

FACILITY NAME:	
FACILITY LOCATION:	
CONTACT PERSON:	
CONTACT PHONE:	

GAWP Laboratory Committee
Quality Assurance Award
Pre Inspection Form



Georgia
Association of
Water
Professionals

Rules, Guidelines, and Instructions for Labs Participating in the Georgia Association of Water Professionals QA/QC Awards

Definitions: The following definitions are presented to insure that all participants understand exactly what the inspectors will be looking for.

Area - This is a section within the inspection check sheet that identifies a series of related indicators to be inspected.

Indicator - This is a line item within an Area that identifies a specific thing, that is to be observed by the inspector in order to receive points credit.

Item - This is a specific aspect within an indicator that would help quantify how good or how well that an indicator has satisfied the inspector and helps the inspector assess how many points to award within the indicator.

Guidelines.

1. The person in direct responsible charge of the lab should receive a copy of these instructions along with a copy of the inspection check sheet to help them prepare the lab for inspection.
2. After an inspection team has been assigned to your lab, one of the inspectors will call to set up a time and date that they intend to arrive to inspect your lab.
3. Using the check sheet as a guide, set up an area within your lab to present all **documentation records, manuals, copies, and proofs** that the inspection team will need to observe.
4. **All Laboratories competing are required to submit a pre-inspection form and submit a copy of their QA Manual for review before the scheduled inspection. Labs failing to comply with these requirements will be removed from the competition. All documents submitted for review will be returned or destroyed. These documents are confidential and information will not be shared or used without permission. Questions in blue areas are optional. You may complete them if you like, but are not required prior to inspection.**
5. Keep in mind that first impressions carry a good deal of weight when it comes time for the team to make a judgment call. Organize your materials in a logical sequence to expedite the process.
6. You will have one opportunity to provide information about each question. If the inspectors request any information and you are not able to produce it at that time, then they will determine that it is not available. You will not be allowed to produce the evidence after the fact and expect it to carry full (if any) point value.
7. Please know that all of the inspection teams are volunteers and do not receive any compensation for their time, travel, or hard work. In order to save time and travel we request that any item that is intended for credit and is listed on the check sheet, be on-site.
8. In order to permit fair competition between labs that are classified within the same category, but do not have the same processes, analyses or equipment, all final scores are going to be calculated as a percentile of maximum points available to the areas that pertain directly to each facility. So if your lab has a process "A" but not process "B" as does a competitor, the total maximum points available would be the sum of all maximum items within each area that pertains directly to your lab. We will sum all of the points that you actually earned within each of those areas and divide into the maximum available. This percentile will be your final score.
9. Minimum points will be defined as at least 70% of the maximum points available to your specific facility. Failure to earn the minimum points percentage will eliminate your facility from the competition.

INSPECTORS INSTRUCTION SHEET

1. The total number of points applicable in each section only applies to labs that have that particular analysis or equipment. For example if there are 4 points available for question (X), and the facility does not have or deal with (X), then those 4 points do not calculate into the facility's final score.
2. The final score is going to be determined as a ratio or percentage of maximum points available to the specific lab as compared to the total number of points that were earned. For example: 2 labs are exactly identical except that lab (A) has or deals with (X) and lab (B) does not. The number of available points for lab (A) will not calculate into the final percentage for lab (B) that does not have or deal with (X). So if lab (A) with (X) earned all 4 points for that question and all other questions scored equally, the result would be that both labs could end up with a tied score after the percentages were calculated. In this manner, labs within the same category could compete on equal terms, even if they did not perform the same analysis or have different types of equipment.
3. All of the indicators that you will be observing have guide marks to help you determine how many points that you could give. On indicators that are simply yes or no, the labs would get either 4 points or zero points for that particular indicator. Naturally, we do not assume to be able to identify all possible situations so many of the indicators allow for a judgment-call on the part of the inspector.
For example: If you are looking at an indicator in which more than one point is available, and what you see goes well beyond what has been defined; you as the inspector could justify additional points for that indicator. As an example: You look at the lab's signage and it meets all of the justifications to earn its points. Then you note that the analysts saved enough money out of their own pockets to have their sign gold plated with laminated photographs of all of their analysts attached. You could justify giving them an additional point above what was strictly defined. This is because they demonstrated the extra effort and pride, which is exactly what we are trying to reward. It is assumed that a lab is clean and well operated or it would not be a competitor in the first place. We expect that the final points spread will be close, so this makes your judgments all the more important.
4. All labs in a category should be judged by the same team. If this is not possible then all the inspectors must come together before and after inspections to go over inspections and make sure all contestants were judged equally.
5. When an indicator is called for in the inspection sheet to be on-site, you have the discretion to accept proof that the item in question exists. If the inspection form requires that an item is on site and it is not, and the lab has not made an effort to prove that the item exists, you have the option not to award the points for that particular item.
6. Minimum points for competition is 70%. So when you calculate the final score of total points available to a facility, divided by the total points that you have awarded to the facility, if the percentile is less than 70%, that facility is eliminated from the competition.

QA Manual Specific Guidance

The QA manual section is a critical section for all laboratories and there is often confusion on what the committee is looking for in this section. We hope to answer some basic questions in this instruction section specifically for the QA Manual section.

1. Your lab must have a written QA Manual and it must be organized and accessible to all employees. If it is electronic only, you must show that all employees have access and that it is secure from tampering.
2. You must have filed documentation that employees have read and accepted the use of your QA manual.
3. For page 5 numbers 2-14 and page 6 numbers 1-2 the committee is looking for a specific section or paragraph that addresses the topic listed. You may detail the topic in the QA manual or reference an outside source to cover the topic listed. If referenced, you must show the inspectors the referenced document(s). You must have something for each number listed in the manual itself. If you do not have a necessity for a section in your lab you should still list the topic with an explanation detailing why you do not need that section and how you would deal with that subject should you require it in the future. The language for these sections is easily found in some of the publications you are required to have in the publications section. You need not write these sections from scratch, but may use standard language as long as it pertains to your lab and is practiced.
4. If you need further help with this or other sections, please contact your inspectors or a committee member for additional help.

Section I-Organization	NOTES	Document	Page	Paragraph	Location
1. An organizational chart is available indicating the chain-of-command. Administrative staff, technical staff and support staff are identified.					
2. A job description defining the job duties of each employee is available.					
3. Compliance analysts meet Georgia certification requirements for water\wastewater laboratory analysis or are working on certification. (Class II allowed.)					
4. Records are maintained which document staff technical training. (Ex. Cont. Education Pts.) Records should be in alphabetical or chronological order with date of training, name of training, description and points or hours received. (if applicable)(past 3 Years)					
Section II-Equipment	NOTES	Document	Page	Paragraph	Location
1. The laboratory has an up to date list of all equipment and reagents necessary to perform the required analyses by approved procedures. (Ex alphabetized or date of purchase)					
2. Separate refrigerators and freezers are used for samples and for reagents/standards and is visibly indicated on the front.					
3. All equipment is in good operating condition and is protected from rust, corrosion, laboratory contamination and other causes of deterioration. (visual determination)					
4. An instrument preventative and corrective maintenance log is maintained for each instrument and is up-to-date, includes date of service, who performed the service and description of service.					
5. Calibration records are maintained for the instruments that require calibration and the records are up-to-date. Calibration records include date of calibration, who performed calibration and limits of acceptability what was used for calibration with lot number.					

Section III-Safety	NOTES	Document	Page	Paragraph	Location
1. A written Chemical Hygiene Plan is established and available on site for analysts and inspectors. The plan conforms to 29 CFR 1910 part 1450 or equivalent and reference noted.					
2. A Safety Officer is identified and responsible for maintenance of the Chemical Hygiene Plan and safety functions.					
3. The Plan includes rules, SOP's, forms and procedures for reporting accidents and correcting safety deficiencies.					
4. The laboratory has written disposal procedures for hazardous reagents, samples and chemicals.					
5. Fire extinguishers are available, are annually inspected (documentation required), monthly inspections are done and recorded on a check list and on the inspection tag.					
6. Eyewash and safety showers are in the lab (1), in working order & fully accessible to all (2-3). Records of inspection are available on site (2-3), monthly checks are recorded at device (4) and on the monthly check list (5).					
7. A complete set of MSDS for all chemicals used in the laboratory is maintained and a MSDS for every chemical is readily available.					
8. The following safety equipment is available for use: eye protection (1), gloves (2-3), first aid kits (2-3), fire blankets (4) & chemical spill kits (5).(Hg, ACID, BASE)					
9. All chemicals are stored in a safe manner. Acids, bases, flammables, oxidizers, organics, etc. are stored in separate areas and areas are labeled.					
10. "No smoking" and "No eating" signs are displayed at entrances and in the laboratory. Signs must be legible at a distance.					
11. Evacuation plans are posted in the laboratory and must be visible at a distance.					
12. Warning signs are posted in hazardous areas. Signs must be legible and brightly colored.					
13. Safety classes are held and attendance is documented with topic, signature of employee and date of class. Records must be present for at least the previous 3 years.					
14. Eye protection is worn by all personnel in areas that require eye protection and these areas are clearly defined and labeled.					

Section IV-Data Reporting and Documentation	NOTES	Document	Page	Paragraph	Location
1. Chain-of-custody records are maintained for each sample indicating location, time, date, and person handling the sample, the type of container and any preservation used. The time, date and person receiving custody of the sample in the laboratory is clearly indicated.					
2. Where required, bench sheets are available. They indicate the person performing the test, the date and time of the test, the method used and any other information critical to the method.					
3. If a calculation procedure is used to obtain the final results of a test, it is listed on the bench sheet with the final results or in the method SOP accessible to analyst.					
4. All records are written in waterproof ink.					
5. Errors are lined out with a single line with the initials of the person making the change and the date written beside the line-out.					
6. All records are maintained by the laboratory in accordance with Federal & State regulations					
7. Written record disposal procedures are in place. <i>(Looking for how you disposes of documents when they are no longer required to be kept. Must have a written policy and proof of practice.)</i>					
Section V-Sub-contracted Analyses	NOTES	Document	Page	Paragraph	Location
1. A copy of the sub-contract lab's QA Manual or certificate with scope from certifying company is on file.(If other than State of GA) <i>Call inspectors for clarification if needed.</i>					
2. Copies of the sub-contract lab's most recent results for EPA required DMRQA, WS and WP PE studies are on file for analytes contracted.(If other than State of GA) <i>Call inspectors for clarification if needed.</i>					
3. If sub-contract work is for GA compliance, the lab must be GA certified for drinking water\wastewater and a copy of the certificate and current certified analyte list is on file. (Micro & Chemistry) <i>Call inspectors for clarification if needed.</i>					

Section VI-Quality Assurance and Quality Control

NOTES

Document

Page

Paragraph

Location

BEGIN QA MANUAL COMPONENT SECTION *See QA Manual Specific Guidance for help.*

1. The laboratory has a written Quality Assurance Manual
2. Sample collection and handling. (40CFR136 should be referenced)
3. Preservation techniques. (Methods of preserving samples before analysis)
4. Holding times for samples before analysis. (40CFR136 should be referenced)
5. Analytical methods used.
6. Calibration procedures for each analytical test.
7. Calculations required to reach a final result for each analytical test.
8. Acceptance criteria for each analytical test. (Ex. Upper & lower warning & controls)
9. Methods for calculating accuracy. (SM 1020 & 1030) (spikes & standards)
10. Methods for calculating precision.. (SM 1030C) (duplicates)
11. Method detection limits. (40CFR136 Appendix B)
12. Expression of results (SM 1050B)
13. Procedures for preparation of corrective action reports.
14. Data review & rejection (policies on outliers, cross checking & calculations for rejection)
15. Instruments Preventative Maintenance measures and frequency.
16. Procedures and frequency of system audits.
17. A QA Manager or Officer is identified and responsible for the QA Manual and other QA functions.
18. The QA Manual is reviewed and updated on a regular basis and the date of last review/update is on the first page of the manual.

END OF QA MANUAL SECTION

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Section VI-Quality Assurance and Quality Control Cont.	NOTES	Document	Page	Paragraph	Location
1. SOP's for each test performed in the laboratory are available.					
2. SOP's are reviewed at regular intervals with the last review date listed on each SOP.					
3. Each SOP must list the reference method.					
4. Chemicals have listed upon them the date of receipt, the date of opening and the expiration date. Each date should also be initialed. (including solutions prepared in the laboratory)					
5. Appropriate grade chemicals are used for each analytical procedure with chemical grade listed on the SOP.					
6. Documentation exist detailing the preparation of all reagents. Documentation must include the date, the lot number of the chemicals, the person performing the preparation, volumes and weights of materials used.					
7. All balances are checked for accuracy against the certified weights once a day or on day of use and a log of the balance accuracy is kept and available on site.					
8. Balance calibrations by service technicians are performed on a regular basis (at least once a year for analytical balances) and records are maintained of the calibration..					
9. Control charts are maintained for accuracy and precision. Results and charts are up-to-date.					
10. The 44.5+0.2°C incubator thermometer is calibrated in at least 0.2 °C increments and calibrated/certified as NIST traceable.					
11. The 35.0+/-0.5°C incubator thermometer is calibrated in at least 0.5 °C increments and calibrated/certified as NIST traceable.					
12. Laboratory contamination is checked by analyzing reagent blanks.					
13. Quality control measures for each run include a sample duplicate performed at a frequency of at least 10% of the samples in the batch and an accuracy sample analyzed at a frequency of at least 5% of the samples in the run.					
14. A NIST traceable certified thermometer is available. A record is maintained of the annual calibration of thermometers used in the laboratory against the NIST thermometer.(Reference thermometer must be certified every five years)					
15. Each lot number of membrane filters is checked for sterility according to Standard Methods 18th, 19th or 20th editions and preparation data recorded. and the check recorded.					
16. Sterile buffered water is prepared according to Standard Methods 18th, 19th or 20th editions and preparation data recorded.					
17. Each lot of dilution water is checked for sterility at 24 and 48 hours and records maintained. (48 hours applies to water labs only)					

Section VII-Quality Assurance and Quality Control Cont.	NOTES	Document	Page	Paragraph	Location
1a. The temperature of equipment is logged twice daily (Min. of 4 Hours apart) and the thermometer used must be either certified or calibrated against an NIST traceable thermometer.					
1b. The bulb of the thermometer used is submerged in water or other suitable media.					
2a. Laboratory pure water is checked annually for suitability and heavy metals. All results must be acceptable.					
2b. A monthly check of residual chlorine, conductance or resistivity, plate count and pH is performed. All results must be acceptable.					
2c. Laboratory pure water should have a resistivity\conductivity value between > 0.5 megohm-cm and <2 umhos/cm at 25°C. All results must be acceptable					
2d. Organized, accessible and current records are maintained of DI water checks.					
Section VII-Miscellaneous	NOTES	Document	Page	Paragraph	Location
3. The laboratory is maintained in a neat, clean and well organized manner.					
4. The laboratory has adequate bench and floor space for the technicians to perform their work without crowding.					
5. The laboratory is sufficiently staffed for the numbers and types of analyses performed.					
6. Controlled access security is provided for samples.					
7. Electronic records are backed up, by protected tape, disk, hard copy or network server.					

Section VIII - Water Only	NOTES	Document	Page	Paragraph	Location
1. Standard Methods for Examination of Water and Wastewater, 20th Edition, AWWA, APHA, WEF 1992					
2. Methods of Chemical Analysis of Water and Wastes, USEPA 600/4-79-020 (Revised March 1983)					
3. Manual for the Certification of Laboratories Analyzing Drinking Water, EPA 815-R-05-004, Fifth Edition 2005.					
4. Microbiological Methods for Monitoring the Environment, USEPA 600/8-78-017,1978.					
5. 40 CFR 141, July of current & previous year acceptable.					
6. Lab must have the past 2 years of microbiological PE studies for both primary and secondary methods on file. Must be 1 set every 6 months.					
7. Chlorine colorimeter is checked with an outside standard every day the instrument is used; prior to sample analysis.					
8a. Sterility is confirmed on at least one random sterile sample container from each lot number by adding 25 ml of a sterile non-selective broth incubated at 35 +/- 0.5 °C.					
8b. Sterility is checked after 24 and 48 hours and all information and results are recorded.					
9. All compliance coliform samples from the distribution system are analyzed within 30 hours of collection.					
10. Colilert UV lamp has been certified by the State or light is being checked by lab with its own radiometer. All values must be above 70% of original intensity or show corrective action.					

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QM = Quality Manual

SOP = Standard Operating Procedure

LB = Lab Book

BWB = Bench work Book

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Some publications may be found at the link below.

<http://nepis.epa.gov/pubtitleORD.htm>

Section IX-Wastewater Only	NOTES	Document	Page	Paragraph	Location
1. A functional fume hood is used and its face velocity is checked monthly and the checks recorded.					
2. A minimum of a three point calibration (MDL, mid-range and upper calibrated point) is used for each analytical procedure. If a blank is included in the calibration, a minimum of 3 other points must be used.					
3. Reagent water used in trace metals analysis must have a resistivity of >16.5 megohm-cm at 25°C and a log is kept of the daily readings. Records are kept of regular QC checks (blanks) of the laboratory water.					
4. The results of the most recent EPA required DMR QA studies were acceptable for all compliance required parameters.					
5. Standard Methods for Examination of Water and Wastewater, 20th Edition, AWWA, APHA, WEF 1992					
6. Methods of Chemical Analysis of Water and Wastes, USEPA 600/4-79-020 (Revised March 1983)					
7. 40 CFR 136, July of current & previous year acceptable.					
8. Handbook for Analytical Quality Control in Water and Wastewater, USEPA600/4-79-019, March 1979					

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QM = Quality Manual

SOP = Standard Operating Procedure

LB = Lab Book

BWB = Bench work Book

FORM MUST BE COMPLETE IN ORDER TO COMPETE IN THE WASTEWATER COMPETITION

Some publications may be found at the link below.

<http://nepis.epa.gov/pubtitleORD.htm>

Section X-Enviro-Industrial Only	NOTES	Document	Page	Paragraph	Location
1. A functional fume hood is used and its face velocity is checked monthly and the checks recorded.					
2. A minimum of a three point calibration (MDL, mid-range and upper calibrated point) is used for each analytical procedure. If a blank is included in the calibration, a minimum of 3 other points must be used.					
3. Reagent water used in trace metals analysis must have a resistivity of >16.5 megohm-cm at 25°C and a log is kept of the daily readings. Records are kept of regular QC checks (blanks) of the laboratory water.					
4. The results of the most recent EPA Required DMR QA studies were acceptable for all compliance required parameters.					
5. At least 95% of the results of the most recent EPA required WP and WS QA Studies for each analytical area (Nutrients, Demands, Metals, Minerals, VOC, Pesticides/PCB, Herbicides, and/or SOC) were acceptable.					
6. An instrument run-log is maintained for each instrument and it is up to date.					
7. Standard Methods for Examination of Water and Wastewater, 20th Edition, AWWA, APHA, WEF 1992					
8. Methods of Chemical Analysis of Water and Wastes, USEPA 600/4-79-020 (Revised March 1983)					
9. Manual for the Certification of Laboratories Analyzing Drinking Water, EPA 815-R-05-004, Fifth Edition 2005.					
10. Microbiological Methods for Monitoring the Environment, USEPA 600/8-78-017,1978.					
11. 40 CFR 136 &141, July of current & previuos year acceptable.					
12. Methods for the Determination of Organic Compounds in Drinking Water, USEPA 600/4-88/039, December 1988 and Supplements 1 and 2.					
13. If laboratory is accredited, a copy of the certificate.					
14. Handbook for Analytical Quality Control in Water and Wastewater, USEPA600/4-79-019, March 1979					

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QM = Quality Manual

SOP = Standard Operating Procedure

LB = Lab Book

BWB = Bench work Book

FORM MUST BE COMPLETE IN ORDER TO COMPETE IN THE ENVIRO-INDUSTRIAL COMPETITION

Some publications may be found at the link below.

<http://nepis.epa.gov/pubtitleORD.htm>