



AMENDED PROPOSED PLAN OF REMEDIAL ACTION

Toni Cleaners Site
Wilmington, Delaware
DNREC Project N0. DE-1005



August 2013

Delaware Department of Natural Resources and Environmental Control
Division of Waste and Hazardous Substances
Site Investigation & Restoration Section
391 Lukens Drive
New Castle, Delaware 19720

CONTENTS

- Figures: 1 - 4
- Glossary of Terms

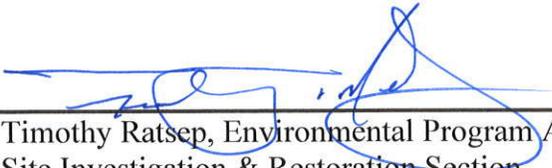
AMENDED PROPOSED PLAN OF REMEDIAL ACTION

Toni Cleaners Site
Wilmington, Delaware
DNREC Project No. DE-1005



Approval:

This Proposed Plan meets the requirements of the Hazardous Substance Cleanup Act.

Approved by:	
	
Timothy Ratsep, Environmental Program Administrator Site Investigation & Restoration Section	
Date	<i>August 1, 2013</i>



What is the Proposed Plan of Remedial Action?

The Proposed Plan of Remedial Action (Proposed Plan) summarizes the clean-up (remedial) actions that are being proposed to address contamination found at the Site for public comment. A legal notice is published in the newspaper for a 20-day comment period. DNREC considers and addresses all public comments received and publish a Final Plan of Remedial Action (Final Plan) for the Site.

What is the Toni Cleaners Site?

The Toni Cleaners Site consists of one tax parcel (07-038.20-014) covering 0.11 acres at 1606 Kirkwood Highway, Wilmington, New Castle County, Delaware (Figure 1). The Site is located at the southeast corner at the intersection of Forest Avenue and Kirkwood Highway.

The Site itself consists of a source area located at 1606 Kirkwood Highway, and a dissolved groundwater plume that has migrated approximately 450 feet to the southwest from the source area under commercial and residential properties towards Little Mill Creek (Figure 2).

The source area has been an operating dry cleaner since 1965 and consists of a single story 2,448 square foot building, which covers most of the property, a narrow unpaved area along the eastern side of the building, with a sidewalk along the north and west side, and a paved area behind the building for parking. The source area has very high concentrations of chlorinated solvents associated with the dry cleaning industry [tetrachloroethylene (PCE) and degradation products trichloroethylene (TCE), dichloroethylene (DCE) and vinyl chloride (VC)] in both the soil and groundwater beneath and around the building. The Site is zoned commercial.

What happened at the Toni Cleaners Site?

Dry cleaning operations began on the property in 1965 and have continued till the present day.

Environmental investigations have been carried out at Toni Cleaners since 1993. At that time, PCE was detected in soil at concentrations, which exceeded the DNREC Uniform Risk-Based Cleanup Standards (URS), and also in groundwater at concentrations that exceeded the EPA Maximum Contaminant Level (MCL) for that compound of 5 parts per billion (ppb).

The Site was entered into DNREC's Voluntary Cleanup Program (VCP) in 1993 but shortly thereafter, it became a state lead Hazardous Substance Cleanup Act (HSCA) site because of the current and previous owner's apparent inability to pay.

A Final Plan of Remedial Action (Final Plan) was issued by DNREC in July 1996 and was amended in December 2000. Between October 2000 and September 2001, 270 tons of PCE contaminated soil was removed from the Site and 1,200 pounds of hydrogen reducing compound

(HRC) were applied to the groundwater area to reduce the groundwater contamination at the source area.

Since 2005, off-site investigations have been performed at twenty-five (25) properties by DNREC and its contractors to define the extent of contamination. The groundwater contaminant plume extends approximately 450 feet to the southwest of the dry cleaner.

In May 2007, a pilot test involving the injection of 331 pounds of potassium permanganate into the groundwater at the source area was performed to evaluate the effectiveness of permanganate in treating the source of the groundwater contamination on the Site. The results showed that it was somewhat effective at reducing the levels of PCE in the pilot study area.

In addition, soil gas vapor and indoor air sampling has been performed at properties where access was granted to DNREC to evaluate the potential for PCE in the groundwater to volatilize and migrate through soil and into nearby buildings. PCE has been detected in the indoor air samples from four buildings at concentrations which slightly exceed the risk based calculated concentrations. A vapor mitigation system was installed at 1604 Kirkwood Highway and systems are being designed for two other buildings. One property owner has refused access to allow additional sampling and to install a vapor mitigation system.

Sediment and surface water samples have also been collected from both Little Mill Creek and Chestnut Run. PCE has recently been detected in the surface water samples collected at Chestnut Run but it does not appear to be related to the groundwater contamination emitting from Toni Cleaners.

What is the environmental problem at the Toni Cleaners Site?

PCE and its degradation products TCE, DCE, and VC are the potential contaminants of concern (COCs) in the soil and ground water in the source area. These COCs are present in the soil and groundwater in the source area at very high concentrations suggesting the presence of dense non aqueous phase liquid (DNAPL) beneath the building which continue to source the groundwater contaminant plume.

Due to the presence of the groundwater plume under residential properties, there is a continued risk from the intrusion of PCE, TCE, DCE and VC vapor into those building and other properties near the Site if cleanup actions are not taken.

What clean-up actions have been taken at the Toni Cleaners Site?

As mentioned previously, between October 2000 and September 2001, 270 tons of PCE contaminated soil was removed from the source area and 1,200 pounds of HRC were applied to the groundwater at the source area to reduce the source of the groundwater contamination.

In May 2007, a pilot test involving the injection of 331 pounds of potassium permanganate into the groundwater at the source area was performed to evaluate the effectiveness of permanganate in treating the source of the groundwater contamination on the Site. The results showed that it was somewhat effective at reducing the levels of PCE in the pilot study area.

Due to the presence of the groundwater plume under residential and commercial properties, DNREC performs indoor air sampling on a semi-annual basis, at properties where access is granted, and performs groundwater sampling every quarter. DNREC has also conducted soil gas vapor sampling, indoor air sampling and surface water sampling at properties where access has been granted to determine if the COCs in the groundwater have migrated into the buildings. DNREC also performs indoor air sampling on a semi-annual basis and performs groundwater sampling every quarter.

A vapor mitigation system was installed at 1604 Kirkwood Highway and systems are being designed for two other buildings. One property owner has refused access to DNREC to install a vapor mitigation system.

What does the Department want to do at the Toni Cleaners Site?

The Department needs to remove the existing dry cleaning building in order to achieve an effective, timely and cost effective remediation of the source of the soil and groundwater contamination beneath the building footprint.

What additional clean-up actions are needed at the Toni Cleaners Site?

Based on the revised Final Feasibility Study, dated July 2013, prepared by Tetra Tech, DNREC proposes the following remedial actions for the Site, which need to be completed before a Certificate of Completion of Remedy (COCR) can be issued:

1. The demolition of the existing building while leaving the slab in-place, provides the best scenario to achieve an effective, timely and cost effective remediation of the soil and groundwater contamination in the source area.
2. Implementation of Electro-Resistance Heating (ERH) through the building slab to treat the contaminated soil and groundwater in the source area. The presence of the low ceiling on the existing building does not allow access for a drill rig within the building. Since a drill rig is required to install the EHR points, the structure must be removed so that the EHR points can be installed.
3. Treatment of groundwater within the PCE plume downgradient of the source area by methods to be determined by additional evaluations, bench scale and/or pilot scale testing during the remedial design to be protective of human health and the environment.
4. An Environmental Covenant, consistent with Delaware's Uniform Environmental Covenants Act (Title 7, Del. Code Chapter 79, Subtitle II) (UECA), will be recorded in the office of the Recorder of Deeds to include the following:

[a.] Use Restriction. Use of the Property shall be restricted solely to those non-residential type uses permitted within Commercial, Manufacturing, or Industrial Districts;

[b.] Interference with Remedy. There shall be no digging, drilling, excavating, grading, constructing, earth moving, or any other land disturbing activities on the Property without the prior written approval of DNREC-SIRS;

[c.] Limitation of Groundwater Withdrawal. No groundwater wells shall be installed, and no groundwater shall be withdrawn from any well, on the Property without the prior written approval of DNREC-SIRS and DNREC Division of Water;

[d.] Compliance with Long Term Stewardship Plan. Perform all work required by the Long Term Stewardship Plan (“LTS Plan”), as issued, approved, modified or amended by DNREC;

[e.] Compliance with Final Plan. Perform all work required by the Final Plan, the Amended Final Plan, etc. (“Final Plan”), as issued, approved, modified or amended by DNREC;

5. Develop a DNREC approved contaminated materials management plan (CMMP) to allow construction workers to safely handle any potential contaminated soil and groundwater at the Site.
6. Develop and implement a DNREC-approved Long-Term Stewardship (LTS) Plan. The LTS Plan will detail: 1) the groundwater monitoring network and schedule to be followed in order to monitor the attenuation of the groundwater COCs, and 2) the inspection schedule to be followed in order to ensure the long-term integrity of the remedy

What are the long term plans for the Toni Cleaners Site after the cleanup?

The Site use will be restricted to non-residential (commercial/industrial) purposes by recording the environmental covenant. The CMMP will be completed and available for the Site.

How can I find additional information or comment on the Proposed Plan?

The complete file on the Site including the Feasibility Study and the various reports are available at the DNREC office, 391 Lukens Drive in New Castle, 19720. Most documents are also found on: <http://www.nav.dnrec.delaware.gov/DEN3/>

The 20-day public comment period begins on August 03, 2013 and ends at close of business (4:30 pm) on August 23, 2013. Please send written comments to the DNREC office at 391 Lukens Drive, New Castle, DE 19720 to Robert C. Asreen, Jr., Project Officer or Robert Newsome, Public Information Officer.

Figure 1: General Site Location Map

Figure 2: Site Map with Monitor Well Locations

Figure 3: Water Table Contour Map April 2013

Figure 4: PCE Concentrations in Groundwater April 2013

RCA:vdh; RCA:13069.doc; DE 1005 II B 8

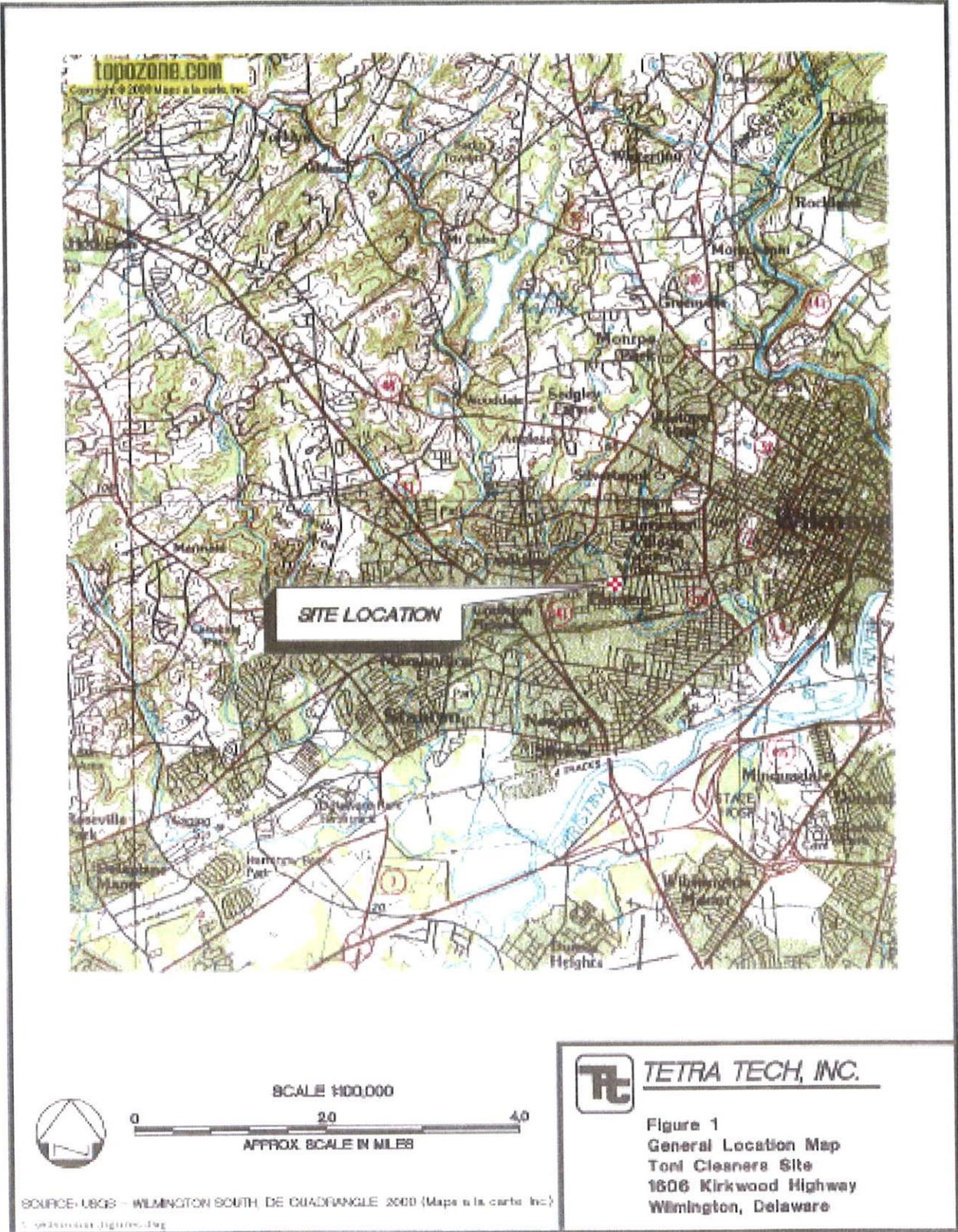
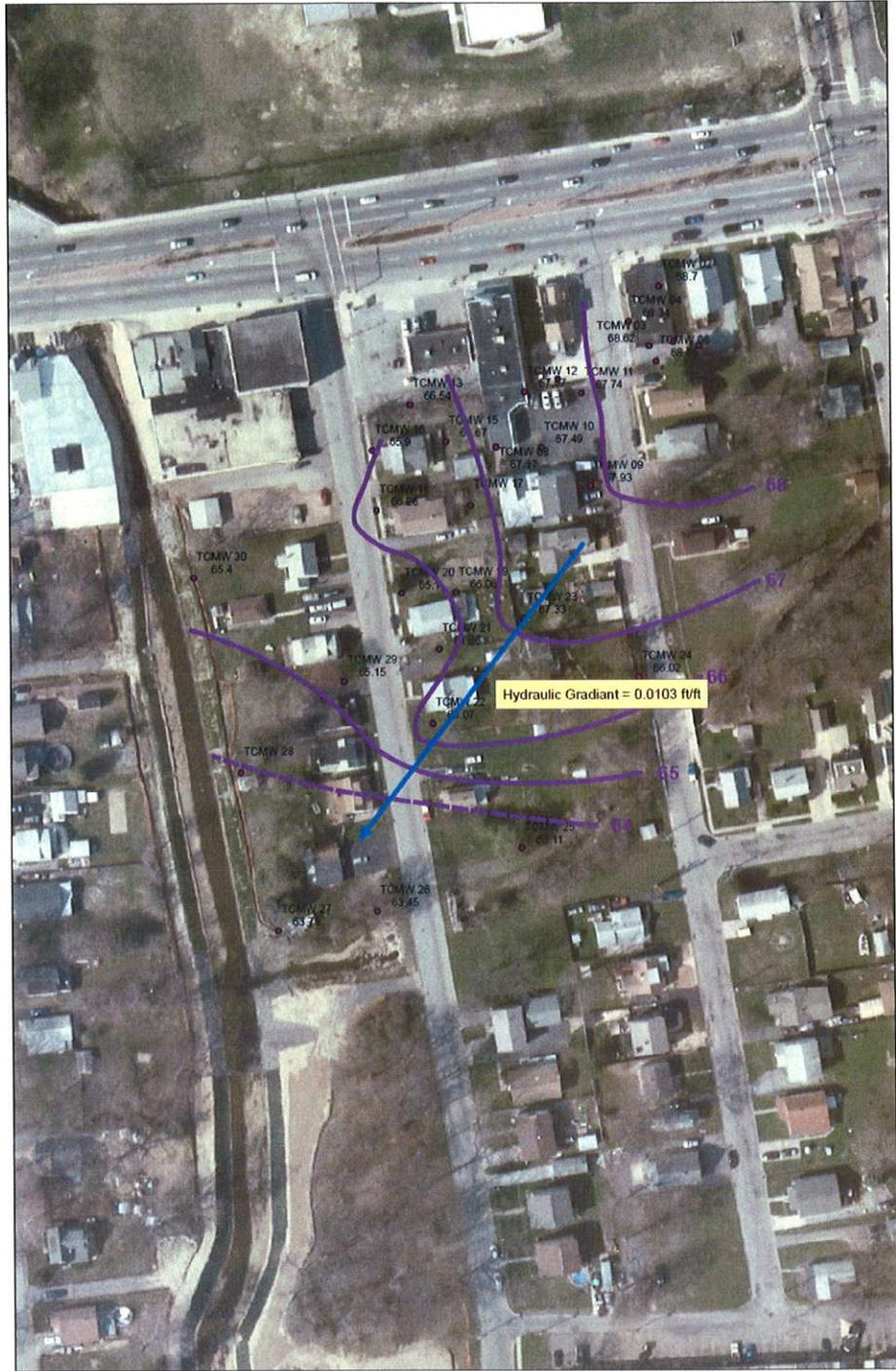


Figure 1: Toni Cleaners General Location Map



Figure 2: Toni Cleaners Site Map with Monitor Well Locations



LEGEND
 ◆ Monitoring Well and Water Table Elevation
 — Water Table Elevation Contour (ft msl)



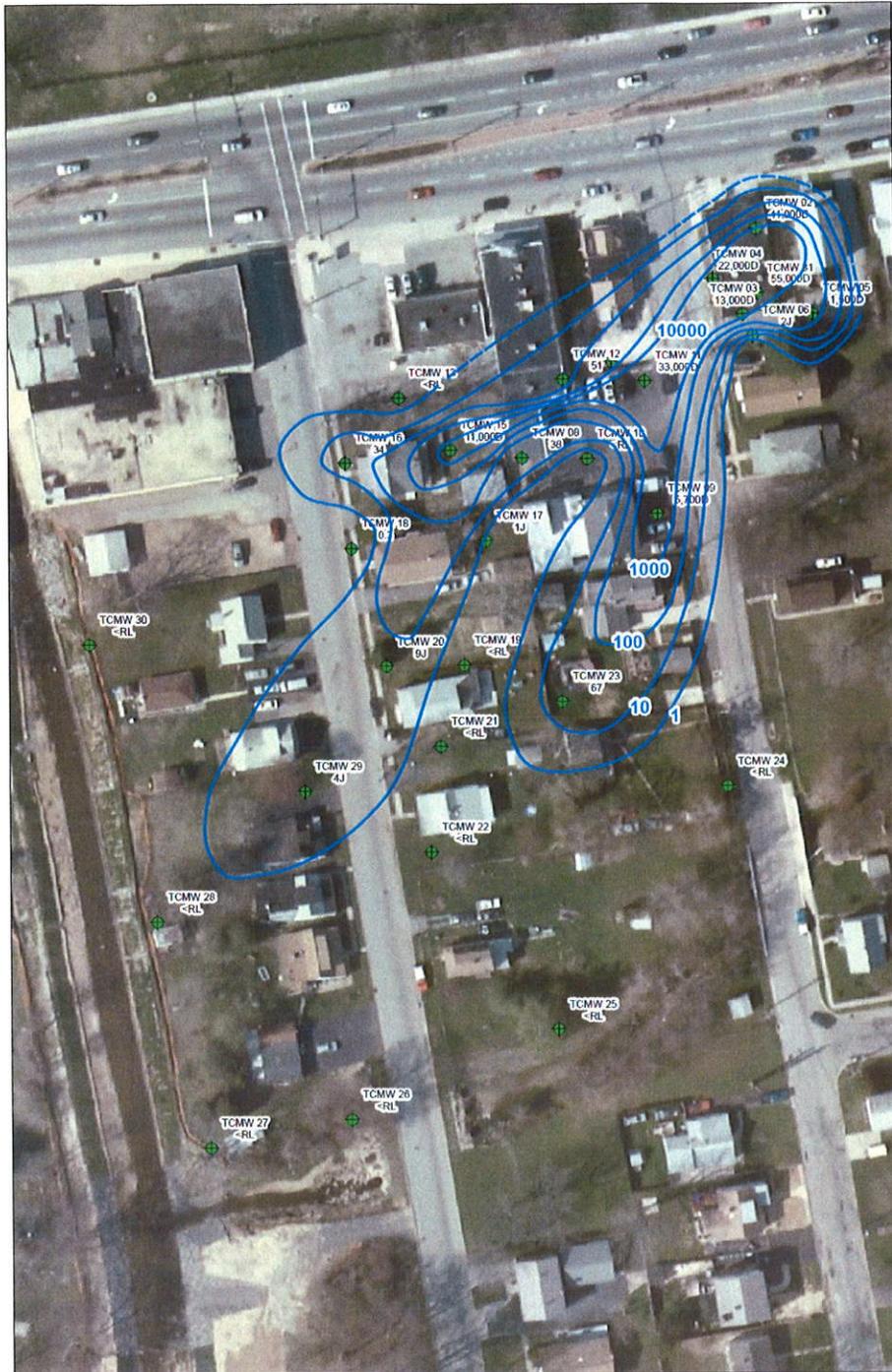
Tetra Tech
 240 Continental Drive, Suite 200
 Newark, DE 19713
 Phone: (302) 738-7551
 Toll Free: (800) 462-0910
 www.tetrattech.com



Figure 14
 Water Table Elevation Contour Map
 Toni Cleaners April 2013
 Wilmington, New Castle Co., DE

This map is provided by Tetra Tech solely for display and reference purposes and is subject to change without notice. No claim, either real or assumed, as to the absolute accuracy or precision of any data contained herein are made by Tetra Tech. Tetra Tech shall not be held responsible for any use of this document for purposes other than which it was intended.

Figure 3: Toni Cleaners Site Water Table Contour Map April 2013



LEGEND
 + Monitoring Well, Concentration, and Qualifier
 — Concentration Isocontour (approximate)

0 12.5 25 50 75 100 Feet

Tetra Tech
 240 Continental Drive, Suite 200
 Newark, DE 19713
 Phone: (302) 738-7551
 Toll Free: (800) 462-0910
 www.tetrattech.com



Figure 10
 PCE Isoconcentration Contours
 April 2013
 Toni Cleaners
 Wilmington, New Castle Co., DE

This map is provided by Tetra Tech solely for mapping and reference purposes and is subject to change without notice. No warranty, express or implied, is made by Tetra Tech for the accuracy or completeness of the data on this map and the user shall be responsible for any use of this information for purposes other than those intended.

Figure 4: PCE Concentration Map April 2013

Glossary of Terms Used in this Proposed Plan

Remedial Investigation (RI)	Thorough environmental study of a site which includes 1) sampling of site environmental media and/or wastes on the property and 2) conducting a preliminary risk assessment using the data collected to determine the risk posed to human health and the environment.
Certification of Completion of Remedy (COCR)	A formal determination by the Secretary of DNREC that remedial activities required by the Final Plan of Remedial Action have been completed.
Contaminant of Concern (COC)	Potentially harmful substances at concentrations above acceptable levels.
Contaminated Materials Management Plan	A written plan specifying how potentially contaminated material at a Site will be sampled, evaluated, staged, transported and disposed of properly.
Exposure	Contact with a substance through inhalation, ingestion, or direct contact with the skin. Exposure may be short term (acute) or long term (chronic).
Final Plan of Remedial Action	DNREC's adopted plan for cleaning up a hazardous site.
Groundwater Management Zone	A geographical area where DNREC restricts drilling for ground water because it is contaminated
Hazardous Substance Cleanup Act (HSCA)	Delaware Code Title 7, Chapter 91. The law that enables DNREC to identify parties responsible for hazardous substances releases and requires cleanup with oversight of the Department.
Human Health Risk Assessment (HHRA)	An assessment done to characterize the potential human health risk associated with exposure* to site related chemicals.
Preliminary Risk Assessment	A quantitative evaluation of only the most obvious and likely risks at a site
Risk	Likelihood or probability of injury, disease, or death.
Restricted Use	Commercial or Industrial setting
SIRS	Site Investigation Restoration Section of DNREC, which oversees cleanup of sites that were contaminated as a result of past use, from dry cleaners to chemical companies
Uniform Risk-Based Remediation Standards (URS)	A set of concentration criteria for various contaminants potentially present in site media that are developed for protection of human health and the environment
US EPA	United States Environmental Protection Agency