamination. This department is equipped with seven gas chromatographs, five of which have mass spectrometers. Some common volatile analyses include EPA methods 8260B, 8021B, 524.2, Halogenated Volatiles, Aromatic Volatiles, Trihalomethanes, Gas Oxygenates (including MtBE), and EPA 8015 modified for BTEX, and Gas Range Purgeable Petroleum Hydrocarbons (TPH-Gas).

### **Inorganic/General Chemistries**

Our Inorganic chemistry department is proficient in producing reliable Perchlorate results using EPA method 314.0. Additionally, APPL, Inc. has the capability to analyze samples for physical, general, and chemical properties including Hexavalent Chromium, Nitrate, Nitrite, Sulfate, Fluoride, Chloride, Total Organic Carbon, MBAS, pH, Moisture Content, Alkalinity, Total Dissolved Solids, Cyanide, Volatile Fatty Acids, Ammonia, Total Kjeldahl Nitrogen, and Oil & Grease. Three dedicated Dionex ion chromatographs assist our chemists in reliable detection.

### **Metals**

Equipped with ICP-OES, ICP-MS, GFAA, & FLAA instruments, the Metals department reliably fine-tunes each report to each client's specific analyte list. In addition to the normal EPA 200.7, 200.8, 6010B, 6020, 7060A, 7131A, 7421, 7470A/7471A, 7841 analyses, APPL, Inc. has the capability to perform leaching protocols such as TCLP, SPLP, and STLC.

### *Sample Hold Times*

APPL, Inc. takes all precautions to assure sample holding times are met. There are numerous monitoring systems and personnel involved with daily review of sample hold time expiration and section status/backlogs. If there is the remote possibility of holding times being compromised the client is immediately contacted. Historically, we have met over 99.9% of our sample hold times.

### *Cost of Services*

APPL, Inc. stays competitive with other environmental laboratories. Our analytical services are economically priced and frequently lower than other laboratories offering the same level of quality control. APPL, Inc.'s analytical pricing includes shipment of sample containers, coolers, and custody seals to the project site, batch QC samples required by the method, and sample disposal.

### *Sample disposal*

APPL, Inc. has a secure system in place to guarantee that contaminated samples are properly disposed of. Samples are stored for a minimum of 30 days after the final report has been issued. APPL, Inc. has the capacity to store samples for an extended period of time if required by the client. After this period, the sample's unique barcode ID is scanned and logged for disposal in our COC database. The barcode scanner displays the sample results and compares them against state and federal disposal regulations. According to regulatory methods, samples may be laboratory packed and sent to the proper outlets for drum disposal or incineration. If the sample is within all regulated disposal limits, the labels are removed and the samples are disposed of according to standard operating procedure of APPL, Inc.

## *Data Review and Reporting*

The primary goal of APPL Inc. is to provide accurate data that are legally defensible to our clients. We take extra measures to assure the highest quality of data possible. At a minimum, the following steps are performed to ensure this.

**Primary Analyst:** The primary analyst verifies that all calibrations are within method specifications for each analytical sequence prior to sample quantitation. The raw data from the primary and confirmation columns are evaluated for positive findings. Any anomalies or manual integration information is indicated on the raw data, dated, and initialed. All manual integrations are approved by a section supervisor or the QAU. An algorithm check is performed for each batch to ensure the quantitation reports are calculated properly. All positive findings are noted on the raw data Quantitation reports and are entered into the Laboratory Information System (LIMS). All associated batch QC data is also entered. The analyst verifies the hold times, correct client analyte list, and QC criteria. The primary analyst fills out APPL, Inc.'s Multi-Level Check Form to indicate passing project specific criteria and any analytical anomalies.

**Peer Review:** Another analyst experienced in the method reviews all reports and data. The reviewer verifies and checks the same aspects as the primary analyst in addition to re-evaluating the raw data to confirm positive findings and assure that the correct numerical values were entered into the LIMS. If any questions arise between the primary and reviewing chemists, the section supervisor and QC Director review the data and make the final data interpretation. Once peer reviewed, any corrections are performed by the primary analyst and are re-reviewed after corrections. The peer reviewer completes the Multi-Level Check Form to confirm the primary analyst's report.

**Section Manager:** Once the data package has been peer reviewed, the data package is submitted to the section manager as a secondary review for completeness. The data package is compared to project specific requirements submitted by the project manager. Analyte lists, reporting limits, and project QC acceptance criteria are all reviewed. The section manager also reviews the multi-level check sheet filled in by the analyst and peer reviewer.

**Project Manager or Laboratory Director:** The Project Manager or Laboratory Director reviews the report to assure all chain of custody (COC) requests have been completed and the Case Narrative/Cover Letter thoroughly addresses all analytical anomalies. The Project Manager also reviews the data package to ensure that all the project specific requirements are correct. The Project Manager completes a data package checklist for required analyses, reporting, and acceptable QC.

**QAU Director:** More than ten percent of all reports are submitted to the QAU Director for final review of delivery group data, QC requirements, calculation verifications, and completeness.

## *Laboratory Information Management System (LIMS)*

APPL, Inc.'s state of the art LIMS database allows for high sample throughput and allows for custom reporting formats to meet client's specific needs. In addition to tracking samples and storing data results, the LIMS has been modified to perform hundreds of quality control checks so that the final report meets project specific data quality objectives as well as APPL, Inc.'s data integrity requirements.

**Sample Tracking:** Upon receipt, sample containers are labeled with unique bar code identifications. Every time a sample container is used, the analyst requesting the sample scans the barcode to track the new location and time of move into our LIMS (i.e. receiving → extractions → GC → storage → disposal). Sample locations, times, dates, and names of analysts who checked out a sample are easily printed from our COC database and available upon request.

**Data Input:** Once analyzed, the sample results and QC results are entered into our LIMS database (Labworks®). The majority of the results are directly uploaded from Hewlett Packard's Chemstation software or other instrument appropriate software. This process allows the results to be accurately entered and allows more time for the analyst to review the results.

**Data Output:** Once all of the data are in the database, they are exported from our LIMS and printed via Microsoft Access. Our Data Systems Manager authored a program which does error checking for a long list of possible data entry problems that can occur. The system is designed to prohibit printing of any results that are not entered correctly as well as identify a list of errors for correction. Our laboratory has also authored a self-calculating "J"-Flag form for clients who want method detection limits (MDLs) and estimated concentrations below the reporting limit on the sample result form.

## *Data Backup and Archiving*

Most of our clients require us to keep their data safe and accessible for a number of years after the project has finished. APPL, Inc. provides this service with redundant systems to make certain that all raw data and reports will be available to our clients for a minimum of 5 years (hardcopy) and indefinitely (electronic). Server data are backed up daily on magnetic tape. Every 4 months the server is archived onto DVD (or CD) and to a dedicated archiving hard drive. The DVD/CD archives are stored in fireproof cabinets. Hardcopy reports are stored at a secure offsite facility for a minimum of 5 years.

## *Hardcopy Reporting (Data Validation Packages)*

Sample delivery group results can be reported in a number of ways.

Level II – Includes a cover letter, sample results, surrogate recoveries, and QC sample results (method blanks, trip blanks, matrix spikes, lab control spikes, etc.).

Level III – Includes chain of custody documents, a case narrative, instrument run logs, initial/continuing calibration summaries, sample results, surrogate recoveries, tune summary forms, blank summary forms, internal standard recoveries, and QC sample results.

Level IV – This level of reporting is the same as Level III, but additionally includes standard preparation logs, internal sample chain of custody, and copies of all associated raw data from the instruments.

There are various other formats, and we are willing to modify any of these to meet our clients' needs. Our LIMS is capable of printing AFCEE forms as well.

## *Electronic Reporting (Electronic Data Deliverables)*

One of the most useful forms of reporting is the electronic data deliverable. More and more clients are requesting only electronic reports. In such cases, we always file a hard copy. We have specialists skilled and experienced in EDD creation. EDD formats that we submit routinely include Standard Excel, EDF (Geotracker, UST), Navy (NEDTS), ERPIMS (AFCEE), EQUIS, CA EDT (drinking water), and ADR (USACE). Other custom EDDs are also available.

## *Personnel*

Our employees are highly educated with a wide array of technical background. Skill, experience, and friendliness of our employees have helped our lab gain a reputation for having the highest quality of customer service and data possible. Some of the positions at APPL, Inc. include:

**President** – Diane Anderson founded APPL, Inc. in 1982. She has her Bachelors degree in Chemistry from California State University Fresno. Prior to starting APPL Inc., Ms. Anderson was a formulations chemist for Thompson Hayward Chemical Company (THAN). County and State Agencies determined THAN had environmental problems and Ms. Anderson became the West Coast Environmental Coordinator for North American Philips Corporation, the parent company of THAN. In 1982 the Anderson's started APPL, Inc. THAN is still a client of APPL, Inc.

Ms. Anderson has participated in method development for several EPA SW 846 methods through a contract with SAIC for the EPA Office of Solid Waste. Her most recent method involvement is with EPA Method 8276 for Toxaphene and its congeners. Ms. Anderson also has responsibility as a project manager.

**Technical Director** – Brad Anderson has a Bachelors degree in Chemistry from California State University, Fresno. Mr. Anderson has been employed by APPL, Inc. since 1983. Mr. Anderson is responsible for developing new methods for the laboratory. He has worked with LC/MS since 1989 and generated a portion of the data submitted in EPA Method 8321 under contract to SAIC. Most recently, Mr. Anderson brought a High Resolution Mass Spectrometer on line for Dioxin and PCB congener methods.

**Laboratory Director** – Our Laboratory Director, Leonard Fong, has a Ph.D. in Agricultural and Environmental Chemistry from the University of California at Davis. Dr. Fong joined APPL, Inc. in 1998. Dr. Fong has extensive experience with instrumentation and is well versed in EPA and Standard Methods. He has the management skills required to meet client specific turn around times and maintain the high quality of analytical data.

**QAU Director** – Our Quality Assurance Unit Director, Frances Lediaev, earned her Bachelors degree in Chemistry from California State University, Fresno. Ms. Lediaev joined APPL, Inc. in 1989. Her duties include ensuring that MDL studies and or MDL checks are current, methods are performed according to our SOPs, coordinates blind check samples, oversees QC results, maintains laboratory certification with state and federal programs, and participates in proficiency testing. The main goal of this position is to assure that our chemists are getting the most reliable results attainable.

**IT Manager** – Our IT Manager, Jeremy Hale, earned a Bachelors degree in Electrical Engineering and minors in Computer Science and Mathematics from California State University, Fresno. Mr. Hale joined APPL, Inc. in 1999. His duties include managing

production of quality EDDS, ensuring that all hardware problems are solved quickly, programming instrumentation for faster and more reliable data, and upgrading hardware for maximum speed and reliability.

**Project Managers** – APPL, Inc. has four Project Managers who are responsible for direct communication with the clients, assuring their project needs are met, and preparing the lab for each sample delivery group. Details such as project specifications, hold times, pricing, and client services are a few of the many tasks the project manager performs.

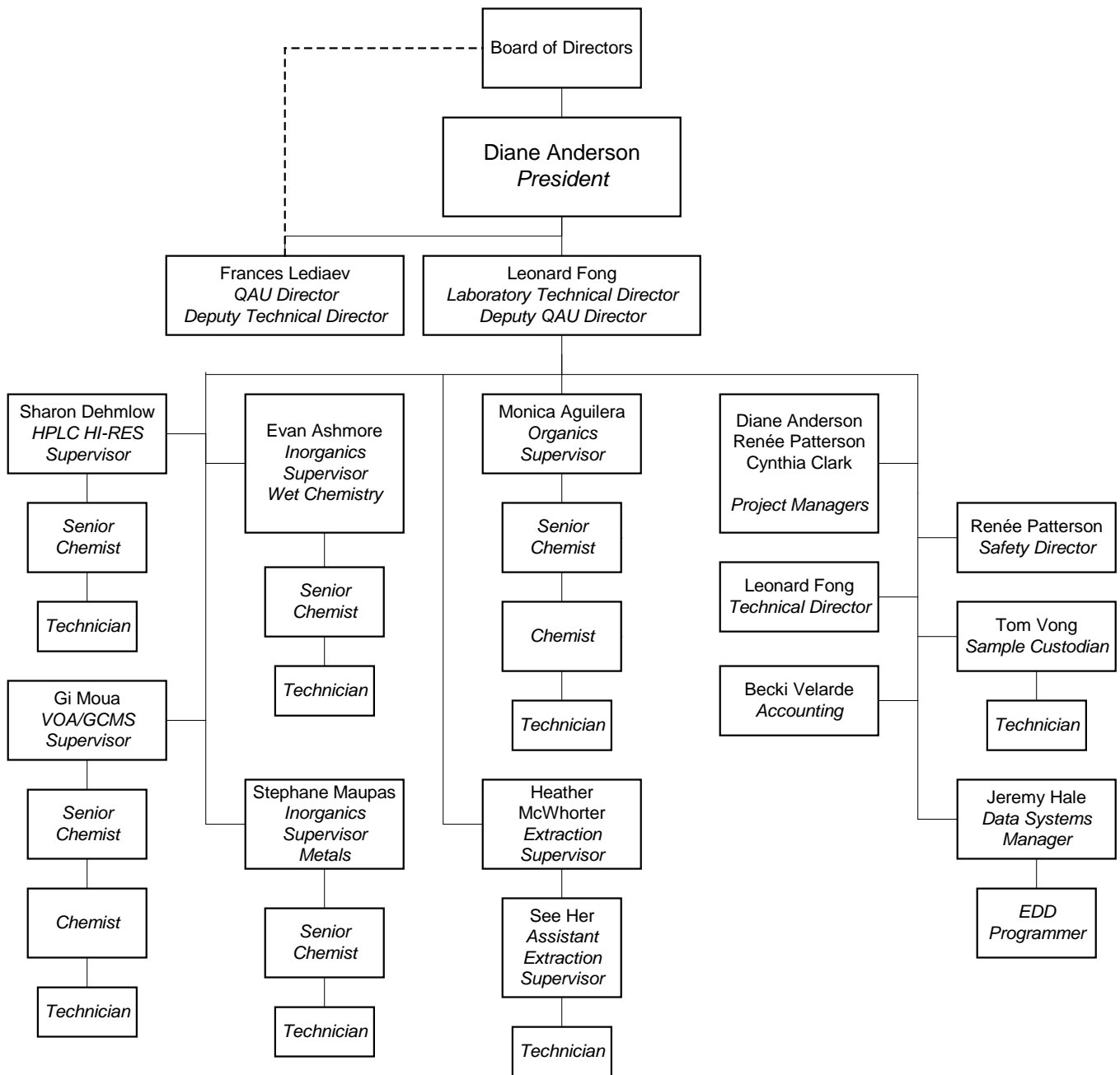
**Section Managers** – Our six section managers are the invaluable link between the project managers and the analysts. They are responsible for keeping us efficient and accurate. Sample hold times, due dates, and data usability are a few of their many responsibilities.

**Analysts** – APPL, Inc. currently employs over thirty analysts. The analysts are the heart of our operations. Our analysts carry a bachelor's degree in Chemistry or a related field. Their duties include calibrating the instruments, organizing sample injections, interpreting raw data, writing reports, and monitoring sample and project quality control criteria.

Résumés of key personnel are available upon request.

## Organizational Chart

The following is our Organizational Chart. This careful staff positioning has worked wonderfully at keeping operations timely, smooth, and accurate.





## *Professional and Project References*

We perform large contracted projects routinely. Our experience includes Department of Defense, Department of Energy, and the private sector. Some of our recent DOD project references include:

**Kleinfelder** - Stacie Wissler (858) 320-2263  
5015 Shoreham Place  
San Diego, CA 92122

Recent Projects: Hunter's Point Naval Shipyard (Navy)

**Montgomery Watson Americas Inc.** - Mark Frey (916) 924-8844  
777 Campus Commons Rd, Ste 250  
Sacramento, CA 95825

Recent Projects: Mather AFB (AFCEE)  
Modesto Superfund Site (USACE)

**Parsons Engineering Science** - Tammy Chang (512) 719-6092  
8000 Centre Park Drive Ste 200  
Austin, TX 78754

Recent Projects: Camp Stanley Storage Activity (AFCEE)  
Red River Army Depot (USACE)

**URS Group, Inc.** - Jeff Aust (402) 952-2516  
12120 Shamrock Plaza, Suite 300  
Omaha, NE 68154

Recent Projects: Offutt AFB, Nebraska (AFCEE)  
Mountain Home AFB, Idaho (AFCEE)

**Earth Tech** - Terri Choy (808) 523-8874  
841 Bishop Street, Suite 500  
Honolulu, HI 96813

Recent Projects: Hickam AFB, Hawaii (AFCEE)  
Agana Power Plant Testing, Mongmong, Guam (Navy)

**EnviroStat, Inc.**-Charles Ramsey (970) 689-5700  
PO Box 636  
Fort Collins, CO 80522

Incremental Sampling, Sample Processing and Sub-Sampling

**SAIC** – Ray Anderson (703) 318-4669  
4242 Woodcock, Suite 150  
San Antonio, TX 78228

Recent Projects: EPA Office of Solid Waste Methods Contract (USEPA OSW)

While these emphasize the contracted projects, we highly value our non-contract projects as well. APPL, Inc. has a vast number of references for Drinking Water analysis (available upon request).

## *Certifications and Approvals*

APPL, Inc. currently holds certifications with the State of California Department of Health Services, National Environmental Accreditation Program (NELAP), State of California Environmental Laboratory Accreditation Program (ELAP), State of Arizona Department of Health Services, State of North Carolina Department of Environment and Natural Resources, State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection, State of Hawaii, State of Oklahoma, State of Louisiana, State of Texas Environmental Quality and the State of Washington Department of Ecology. Additionally, APPL, Inc. is in good standing with and has the approval of the U.S. Army Corps of Engineers (USACE), Air Force Center for Environmental Excellence (AFCEE), and Naval Facilities Engineering Service Center (NFESC), Certifications and letters of approval are on file with APPL, Inc. We are also willing to obtain further certifications if requested by a client.

## *Insurance*

APPL, Inc. maintains the high level of insurance required to perform large scale projects. We provide all the necessary endorsements of such policies to our clients.

### **General Liability** [Provider: Federal Insurance Company]

Each Occurrence: \$1 million

Damage to Rented Premises: \$100,000

Medical Expense Limit: \$5,000

Personal and Advertising Injury Liability: \$1 million

General Aggregate: \$2 million

Products-Completed Operations Aggregate Limit: \$2 million

### **Automobile Liability** [Provider: Eagle West Insurance Company]

Combined Single Limit: \$1 million

### **Workers Compensation & Employers Liability** [Provider: State Compensation Insurance Fund]

Economic Loss – Each Accident: \$1 million

Economic Loss – Disease – Each Employee: \$1 million

Economic Loss – Disease – Policy Limit: \$1 million

### **Excess/Umbrella Liability** [Fireman's Fund Insurance Company]

Each Occurrence: \$5 million

Aggregate: \$5 million

### **Professional Errors and Emissions Insurance** [Provider: Gulf Underwriters Insurance]

Each Occurrence: \$1 million

Total: \$1 million

*Thank You,*

*For taking time to read about our Laboratory. Please feel free to call or email any of us.  
We are always looking for new client relationships and have the flexibility to  
accommodate your needs.*

Reach us by phone or fax:

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*Sincerely,*

Diane Anderson

President

APPL, Inc.

## Attachment A – Major Instrumentation

### **GC/MS:**

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- 1 each Waters AutoSpec Premier High Resolution Mass Spectrometer
- 7 each - HP GC/MS DOS Data System with "Enviroquant" software
- 2 each - HP 5973MSD with HP 6890 GC with HP 7683 Autoinjector
- 1 each - HP 5972MSD with HP 5890 Series II GC, Tekmar 3000 and Archon autosampler
- 1 each - HP 5971A MSD with HP 5890 Series II GC, Tekmar 3000 and Archon autosampler
- 2 each - HP 5971MSD with HP 5890 Series II GC, Tekmar 3000 and Archon autosampler
- 1 each - HP 5973MSD with HP 6890 GC, Tekmar 3000 and Tekmar Solatek autosampler

### **VOA Dedicated GC Systems:**

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- 2 each - HP Chem Station Computer System with "Enviroquant" software
- 1 each - HP 5890 Series II with O.I. PID/ELCD with Tekmar LSC 2000 & Archon Autosampler
- 1 each - HP 5890 Series II with O.I. PID/FID with Tekmar LSC 2000 & Dynatech PTA 30WS

### **Conventional GC Systems:**

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- 10 each - HP Chem Station Computer System with "Enviroquant" software
- 1 each - HP 6890 with dual NPD detectors and autosamplers
- 1 each - HP 5890 with FPD and FID detectors and autosampler
- 1 each - HP 5890 with dual FID detectors and autosampler
- 1 each - HP 5890-II with dual ECD detectors and autosampler
- 1 each - HP 5890 with dual ECD detectors and autosamplers
- 3 each – Agilent 6890N dual ECD detectors and autosampler
- 1 each – Agilent 6890N dual NPD detectors and autosampler
- 1 each – Perkin Elmer Turbo Matrix 40 Headspace Autosampler

### **LC/MS:**

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- 1 each - HP 1090L with Finnigan LCQ Classic Ion trap (10/88) (ESI or APCI)
- 2 each – HP 1090L with HP-FPD UV/VIS detector
- 1 each – Agilent G1946D LC/MSD LC Detector (ESI or APCI)

Table 5 (continued)

**HPLC:**

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- 3 each - HP1090 with 1050UV/VIS with HP1046A Fluorescence Detector
- 1 each - BAS LC-4B Amperometric Detector
- 1 each - Pickering CRX-390 Post Column Reactor
- 1 each – Agilent G1314A UV/VIS
- 1 each – HP 1050 UV/VIS detector

**Metals:**

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- 1 each - Perkin Elmer SIMAA 6000
- 1 each - Perkin Elmer AA300 with VGA 76
- 1 each - CEM MDS 2100 Microwave
- 1 each – CEM Mars 5 Microwave
- 1 each - Perkin Elmer ICP/MS Elan 6100
- 2 each – Perkin Elmer ICP/OES: Optima 4300 DV

**General:**

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- 3 each - Dionex DX500 Ion Chromatograph with PeakNet 5.2 Software
- 1 each – Lachat 8000 flow injection analyzer with Omnion FIA software
- 3 each – Environmental Express Leachate Agitator
- 1 each – Teledyne Tekmar Apollo 9000 Combustion TOC Analyzer
- 1 each - Glen Mills Essa Tech Puck Grinder

In conjunction with this major instrumentation, APPL, Inc. is fully and effectively equipped with all general laboratory equipment and supplies to compliment and support a 50 person analytical laboratory.