



**Post Remediation Soil Vapor Investigation Work Plan for
Bon Ton Cleaners Voluntary Cleanup Program (VCP) Site
1932 Ralph Avenue, Brooklyn, NY
VCP Index No. W2-0916-02-03
Site ID No.: V-00512-2**

December 2009

Prepared for:

**Ralph Associates
c/o Kagan Lubic Lepper & Lewis
200 Madison Avenue, 24th Floor
New York, NY 10016-4001**

Attn: Burt Lewis, Esq.

Prepared by:

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



December 7, 2009

NYSDEC

Division of Hazardous Waste Remediation
625 Broadway
Albany, New York 12233-7015

Attention: Ronnie Lee

Re: **Post Remediation Soil Vapor Investigation Work Plan for
Bon Ton Cleaners Voluntary Cleanup Program (VCP) Site
1932 Ralph Avenue, Brooklyn, NY
VCP Index No. W2-0916-02-03
Site ID No.: V-00512-2**

Dear Mr. Lee:

The following Work Plan for the performance of post remediation indoor air and sub-slab vapor testing was prepared by CA RICH Consultants, Inc. (CA RICH) for the Bon Ton Cleaners VCP Site (the "Site") located at 1932 Ralph Avenue, Brooklyn, NY. A Site location map is included as Figure 1. This Work Plan was prepared in response to a series of letters, e-mails and telephone conversations between the property owner's representatives and the New York State Department of Environmental Conservation (NYSDEC). The results of this investigation are intended to be used to develop the final language for a Declaration of Covenants and Restrictions that will be created for this Site. For the purposes of this document, the contaminants of concern are perchloroethene (a.k.a. PCE or tetrachloroethene) and its degradation products.

Background

ACT and CA RICH performed a series of previous investigations at this site for refinancing purposes. Copies of these reports, including the corresponding site maps and laboratory data, are appended to the initial Investigation Work Plan (Ref. 3).

During the winter of 2002 and spring of 2003, a supplemental subsurface investigation of the site was performed to determine the nature and extent of contamination at Bon Ton Cleaners. Based on the results of this investigation, a remedy was designed consisting of two mechanical systems; the cleanout of one concrete sump, and chemical oxidation. The design and installation of the mechanical systems and the cleanout of the sump are described in the Final Engineering Report - Part A and Operations, Maintenance & Monitoring Plan (Ref. 8). The chemical oxidation phase is described in the Final Engineering Report – Part B and Operations, Maintenance & Monitoring Plan (Ref. 9).

Installation of the mechanical remediation systems began during August 2004 and consisted of the installation of Soil Vapor Extraction (SVE) wells and Air Sparging (AS) points. The sump was cleaned out on October 15, 2004. The trenching for the underground AS piping was completed in November 2004. The installation of the SVE blower and the AS compressor was completed in March 2005. The AS/SVE system was started-up and remained in operation from March 29, 2005 through March 29, 2006 when the AS system was shutdown. On November 29, 2006, the SVE system was shutdown and replaced with four smaller sub-slab depressurization (SSD) fans in accordance with NYSDOH's October 2006 Guidance. A Site Management Plan (SMP) was completed for the project in December 2008.

The following documents prepared for this site should be reviewed for additional details:

Document	Date
Phase II Environmental Site Assessment, 1890-1960 Ralph Avenue, Brooklyn, New York	June 5, 2001
Phase II Environmental Site Assessment, 1890-1960 Ralph Avenue, Brooklyn, New York	July 23, 2001
Investigation Work Plan Bon Ton Cleaners, 1932 Ralph Avenue, Brooklyn, New York	October 2002
Supplemental Investigation Work Plan Bon Ton Cleaners, 1932 Ralph Avenue, Brooklyn, New York	May 2003
Investigation Report Bon Ton Cleaners, 1932 Ralph Avenue, Brooklyn, New York	October 2003
Remediation Work Plan Bon Ton Cleaners, 1932 Ralph Avenue, Brooklyn, New York	April 2004
Pilot Test and Final Design Report Bon Ton Cleaners, 1932 Ralph Avenue, Brooklyn, New York.	December 2004
Final Engineering Report - Part A and Operations, Maintenance & Monitoring Plan Bon Ton Cleaners, 1932 Ralph Avenue, Brooklyn, New York	April 2005
Final Engineering Report - Part B and Operations, Maintenance & Monitoring Plan Bon Ton Cleaners, 1932 Ralph Avenue, Brooklyn, New York	May 2006
SSD Pilot Test and Design Report, Bon Ton Cleaners Site, 1932 Ralph Avenue, Brooklyn, New York	November 2006
Final SSD Start-Up Test Report, Bon Ton Cleaners Site, 1932 Ralph Avenue, Brooklyn, New York	June 2008
Site Management Plan, Bon Ton Cleaners 1932 Ralph Avenue, Brooklyn, New York	December 2008

Sub-Slab Soil Vapor and Indoor Air Testing

In accordance with the New York State Department of Health (NYSDOH) Guidance Document dated October 2006, the following will be performed.

1) The NYSDEC will be notified of the planned sampling date one week in advance which be occur during the winter heating season. We intend to combine this testing with the 2009 Annual testing program outlined in the SMP for the Site. A map of the proposed sampling locations is included on Figure 2.

2) CA RICH will inspect the accessible spaces of the structures in the immediate area to be tested and prepare an inventory of the products stored at the facilities as outlined in the NYSDOH October 2006 Guidance document. This inventory will be included in our final report.

- 3) At each location, a hole will be drilled into the concrete floor using a hammer drill with a carbide drill bit. A section of ¼ O.D. stainless steel tubing will be set not more than two inches below the slab. The placement of the tubing will be followed by either a bentonite or bees wax seal.
- 4) A clean plastic bucket will be placed over the top of the probe point. Helium will then be allowed to fill the bucket.
- 5) After the introduction of Helium, the tubing will be purged of at least three volumes of air using a vacuum pump. A Tedlar bag will be used to contain the purged soil vapor. The soil vapor will then be monitored with a portable Helium meter to confirm there is an adequate surface seal. If there is a detection of more than 20%, more bentonite or bees wax will be placed around the top of the tubing, and the process will be repeated.
- 6) The tubing will then be connected to a laboratory cleaned SUMMA canister. The regulator will be set by the laboratory to fill over a 2-hour time period. This setting results in a fill rate that does not exceed the DOH required 0.2 liter per minute sampling rate. The canisters will be checked periodically to ensure they are working properly and that vacuum is being achieved.
- 7) The canister will be delivered to a NYS ELAP certified laboratory for the analysis of Volatile Organic Compounds (VOCs) including perchloroethane (PCE) using EPA method TO-15. A slight vacuum will remain in the canisters to confirm that they did not leak during transit.
- 8) Indoor air samples will be collected concurrently with the sub-slab soil vapor samples.
- 9) The indoor air samples will be collected using laboratory cleaned SUMMA canisters placed approximately three feet above the floor. The canisters will be placed in a safe location in the basements away from contact with workers. Because of the varied hours of operation at the shopping center, the regulator will be set by the laboratory to fill over a 4-hour time period. A slight vacuum will remain in the canisters to confirm that they did not leak during transit.
- 10) The sub-slab points will be removed after the sample is collected, and the hole sealed with sand followed by a concrete cap.
- 11) One duplicate Summa canister sample will be collected for QA/QC purposes. A Data Usability Summary Report (DUSR) will be prepared to accompany the report.

Reporting

The procedures employed and the laboratory results will be provided to the NYSDEC in as part of the Annual Report required under the SMP for the Site. The report will include a sample location map, laboratory data and a discussion of the results.

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

Sincerely,

CA RICH CONSULTANTS, INC.



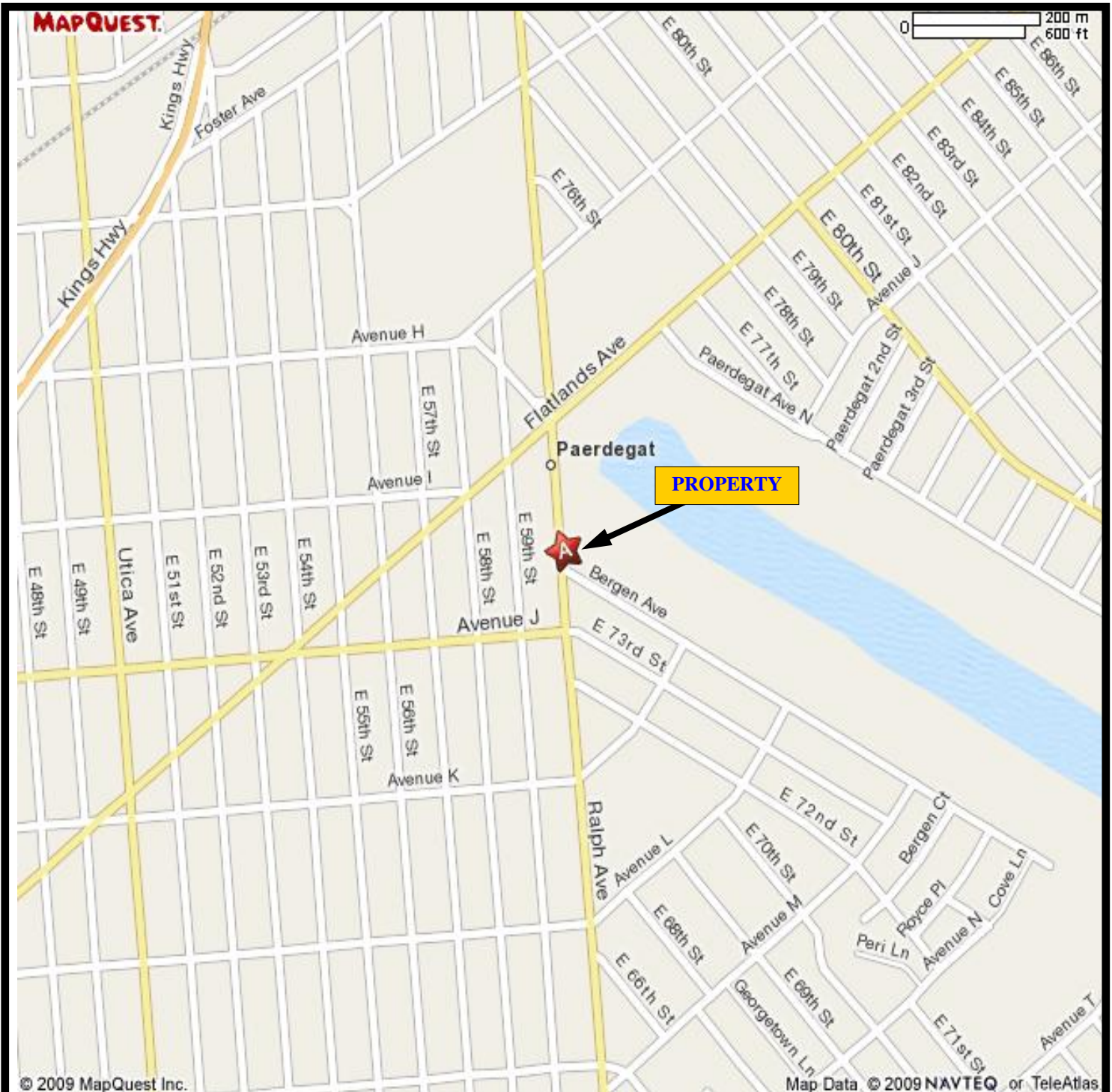
Eric A. Weinstock
Vice President

REFERENCES

1. ACT, (June 5, 2001) Phase II Environmental Site Assessment, 1890-1960 Ralph Avenue Brooklyn, New York.
2. ACT, (July 23, 2001) Phase II Environmental Site Assessment, 1890-1960 Ralph Avenue Brooklyn, New York.
3. CA RICH (October 2002), Investigation Work Plan Bon Ton Cleaners 1932 Ralph Avenue Brooklyn, New York, Site Number V-00512-2.
4. CA RICH (May 2003), Supplemental Investigation Work Plan Bon Ton Cleaners 1932 Ralph Avenue Brooklyn, New York, Site Number V-00512-2.
5. CA RICH (October 2003), Investigation Report Bon Ton Cleaners 1932 Ralph Avenue Brooklyn, New York, Site Number V-00512-2.
6. CA RICH (April 2004) Remediation Work Plan Bon Ton Cleaners, 1932 Ralph Avenue, Brooklyn, New York.
7. CA RICH (December 2004) Pilot Test and Final Design Report Bon Ton Cleaners, 1932 Ralph Avenue, Brooklyn, New York.
8. CA RICH (April 2005) Final Engineering Report - Part A and Operations, Maintenance & Monitoring Plan Bon Ton Cleaners, 1932 Ralph Avenue, Brooklyn, New York.
9. CA RICH (May 2006) Final Engineering Report – Part B and Operations, Maintenance & Monitoring Plan Bon Ton Cleaners, 1932 Ralph Avenue, Brooklyn, New York.
10. CA RICH (November 2006) SSD Pilot Test and Design Report, Bon Ton Cleaners Site, 1932 Ralph Avenue, Brooklyn, New York.
11. CA RICH (June 2008) Final SSD Start-Up Test Report, Bon Ton Cleaners Site, 1932 Ralph Avenue, Brooklyn, New York.
12. CA RICH (December 2008) Site Management Plan, Bon Ton Cleaners, 1932 Ralph Avenue, Brooklyn, New York.
13. NYSDOH (October 2006) Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

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Figures

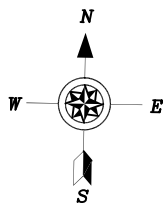


Adapted from MapQuest, Inc 2009



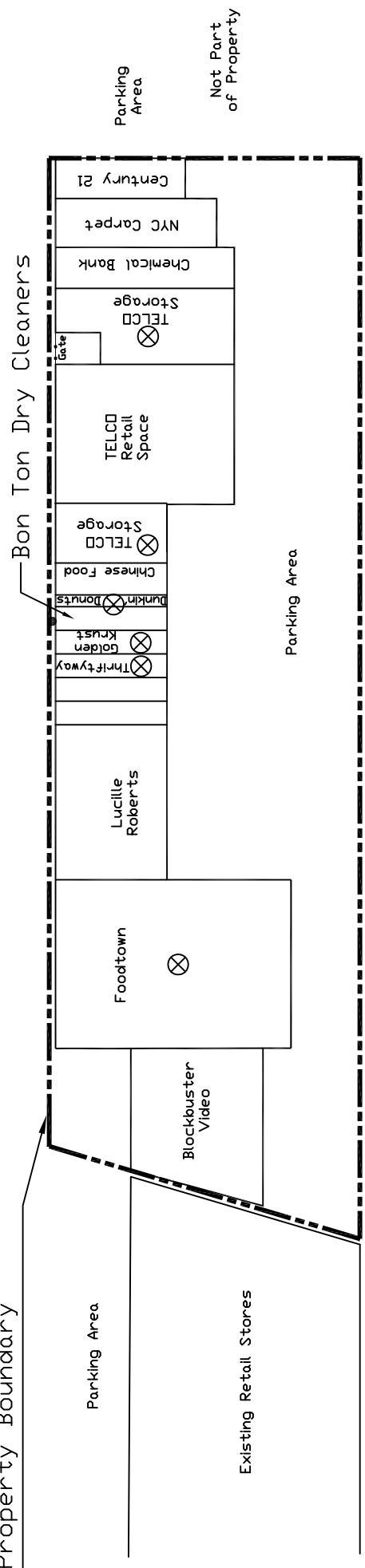
CA RICH CONSULTANTS, INC.
 17 Dupont Street,
 Plainview, NY 11803

TITLE: PROPERTY LOCATION MAP		DATE: 11/19/09
		SCALE: AS SHOWN
FIGURE: 1	Bon Ton Cleaners 1932 Ralph Avenue Brooklyn, New York	DRAWN BY: JTC
DRAWING:		APPR. BY: EAW



EAST 59TH STREET

Property Boundary



RALPH AVENUE

Legend

⊗ APPROXIMATE PROPOSED SAMPLE LOCATION

Notes:

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



Graphic Scale In Feet

CA RICH CONSULTANTS, INC.	
Certified Ground-Water and Environmental Specialists 17 Dupont Street, Plainview, New York 11803	
TITLE:	PROPOSED BASEMENT INDOOR AIR AND SUB-SLAB VAPOR SAMPLE LOCATIONS
DATE:	10/8/2009
SCALE:	As Shown
FIGURE:	2
DWG NO.:	2009-1
DRAWN BY:	BON TON CLEANERS 1932 RALPH AVENUE BROOKLYN, NEW YORK
APPR. BY:	J.T.C.
	E.A.W.