EXHIBIT 2

QUALITY ASSURANCE PROJECT PLAN
RISEDORPH TANNERY
130-146 W. 8th AVENUE
CITY OF GLOVERSVILLE
FULTON COUNTY, NEW YORK

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KEY PERSONNEL AND SIGNATURES

Approved: _____ Date: _____
Project Principal
David Roecker, PE
Vice President, Environmental Services Division
C.T. Male Associates, P.C.

Approved: _____ Date: _____
Project Manager & Geologist
Kirk Moline
Hydrogeologist
C.T. Male Associates, P.C.

Approved: _____ Date: _____
Health and Safety Coordinator
Jeffrey Marx, EIT
Environmental Engineer
C.T. Male Associates, P.C.

Approved: _____ Date: _____
Quality Assurance Officer
Elizabeth Rovers, P.E.
Environmental Engineer
C.T. Male Associates, P.C.

Laboratory Subcontractor
Laboratory Quality Assurance Officer
Ravinder Bajwa, Ph. D.
CHEMTECH Consulting Services, Inc.

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KEY PERSONNEL AND SIGNATURES

Laboratory Subcontractor
Laboratory Manager
Emanuel Hedvat, President
CHEMTECH Consulting Services, Inc.

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1.0 PROJECT DESCRIPTION

1.1 Introduction

This Quality Assurance Project Plan (QAPP) has been prepared for the implementation of the site investigation activities at the Risedorph Tannery ("the site") located at 130-146 West 8TH Avenue, in the City of Gloversville, Fulton County, New York. It has been developed in accordance with the Draft Site Investigation/Remedial Action Report (SI/RAR) Work Plan as prepared by C.T. Male Associates, P.C. (C.T. Male). A description of the site, available background information, objectives and the proposed site remediation scope of work are presented in detail in the referenced SI/RAR Work Plan.

This QAPP presents the organizational structure and data quality objectives (DQOs) for the site investigation and remediation, and the quality assurance (management system) and quality control methods of checks and audits to be implemented to ensure that the quantity and quality of the data required for its intended use is obtained and documented (i.e., that DQOs are met). The measurement parameters used to determine the quality of the data are precision, accuracy, completeness, representativeness and comparability and they are discussed further in this QAPP.

A Field Sampling Plan (FSP) has been prepared by C.T. Male as a separate exhibit and forms an integral part of this QAPP. The field sampling and data gathering procedures are presented in the FSP and incorporated into the QAPP by reference. The QAPP and FSP document the laboratory quality assurance/quality control (QA/QC) procedures and field sampling and data gathering procedures that will be followed during implementation of the site investigation scope of work so that valid data of a known quality is generated.

The project specific field QA/QC procedures and the project specific laboratory QA/QC procedures are presented in the text of this QAPP. The general internal laboratory QA/QC procedures are presented in our subcontractor laboratory's Quality Manual which is retained at C.T. Male's office. CHEMTECH Consulting Group, Inc. is the laboratory subcontractor selected for this project.

The QAPP has been prepared in a manner consistent with the following USEPA guidance documents:

- Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, EPA/540/G-89/004, USEPA, October 1988.
- Data Quality Objectives for Remedial Response Activities: Development Process, EPA/540/G-87/003, USEPA, March 1987.

1.2 Objectives and Scope of Work

It is the objective of the Final SI/RAR and this QAPP to obtain and present representative data of a known quality and sufficient quantity. The primary goal is to perform soil, groundwater, surface water and sediment sampling through a variety of investigation and remedial tasks to evaluate the quality of the site's soils, groundwater, surface water and sediments. The data will help document overall protection of human health and the environment based on the site's contemplated use.

To achieve these objectives, the scope of work will include, a ground penetrating radar investigation to locate potential buried structures, characterization of ASTs and USTs, an evaluation of the storm water system (including a purported french drain), an evaluation of a pretreatment waste water plant, a subsurface evaluation of USTs through the utilization of exploratory test pits, an asbestos and lead based paint pre-demolition survey, a subsurface investigation of the back lot through the utilization of exploratory test pits, an evaluation of pond and creek sediments and surface waters, a fish and wildlife impact analysis, an evaluation of electrical motors and transformers, an assessment of building materials for the purpose of grouping materials of similar composition for on-site staging during demolition, a site wide subsurface/hydrogeologic evaluation which will include approximately 10 boring/monitoring wells, an evaluation of the boiler room equipment for the purpose of decommissioning and disposal, and, an evaluation of floor drains, as presented in the Site Investigation/Remedial Action Report Work Plan, in this QAPP and in the Field Sampling Plan.

2.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

C.T. Male Associates, P.C. will be responsible for the overall administration and the overall quality control/quality assurance of the site investigation and remedial activities including project management, coordination and scheduling of activities in-house and with qualified subcontractors. Work tasks that will be performed by a subcontractor under C.T. Male's supervision will include: a ground penetrating radar investigation by Sub-Surface Informational Surveys, Inc., and advancement of exploratory test pits, hollow stem auger drilling of borings/monitoring wells, and advancement of geoprobes by Environmental Drilling New York LLC. Waste material inventory, classification and disposal will also be subcontracted to a yet to be determined environmental remediation subcontractor. Data Validation Services will be subcontracted to complete Data Usability Summary Reports (DUSR). The laboratory analytical testing of the soil and water will be subcontracted to CHEMTECH Consulting Group, Inc., a New York State Department of Health certified laboratory (ELAP No. 11376).

A project organizational chart listing key individuals of the project and their associated title is presented as Figure 1 at the end of this document.

Personnel from C.T. Male Associates, P.C. and CHEMTECH Consulting Group, Inc. (subcontracted laboratory) can be reached at the following addresses:

- C.T. Male Associates, P.C.
  50 Century Hill Drive
  P.O. Box 727, Albany, NY 12110
  Phone: (518) 786-7400
  Fax: 518.786.7299

- CHEMTECH Consulting Group, Inc.
  314 North Pearl Street, Albany, New York, 12207
  Phone: (732) 225 4111
  Fax: (732) 225 4110

A description of the responsibilities by title of the key individuals is presented as follows:

Project Principal is responsible for the review of the SI/RAR activities and reports for their technical adequacy and conformance to the scope of work.

Quality Assurance Officer is responsible for the independent review of the SI/RAR documents and reports to check that the appropriate project documentation, of the quality control activities performed, exist and are maintained; for conducting field and sampling audits. Analytical data will also be reviewed by this individual for accuracy and completeness.

Project Manager is responsible for the overall coordination and implementation of the project, the management of staff and resources, the implementation of schedules, the conformance by the technical staff and subcontractors to the scope of work, assessing the adequacy of the work being performed, implementing corrective action as necessary, interaction with the client and regulatory agencies, maintaining complete project documentation, and report preparation.

Health and Safety Coordinator is responsible for implementation of the project specific Health and Safety Plan, and resolution of safety issues which arise during the completion of the work. The Health and Safety Coordinator or designee will be present during the completion of the field work.

Laboratory Quality Assurance Officer is responsible for review of the laboratory data quality control procedures and documentation to determine if the QA objectives are being met; and to report non-conforming events to the laboratory technical staff and Project Manager and implement corrective action as necessary.

Laboratory Director is responsible for all activities within the laboratory, and for the performance of the laboratory work tasks in accordance with the project work plans, interactions with the Project Manager, and the adherence to project schedule.

Project Geologist/Engineer is responsible for coordinating and conducting the field hydrogeologic activities and subcontractors, the adherence of activities to the QAPP and the FSP, evaluation of the collected data, soil classifications, report preparation and interaction with Project Manager and Project Team.

Project Team is responsible for adequately performing the work tasks in accordance with the project work plans so that the objectives of investigations and the project are achieved, notifying the Project Manager of any non-conformance to the work plan so that corrective actions can be taken as necessary, and notifying the Project Manager of unforeseen conditions so that modifications to the work plan, if necessary, can be approved and implemented.

3.0 QUALITY ASSURANCE OBJECTIVES FOR DATA MEASUREMENT

3.1 General

The Quality Assurance (QA) objective for this project is to produce data which is technically valid and of a known quality that meets the needs of its intended use. In this section we identify the data quality objectives by describing the intended use of the data; defining the type of data needed (i.e., physical or analytical); specifying the analytical levels, as established by EPA, appropriate to the data uses; specifying the quality control checks on field and laboratory procedures and frequency of checks; and presenting the quality control acceptance criteria.

Laboratory quality assurance objectives for data measurement are established for each measurement parameter in terms of precision, accuracy, completeness, representativeness and comparability. These terms form an integral part of the laboratory's quality assurance programs in that Data Quality Objectives (DQO's) are set for each parameter.

3.2 Data Uses and Types

The data to be generated during the proposed work will be completion of site investigation, and health and safety during implementation of the field activities. Both physical data including air monitoring and analytical data from soil will be needed to provide the necessary information to complete the steps in the site investigation and remediation process. The specific physical and analytical data proposed and its purpose are presented in the SI/RAR Work Plan.

3.3 Data Quality Needs

To support data collection activities in obtaining quality data EPA has established a series of analytical levels that are appropriate to site investigation/remediation data uses. The analytical levels are defined as follows:

Level I - Field screening or analysis using portable instruments. Qualitative data.

Level II - Field analyses using more sophisticated portable analytical instruments. Qualitative and quantitative data can be obtained.

Level III - Laboratory analyses using standard EPA approved procedures.

Level IV - Laboratory analyses by NYSDEC ASP (Analytical Services Protocol) - Category B Deliverable with QA/QC protocols and documentation.

Level V - Analyses by non-standard methods.

The data collection activities, the environmental media, the intended use of the data and the corresponding analytical levels that will be used to produce the project data are summarized in Table 1.

Table 1
Summary of Work Tasks and Corresponding Analytical Levels

Data Collection Activities	Sample Media & Description	Data Use[(a)]	Analytical Level
Air Monitoring	Air/Ambient Air	2	I
Test Pits, Test Borings, Monitoring Wells, Water and Sediment Sampling	Surface and Subsurface Soil, Groundwater, Surface Water, Stream and Pond Sediment /Laboratory Analyses	1, 3, & 4	IV
Confirmatory Soil Sampling	Soil/Headspace and Laboratory Analyses	1, 3, & 4	IV

Note:
(a) Data Uses Key:
1 - Site Characterization.
2 - Health and Safety Monitoring During Implementation of Field Activities.
3 - Risk Assessment.
4 - Evaluation of Remediation Alternatives.

Another consideration besides analytical levels in establishing data quality needs is; what will be the level of cleanup required depending on the findings of the site investigation. The applicable or relevant and appropriate requirements (ARARs) are related to defining satisfactory cleanup efforts. In order to be able to evaluate the data generated with respect to potential ARARs the samples will need to be analyzed by analytical methods that can achieve detection limits below or at existing ARAR values. The proposed analytical methods for this project were selected to achieve ARAR values.

3.4 Quality Control Checks and Acceptance Criteria

To monitor and document the integrity of such factors as sample variability, sampling equipment cleanliness, sampling technique, analytical reproducibility and sample handing which can affect data quality, several field quality control checks will be implemented. These will include taking equipment/field blanks after the sampling equipment has been decontaminated to check for cross contamination and equipment cleanliness; taking replicate samples to monitor analytical precision/ reproducibility and sampling technique; and preparing transport blanks to be transported with the sample containers for volatile analyses to monitor sample handling. For this project the field Quality Control (QC) checks will consist of one equipment/field blank, and one replicate sample, during soil sampling for every twenty analytical samples. A transport blank will be prepared for each sample set to be submitted for volatile analyses.

Laboratory quality control checks will be those specified in EPA Methods or in the NYSDEC ASP for the analytical method performed and could consist of some of the following:

- Blanks (method, preparation),
- initial and continuing calibrations,
- surrogate spikes,
- matrix spikes/matrix spike duplicates,
- duplicate samples, and
- control samples/matrix spike blanks.

The laboratory will be responsible for performing what is necessary for complying with appropriate standards and certifications of the selected EPA method and ASP requirements. The laboratory quality control acceptance criteria is method specific and will be the laboratory's responsibility.

4.0 SAMPLING PROCEDURES

Procedures for sampling are presented in the Field Sampling Plan (FSP) and includes the following:

- Selection of sampling sites and media to be sampled,
- specific sampling procedures for each environmental media to be sampled, and for QC samples to be taken,
- tabulated sampling program,
- field soil screening procedures,
- a description of the containers, procedures and equipment used for sample collection, preservation, transport and storage,
- procedures for preparing the sample containers and sampling equipment prior to sampling and decontamination of sampling equipment during sampling,
- chain of custody procedures and forms, and
- description of the procedures, forms and notebooks to be used to document sampling activities, sample conditions and field conditions.

5.0 SAMPLE CUSTODY

Proper chain of custody will be established and maintained through a series of steps, beginning in the field and ending with final disposition of the analyzed sample. At the time of the field sampling, an external chain of custody form will be utilized to track sample collection until delivery to the analytical laboratory. An internal or "intra-laboratory" chain of custody will be used by laboratory personnel to track the sample(s) from the point it is received/logged and passed through the laboratory process. Chain of custody procedures are discussed in detail in Section 11.0 of the FSP.

6.0 CALIBRATION PROCEDURES

Calibration procedures for field equipment including the photo-ionization detector (PID) meter are presented in Section 10.0 of the FSP. Calibration procedures for laboratory equipment/instrumentation consist of the production and use of current certifiable standards and the measurement/adjustment of the instrument response. The laboratory is responsible for maintaining records documenting use of current standards and acceptable instruments responses. The laboratory is required to flag analytical data that has had potential contamination or poor instrument calibration that may have occurred during the analytical process.

7.0 SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

The analytical parameters, sample preparation and analysis methods, acceptable holding times and required method detection limits are presented in Table 2. The analytical methods specified reflect the requirements of the NYSDEC ASP, dated December 1991, Revised 1995.

Table 2
Analytical Methods and Requirements

Analytical Parameters	EPA Method	Holding Times(2)	Contract Required Quantitative Limits (ug/kg)(1)
Volatile Organic Compounds	8260	10 Days if Preserved 7 Days if Not Preserved	Benzene 1, Others 5
Semi-volatile Organic Compounds	8270	5 Days to Extraction, 40 Days to Analyze	330
Metals	6010 / 7000 Series	180 Days	0.2 to 10,000
Cyanide	335.1	14 Days	10 (water)
Pesticides	8082	5 Days to Extraction, 40 Days to Analyze	1.7 to 170
PCBs	8081	5 Days to Extraction, 40 Days to Analyze	0.6

Note:
1) The listed method detection limits are practical quantitation limits (PQLs). The method detection limit (MDL) is the best possible detection. Laboratories report PQLs which are typically 4 times the MDL for liquids and varies for solids depending on the quantity of contamination present. Efforts will be made to obtain the lowest possible detection limit. When the guidance value or standard value is below the detection limit, achieving the detection limit will be considered acceptable for meeting that guidance or standard value.
2) Holding times are relative to the verifiable time of receipt at the laboratory.

Where matrix interference is noted, analytical clean-ups will be required to be performed by the laboratory following the procedures specified in SW-846 or the NYSDEC ASP, as applicable. In general, samples shall not be diluted more than 1 to 5.

8.0 DATA REDUCTION, VALIDATION AND REPORTING

The field measurement data and the laboratory analyses results of detected parameters will be compiled and tabulated to facilitate comparison and evaluation, and will be included in the Final SI/RAR. The tabulated data will include at a minimum:

- Field screening (PID meter) of soil sample results,
- soil analyses results,
- groundwater analysis results,
- surface water analysis results,
- sediment analysis results, and
- quality control results (field blanks, duplicates, transport blanks).

Field logs will also be compiled and included, in part, in the text and appendices of the Final SI/RAR, and will consist of:

- monitoring well construction logs,
- test pit logs,
- test boring logs,
- organic vapor headspace analysis logs,
- groundwater services field logs,
- environmental services field logs,
- stream water sampling logs, and
- water level records
- Air Monitoring Sampling records

Any observations or problems encountered during field activities which could affect the quality of the data or its validity will be noted on the appropriate field log.

The laboratory will generate a Laboratory Analyses and Quality Assurance report that will be submitted as a separate volume to the SI/RAR. It will include analytical results and quality control data deliverables as required by NYSDEC ASP.

Internal data validation will be performed by the laboratory QA officer to ensure that the data package is complete and meets the criteria to the work plan and this QAPP. Any problems encountered in performing the analyses by the laboratory

such as out of limits surrogate recoveries, and comments on the quality and limitations of specific data and the validity of the data will be described in the case narrative of the laboratory report.

External data validation will be performed by Data Validation Services who will utilize the USEPA National and Regional Validation Guidelines/Procedures to determine the applicable qualifications of the data. The validator will then prepare a NYSDEC Data Usability Summary Report (DUSR), incorporating all sampling activities at the site, as a narrative discussion organized by the sample type and analytical fraction.

9.0 INTERNAL QUALITY CONTROL

Field QC will consist of taking equipment / field blanks and having transport blanks with the appropriate volatile organic compound sample sets. Field instrumentation will also be calibrated prior to use and the calibration maintained as discussed in the FSP (Section 10.0).

Internal laboratory QC will generally consist of:

- Method (instrument) blanks,
- initial and continuing calibrations,
- surrogate spikes,
- matrix spikes / matrix spike duplicates,
- duplicate samples, and
- laboratory control samples / matrix spike blanks.

The QC samples will be run in accordance with the protocols and frequencies specified in the NYSDEC ASP, SW-846 and EPA Methods as applicable for the analyses being performed.

10.0 PERFORMANCE AND SYSTEMS AUDITS

10.1 Field Audits

Field performance audits will consist of taking replicate samples and equipment/field blanks and analyzing them for the same parameters as other samples.

Field system audits will be conducted during field operation to ensure that the field activities are being conducted correctly and in accordance with the SI/RAR. The project field supervisor will check on a daily basis that the remedial activities are conducted correctly, the field instrumentation is calibrated prior to use, that field measurements are taken correctly, that equipment and sample containers are properly decontaminated, and that the field activities are properly documented. Any deficiencies will be reported to the project manager and discussed with the field staff immediately and corrective action taken. The person conducting the field audits will document the field system audits by use of a field report and submit the report to the project manager for review on a bi-weekly basis at a minimum. The project quality assurance officer, geologist/engineer or project manager will conduct system audits as appropriate or warranted.

The project manager will review the field system audit reports and the field documentation for completeness and correctness, and check that the work is proceeding on schedule and in accordance with the work plans.

10.2 Laboratory Audits

Laboratory system audits are not required, however, the laboratory is required to maintain New York State Department of Health (NYSDOH) ELAP certification and USEPA CLP certification. A copy of the laboratory NYSDOH ELAP certification documentation is provided in Appendix A. Part of this certification processes typically includes periodic performance evaluations and on-site systems audits.

11.0 PREVENTATIVE MAINTENANCE

C.T. Male Associates, P.C. keeps an inventory of all field equipment and it is kept locked in a designated area. The field equipment is signed out when in use and its condition checked upon its return. The equipment is kept in good working order and frequently checked and calibrated by qualified employees. Additionally, select equipment (i.e., PID) is routinely serviced for cleaning and calibration by an independent repair facility.

The project field supervisor and field sampler are responsible for assuring that the field equipment is tested, cleaned, charged and calibrated in accordance with the manufacturer's instructions prior to taking the equipment out into the field.

The laboratory preventative maintenance program consists of routine daily, weekly and other routine checks to be performed by in-house personnel as specified by the manufactures' instructions. Daily checks must be performed prior to initiating any analyses each day. Weekly checks are performed by in-house personnel to ensure continued quality in the analysis system.

12.0 CORRECTIVE ACTIONS

The site investigation will be performed in accordance with the approved work plan, the contents of the approved FSP and the approved QAPP. Any persons identifying unacceptable conditions or deficiencies in the work being performed such as deviation from or omission of health and safety procedures, sampling procedures or other field procedures, will immediately notify the project field supervisor, where applicable, and the project manager. The unacceptable conditions or deficiencies will be documented and submitted to the project manager. The project manager, with assistance from the technical quality review staff, if necessary, will be responsible for developing and initiating appropriate corrective action, documenting the corrective action and verifying that the corrective action has been effective.

Laboratory corrective action is an internal process whereby all individuals in the laboratory have personal responsibility to ensure that any event or condition which does not conform to the specifications, or which may have a discernible negative impact on data quality, is promptly recorded and reported to management. Once notified, management will review the and determine the cause of the defect, deviation or non-conformance, and recommend corrective action. The response will then be reviewed by the Quality Assurance Officer and direct the implementation of the corrective action.

Depending on the significance and potential impact of the problem or deficiency requiring corrective action, the NYSDEC and the City of Gloversville will be notified, as warranted, as soon as practical after becoming aware of the situation.

13.0 QUALITY ASSURANCE REPORTS TO MANAGEMENT

Field system audit/field reports from the project team, where applicable, will be submitted to the project manager on a bi-weekly basis at a minimum. The field report will include the project name, location, time, date, weather, temperature range, work in progress, conformance with schedule, persons present at the site (arrival and departure times), observations, work start-up and stoppage, items to verify, information or action required any attachments identified, and the reporting persons signature. The field report notifies the management as to the progress, conformance with the work plan, and any problems that may affect quality control. Field personnel will also keep log books and field notebooks that will discuss day to day procedures followed, any problems encountered, etc. A copy of the field notes will be given to the project manager at least bi-weekly to keep the project manager informed of the project status and as a quality control check. The project manager will review the reports and field notes to assess the quality of the investigating data gathering efforts to make sure the objectives of the work are being met, to make sure the work is progressing on schedule, that the work is being conducted in accordance with the work plan, and that any problems encountered are addressed. These reports will be utilized in assessing the data quality with respect to field activities and the findings will be discussed in the SI/RAR where applicable.

Documentation of each phase of the project and all work tasks performed are kept in the file on the project. The documentation is available at all times for review by the Quality Assurance Officer, who will randomly check files for their completeness.

If any occurrences or conditions are encountered during the course of work that may require a change in the scope of work or departure from the approved work plan, the NYSDEC will be notified and the situation reported as soon as possible.

FIGURE 1

Project Organizational Chart

APPENDIX A

Laboratory Certification