

**Supplemental Investigation Work Plan
Bon Ton Cleaners
1932 Ralph Avenue
Brooklyn, New York
Site Number V-00512-2
VCP Index Number W2-0916-02-03**

May 2003

Prepared for:

**Ralph Associates
980 Singleton Avenue
Woodmere, NY 11598**

Prepared by:

**CA RICH CONSULTANTS, INC.
17 Dupont Street
Plainview, New York 11803**



CA RICH CONSULTANTS, INC.

CERTIFIED GROUND-WATER AND
ENVIRONMENTAL SPECIALISTS

May 21, 2003

NYSDEC
625 Broadway
Albany, NY 12233-7015

Attention: Jeffrey Dyber, P.E.

Re: **Supplemental Investigation Work Plan**
Bon Ton Cleaners
1932 Ralph Avenue
Brooklyn, New York
Site Number V-00512-2
VCP Index Number W2-0916-02-03

Dear Mr. Dyber:

Attached are four copies of our Supplemental Investigation Work Plan for the above referenced site. In accordance with the Voluntary Cleanup Agreement, copies have been forwarded to the Division of Environmental Enforcement, the VCP Coordinator and to NYSDOH.

If there are any questions regarding this Work Plan, please do not hesitate to call our office.

Sincerely,

CA RICH CONSULTANTS, INC.

Eric A. Weinstock
Associate

cc: Burt Lewis
Miriam Villani, Esq
Guy Bobersky, P.E.
Chittibabu Vasudevan, P.E.
Gary Litwin
Rosalie Rusinko, Esq.

Attachments

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**Supplemental Investigation Work Plan
Bon Ton Cleaners
1932 Ralph Avenue
Brooklyn, New York
Site Number V-00512-2**

1.0 INTRODUCTION

The following Supplemental Investigation Work Plan was prepared by CA RICH Consultants, Inc. (CA RICH) on behalf of Ralph Associates, the owner of Flatlands Shopping Center (1900-1960 Ralph Avenue, Brooklyn, New York). This Supplemental Investigation Work Plan was prepared in accordance with a Voluntary Cleanup Agreement (VCA), Index Number W2-0916-02-03. For the purposes of this Investigation Work Plan, the contaminants of concern are the volatile organic compounds used in the dry cleaning industry and their degradation products.

The Work Plan addresses the remediation of an area of the Upper Glacial Aquifer located in the central portion of the property below the present Bon Ton Cleaners. The estimated thickness of the Upper Glacial Formation at this location is approximately 200 feet (Ref. 1) and the depth to the water table is approximately 20 feet.

A series of previous investigations were performed at this site by ACT for refinancing purposes and by CA Rich. The following is a partial list of these previous investigations, which are appended to this Work Plan.

<u>Investigation</u>	<u>Date</u>
Phase II Environmental Site Assessment, 1890-1960 Ralph Avenue Brooklyn, New York (Ref. 2)	June 5, 2001
Phase II Environmental Site Assessment, 1890-1960 Ralph Avenue Brooklyn, New York (Ref. 3)	July 23, 2001
Investigation Work Plan, Bon Ton Cleaners, 1932 Ralph Avenue Brooklyn, New York (Ref. 4)	October, 2002
Draft Investigation Report, Bon Ton Cleaners, 1932 Ralph Avenue Brooklyn, New York (Ref. 5)	February, 2003

This work plan is a supplement to the initial Investigation Work Plan (Ref. 4). Details regarding site history, QA/QC, health & safety protocols, etc. are included in the initial Work Plan.

1.1 Facility Inspection

The indoor air readings collected during the initial investigation revealed elevated levels of VOCs in the adjacent restaurant. In response to these readings, an inspection of the facility was performed on April 10, 2003 to identify the pathway of these detections. A CA RICH inspector went up on the roof of the building and determined that the exhaust from the vapor barrier room was not likely to be captured by the HVAC system of the restaurant. The vapor barrier was also inspected and determined to be constructed and operating properly.

Additional Site information, described in Section 2.0, will be collected to assist in the design of a SVE system to capture the subsurface vapors.

2.0 INVESTIGATION

The goal of the Supplemental Investigation phase of this project is to:

- 1) Determine the quality of deep groundwater entering the Bon Ton Cleaners site;
- 2) Better define the lateral extent of subsurface PCE vapors;
- 3) Define the lateral and vertical extent of the groundwater contamination plume emanating from the Bon Ton Cleaners Facility; and,
- 4) Obtain the necessary data needed to design a remediation program for this site.

2.1 Sampling and Analysis of Groundwater

Three phases of additional sampling and analysis of groundwater will be performed as part of this Supplemental Investigation.

Geoprobe Groundwater Sampling – Four Geoprobe groundwater probes will be placed at the site to determine the vertical and lateral extent of groundwater contamination. The depth of the probes will be either 90 feet or refusal, which ever comes first. The locations of these are illustrated on Figure 1 and the sample depths are as follows:

<u>Geoprobe ID No.</u>	<u>Location</u>	<u>Sample Intervals (depth below grade)</u>
VGP-1	On East 59 th St., West of VW-1	50 feet 70 feet 90 feet
VGP-3	Next to VW-3	50 feet 70 feet 90 feet
VGP-4	Next to VW-4	50 feet 70 feet 90 feet
VGP-5	East side of parking lot, West of W-5	50 feet 70 feet 90 feet

NYCDEP Paerdegat Basin Property Monitoring Well Inventory – Directly across from the shopping center, the land is undeveloped and fronts on Paerdegat Basin, an inland waterway. The City of New York is in the process of constructing a combined wastewater/storm water overflow storage tank on the Paerdegat Basin property. Numerous groundwater monitoring wells exist at the Paerdegat Basin property. We requested permission to inventory and sample these wells in August 2002, but access has yet to be obtained.

Once access is obtained, CA RICH will inventory these existing wells. Their location will be plotted on an aerial photo and their depths will be measured with a weighted tape. This information will be provided to the NYSDEC with recommendations for sampling the inventoried wells. Once a list of NYCDEP wells is selected for monitoring, they will be sampled using the same procedures described on the initial Investigation Work Plan.

Permanent Groundwater Monitoring Wells – After the Geoprobe groundwater sampling and analysis is completed, the need to install additional monitoring wells will be evaluated and discussed with the NYSDEC. Any wells installed will be completed following the procedures outlined in the initial Investigation Work Plan.

At this time, it is envisioned the one multi-depth well cluster (VW-1I and 1D) will be installed upgradient of Bon Ton Cleaners in the general area of well VGP-1 as shown on Figure 2. The purpose of this well cluster is to delineate the vertical extent of volatile organic compounds in the groundwater entering the property. A hollow stem auger drill rig will be mobilized to the site and split-barrel core samples will be collected every 5 feet. A 6-inch diameter hollow stem auger equipped with a bottom plug will then be advanced. A cluster of two, 2-inch diameter wells will be installed in the 6-inch augers with screened settings to be determined based on the Geoprobe results.

These two-inch diameter PVC wells will be installed using 0.020-inch slotted (20 slot) pipe and No. 1 sand as provided by the Jesse Morie Company. Seals will be placed between the screens by pumping a thick bentonite slurry into the bottom of the augers using a side-discharging tremie line. The wells will be completed with drill cuttings placed above the upper bentonite seal and will be furnished with locking caps and a bolting, flush-mounted cover. Each of the wells will be developed using a small-diameter, submersible pump.

Approximately one to two weeks after the installation of the wells is completed, we will return to sample the new wells. The NYSDEC will also request permission from the NYCDEP for CA RICH to sample the existing monitoring wells across the street at the NYCDEP Paerdegat Basin combined wastewater/storm water overflow storage facility. A volume of at least three times the volume of the well will be removed from each well using a low flow rate submersible pump. A sample of the groundwater will then be collected directly from the pump discharge using laboratory-issued 40 mil vials. Water samples from each well will be analyzed for halogenated VOCs using U.S.EPA method 8021 and NYSDEC ASP category B deliverables. During this initial round of sampling the following samples will be collected for QA/QC purposes in accordance with the attached Quality Assurance Project Plan (QAPP): 1 trip blank, 1 field blank, 1 duplicate sample, 1 matrix spike and 1 matrix spike duplicate. The groundwater laboratory data will be reviewed by a qualified data validator and a Data Usability Summary Report (DUSR) will be prepared.

All drill cuttings will be drummed and sampled. The drummed soil will be properly disposed of based on the test results. All purge water will be collected in drums for proper disposal. The Department will evaluate if additional groundwater sampling is required after reviewing the analytical data.

2.2 Soil Vapor Sampling

To better define the lateral extent of PCE vapors at the site, a series of soil vapor monitoring points will be installed in the basement of the shopping center. The location of these monitoring points are illustrated on Figure 2 of this Plan. The points will be installed by drilling a 2-inch diameter hole from the ground surface to a depth of 1 foot below grade. The drill bit will be removed from the hole then a section of 1-inch diameter PVC pipe will be installed.

The pipe will be fabricated with 0.020-inch slots (20 slot) across the bottom 0.5 feet and solid pipe comprising the upper 0.5 feet. The slotted section will be installed with a coarse sand pack. The points will be completed with a cap, a cement seal and a flush-mounted cover.

Each point will be checked with a PID during installation. The points will also be sampled for halogenated VOCs using sorbent tubes. One casing volume of the vapor in the monitoring points will be evacuated using a sampling pump. A sorbent tube will then be placed in line to collect the sample. The flow rate (0.20 liters per minute) and duration of sampling will be recorded. The tubes will be submitted to an ELAP-approved laboratory for the analysis of halogenated VOCs using EPA method 8260 with a detection level not greater than 10 ug/m³. The Department will evaluate this data and determine if additional sampling is required.

3.0 INVESTIGATION REPORT

Once the laboratory results are obtained, the Draft Investigation Report will be updated to include this new data. The Investigation Report will include the following items:

- A description of the work performed;
- A boring log for the deep soil boring;
- Well construction details;
- Laboratory summary tables and maps;
- A Qualitative Exposure Assessment;
- A Data Usability Summary Report including the Form 1 laboratory data sheets;
- A water table map; and,
- Recommendations for a site remediation program.

4.0 SCHEDULE

The following schedule has been developed for this project.

Plans

Submission of Investigation Work Plan May 2003

NYSDEC approval of Work Plan

Field Activities

Installation of monitoring wells and vapor points 30 days after DEC approval

Sampling 45 days after DEC approval

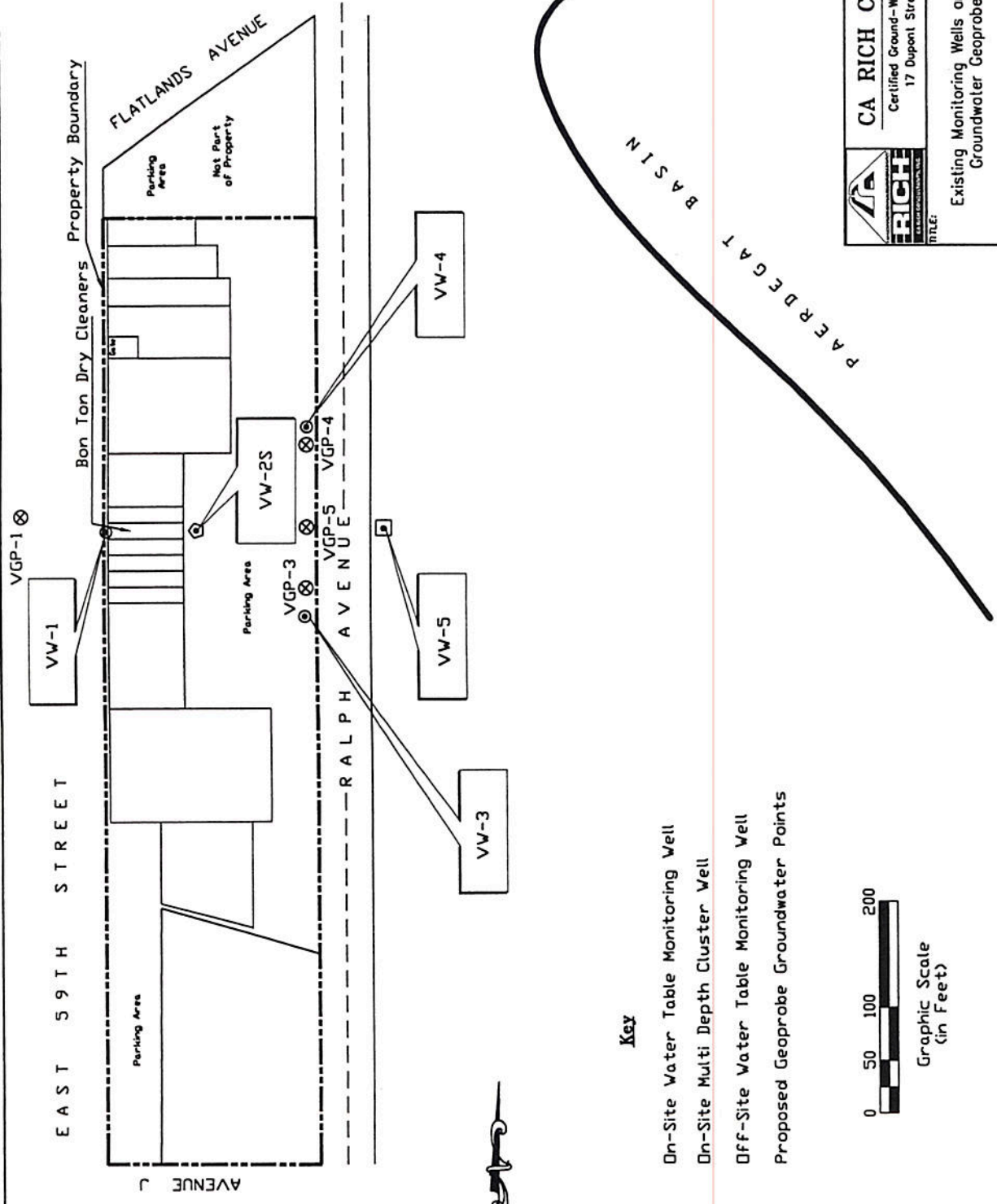
Report Preparation

Preparation of Remedial Investigation Report 120 days after DEC approval

5.0 REFERENCES

1. D.A. Smolensky, H.T. Buxton, and P.K. Shernoff, (1989), Hydrologic Framework of Long Island, New York, USGS Hydrologic Investigations Atlas HA-709.
2. ACT, (June 5, 2001) Phase II Environmental Site Assessment, 1890-1960 Ralph Avenue Brooklyn, New York.
3. ACT, (July 23, 2001) Phase II Environmental Site Assessment, 1890-1960 Ralph Avenue Brooklyn, New York.
4. CA Rich (October, 2002) Investigation Work Plan, Bon Ton Cleaners, 1932 Ralph Avenue Brooklyn, New York
5. CA Rich (February, 2003) Draft Investigation Report, Bon Ton Cleaners, 1932 Ralph Avenue Brooklyn, New York

FIGURES



Key

- On-Site Water Table Monitoring Well
- ⊙ On-Site Multi Depth Cluster Well
- Off-Site Water Table Monitoring Well
- ⊗ Proposed Geoprobe Groundwater Points



Graphic Scale
(in Feet)

Note:
Map adapted from Property survey by
Montrose Surveying Co, LLP dated May 2,
2001 and USGS Brooklyn Quadrangle 1979.



CA RICH CONSULTANTS, INC.
Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, New York 11803

DATE: 5/1/03	
SCALE: As Shown	
DRAWN BY: S.T.M.	
APPR. BY: E.A.W.	
FIGURE: 1	BON TON CLEANERS 1932 RALPH AVENUE FLATBUSH, NEW YORK
DWG NO. 1142-1F	

TITLE:
Existing Monitoring Wells and Proposed
Groundwater Geoprobe Points



E A S T 5 9 T H S T R E E T



Common Hallway

Parking Area

0 20 40 60 80 100



Scale in Feet

LEGEND

⊗ PROPOSED SOIL VAPOR POINT

CA RICH CONSULTANTS, INC.

Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, New York 11803

TITLE: PROPOSED SOIL VAPOR POINT LOCATIONS

DATE: 4/15/03

SCALE: 1" = 30'

DRAWN BY: S.T.M.

APPR. BY: E.A.W.

FIGURE: 2
DRAWING NO: 1190-1A

BON TON CLEANERS
1932 RALPH AVENUE
FLATBUSH, NEW YORK

Map adapted from Property survey by
Montrorse Surveying Co, LLP dated May 2, 2001
and USGS Brooklyn Quadrangle 1979.



CA RICH CONSULTANTS, INC.

CERTIFIED GROUND-WATER AND
ENVIRONMENTAL SPECIALISTS

May 30, 2003

NYSDEC
625 Broadway
Albany, NY 12233-7015

Attention: Jeffrey Dyber, P.E.


Re: **Supplemental Investigation Work Plan Addendum #1**
Bon Ton Cleaners
1932 Ralph Avenue
Brooklyn, New York
Site Number V-00512-2
VCP Index Number W2-0916-02-03

Dear Mr. Dyber:

Attached is the revised schedule for the above-referenced Work Plan.

Sincerely,

CA RICH CONSULTANTS, INC.


Eric A. Weinstock
Associate

cc: Burt Lewis
Miriam Villani, Esq.
Guy Bobersky, P.E.
Chittibabu Vasudevan, P.E.
Gary Litwin
Rosalie Rusinko, Esq.

Attachments

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4.0 SCHEDULE

The following schedule has been developed for this project.

Plans

Submission of Investigation Work Plan

May 2003

NYSDEC approval of Work Plan

Field Activities

Installation of Geoprobes and vapor points

30 days after DEC approval

Sampling DEP wells

30 days after DEP access

Installation of monitoring wells (if needed)

90 days after DEC approval

Sampling new wells (if needed)

120 days after DEC approval

Report Preparation

Submission of Investigation Report

150 days after DEC approval