

# **La Russell Dry Cleaners Site No. 3-40-020**

## **Operation and Maintenance Plan**

*Prepared for:*  
Eugene La Russell  
La Russell's Cleaners Site  
Route 52  
Mount Carmel, New York 10512

*Prepared by:*  
Earth Tech of New York, Inc.  
12 Metro Park Road  
Albany, New York 12205

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Appendix A Order On Consent  
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## **1.0 introduction**

This Operation and Maintenance Plan (O&M) has been prepared by Earth Tech of New York, Inc. (Earth Tech) in support of the Order On Consent undertaken at the LaRussell's Cleaners Site (Site No.3-40-020) in Lake Carmel, Putnam County, New York.

The purpose of this plan is to outline the Operation and Maintenance requirements as set forth in the Order On Consent, of the site and how these requirements will be met. It consists of the following elements:

- The Treatment System
- The Potable Water System
- The Groundwater Monitoring
- Reporting

## **1.1 SITE DESCRIPTION AND BACKGROUND**

The La Russell Dry Cleaner's site (Site Code #3-40-020) is located on Route 52, Lake Carmel in Putnam County, New York (see Figure 1). Mishandling of dry cleaning solvents resulted in volatile organic compound (VOC) contamination of local groundwater affecting the La Russell well and two adjacent wells. In September 1992, the water from the well of La Russell Dry Cleaners and that of the two nearby locations was sampled and found to contain volatile organic contamination. The former Oscom Building (Robert and Ursala Hall) is located immediately adjacent to La Russell Dry Cleaners and has shown concentrations of tetrachloroethene to be as high as 5.8 ppm (part per million). Volatile concentrations have dropped significantly at this location over the past several years. The well of the Sofair Apartments located approximately 250 feet north of La Russell Dry Cleaners was found to contain trace amounts of volatiles. The La Russell well itself was shown to contain varying levels of volatile contamination ranging from 1000 ppb (parts per billion) to 50 ppb. Present concentrations are over 100 ppb. The La Russell Dry Cleaner's site wells have been listed as a Class 2 site under Title 13 of the New York State Environmental Conservation Law.

In November 1993, a granulated activated carbon (GAC) point of entry (POE) water treatment system was installed on the well at the Sofair Apartments. Under direction of the New York State Department of environmental Conservation (NYSDEC), a 20 gpm capacity treatment system was installed by Hudson Valley Water Resources (HVWR) of New Paltz, New York. The system is comprised of four carbon vessels, two parallel pairs connected in series

In December 1993, Earth Tech (formally Rust Environment and Infrastructure, Inc.) installed a new 5 gpm GAC system on the La Russell well. The unit treats all water of a small apartment that exists above the dry cleaners and a sink that is located downstairs at the dry cleaners itself.

In September 1994, NYSDEC requested that a GAC system be installed on the well at the Oscom building. A GAC system consisting of three, 3.3 cubic foot carbon vessels connected in series was installed by Earth Tech. Earth Tech and its predecessor companies have maintained these systems since their installation.

In June 2000, La Russell Dry Cleaners, the potential responsible party (PRP) for the site, complied with NYSDEC requests to:

- provide treatment for all well water used by the location,
- pump and treat limited quantities of ground water 24 hours a day and;
- monitor groundwater concentrations of site contaminants in three monitoring wells nearby.

These actions were taken by La Russell Dry Cleaners during negotiations of an Order on Consent with

NYSDEC.

All potable water systems utilize prefiltration for sediment removal, activated carbon vessels for the removal of volatile organic chemicals, and ultraviolet (UV) disinfection.

In March 2001, NYSDEC and La Russell Dry Cleaners entered into an Order On Consent (Appendix A) to include monitoring and maintenance of the GAC water treatment systems at the Oscom Building and Sofair Apartment building. Letters to access properties where activities will be conducted are contained in Appendix B. Sections 2.0 through 5.0 that follow, outline the activities and reporting requirements of the Order On Consent. Pursuant to this Order, NYSDEC will be notified five (5) days prior to commencement of any field activities.

## **2.0 The Treatment System (La Russell Dry cleaners – process water)**

### **2.1 GAC System**

NYSDEC required that a GAC system be installed on water passing into the washing machines. Two, 3.3 cubic foot carbon vessels connected in series were placed on the influent water line to the washing machines at the dry cleaners. Earth Tech completed the installation in June 2000. This allowed for all process water to be treated through the carbon units prior to discharge. In addition, a bypass valve was installed on the line prior to the washing machines. The valve can be manually opened when routine washing machine operations are suspended (nights and weekends) to provide continued pumping and treatment of groundwater 24 hours a day. The bypass valve has been set for a minimum flow of 0.5 gallons per minute. All treated water is to meet the discharge criteria of 5 ug/l for each of the following compounds, PCE, TCE and 1,2 DCE (tetrachloroethene, trichloroethene, and 1,2 dichloroethene).

### **2.2 Flow Meter Readings**

La Russell Dry Cleaner's personnel shall collect daily meter readings from flow meters located at the pressure tank and by the GAC tanks. Earth Tech will tabulate readings and provide them to the Department of Health on a quarterly basis. The tabulation shall list the date and time the meter readings were taken in addition to the readings in cubic feet and converted into gallons.

## **2.3 SAMPLING**

### **2.3.1 SAMPLE LOCATIONS**

Water samples will be collected on a bi-annual basis and be sent for analysis for VOCs by EPA Method 601. Sampling points include raw (untreated), intermediate (between the two carbon tanks) and effluent (treated) ports.

### **2.3.2 SAMPLING PROTOCOL**

Standard protocol is to allow a sampling tap to run for at least fifteen minutes prior to sampling to insure that representative water is in the system. After purging, samples are collected in the following order: effluent, intermediate, and finally raw water in order to minimize the possibility of cross-contamination. Volatile organics samples are overfilled in forty milliliter (ml) vials and capped and then checked to insure that no air bubbles are trapped in the vial. Care is taken during collection to minimize agitation and to immediately place sample containers on ice to prevent volatilization. Sampling will be conducted by Earth Tech personnel.

Samples will be submitted for analysis by EPA Method 601 (MDL of 1 ppb) with standard turn around time. Analytical services are being provided by Phoenix Environmental Laboratories (Phoenix), Manchester, Connecticut or another sub-contracted ELAP certified laboratory.

## **2.4 Carbon Exchanges**

When the sampling analytical results indicate that the total concentration of VOCs at the outlet of the primary carbon absorption vessel exceeds a level which is equal to 50% of the total concentration of VOCs in the raw water, Earth Tech will exchange the carbon in the primary carbon absorption vessel with fresh carbon. At this time the flow shall be diverted such that the primary vessel becomes the secondary vessel.

### **3.0 Groundwater Monitoring Program**

A semi-annual sampling schedule for obtaining groundwater samples from monitoring wells MW-3D, MW-6, and MW-8D will be instituted by Earth Tech on behalf of La Russell Dry Cleaners. In addition, groundwater elevations will be recorded. Earth Tech technicians will conduct the sampling and record water level data.

During the sampling events a minimum of three to five casing volumes of water will be purged prior to sampling and initial water level measurements will be obtained. Dedicated bailers will be used to obtain the water samples. After the required casing volumes are purged from the monitoring well, volatile organics samples will be collected in overfilled forty milliliter (ml) vials and capped and then checked to insure that no air bubbles are trapped in the vial. Care is taken during collection to minimize agitation and to immediately place sample containers on ice to prevent volatilization.

Samples are to be submitted for analysis by EPA Method 601 or approved equivalent method providing a method detection limit less than the discharge criteria for each specified compound (5ppb). Analytical services are being provided by Phoenix Environmental Laboratories (Phoenix), Manchester, Connecticut or another sub-contracted NYSDOH ELAP certified laboratory. The laboratory will provide a statement of quality assurance and quality control ("QA/QC") with the analytical data report.

In compliance with citizen participation requirements of 6 NYCRR Part 375, Earth Tech will provide a copy of all groundwater sampling results to the document repository established for the Site. This location is:

Kent Free Public Library  
264 Route 52  
Carmel, New York 10512  
Tel. : 845-225-8585

#### **4.0 Potable Water Systems**

Per the Order On Consent and on behalf of La Russell Dry Cleaners, Earth Tech shall monitor and maintain the GAC point of entry water treatment systems which supply potable water to the building/apartment of La Russell Dry Cleaners, the Sofair Apartments and the Oscom Building until such time as the Department of Health (D.O.H) authorizes in writing, the discontinuance of operation of each of the systems.

#### **4.1 Sampling**

##### **4.1.1 SAMPLE LOCATIONS**

Water samples will be collected on a bi-annual basis and be sent for analysis for VOCs by EPA Method 601. Sampling points include raw (untreated), intermediate (between the two carbon tanks) and effluent (treated) ports. Sampling will be conducted by Earth Tech personnel every six months.

##### **4.1.2 SAMPLING PROTOCOL**

Standard protocol is to allow a sampling tap to run for at least fifteen minutes prior to sampling to insure that representative water is in the system. After purging, samples are collected in the following order: effluent, intermediate, and finally raw water in order to minimize the possibility of cross-contamination. Volatile organics samples are overfilled in forty milliliter (ml) vials and capped and then checked to insure that no air bubbles are trapped in the vial. Care is taken during collection to minimize agitation and to immediately place sample containers on ice to prevent volatilization.

Bacteria sampling (Total Coliform) is conducted after volatile sampling. Sampling protocol requires that the sampling port be heated with an open flame for one minute prior to sampling to insure bacteria are coming from sample water only. Bacteria sample bottles may have an air space left inside.

Samples are submitted for analysis by EPA Method 601 or approved equivalent method and total coliform analysis with standard turn around time. Analytical services are being provided by Phoenix Environmental Laboratories (Phoenix), Manchester, Connecticut or another sub-contracted ELAP certified laboratory.

Replacement of granulated activated carbon ("GAC") will occur for any intermediate or final water sample contamination level of 1 ug/l or above.

#### **4.2 Carbon Exchanges**

When sampling indicates breakthrough of contaminants, Earth Tech will exchange the carbon in the primary carbon absorption vessel with fresh carbon. At this time the flow shall be diverted such that the primary vessel becomes the secondary vessel.

#### **4.3 Routine GAC Maintenance**

Earth Tech shall perform all routine maintenance of the GAC water treatment systems. These tasks include:

- Replacement, as required, and proper disposal of GAC, and spent particulate filters;
- Replacement of the ultra violet disinfection unit bulbs/sleeves, o-rings on an as needed basis and/or as

recommended by the manufacturer, generally every 8000 hours (annually)

- Replacement of all parts of the GAC system as recommended by the manufacturer; and
- Recording of a water meter reading each time samples are taken or GAC is replaced.



## 5.0 Reporting

Earth Tech will submit to all agreed parties copies of all sampling results in a letter report, including QA/QC data and groundwater level measurements within fourteen days of receipt of same. Presently the distribution list is as follows:

Jerry Rider  
NYSDEC  
Division of Environmental Remediation  
50 Wolf Road  
Albany, N. Y. 12233-7010 (4 Copies, 1 unbound)

Gary Litwin  
NYSDOH  
Bureau of Environmental Exposure Investigation  
Flanigan Square  
547 River Street  
Troy, N.Y. 12203 (2 Copies)

Rosalie K. Rusinko, Esq.  
NYSDEC  
Division of Environmental Enforcement  
200 White Plains Road – 5<sup>th</sup> Floor  
Tarrytown, N.Y 10591 (1 Copy)

Kent Free Public Library  
264 Route 52  
Carmel, New York 10512 (1 Copy)