RECORD OF DECISION

Techem, Inc.
State Superfund Project
New Hyde Park, Nassau County
Site No. 130097
March 2011

Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

DECLARATION STATEMENT - RECORD OF DECISION

Techem, Inc.
State Superfund Project
New Hyde Park, Nassau County
Site No. 130097
March 2011

Statement of Purpose and Basis

This document presents the remedy for the Techem, Inc. site, a Class 2 inactive hazardous waste disposal site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Techem, Inc. site and the public's input to the proposed remedy presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Description of Selected Remedy

During the course of the investigation certain actions, known as interim remedial measures (IRMs), were undertaken at the above referenced site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or feasibility study (FS). The IRM(s) undertaken at this site are discussed in Section 5.2.

Based on the implementation of the IRM(s), the findings of the investigation of this site indicate that the site no longer poses a threat to human health or the environment; therefore No Further Action is the selected remedy. The remedy may include continued operation of a remedial system if one was installed during the IRM and the implementation of any prescribed institutional controls/engineering controls (ICs/ECs) that have been identified as being part of the remedy for the site.

The IRM(s) conducted at the site attained the remediation objectives identified for this site in Exhibit B for the protection of public health and the environment.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

MAR 31 2011

Date

Dale A. Desnoyers, Director
Division of Environmental Remediation

RECORD OF DECISION

Techem, Inc.
New Hyde Park, Nassau County
Site No. 130097
March 2011

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the above referenced site. The disposal of hazardous wastes at the site resulted in threats to public health and the environment that were addressed by actions known as interim remedial measures (IRMs), which were undertaken at the site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or feasibility study (FS). The IRMs undertaken at this site are discussed in Section 5.2.

Based on the implementation of the IRM(s), the findings of the investigation of this site indicate that the site no longer poses a threat to human health or the environment; therefore No Further Action is the remedy selected by this Record of Decision (ROD). A No Further Action remedy may include site management, which will include continued operation of any remedial system installed during the IRM and the implementation of any prescribed controls that have been identified as being part of the proposed remedy for the site.

The IRM(s) conducted at the site attained the remediation objectives identified for this site, which ar presented in the attached exhibits, for the protection of public health and the environment. This ROD identifies the IRM(s) conducted and discusses the basis for No Further Action.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: SITE DESCRIPTION AND HISTORY

Location: The former Techem facility is a 0.18 acre parcel located in a commercial/industrial section of the Village of New Hyde Park, north of Jericho Turnpike and immediately west of

Denton Avenue.

Site Features: A one-story slab on-grade masonry block building exists on the site that was constructed in approximately 1955. The building has an attached metal enclosure on its south side approximately the same width as the Techem building that appears to extend to the southern border of the property. The west side of the building contains a narrow (approximately 4 feet wide) covered alley. The alley is secured by a locked metal door, and two approximately 275 gallon above ground storage tanks (ASTs) are in the northern portion of the alley. The ground surface in the alley is mainly gravel. With the exception of two grass-covered areas on the north side of the Techem building that total approximately 200 square feet (ft2) each (the front lawn, between the building and the sidewalks) and the narrow alley on the west side, the site is covered either by concrete or asphalt. A chain-link fence surrounds the southern and eastern perimeter of the site.

Current Zoning/Use(s): Manufacturing/plating operations are not currently conducted at the site; businesses in neighboring buildings are engaged in a variety of commercial or industrial enterprises. The building has been used for a variety of commercial purposes since manufacturing ceased; currently a DOT welding certification business occupies the eastern garage area. The remainder of the facility contains merchandise related to a former window shade manufacturing business, and is utilized for a small cabinetry business. The area is zoned Commercial/Industrial. The nearest residential area is approximately ¼ mile to the east.

Historical Use(s): The Techem facility formerly manufactured acid-based chromium, cadmium, cyanide, nickel, and zinc electroplating solutions. Materials used in manufacturing these solutions included: chromic acid, hydrochloric acid, sulfuric acid, cadmium oxide, caustic soda, sodium cyanide, sodium stannate, copper cyanide, ethylenediamine, and ammonium hydroxide. The site had a history of spills and poor housekeeping that caused the release of solutions containing heavy metals that resulted in various actions by local, state and federal regulatory agencies.

Past industrial activities at the site have contributed to impacts to soil and groundwater, including the metals cadmium, chromium, iron, copper, lead, nickel and selenium. In 1982 Nassau County Department of Health (NCDOH) sampled water from a "drywell" on the south side of the building which contained elevated concentrations of cadmium, chromium and lead. Sludge samples from the cesspool at the northeast corner of the site were collected in 1983, which contained cadmium, chromium, iron, copper, nickel, and selenium. The cesspool was reportedly cleaned in 1984. In 1992, NCDOH sampled a sump located on the south side of the Techem site and sampling was also conducted in the sump area by the United State Environmental Protection Agency (USEPA) in 1993. Samples from the sump area contained concentrations of metals indicating a significant threat to human health and the environment. The sump was reported to have been sealed with concrete by the property owner in 1993 without regulatory approval.

A two-phase removal was conducted by the USEPA in 1994 and 1995. USEPA removed approximately 1,500 small containers and 1,250 drums of hazardous chemicals from the building and storage area and excavated soil beneath the former sump and several other areas containing metals impacted soil. The excavations were backfilled with clean soil and resurfaced with

concrete.

Site Geology and Hydrogeology: The region is underlain by Coastal Plain Deposits from the upper Cretaceous consisting of silty clay, glauconitic sandy clay, sand, and gravel ranging in thickness from 0-2000 feet thick. The Upper Glacial Aquifer (UGA) present beneath the site is a shallow, unconsolidated aquifer (water bearing area) of variable thickness. The water table occurs at varying depths because of the irregular inland topography, and ranges in elevation from approximately 10 to 150 feet above mean sea level. The UGA is underlain by the Magothy Aquifer which is composed of unconsolidated sands with discontinuous layers of silts and clays, with a bottom unit of coarse sand and gravel. Groundwater at the site is generally encountered at about 35 feet, and flow is generally south to southwest.

A site location map is attached as Figure 1.

SECTION 3: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to commercial use (which allows for industrial use) as described in Part 375-1.8(g) is/are being evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the investigation to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

SECTION 4: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The PRPs for the site, documented to date, include:

Techem, Inc

The owner/operator of the site during disposal was Techem, Inc..

Subsequent to Techem, Inc., the site was owned/occupied by Arash Development Corporation.

The current owner of the site is Sergey Shakhparyan.

The PRPs for the site declined to implement a remedial program when requested by the Department. After the remedy is selected, the PRPs will again be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRPs, the Department will evaluate the site for further action under the State Superfund. The PRPs are

subject to legal actions by the state for recovery of all response costs the state has incurred.

SECTION 5: SITE CONTAMINATION

5.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

5.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCG in the footnotes. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

5.1.2: RI Information

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor
- indoor air

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

cadmium	manganese
chromium	nickel
copper	selenium
iron	sodium
lead	

Based on the investigation results, comparison to the SCGs, and the potential public health and environmental exposure routes, certain media and areas of the site required remediation. These media were addressed by the IRM(s) described in Section 6.2. More complete information can be found in the RI Report and the IRM Construction Completion Report.

5.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Record of Decision.

The following IRM(s) has/have been completed at this site based on conditions observed during the RI.

Remedial Action IRM

Soil Removal

Based on the results of the RI elevated levels of metals were present in soils at a depth of 0" - 2" in an unpaved area in front of the former Techem building. Approximately 30 cubic yards of soil was excavated and disposed of off-site as non-hazardous waste in accordance with applicable federal, state, and local regulations. The area excavated was the unpaved areas in the north of the site between the building and the sidewalks / street. This area was approximately 400 square feet total. Although the RI sampling did not indicate soils needed to be removed to a depth of two feet or more in this area, the IRM was conducted in the most conservative yet cost effective manner possible; casual disturbance of the soils would not likely exceed two feet, disturbance of soil in excess of two feet would likely require a permit and regulatory oversight. Soils were screened with an X-Ray flouresence detector (an instrument that would indicate the possible presence of the metals of concern at elevated levels) during the removal, and soil samples were collected at the sidewalls and bottom of the excavation and sent to a certified laboratory for analysis to verify that soil containing metals at concentrations greater than 6 NYCRR Part 375 unrestricted Soil Cleanup Objectives did not remain. The excavation area was backfilled with certified clean backfill (soils that were tested for contamination and certified to meet Department requirements for use as backfill for the identified site use as set forth in 6 NYCRR Part 375-6.7(d)). A portion of the area was excavated to a depth of 4 feet to allow the excavation team to

see buried utilities (i.e., sewer connections). The backfill was mechanically compacted in one-foot lifts. The excavation area was covered with topsoil and grass seed to restore it to pre-excavation conditions. Approximately 30 cubic yards of certified clean fill and 6 cubic yards of top soil were used to backfill the excavation. An approximately 3-foot diameter, 20-foot deep former cesspool is located outside the site building. The cesspool was previously cleaned and filled to within approximately 6 feet of the ground surface with soil. The cesspool was filled with flowable fill to within one-foot of ground surface. The flowable fill consisted of a free-flowing, self-consolidating, self-leveling, non-segregating, low-shrink cement/sand mix that met design specifications for strength. The cesspool was covered at the top with a one-foot layer of concrete, and the existing metal cover.

5.3: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure.*

People are not drinking the contaminated groundwater because the area is served by a public water supply that obtains its water from a different source. Since most of this site is covered by a building and concrete, people will not come into contact with subsurface residual soil contamination unless they dig below these surfaces. People may come into contact with contaminated surface soil if they disturb the limited grass cover. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect indoor air quality. This process which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The potential for soil vapor intrusion to occur in the on-site building was evaluated and no further actions were deemed necessary. In addition, environmental sampling indicates that off-site migration of site-related contaminants is not a concern.

5.4: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary for OU 01.

Nature and Extent of Contamination:

During the RI soil samples collected from the interval from 0 to 5 feet below the ground surface near the cesspool, former sump/drywell, and the access way on the east side of the building, indicated the presence of cadmium, chromium, copper, nickel and/or cyanide greater than the applicable NYSDEC Cleanup Objectives. In addition sub-surface soil samples collected from the northeast corner of the site near the cesspool; in the access way on the east side of the

building; and near the former sump/dry well, contain concentrations of cadmium greater than the commercial SCOs. In February 2011 an IRM was conducted that included two grass-covered areas located on the north side of the Techem building that total approximately 400 square feet (ft2). Surface soil samples from this area during the RI contained metals at concentrations exceeding the respective 6 NYCRR Part 375 Commercial Soil Cleanup Objectives.

Groundwater samples indicated the presence of cadmium, chromium, copper, iron, lead, manganese, nickel, selenium, and sodium at concentrations greater than the applicable NYSDEC Class GA Standards. These exceedences were minor and limited to the site. The nature of the contaminants found is further described in the Exhibits. The area is served by municipal water supplies drawn from a deeper aquifer; the metals will not migrate sufficiently to impact the municipal supply or any surface water body. Treatment or containment of groundwater is not required as the metals do not present a significant threat to human health or the environment, even though there are minor instances of samples exceeding drinking water standards, due to the incomplete exposure pathway. Downgradient groundwater monitoring will be conducted as part of the Site Management Plan to ensure off site migration of site related metals does not take place.

Soil vapor intrusion samples indicate the presence of Perchloroethene (PCE) in soil vapor, and the presence of PCE and carbon tetrachloride in indoor and ambient air. Although no Volatile Organic Compounds (VOCs) were detected in sub-surface soil or groundwater samples, historical indications of VOCs in soil and groundwater near the site indicate a potential source for VOCs in soil vapor. The maximum sub-slab soil vapor concentration of PCE was 110 micrograms per cubic meter (ug/m3). The maximum indoor air PCE concentration was 4.8 ug/m3. The maximum indoor air concentration of carbon tetrachloride was 0.56 ug/m3. Based on the concentrations of these compounds, the NYSDOH decision matrix criteria indicate that further action is required to identify the source(s). Levels detected in indoor air fell within typical background ranges. The PCE is not believed to be site related; in 2010 MACTEC (a consulting company) performed field work related to PCE and TCE contamination in the Water Authority of Western Nassau County's Well # 57 (NYSDEC site #130191), located between South 5th and South 6th streets north of 2nd Avenue in New Hyde Park. The study revealed PCE and TCE contamination of groundwater and soil vapor that extended from the well field, which is located north and east of the Techem site, to some distance south and west of Techem. That study is ongoing, and any source(s) identified will be addressed under that project. Carbon tetrachloride is not a historic contaminant of concern related to the remedial program at the site. Indoor air monitoring will be recommended in the SMP to detect any changes.

Special Resources Impacted/Threatened: No special resources have been impacted or threatened by disposal activities at the site.

SECTION 6: SUMMARY OF SELECTED REMEDY

Based on the results of the investigations at the site, the IRM that has been performed, and the evaluation presented here, the Department is proposing No Further Action with implementation and continued certification of the Site Management Plan as the preferred alternative for the site.

The Department believes that this alternative would be protective of human health and the environment and would satisfy all SCGs as described above.

Therefore, the Department concludes that No Further Action is needed other than institutional controls. The elements of the IRM already completed and the institutional controls are listed below:

1. A site cover currently exists and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

2. Imposition of an institutional control in the form of an environmental easement for the controlled property that

a. requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3).

b. allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

c. restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the Department, NYSDOH or County DOH;

d. prohibits agriculture or vegetable gardens on the controlled property;

e. requires compliance with the Department approved Site Management Plan;

3. A Site Management Plan is required, which includes an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 28 above.

Engineering Controls: The site cover discussed in Paragraph 1 above.

This plan includes, but may not be limited to:

i. Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;

ii. descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;

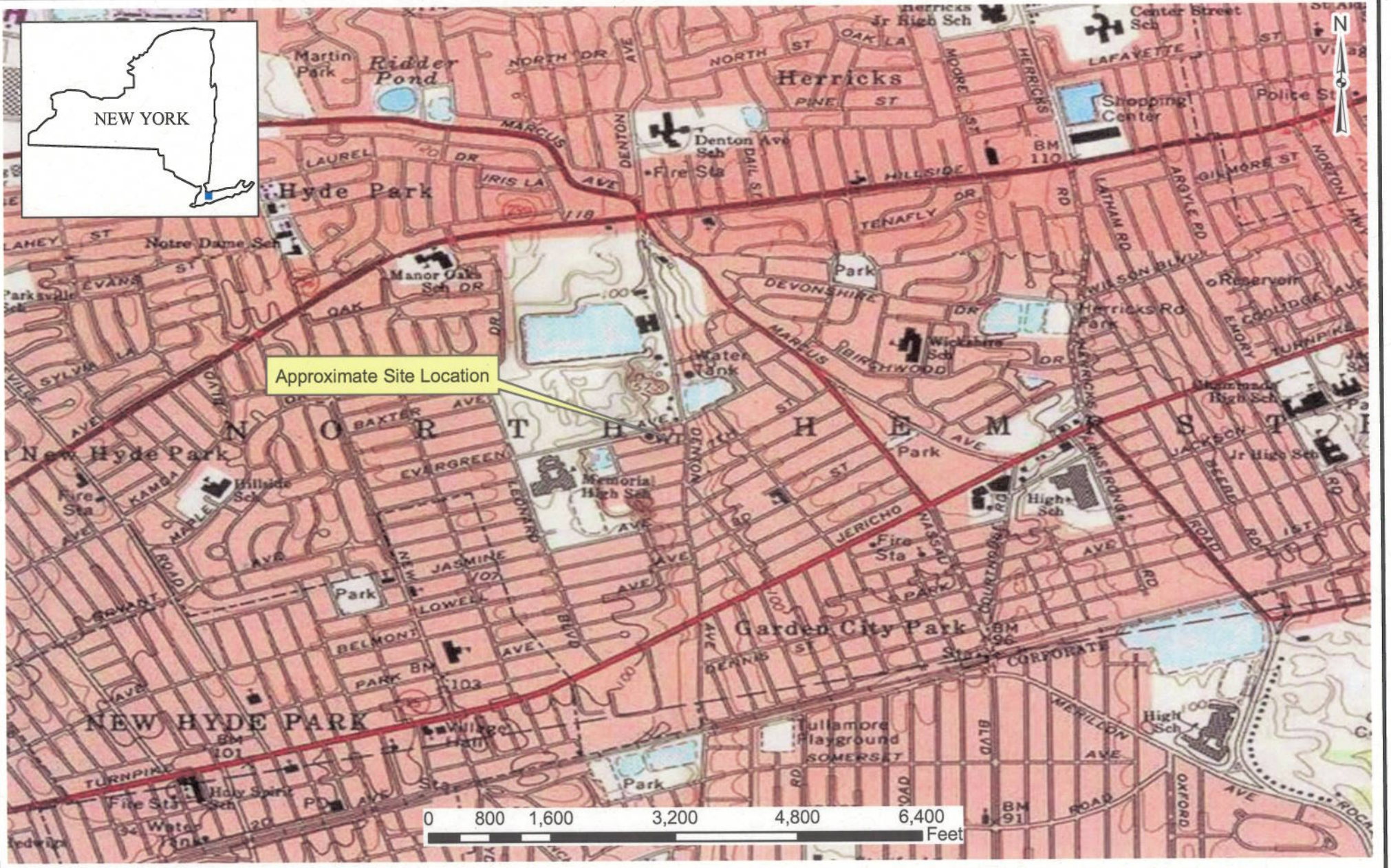
iii. maintaining site access controls and Department notification; and

iv. the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls;

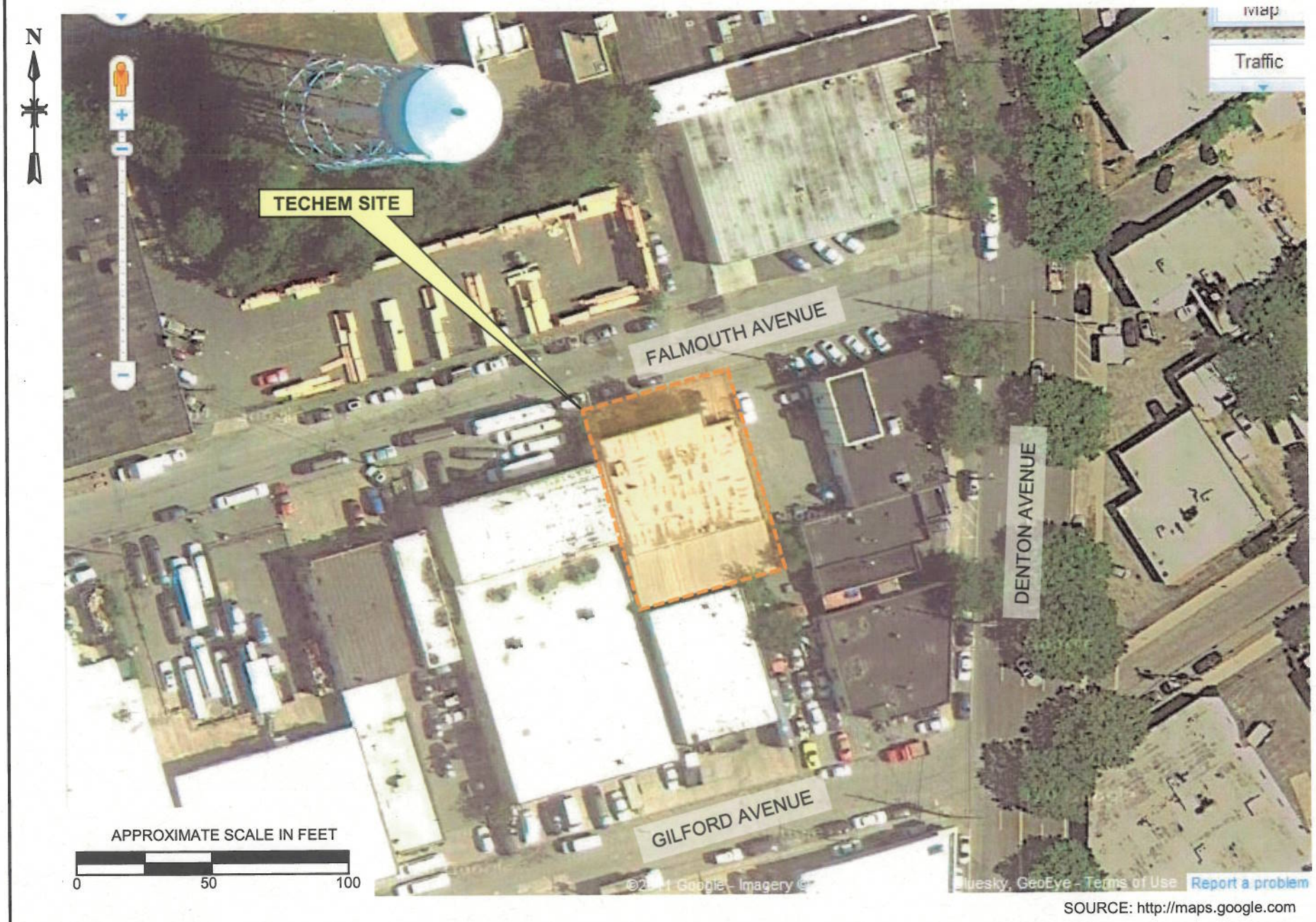
b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

i. installation of a monitoring well downgradient of the metals impacted groundwater;
ii. monitoring of groundwater to assess the performance and effectiveness of the remedy;
iii. a schedule of monitoring and frequency of submittals to the Department.

4. The remedial party or subsequent property owner will provide a periodic certification of institutional and engineering controls for the site, prepared and submitted by a professional engineer or such other expert, acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place, and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and (c) state that nothing has occurred that will impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.



MALCOLM PIRNIE	TECHEM, INC. 1840 FALMOUTH AVENUE NEW HYDE PARK, NEW YORK NYSDEC SITE # 1-30-097	SITE LOCATION	MALCOLM PIRNIE, INC. FEBRUARY 2011 **FIGURE 1**



SOURCE: http://maps.google.com

MALCOLM PIRNIE

TECHEM, INC.
1840 FALMOUTH AVENUE
NEW HYDE PARK, NEW YORK
NYSDEC SITE NUMBER 1-30-097

TECHEM SITE

FEBRUARY 2011

FIGURE 2

N

FALMOUTH AVENUE

SAMPLE ID:	PZ-1	
DATE SAMPLED:	4/20/2010	
UNIT:	ug/L	
Cadmium	5	U
Chromium	10	U
Iron	59.1	J
Nickel	0.766	J
Selenium	35	U
Sodium	28,700	

66.84
PZ-1

66.81
PZ-2

SAMPLE ID:	PZ-2	
DATE SAMPLED:	4/20/2010	
UNIT:	ug/L	
Cadmium	4.05	J
Chromium	1.17	J
Iron	31.9	J
Nickel	7.92	J
Selenium	17.6	J
Sodium	98,100	

66.80

TECHEM

66.75

MARTACK

66.83
PZ-3

SAMPLE ID:	PZ-3	
DATE SAMPLED:	4/21/2010	
UNIT:	ug/L	
Cadmium	2.91	J
Chromium	3.27	J
Iron	1110	
Nickel	6.93	J
Selenium	35	U
Sodium	39,400	

U.S. LIMOUSINE SERVICE LTD.

PZ-5
66.70

SAMPLE ID:	PZ-5	
DATE SAMPLED:	4/21/2010	
UNIT:	ug/L	
Cadmium	16.3	
Chromium	384	
Iron	84.5	J
Nickel	130	
Selenium	5.83	J
Sodium	32,900	

PZ-4
66.73

4 SEASONS FIRE RESTORATIONS

SIDEWALK

DENTON AVENUE

TIP TOP DIESEL AND FLEET SERVICE

SAMPLE ID:	PZ-4	
DATE SAMPLED:	4/21/2010	
UNIT:	ug/L	
Cadmium	0.811	J
Chromium	64.6	
Iron	1030	
Nickel	11.6	J
Selenium	25.1	J
Sodium	48,300	

JERICO DIE & MOLD

LEGEND

- 1-INCH PIEZOMETER/WELL
- POTENTIOMETRIC CONTOUR LINE
- 66.75 GROUNDWATER ELEVATION (FEET AMSL)
- GROUNDWATER FLOW DIRECTION
- CONCENTRATION EXCEEDS NYSDEC CLASS GA STANDARD
- SITE DATUM ESTIMATED AT 100 FEET AMSL

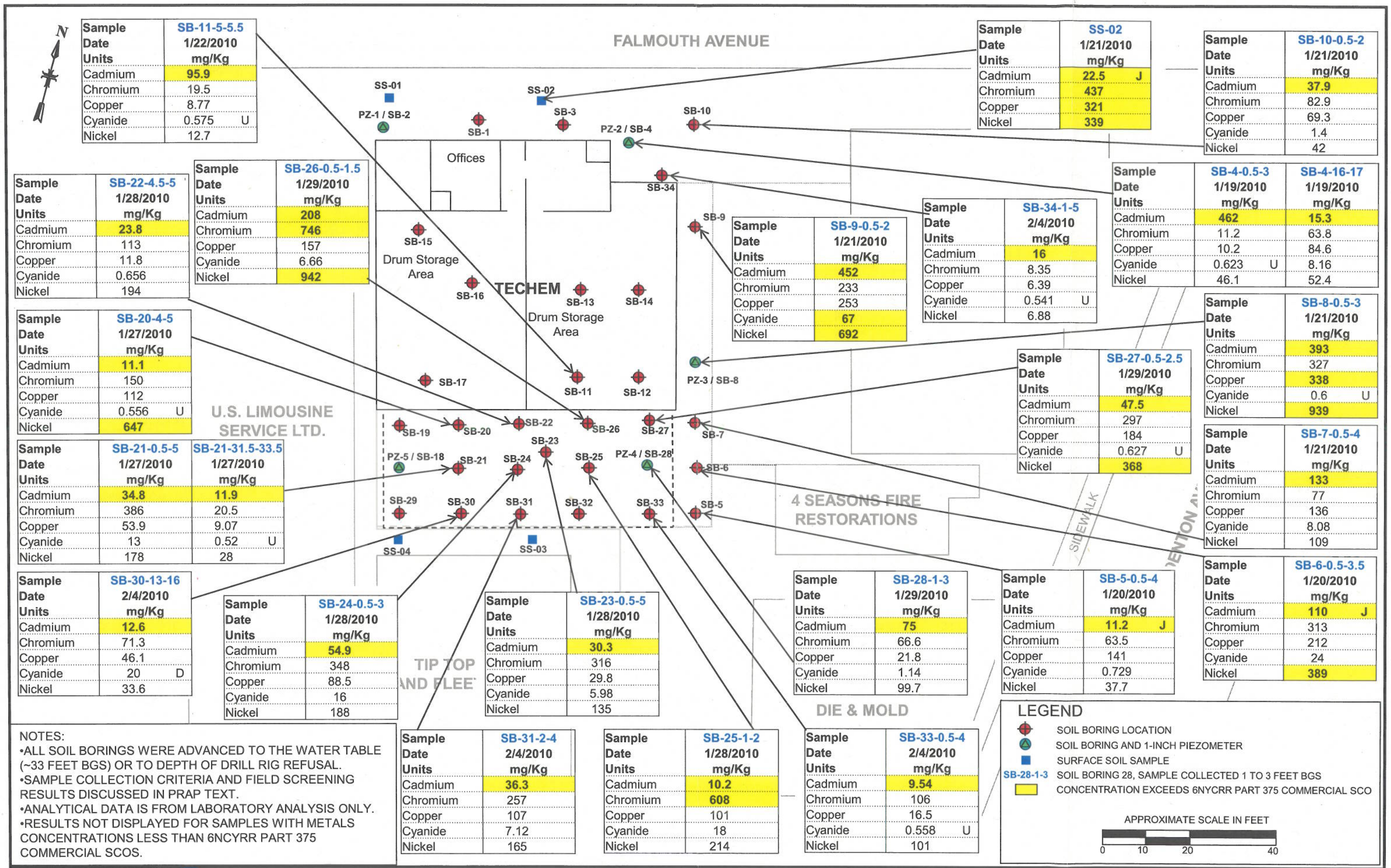
APPROXIMATE SCALE IN FEET
0 10 20 40

MALCOLM PIRNIE

TECHEM, INC.
1840 FALMOUTH AVENUE
NEW HYDE PARK, NEW YORK
NYSDEC SITE NUMBER 1-30-097

NATURE AND EXTENT OF GROUNDWATER CONTAMINATION DISSOLVED METALS

FIGURE 3



Sample	SB-11-5-5.5
Date	1/22/2010
Units	mg/Kg
Cadmium	95.9
Chromium	19.5
Copper	8.77
Cyanide	0.575 U
Nickel	12.7

Sample	SS-02
Date	1/21/2010
Units	mg/Kg
Cadmium	22.5 J
Chromium	437
Copper	321
Nickel	339

Sample	SB-10-0.5-2
Date	1/21/2010
Units	mg/Kg
Cadmium	37.9
Chromium	82.9
Copper	69.3
Cyanide	1.4
Nickel	42

Sample	SB-22-4.5-5
Date	1/28/2010
Units	mg/Kg
Cadmium	23.8
Chromium	113
Copper	11.8
Cyanide	0.656
Nickel	194

Sample	SB-26-0.5-1.5
Date	1/29/2010
Units	mg/Kg
Cadmium	208
Chromium	746
Copper	157
Cyanide	6.66
Nickel	942

Sample	SB-9-0.5-2
Date	1/21/2010
Units	mg/Kg
Cadmium	452
Chromium	233
Copper	253
Cyanide	67
Nickel	692

Sample	SB-34-1-5
Date	2/4/2010
Units	mg/Kg
Cadmium	16
Chromium	8.35
Copper	6.39
Cyanide	0.541 U
Nickel	6.88

Sample	SB-4-0.5-3	SB-4-16-17
Date	1/19/2010	1/19/2010
Units	mg/Kg	mg/Kg
Cadmium	462	15.3
Chromium	11.2	63.8
Copper	10.2	84.6
Cyanide	0.623 U	8.16
Nickel	46.1	52.4

Sample	SB-20-4-5
Date	1/27/2010
Units	mg/Kg
Cadmium	11.1
Chromium	150
Copper	112
Cyanide	0.556 U
Nickel	647

Sample	SB-8-0.5-3
Date	1/21/2010
Units	mg/Kg
Cadmium	393
Chromium	327
Copper	338
Cyanide	0.6 U
Nickel	939

Sample	SB-27-0.5-2.5
Date	1/29/2010
Units	mg/Kg
Cadmium	47.5
Chromium	297
Copper	184
Cyanide	0.627 U
Nickel	368

Sample	SB-21-0.5-5	SB-21-31.5-33.5
Date	1/27/2010	1/27/2010
Units	mg/Kg	mg/Kg
Cadmium	34.8	11.9
Chromium	386	20.5
Copper	53.9	9.07
Cyanide	13	0.52 U
Nickel	178	28

Sample	SB-7-0.5-4
Date	1/21/2010
Units	mg/Kg
Cadmium	133
Chromium	77
Copper	136
Cyanide	8.08
Nickel	109

Sample	SB-30-13-16
Date	2/4/2010
Units	mg/Kg
Cadmium	12.6
Chromium	71.3
Copper	46.1
Cyanide	20 D
Nickel	33.6

Sample	SB-24-0.5-3
Date	1/28/2010
Units	mg/Kg
Cadmium	54.9
Chromium	348
Copper	88.5
Cyanide	16
Nickel	188

Sample	SB-23-0.5-5
Date	1/28/2010
Units	mg/Kg
Cadmium	30.3
Chromium	316
Copper	29.8
Cyanide	5.98
Nickel	135

Sample	SB-28-1-3
Date	1/29/2010
Units	mg/Kg
Cadmium	75
Chromium	66.6
Copper	21.8
Cyanide	1.14
Nickel	99.7

Sample	SB-5-0.5-4
Date	1/20/2010
Units	mg/Kg
Cadmium	11.2 J
Chromium	63.5
Copper	141
Cyanide	0.729
Nickel	37.7

Sample	SB-6-0.5-3.5
Date	1/20/2010
Units	mg/Kg
Cadmium	110 J
Chromium	313
Copper	212
Cyanide	24
Nickel	389

Sample	SB-31-2-4
Date	2/4/2010
Units	mg/Kg
Cadmium	36.3
Chromium	257
Copper	107
Cyanide	7.12
Nickel	165

Sample	SB-25-1-2
Date	1/28/2010
Units	mg/Kg
Cadmium	10.2
Chromium	608
Copper	101
Cyanide	18
Nickel	214

Sample	SB-33-0.5-4
Date	2/4/2010
Units	mg/Kg
Cadmium	9.54
Chromium	106
Copper	16.5
Cyanide	0.558 U
Nickel	101

NOTES:
- ALL SOIL BORINGS WERE ADVANCED TO THE WATER TABLE (~33 FEET BGS) OR TO DEPTH OF DRILL RIG REFUSAL.
- SAMPLE COLLECTION CRITERIA AND FIELD SCREENING RESULTS DISCUSSED IN PRAP TEXT.
- ANALYTICAL DATA IS FROM LABORATORY ANALYSIS ONLY.
- RESULTS NOT DISPLAYED FOR SAMPLES WITH METALS CONCENTRATIONS LESS THAN 6NCYRR PART 375 COMMERCIAL SCOS.

LEGEND
- SOIL BORING LOCATION
- SOIL BORING AND 1-INCH PIEZOMETER
- SURFACE SOIL SAMPLE
- SB-28-1-3 SOIL BORING 28, SAMPLE COLLECTED 1 TO 3 FEET BGS
- CONCENTRATION EXCEEDS 6NYCRR PART 375 COMMERCIAL SCO

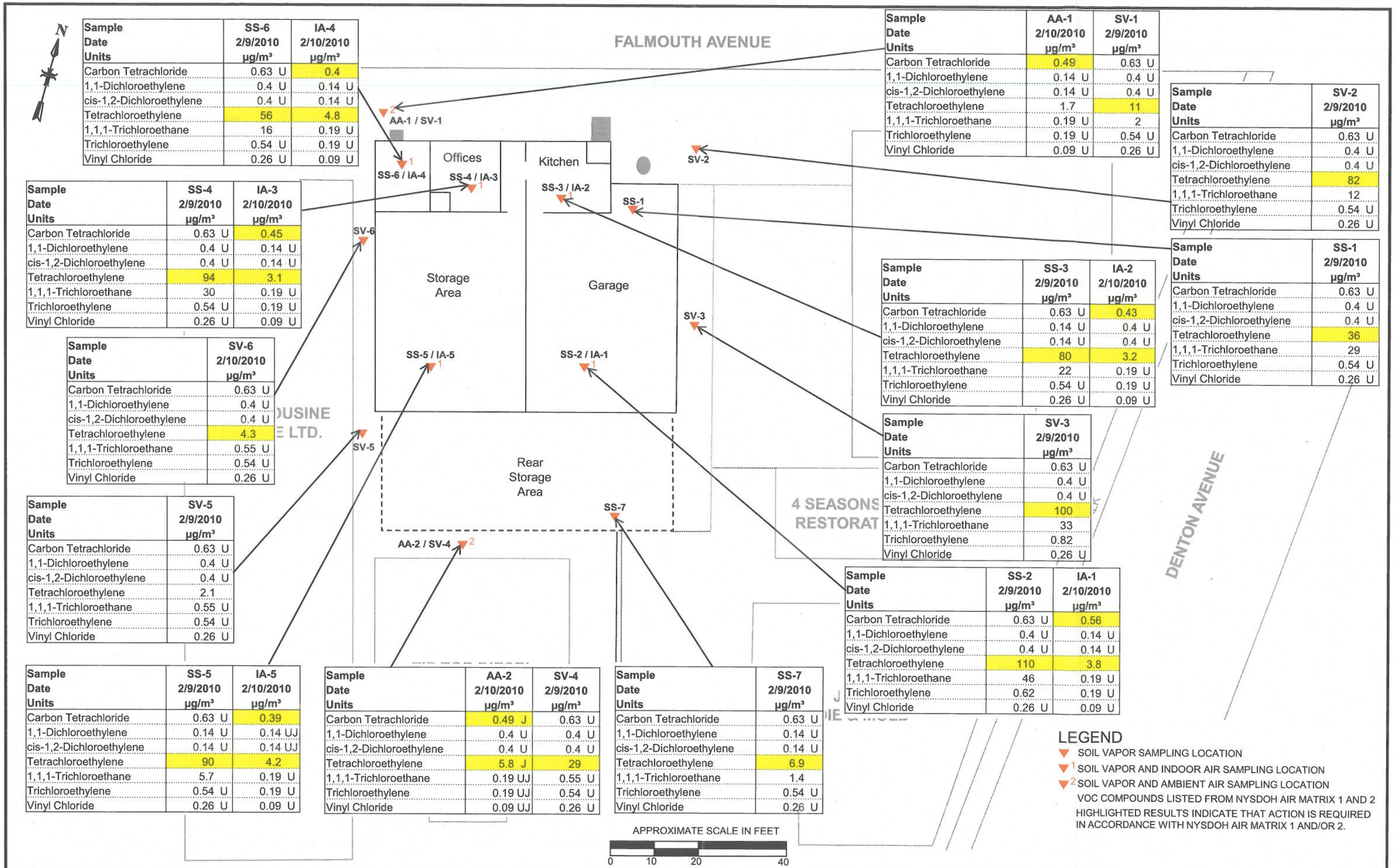
APPROXIMATE SCALE IN FEET
0 10 20 40

MALCOLM PIRNIE

TECHEM, INC.
1840 FALMOUTH AVENUE
NEW HYDE PARK, NEW YORK
NYSDEC SITE NUMBER 1-30-097

NATURE AND EXTENT OF SOIL CONTAMINATION

FIGURE 4



Sample	SS-6	IA-4
Date	2/9/2010	2/10/2010
Units	µg/m³	µg/m³
Carbon Tetrachloride	0.63 U	0.4
1,1-Dichloroethylene	0.4 U	0.14 U
cis-1,2-Dichloroethylene	0.4 U	0.14 U
Tetrachloroethylene	56	4.8
1,1,1-Trichloroethane	16	0.19 U
Trichloroethylene	0.54 U	0.19 U
Vinyl Chloride	0.26 U	0.09 U

Sample	SS-4	IA-3
Date	2/9/2010	2/10/2010
Units	µg/m³	µg/m³
Carbon Tetrachloride	0.63 U	0.45
1,1-Dichloroethylene	0.4 U	0.14 U
cis-1,2-Dichloroethylene	0.4 U	0.14 U
Tetrachloroethylene	94	3.1
1,1,1-Trichloroethane	30	0.19 U
Trichloroethylene	0.54 U	0.19 U
Vinyl Chloride	0.26 U	0.09 U

Sample	SV-6
Date	2/10/2010
Units	µg/m³
Carbon Tetrachloride	0.63 U
1,1-Dichloroethylene	0.4 U
cis-1,2-Dichloroethylene	0.4 U
Tetrachloroethylene	4.3
1,1,1-Trichloroethane	0.55 U
Trichloroethylene	0.54 U
Vinyl Chloride	0.26 U

Sample	SV-5
Date	2/9/2010
Units	µg/m³
Carbon Tetrachloride	0.63 U
1,1-Dichloroethylene	0.4 U
cis-1,2-Dichloroethylene	0.4 U
Tetrachloroethylene	2.1
1,1,1-Trichloroethane	0.55 U
Trichloroethylene	0.54 U
Vinyl Chloride	0.26 U

Sample	SS-5	IA-5
Date	2/9/2010	2/10/2010
Units	µg/m³	µg/m³
Carbon Tetrachloride	0.63 U	0.39
1,1-Dichloroethylene	0.14 U	0.14 UJ
cis-1,2-Dichloroethylene	0.14 U	0.14 UJ
Tetrachloroethylene	90	4.2
1,1,1-Trichloroethane	5.7	0.19 U
Trichloroethylene	0.54 U	0.19 U
Vinyl Chloride	0.26 U	0.09 U

Sample	AA-2	SV-4
Date	2/10/2010	2/9/2010
Units	µg/m³	µg/m³
Carbon Tetrachloride	0.49 J	0.63 U
1,1-Dichloroethylene	0.4 U	0.4 U
cis-1,2-Dichloroethylene	0.4 U	0.4 U
Tetrachloroethylene	5.8 J	29
1,1,1-Trichloroethane	0.19 UJ	0.55 U
Trichloroethylene	0.19 UJ	0.54 U
Vinyl Chloride	0.09 UJ	0.26 U

Sample	SS-7
Date	2/9/2010
Units	µg/m³
Carbon Tetrachloride	0.63 U
1,1-Dichloroethylene	0.14 U
cis-1,2-Dichloroethylene	0.14 U
Tetrachloroethylene	6.9
1,1,1-Trichloroethane	1.4
Trichloroethylene	0.54 U
Vinyl Chloride	0.26 U

Sample	AA-1	SV-1
Date	2/10/2010	2/9/2010
Units	µg/m³	µg/m³
Carbon Tetrachloride	0.49	0.63 U
1,1-Dichloroethylene	0.14 U	0.4 U
cis-1,2-Dichloroethylene	0.14 U	0.4 U
Tetrachloroethylene	1.7	11
1,1,1-Trichloroethane	0.19 U	2
Trichloroethylene	0.19 U	0.54 U
Vinyl Chloride	0.09 U	0.26 U

Sample	SV-2
Date	2/9/2010
Units	µg/m³
Carbon Tetrachloride	0.63 U
1,1-Dichloroethylene	0.4 U
cis-1,2-Dichloroethylene	0.4 U
Tetrachloroethylene	82
1,1,1-Trichloroethane	12
Trichloroethylene	0.54 U
Vinyl Chloride	0.26 U

Sample	SS-1
Date	2/9/2010
Units	µg/m³
Carbon Tetrachloride	0.63 U
1,1-Dichloroethylene	0.4 U
cis-1,2-Dichloroethylene	0.4 U
Tetrachloroethylene	36
1,1,1-Trichloroethane	29
Trichloroethylene	0.54 U
Vinyl Chloride	0.26 U

Sample	SS-3	IA-2
Date	2/9/2010	2/10/2010
Units	µg/m³	µg/m³
Carbon Tetrachloride	0.63 U	0.43
1,1-Dichloroethylene	0.14 U	0.4 U
cis-1,2-Dichloroethylene	0.14 U	0.4 U
Tetrachloroethylene	80	3.2
1,1,1-Trichloroethane	22	0.19 U
Trichloroethylene	0.54 U	0.19 U
Vinyl Chloride	0.26 U	0.09 U

Sample	SV-3
Date	2/9/2010
Units	µg/m³
Carbon Tetrachloride	0.63 U
1,1-Dichloroethylene	0.4 U
cis-1,2-Dichloroethylene	0.4 U
Tetrachloroethylene	100
1,1,1-Trichloroethane	33
Trichloroethylene	0.82
Vinyl Chloride	0.26 U

Sample	SS-2	IA-1
Date	2/9/2010	2/10/2010
Units	µg/m³	µg/m³
Carbon Tetrachloride	0.63 U	0.56
1,1-Dichloroethylene	0.4 U	0.14 U
cis-1,2-Dichloroethylene	0.4 U	0.14 U
Tetrachloroethylene	110	3.8
1,1,1-Trichloroethane	46	0.19 U
Trichloroethylene	0.62	0.19 U
Vinyl Chloride	0.26 U	0.09 U

LEGEND

- SOIL VAPOR SAMPLING LOCATION
- 1 SOIL VAPOR AND INDOOR AIR SAMPLING LOCATION
- 2 SOIL VAPOR AND AMBIENT AIR SAMPLING LOCATION

VOC COMPOUNDS LISTED FROM NYSDOH AIR MATRIX 1 AND 2
HIGHLIGHTED RESULTS INDICATE THAT ACTION IS REQUIRED IN ACCORDANCE WITH NYSDOH AIR MATRIX 1 AND/OR 2.

MALCOLM PIRNIE

TECHEM, INC.
1840 FALMOUTH AVENUE
NEW HYDE PARK, NEW YORK
NYSDEC SITE NUMBER 1-30-097

SUMMARY OF SOIL VAPOR INTRUSION SAMPLING RESULTS

FIGURE 5

N

FALMOUTH AVENUE

SS-01

SS-02

SB-3

FORMER SEPTIC TANK

PZ-1 / SB-2

SB-1

PZ-2 / SB-4

ALL PIEZOMETERS ABANDONED

CESSPOOL

TWO FOOT SOIL EXCAVATION AND BACKFILL AREAS

Offices

Kitchen

275 GAL FUEL OIL ASTS

Storage Area

TECHEM

Garage

FENCE

CESSPOOL BACKFILLED WITH FLOWABLE FILL AND CAPPED WITH CONCRETE

PZ-3 / SB-8

U.S. LIMOUSINE SERVICE LTD.

FORMER SUMP/DRY WELL

Rear Storage Area

PZ-5 / SB-18

PZ-4 / SB-28

FENCE

COVERED AREA (SHEET METAL ENCLOSURE)

4 SEASONS FIRE RESTORATIONS

SIDEWALK

DENTON AVENUE

TIP TOP DIESEL AND FLEET SERVICE

JERICO DIE & MOLD

APPROXIMATE SCALE IN FEET

0 10 20 40

LEGEND

PIEZOMETER

SOIL BORING LOCATION

SURFACE SOIL SAMPLE

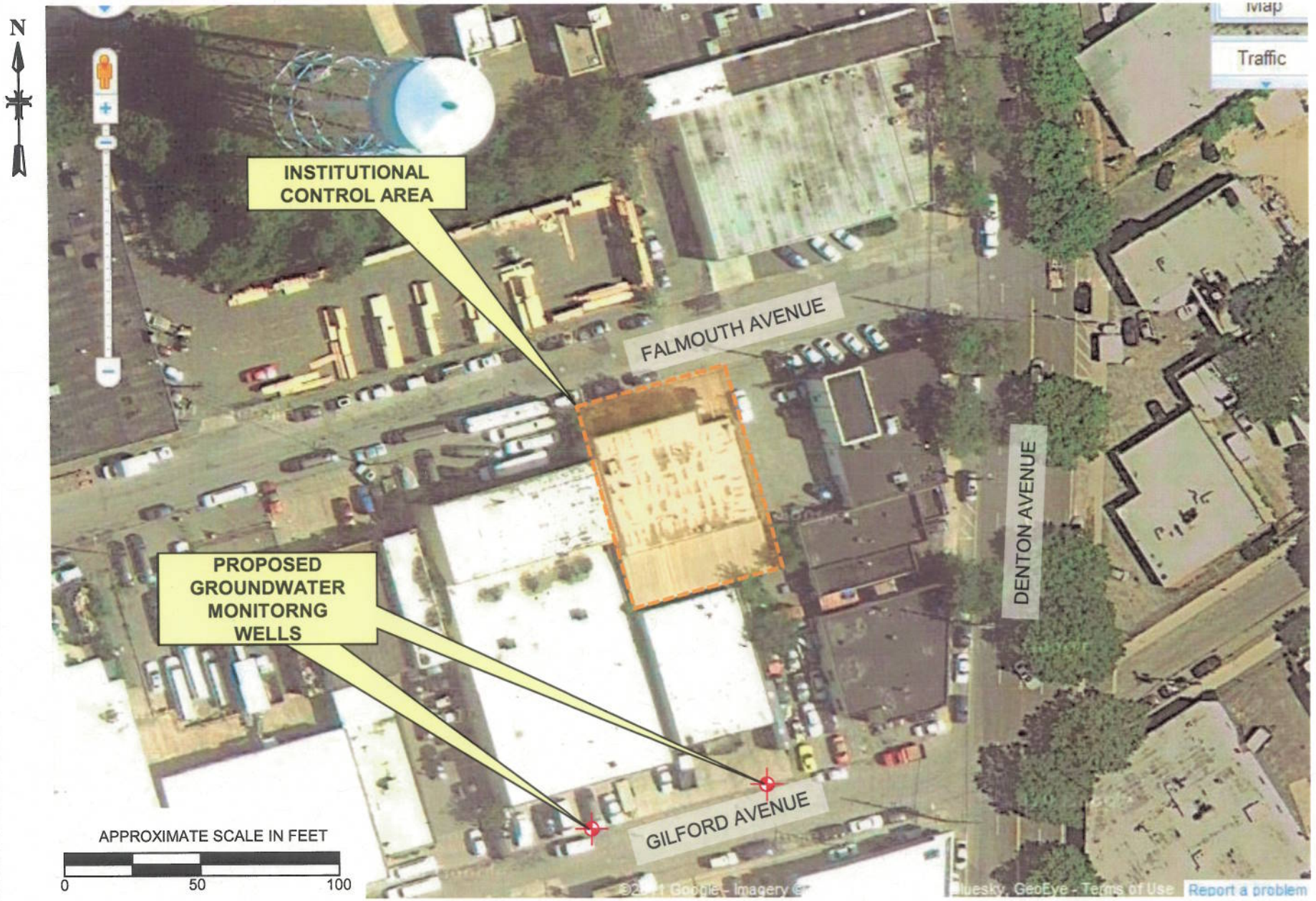
APPROXIMATE EXCAVATION/BACKFILL AREA

MALCOLM PIRNIE

TECHEM, INC.
1840 FALMOUTH AVENUE
NEW HYDE PARK, NEW YORK
NYSDEC SITE NUMBER 1-30-097

IRM ACTIVITIES

FIGURE 6



SOURCE: http://maps.google.com

MALCOLM PIRNIE

TECHEM, INC.
1840 FALMOUTH AVENUE
NEW HYDE PARK, NEW YORK
NYSDEC SITE NUMBER 1-30-097

SELECTED ALTERNATIVE
ALTERNATIVE 2 – INSTITUTIONAL CONTROLS

FEBRUARY 2011

FIGURE 7

APPENDIX A

Responsiveness Summary
RESPONSIVENESS SUMMARY

Techem, Inc.
State Superfund Project
New Hyde Park, Nassau County, New York
Site No. 130097

The Proposed Remedial Action Plan (PRAP) for the Techem, Inc. site, was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 28, 2011. The PRAP outlined the remedial measure proposed for the contaminated soil and groundwater at the Techem, Inc. site.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on March 23, 2011, which included a presentation of the remedial investigation, feasibility study (RI/FS) for the Techem, Inc. as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PRAP ended on March 28, 2011.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received at the public meeting, with the Department's responses:

COMMENT 1: How deep will the monitoring wells be at the site?

RESPONSE 1: The wells will monitor the shallow portion of the Upper Glacial Aquifer, and will be approximately 50' (fifty feet) deep. On average, groundwater at a county monitor well near the site is encountered at 42' below ground surface, with a shallowest recorded level of 30' and a deepest recorded level 52' below ground surface.

COMMENT 2: When these wells were being monitored was the nearby public supply well being pumped at that time?

RESPONSE 2: The question refers to the piezometers (small groundwater monitoring wells) installed and utilized during the Remedial Investigation. The status (pumping / not pumping) of the public supply wells across the street during the time of sampling was not determined.

COMMENT 3: When was this sampling conducted?

RESPONSE 3: The 48 hour water level monitoring took place from February 8, 2010 to February 10, 2010; analytical samples were collected on April 20, 2010.

COMMENT 4: The company that was responsible for this contamination went out of business around 1994. Who occupied this building between this time and now?

RESPONSE 4: The site was vacant from 1994 – 2000; in 2001 the site was purchased by Arash Development. Arash Development assembled window shades, and also appeared to import ceramic bowls and platters. Currently the east portion of the building (garage area) houses a business that tests welds, and the western portion of the building still houses much of the material from the window shade operation, and a small business that does cabinetry.

COMMENT 5: Does the contamination from this site have any effect on the buildings on either side of this site?

RESPONSE 5: EPA removed all soils at or near the surface that may have migrated through runoff or airborne dusts in its 1994 – 1995 response. The files for the site do not indicate there was any direct impact to neighboring buildings prior to the EPA removal.

COMMENT 6: Has the EPA and / or the DEC recovered any money from the potentially responsible party

.

RESPONSE 6: EPA filed a civil complaint in 1994 seeking $800,000 in injunctive relief and a civil penalty in the amount of $40,000. In 1984 Techem was fined $2,500 in a civil action brought by DEC and in 1994 Techem was assessed $20,000 in settlement of felony charges related to past discharges and non-compliance. In 1996 EPA withdrew their action seeking injunctive relief and civil penalties as they did not believe they could collect. At that time Mr. Gerwertz had ceased operations and placed the property on the market to pay the DEC criminal penalty. No other actions for cost recovery are on record.

COMMENT 7: Could the whole site be concreted to prevent further contamination?

RESPONSE 7: A very small area (approximately 400 square feet) is currently not covered by a building or paved. Covering this area with an impermeable substance such as concrete will not offer additional benefit regarding any remaining contamination. The DEC has no plans to place concrete on the remaining soil area.

COMMENT 8: Have there been reports of cancer cases in the area?

RESPONSE 8: The DEC and DOH are not aware of reports of cancer cases in the immediate area.

APPENDIX B

Administrative Record

Techem, Inc.
State Superfund Project
New Hyde Park, Nassau County, New York
Site No. 130097

Proposed Remedial Action Plan for the Techem, Inc. site, dated February 2011, prepared by the Department.

Referral Memorandum dated September 7, 2006 for development and implementation of a Remedial Investigation Feasibility Study of the Site.

"Preliminary Site Assessment, Volume 1-3 and Appendices", May 2000, Lawler Matusky and Skelly Engineers LLP

"RI Report", January 2011, Malcolm Pirnie, Inc.

"FS Report", January 2011, Malcolm Pirnie, Inc.

"IRM Completion Report", March 2011, Malcolm Pirnie, Inc.

Exhibit A

Nature and Extent of Contamination

The Techem facility formerly manufactured acid-based chromium, cadmium, cyanide, nickel, and zinc electroplating solutions. Materials used in the manufacturing solutions included: chromic acid, hydrochloric acid, sulfuric acid, cadmium oxide, caustic soda, sodium cyanide, sodium stannate, copper cyanide, ethylenediamine, and ammonium hydroxide. The site had a history of spills and poor housekeeping that resulted in various actions by local, state and federal regulatory agencies. A two-phase removal was conducted by the USEPA in 1994 and 1995Metals are present in subsurface soils at levels above the NYSDEC Soil Cleanup Objectives at depths up to 35' below ground surface, and metals are present in shallow groundwater above NYSDEC Class GA (drinking water) standards. Soil vapor intrusion samples collected during the RI indicate the presence of PCE in soil vapor. The PCE is not believed to be site related; in 2010 MACTEC performed field work related to PCE and TCE contamination in the Water Authority of Western Nassau County's Well # 57 (NYSDEC site #130191), located between South 5th and South 6th streets north of 2nd Avenue in New Hyde Park. The study revealed PCE and TCE contamination of groundwater and soil vapor that extended from the well field, which is located north and east of the Techem site, to some distance south and west of Techem. That study is ongoing, and any source(s) and any VI issues will be addressed under that site number.

Waste/Source Areas

Wastes are defined in 6 NYCRR Part 375-1.2 (aw) and include solid, industrial and/or hazardous wastes. Source Areas are defined in 6 NYCRR Part 375 (au). Source areas are areas of concern at a site where substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium. Certain of the waste/source areas identified at the site were addressed by the IRM(s) described in Section 6.2 . The remaining waste/source area(s) identified during the RI will be addressed in the remedy selection process.

This section describes the findings for all environmental media that were evaluated, which include the soil, groundwater and soil vapor at the site. No surface water body or wetland sediments are present in the area of the site. As described in Section 6.1.2, samples were collected from various environmental media to characterize the nature and extent of contamination.

Groundwater

Groundwater samples were collected from the five piezometers in April 2010 to evaluate groundwater quality in the vicinity of the site. None of the groundwater samples contained concentrations of VOCs or SVOCs greater than the applicable NYSDEC Class GA Standards. Pesticides / PCBs were not analyzed in groundwater as they were not detected in soils, and were not a concern at the site based on previous investigations. Cadmium, chromium, copper, iron, lead, manganese, nickel, selenium and sodium were present at concentrations greater than the corresponding Class GA Standard in at least one of the total metals groundwater samples. Iron and manganese are naturally occurring elements in groundwater and may not be related to historical releases. In addition, sodium exceedances may be related to the local application of road de-icing agents (i.e. salts). As a result of elevated turbidity in the groundwater samples, filtered samples were also

submitted for dissolved metals analysis in 4 of the 5 samples; the fifth met turbidity guidelines for not filtering. As shown in Table 1, the filtered samples were lower concentrations that met SCGs more often than the unfiltered. The location of the piezometers is shown of Figure 3, and the concentrations of contaminants are shown in Table 1.

Table 1 - Groundwater

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
Metals			
Cadmium (unfiltered)	ND – 36.1	5	3 / 5
Cadmium (filtered)	ND – 16.3	5	1 / 4
Chromium[c] (unfiltered)	3.27 – 435	50	3 / 5
Chromium[c] (filtered)	ND – 384	50	2 / 4
Copper (unfiltered)	34.1 – 218	200	1 / 5
Iron (unfiltered)	37200 – 121000	300	5 / 5
Iron (filtered)	31.9 – 1110	300	2 / 4
Lead (unfiltered)Manganese (unfiltered)	27.4 – 90.5	25	4 / 5
Nickel (unfiltered)	1490 – 4730	300	4 / 5
Nickel (filtered)			3 / 5
Selenium (unfiltered)	61.1 – 656	100	1 / 4
Selenium (filtered)	0.766 – 130	100	2 / 5
Sodium (unfiltered)	ND – 57.5	10	2 / 4
Sodium (filtered)	ND – 25.1	10	5 / 5
	28300 – 103000	20000	4 / 4
	28700 - 98100	20000	

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).
c– Chromium levels are total; TAL (Target Analyte List analysis) does not speciate for hexavalent or trivalent

The site-related groundwater contamination of concern identified during the RI consists of metals in excess of NY State groundwater standards. The metals were discharged on site in acidic solutions, enabling the metals to dissolve in the water. In concept, as groundwater migrates from the disposal area and time elapses since the release of acid solutions the pH will rise and the metals will precipitate out of the water. Data is consistent with this concept. During the Preliminary Site Assessment (PSA) completed in May 2000, filtered groundwater samples taken in the vicinity of PZ-4 contained 127 ug/l of cadmium compared to the RI results of 0.811 ug/l; chromium at 3550 ug/l compared to 64.6 ug/l; nickel at 290 ug/l compared to 11.6ug/l. Samples taken in the vicinity of PZ-5 contained cadmium at 53.3 ug/l compared to 16.3 ug/l; chromium at 2290 ug/l compared to 384 ug/l; and nickel at 269 ug/l compared to 130 ug/.l. During the PSA samples were collected from three downgradient piezometers on Gilford Avenue did not exceed standards for cadmium, chromium or nickel. Removal of source areas by EPA in 1994 and 1995 and increases in pH on site by natural groundwater movement have allowed the metals to precipitate from the water; the concentration of metals in groundwater on site are expected to continue to decrease with time. The major exceedences in the downgradient wells were for sodium and iron. Iron and manganese are naturally occurring elements in groundwater and may not be related to

historical releases. In addition, sodium exceedances may be related to the local application of road de-icing agents (i.e. salts). The area around the site is served by a public water supply and therefore, the potential for exposure to site groundwater from ingestion is minimal; the public water supply is drawn from the Magothy Aquifer, which is much deeper below ground than metals from the site, and public water is tested before distribution. Dermal contact with groundwater is a potential exposure pathway. The depth of groundwater at the site, approximately 35 feet below ground surface, makes it unlikely that incidental contact with groundwater during construction activities would occur as construction activities most commonly occur at significantly shallower depths. Therefore, no remedial alternatives need to be evaluated for groundwater. To ensure that levels of site related metals in groundwater do not increase to exceed standards, downgradient off site groundwater monitoring will be incorporated in the Site Management Plan.

Soil

Surface and subsurface soil samples were collected at the site during the RI. Surface soil samples were collected from a depth of 0 - 2 inches to assess the potential pathway for human exposure to site-related contaminants. Subsurface soil samples were collected from a depth of 2 – 33 feet (just above the water table) to assess soil contamination impacts to groundwater. The results indicate that soils at the site exceed the unrestricted SCG for metals. No VOCs, SVOCS or Pesticides / PCBs were detected above standards in any soil samples. The approximate location of surface soil and soil boring locations are shown on figure 4, and the concentrations of the metals above SCGs detected in soils are presented in Table 2, below.

Table 2 - Soil					
Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Commercial Use SCG[c] (ppm)	Frequency Exceeding Comercial SCG
Metals					
Cadmium (surface)	1.19 – 22.5	2.5	3/4	9.3	1/4
Cadmium (subsurface)	0.019 – 462	2.5	29 / 68	9.3	24 / 68
Chromium (total, surface)	15.1 – 437	30	3/4	400	1/4
Chromium (total, subsurface)	2.99 – 746	30	25 / 68	400	3 / 68
Copper, surface	41.2 - 321	50	2/4	270	1/4
Copper, subsurface	1.96 - 338	50	16 / 68	270	2 / 68
Cyanide (total), surface	0.542 -0.703	27	0/4	27	0/4
Cyanide (total), subsurface	ND – 67	27	1 / 68	27	1 / 68
Nickel, surface	16.2 - 339	30	3/4	310	1/4
Nickel, subsurface	2.2 - 942	30	24 / 68	310	7 / 68

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Commercial /Industrial Use, unless otherwise noted.
d - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Groundwater.

Surface soil contamination identified during the RI was addressed during the IRM described in Section 6.2. Subsurface soils identified as having levels of metals above the commercial SCOs are covered by concrete or asphalt, limiting the likelihood of migration of the contaminants.

Based on the results of the pre-IRM RI, sub-surface soil samples collected from the interval from 0 to 5 feet bgs near the cesspool, former sump/drywell, and the access way on the east side of the building, indicate the presence of cadmium, chromium, copper, nickel and/or cyanide greater that the applicable NYSDEC soil cleanup objectives (SCOs). In addition sub-surface soil samples collected up to 25 feet bgs from the northeast corner of the site near the cesspool; up to 15 feet bgs in the access way on the east side of the building; and up to 35 feet bgs near the former sump/dry well, contain concentrations of cadmium greater than the corresponding NYSDEC SCOs, although cadmium was not present in the groundwater.

Soil Vapor

The evaluation of the potential for soil vapor intrusion resulting from the presence of site related soil or groundwater contamination was evaluated by the sampling of soil vapor, sub-slab soil vapor under structures, and indoor air inside structures. At this site due to the presence of buildings in the impacted area a full suite of samples were collected in the Techem building to evaluate whether soil vapor intrusion was occurring.

Figure 5 shows the soil vapor, indoor air, and ambient air sampling locations. A NYSDOH Indoor Air Quality Questionnaire and Building Inventory (Questionnaire) was completed prior to collecting the samples. PCE was

present at NYSDOH action levels in each sample collected with the exception of soil vapor sample SV-5 and ambient air sample AA-1. The PCE is not believed to be site related; in 2010 MACTEC performed field work related to PCE and TCE contamination in the Water Authority of Western Nassau County's Well # 57 (NYSDEC site #130191), located between South 5th and South 6th streets north of 2nd Avenue in New Hyde Park. The study revealed PCE and TCE contamination of groundwater and soil vapor that extended from the well field, which is located north and east of the Techem site, to some distance south and west of Techem.

Based on the NYSDOH matrices, no soil vapor intrusion sample results necessitate mitigation. Soil and groundwater sampling at the site did not identify a source of sub-slab and indoor air for these VOCs. None of the soil or groundwater samples contained VOCs. Analytical data was collected in 2009 as part of an assessment of potential chlorinated VOC sources in the Water Authority of Western Nassau County Well 57 (site No. 1-30-191) area, which included the Techem site and vicinity.

Exhibit B

SUMMARY OF THE REMEDIATION OBJECTIVES

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The results of the remedial investigation indicate that dermal contact or ingestion of contaminated soil contaminated with metals is a potential exposure pathway associated with the site. The area of the site is served by a centralized water supply and exposure to groundwater is unlikely. Based on the NYSDOH guidance, soil vapor and indoor air concentrations of VOCs are present that would result in a classification of monitor or monitor/mitigate. The NYSDOH guidance as applied to this site does not require mitigation.

Therefore, based on the results of the Remedial Investigation, the RAOs for the site are:

- Eliminate, to the extent practicable, exposures to metals in contaminated soil.
- Remove, to the extent practicable, the source of soil and groundwater contamination.
- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater
- Prevent migration of contaminants that would result in groundwater or surface water contamination

Exhibit C

Description of Remedial Alternatives

The following alternatives were considered based on the remedial action objectives (see Exhibit B) to address the contaminated media identified at the site as described in Exhibit A:

Alternative 1: No Further Action

The No Further Action Alternative recognizes the remediation of the site completed by the IRM described in Section 6.2 . This alternative leaves the site in its present condition and does not provide any additional protection of the environment.

Alternative 2: No Further Action with Site Management

The No Further Action with Site Management Alternative recognizes the remediation of the site completed by the IRM described in Section 6.2 and requires site management and institutional controls and engineering controls and assures the effectiveness of the IRM and existing site cover. This alternative maintains engineering controls which were part of the IRM and includes institutional controls, in the form of an environmental easement and site management plan, necessary to protect public health and the environment from contamination remaining at the site. A site management plan (SMP) is required that provides specific requirements for site development and use. This alternative does not require soil vapor or groundwater monitoring. It would take approximately six months to execute the easement and prepare the SMP. A 30-year annual inspection period was chosen for the analysis.

Present Worth: *$99,000*
Capital Cost: *$47,000*
Annual Costs: *$3,450*

Alternative 3: Restoration to Pre-Disposal or Unrestricted Conditions

This alternative achieves all of the SCGs discussed in Section 6.1.1 and Exhibit A and soil will meet the unrestricted soil cleanup objectives listed in Part 375-6.8 (a). This alternative would include:

at a minimum, the covered area to the south of the site building and the eastern portion of the site building would need to be demolished to excavate metals-containing soil in these areas. Although there are portions of these areas where soil would only need to be excavated to 2 feet bgs, there are other locations where the excavation depth would reach 35 feet bgs. Because of the proximity of the excavation area to buildings, sheeting and shoring of the excavation would be required. Excavated soil would be disposed of off-site in accordance with applicable federal, state, and local regulations. Confirmatory sampling would be conducted to

verify that no contaminated soil remains on-site. The excavation would be backfilled with clean fill once confirmation sampling results indicate that the impacted soil has been removed.

Because no contaminated soil would remain and any groundwater contamination would not be an issue due to the water system, a SMP would not be required. As such, there would be no restrictions for site development. There would be no need for operations maintenance and monitoring and a long-term monitoring program would not be required. Alternative 3 would require approximately one year to implement.

Capital Cost: *$2,600,000*

Exhibit D

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
No Action	0	0	0
No Further Action with Site Management	$47,000	$3,450	$99,000
Restoration to Pre-Disposal or Unrestricted Conditions	$2,600,000	0	$2,600,000

Exhibit E

SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Alternative 2, No Further Action with Site Management, as the remedy for this site. The elements of this remedy are described in Section 7.2. The proposed remedy is depicted in Figure #7.

Basis for Selection

The proposed remedy is based on the results of the RI and the evaluation of alternatives. The RAOs for the Techem site are concerned with reducing the potential for contact with, or ingestion of, contaminated soil and the remediation of the affected media to pre-disposal conditions for soil, to the extent practicable. The alternatives presented for the site provide varying levels of remedial actions.

Alternative 1, the No Further Action alternative, defines the minimum steps to be taken for remediation of the site. Alternative 2, the Institutional Controls with no further action alternative, includes all aspects of Alternative 1 plus implementation of an environmental easement, a Site Management Plan (SMP), and periodic site inspections and certification. Alternative 1 would not meet the RAOs over the long-term Alternative 2 will meet the RAO of reducing the potential for exposure to contaminated soil but does not remove all soil contamination above SCGs. Alternative 3, Restoration to Pre-disposal Conditions, would meet the RAOs because contaminated soil would be removed from the site.

Protection of Human Health and the Environment

Alternative 1 would not be protective of human health and the environment as soil that exceeds the 6NYCRR Part 375 commercial SCOs would be left in place with no restrictions on the use of the site. Routes of exposure include contact with soil , inhalation or ingestion of, contaminated soil by construction and utility workers. Controlling this potential exposure would be difficult without implementation of institutional controls. Because Alternative 1 would not be protective of human health, it will not be considered further. Alternative 2 is more protective of human health and the environment than Alternative 1 because controls to limit the potential for exposure to contaminated soil and groundwater are implemented. Alternative 3 would be the most protective of human health as it would remove contaminated soil from the site, thereby removing any exposure pathways.

Compliance with New York State Standards, Criteria, and Guidance (SCGs)

6 NYCRR Part 375 requires that SCGs be identified and that remedial actions conform with SCGs unless "good cause exists why conformity should be dispensed with". Standards and Criteria are cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant, contaminant, remedial action, or location. Guidance includes non-promulgated criteria and guidelines that are not legal requirements; however, the site's remedial program should be designed with consideration given to guidance that, based on professional judgment, is determined to be applicable to the site.

The major SCGs applicable are the Soil Cleanup Objectives as defined in 6NYCRR Part 375-6.8, presented as a comparison to levels of the contaminants of concern as identified during the RI in Table 2.

Alternative 2 would include institutional and engineering controls to address the RAOs. Alternative 3 would meet soils SCGs as soon as implementation of the alternative is complete. The low levels of metals in groundwater beneath the site and the off -site groundwater are expected to remain the same for Alternative 2 and Alternative 3.

Short-term Effectiveness

Alternative 2 would address the RAOs through the institutional and engineering controls. Alternative 3 would be effective in the short-term because implementation of this alternative would reduce environmental impacts immediately as contamination would be removed from the site. Alternative 3 would be protective of the community during the short-term; however, there would be the potential for human exposures and nuisance conditions during implementation of this alternative. Potential short term impacts would include increased traffic related to waste hauling, inaccessibility of the site, and potential creation of dust and noise which would be mitigated with engineering controls. Alternate 3 would result in the greatest emissions of Green House Gases. Alternative 2 uses less energy than Alternative 3 and therefore results in less indirect emissions of Green House Gases

Long-term Effectiveness and Permanence

The controls implemented by Alternative 2 will limit exposure to contaminants. Alternative 3 would be effective in the long-term because contaminated soil would be removed from the site.

Reduction of Toxicity, Mobility or Volume

Alternative 2 would not directly reduce the toxicity, mobility, or volume of the contaminants . Disolved metals in groundwater beneath the site would be expected to precipitate out with increasing pH, but will still be present. Alternative 3 will remove contaminated soil from the site and will therefore reduce the toxicity, mobility, or volume of the contaminants at the site in soils.

Implementability

Alternative2 could be readily implemented using available resources. The demolishing of the site building under Alternative 3 will require the cooperation of the site owner and other permits or equivalents as well as the logistical considerations of a major excavation.

Cost-Effectiveness

The Institutional Controls alternative would cost approximately $99,000 over 30 years and the Restoration to Pre-disposal Conditions alternative would cost approximately $2.6 million, with only a slight increase in the protectiveness of the remedy.

Land Use

The current and anticipated future use of the site, as well as the surrounding properties, is commercial. The 6NYCRR Part 375 commercial SCOs would not be attained in subsurface soil if Alternative 2 is implemented, however the necessary cover system and restrictions associated with Alternative 2 are consistent with the

anticipated future use of the site. Alternative 3 is consistent with the anticipated future use of the site because the site could be used for any use allowed by zoning.

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