



## **STATEMENT OF QUALIFICATIONS**

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

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

*Analytical Chemistry Excellence for over 30 years.*

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

*Analytical Excellence for over 30 years.*

## *Introduction:*

Located in a 21,000 square foot complex in Clovis, California, APPL, Inc. has been serving clients' needs for over 30 years. APPL Inc. is a DoD ELAP and NELAP accredited laboratory. Our lab is registered as a small, woman-owned, disadvantaged business as defined by the United States Department of Transportation. We provide analytical chemistry services to a variety of clientele, including U.S. Army Corps of Engineers, Air Force, Navy, Department of Defense, Department of Energy, municipal authorities and a number of clients from the private sector. With a staff of approximately 50 employees, APPL, Inc. has the capacity to handle large projects while maintaining the highest data quality.

APPL Inc. has an extensive knowledge of EPA methods due to past work with SAIC under the "Methods Contract" for the Office of Solid Waste. APPL Inc. co-taught the Certification Training Course to State auditors for the EPA Office of Water under contract with Dynocorp CSC. APPL Inc. participated in the EPA OSW Perchlorate Task Force 2007 for SW-846 method analysis of Perchlorate in various environmental media. Our role in the task force was to run studies in order to further develop EPA method 6850, and assist in writing portions of the updated method. APPL analyzed samples whose results were used in the USACE ERDC Incremental Sampling Methodology for Metallic Residues. Ms. Anderson serves as one of the trainers for the ITRC ISM training webinars. 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 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 Agilent gas chromatographs. Each instrument has dual channels and dual detectors. Common analyses include organochlorine pesticides (EPA methods 8081, 608, 508), organophosphorus and triazine pesticides

(EPA methods 8141, 619, 507,), chlorinated herbicides (EPA methods 8151, 515, 615), polychlorinated biphenyls (PCBs) including congeners (EPA methods 8082, 608, 508), fumigants (EDB/DBCP) (EPA methods 8011, 504.1), and extractable petroleum hydrocarbons (TPH-Diesel, motor oil) (EPA method 8015). The GC analysts are also experienced in specialty methods such as TNRCC TX 1005, low level 1,2,3-Trichloropropane analysis, organotin (TBT), 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 client's request Semi-Volatiles by EPA 8270 and 625. 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 department supervisors. This ensures all samples are extracted in a timely manner.

### **Sample Preparations**

We are also equipped to perform specialized sample preparations. We are equipped with a Puck Mill Grinder for EPA method 8330B sample preparation. This enables us to perform incremental sampling following 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 8330B, carbamate pesticides by EPA Method 8321A, along with a variety of other pesticide methods.

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

APPL, Inc.'s HRMS department is capable of analyzing PCB congeners by EPA method 1668, and dioxins-furans by EPA Method 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 five gas chromatographs, three of which have mass spectrometers. Some common volatile analyses include EPA methods 8260, 524.2, and 624 for halogenated volatiles, aromatic volatiles, trihalomethanes, and gas oxygenates (including MtBE); EPA 8015

or EPA 8260 for gasoline range purgeable petroleum hydrocarbons (TPH-Gas); and dissolved gases (methane, ethane, ethene) by RSK 175.

### **Inorganic/General Chemistries**

APPL, Inc. has the capability to analyze samples for general/physical and chemical properties including (but not limited to) hexavalent chromium, nitrate, nitrite, sulfate, fluoride, chloride, pH, moisture content, alkalinity, total dissolved solids, cyanide, ammonia, and total kjeldahl nitrogen. A dual channel Dionex ion chromatograph assist our chemists in reliable detection.

### **Metals**

Equipped with ICP-OES, ICP-MS, & CVAA instruments, the Metals department reliably fine-tunes each report to each client's specific analyte list. In addition to EPA 200.7, 200.8, 6010, 6020, 7470A, and 7471 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 Chain-Of-Custody (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 the standard operating procedure of APPL, Inc.

## *Data Review and Reporting*

The primary goal of APPL Inc. is to provide data which are scientifically valid, legally defensible, and accurate to our clients. We take extra measures to assure the highest standards of integrity and data quality. 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. A section supervisor, Laboratory Director, or the Quality Assurance Unit (QAU) Director approves all manual integrations. 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 Management 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 Quality Control Sign Off Form (MLQSOF) 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 QAU 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 MLQSOF 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 MLQSOF 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.

**Quality Assurance Unit 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 clients' 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 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 2 years (hardcopy) and 5 years (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 2 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/SEDD. 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 data and superior customer service. Some of the positions at APPL, Inc. include:

**President / Technical Director** – 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.

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. Ms. Anderson also has responsibilities as a project manager

**Laboratory Director** – Our Laboratory Director, Paula McCartney, has a B.A. Degree in Chemistry from West Virginia University, Morgantown WV, She joined APPL in 1991 and has gained experience in multiple laboratory departments and managerial roles: VOA chemist, GC section supervisor, Quality Assurance Director, LC section supervisor, and HR-GCMS section supervisor. She has the management skills necessary to maintain communication between the client and laboratory personnel and to monitor turn around times and quality of analytical data.

**QAU Director** – Our Quality Assurance Director, Sharon Dehmlow has a B.S. degree in Chemistry and a teaching credential in Chemistry and Earth Sciences from California State University, Fresno. She joined APPL Inc in 1988 and has gained experience in multiple departments in the following roles: organic extraction technician, organic analysis chemist, GC section supervisor, LC section supervisor, HR-GCMS section supervisor and project management. Ms. Dehmlow is well versed in EPA methods and DoD project requirements.

**IT Manager** – Our IT Manager, Jeremy Hale, earned a Bachelors degree in Electrical Engineering and Minors Degree 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 section managers are the invaluable link between the project managers and the analysts. They are responsible for keeping us efficient and accurate. Assuring data usability and meeting hold times and due dates are a few of their many responsibilities.

**Analysts** – APPL, Inc. currently employs approximately twenty 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.

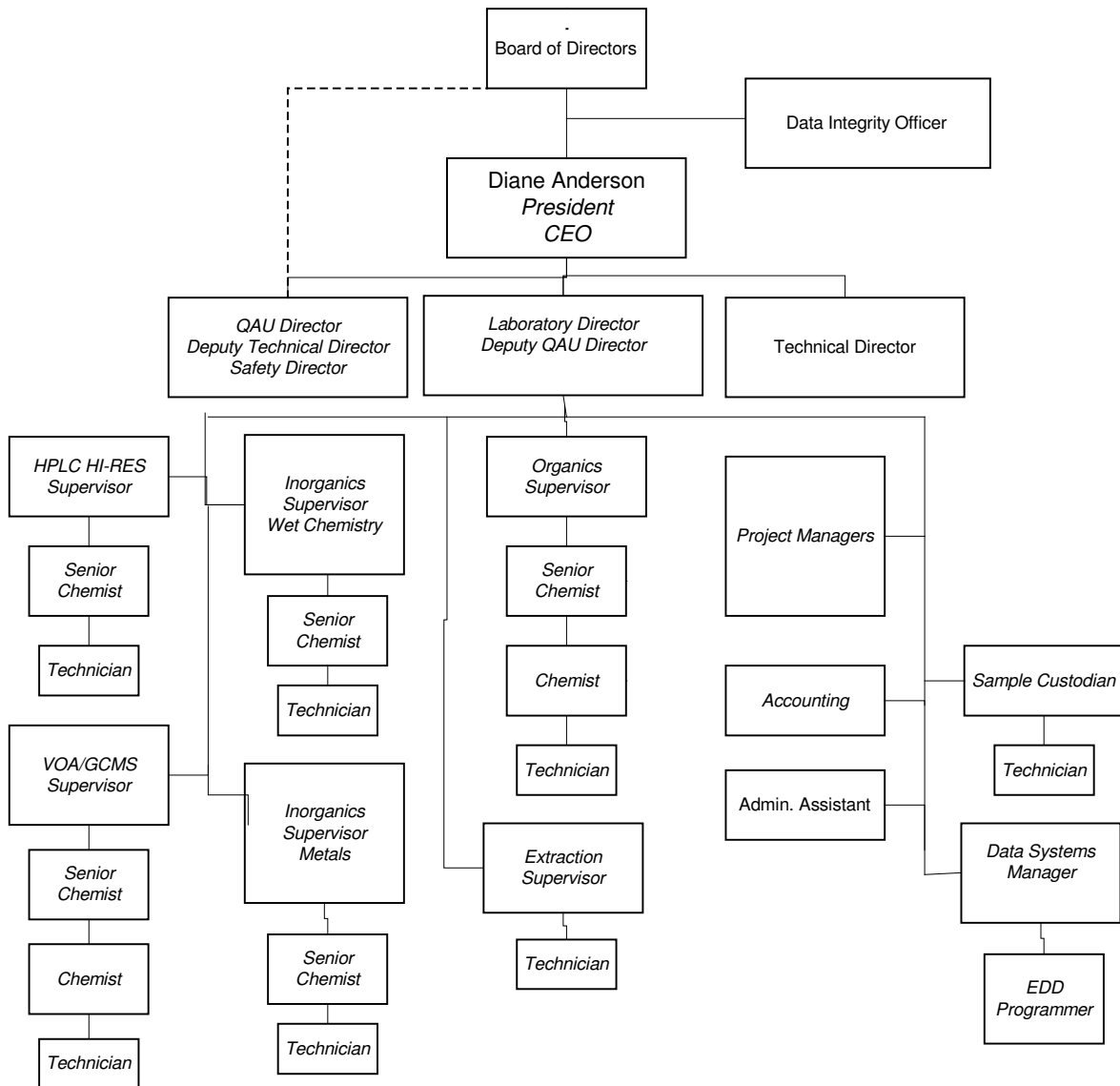
Résumés of key personnel are available upon request.

### *Sustainability*

In 2009, APPL, Inc. built a new facility in which sustainable/green approaches were used wherever possible. Counter tops are made from recycled material. Two plumbing systems were installed to utilize recycled water for restrooms and irrigation once the sewer lines are installed by the city. Pre-coolers were installed on all AC units to reduce energy needed to condition the air. Motion sensors were installed for bathroom lighting. Timers are utilized for general lighting and heating/air conditioning, and energy efficient “power compact bulbs” are used for lighting wherever possible. APPL, Inc. encourages the use of pdf reports on CD to minimize the usage of paper products. Additionally, carpooling is encouraged.

## 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 project references include:

**AECOM** - Terri Choy (808) 523-8874

1001 Bishop Street, Suite 1600

Honolulu, HI 96813

Recent Projects: Joint Base Pearl Harbor Hickam, Hawaii (DoD - Navy)

**CH2M Hill** – Michael Zamboni (703) 376-5301

5701 Cleveland St, Suite 200

Virginia Beach, VA 23462

Recent Projects: Vieques, Puerto Rico (DoD - Navy)

**CH2M Hill** – Mary Paschke (530) 229-3448

2525 Airpark Dr

Redding, CA 96001

Recent Projects: PG&E Central Valley Gas Transmission

**Kleinfelder** - Brandon Connelly, PhD (510) 628-9000

1330 Broadway, Suite 1200

Oakland, CA 94612

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

**Michael L. Johnson, LLC** – Melissa Turner (530) 756-5200

632 Cantrill Dr.

Davis, CA 95618

Recent Projects: Ag Waiver

**Montgomery Watson Americas Inc.** - Linda Goad (925) 627-4747

2121 N California Blvd, Ste 600

Walnut Creek, CA 94596

Recent Projects: Hamilton Army Airfield (DoD - USACE)

**Parsons Engineering Science** - Tammy Chang (512) 719-6092

8000 Centre Park Drive Ste 200

Austin, TX 78754

Recent Projects: Camp Stanley Storage Activity (DoD - AFCEE)

Red River Army Depot (DoD - USACE)

**URS Group, Inc.** - Jeff Aust (402) 952-2516

12120 Shamrock Plaza, Suite 300

Omaha, NE 68154

Recent Projects: Shaw AFB (DoD - AFCEE)

Rock Island Arsenal (DoD - USACE)

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 following:

- Department of Defense Environmental Laboratory Accreditation Program (ELAP), certified through A2LA
- State of Alaska, Department of Environment Conservation
- State of Arizona, Department of Health Services
- State of California, Environmental Laboratory Accreditation Program (ELAP)
- State of Hawaii, Department of Health
- State of Kansas, Department of Health and Environment, (NELAP)
- State of Kentucky, Underground Storage Tank Branch
- State of Nevada, Department of Conservation and Natural Resources, Division of Environmental Protection
- State of South Carolina, Department of Health and Environmental Control
- State of Texas, Commission on Environmental Quality (NELAP)
- State of Utah, Department of Health, National Environmental Laboratory Accreditation Program (NELAP)

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: \$1 million

Medical Expense Limit: \$10,000

Personal and Advertising Injury Liability: \$1 million

General Aggregate: \$2 million

Products-Completed Operations Aggregate Limit: \$2 million

### **Automobile Liability** [Provider: California Capital Insurance Company]

Combined Single Limit: \$1 million

### **Workers Compensation & Employers Liability** [Provider: Republic Indemnity]

Statutory Limits

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: Crum & Forster Ins. Company]

Aggregate: \$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.*

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*Sincerely,*

Diane Anderson

President

APPL, Inc.