

# STATEMENT OF LABORATORY QUALIFICATIONS

Revised 01/31/2011



## QUALITY ANALYSES FOR INFORMED DECISIONS

**A & L Great Lakes Laboratories, Inc.**  
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## ABOUT A & L GREAT LAKES LABORATORIES, INC.



Founded in 1976, A&L Great Lakes is an analytical laboratory, specializing in testing services for agriculture and the environment. A & L Great Lakes Laboratories began as a regional laboratory in a national network, but became independent from the A & L Group in 2002.

The laboratory operates from an 18,000 sq. ft. facility located in Fort Wayne, Indiana. Built in 1987 and expanded in 1990, the state-of-the-art building houses over 45 professionals and technicians.

A & L Great Lakes analyzes many types of sample matrices including soils, plants, feedstuffs, fertilizers, waters, wastewaters, manures, sludges and hazardous wastes. Our testing capabilities include a wide variety of organics and inorganics.

The analytical laboratory is organized in two separate divisions. The **Agricultural Division** specializes in standardized soil, plant, manure, compost, fertilizer and feed analyses for the agricultural sector and associated industries. The **Environmental Division** has complete capability for the analysis of trace amounts of herbicide, fungicide and insecticide residues in many different sample matrices. Both of these divisions are capable of conducting studies under GLP protocol (40 CFR Part 160). The **Environmental Division** also offers comprehensive analyses for metals, organics and other pollutants in water, soils and wastes and is accredited under the National Environmental Laboratory Accreditation Program (NELAP).

A & L Great Lakes Laboratories makes an annual commitment to acquire new equipment, develop software based on our client's needs, and upgrade the laboratory facility, in a continuing commitment to provide quality analyses for our clients.

## QUALITY ASSURANCE

A&L Great Lakes Laboratories maintains a Quality Assurance Program using guidelines outlined in 40 CFR Part 160 (USEPA Good Laboratory Practices), EPA-600/4-79-019 (Handbook for Quality Control in Water and Wastewater Laboratories), Standard Methods for the Examination of Water and Wastewater (20th Ed.) and the National Environmental Laboratory Accreditation Program (NELAP). The Program is administered by the Quality Assurance Unit with full support and knowledge of corporate management. Standard operating procedures containing specific written guidelines are followed at all times by laboratory personnel.

The following specific areas of concern are addressed:

1. **Sample Handling:** Samples are inspected immediately upon receipt, assigned a laboratory identification number and preserved appropriately. When requested, complete chain of custody documentation is maintained. A computer LIMS system allows samples to be tracked throughout the analytical process.
2. **Analytical Methodology:** Whenever possible, standard methods approved by the USEPA are utilized in the analyses. All methods are validated before adoption by replicate analysis, recovery checks and analysis of control samples. Acceptable quality control limits for each method are established during validation.
3. **Performance Monitoring:** Quality control samples are analyzed with each analytical run. Approximately 10% of sample runs consist of spikes, duplicates, method blanks or control samples. Results are compiled in Quality Control Reports. Unknown performance evaluation samples provided by various state and federal agencies are analyzed periodically.
4. **Maintenance and Calibration of Equipment:** Instruments are maintained frequently as specified in the manufacturer's service manuals. Maintenance logs are kept. An inventory of essential spare parts is maintained. Instruments are calibrated on a daily basis to ensure performance within predetermined limits.
5. **Reports of Analysis:** Final reports are verified independently and approved by supervisory personnel before being released.
6. **Records:** Final reports, chain-of-custody documentation, lab bench sheets, instrument calibration and maintenance records and associated quality control results are assembled and filed by report number for a minimum of 5 years.

## PERFORMANCE EVALUATION AND CERTIFICATION PROGRAMS

Agency or Institution	Program Description	Type Sample
USEPA Region V	Water Supply Performance Evaluation Study (WS)	Water
USEPA Region V	Water Pollution Performance Evaluation Study (WP)	Water
US EPA	DMRQA for NPDES permit holders	Water
Indiana State Board of Health	Public Water Supply Microbiology Certification	Water
Agricultural Laboratory Proficiency Program (ALP)	3x/year sample exchange	Soil Plant Tissue Water
North American Proficiency Testing Program (NAPT)	Quarterly sample exchange supported by Soil Science Society of America (SSSA)	Soil Plant Water
National Forage Testing Association (NFTA).	Laboratory Certification Program	Feed
Assoc. of American Plant Food Control Officials	AAPFCO Magruder Check Sample Program	Fertilizer
Association Of Fertilizer and Phosphate Chemists	AFPC Phosphate Fertilizer Check Sample Program	Fertilizer
US Composting Council (USCC)	Compost Analysis Proficiency (CAP) Program – Supports the United States Composting Council’s Seal of Testing Assurance Program (STA)	Compost
Minnesota Department of Agriculture	Laboratory Certification Program Manure Analysis Program (MAP)	Soil Manure
Wisconsin DATCP	Laboratory Certification Program	Soil
Illinois Soil Testing Association	Laboratory Certification Program (ALP)	Soil
Iowa Department of Agriculture	Laboratory Certification Program	Soil
University of Missouri	Laboratory Certification Program	Soil
Pennsylvania Dept. of Environmental Protection (DEP)	Laboratory Certification Program	Soil Biosolids Compost
National Environmental Laboratory Conference (NELAC)	NELAC Laboratory Accreditation Program	Soil Sludge Biosolids

## STAFF INFORMATION

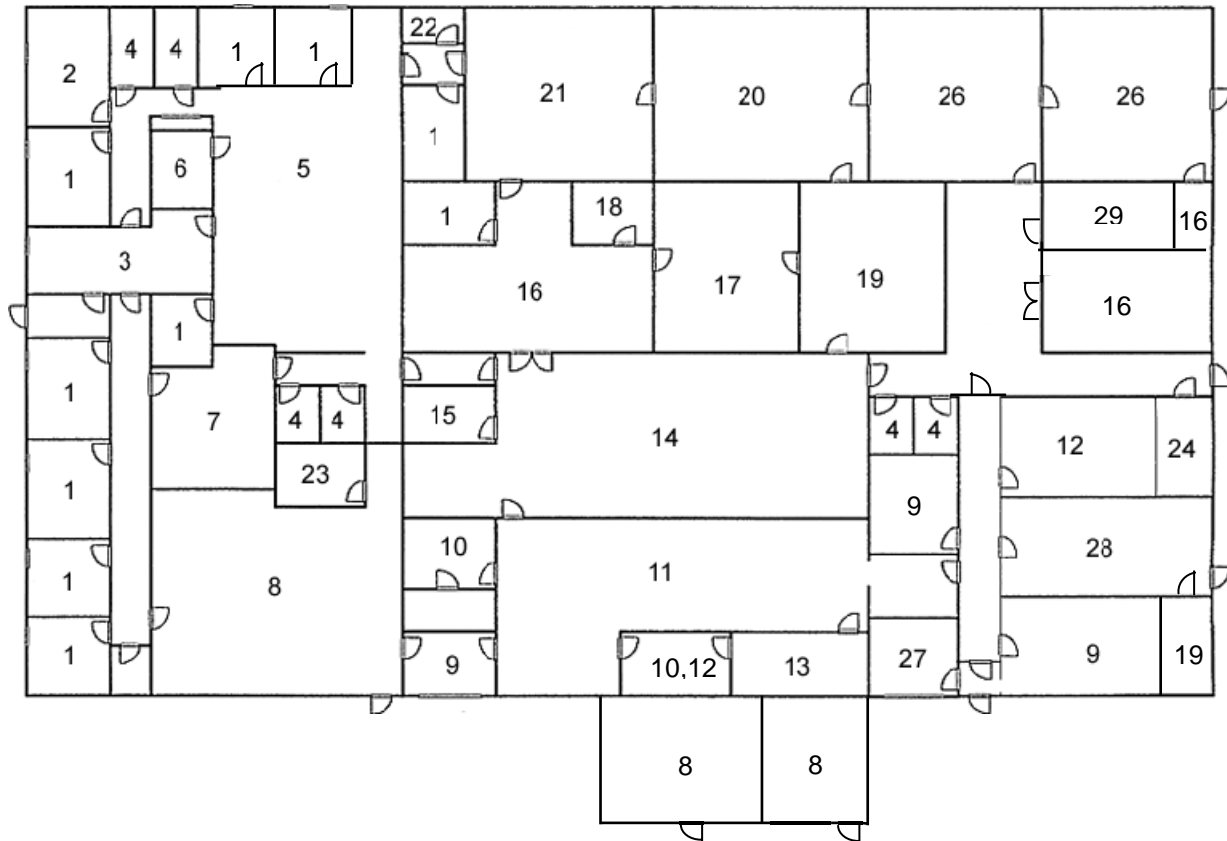
<b>Employee Name</b>	<b>Position</b>	<b>Education</b>	<b>Field of Study</b>
Bailey, Tim	Area Representative, Laboratory Agronomist	BS MS	Agriculture Crop Sciences (In Progress)
Barbour, Paul	Lab Technician	HS	--
Becirevic, Samir	Lab Technician	--	Business Trade School
Beers, David	Lab Technician	HS	
Berg, Amy	Lab Supervisor	BS, MS	Agronomy
Black, Bev	Lab Technician	BS	Biology and Chemistry
Bowman, Zach	Lab Technician	BS MS	Biology Env. Sci. (In Progress)
Bruggner, Julie	Lab Technician	BS	Supervision
Burgess, Don	Area Representative, Laboratory Agronomist	BS, MS	Agriculture
Cavacini, Krisi	Environmental Receiving and Reporting	HS	--
Coss, Evan	Lab Technician	BS	Chemistry
Coy, Chris	Lab Technician	BS	Chemistry
Gonzales, Mary	Lab Technician	HS	--
Hasselschwert, Rebecka	Lab Technician	BS	Biology
Henley, Keith	Manager – Environmental Division	BS	Agronomy
Holycross, Stefanie	Lab Technician	BA	Biology
Hooley, Michael	Lab Technician	HS	--
Horn, William	Lab Technician	HS GMA (U.S. Navy)	--
Irwin, Heather	Quality Assurance Coord- inator	Associates Degree	Biotechnology Quality Control
Kite, Dan	Facility Director	BS	Agronomy
Knight, Michael	Lab Technician	BA	Science
Knuth, Patti	Receptionist	HS	--
Krey, Amanda	Lab Technician	BS	Biology
Lehman, Amanda	Lab Technician	BA	Biology Minor in Business

<b>Employee Name</b>	<b>Position</b>	<b>Education</b>	<b>Field of Study</b>
McNair, Melinda	Lab Technician	BS	Forensic Science
Meyer, Beth	Lab Technician	BS	Biology Minor in Chemistry
Myers, Nathan	Lab Technician	HS	--
Nakasen, Stephanie	Lab Technician	HS	--
Neyman, Greg	Manager – Quality & Information Systems	BS, MS	Chemistry Quality Assurance
Nichols, Jo Ann	Client Services	BS	Geology
Ogg, Lindsay	Data Processing	Associates Degree	Business
Packard, Samantha	Lab Technician	BS	Zoology Env. Forensics
Parker, Lois	President	BS	Horticulture
Pugh, Kristi	Data Processing	Associates Degree	Medical Assistant & Bus. Mgt.
Roberts, Shaun	Lab Technician	HS	--
Schlarb, Austin	Lab Technician	BS	Biology
Simerman, Danielle	Lab Technician	BS	Biology
Snodgrass, Martin	Lab Manager – Agricultural Division	BS	Chemistry
Thayer, Brian	Senior QC Chemist	BS	Chemistry
Thayer, Diane	Fertilizer Dept. Leader	BS	Chemistry
Thomas, Crystal	Lab Technician	BS	Restoration Ecology
Thomas, John	Lab Technician	HS	
Tinnel, Shawn	Office Team Leader	HS	Business College
Topp, Sharon	Bookkeeper	HS	--
VanPetten, Gleann	Lab Technician	BS	Biology
Warden, Randall	Vice-President	BS MS	Agricultural Science Soil Science
Weber, Megan	Lab Technician	HS	Certified Pharmacy Technician

## INSTRUMENTATION

Quantity	Item
<b>ORGANICS</b>	
1	Perkin Elmer Clarus 500 with EC and FI Detectors
1	Perkin Elmer Clarus 500 with FP and FI Detectors
1	Varian 3900 GC / MS with 2100T Ion Trap
1	Perkin Elmer Autosystem with NP and EC Detectors
1	Hewlett Packard 5890 with NP Detector
1	Hewlett Packard 5890 with 5971 Mass Selective Detector
2	Perkin Elmer Series 200 LC with LC 200 UV-VIS Detector
1	Perkin Elmer Autosystem XL with NP and EC Detectors
<b>METALS</b>	
1	Varian SpectrAA Atomic Absorption Spectrometer
4	Thermo Scientific iCAP 6500 ICP's
1	Perkin Elmer Elan DRC Plus ICP/MS
1	Varian Vista-MPX ICP-OES
1	Varian 820 ICP/MS
<b>INORGANICS</b>	
3	Leco FP-428 Nitrogen Analyzer
1	Hach HQ40d Dissolved Oxygen Meter
1	VWR Symphony SB80 PC pH and Conductivity meter
1	Thermo Orion model 550A pH/Conductivity meter
1	YSI 5000 Dissolved Oxygen meter
1	Fisher Scientific Accumet model 50 pH meter
2	Lachat QuickChem QC 8000 and 8500 Flow Injection Analyzers
1	Hach COD reactor
1	Hach DR/3000 Spectrophotometer
1	TOC Analyzer
4	Microwave Digestors (Anton Paar Multiwave 3000 & Milestone Ethos EZ digestion labstation)
1	Sheldon Manufacturing VWR 14-5783 Incubator
1	VWR 3015 Incubator
1	Fisher Scientific 3530 Isotemp Incubator
2	Seward Stomacher 400 Circulator
<b>OTHER</b>	
1	TCLP extractor and ZHE extractors
1	Varian Cary 50 UV-Vis Spectrophotometer
2	Automated pH Analyzers
1	Market Forge Sterilmatic autoclave
1	Baxter Scientific Product DN-63 Oven and Curtin Matheson EQUATHERM Oven
9	Mettler Precision Balances (various models)
4	AND Analytical Balances (various models)
4	Ohaus Analytical Balances (various models)
1	Phenol distillation unit
2	Precision Coliform Incubator baths
1	Horizon SPE-DEX 3000 XL
1	Lachat Micro Dist Cyanide distillation unit
1	Jouan C412 Centrifuge
1	Quebec Darkfield Colony Counter
1	VWR Scientific Products water bath
2	Branson 3210 and 5510 ultrasonic waterbath's
1	Retsch Fertilizer Grinder
1	Retsch Fertilizer Splitter
1	<b>50 node PC based LAN with custom designed LIMS system</b>

## FACILITIES



- |                    |                       |                         |                                |
|--------------------|-----------------------|-------------------------|--------------------------------|
| 1. Office          | 8. Storage            | 15. Chemical Storage    | 22. Gas Storage                |
| 2. Conference      | 9. Receiving          | 16. Instrumentation     | 23. Utility Room               |
| 3. Reception       | 10. Plant Preparation | 17. Sample Digestion    | 24. Document Storage / Archive |
| 4. Rest Room       | 11. Soil Preparation  | 18. Weighing            | 25. Ag / Env. Shared           |
| 5. Data Processing | 12. Drying Room       | 19. Fertilizer Analysis | 26. Environmental Lab          |
| 6. Computer/Server | 13. Grinding          | 20. Organic Prep.       | 27. Shop                       |
| 7. Employee Lounge | 14. Soil Extraction   | 21. Chromatography      | 28. Soil Library               |
|                    |                       |                         | 29. ICP/MS                     |