NEW CASSEL INDUSTRIAL AREA OPERABLE UNIT 1 SITE

US Army Corps of Engineers®

NEW CASSEL INDUSTRIAL AREA OU 1 SITE
TOWN OF HEMPSTEAD, NASSAU COUNTY, NEW YORK
FINAL BASELINE HUMAN HEALTH RISK ASSESSMENT

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Acronyms

ACOE:	United States Army Corps of Engineers
AOC:	Administrative Order on Consent
ARARs:	Applicable or Relevant and Appropriate Requirements
AT:	Averaging time
AT_C:	Averaging time (carcinogenic)
AT_N:	Averaging time (noncarcinogenic)
ATSDR:	Agency for Toxic Substances and Disease Registry
bgs:	Below ground surface
BHHRA:	Baseline Human Health Risk Assessment
BW:	Body weight
C_A:	Chemical concentration in air
CalEPA:	California Environmental Protection Agency
CERCLA:	Comprehensive Environmental Response, Compensation, and Liability Act
CF:	Conversion factor
CFR:	Code of Federal Regulations
Ca_{max}:	Maximum concentration of contaminant in shower air
C_{gw}:	Chemical concentration in groundwater
COPCs:	Constituents of Potential Concern
C_{GW}:	Concentration of chemical in groundwater
CSF:	Cancer slope factor
CSM:	Conceptual site model
Cw:	Exposure point concentration in groundwater
D_{air}:	Diffusion coefficient in air
DA_{event}:	Absorbed dose per event
DCA:	1,1-dichloroethane
DCE:	1,1-dichloroethene
DWEL:	Drinking water equivalent level
ED:	Exposure duration
EF:	Exposure frequency
ELCR:	Excess Lifetime Cancer Risk
EPA:	United States Environmental Protection Agency
EPC:	Exposure point concentration
ET:	Exposure time
EV:	Event frequency
F:	Fraction of contaminant volatilized
F_w:	Shower water flow rate
GI:	Gastrointestinal
GRA:	General response action
HEAST:	Health Effects Assessment Summary Tables

IRIS:	Integrated Risk Information System
IR:	Ingestion rate
IUR:	Inhalation unit risk
kg:	Kilogram
MCL:	Maximum contaminant level
MCLG:	Maximum contaminant level goal
MMOA:	Mutagenic Mode of Action
MRL:	Minimal risk level (ATSDR)
NHANES:	National Health and Nutrition Examination Survey
OSWER:	EPAs Office of Solid Waste and Emergency Response
PCE:	Tetrachloroethene
PPRTV:	Provisional peer-reviewed toxicity value
RAGS:	Risk Assessment Guidance for Superfund
RAO:	Remedial action objective
RfC:	Inhalation reference concentration
RfD:	Oral reference dose
RI/FS:	Remedial Investigation/Feasibility Study
RSLs:	Regional screening levels
SDWA:	Safe Drinking Water Act
T:	Average system absolute temperature
t_1:	Time in the shower
t_2:	Time in the bathroom after the shower
TAGM:	Technical and Administrative Guidance Memorandum
TBC:	To-Be-Considered
TCA:	1,1,1-trichloroethane
TCE:	Trichloroethene
V_a:	Bathroom volume (m^3)
VF:	Volatilization factor
VOCs:	Volatile organic compounds
WP:	Work Plan

1 INTRODUCTION

This Final Baseline Human Health Risk Assessment (BHHRA) for the New Cassel/Hicksville Groundwater Contamination Site, Operable Unit 1 (OU 1) located in Nassau County, New York (Figure 1) was prepared by Henningson, Durham & Richardson Architecture and Engineering PC (HDR) at the request of the U.S. Army Corps of Engineers – Kansas City District (ACOE) pursuant to the United States Environmental Protection Agency Region 2 (EPA) Administrative Order on Consent for Remedial Investigation/Feasibility Study (Contract Number: W912DQ-11-D-3007). This BHHRA was prepared in accordance with Task 4 – Human Health Risk Assessment of the Remedial Investigation/Feasibility Study (RI/FS) Scope of Work (ACOE, November 2012).

1.1 Purpose, Scope and Organization

The focus of the BHHRA is on the Operable Unit-related contaminants in the context of developing or confirming risk-based remedial action objectives (RAOs) and associated general response actions (GRAs).

In order to ensure that the BHHRA implements Superfund and other EPA risk assessment guidance effectively and efficiently, exposure and risk model assumptions, toxicity values, hazard and risk calculations, and hazard and risk summaries have been tabulated in accordance with the format recommended in *RAGS Part D* (EPA, 2001). Use of this format will also ensure transparency and clarity of the BHHRA and consistency with other risk guidance. This BHHRA includes *RAGS Part D* Tables 7, 9, and 10 (Appendix A).

This Final BHHRA completes the human health risk assessment process. This BHHRA calculates human health hazards associated with the noncarcinogenic effects of COPCs and health risks associated with the carcinogenic effects of COPCs; describes the magnitude of the hazard and risk estimates relative to acceptable regulatory levels; discusses the uncertainty associated with the human health risk assessment process; and provides conclusions with regard to the results of the risk assessment.

Sections 1, 2 and 3 of this BHHRA include introduction, site background information; site history; and site setting and land use. The remainder of this Final BHHRA is organized in seven additional sections. Section 4 presents and expands upon the Conceptual Site Model while Section 5 presents

the Data Analysis including the COPC selection process and method for calculating exposure point concentrations. Section 6 presents a discussion of intake calculations and the selection of associated exposure parameter values. Section 7 presents a discussion of the selection of toxicity values used in the BHHRA. Section 8 characterizes the hazards and risks estimated by combining the results of prior sections. Section 9 discusses the uncertainties associated with the risk assessment process, and lastly, Section 10 lists relevant references. This Final BHHRA includes groundwater data from VOCs sampling conducted in the study areas south of NCIA in both 2008 and 2011. Sample locations included a collection of shallow and deep permanent monitoring wells.

2 SITE BACKGROUND

The New Cassel/Hicksville Groundwater Contamination Superfund Site (Site) comprises a widespread area of groundwater contamination within the Towns of Hempstead, North Hempstead and Oyster Bay, New York (Figure 1). The New York State Department of Environmental Conservation (NYSDEC) published a Record of Decision (ROD) in 2003 for the New Cassel Industrial Area (NCIA) off-site groundwater, known as NYSDEC OU 3. NYSDEC's NCIA OU 3 is the first operable unit that EPA is addressing at the New Cassel/Hicksville Groundwater Contamination Site.

The NCIA is a developed industrial and commercial area that has multiple sites listed on the New York State Registry of Inactive Hazardous Waste Sites. OU1 consists of the off-site groundwater primarily located to the south of the NCIA, and across Old Country Rd (Figure 2). Groundwater contaminant plumes originating within the NCIA have migrated over 1,000 feet downgradient of the NCIA with contaminant concentrations greater than 1,000 micrograms per liter (µg/l) of total chlorinated volatile organic compounds (cVOCs). Groundwater contamination has been detected within the off-site study area at depths ranging from the water table to greater than 200 feet below ground surface (feet bgs). Contaminants have also impacted the downgradient Bowling Green Water District public water supply wells located in the Magothy aquifer at depths greater than 500 feet below ground surface (the location of the Bowling Green wells and treatment plant are shown on Figure 2). An engineering control (aeration system) is in place and monitored to address this contamination. Based on analyses of previous groundwater investigation data from the NCIA and downgradient OU 1 locations, three contaminant plumes (designated as eastern, central and western) exist and are migrating from the NCIA across Old Country Road and into the OU-3 off-

site study area. For reference, iso-concentration maps from HDR's 2011 PDI report are include in Appendix B.

2.1 Site History

In 1986, Nassau County Health Department sampling at the Bowling Green Wells (BG-1 and BG-2) in the Town of Hempstead, New York found volatile organic compounds (VOCs) including PCE, TCE and other VOCs. The NYSDEC began investigating sources approximately 1,500 feet north of Bowling Green in the NCIA thereafter.

A Record of Decision (ROD) was signed by NYSDEC for groundwater emanating from the NCIA (i.e., NCIA Operable Unit 3 ground water south of Old Country Road) in 2003. The NYSDEC ROD selected full plume remediation of upper and deep portions of the aquifer (to 225 feet below ground surface) with in-well vapor stripping/localized vapor treatment. An element of their selected remedy was a contingency where after pilot test data had been collected, the effectiveness of the in-well vapor stripping system would be evaluated and if for engineering or economic reasons, in-situ treatment should prove to be less practical, ex-situ extraction and treatment will be substituted without impairing the overall effectiveness of the treatment system. The contingency remedy was not included in the NYSDEC's alternative analysis at the time. In December 2011, NYSDEC finalized a pre-design investigation report for ex-situ extraction (ground water pump and treat) for the OU3 area.

In March 2011, EPA proposed the New Cassel Hicksville Groundwater Contamination site to the National Priorities List (NPL). Pre-NPL sampling results collected by the EPA confirmed the presence of volatile organic compounds (VOCs) in raw (pre-treated) water above the Maximum Contaminant Level (MCL) in four Town of Hempstead wells (Bowling Green 1 and 2, Roosevelt Field 10, and Levittown 2A), six Hicksville wells (4-2, 5-2, 5-3, 8-1, 8-3 and 9-3) and Westbury Water District Well 11. Contaminants reported in at least one public supply well included carbon tetrachloride; 1,1-dichloroethane (DCA); 1,2-DCA; 1,1-dichloroethylene (DCE); cis-1,2-DCE, tetrachloroethylene (PCE); 1,1,1-trichloroethane (TCA); and trichloroethylene (TCE) (EPA, March 2011). The site was finalized onto the EPA's NPL in September 2011. This Final BHHRA and subsequent risk assessment submittals will focus on NYSDEC's OU3 site (NCIA off-site groundwater) and is the first operable unit addressed by the EPA (OU1).

2.2 Site Geology and Hydrogeology

Directly underlying the study area (Figure 2) is the upper glacial aquifer (UGA), the shallow groundwater aquifer that exists at the site and vicinity. The UGA in the site area is comprised of 60 to 80 feet of glacial outwash plain sediments consisting of relatively high permeability sand and gravel. The Magothy aquifer exists below the UGA. A distinct contact between the two aquifers is typically not found in the site area. The Magothy aquifer is approximately 600 feet thick in the study area. The aquifer is comprised predominantly of sand and silty sand with some low permeability layers of clay and silt. The low permeability layers appear to be discrete and discontinuous across the study area, potentially causing partial restriction of vertical flow in localized zones and depths within the aquifer. These low permeability zones are also a mechanism for creating preferential migration pathways for contaminants as groundwater flow is restricted through these zones. Underlying the Magothy aquifer, in descending order, is the Raritan Formation (including the clay confining unit) and the Lower Lloyd Sand Member (Lloyd aquifer). Consolidated bedrock is approximately 1,000 feet below grade.

In the off-site study area, depth to groundwater is approximately 38 to 50 ft. bgs. Regional groundwater flow in the UGA and Magothy aquifer is to the south and southwest. Groundwater in the off-site study area flows from the north to the south with a western component. Contamination from the NCIA has migrated from north of Old Country Road into the OU 1 off-site study area south of Old Country Road.

2.3 Summary of Previous Investigations/Evaluations

Early warning wells (EW-1B, EW-1C and EW-2B, and EW-2C) were installed downgradient of the NCIA in 1997 to detect groundwater contamination migrating towards the municipal Bowling Green Public Water Supply wells (BG-1 and BG-2). These wells are located within the OU 1 site area south of Old Country Road and upgradient of the Bowling Green supply wells (Figure 2).

Monitoring wells MW-1 through MW-9 were installed in 2001 as part of the remedial investigation of the off site NYSDEC OU3 Study area. MW-1 through MW-8 were installed in pairs at three locations. The wells were constructed at various depths to assess and monitor vertical contamination patterns within the UGA and Magothy aquifers. In addition, four (4) Hydropunch temporary sampling points were advanced within the off-site study area in 2000. In 2008, D&B

advanced nine temporary monitoring well points (TMW-1 through TMW-9) within the off-site study area, seven of the wells were advanced to 285 feet bgs and two (TMW-3 and TMW-9) were advanced to a depth of 500 feet bgs. Locations and depths of these monitoring wells are depicted on Figure 2.

Two monitoring well clusters were also installed in the off-site study area as part of the NYSDEC investigation of the Frost Street Sites within the NCIA. The Frost Street Monitoring Well ("FSMW") clusters in the OU3 study area are comprised of one shallow (FSMW-13A and FSMW-14A), one intermediate (FSMW-13B and FSMW-14B), and one deep (FSMW-13C and FSMW-14C) monitoring well at each location. These groundwater monitoring well locations are also shown on Figure 2.

Since an initial NCIA off-site groundwater RI/FS in 2000 (NYSDEC), several rounds of groundwater sampling have been conducted, including:

- MW-1 through MW-9 – Twelve (12) sampling events from 2001 through 2008.
- EW-1 and EW-2 Well Clusters– Twelve (12) sampling events from 2001 through 2008.
- Hydropunch - Thirty nine (39) groundwater samples were collected at multiple depths from the four Hydropunch locations in 2000.
- TMW-1 through TMW-9 – A total of one hundred thirty three (133) groundwater samples were collected at multiple depths from the nine (9) temporary monitoring wells in 2008.

For the purpose of this Final BHHRA, and as reviewed previously by EPA, the groundwater monitoring well sampling results from April 2011 (HDR PDI) and February 2008 (D&B PDI) is the focus groundwater dataset. Final, validated data from these sampling events is available for use in this risk assessment submittal. Other available (historic) groundwater data were assessed qualitatively in this Final BHHRA, to confirm VOCs present and trends in concentrations.

2.4 Nature and Extent of Contamination

The Pre-Design Investigation Report (HDR, 2011) – and its evaluation of previous OU 1 data – provides the nature, areal extent, and depth of the groundwater contamination across the study area. Table 1 provides an inventory of the groundwater dataset by sampling event, and groundwater sample locations are shown on Figure 2. Consistent with previous investigations, three separate plumes exist within the NCIA and off-site OU 1 study areas (See Appendix B). The eastern

plume's contamination is comprised predominantly of PCE. The central plume's contamination consists of PCE, TCE and TCA. TCE and PCE are the major contaminants in the western plume. The contamination appears to migrate deeper as the distance along the plume axis increases away from the NCIA sources. Figure 3 illustrates both the vertical and lateral extent of the groundwater contamination through the eastern portion of the OU 1. It also provides depth to groundwater along the transect as well as including an estimate of contaminant concentrations with vertical depth.

In the eastern plume area, groundwater generally flows in a southern direction across the study area. In the central plume area, groundwater flows in a southwestern direction. In the western plume area, groundwater flows in a south-southwestern direction across the study area. There is a natural downward (vertical) gradient across the study area that is enhanced by the almost continuous pumping at the Bowling Green Supply Wells. Appendix B depicts the three plumes and their isoconcentration maps.

The eastern plume is better defined in the northern section of the study area, although some additional delineation may be warranted. The eastern plume extends further to the south and deeper than detected in previous investigations based on the results from the new monitoring well pair MW-17. The location of MW-17 is side- to downgradient of the Bowling Green Supply Wells indicating the contamination has migrated beyond the wells at a shallower depth than the basal water producing zone of the Magothy aquifer.

The central plume is orientated in a more southwest direction compared to the southern orientation of the western and eastern plumes. This is consistent with the groundwater flow direction based on the groundwater elevation data collected during the HDR PDI 2011. The presence of TCA in the central plume can be used as a contaminant fingerprint to distinguish between the various plumes.

The PDI investigation was successful in delineating the western plume to the west and south at the 200 foot depth. The western plume covers a larger areal extent compared to the eastern and central plumes which may indicate more than one source area (comingling plumes). Additional investigation would be needed to better define the western plume on the interior of the study area.

A review of the historical groundwater sampling results indicates that the contaminant plumes appear to be relatively stable (HDR, 2011). There are localized areas where declining or increasing concentration trends have been observed. These localized declining or increasing concentration

trends can also be observed in the same monitoring well cluster location over various depths in the aquifer. The sampling data from the Bowling Green Early Warning (EW) wells indicates that the concentration of chlorinated VOCs has decreased since 2008 in both the deep and shallow wells. As of 2011, only trace levels of VOCs were found in the deep Early Warning wells (EW-1C and EW-2C). However, when assessing all the available groundwater data as a whole, no significant concentration trends were observed (over time and location). The concentrations of PCE/TCE breakdown products are relatively low to non-detect compared to the concentrations of PCE and TCE, indicating that biodegradation of PCE/TCE is not progressing on a significant level within the study area (HDR, 2011). For reference, iso-concentration maps from HDR's 2011 PDI report are include in Appendix B.

3 SITE SETTING AND LAND USE

The NCIA encompasses approximately 170 acres of land and is bounded to the north by the Long Island Rail Road; to the south by Old Country Road; and to the southwest by Grand Boulevard. The NCIA is a developed industrial and commercial area that has multiple sites listed on the New York State Registry of Inactive Hazardous Waste Sites. OU1 consists of the off-site groundwater primarily located to the south of the NCIA.

3.1 Human Health Risk Assessment Reconnaissance

HDR performed a site reconnaissance of the NCIA and more specifically the NCIA OU1 in New Cassel/Hicksville, Nassau County, New York on January 18, 2013 for the purpose of evaluating the OU 1's setting and potential receptors. The NCIA vicinity is mostly developed with residential properties, and industrial and commercial businesses. Industrial activities noted within the NCIA include gravel and cement operations, scrap facilities, manufacturing, and warehouse/retail space. See Figure 4 for local land use of the study area and NCIA OU1.

The OU1 site contains mostly residential parcels, two schools, and some commercial/retail space (banks, food and retail shops, office space, etc.). The Bowling Green Water Supply wells are located within NCIA OU1, south of Old County Road. Nassau County Basin 51, a stormwater detention/recharge basin, is located adjacent to the Bowling Green treatment plant. Another smaller recharge basin operated by Nassau County Department of Public Works is located south of Old County Road and just north of the local middle and high school. The Bowling Green treatment

plant and the recharge basins are noted on Figure 4. WT Clarke Middle School and High School intercept the southwest boundary edge of the OU1 area. A few county facilities including the Nassau County Family Court and the Family Assistance Center reside on the northeastern portion of the study area along Carman Avenue. The NCIA and off-site OU1 area is serviced by municipal water system(s); no private wells are known to exist in these areas.

3.2 Demography

The 2010 Census (U.S. Bureau of the Census, 2011) estimated that 11,793 people live within the Hamlet of Salisbury which is an unincorporated area of the Town of Hempstead, New York (note that the 170 acre NCIA lies within a portion of the Hamlet of New Cassel and the Town of North Hempstead; general demographic information is provided here as a reference). The age distribution of the area is similar to that of the rest of Nassau County. There were approximately 2,232 females of reproductive age (ages 15-44) identified as living within the Hamlet of Salisbury in the Town of Hempstead, Nassau County, New York. The OU 1 area has a higher percentage of Black and Hispanic individuals and has less racial and ethnic diversity than the rest of the County. Based on the 2010 Census, the median household income is lower than the rest of the County. There are 2 schools (WT Clark Middle and High School) located within the OU 1 Area (HDR, PDI 2011 & Google, 2012).

3.3 Land Use

As noted, residential, commercial and industrial properties are located within the OU1 site and vicinity. The land use pattern is one of high /dense land use and development, with large areas of impervious surfaces and little remaining natural areas. Figure 4 presents the New Cassel Industrial Area OU1 Land Use Map.

3.4 Water Use

Water use on Long Island is dependent on the supply provided by the aquifers underlying the island. These aquifers, including the UGA, Jameco, Magothy and Lloyd, comprise a system of sole or principal source aquifers that are defined by EPA as supplying at least 50% of drinking water consumed in the area overlying the aquifers (http://www.epa.gov/Region2/water/aquifer/). The aquifers underlying Long Island are composed primarily of sand and gravel, mixed with lesser

amounts of silt and clay, and is particularly susceptible to contamination through both horizontal and vertical migration of contaminants.

In the vicinity of the New Cassel OU 1, adjacent to the central plume boundary, the Bowling Green Water Supply District maintains a water supply plant and well field (production wells BG-1 and BG-2 were described above) that, along with other area treatment plants and distribution systems, provides potable water to a significant population of Nassau County. An engineering control (aeration system) is in place at the Bowling Green treatment plant to address VOC contamination from the NCIA. The NCIA and off-site OU1 area is serviced by municipal water system(s); no private wells are known to exist in these areas.

4 CONCEPTUAL SITE MODEL

This BHHRA presents a preliminary human health CSM describing the potential exposure pathways and routes of exposure associated with OU1 groundwater, taking into account current and future land use scenarios within the OU1. The CSM addresses primary sources, primary release mechanisms, secondary sources, secondary release mechanisms, potential pathways and exposure routes, and potential receptor populations based on site information including previous investigation work, land use and setting, and site reconnaissance. Figure 5 depicts the preliminary CSM, and RAGS Table 1 (Appendix A) provides a line diagram which inventories potential human health exposures.

The potential exposure routes that may impact human receptors are presented in the preliminary CSM. These exposure routes are described in more detail below. As noted, groundwater is the focus medium of interest in this BHHRA.

Ingestion, Dermal Contact, Inhalation - Groundwater – Receptors in the OU1 area, including residents and commercial/industrial workers, may potentially be exposed to contamination in groundwater from the OU 1. Residents could potentially be exposed to contaminated drinking water under future conditions (hypothetically, assuming the engineering control at the Bowling Green treatment plant is not maintained). Accordingly, direct exposures (dermal and ingestion) to groundwater as drinking water, and inhalation of volatile COPCs in groundwater during bathing/showering activities is evaluated for the Resident receptors (child, adult). Similar dermal

and ingestion routes of exposure to groundwater are also assessed for the Commercial/Industrial Worker (adult) in the site area.

Based on the depth to groundwater and groundwater contamination in OU1, a construction worker scenario with incidental exposures to contaminated groundwater is not included in the risk assessment. Excavation activities (e.g., foundation or utility installations) to depths of 30 ft. or greater are not anticipated in the site area.

Inhalation – Indoor Air – Receptors in the surrounding community may potentially be exposed to concentrations of site-related VOCs (e.g., PCE, TCE, TCA) volatilizing from groundwater to soil vapor which may then migrate to indoor air through structure foundations under certain conditions. Vapor intrusion at the Site scenarios are potentially complete, based on depth to contamination and plume orientations. Potential for vapor intrusion into indoor air is assessed qualitatively in this BHHRA, via a screening exercise. The results of the qualitative screening assessment are discussed further in this Final BHHRA.

Elements of the CSM are presented in spreadsheet format in RAGS Table 1 of this BHHRA following the format recommended in *RAGS Part D* (EPA, 2001).

4.1 Potential Receptors

The following receptors are proposed to be evaluated in the BHHRA:

- **Future Residents:** Residents (adults and children) who use site groundwater for potable purposes under a future land use condition. It should be noted that no private potable wells are currently used in the vicinity of the site.
- **Future Commercial and Industrial Workers:** Workers who use site groundwater for potable purposes under a future land use condition. It should be noted that no private potable wells are currently used in the vicinity of the site.

For residents and commercial/industrial workers that could potentially be exposed to OU1 contamination via drinking water, it is hypothetically assumed that the engineering control at the Bowling Green facility is not maintained at some point in the future. Exposure factors and equations that are the basis for quantitative analysis are presented below in Section 6, and in the attached RAGS Table 4s (Appendix A).

5 DATA ANALYSIS AND EVALUATION

5.1 2011 & 2008 Dataset

The HDR 2011 and D&B 2008 NYSDEC OU3 groundwater dataset (to be assessed quantitatively in this BHHRA) consists of thirty-eight combined monitoring well samples collected in both April 2011 and February 2008 during investigations conducted on behalf of NYSDEC (HDR, 2011 PDI & D&B, 2009 PDI). An inventory of the groundwater dataset is included on Table 1, and locations of the monitoring well locations are depicted on Figure 2 of this report. The data obtained from both rounds of groundwater sampling consists of volatile organic compounds (VOCs) only. The data assessed in the BHHRA are from permanent monitoring wells within OU 1.

Concentrations of PCE were detected in 30 of the 38 samples, with a range between 0.5 (Non-Detect) – 12,000 ug/L. The highest concentration was reported in one of the Frost Street monitoring wells (FSMW-14A) at an approximate screened depth of 119-139 feet bgs. This well is located at the northeastern portion of the NCIA OU 1. Concentrations of TCE were detected in 32 of the 38 samples, with a range between 0.32 – 1,800 ug/L. The highest TCE concentration was also reported in FSMW-14A. Concentrations of 1,1,1-trichloroethane (TCA) were detected in 20 of the 38 samples, with a range between 0.25 – 1,400 ug/L. The highest reported TCA level was in MW-6 at an approximate screened depth of 110-130 feet below ground surface (bgs). This well is located at the northern portion of the NCIA OU 1, just south of Old Country Road.

Other chemical compounds were identified in the groundwater sampling data with frequencies of detection exceeding half of the dataset (i.e., chemicals were detected in 50% or more of the groundwater samples). These analytes include 1,1-dichloroethane, 1,1-dichloroethene, chloroform, and cis-1,2-dichloroethene. In addition, various other chemicals were also detected in the groundwater sampling results with a frequencies of detection of 5 or more samples (i.e., in greater than 13% of the samples). These analytes include 1,1,2-trichlorotrifluoroethane, 1,1,2-trichloroethane, 1,2-dichloroethane, m/p-xylenes, toluene, and trans-1,2-dichloroethene. Section 5.5 provides more information on COPC screening and groundwater evaluation to be included in this risk assessment.

5.2 Walden Dataset

The Walden 2006 and 2007 NYSDEC OU3 groundwater data (assessed qualitatively in this BHHRA) consist of six sample locations (FSMW-13A, FSMW-13B, FSMW-13C, FSMW-14A, FSMW-14B, FSMW-14C) with sampling conducted in both August 2007 and August 2006 during an investigation of the NYSDEC Frost Street sites. These monitoring well locations are also shown on Figure 2. The data obtained from both rounds of Walden's groundwater sampling consisted only of VOCs. In general, the 2006/2007 data are comparable to data from HDR's 2011 and D&B's 2008 sampling events, with some higher maximum concentrations noted. Concentrations of PCE and TCE were detected in all but one of the 10 samples, with a range of PCE between 36 – 75,000 ug/L and TCE between 65 – 2,300 ug/L. The maximum concentrations of PCE and TCE from these historic sampling rounds are noted to be about six times and 1.3 times higher than the 2011 and 2008 maximum concentrations of PCE and TCE. Cis-1,2-dichloroethene was detected in 9 of the 10 samples, ranging between 6 – 700 ug/L. MW-14A reported the highest concentrations of these three contaminants in the Walden dataset. Carbon tetrachloride was detected in four samples (with a range of 33 – 45 ug/L); TCA was detected in two samples (12 and 75 ug/L). Several other VOCs were detected at relatively low concentrations, however, most other sample results were reported as "non-detect" for VOCs.

5.3 Temporary Shallow Vertical Profiles

The D&B 2009 PDI Report prepared on behalf of NYSDEC discussed the temporary well installation, sampling and evaluation of sampling results. To further evaluate off-site groundwater quality, vertical groundwater sampling was conducted (2008) using temporary wells. Seven temporary wells were installed, each with 3.25" hollow stem augers to approximately 285 feet bgs. A temporary 2" well with 5 foot well screen (0.010" slot) was placed inside the augers before removing from the borehole and allowing the formation to collapse around the well. Approximately three well casing volumes were purged from the temporary points using a submersible pump and a groundwater sample was collected from the pump discharge using low flow rates. Samples were collected for VOC analysis, as well as various geochemical parameters. The wells were retracted at 20 foot intervals and the process was repeated until the water table was reached (approximately 45 feet bgs).

A total of 85 groundwater samples were collected from the seven temporary wells installed to nearly 285 feet bgs. Figure 2 depicts these wells while Table 2 presents a sample set of this data for only the shallow sample location points (i.e., data from groundwater samples collected from depths of 100 ft. bgs or shallower). This summary table was created at EPA's request to better assess shallow groundwater data across the site, and to assist the agency in evaluating potential vapor intrusion.

The 2008 shallow temporary well groundwater data (obtained from the above-referenced PDI Report) that was assessed for this BHHRA consist of seven sample locations (TMW-1, TMW-2, TMW-4, TMW-5, TMW-6, TMW-7, & TMW-9) with sampling conducted in June, July, & August 2008 during the PDI Report investigation of the NYSDEC OU3 site. These temporary monitoring well locations are shown on Figure 2. The data obtained from the 2008 temporary well sampling focused primarily on VOCs (which is also the focus of this BHHRA report). In general, the 2008 shallow temporary well data are comparable to data from HDR's 2011 and D&B's 2008 permanent monitoring well sampling events that are used in this BHHRA, with VOC concentrations being generally lower in the temporary monitoring well dataset.

Concentrations of PCE were detected in all but one of the 7 sample points (TMW-6), with a range between 2.9 – 470 ug/L while concentrations of TCE were detected in all but one of the 7 sample points (TMW-4), with a range of TCE between 0.63 – 90 ug/L. The maximum concentrations of PCE and TCE from these shallow temporary monitoring well sampling rounds are noted to be approximately to two orders of magnitude below than the 2011 and 2008 maximum concentrations in the permanent monitoring wells. Six other chemicals were reported above NYSDEC TOGS 1.1.1 Class GA Groundwater Standards/Guidance Values from the D&B 2008 temporary shallow vertical profile points. These included cis-1,2-dichloroethene, 1,1-dichloroethene, 1,1-dichloroethane, 1,1,1-trichloroethane, and benzene. Several other VOCs were detected at lower concentrations; however, most other VOCs had sample results reported as "non-detect". Laboratory data packages from the D&B 2009 PDI (July - December 2008 sampling) for the temporary vertical profiles were performed according to NYSDEC ASP protocols and reported per NYSDEC ASP requirements for Category B deliverables. The data packages were certified in compliance, both technically and for completeness, by a New York State Certified laboratory.

The highest total VOC concentrations among the temporary monitoring well data were reported in TMW-7 (located in the northeastern portion of OU 1), at a deeper depth interval (185 ft. bgs) than the above-described shallow sample intervals evaluated. Concentrations at this sample depth at location TMW-7 included: TCE 14 – 390 ug/L, PCE 12 – 11,000 ug/L, and cis-1,2-dichloroethene 10 – 390 ug/L. In general, a review of the 2008 data from the seven temporary monitoring wells indicates that total VOC concentrations (within the study area) generally increase with increasing distance from the NCIA (upgradient) and with depth, which corroborates other information regarding the nature and extent of the contaminant plume within OU 1.

5.4 Vapor Intrusion Evaluation (NYSDEC)

Camp Dresser & McKee, Inc. (CDM) prepared a Site Characterization Report for NYSDEC Operable Unit 4 – Off-Site Vapor Intrusion Evaluation for the New Cassel Industrial Area in September of 2009. As per the NYSDEC ROD in 2003 for the NCIA off-site groundwater, known as NYSDEC OU3 (off-site groundwater) and NYSDEC OU4 (off-site vapor intrusion) were evaluated. The NYSDEC Operable Units were spatially identical to one another. The first Phase 1 Investigation was conducted from August 11 – September 22, 2006 by O'Brien and Gere for purposes of assessing whether VOCs from the NCIA may be volatilizing and entering structures in an area surrounding the NCIA. Soil vapor probes were installed at 38 locations for a total of 76 soil vapor sampling ports (a collection of sample location maps is included in Appendix C). Sampling ports were installed at "foundation depth" (approx. 8 ft. bgs) and 6-10 ft. above the water table (generally at depths of 29 to 45 ft. bgs). The soil vapor samples were collected with 1- liter Summa canisters with a 2-hour regulator. Results showed chlorinated and non-chlorinated hydrocarbons at elevated levels. PCE concentrations ranged from 2.85 to 1,086 ug/m^3. Three samples exceeded the NYS air guideline for PCE (100 ug/m^3). TCE concentrations ranged from non-detect to 363 ug/m^3. Seven samples exceeded the NYS air guideline for TCE (5 ug/m^3). Benzene concentrations ranged from 2.3 to 182 ug/m^3. Based on the results, additional sampling was proposed (CDM, 2009). Below is a summary of EPA's current Residential Air RSLs (November 2012) for those contaminants aforementioned. Residential Air RSLs are shown as a conservative evaluation for receptors in the exposure population (including children in residential and school settings).

Table 3-1: O'Brien & Gere 2006 Vapor Intrusion Evaluation

Chemical	Maximum Concentration Detected	Carcinogenic SL TR=E-06	Noncarcinogenic SL HI=1
PCE	1.1E+03 ug/m^3	9.4E+00 ug/m^3	4.2E+01 ug/m^3
TCE	3.6E+02 ug/m^3	4.3E-01 ug/m^3	2.1E+00 ug/m^3
Benzene	1.8E+02 ug/m^3	3.1E-01 ug/m^3	3.1E+01 ug/m^3

A Phase 2 Vapor Intrusion Investigation (in the area identified as NYSDEC OU4) was conducted on September 14, 2007 by O'Brien and Gere. Six indoor air samples were collected within the W.T. Clarke High School; three in the basement and three (at 4-ft height) on the first floor. One ambient air summa canister was placed outdoors (at 5-ft height). Results showed detections of chlorinated and non-chlorinated hydrocarbons. PCE concentrations ranged from non-detect to 2.28 ug/m^3. TCE concentrations ranged from non-detect to 3.71 ug/m^3. Methylene chloride concentrations ranged from 0.671 to 1.91 ug/m^3. Carbon tetrachloride concentrations ranged from non-detect to 0.831 ug/m3. Benzene concentrations ranged from 0.390 to 1.95 ug/m^3. Toluene concentrations ranged form 2.95 to 8.24 ug/m^3. M & P-Xylene concentrations ranged from 1.68 to 4.55 ug/m^3 (CDM, 2009). Below is a summary of EPA's current Residential Air RSLs (November 2012) for those contaminants aforementioned.

Table 3 – 2: O'Brien & Gere 2007 Vapor Intrusion Evaluation

Chemical	Maximum Concentration Detected	Carcinogenic SL TR= E-06	Noncarcinogenic SL HI=1
PCE	2.3E+00 ug/m^3	9.4E+00 ug/m^3	4.2E+01 ug/m^3

TCE	3.7E+00 ug/m^3	4.3E-01 ug/m^3	2.1E+00 ug/m^3
Methylene chloride	1.9E+00 ug/m^3	9.6E+01 ug/m^3	6.3E+02 ug/m^3
Carbon tetrachloride	8.3E-01 ug/m^3	4.1E-01 ug/m^3	1.0E+02 ug/m^3
Benzene	1.8E+02 ug/m^3	3.1E-01 ug/m^3	3.1E+01 ug/m^3
Toluene	8.2E+00 ug/m^3	N/A	5.2E+03 ug/m^3
M&P Xylene	4.6E+00 ug/m^3	N/A	1.0E+02 ug/m^3

A soil vapor intrusion investigation was also conducted by CDM in 2008. In March 2008, CDM conducted soil vapor (and groundwater) sampling at 5 direct push locations at each of 7 locations (designated as Sites A, B, C, F, K, N, and V). Soil vapor samples were collected from each location at 3 depth intervals: "foundation depth" (approximately 8 ft. bgs), 25 ft. bgs, and 2 ft. above water table (approximately 45 ft. bgs). Outdoor (ambient) samples were also collected daily. The CDM conclusions noted that the results identified potential source areas contributing to the PCE and 1,1,1-TCA groundwater plume (CDM, 2009).

A Phase 3 Off-site VI Investigation was conducted from March 3 – 12, 2009 by CDM (see Appendix C for VI Figures associated with this sampling event) and included: sub-slab vapor sample collection at 6 residences, the Town of Hempstead Water Department Facility, and the W.T. Clark High School; and indoor (basement) and outdoor (ambient) air sample collection at 7 residences, Town of Hempstead Water Department Facility and the W.T. Clark High School. Summa canisters with a 24-hr regulator were used for all samples. PCE concentrations among these Summa canister samples ranged from non-detect to 15 ug/m^3 (with the maximum concentration from a sub-slab vapor sample). TCE ranged from non-detect to 14 ug/m^3 (with the maximum concentration from a sub-slab vapor sample). 1,1,1-TCA ranged from non-detect to 16 ug/m^3 (with the maximum concentration from an indoor basement air sample). Chloroform ranged from non-detect to 81,000 ug/m^3(with the maximum concentration from a sub-slab vapor sample). Methylene

chloride ranged rom non-detect to 14 ug/m^3 (with the maximum concentration from an indoor basement air sample) (CDM, 2009). Below is a summary of EPA's current Residential Air RSLs (November 2012) for those contaminants aforementioned.

Table 3 – 3: Camp, Dresser, & McKee, Inc. 2009 Vapor Intrusion Evaluation

Chemical	Maximum Concentration Detected	Carcinogenic SL TR= E-06	Noncarcinogenic SL HI=1
PCE	1.5E+01 ug/m^3	9.4E+00 ug/m^3	4.2E+01 ug/m^3
TCE	1.4E+01 ug/m^3	4.3E-01 ug/m^3	2.1E+00 ug/m^3
1,1,1-TCA	1.6E+01 ug/m^3	N/A	5.2E+03 ug/m^3
Chloroform	8.1E+04 ug/m^3	1.1E-01 ug/m^3	1.0E+02 ug/m^3
Methylene chloride	1.4E+01 ug/m^3	9.6E+01 ug/m^3	6.3E+02 ug/m^3

5.5 COPC Screening

EPA Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites (November 2012) were used to screen groundwater data for purposes of identifying chemicals of potential concern (COPCs). COPCs are those chemicals that have the greatest potential to cause adverse human health effects if receptors come in contact with site media. The maximum detected VOC concentrations in the groundwater dataset were compared to Tapwater RSLs to identify groundwater COPCs. In addition, in accordance with EPA Region 2 policy, all Class A human carcinogens were retained as COPCs regardless of the results of the RSL comparison. The RSLs are based on a target excess lifetime cancer risk (ELCR) of 1 x 10^{-6} and a noncancer hazard quotient (HQ) of 1. The RSLs for noncancer health effects were adjusted downward by a factor of 10 to

account for cumulative noncancer effects (HQ of 0.1 used in screening, where appropriate). The Tapwater RSLs were deemed appropriate for COPC screening, considering the potential receptors of interest in the OU 1 area: residents and commercial/industrial workers.

In addition to the use of maximum detected VOC concentrations in the groundwater dataset being compared to the Tapwater RSLs to identify COPC, this BHHRA includes a vapor intrusion screening assessment (Section 5.5.2).

5.5.1 COPC Screening Results

The results of the groundwater COPC screening are presented in RAGS Table 2.1 of Appendix A. Both the carcinogenic SL (with target risk 1 x 10^{-6}) and the noncarcinogenic (HI = 1) are presented in RAGS 2.1 where available. A Tapwater RSLs was not available for only one of the detected chemicals in the dataset (1,3 dichlorobenzene). Results of the COPC screening are summarized below:

- **Residents & Commercial/Industrial Workers (Both Tapwater RSLs):** Fifteen (15) groundwater COPCs were identified (1,1,1-trichloroethane; 1,1,2,2-tetrachloroethane; 1,1,2-trichloroethane; 1,1-dichloroethane; 1,1-dichloroethene; 1,2-dichloroethane; benzene; bromodichloromethane; carbon tetrachloride; chloroform; cis-1,2-dichloroethene; tetrachloroethene; trans-1,2-dichloroethene; trichloroethene; and vinyl chloride).

PCE was detected in 30 of the 38 samples, with a range between 0.5 (Non-Detect) – 12,000 ug/L. TCE was detected in 32 of the 38 samples, with a concentration range between 0.32 – 1,800 ug/L. Concentrations of TCA were detected in 20 of the 38 samples, with a range between 0.25 – 1,400 ug/L. Other COPCs were identified in groundwater with frequencies of detection exceeding 50%. These chemicals include: 1,1-dichloroethane, 1,1-dichloroethene, chloroform, and cis-1,2-dichloroethene. In addition, COPCs were also identified with a frequency of detection of 5 or more samples. These analytes include 1,1,2-trichloroethane, 1,2-dichloroethane, and trans-1,2-dichloroethene. The remaining COPCs had a relatively low frequency of detection (i.e., below 4 instances within the dataset).

There were 19 other chemicals detected in the 2011 and 2008 groundwater dataset but that were not retained as COPCs. Of those analytes, the following three chemicals - 1,2,4-trichlorobenzene, 1,4-dichlorobenzene, and dibromochloromethane - were detected above the Tapwater RSL but at

relativity low frequencies (1 or 2 samples). Two of these compounds also had maximum detected concentrations below the respective groundwater ARARs/TBCs (MCLs/ NYS TOGS).

With regard to location and depth of contamination, some of the highest concentrations were reported in the Frost Street area monitoring well (FSMW-14A; refer to Figure 2), at a screened interval of 119-139 feet bgs, while other elevated concentrations were reported in deep wells MW-17D (287 ft. bgs) and MW-11D (285 ft. bgs). The COPC information presented on RAGS Table 2.1 (Appendix A) indicates that concentrations are elevated in various locations across the OU 1.

5.5.2 VI Screening Assessment

As requested by the EPA, an evaluation of potential vapor intrusion (VI) into indoor air via a qualitative screening assessment was performed. The groundwater-to vapor exposure pathway was evaluated qualitatively via a screening comparison of groundwater analytical data to generic screening criteria using the EPAs Office of Solid Waste and Emergency Response's (OSWER) Vapor Intrusion Assessment Tool, the Vapor Intrusion Screening Level (VISL) Calculator (Version 3.0, November 2012). The maximum detected VOC concentrations in the groundwater dataset were compared to the Target Groundwater Concentrations to identify potential VI-related COPCs for the BHHRA. The Target Groundwater Concentrations are based on a target excess lifetime cancer risk (ELCR) of 1 x 10^{-6} and a noncancer hazard quotient (HQ) of 1. Potential VI impacts are not quantitatively assessed in this Final BHHRA, as per EPA direction.

The results of the VI-related COPCs screening are presented in RAGS Table 2.2 (VISL) of Appendix A and are summarized below. Target Groundwater Concentrations were not available for five of the detected chemicals.

- **Residents & Commercial/Industrial Workers (Both Target Groundwater Concentration):** 12 VOCs (1,1,2,2-tetrachloroethane; 1,1,2-trichloroethane; 1,1-dichloroethane; 1,1-dichloroethene; 1,2-Dichloroethane; benzene; bromodichloromethane; carbon tetrachloride; chloroform; tetrachloroethene; trichloroethene; and vinyl chloride) were identified as VI COPCs in groundwater.

VI-related COPCs correlate to those identified in the Tapwater RSLs screening process. Twelve of the fifteen groundwater COPCs were also identified as VI-related COPCs (1,1,1-trichloroethane; cis-1,2-dichloroethene; and trans-1,2-dichloroethene were not identified as VI COPCs).

5.6 Hot Spot Evaluation

An analysis of OU 1 groundwater data was conducted to assess whether potential hot spots are present (considering areal trends and/or depth intervals), and if a separate groundwater exposure evaluation should be considered. Appendix D presents the groundwater COPCs identified, along with well locations in OU 1 where the contaminants were detected at concentrations 100 times the adjusted Tapwater RSLs (i.e., considering a target HQ of 10 or an ELCR of 1×10^{-4}). This exercise was used to identify the presence (if any) of one or more discrete areas where concentrations are significantly more elevated than surrounding areas within OU 1. A review of OU 1 groundwater as shown on Appendix D of this BHHRA, depicts detected concentrations of various VOCs exceeded 100 times their respective Tapwater RSLs in groundwater.

PCE was found to exceed 100 times the Tapwater RSL at four groundwater sampling locations with a maximum detected concentration of 12,000 micrograms per liter (ug/L). The locations exceeding 100 times the Tapwater RSL are MW-11D, MW-17D, FSMW-14A, and FSMW-14B. TCE was found to exceed 100 times the Tapwater RSL at 15 groundwater sampling locations with a maximum detected concentration of 1,800 ug/L. The locations exceeding 100 times the Tapwater RSL are EX-2, MW-2, MW-3, MW-4, MW-6, MW-10, MW-11S, MW-11D, FSMW-13C, MW-14, FSMW-14A, FSMW-14C, EW-2B, MW-16D, and MW-17D.

Chloroform was found to exceed 100 times the Tapwater RSL at three groundwater sampling locations with a maximum detected concentration of 54 ug/L. The locations exceeding the 100 times the Tapwater RSL are MW-11S, MW-11D and MW-17D. 1,1,2,2-tetrachloroethane and 1,1,2-trichloroethane were found to exceed 100 times the Tapwater RSL at MW-17D only. The maximum detected concentrations were 23 and 54 ug/L, respectively. Vinyl chloride was found to exceed 100 times the Tapwater RSL at EW-2B only, with a concentration of 11 ug/L. Cis-1,2-dichloroethene was found to exceed 100 times the Tapwater RSL at MW-17D and FSMW-14A (with a maximum detected concentration of 630 ug/L). 1,1-dichloroethane was found to exceed at MW-6 with a maximum detected concentration of 970 ug/L. See below for a tabular representation of those chemicals that were found to exceed 100 times their respective Tapwater RSLs (November, 2012). For presentation purposes, both the carcinogenic SL and noncarcinogenic SL are included.

Table 4: Hot Spot Exceedances Evaluation

Chemical	Maximum Concentration Detected	Carcinogenic SL TR= E-06	Noncarcinogenic SL HI=1
PCE	1.2E+04 ug/L	9.7E+00 ug/L	3.5E+01 ug/L
TCE	1.8E+03 ug/L	4.4E-01 ug/L	2.6E+00 ug/L
Chloroform	5.4E+01 ug/L	1.9E-01 ug/L	8.4E+01 ug/L
1,1,2,2-tetrachloroethane	2.3E+01 ug/L	6.6E-02 ug/L	2.8E+02 ug/L
1,1,2-trichloroethane	5.4E+01 ug/L	2.4E-01 ug/L	4.1E-01 ug/L
Vinyl chloride	1.1E+01 ug/L	1.5E-02 ug/L	3.6E+01 ug/L
cis-1,2-dichloroethene	6.3E+02 ug/L	N/A	2.8E+01 ug/L
1,1-dichloroethane	9.7E+02 ug/L	2.4E+00 ug/L	2.9E+03 ug/L

MW-17D has concentrations of six compounds exceeding the 100 times the Tapwater RSL. MW-11D has concentrations of three compounds exceeding 100 times the Tapwater RSL. The remaining wells listed above exceed the 100 times RSL for one or two compounds.

Overall, a graphical review of OU 1 groundwater data indicates that concentrations are elevated in various locations across the OU 1, and therefore, no obvious hot spot locations were identified that warrant separate analysis in the BHHRA. With the exception of MW-17D (located in the southeastern area of the OU 1) and MW-11D (located in the southwestern area of the OU 1), all of the remaining wells had VOCs exceeding screening levels for 100 times or more in only one or two compounds. As groundwater contamination is migrating in a general southward direction from upgradient NCIA source areas, variability of concentrations among the OU 1 monitoring wells is

expected over time. Based on the above distribution of contaminant concentrations – across the OU 1 and with depth - all 2011 and 2008 groundwater data is treated as a single dataset.

5.7 ARARs and TBCs

Chemical-specific Applicable or Relevant and Appropriate Requirements (ARARs) and To-Be-Considered (TBCs) were evaluated. COPCs were quantitatively evaluated in the Final BHHRA and are identified based on comparison to EPA risk-based screening levels (i.e., currently RSLs) and known site-related contaminants. Therefore, ARARs and TBCs did not factor into the COPC screening process presented here. Furthermore, ARARs and TBCs are not directly used in the risk assessment process and, therefore, will not impact the methods or outcomes (i.e., hazard and risk calculations) of the BHHRA. However, RAOs and remedial actions that are developed will need to consider ARARs and TBCs.

Groundwater: The EPA's National Primary Drinking Water Standards for groundwater (40 CFR Part 141) were promulgated by the Safe Drinking Water Act (SDWA) that regulates contaminants in groundwater utilized as potable water supplies. The primary standards include both Maximum Contaminant Levels (MCLs) and Maximum Contaminant Level Goals (MCLGs). MCLs are relevant and appropriate for groundwater that is a potential drinking water source. They are based on human health factors as well as the technical and economic feasibility of removing the contaminants from the water supply. MCLs are applicable for groundwater and private water supplies. The SDWA also includes secondary MCLs (40 CFR Part 143) that are non-enforceable guidelines based on organoleptic effects (e.g., taste, odor, color, and appearance). MCLGs are non-enforceable guidelines (TBCs) that do not consider the feasibility of contaminant removal.

New York State Groundwater Standards have been promulgated by NYSDEC and are applicable as ARARs. The aquifer underlying the Site has been designated a Class GA groundwater, which is defined as: "The best usage of Class GA waters is as source of potable water supply. Class GA waters are fresh groundwater found in the saturated zone of unconsolidated deposits and consolidated rock or bedrock." Therefore, the Class GA groundwater standards are intended to protect human health through the use of the groundwater as a drinking water supply and are equivalent to the NYS MCLs established by NYSDOH for public drinking water supplies. The New York State Groundwater Standards were promulgated in 6NYCRR Part 703 while the

NYSDOH MCLs were promulgated in NYCRR Title 10 Chapter I (State Sanitary Code) Subpart 5-1.

5.8 Calculation of Exposure Point Concentrations

A statistical analysis was conducted on each groundwater COPC to determine the exposure point concentration (EPC) to be used in the risk assessment. The EPC is the concentration of a constituent in a medium (e.g., groundwater) that is reasonably expected to be contacted by an individual over time and is assumed to be universally present throughout the OU 1 (EPA, 1989). The EPA defines the exposure concentration as the arithmetic average of the concentration that is contacted over the exposure period (EPA, 1989). The EPA goes on to state that "Although this concentration does not reflect the maximum concentration that could be contacted at any one time, it is regarded as a reasonable estimate of the concentration likely to be contacted over time. This is because in most situations, assuming long-term contact with the maximum concentration is not reasonable" (EPA, 1989). However, as a result of the uncertainty associated with estimates of exposure concentrations, the 95% upper confidence limit of the mean concentration (95% UCL) is typically used for this variable instead of an arithmetic average (EPA, 1989). When detected data are very limited in a given data set for a COPC, a reliable and stable 95% UCL cannot be calculated. In these instances, the 95% UCL is often greater than the maximum detected concentration. In the absence of a reliable and stable 95% UCL or when a calculated 95% UCL is greater than the maximum detected concentration, the maximum detected concentration is to be used as the EPC. For the groundwater COPCs evaluated herein, there were only a few instances where the maximum concentration was used as the EPC. The groundwater EPCs are summarized in RAGS Table 3s included in Appendix A of this submittal.

Summary statistics and 95% UCLs were calculated for each groundwater COPC identified through the screening process using EPA's ProUCL software (version 4.1). ProUCL version 4.1 has been designed to calculate a variety of UCLs based on a various statistical methods while accounting for different data distributions (or lack thereof), skewness, sample size, standard deviation, variance, the presence of censored data (non-detects), the number of non-detect results, and the number of unique detected results. ProUCL version 4.1 uses these data characteristics to select and recommend an appropriate statistic for use as the EPC. When data were sufficient to calculate a 95% UCL, ProUCL's recommended statistic was selected as the EPC for use in this BHHRA.

The summary statistics and EPCs are presented in RAGS Table 3s (groundwater) in EPA *RAGS Part D* format (EPA, 2001). The ProUCL outputs are presented in Appendix E. Groundwater sampling datasets in Electronic Data Deliverable-like format are provided in Appendix F of this Final BHHRA.

5.9 Exposure Point Quantified

The potential exposure pathways quantified in the BHHRA for each receptor group are presented below:

- Residents
  - **Groundwater:** Ingestion and dermal contact exposure to COPCs in groundwater was quantified for adult and child residents; EPCs are presented in Table RAGS 3.1 of Appendix A.
  - **Bathroom Air**: Inhalation exposures to bathroom air (as a result of adult showering and child bathing) from tapwater use were quantified for residents; bathroom air EPCs were calculated for volatile groundwater COPCs using the Andelman Model (1990; modified by Schaum et al., 1994) are presented in RAGS Table 3.1a of Appendix A. The input assumptions (for example, time in shower or bath, tap water flow rate) used in the Andelman Model to calculate the EPCs are presented in RAGS Table 3.1 Supplement A of Appendix A.
- Commercial / Industrial Workers
  - **Groundwater:** Ingestion and dermal contact exposure to COPCs in groundwater was quantified for adult commercial/industrial workers. EPCs are presented in RAGs Table 3.1 of Appendix A.

6 INTAKE CALCULATIONS

Several EPA guidance documents were listed in the BHHRA as sources of procedures to be used to assess potential hazards and risks associated with the potentially complete exposure pathways described above. To reiterate, the following documents have been employed in the development of this BHHRA:

- *Risk Assessment Guidance for Superfund, Volume I. Human Health Evaluation Manual (Part A) (EPA, 1989)*
- *Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Supplemental Guidance," Standard Default Exposure Factors", Interim Final)* (EPA, 1991)

- *Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments)* (EPA, 2001)
- *Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment)* (EPA, 2004)
- *Supplemental Guidance for Assessing Susceptibility from Early-Life Exposures to Carcinogens* (EPA, 2005b).
- *Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment* (EPA, 2009b)
- *Exposure Factors Handbook*, (EPA, 1997)

The EPA states that actions at Superfund Sites should be based on an estimate of the reasonable maximum exposure (RME) expected to occur under both current and future land-use conditions (EPA, 1989). The intent of the RME is to estimate a conservative exposure case (i.e., well above the average case) that is still within the range of possible exposures. For Superfund exposure assessments, intake variable values for a given pathway should be selected so that the combination of all intake variables results in an estimate of the reasonable maximum exposure for that pathway (EPA, 1989). Under this approach, some intake variables may not be at their individual maximum values but, when in combination with other variables, will result in estimates of the RME (EPA, 1989). Accordingly, some intake variables described below represent mean or 50th percentile values that, when used in combination with 95th percentile and maximum values, result in RME estimates of intakes.

Human health risk assessments conducted in the Superfund program often assess central tendency exposures (CTEs) in addition to RMEs in order to provide a range of possible exposures that may actually occur at a site. Having such a range is particularly useful if RMEs result in unacceptable hazards or risks while CTEs result in acceptable hazards or risks. However, for groundwater, hazards and risks calculated for the OU 1 are well above EPA's *de minimis* hazard (1.0) and risk (1×10^{-6}) levels under baseline conditions.

Although, the information obtained by calculating CTEs could provide additional insight into the need for remedial actions at the OU 1 as discussed in the EPAs Habicht Memorandum (EPA, February 1992), this risk assessment does not include CTE estimates. Presenting decision and policy makers with additional risk assessment perspectives is useful, but ultimately remedy

selection will be based upon RME. The potential use of CTE estimates for *all* intake variables would not likely reduce groundwater hazard and potential risk estimates significantly. The exposure parameters discussed below reflect values that were used in the BHHRA for estimating RMEs.

6.1 Assessment of Mutagens

The EPA has provided specific guidance on the assessment of childhood cancer risks associated with certain carcinogenic constituents that act through a mutagenic mode of action (mutagens) in its document *Supplemental Guidance for Assessing Susceptibility from Early-Life Exposures to Carcinogens* (EPA, 2005b). According to an analysis of available studies on mutagens, the EPA has determined that higher cancer risks result from a given exposure occurring early in life (between the ages of 0 and 16) when compared with the same amount of exposure during adulthood (after the age of 16; EPA, 2005b). As such, the methodology suggested in the EPA guidance weighs childhood exposures to mutagens differently depending on the life stage or age group (EPA, 2005b). EPA's Office of Solid Waste and Emergency Response (OSWER) developed chemical-specific information related to chemicals which may cause cancer via mutagenic mode of action (MMOA). This handbook can be utilized for implementing the supplemental cancer guidance at waste and clean-up sites especially for early life exposures. It identified two of the OU 1 COPCs (vinyl chloride and TCE) are considered to potentially cause cancer via MMOA, thereby warranting use of age-dependent adjustment factors (ADAFs) (EPA, 2005b).

Vinyl chloride and TCE are the only COPCs identified at the site that are considered by EPA to be chemicals and have potential effects which may cause cancer via a MMOA, and age-specific toxicity factors (exposure from birth and exposure through adulthood) are available. For vinyl chloride, the exposure factors for two specific age groups (0 to 6 years of age, and 6 to 30) were identified and used in the calculation of carcinogenic risk estimates. The age group-specific exposure factors are provided in RAGS Tables 4.1 Supplement A of Appendix A, and the data used to calculate vinyl chloride age adjusted exposure factors are presented in RAGs Table 4.1 Supplement B of Appendix A.

For TCE, the EPA recommends incorporating age-dependent adjustment factors [(ADAFs), depending on the age group] into the risk assessment exposure calculations to take into account the

increased susceptibility of individuals to cancer when exposed to mutagens in early life (EPA, 2005b). These adjustment factors range from 10 for the ages between zero and 2 years, 3 for the ages between 2 years and 16 years, and 1 for ages greater than 16 years. This BHHRA included a resident scenario to which the EPA guidance on early-life exposures is applicable. The age group-specific exposure factors are provided in RAGs Tables 4.1 Supplement A of Appendix A, and age group-specific exposure factors used for TCE are provided in RAGs Table 4.1 Supplement C of Appendix A. Based on EPA guidance, total cancer risks for TCE were calculated for both kidney cancer and for non-Hodgkin's lymphoma (NHL) and liver cancer. The TCE Kidney cancer risks and NHL/liver cancer risks are summed to produce a total TCE cancer risk. EPA has concluded, by a weight of evidence evaluation, that TCE is carcinogenic by a mutagenic mode of action for induction of kidney tumors. As a result, increased early-life susceptibility is assumed for kidney cancer and the above-noted ADAFs are used for the kidney cancer component of the total TCE cancer risk. For liver cancer and NHL, risks are estimated using child and adult exposure factors, without adjusting for cancer potency (i.e. without utilizing ADAFs) (EPA IRIS, 2011). The EPA IRIS database assessment for TCE discusses recommendations regarding quantitative estimate of TCE carcinogenic risk.

6.2 General Parameter Values

The exposure parameters described below are presented on RAGS Tables 4s (Appendix A) for each receptor and complete exposure pathway. Several exposure parameters remain constant across exposure routes for each receptor. These are general exposure parameters and include exposure point concentration, exposure frequency, exposure duration, averaging time, and body weight. These general exposure parameters are discussed in more detail below, while route-specific exposure parameters –along with site-specific exposure parameters- are discussed in detail below.

The exposure frequency (EF) describes the number of times per year an event (e.g., exposure to groundwater) is likely to occur and is expressed in units of days/year. Variables such as land use, weather, vacations, and institutional controls are considered when determining reasonable and realistic exposure frequencies. An exposure frequency of 350 days/year was used for residential scenarios based on guidance presented in EPA's *Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors* (EPA, 1991). An exposure frequency of 250

days/year was used for the commercial/industrial worker (EPA, 2002). Uncertainty associated with the exposure frequency as well as other parameters is included in Section 9.2.

The exposure duration (ED) parameter in the intake equation represents the number of years over which an event is likely to occur. Factors affecting this parameter include variables such as age of receptor and population mobility. The EPA typically recommends exposure duration of 30 years for residential scenarios, representing a 90th percentile value for time spent at one residence (EPA, 1991). This value was adopted herein; however, the 30-year exposure duration for the resident was divided into 6-year duration for child resident exposures and 24-year duration for adult resident exposures when evaluating resident receptor risk; this division is consistent with EPA guidance (EPA, 1991). Exposure duration of 25 years was used for the commercial/industrial worker (EPA, 2002).

The averaging time parameter (AT) is the period over which exposure is averaged. For noncarcinogenic effects, AT_N is used in calculating an average daily exposure, and is the product of the exposure duration and 365 days/year. For the child resident, the AT_N was 2,190 days, for the adult resident, the AT_N was 8,760 days, and for the commercial/industrial worker, the AT_N was 9,125 days. The carcinogen averaging time (AT_C) is the product of a 365-day year and a 70-year lifetime, or 25,550 days for each receptor in accordance with EPA guidance (EPA, 1989). For inhalation exposures, these noncarcinogenic and carcinogenic averaging times were converted to units of hours, where required for certain BHHRA calculations.

The body weight (BW) used for the adult receptors (residents, commercial/industrial workers) was 70 kg in accordance EPA guidance (EPA, 1991) for exposures to non-mutagens. For child residents, a body weight of 15 kg was used as recommended by EPA (EPA, 1991) for exposures to non-mutagens. For exposures to mutagens, RAGS Tables 4.1 Supplements B and C provide age-specific body weights. These values were based on data presented in EPA's *Exposure Factors Handbook Volume 1: General Factors* (EPA, 1997) and some supplement from the 2008 Child Exposure Handbook (EPA, 2008).

The following subsections describe the methodologies that were used to quantify potential exposures to COPCs at the OU 1. Parameter assumptions for the various exposure models used in

this BHHRA are presented in spreadsheet format in RAGS Tables 4s, following the format recommended in EPA *RAGS Part D* (EPA, 2001).

6.3 Pathway-Specific Parameters and Exposure Calculations

6.3.1 Ingestion Exposure

The general form of the equation to estimate exposure to contaminants (non-mutagens) in groundwater *via* ingestion is:

$$Intake\ (mg/kg-day) = \frac{C_{gw} \times IR_R \times CF\ X\ EF_R \times ED_R}{BW_R \times AT}$$

where:

C_{gw}	=	Chemical concentration in groundwater (ug/L)
IR_R	=	Ingestion rate, receptor-specific (L/day)
CF	=	Conversion factor (0.001 mg/ug)
EF_R	=	Exposure frequency (days/year)
ED_R	=	Exposures duration (years)
BW_R	=	Body weight (kg)
AT	=	Averaging time (days)

The groundwater concentration is the EPC as discussed in above. The exposure frequency, exposure duration, body weight, and averaging time parameters were noted above. The groundwater ingestion rate reflects the volume of drinking water that may be ingested by a resident over the course of a day. The EPA default values for adult and child residents drinking water ingestion is 2 liters/day and 1 liter/day, respectively, which were adopted herein (EPA, 1991). Exposure factors used for Adult/Child Aggregate risk and MMOA chemical assessment are included in RAGS Table 4s. For Mutagens, age-specific ingestion rates are included in RAGS Table 4 Supplements B and C (Appendix A).

6.3.2 Dermal Exposure

The general form of the equation to estimate dermal exposure to contaminants (non-mutagens) in groundwater is:

$$Intake\ (mg/kg-day) = \frac{DA_{event} \times SA \times EV \times EF \times ED}{BW \times AT}$$

where:

DA_{event}	=	Dermally Absorbed Dose per Event (mg/cm^2 – event)
SA	=	Skin Surface Area Available for Contact (cm^2)
EV	=	Event Frequency (events/day)
EF	=	Exposure frequency (days/year)
ED	=	Exposures duration (years)
BW	=	Body weight (kg)
AT	=	Averaging time (days)

$$t_{event} \leq t*: DA_{event}\left(\frac{mg}{cm^2} - event\right) = 2 \times FA \times Kp \times CW\ x \left(\sqrt{6 \times \tau \times tevent \times \frac{1}{\pi}}\right) \times CF1 \times CF2$$

$$t_{event} > t*: DA_{event}\left(\frac{mg}{cm^2} - event\right) = FA \times Kp \times CWx \left(\frac{tevent}{1+B}\right) + 2 \times \tau \times \left(\frac{1+3B+3B^2}{(1+B)^2}\right) \times CF1 \times CF2$$

where:

t_{event}	=	Event time (hr/event)
t^*	=	Time to Reach Steady-state (hours)
DA_{event}	=	Dermally Absorbed Dose per Event (mg/cm^2 – event)
FA	=	Fraction absorbed water (dimensionless)
Kp	=	Permeability Coefficient (cm/hr)
CW	=	Exposure point concentration in water (ug/L)
τ	=	Lag time (hr/event)
CF1	=	Correction Factor for (mg/ug)
CF2	=	Correction Factor for ($1/cm^3$)
B	=	Ratio of Permeability of Stratum Corneum to Epidermis (dimensionless)

Dermal worksheets were assembled for the purpose of organizing the numerous coefficients in these above dermal equations and for making selection of the proper DA_{event} equation for each chemical. They are included in Appendix A RAGS Table 7s Supplements.

Under baseline conditions, dermal exposure to groundwater for residents would occur at its highest rates during bathing and showering activities. Accordingly, for residents, the entire skin surface area was assumed available for exposure for estimating dermal intakes associated with groundwater exposures. The EPA recommends an adult skin surface area of 18,000 cm^2 and a child skin surface area of 6,600 cm^2 for residents (EPA, 2004) and these 50th percentile values were adopted for

bathing exposures to non-mutagens evaluated in the BHHRA. For the adult commercial/industrial worker, a skin surface area of 2,700 cm^2 was used, assuming exposure of the following body parts: face, forearms, and hands (EPA, 2002).

Dermal absorption of a chemical in water is a function of time; therefore, an exposure time (ET, also referred to as t_{event} in the above dermal equation) parameter was incorporated into the intake equation for the scenarios associated with dermal exposures to groundwater. ET for the adult scenario is 0.58 hr/day while the resident child scenario utilized 1.0 hr/day. The commercial/industrial worker adult scenario is 1.0 hr/day (including face, forearms, and hands).

RAGS Table 4s include exposure equations and factors to assess cancer and noncancer hazards (for adult and child residential receptors), along with equations and factors used to assess hazards and risks among adult commercial/industrial workers. The skin surface areas used to assess dermal exposures to mutagens are summarized in RAGS Table 4 Supplements B and C. These exhibits are included in Appendix A.

6.3.3 Inhalation Exposure

Inhalation exposure could result from consumptive use of contaminated groundwater (e.g., showering) in a future residential scenario. The general form of the equation to estimate exposure of residents to residual chemicals resulting from inhalation of volatile chemicals during various activities was extracted from *RAGS Part F* (EPA, 2009b). Under the current EPA guidance (EPA, 2009b), inhalation exposures are estimated by calculating a time-weighted exposure concentration (as opposed to an intake rate as described above for other routes of exposure). The general equation for the inhalation exposure concentration for non-mutagens is as follows:

$$Exposure\ Concentration\ (mg/m^3) = \frac{C_A \times ETa \times EDa \times EF\ x\ CF}{AT}$$

where:

C_A = Chemical concentration in air (mg/m^3)
CF = Conversion Factor (hr/day)

All other parameters are as defined previously. For the residential consumptive use scenarios, a model to predict indoor air concentrations during showering was used (see below).

6.3.3.1 Showering and Bathing Models

The concentration of chemicals in air released during showering events was calculated in this Final BHHRA based on the methodology of the Andelman model as modified by Schaum (EPA, 2006; Schaum, 1994). The Schaum model is discussed in more detail below.

The Schaum model is a simple model that assumes the bathroom is a single compartment and the model yields an air concentration that is averaged over the time spent in the shower as well as the time spent in the bathroom after the shower (Schaum, 1994). The model assumes that the contaminant concentration at the beginning of the shower is zero (any residual contamination from previous showers is considered negligible), and VOCs are volatilized at a constant rate and are mixed instantly and uniformly in the bathroom air. The concentration in air then increases linearly to the maximum concentration at the end of the shower (Schaum, 1994).

Several conservative assumptions are included in the Schaum model including the following:

- Contaminants volatilize at a constant rate during the course of the shower
- Ventilation with clean air does not occur (the model does not account for air exchange if an exhaust fan is used)
- Contaminant concentrations are at their maximum at the end of the shower and remain at that level during the time the receptor remains in the bathroom after the shower

According to Schaum, the concentration in bathroom air is estimated as follows (as seen in RAGS Table 3.1 Supplement A of Appendix A):

$$Ca\ (mg/m^3) = \frac{(Ca_{max}/2) \times t_1 + (Ca_{max} \times t_2)}{t_1 + t_2}$$

where:

Ca_{max} = Maximum concentration of contaminant in air (mg/m^3)
t_1 = Time spent in the shower (hours)
t_2 = Time spent in the bathroom after the shower (hours)

Since VOCs may remain suspended in bathroom air after a bath or shower is complete, the inhalation model for showering includes the time spent actually bathing/showering as well as the time spent in the bathroom after the shower. The variable Ca_{max} is estimated as follows:

$$Ca_{max}(mg/m^3) = \frac{C_{gw} \times f \times F_w \times t_1}{V_a}$$

where:

C_{gw}	=	Exposure point concentration in groundwater (mg/L)
f	=	Fraction volatilized (unitless)
F_w	=	Water flow rate (L/hr)
V_a	=	Bathroom volume (m^3)

A value of 1,000 L/hour was used for the water flow rate variable. This value is based on the results of a study described in the Schaum publication (Schaum, 1994). The volume of the bathroom reflects the volume of the entire bathroom, including the shower stall. As a conservative measure, a relatively small bathroom was assumed, based on EPA Region 2 feedback with an overall volume of 6 m^3. The Ca_{max} value, estimated using the methods described above, served as the concentration in air value in the general intake equation used to calculate the inhalation exposure concentration for non-mutagens:

$$Exposure\ Concentration\ (mg/m^3) = \frac{C_A \times ET \times ED \times EF \times CF}{AT}$$

All other parameters are as defined previously. The exposure concentrations derived for the adult resident using the Schaum model are presented in as seen in RAGS Table 3.1 A of Appendix A.

RAGS Table 4s include exposure equations and factors to assess noncancer hazards and cancer risks among the receptors.

7 TOXICITY ASSESSMENT

Toxicity assessment involves the evaluation of available toxicity information to be used in the risk assessment process. Toxicity values (referenced doses or RfDs, reference concentrations or RfCs, cancer slope factors or CSFs, and inhalation unit risk values or IURs) derived from dose-response

relationships can be used to estimate the potential for the occurrence of adverse effects in individuals exposed to various contaminant levels.

The selection of oral and inhalation toxicity values used in this assessment followed the EPA (2003) hierarchy of toxicity values. The hierarchy is as follows:

> Tier 1 - Toxicity values obtained from the *Integrated Risk Information System* (IRIS, EPA, 2012) database (http://www.epa.gov/iris/). This database contains the Risk Reference Doses (RfDs), Cancer Slope Factors (CSFs), Inhalation unit risk (IURs), and inhalation reference concentrations (RfCs), which represent the official EPA scientific position regarding the toxicity of chemicals based on the data available at the time of review. IRIS supersedes all other information sources.
>
> Tier 2 - For toxicity values which are unavailable on IRIS, EPA's Provisional Peer-Reviewed Toxicity Values (PPRTVs) was used (http://hhpprtv.ornl.gov/). The EPA Office of Research and Development/National Center for Environmental Assessment/Superfund Risk Technical Support Center (STSC) develops PPRTVs on a chemical-specific basis when requested by EPA's Superfund program.
>
> Tier 3 – EPA states that other toxicity values may be used in the absence of published values in the Tier 1 and Tier 2 sources listed above. Tier 3 values include additional EPA and non-EPA sources of toxicity information. Priority is given to those sources of information that are the most current, the basis for which was transparent and publicly available, and which have been peer reviewed. Tier 3 sources may include California Environmental Protection Agency (Cal EPA, http://www.oehha.ca.gov/index.html) toxicity values, Agency for Toxic Substances and Disease Registry (ATSDR, http://www.atsdr.cdc.gov/) minimal risk levels (MRLs), or toxicity values from EPA's Health Effects Assessment Summary Tables (HEAST, http://epa-heast.ornl.gov/).

Currently, the EPA has not developed RfDs or CSFs to be utilized for the dermal exposure route. In the absence of published EPA dermal RfDs and CSFs, oral RfDs and CSFs were adjusted –if warranted- for dermal absorption in accordance with the most current EPA guidance (EPA, 2004). Oral RfDs were multiplied by a gastrointestinal (GI) absorption factor to convert administered doses to absorbed RfDs. Oral CSFs were divided by a GI absorption factor to estimate absorbed CSFs. GI absorption factors were obtained from EPA's most recent RSL tables (EPA, 2012).

7.1 Noncancer Toxicity Values

"Acceptable" levels of exposure to noncarcinogens are considered to be levels without any anticipated adverse effects. Such exposure levels are commonly expressed as reference doses (RfDs). RfDs were used to determine the potential for noncarcinogenic health effects resulting from dermal and oral exposures at the OU 1. For inhalation exposures, reference concentrations (RfCs) were used to assess inhalation hazards. RfCs are defined by the EPA as an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious effects during a lifetime (EPA, 2011b). An acceptable exposure level is calculated to provide an adequate margin of safety. RfDs and RfCs have been developed by the EPA for exposure to constituents based on the most sensitive noncarcinogenic effects.

Chronic toxicity values were used for evaluating potential adverse health effects for residential receptors (adult and child) and commercial/industrial workers. Chronic toxicity data for potential noncarcinogenic effects of COPCs are presented in RAGs Tables 5.1 and 5.2 of Appendix A. RAGs Table 5.1 presents the oral and dermal values (RfDs), and RAGs Table 5.2 provides the inhalation RfCs.

7.2 Cancer Toxicity Values

The carcinogenic risk refers to the probability of developing cancer as a result of exposure to known or suspected carcinogens. A cancer slope factor (CSF) is a plausible upper-bound estimate of the probability of an individual developing cancer as a result of a lifetime of exposure to a particular level of a potential carcinogen. CSFs were used to determine dermal and oral cancer risks at the OU 1. Inhalation unit risk values (IURs) were used to assess inhalation risk. The EPA defines an IUR as "the upper-bound excess lifetime cancer risk estimated to result from continuous exposure to an agent at a concentration of 1 $\mu g/m^3$ in air" (EPA, 2011b).

Carcinogenic toxicity values (cancer slope factors [CSFs] and inhalation unit risks [IURs]) were used in evaluating potential carcinogenic effects associated with exposure to known, probable, or possible carcinogens having an EPA weight-of-evidence classification of A, B, or C, respectively. CSFs and IURs were used to estimate upper-bound lifetime statistical probabilities of a hypothetical individual developing cancer as a result of exposure to a potential carcinogen.

Vinyl chloride operates with a mutagenic mode of action and has multiple values for oral cancer slope factors and absorbed cancer slope factors. Early age CSF for vinyl chloride has been reported as 1.5E+00 (mg/kg-day)-1 while adulthood values are slightly less at 7.2E-01 (mg/kg-day)-1. These are utilized for both ingestion and dermal exposure routes. Additionally, the related IUR values follow the same fashion with 8.8E-06 (ug/m3)-1 from birth and 4.4E-06 for adulthood.

TCE is also a chemical that operates with a MMOA and has another CSF based on kidney risk and NHL/liver risk. A CSF of 9.30E-03 (mg/kg-day)-1 was utilized to assess kidney cancer risk, and a value of 3.7E-02 (mg/kg-day)-1 was used for NHL and liver cancer. Additionally, the related IUR values follow the same convention with 8.6E-02 (ug/m3)-1 kidney and 1.6-01 NHL and liver.

EPA's *Guidelines for Carcinogen Risk Assessment* (EPA, 2005a) emphasizes the importance of weighing available evidence of carcinogenicity prior to forming conclusions about the potential for a chemical to be a human carcinogen. Evidence that is considered in EPA's evaluations includes tumor findings or lack thereof in humans and animals; a chemical's physical and chemical properties; a chemical's structure-activity relationships as compared to other carcinogens; and studies addressing potential carcinogenic processes and modes of action. Data from epidemiologic studies is generally preferred over other data. To provide some clarity to the weight-of-evidence process, the EPA recommends five standard hazard descriptors to be used to describe the carcinogenic potential of a chemical (EPA, 2005a). These descriptors are summarized below:

- ***Carcinogenic to Humans*** – There is strong evidence of human carcinogenicity. This descriptor is used when there is convincing epidemiologic evidence of a causal association between human exposure and cancer.
- ***Likely to be Carcinogenic to Humans*** – The weight-of-evidence is adequate to demonstrate carcinogenic potential but does not reach the weight-of-evidence for the descriptor to be "Carcinogenic to Humans."
- ***Suggestive Evidence of Carcinogenic Potential*** – The weight-of-evidence is suggestive of carcinogenicity and a concern for potential carcinogenic effects in humans is raised. However, data are judged insufficient for a stronger conclusion. Evidence associated with this descriptor may include, for example, a positive cancer result in the only study of a chemical or a single cancer result in an extensive data set.

- ***Inadequate Information to Assess Carcinogenic Potential*** – This descriptor is used when available data are determined to be inadequate for applying one of the other descriptors. Additional studies would be expected to provide further insight into the chemical's potential to be a carcinogen.
- ***Not Likely to be Carcinogenic to Humans*** – Available data are considered robust for determining that there is no basis for human hazard concern.

The EPA (2005) notes that multiple descriptors can be applied to the same chemical, depending on the exposure route and/or chemical dose.

The classifications described above can be found in EPA's IRIS for some of the COPCs identified in this assessment. However, EPA is still in the process of updating IRIS with this newer weight-of-evidence classification system. The potential for carcinogenicity presented in IRIS for the remaining COPCs uses an older classification system from EPA *RAGS Part A* (1989) as follows:

- ***Group A:*** Known human carcinogens - chemicals for which there is sufficient evidence to support a causal association between exposure to the chemicals in humans and cancer.
- ***Group B***: Probable human carcinogens -
    - ***Group B1:*** chemicals for which there is limited evidence of carcinogenicity in humans.
    - ***Group B2:*** chemicals for which there is sufficient evidence of carcinogenicity in animals but inadequate or no evidence in humans.
- ***Group C:*** Possible human carcinogens - are chemicals for which there is limited evidence of carcinogenicity in animals and inadequate or no human data.
- ***Group D:*** Not classifiable as to human carcinogenicity - chemicals with inadequate human and animal evidence of carcinogenicity or for which no data are available.
- ***Group E:*** Evidence of non-carcinogenicity in humans - chemicals for which there is no evidence of carcinogenicity from human or animal studies, or both.

8 RISK CHARACTERIZATION

The objective of the risk characterization is to determine potential risk to receptors by combining the results of the exposure and toxicity assessments. However, it is important to understand that this risk characterization assumes that the operation of the engineering control in place at the Bowling Green Water District is discontinued in the future.

Potential human health risks are discussed separately for carcinogenic and noncarcinogenic COPCs because of the different toxicological endpoints, relevant exposure durations, and methods used to estimate risk. EPA Superfund guidance generally considers an acceptable site Excess Lifetime Cancer Risk (ELCR) range to be within 1 to 100 in a million (E-06 to E-04). Generally, remedial actions are not warranted for site media with an ELCR of E-04 or below, or a hazard index (HI) of 1.0 or less, although it may be warranted if a standard (for example, maximum contaminant level) is exceeded, or if other site-specific information suggests to risk managers that action is appropriate.

8.1 Noncarcinogenic Hazards

The potential for noncancer health effects was evaluated by comparing the site-specific exposure levels with the RfD or RfC. For the inhalation exposure route, noncarcinogenic effects were evaluated by comparing the exposure concentrations (ECs) of each COPC with its RfC. This ratio of exposure to toxicity (intake/RfD or EC/RfC) is called the hazard quotient (HQ). The HQ is calculated as follows:

$$HQ = \frac{Intake}{RfD} \quad \text{or} \quad HQ = \frac{Exposure\ \ Concentration}{RfC}$$

The HQ assumes that there is a level of exposure below which it is unlikely for even sensitive populations to experience adverse health effects. If the exposure level exceeds this threshold, there is the potential for noncancer health effects to occur.

To assess the potential for noncarcinogenic health effects to receptors posed by exposure to multiple COPCs and exposure routes, an HI approach were used (EPA, 1989). This approach assumes that noncarcinogenic hazards associated with exposure to more than one COPC and exposure route are additive. Other chemical interactions between COPCs are not quantified. The HI may exceed 1.0

even if all of the individual HQs are less than 1.0. The HI is equal to the sum of the HQs and is calculated as follows:

$$HI = \frac{I_1}{RfD_1} + \frac{I_2}{RfD_2} + \ldots \frac{I_i}{RfD_i} + \frac{EC_1}{RfC_1} + \frac{EC_2}{RfC_2} + \ldots \frac{EC_j}{RfC_j}$$

where:

I	= intake level (mg/kg-day)
RfD	= reference dose (mg/kg-day)
I_i	= intake level for the "*i*"th constituent
RfD_i	= reference dose for the "*i*"th constituent
EC	= exposure concentration (mg/m^3)
RfC	= reference concentration (mg/m^3)
EC_j	= exposure concentration for the "*j*"th constituent
$RfCj_i$	= reference concentration for the "*j*"th constituent

Screening HIs was calculated by summing all HQs for a receptor group, and final HIs were calculated for each receptor group by target organ (or critical effect or target system). If a final target-organ-specific HI exceeds 1.0, there is a potential for adverse noncarcinogenic effects on that target organ/system or critical effect.

8.2 Carcinogenic Risks

The product of the lifetime daily intake and the CSF (or IUR for inhalation exposures) was used to estimate the upper bound excess cancer risk for each scenario. The EPA establishes an acceptable risk range of E-04 to E-06 for exposure to carcinogens; this range represents an incremental increase of 1-in-10,000 to 1-in-1,000,000 in the chance of developing cancer over a lifetime. Risk levels within or below EPA's risk range are considered to be acceptable. The potential for carcinogenic effects due to exposure to site media was evaluated by estimating the ELCR. The ELCR is the incremental increase in the probability of developing cancer during one's lifetime (as a result of exposure to site media) above the probability of developing cancer from non-site exposures.

Potential ELCRs associated with exposure to individual carcinogens were calculated using CSFs and chronic daily intakes (CDIs) for oral and dermal contact exposures and IURs and ECs for inhalation exposures. The linear low-dose equation was used to estimate the incremental

probability of an individual developing cancer over a lifetime as a result of exposure to potential carcinogens. Estimated ELCRs are calculated by multiplying the CDI by the CSF or EC by the IUR.

$$ELCR = CDI \times CSF \quad \text{or} \quad ELCR = EC \times IUR$$

The theoretical probability of developing cancer as a consequence of exposure to two or more COPCs and by two or more exposure pathways was calculated by summing the risk estimates for each COPC in the appropriate scenarios using the following equations:

$$Total\ ELCR = (I_1 \times CSF_1) + (I_2 \times CSF_2) + \ldots (I_i \times CSF_i) +$$

$$(EC_1 \times IUR_1) + (EC_2 \times IUR_2) + \ldots (EC_i \times IUR_j)$$

where:

I	= intake level (mg/kg-day)
CSF	= cancer slope factor $(mg/kg\text{-}day)^{-1}$
I_i	= intake level for the '*i*'th constituent
CSF_i	= cancer slope factor for the '*i*'th constituent
EC	= exposure concentration ($\mu g/m^3$)
IUR	= inhalation unit risk $(\mu g/m^3)^{-1}$
EC_j	= exposure concentration for the 'j'th constituent
IUR_j	= inhalation unit risk for the '*j*'th constituent

Cancer risks were calculated and summarized on RAGS Tables 7.3 and 7.4 using *RAGS Part D* format.

8.3 Approach for Potential Mutagenic Effects

Consistent with the *Cancer Guidelines* (EPA 2005a) and *Supplemental Guidance for Assessing Susceptibility From Early-Life Exposure to Carcinogens* (EPA 2005b), for COPCs which act via an MMOA, ELCRs were estimated using age-dependent toxicity values. Among various COPCs identified at the site, vinyl chloride and TCE were the only COPCs that are categorized by EPA as having an MMOA and age-specific toxicity factors have been established for two exposure scenarios (exposure from birth and exposure through adulthood). In accordance with the approach used in the calculation of RSLs for vinyl chloride, the following equations were used to estimate ELCR for vinyl chloride.

$$ELCR = CDI_{0-6\,yrs} \times CSF_{from\ birth} + CDI_{6-30\,yrs} \times CSF_{adulthood}$$

or

$$ELCR = EC_{0-6\,yrs} \times IUR_{from\ birth} + EC_{6-30\,yrs} \times IUR_{adulthood}$$

where:

$CSF_{from\ birth}$ = cancer slope factor (exposure from birth)
$CSF_{adulthood}$ = cancer slope factor (exposure through adulthood)
$IUR_{from\ birth}$ = inhalation unit risk (exposure from birth)
$IUR_{adulthood}$ = inhalation unit risk (exposure through adulthood)

The calculations of ELCR for vinyl chloride are presented in RAGS Table 7.3 RME Supplement A of Appendix A for a future residential groundwater use scenario.

EPA has recently released a Toxicity Assessment for TCE and recommends that the kidney cancer risk be assessed using the mutagenic equations and ADAFs, and NHL and liver cancer risk be addressed using the standard cancer equations. These two components are then summed to provide a total TCE cancer risk. The EPA RSL Support Page (http://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search/, November 2012) and information on IRIS were reviewed to develop the BHHRA approach for estimating TCE cancer risks. The RSL Support Page includes a risk calculation spreadsheet that was used to check the BHHRA equation and exposure parameters. Equations and exposure factors for mutagens are presented in RAGS Table 4s, with TCE-specific parameters present in RAGS Table 7.3 Supplement A.

8.4 Summary of Risk Estimates

Estimates of noncancer hazards and cancer risks were developed for receptors of interest for this BHHRA. RAGS Tables 7s, include estimates of intake and hazards and risks for each of the COPCs across the exposure routes considered. Hazards and risks were then summed for each exposure pathway to develop exposure route specific estimates for each receptor. A summary of the BHHRA findings as presented in the RAGS Table 7s is included below. Chemicals that were exceeding EPAs criteria for ELCRs and HIs are shown below in bold text.

Noncancer Hazards

TCE and PCE were the main drivers of noncancer hazards that yielded HIs greater than 1.0 for both the child and adult resident receptor for all exposure routes. Combining the adult and child resident hazard indices, to account for the total lifetime of a resident aged zero to 30 years, resulted in an overall hazard index for the residential receptor of 9.9E+02 (see RAGS Table 7.1 & 7.2). **TCE, PCE, cis-1,2-dichloroethene, 1,1,2-Trichloroethane, and 1,1-Dichloroethene*e*** were the primary contributors to this hazard level, as presented in RAGS Tables 7.1 & 7.2 (Appendix A).

Commercial/Industrial worker hazard indices resulted in an overall hazard index of 1.7E+01 for the receptor of COPCs (see RAGs Table 7.4). **TCE, PCE, and cis-1,2-dichloroethene** were the primary contributors to this hazard level, each with hazard quotients at or greater than 1.0, as presented in RAGS Tables 7.4.

Cancer Risk

The cancer risk estimated for the adult /child aggregate resident of 3.3E-03. This child and adult resident receptors are combined to account for the total lifetime of a resident aged zero to 30 years. **PCE, TCE (mutagen), vinyl chloride (mutagen), 1,1-dichloroethane, bromodichloromethane, chloroform, and 1,1,2,2-tetrachloroethane** are the primary contributor to these cancer risk levels. The cancer risk associated with the adult commercial/industrial worker exposure scenario was estimated to be 1.6E-04.

Potential exposures to groundwater were quantified for the RME scenarios identified below. The information presented on the RAGS Tables 7s for the COPCs is also presented in RAGS Table 9 format to provide receptor specific summaries of pathway hazards and risks. Note that MMOA chemical calculations (VC and TCE) are also provided in these RAGS Table Summaries. In addition, the RAGS Table 9s present a noncancer hazard summary for the different target organs identified in the toxicological assessment that was conducted for the COPCs (i.e., RAGS Table 5s and 6s). Common target organs (i.e., liver, kidney) that were noted to be associated with more than one COPC include summations for the noncancer effects from each chemical.

The calculated ELCRs and HIs are as follows (see RAGS Table 9s in Appendix A for summary):

- Residents (Adult and Child) – Future Scenario
  - Groundwater (ingestion, dermal contact, and inhalation)
  - Adult: seven target organ-specific HIs greater than 1.0 (kidney, central nervous system, liver, immunological, heart, vacuolation, and developmental)
  - Child: seven target organ-specific HIs greater than 1.0 (kidney, central nervous system, liver, immunological, heart, vacuolation, and developmental)
  - Adult/child aggregate: 3E-03 cumulative ELCR
- Commercial Workers – Future Scenario
  - Groundwater (ingestion and dermal contact)
  - ELCR 2E-04 and five target organ-specific HIs greater than 1.0 (kidney, CNS, immunological, developmental, and heart)

8.5 Summary of Chemicals of Concern

Chemicals of concern (COCs) were identified where the potential ELCR or HI for a receptor group exceeded threshold values (a total ELCR of E-04 or a target organ-specific HI of 1.0). When a potential ELCR of E-04 was exceeded for an exposure medium for a receptor group, the COPCs posing an individual ELCR greater than E-06 in the environmental medium responsible for the unacceptable risks were identified as COCs. When a potential target organ-specific HI exceeded 1.0 for an exposure medium for a receptor group, the COPCs posing a HQ greater than 0.1 for that target organ in the environmental medium responsible for the unacceptable HI were identified as potential COCs. A summary of OU 1 groundwater COCs is included in RAGS Table 10s for each receptor.

As indicated in prior sections, potable use of groundwater may pose risk estimates exceeding threshold values in the absence of engineering controls (i.e., in hypothetical future scenario). For groundwater, both the adult and child receptor groups had exceedances for noncarcinogenic toxicity endpoints. The adult/child aggregate receptor groups had a risk threshold exceedance for carcinogenic toxicity endpoints. The commercial/industrial workers also had risk exceedance for carcinogenic toxicity endpoints.

The groundwater COCs contributing to the noncarcinogenic threshold with an HQ greater than 0.1 are **TCE, PCE, TCA, cis-1,2-dichloroethene, 1,1,2-trichloroethane, vinyl chloride, 1,2-dichloroethane, benzene, chloroform, trans-1,2-dichloroethene, 1,1-dichloroethane and 1,1-dichloroethene.** Groundwater COCs contributing to the carcinogenic threshold with an ELCR greater than E-06 are **PCE, TCE, vinyl chloride, bromodichloromethane, carbon tetrachloride, chloroform, 1,1-dichloroethane, 1,2-dichloroethane, benzene, 1,1,2-trichloroethane, and 1,1,2,2-tetrachloroethane.** See RAGS Table 7s, 9s & 10s in Appendix A for presentation and summaries.

9 UNCERTAINTY ASSESSMENT

Given the nature of risk assessment as a strongly model-based estimation of potential health hazards, a significant amount of uncertainty is inherent in the risk assessment process. Uncertainty in risk assessments commonly surrounds the likelihood, distribution, magnitude, and implications of risk. Sources of uncertainty include inherent randomness, imperfect or incomplete knowledge, and error. This section attempts to identify significant sources of uncertainty and how they may affect the outcome of the assessment. Uncertainty is present, to varying degrees, in each step of the risk assessment process.

While it is theoretically possible that uncertainties lead to underestimates of potential risk, the use of numerous upper-bound assumptions most likely results in conservative estimates of potential risks. A receptor group's potential exposure and subsequent potential risk are influenced by the exposure scenario and dose/response and vary on a case-by-case basis. The key assumptions in the BHHRA and their influence on the numerical risk estimates as well as specific uncertainties associated with the BHHRA for the site are discussed below.

9.1 Data Evaluation

Uncertainties in the data evaluation include analytical error and adequacy of sampling design, among other factors. Generally, the data evaluation may contain far less uncertainty than other phases of the risk assessment. The purpose of data evaluation is to determine which constituents, if any, are present at the site at concentrations requiring evaluation in the BHHRA. Uncertainty with respect to data evaluation can arise from many sources, such as the quality of data used to characterize the site and the process used to select data and COPCs used in the BHHRA.

Laboratory analysis of sampled media is typically very accurate relative to the other components of a risk assessment that are based on assumptions, default factors and professional judgment. Use of the appropriate analytical methods and data validation (which was performed on the OU 1 groundwater data used in this assessment) can reduce analytical uncertainty even more. The data used in this assessment were considered to accurately represent OU 1 environmental conditions. The sampling design focused on areas of known or suspected releases. As such, the associated data used in this evaluation likely represented potential worst-case conditions at the OU 1 and may have resulted in an overestimation of risks. However, since only permanent monitoring well data were used for quantitative evaluation, data from OU1 temporary wells was not included in hazard and risk estimates, which may over- or underestimate the values presented in this BHHRA. Moreover, the monitoring well data used for quantitative analysis dates to 2008 and 2011 and may not be completely representative of present-day contaminant levels, due to movement of groundwater in OU1 over time.

Concentrations of detected constituents were screened to determine the COPCs to be carried through the quantitative risk assessment. As a result, multiple detected constituents were eliminated from the risk assessment process. The screening process was developed to identify those constituents that may present a large majority of the hazard or risk that may be present at the OU 1. However, the elimination of constituents from the quantitative risk assessment may result in a slight underestimation of hazards and risks. The data used in this BHHRA only included VOCs. Other constituents such as metals, were not included in the dataset and it is possible that exclusion of other parameters may underestimate groundwater risks and hazards.

Since it would be very difficult and/or cost prohibitive to determine the actual groundwater concentrations that a receptor may come into contact with at the OU 1, an exposure-point concentration is used as a reasonable estimate of the concentration to which a population may be exposed over time. Since it is unlikely that a receptor would be consistently exposed to a maximum concentration located at a single point, an average of the concentrations from across the area of property available to receptors is more appropriate. However, due to the high level of uncertainty associated with this assumption, the EPA recommends the use of a 95% UCL for the exposure point concentration. The 95% UCL is a concentration that will exceed, with 95% confidence, the true average concentration. Accordingly, while the exposure-point concentration introduces a great deal

of uncertainty into a risk assessment, the use of the 95% UCL is a conservative approach that likely overestimates hazards and risks.

9.2 Exposure Assessment

Assumptions made in this evaluation regarding the current study area setting and land use is based on knowledge of the OU 1 gained from sources associated with the study area and on site reconnaissance. As such, the uncertainty surrounding current land use assumptions was minimal. It was noted that future exposure scenarios were considered for the receptors, including an assumption that the engineering control at the domestic water system would be discontinued. This assumption is hypothetical and if the engineering control is maintained, future exposure routes are likely to remain incomplete.

In accordance with EPA guidance, exposure estimates were calculated for an RME scenario. An RME scenario results in upper-bound exposure estimates and overestimates average site exposures. Any reasonably expected risks are likely to be less than the RME estimates presented in this BHHRA. Although, the information obtained by calculating CTEs could provide additional insight into the need for remedial actions at the OU 1 as discussed in the EPAs Habicht Memorandum (EPA, February 1992), this risk assessment does not include CTE estimates. Presenting decision and policy makers with additional risk assessment perspectives is useful, but ultimately remedy selection will be based upon RME. The potential use of CTE estimates for *all* intake variables would not likely reduce groundwater hazard and potential risk estimates significantly. The exposure parameters discussed below reflect values that were used in the BHHRA for estimating RMEs.

Limitations are inherent in the use of models to predict real-life conditions. The greater the appropriateness and accuracy of a model, the less uncertainty will be associated with its use. The use of any model however, no matter how accurate, introduces some level of uncertainty into an analysis. For instance, the Schaum model used to estimate exposures to VOC vapors during bathing and showering activities incorporated several conservative assumptions, primarily that volatilization is constant and that no ventilation occurs in the shower room. Schaum states that these assumptions are very conservative and, as a result, exposures are likely overestimated by the model (Schaum, 1994). Additionally, a very simple equilibrium partitioning model, as presented in Schaum, was

used to estimate child exposures to VOCs while bathing. This model is presented by Schaum as a "worst case" screening analysis and may result in the overestimation of exposures to child residents. The model was used in an effort to quantify exposures to reduce uncertainty in the absence of more appropriate models. For the inhalation of bathroom air scenarios, the full exposure time for showering/bathing by adults (0.58 hr) and children (1.0 hr) was assumed, which may overestimate inhalation risks and hazards because bathing (more common among young children than showering) does not produce bathroom air VOC concentrations as predicted in the model. In addition, the exposure items represent total time during a shower or bathing even, not solely the time one is exposed to bathroom air.

This risk assessment employed single-point estimates of exposure parameter values based on assumptions regarding the physical setting of the OU 1, the current land use, and a potential future land use. EPA default values were employed as part of the RME risk assessment estimates and are believed to be reasonably conservative. It is noted, however, that some of the exposure assumptions (e.g., assuming one bath or shower event per day among the receptors) may under estimate exposure to some extent. Probabilistic measures, which incorporate ranges of exposure values, were not used. The greater the potential range of values is for an exposure parameter, the greater the uncertainty associated with the use of a single value to represent that range. This assessment used EPA default parameter values when applicable. Such parameter values are typically conservative and may result in an overestimation of hazards/risks. The uncertainty associated with each parameter value is compounded when combined in an exposure model with other parameter values that are also associated with uncertainty.

9.3 Toxicity Assessment

A significant amount of uncertainty surrounds the development of the published toxicity values used herein. Toxicity values for humans are often developed based on the results of animal studies. The relationships between these animal studies and their applicability to humans remain a source of debate. Sources of uncertainty in the development of toxicity values include extrapolating from animal studies to predict effects on humans, the use of dose-response information observed at high doses to predict effects that may occur at low doses, the use of data from short-term studies to anticipate effects of long-term exposures, and the applicability of information gained from studies of homogenous, healthy populations to predict potential adverse health effects on sensitive or

compromised sub-populations. The EPA typically applies uncertainty factors (generally a value of 10) as a conservative measure to account for these disconnects and to be protective of human health. Although these uncertainty factors may help to prevent the underestimation of risk, the uncertainty associated with the toxicity values still remains. The EPA has indicated that the uncertainty surrounding RfD values can span up to one order of magnitude (EPA, 2012).

Two noncancer toxicity factors used in this BHHRA (a RfD of 6.0E-03 mg/kg-day for 1,2-DCA and a RfC of 2.0E-04 mg/m^3 for 1,1,2-TCA) are based on a PPRTV screening value, which is low on the EPA hierarchy of sources available for toxicity values. For all receptors, the contributions of 1,2-DCA to noncancer hazards was 0.1 for all pathways. For 1,1,2-TCA, the resulting HQs for inhalation exceeded 1.0 as follows:

- Adult Residential – HQ = 4.7
- Child Residential – HQ = 14

Higher Tier RfC values if published may alter the overall inhalation His for residential receptors. In conclusion, the calculated inhalation hazard for 1,1,2-TCA may not be appropriate to drive remedial decision making because of the uncertainty associated with a screening level RfC. However, for the OU1, there are other drivers of noncancer HIs (PCE, TCE) which present significantly greater receptor hazards than 1,1,2-TCA or 1,2-DCA.

TCE

There is evidence of increased early lifetime (prenatal, infancy and early childhood) sensitivity to the toxic effects of TCE. There are variations in several exposure-related factors between fetuses, infants, children and adults, including lower body weights, resulting in early lifetime receptors having greater exposure more air, water, food, and soil than adults. Variations in toxicokinetics and toxicodynamics (e.g., slower clearing of metabolites, less-developed clearance enzymes), sensitivity to neurotoxicants and other mechanisms also come into play. Providing nutrition via placental transfer or nursing are exposure pathways unique to fetuses and young children, both involving processing and transformation of contaminants by the mother prior to them being passed on to her child (EPA, 2002b). Emerging research into noncancer toxicity of TCE (i.e., studies evaluating health effects of inhalation route exposures to women of child-bearing age) was not included in this BHHRA.

The implications of the TCE toxicity values in site remediation and risk assessment is a topic of ongoing and intense interest. For example, the Alliance for Risk Assessment has formed a workgroup that is developing practical application guidance for the use of EPA TCE Reference Concentration (RfC) and Inhalation Unit Risk (IUR) values in site cleanup and closure. The workgroup is developing guidance on interpreting non-cancer endpoints in deciding clean-up standards or acceptable exposure levels when closing sites; clarify the issues regarding potential developmental cardiac malformations for use in clean-up standards and short term exposure levels; and explore the margins of safety used to develop the TCE RfC and evaluate if these are consistent with the baseline principles developed for determining the RfC. Use of the RfC as a threshold value for exposures involving women of child-bearing age is one potential application that may be under consideration by EPA, due to the noted potential for increased sensitivity to and potentially lasting effects of TCE exposure during the earliest stages of an individual's lifetime (Alliance, 2012).

1,4-Dioxane

Uncertainty associated with the lack of 1,4-dioxane in the data and analytical packages was addressed below. Approximately 90% of the 1, 4-dioxane manufactured was used as a stabilizer for TCA and it is normally found where TCA is a contaminant. TCA has been identified as a COPC at this OU 1. As an emerging contaminant, analysis for 1, 4-dioxane is not always performed, as was the case here. This lack of 1, 4-dioxane data results in a potential underestimation of overall risk resulting from exposure to groundwater at the OU 1, as 1, 4-Dioxane is a potential human carcinogen based on sufficient evidence of carcinogenicity from animal studies.

1,4-Dioxane is used in many products, including paint strippers, dyes, greases, varnishes, and waxes. It is also found as an impurity in antifreeze and aircraft deicing fluids. It was also used as a solvent for cellulose acetate membrane filters; wetting and dispersing agent in textile processes; and as a laboratory solvent. It may also be formed as a by-product during detergent, shampoo and other products being manufactured. It has been found in ground water at sites throughout the country. It is completely miscible in water, very mobile and yet does not readily biodegrade in the environment.

Toxicity values have been published for 1,4-dioxane (CSF = 1.0E-01; RfD = 3.0E-02).The current Tapwater RSL for 1,4-dioxane is 0.67 ug/L, based upon the cancer risk from IRIS oral slope factor (NIESH, 2011 and EPA, 2009b).

9.4 Risk Characterization

Noncarcinogenic hazards and carcinogenic risks for each COPC were summed to develop overall hazard or risk estimates. This assumption of dose additivity ignores synergisms or antagonisms that may occur among chemical mixtures; therefore, hazards and risks may be underestimated or overestimated. Additionally, the summation of hazards and risks assumes similarities in the mechanisms of action of the chemicals, weighs compounds with different weights of evidence for carcinogenicity equally, and combines hazard quotients for substances with critical effects of varying toxicological significance. The EPA recognizes these limitations (EPA, 1989) but still recommends that hazard and risk estimates for individual chemicals be added in an effort to prevent underestimation of the potential for adverse health effects. The applicability of assuming dose additivity increases the uncertainty associated with the risk assessment. To mitigate some of this uncertainty with respect to non-carcinogenic effects, the EPA does allow for hazards to be summed for COPCs with the same target organ. That is, the hazard and risk summary tables (i.e., RAGS Tables 9s of Appendix A), in addition to presenting overall hazard indices for all COPCs, also present individual target-organ specific hazard indices for those COPCs associated with a particular target organ, for example, the kidneys or liver. This alternative presentation of hazards allows for the further refinement of the list of COPCs that may result in unacceptable exposures (i.e., those COPCs for which the target organ-specific hazard index exceeds 1.0).

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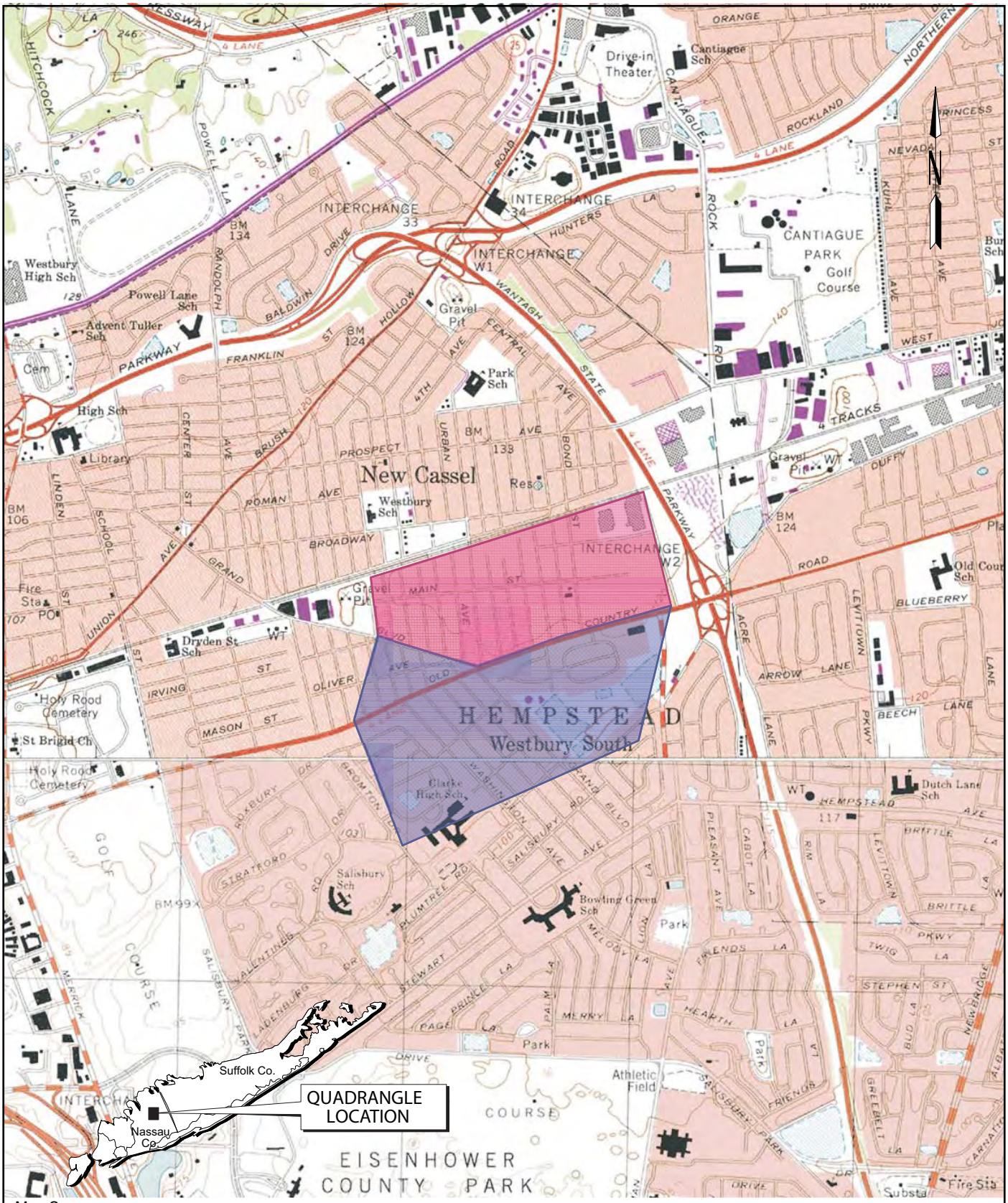
Figures



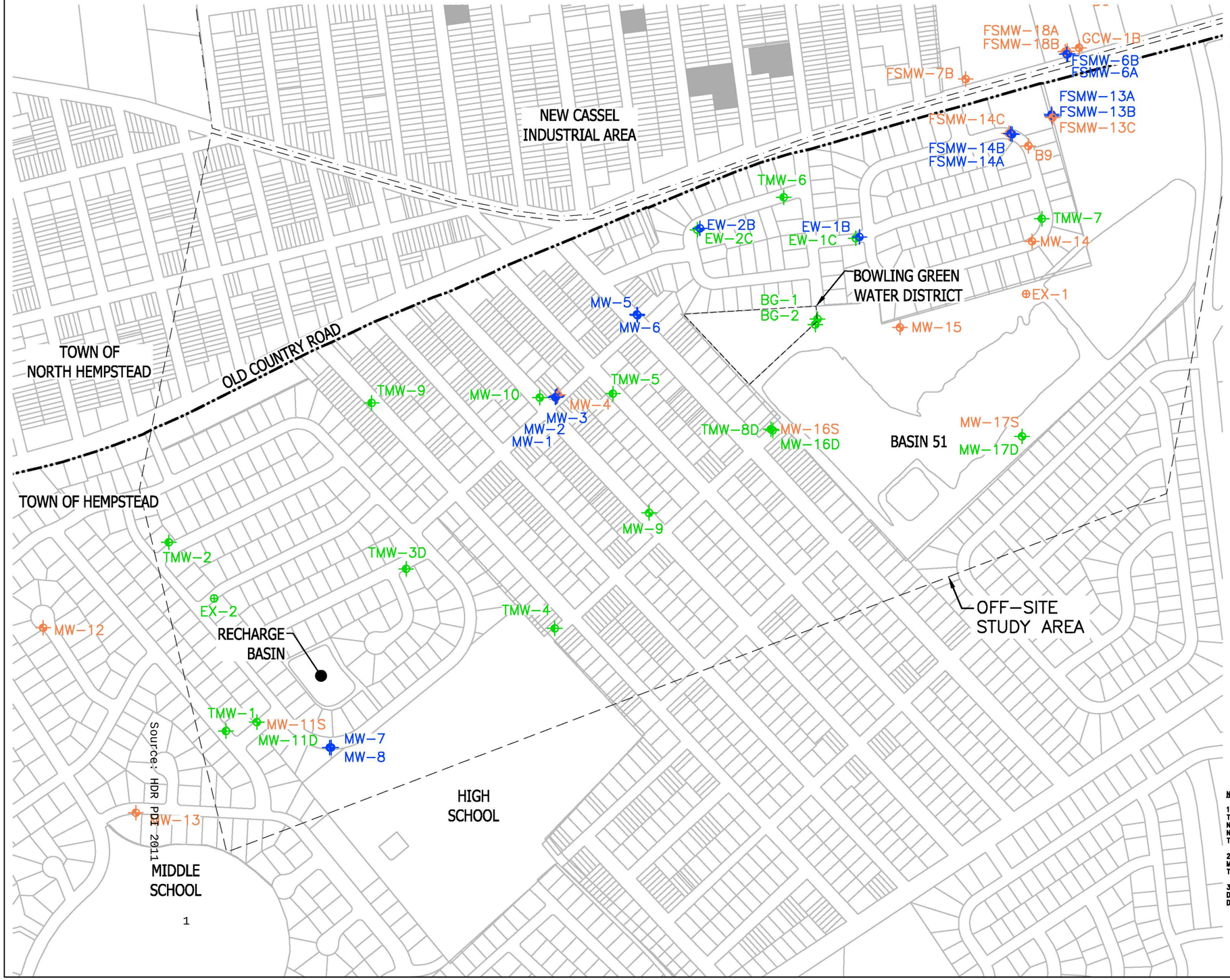
Map Source:

©1998-2006, Maptech Inc.
USGS 7.7-min. Quadrangle, Hicksville, NY, 1967/photorevised 1979, and Freeport, NY 1994. \Fig1_SiteLocation.des

NCIA Study Area
NCIA Off-Site Study Area

0 2000 ft
SCALE (ft)

HDR Henningson, Durham & Richardson Architecture and Engineering, P.C. One Blue Hill Plaza Pearl River, NY 10965	**Site Location Map** **New Cassel Industrial Area OU1** **U.S. Army Corps of Engineers – Contract No. W912DQ-11-D-3007**	**Figure 1**



N

LEGEND:

- TMW-7 TEMPORARY MONITORING WELL LOCATION
- MW-5 MONITORING WELL LOCATION
- LIMIT OF OFF-SITE STUDY AREA
- LIMIT OF NEW CASSEL INDUSTRIAL AREA
- SOURCE AREA PROPERTIES
- TOWN BOUNDARY (APPROXIMATE)
- < 175 FEET BGS
- 175 – 250 FEET BGS
- > 250 FEET BGS

NOTES:

1. FIGURE DEPICTS MONITORING WELLS LOCATED WITHIN THE OU3 AREA SOUTH OF OLD COUNTRY ROAD. NUMEROUS EXISTING MONITORING WELLS ARE FOUND NORTH OF OLD COUNTRY ROAD WITHIN INDUSTRIAL AREA THAT ARE NOT SHOWN.

2. TMW-1, 2, 4, 5, 6, 7, AND 9 WERE SAMPLED AT MULTIPLE DEPTHS FROM GROUNDWATER SURFACE TO A TOTAL DEPTH OF 285 FEET BELOW GROUND SURFACE.

3. TMW-3D AND 8D WERE SAMPLED AT MULTIPLE DEPTHS FROM GROUNDWATER SURFACE TO A TOTAL DEPTH OF 502 FEET BELOW GROUND SURFACE.

GRAPHIC SCALE

200 0 200 400

(IN FEET)
1 inch = 200 ft.

US Army Corps of Engineers ® Kansas City District

HDR

ORIGINAL SIGNED AND SEALED BY

SIGNATURE

Symbol	Description	Date	Appr.

Designed by: TC
Drawn by: SK
Checked by:
Submitted by: TC
Date: 01/23/13
Drawing code:
Plot scale:
CADD File Name:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

HDR | OBG JV

NEW CASSEL INDUSTRIAL AREA OU-3
NORTH HEMPSTEAD, NEW YORK

SITE PLAN

Sheet Reference Number:
2

R2-0011764

N

LEGEND:

- TMW-7 TEMPORARY MONITORING WELL LOCATION
- MW-5 MONITORING WELL LOCATION
- LIMIT OF OFF-SITE STUDY AREA
- LIMIT OF NEW CASSEL INDUSTRIAL AREA
- SOURCE AREA PROPERTIES
- BGS BELOW GROUND SURFACE
- < 175 FEET BGS
- 175 – 250 FEET BGS
- > 250 FEET BGS

Existing NCIA OU3 Study Area Temporary and Monitoring Wells

Well ID	Well Depth (BGS)
BG-1 (Well #1)	527
BG-2 (Well #2)	583
EW-1B	164
EW-1C	516
EW-2B	142
EW-2C	514
FS MW-13A	79
FS MW-13B	129
FS MW-13C	249
FS MW-14A	139
FS MW-14B	169
FS MW-14C	249
FSMW-6B	148
FSMW-7B	148
GWHP-01	150
GWHP-02	150
GWHP-03	150
GWHP-04	150
MW-1	110
MW-2	130
MW-3	150
MW-4	200
MW-5	110
MW-6	130
MW-7	110
MW-8	139
MW-10	285
MW-11 S	225
MW-11 D	285
MW-12	225
MW-13	210
MW-14	205
MW-15	205
MW-16 S	225
MW-16 D	285
MW-17 S	225
MW-17 D	285
EX-1	205
EX-2	285
N-10476	130
N-10478	121
N-11852	95
NRMW-1	70
NRMW-3	70
TMW-1	285
TMW-2	285
TMW-3D	502
TMW-4	285
TMW-5	285
TMW-6	285
TMW-7	285
TMW-8D	502
TMW-9	280

NOTES:

1. FIGURE DEPICTS MONITORING WELLS LOCATED WITHIN THE OU3 AREA SOUTH OF OLD COUNTRY ROAD. NUMEROUS EXISTING MONITORING WELLS ARE FOUND NORTH OF OLD COUNTRY ROAD WITHIN INDUSTRIAL AREA THAT ARE NOT SHOWN.

2. TMW-1, 2, 4, 5, 6, 7, AND 9 WERE SAMPLED AT MULTIPLE DEPTHS FROM GROUNDWATER SURFACE TO A TOTAL DEPTH OF 285 FEET BELOW GROUND SURFACE.

3. TMW-3D AND 8D WERE SAMPLED AT MULTIPLE DEPTHS FROM GROUNDWATER SURFACE TO A TOTAL DEPTH OF 502 FEET BELOW GROUND SURFACE.

GRAPHIC SCALE

300 0 300 600

(IN FEET)
1 inch = 300 ft.

US Army Corps of Engineers ®
Kansas City District

HDR

ORIGINAL SIGNED AND SEALED BY

SIGNATURE

Symbol	Description	Date	Appr.

Designed by: TD
Drawn by: SK
Checked by:
Submitted by: TC
Date: 01/23/13
Drawing scale:
Plot scale:
CADD File Name:

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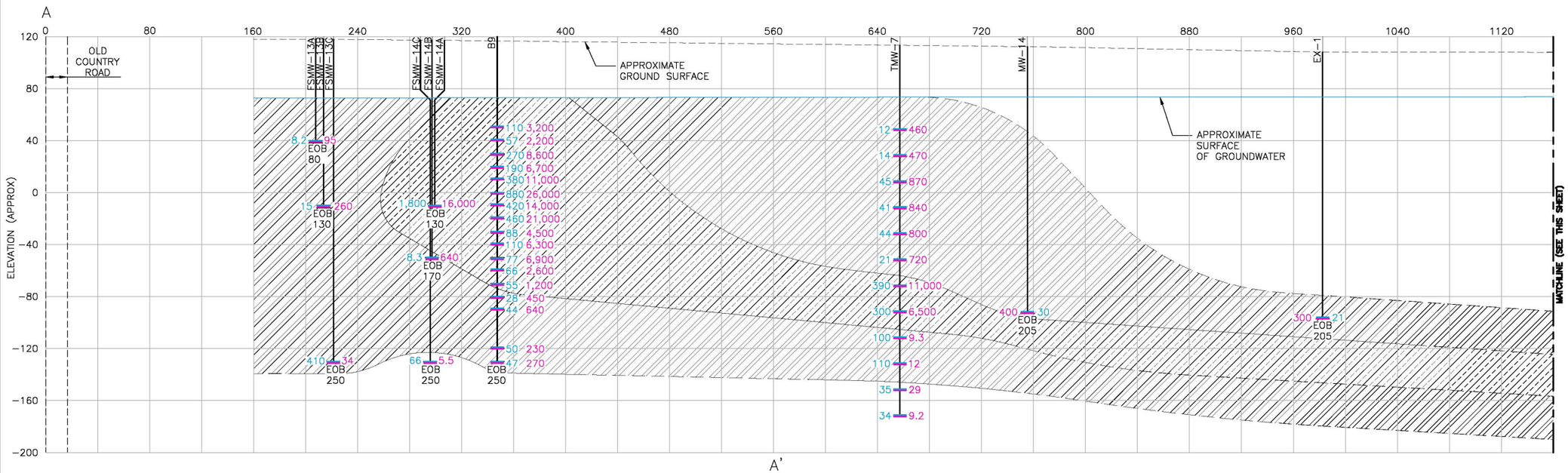
NEW CASSEL INDUSTRIAL AREA
NORTH HEMPSTEAD, NEW YORK

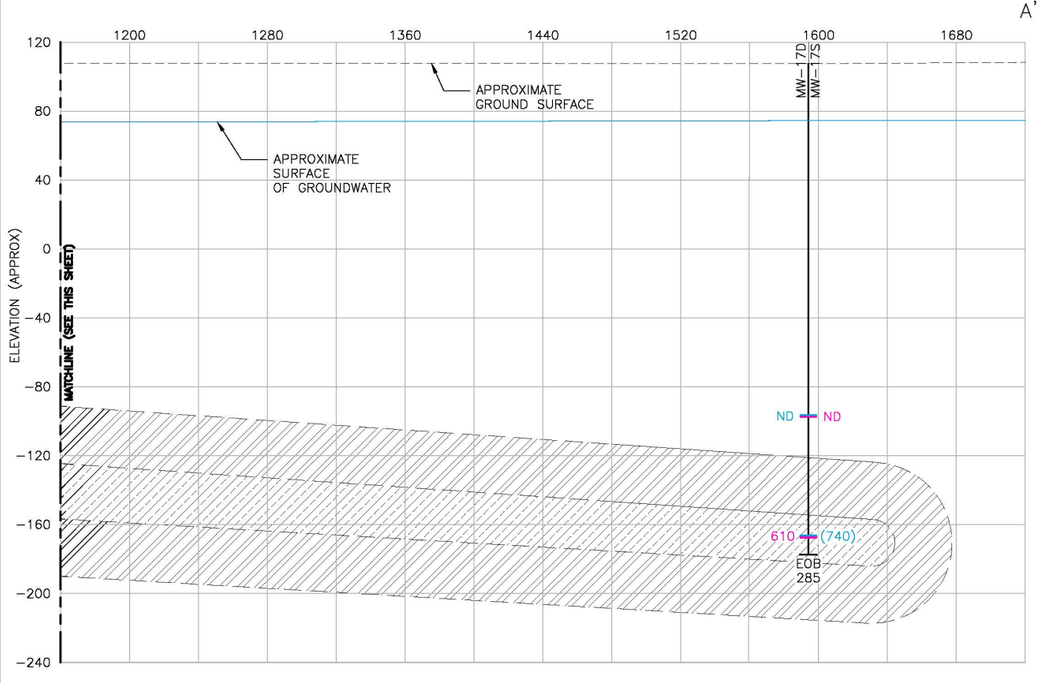
EASTERN PLUME CROSS SECTION
PLAN VIEW

Sheet Reference Number:
3-4

DRAFT

R2-0011765





LEGEND

EOB	END OF BORING
BGS	BELOW GROUND SURFACE
PCE	TETRACHLOROETHENE
TCE	TRICHLOROETHENE
PPB	PARTS PER BILLION
ug/l	MICROGRAMS PER LITER
27	PCE GROUNDWATER SAMPLE RESULTS (PPB)
220	TCE GROUNDWATER SAMPLE RESULTS (PPB)

TOTAL PCE + TCE CONCENTRATIONS

- 100 TO 1000 PPB
- GREATER THAN 1000 PPB

NOTES:

1. FIGURE DEPICTS MONITORING WELLS LOCATED WITHIN THE OU3 AREA SOUTH OF OLD COUNTRY ROAD. NUMEROUS EXISTING MONITORING WELLS ARE FOUND NORTH OF OLD COUNTRY ROAD WITHIN INDUSTRIAL AREA THAT ARE NOT SHOWN.
2. TMW-1, 2, 4, 5, 6, 7, AND 9 WERE SAMPLED AT MULTIPLE DEPTHS FROM GROUNDWATER SURFACE TO A TOTAL DEPTH OF 285 FEET BELOW GROUND SURFACE.
3. TMW-3D AND 8D WERE SAMPLED AT MULTIPLE DEPTHS FROM GROUNDWATER SURFACE TO A TOTAL DEPTH OF 502 FEET BELOW GROUND SURFACE.
4. VERTICAL ELEVATION SHOWN ARE IN FEET ABOVE MEAN SEA LEVEL.
5. GEOLOGY BASED ON BORING LOGS SPLIT SPOON.

VERTICAL GRAPHIC SCALE

40 0 40 80

(IN FEET)
1 inch = 40 ft.

HORIZONTAL GRAPHIC SCALE

40 0 40 80

(IN FEET)
1 inch = 40 ft.

US Army Corps of Engineers
Kansas City District

HDR

ORIGINAL SIGNED AND SEALED BY

SIGNATURE

Symbol	Description	Date	Appr.

Designed by: TC
Date: 01/23/13
Drawn by: SK
Drawing code:
Checked by:
Plot scale:
Submitted by: TC
CADD File Name:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

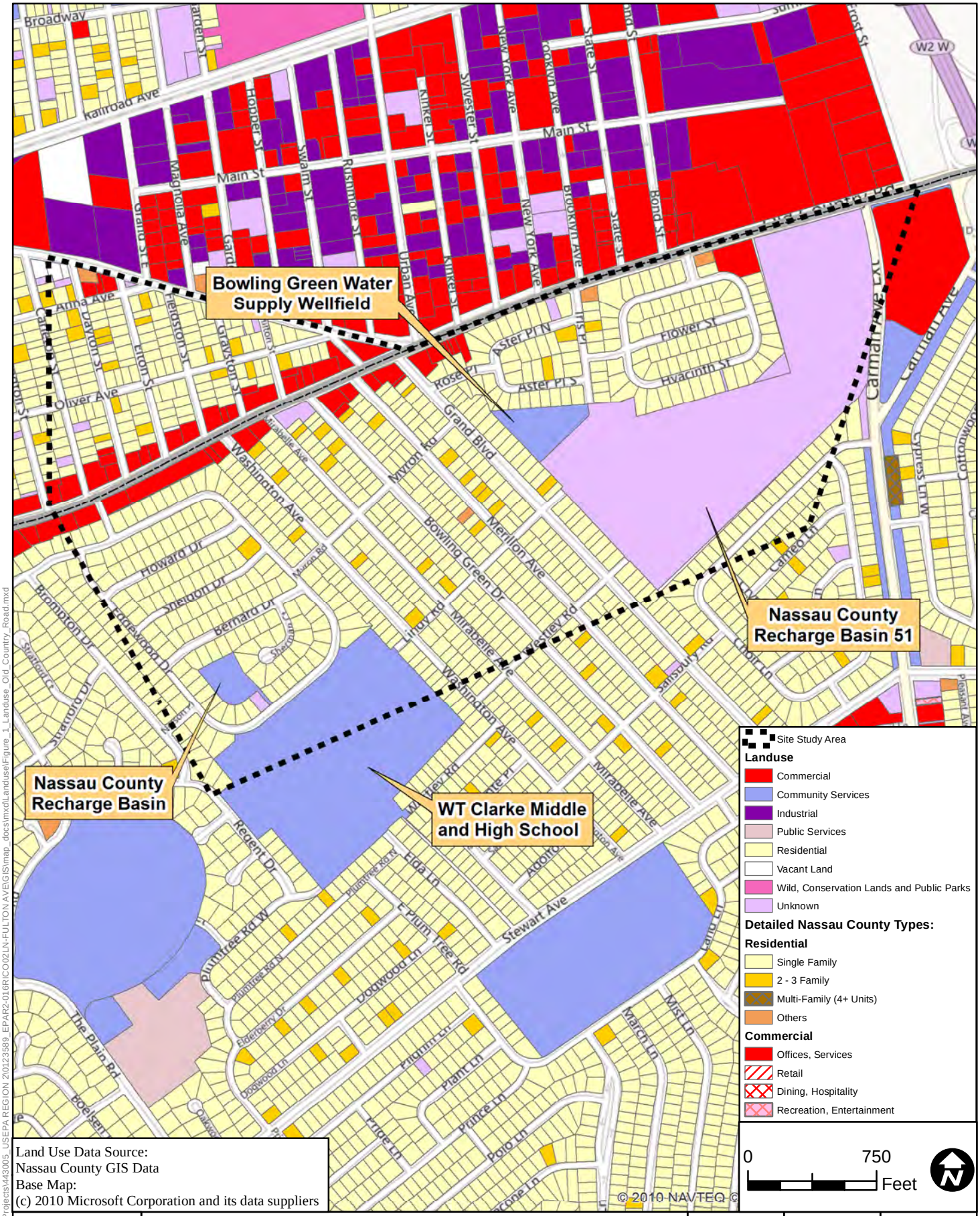
HDR | OBG JV

NEW CASSEL INDUSTRIAL AREA
NORTH HEMPSTEAD, NEW YORK

EASTERN PLUME CROSS SECTION VIEW

Sheet Reference Number:
3-5

DRAFT

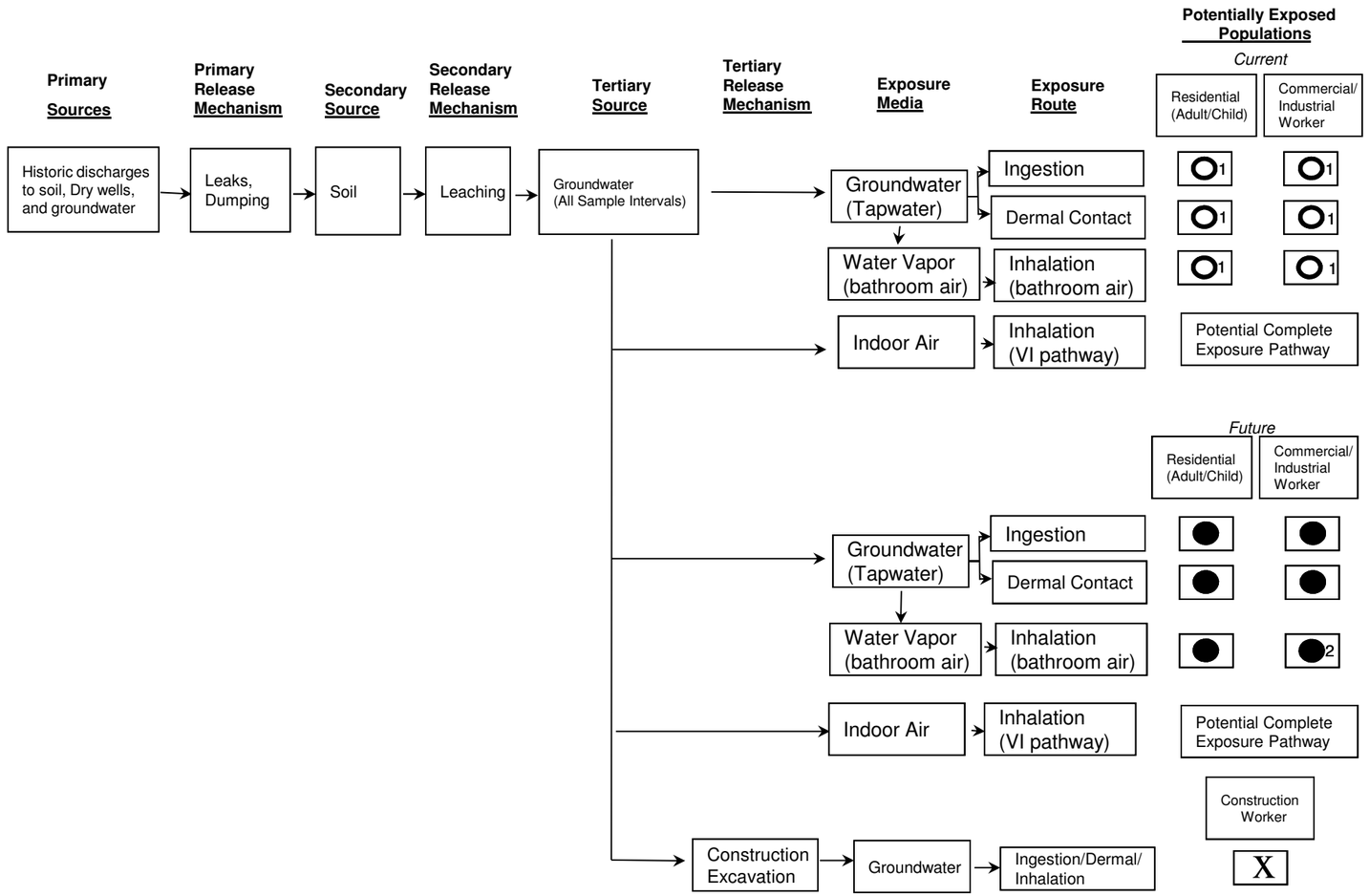


Land Use Data Source:
Nassau County GIS Data
Base Map:
(c) 2010 Microsoft Corporation and its data suppliers

HDR	Land Use at Site and Vicinity - Old Country Road Town of Hempstead, Village of Westbury South Nassau County, New York	Job No.	Date	Figure No.
		200531	05/02/13	4

\\prl-srv3\GIS_Projects\443005_USEPA REGION 2\0123589_EPAR2-016RICO02LN-FULTON AVE\GIS\map_docs\mxd\Landuse\Figure_1_Landuse_Old_Country_Road.mxd

R2-0011767



Legend

- ○ - Potentially incomplete exposure pathway
- ● - Potentially complete exposure pathway in future site setting (assuming no engineering control in place).
- 1 - Residents and Commercial/Industrial Workers in the area are connected to the municipal water supply. Groundwater collected at the Bowling Green well field is treated with an aeration system (engineering control) prior to distribution.
- 2 - Inhalation route from Tapwater assessed for residential receptors only
- X - Construction worker not assessed because depth to groundwater > 10'bgs

Figure - 5
Conceptual Site Model for the Human Health Risk Assessment
New Cassel Industrial Area OU 1, Nassau County, New York

Tables

TABLE 1

SUMMARY OF SAMPLES INCLUDED IN FINAL BHHRA

New Cassel Industrial Area OU 1

Nassau County, New York

Groundwater Dataset April 2011 - HHRA Data

	Sample ID	Date	Depth (ft bgs)
1	NC1A-MW-11S-GW-225-0	4/4/2011	225
2	NC1A-MW-11D-GW-285-0	4/4/2011	285
3	NC1A-MW-8-GW-139-0	4/5/2011	139
4	NC1A-MW-3-GW-150-0	4/5/2011	150
5	NC1A-MW-4-GW-199-0	4/5/2011	199
6	NC1A-MW-9-GW-315-0	4/6/2011	315
7	NC1A-EW-2B-GW-131-0	4/6/2011	131
8	NC1A-EW-2C-GW-514-0	4/6/2011	514
9	NC1A-EX-1-GW-205-0	4/6/2011	205
10	NC1A-MW-10-GW-284-0	4/7/2011	284
11	NC1A-MW-6-GW-128-0	4/7/2011	128
12	NC1A-MW-16S-GW-225-0	4/7/2011	225
13	NC1A-MW-16D-GW-285-0	4/7/2011	285
14	NC1A-EW-1B-GW-158-0	4/8/2011	158
15	NC1A-EW-1C-GW-516-0	4/8/2011	516
16	NC1A-MW-17S-GW-228-0	4/8/2011	228
17	NC1A-MW-17D-GW-287-0	4/8/2011	287
18	NC1A-MW-15-GW-204-0	4/11/2011	204
19	NC1A-MW-14-GW-200-0	4/11/2011	200
20	NC1A-FSMW-13B-GW-128-0	4/11/2011	128
21	NC1A-FSMW-13C-GW-249-0	4/11/2011	249
22	NC1A-FSMW-14A-GW-139-0	4/12/2011	139
23	NC1A-FSMW-14B-GW-167-0	4/12/2011	167
24	NC1A-FSMW-14C-GW-251-0	4/12/2011	251
25	NC1A-EX-2-GW-285-0	4/12/2011	285

Groundwater Dataset April 2011 - Offsite of OU 1

	Sample ID	Date	Depth (ft bgs)
1	NC1A-MW-12-GW-225-0	3/31/11	225
2	NC1A-MW-13-GW-208-0	4/1/11	208

Groundwater Dataset February 2008 -HHRA Data

	Sample ID	Date	Depth (ft bgs)
1	MW-1	2/25/2008	90-110
2	MW-2	2/25/2008	110-130
3	MW-3	2/25/2008	130-150
4	MW-4	2/25/2008	180-200
5	MW-5	2/26/2008	90-110
6	MW-6	2/26/2008	110-130
7	MW-7	2/26/2008	90-110
8	MW-8	2/26/2008	119-139
9	MW-9	2/28/2008	310-315
10	EW-1B	2/27/2008	154-164
11	EW-2B	2/27/2008	506-516
12	EW-1C	2/27/2008	132-142
13	EW-2C	2/27/2008	504-514

Groundwater Dataset Walden 2006 - Qualitative

	Sample ID	Date	Depth (ft bgs)
1	FSMW-13A	August 2006	69-79
2	FSMW-13B	August 2006	119-129
3	FSMW-13C	August 2006	239-249
4	FSMW-14A	August 2006	119-129
5	FSMW-14B	August 2006	159-169
6	FSMW-14C	August 2006	239-249

Groundwater Dataset Walden 2007 - Qualitative

	Sample ID	Date	Depth (ft bgs)
1	FSMW-13A	August 2007	69-79
2	FSMW-13B	August 2007	119-129
3	FSMW-13C	August 2007	239-249
4	FSMW-14A	August 2007	119-129
5	FSMW-14B	August 2007	159-169
6	FSMW-14C	August 2007	239-249

TABLE 2
Shallow Vertical Profile Data Summary
New Cassel Industrial Area - OU1
Nassau County, New York

Sample ID	TMW-1	TMW-1	TMW-2	TMW-2	TMW-4	TMW-4	TMW-5	TMW-5	TMW-6	TMW-6	TMW-7	TMW-7	TMW-9	TMW-9	TMW-9	Contract Required Detection Limit	NYSDEC TOGS 1.1.1 CLASS GA GROUNDWATER STANDARDS/ GUIDANCE VALUES
Sample Depth, ft	72	85	65	85	65	85	65	85	63	83	65	85	60	80	100		
Date of Collection	8/29/2008	8/29/2008	8/21/2008	8/21/2008	8/4/2008	8/4/2008	8/13/2008	8/13/2008	6/25/2008	6/24/2008	7/7/2008	7/7/2008	7/21/2008	7/21/2008	7/21/2008		
Dilution Factor	2.5	5	4	8	1	1	8	8	1.0	1.0	50.0	50.0	1/2.5	1/2.5	1/2		
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Dichlorodifluoromethane	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.39 J	0.5	5 ST
Chloromethane	U	U	U	U	U	U	U	U	3.7	4.3	U	U	0.55	U	0.39 J	0.5	5 ST
Vinyl Chloride	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	2 ST
Bromomethane	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.32 J	0.5	5 ST
Chloroethane	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	5 ST
Trichlorofluoromethane	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.32 J	0.5	5 ST
1,1-Dichloroethene	U	U	U	U	0.36 J	U	**84**	**100**	1.7	2.7	U	U	0.53	0.63	0.58	0.5	5 ST
1,1,2-Trichloro-1,2,2-trifluoroethane	U	U	U	U	U	U	U	U	U	U	U	U	0.89	1	0.87	0.5	5 ST
Acetone	U	U	U	U	U	U	U	U	U	U	U	U	6.3	U	6.7	5	50 GV
Carbon Disulfide	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.55	0.5	60 GV
Methyl Acetate	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	--
Methylene Chloride	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	5 ST
trans-1,2-Dichloroethene	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.31 J	0.5	5 ST
Methyl tert-butyl Ether	U	U	U	U	U	U	U	3.5 J	U	U	U	U	U	0.74	1.3	0.5	10 GV
1,1-Dichloroethane	U	U	U	U	U	U	**110**	**120**	1.3	1.9	U	U	0.4 J	0.36 J	0.4 J	0.5	5 ST
cis-1,2-Dichloroethene	U	U	4.8	**8.9**	U	U	2.9 J	4.5	1.1	1.3	**11 J**	**10 J**	2.1	2	1.3	0.5	5 ST
2-Butanone	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	5	50 GV
Bromochloromethane	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	5 ST
Chloroform	U	U	U	U	1.3	0.41 J	U	U	0.23 J	0.33 J	U	U	0.51	0.53	0.54	0.5	7 ST
1,1,1-Trichloroethane	U	U	U	U	U	U	**73**	**91**	0.94	2.2	U	U	U	U	0.43 J	0.5	5 ST
Cyclohexane	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.31 J	0.5	--
Carbon Tetrachloride	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	5 ST
Benzene	U	U	**1.4 J**	**2.5 J**	U	U	U	U	0.55	0.51	U	U	U	U	0.31 J	0.5	1 ST
1,2-Dichloroethane	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	0.6 ST
Trichloroethene	1.4	**6.7**	**51**	**90**	1.1	0.63	**22**	**38**	5	**8.4**	**17 J**	**14 J**	**12**	**13**	**15**	0.5	5 ST
Methylcyclohexane	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.33 J	0.5	--
1,2-Dichloropropane	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	1 ST
Bromodichloromethane	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	50 GV
cis-1,3-Dichloropropene	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	0.4 ST*
4-Methyl-2-Pentanone	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	5	--
Toluene	U	U	U	U	0.57	U	U	U	1.5	0.79	U	U	U	U	U	0.5	5 ST
trans-1,3-Dichloropropene	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.43 J	0.5	0.4 ST*
1,1,2-Trichloroethane	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	1 ST
Tetrachloroethene	**29**	**63**	**48**	**64**	3.3	**9.1**	**12**	**17**	2.9	4.6	**460**	**470**	**25 D**	**25 D**	**18 D**	0.5	5 ST
2-Hexanone	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	5	50 GV
Dibromochloromethane	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	50 GV
1,2-Dibromoethane	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	0.006 ST
Chlorobenzene	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	5 ST
Ethylbenzene	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	5 ST

TABLE 2 (continued)
Shallow Vertical Profile Data Summary
New Cassel Industrial Area - OU1
Nassau County, New York

Sample ID	TMW-1	TMW-1	TMW-2	TMW-2	TMW-4	TMW-4	TMW-5	TMW-5	TMW-6	TMW-6	TMW-7	TMW-7	TMW-9	TMW-9	TMW-9	Contract Required Detection Limit	NYSDEC TOGS 1.1.1 CLASS GA GROUNDWATER STANDARDS/ GUIDANCE VALUES
Sample Depth, ft	72	85	65	85	65	85	65	85	63	83	65	85	60	80	100		
Date of Collection	8/29/2008	8/29/2008	8/21/2008	8/21/2008	8/4/2008	8/4/2008	8/13/2008	8/13/2008	6/25/2008	6/24/2008	7/7/2008	7/7/2008	7/21/2008	7/21/2008	7/21/2008		
Dilution Factor	2.5	5	4	8	1	1	8	8	1.0	1.0	50.0	50.0	1/2.5	1/2.5	1/2		
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
m/p-Xylenes	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	5 ST
o-Xylene	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	5 ST
Styrene	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	5 ST
Bromoform	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	50 GV
Isopropylbenzene	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	5 ST
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	5 ST
1,3-Dichlorobenzene	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	3 ST**
1,4-Dichlorobenzene	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	3 ST**
1,2-Dichlorobenzene	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	3 ST**
1,2-Dibromo-3-Chloropropane	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	0.04 ST
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	5 ST
1,2,3-Trichlorobenzene	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	0.5	5 ST

Qualifiers:

U: Compound analyzed for but not detected.

J: Compound detected at a concentration below the Contract Required Detection Limit (CRDL), Value estimated.

B: Compound detected in method blank as well as the sample.

D: Compound analyzed at a secondary dilution as noted in column header.

E: Compound concentration exceeds instrument calibration range, value estimated

*: Result qualified as estimated, possibly biased high based on validation criteria

Notes:

TIC: Tentatively Identified Compound

--: Not established

ST: Standard

ST*: Applies to sum of isomers

ST**: Applies to sum of isomers

GV: Guidance Value

: Result exceeds TOGS 1.1.1 class GA Groundwater Standard or Guidance Value

Appendices

Appendix A – RAGS Tables 0, 1, 2s, 3s, 4s, 5s, 6s, 7s, 9s & 10s

RAGS TABLE 0
SITE RISK ASSESSMENT IDENTIFICATION INFORMATION
New Cassel/Hicksville Groundwater Contamination Site

Site Name/OU:	New Cassel/Hicksville Groundwater Contamination Site / Operable Unit 1
Region:	2
EPA ID Number:	NYD0001095363
State:	New York
Status:	RI/FS
Federal Facility (Y/N):	N
EPA Project Manager:	Jennifer LaPoma
EPA Risk Assessor:	Urszula Filipowicz
Prepared by (Organization):	HDR Engineering, Inc.
Prepared for (Organization):	U.S. Army Corps of Engineers
Document Title:	Final Baseline Human Health Risk Assessment
Document Date:	2-May-13
Probabilistic Risk Assessment (Y/N):	N
Comments:	Final Baseline Human Health Risk Assessment

RAGS TABLE 1

SELECTION OF EXPOSURE PATHWAYS

New Cassel Industrial Area - OU1

Nassau County, New York

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current	Groundwater	Groundwater	Groundwater (Tap Water)	Residential	Adult/Child	Dermal/Ingestion	none	Residents in the area are connected to the municipal water supply. The BG Well Field uses an aeration system to treat groundwater.
				Commercial/Industrial Worker	Adult			Commercial/Industrial Workers in the area are connected to the municipal water supply. The BG Well Field uses an aeration system to treat groundwater.
		Bathroom Air	Water Vapors in Bathroom Air	Residential	Adult/Child	Inhalation	none	Residents in the area are connected to the municipal water supply. The BG Well Field uses an aeration system to treat groundwater.
		Indoor Air	Indoor Air	Residential	Adult/Child	Inhalation	Qual	Indoor air vapor intrusion is a potentially complete exposure pathway.
				Commercial/Industrial Worker	Adult			
		Groundwater	Groundwater (Excavation/Trench)	Construction Worker	Adult	Dermal/Ingestion/Inhalation	none	Construction workers were not assessed because depth to groundwater >10' bgs
		Ambient Air	Ambient Air (Excavation/Trench)	Construction Worker	Adult	Inhalation	none	Construction workers were not assessed because depth to groundwater >10' bgs
Future	Groundwater	Groundwater	Groundwater (Tap Water)	Residential	Adult/Child	Dermal/Ingestion	Quant	Future Residents in the area are connected to the municipal water supply. The BG Well Field uses an aeration system to treat groundwater. Future residents are being quantitatively evaluated based on the assumption that contaminated groundwater beneath the site is used as a potable water source.
				Commercial/Industrial Worker	Adult			Future Commercial/Industrial Workers in the area are connected to the municipal water supply. The BG Well Field uses an aeration system to treat groundwater. Future commercial/industrial workers are being quantitatively evaluated based on the assumption that contaminated groundwater beneath the site is used as a potable water source.
		Bathroom Air	Water Vapors in Bathroom Air	Residential	Adult/Child	Inhalation	Quant	Future Residents in the area are connected to the municipal water supply. The BG Well Field uses an aeration system to treat groundwater. Future residents are being quantitatively evaluated based on the assumption that contaminated groundwater beneath the site is used as a potable water source.
		Indoor Air	Indoor Air	Residential	Adult/Child	Inhalation	Qual	Indoor air vapor intrusion is a potentially complete exposure pathway.
				Commercial/Industrial Worker	Adult			
		Groundwater	Groundwater (Excavation/Trench)	Construction Worker	Adult	Dermal/Ingestion/Inhalation	none	Construction workers were not assessed because depth to groundwater >10' bgs
		Ambient Air	Ambient Air (Excavation/Trench)	Construction Worker	Adult	Inhalation	none	Construction workers were not assessed because depth to groundwater >10' bgs

Notes:

Quant- Quantitative

Qual- Qualitative

BG = Bowling Green Water Supply District

RAGS TABLE 2.1.RME
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
New Cassel Industrial Area OU1
Nassau County, New York

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater

Exposure Point	CAS Number	Chemical	Minimum Concentration Qualifier		Maximum Concentration Qualifier		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (1)	Background Value	Carcinogenic Screening Level (2)	Noncarcinogenic Screening Level (2)	Adjusted Tapwater RSLs (3)		Potential ARAR/TBC Source (4)	Potential ARAR/TBC Source (5)	Potential ARAR/TBC Source	COPC Flag	Rationale for Selection or Deletion (6)
Groundwater (Tapwater)	71-55-6	1,1,1-Trichloroethane	2.50E-01	J	1.40E+03	D	ug/L	MW-6	20/38	2.00E-01 - 1.40E+03	1.40E+03	NA	NA	7.50E+03	7.50E+02	n	2.00E+02	5.00E+00 ST	MCL/TOGS	**Y**	**ASL**
	79-34-5	1,1,2,2-Tetrachloroethane	5.00E-01	U	2.30E+01		ug/L	MW-17D	1/38	5.00E-01U - 2.3E+01	2.30E+01	NA	6.60E-02	2.80E+02	6.60E-02	c	NA	5.00E+00 ST	NA/TOGS	**Y**	**ASL**
	76-13-1	1,1,2-Trichlorotrifluoroethane	5.00E-01		2.00E+01		ug/L	EW-2B	9/38	4.10E-01 - 2.00E+01	2.00E+01	NA	NA	5.30E+04	5.30E+03	n	NA	5.00E+00 ST	NA/TOGS	N	BSL
	79-00-5	1,1,2-Trichloroethane	5.00E-01	U	5.40E+00		ug/L	MW-17D	5/38	2.00E-01 - 5.4E+00	5.40E+00	NA	2.40E-01	4.10E-01	4.10E-02	nc**	5.00E+00	1.00E+00 ST	MCL/TOGS	**Y**	**ASL**
	75-34-3	1,1-Dichloroethane	3.30E-01	J	9.70E+02	D	ug/L	MW-6	25/38	2.40E-01 - 9.70E+02	9.70E+02	NA	2.40E+00	2.90E+03	2.40E+00	c	NA	5.00E+00 ST	NA/TOGS	**Y**	**ASL**
	75-35-4	1,1-Dichloroethene	3.40E-01	J	8.40E+02	D	ug/L	MW-6	25/38	3.40E-01 - 8.40E+02	8.40E+02	NA	NA	2.60E+02	2.60E+01	n	7.00E+00	5.00E+00 ST	MCL/TOGS	**Y**	**ASL**
	120-82-1	1,2,4-Trichlorobenzene	5.00E-01	U	3.60E+00		ug/L	FSMW-14A	1/38	5.00E-01U - 3.6E+00	3.60E+00	NA	9.90E-01	3.90E+00	3.90E-01	nc**	7.00E+01	5.00E+00 ST	MCL/TOGS	N	FOD
	95-50-1	1,2-Dichlorobenzene	2.30E-01	J	1.10E+00		ug/L	FSMW-14A	2/38	1.90E-01 - 1.10E+00	1.10E+00	NA	NA	2.80E+02	2.80E+01	n	6.00E+02	3.00E+00 ST**	MCL/TOGS	N	BSL
	107-06-2	1,2-Dichloroethane	5.00E-01	U	4.50E+00		ug/L	MW-4	5/38	1.80E-01 - 4.50E+00	4.50E+00	NA	1.50E-01	1.30E+01	1.50E-01	c*	5.00E+00	6.00E-01 ST	MCL/TOGS	**Y**	**ASL**
	541-73-1	1,3-Dichlorobenzene	3.80E-01	J	1.00E+00	U	ug/L	N/A	1/38	3.8E-01 - 1.00E+00	1.00E+00	NA	NA	NA	NA		6.00E+02	3.00E+00 ST**	MCL/TOGS	N	Below ARAR
	106-46-7	1,4-Dichlorobenzene	4.10E-01	J	1.00E+00		ug/L	Ex-1	1/38	4.1E-01 - 1.00E+00	1.00E+00	NA	4.20E-01	4.70E+02	4.20E-01	c	7.50E+01	3.00E+00 ST**	MCL/TOGS	N	FOD
	78-93-3	2-Butanone	5.00E-01	U	2.90E-01		ug/L	N/A	1/38	2.90E-01 - 5.00E+00	2.90E-01	NA	NA	4.90E+03	4.90E+02	n	NA	5.00E+01 GV	NA/TOGS	N	BSL
	67-64-1	Acetone	5.00E-01	U	1.50E+01		ug/L	Ex-2	3/38	3.30E+00 - 1.50E+01	1.50E+01	NA	NA	1.20E+04	1.20E+03	n	NA	5.00E+01 GV	NA/TOGS	N	BSL
	71-43-2	Benzene (A)	5.00E-01	U	1.00E+01		ug/L	Ex-2	2/38	2.60E-01 - 1.00E+01	1.00E+01	NA	3.90E-01	2.90E+01	3.90E-01	c*	5.00E+00	1.00E+00 ST	MCL/TOGS	**Y**	**ASL, Toxicity**
	75-27-4	Bromodichloromethane	5.00E-01	U	1.10E+01		ug/L	MW-17D	2/38	4.70E-01 - 1.10E+01	1.10E+01	NA	1.20E-01	2.90E+02	1.20E-01	c	8.0E+01	5.00E+00 ST	MCL/TOGS	**Y**	**ASL**
	75-25-2	Bromoform	5.00E-01	U	1.50E+00		ug/L	MW-17D	1/38	2.00E-01 - 1.50E+00	1.50E+00	NA	7.90E+00	2.90E+02	7.90E+00	c*	8.0E+01	5.00E+01 GV	MCL/TOGS	N	BSL
	56-23-5	Carbon Tetrachloride	5.00E-01	U	1.30E+01		ug/L	FSMW-13C	4/38	2.00E-01 - 1.30E+01	1.30E+01	NA	3.90E-01	4.00E+01	3.90E-01	c	5.00E+00	5.00E+00 ST	MCL/TOGS	**Y**	**ASL**
	108-90-7	Chlorobenzene	4.20E-01	J	2.80E+00		ug/L	FSMW-14A	2/38	2.60E-01 - 2.80E+00	2.80E+00	NA	NA	7.20E+01	7.20E+00	n	1.00E+02	5.00E+00 ST	MCL/TOGS	N	BSL
	75-00-3	Chloroethane	5.00E-01	U	9.80E+00		ug/L	MW-6	1/38	5.00E-01U - 9.80E+00	9.80E+00	NA	NA	2.10E+04	2.10E+03	n	NA	5.00E+00 ST	NA/TOGS	N	BSL
	67-66-3	Chloroform	2.50E-01	J	5.40E+01		ug/L	MW-17D	20/38	2.50E-01 - 5.40E+01	5.40E+01	NA	1.90E-01	8.40E+01	1.90E-01	c	8.0E+01	7.00E+00 ST	MCL/TOGS	**Y**	**ASL**
	74-87-3	Chloromethane	5.00E-01	U	3.20E+00		ug/L	MW-11D	3/38	3.30E-01 - 3.20E+00	3.20E+00	NA	NA	1.90E+02	1.90E+01	n	NA	5.00E+00 ST	NA/TOGS	N	BSL
	156-59-2	cis-1,2-Dichloroethene	5.00E-01	U	6.30E+02	E	ug/L	MW-17D	30/38	5.00E-01U - 6.30E+02	6.30E+02	NA	NA	2.80E+01	2.80E+00	n	7.00E+01	5.00E+00 ST	MCL/TOGS	**Y**	**ASL**
	124-48-1	Dibromochloromethane	5.00E-01	U	6.20E+00		ug/L	MW-17D	2/38	2.00E-01 - 6.20E+00	6.20E+00	NA	1.50E-01	2.90E+02	1.50E-01	c	8.0E+01	5.00E+01 GV	MCL/TOGS	N	FOD
	75-71-8	Dichlorodifluoromethane	5.00E-01	U	1.50E+01		ug/L	MW-17D	2/38	2.90E-01 - 1.50E+01	1.50E+01	NA	NA	1.90E+02	1.90E+01	n	NA	5.00E+00 ST	NA/TOGS	N	BSL
	179601-23-1	m/p-Xylenes	2.50E-01	J	2.00E+00	U	ug/L	N/A	7/38	2.50E-01 - 2.00E+00	2.00E+00	NA	NA	1.90E+02	1.90E+01	n	NA	5.00E+00 ST	NA/TOGS	N	BSL
	1634-04-4	Methyl tert-Butyl Ether	2.40E-01	J	7.50E+00		ug/L	MW-6	14/38	2.40E-01 - 7.50E+00	7.50E+00	NA	1.20E+01	6.30E+03	1.20E+01	c	NA	1.00E+01 GV	NA/TOGS	N	BSL
	75-09-2	Methylene Chloride	2.20E-01	J	2.00E+00		ug/L	MW-4	3/38	2.00E-01 - 2.00E+00	2.00E+00	NA	9.90E+00	8.40E+01	8.40E+00	nc**	5.00E+00	5.00E+00 ST	MCL/TOGS	N	BSL
	95-47-6	o-Xylene	5.00E-01	U	1.20E+00		ug/L	Ex-2	2/38	2.20E-01 - 1.20E+00	1.20E+00	NA	NA	1.90E+02	1.90E+01	n	NA	5.00E+00 ST	NA/TOGS	N	BSL
	127-18-4	Tetrachloroethene	5.00E-01	U	1.20E+04	E	ug/L	FSMW-14A	30/38	5.00E-01U - 1.20E+04	1.20E+04	NA	9.70E+00	3.50E+01	3.50E+00	nc**	5.00E+00	5.00E+00 ST	MCL/TOGS	**Y**	**ASL**
	108-88-3	Toluene	5.00E-01	U	1.10E+00		ug/L	FSMW-14A	6/38	1.70E-01 - 1.10E+00	1.10E+00	NA	NA	8.60E+02	8.60E+01	n	1.00E+03	5.00E+00 ST	MCL/TOGS	N	BSL
	156-60-5	trans-1,2-Dichloroethene	5.00E-01	U	2.10E+02	E	ug/L	MW-6	5/38	5.00E-01U - 2.10E+02	2.10E+02	NA	NA	8.60E+01	8.60E+00	n	1.00E+02	5.00E+00 ST	MCL/TOGS	**Y**	**ASL**
	79-01-6	Trichloroethene (A)	3.20E-01	J	1.80E+03	E	ug/L	FSMW-14A	32/38	3.20E-01 - 1.80E+03	1.80E+03	NA	4.40E-01	2.60E+00	2.60E-01	nc**	5.00E+00	5.00E+00 ST	MCL/TOGS	**Y**	**ASL, Toxicity**
	75-69-4	Trichlorofluoromethane	5.00E-01	U	7.90E+00		ug/L	MW-11D	1/38	5.00E-01U - 7.90E+00	7.90E+00	NA	NA	1.10E+03	1.10E+02	n	NA	5.00E+00 ST	NA/TOGS	N	BSL
	75-01-4	Vinyl Chloride (A)	5.00E-01	U	1.10E+01		ug/L	EW-2B	3/38	3.50E-01 - 1.10E+01	1.10E+01	NA	1.50E-02	3.60E+01	1.50E-02	c	2.00E+00	2.00E+00 ST	MCL/TOGS	**Y**	**ASL, Toxicity**

Notes

(1) Maximum detected concentration is used for screening.

(2) Regional Screening Levels for Tapwater (November 2012).

(3) Adjusted Regional Screening Levels for Tapwater (November 2012). Concentrations based on non-carcinogenic health effects are adjusted using HQ=0.1.

(4) MCL is used as ARAR/TBC (MCL = Maximum Contaminant Level from EPA's Primary Drinking Water Standards)

(5) NYS value is used as ARAR/TBC (TOGS 1.1.1 class GA Groundwater Standard or Guidance Value)

ST= Standard; ST*= Applies to each isomer individually; ST**=Appiles to the sume of isomers; GV= Guidance Value

(6) Selection Reason: Above Screening Levels (ASL)

Deletion Reason: Below Screening Level (BSL)

Below ARAR, MCL and/or TOGS (Below ARAR)

Frequency of Detection (FOD) determination approximately 5% (based in a data set of 20 as per RAGS A p.5-22)

EPA Group A Carcinogen (Toxicity)

COPC = Chemical of Potential Concern

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered

c = Carcinogenic

nc = Noncarcinogenic

NA = Not available

N/A= Not Applicable

J = compound was detected below the reporting limit in the sample

U = analyte was analyzed for, but no quantifiable concentration was found at or above DL

E = analytes whose concentrations exceed the calibration range of the instrument

D = analysis at a secondary dilution factor

c*= where: n SL < 100X c SL

nc*= where c** n SL < 10X c SL was adjusted to HQ 0.1 of nc RSL values

RAGS TABLE 2.2.RME
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN - VAPOR INTRUSION SCREENING
New Cassel Industrial Area OU1
Nassau County, New York

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Indoor Air

Exposure Point	CAS Number	Chemical	Minimum Concentration Qualifier		Maximum Concentration Qualifier		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (1)	Adjusted Toxicity Value (2)	COPC Flag	Rationale for Selection or Deletion (3)
Groundwater/ Indoor Air	71-55-6	1,1,1-Trichloroethane	2.50E-01	J	1.40E+03	D	ug/L	MW-6	20/38	2.00E-01 - 1.40E+03	1.40E+03	7.40E+03	N	BSL
	79-34-5	1,1,2,2-Tetrachloroethane	5.00E-01	U	2.30E+01		ug/L	MW-17D	1/38	5.00E-01U - 2.3E+01	2.30E+01	2.80E+00	**Y**	ASL
	76-13-1	1,1,2-Trichlorotrifluoroethane	5.00E-01		2.00E+01		ug/L	EW-2B	9/38	4.10E-01 - 2.00E+01	2.00E+01	1.50E+03	N	BSL
	79-00-5	1,1,2-Trichloroethane	5.00E-01	U	5.40E+00		ug/L	MW-17D	5/38	2.00E-01 - 5.4E+00	5.40E+00	4.50E+00	**Y**	ASL
	75-34-3	1,1-Dichloroethane	3.30E-01	J	9.70E+02	D	ug/L	MW-6	25/38	2.40E-01 - 9.70E+02	9.70E+02	6.60E+00	**Y**	ASL
	75-35-4	1,1-Dichloroethene	3.40E-01	J	8.40E+02	D	ug/L	MW-6	25/38	3.40E-01 - 8.40E+02	8.40E+02	2.00E+02	**Y**	ASL
	120-82-1	1,2,4-Trichlorobenzene	5.00E-01	U	3.60E+00		ug/L	FSMW-14A	1/38	5.00E-01U - 3.6E+00	3.60E+00	3.60E+01	N	BSL, FOD
	95-50-1	1,2-Dichlorobenzene	2.30E-01	J	1.10E+00		ug/L	FSMW-14A	2/38	1.90E-01 - 1.10E+00	1.10E+00	2.70E+03	N	BSL
	107-06-2	1,2-Dichloroethane	5.00E-01	U	4.50E+00		ug/L	MW-4	5/38	1.80E-01 - 4.50E+00	4.50E+00	1.90E+00	**Y**	ASL
	541-73-1	1,3-Dichlorobenzene	3.80E-01	J	1.00E+00	U	ug/L	N/A	1/38	3.8E-01 - 1.00E+00	1.00E+00	NA	--	NA
	106-46-7	1,4-Dichlorobenzene	4.10E-01	J	1.00E+00		ug/L	Ex-1	1/38	4.1E-01 - 1.00E+00	1.00E+00	2.20E+00	N	BSL, FOD
	78-93-3	2-Butanone	5.00E-01	U	2.90E-01		ug/L	N/A	1/38	2.90E-01 - 5.00E+00	2.90E-01	2.20E+06	N	BSL
	67-64-1	Acetone	5.00E-01	U	1.50E+01		ug/L	Ex-2	3/38	3.30E+00 - 1.50E+01	1.50E+01	2.30E+07	N	BSL
	71-43-2	Benzene	5.00E-01	U	1.00E+01		ug/L	Ex-2	2/38	2.60E-01 - 1.00E+01	1.00E+01	1.40E+00	**Y**	ASL
	75-27-4	Bromodichloromethane	5.00E-01	U	1.10E+01		ug/L	MW-17D	2/38	4.70E-01 - 1.10E+01	1.10E+01	7.60E-01	**Y**	ASL
	75-25-2	Bromoform	5.00E-01	U	1.50E+00		ug/L	MW-17D	1/38	2.00E-01 - 1.50E+00	1.50E+00	NA	--	NA
	56-23-5	Carbon Tetrachloride	5.00E-01	U	1.30E+01		ug/L	FSMW-13C	4/38	2.00E-01 - 1.30E+01	1.30E+01	3.60E-01	**Y**	ASL
	108-90-7	Chlorobenzene	4.20E-01	J	2.80E+00		ug/L	FSMW-14A	2/38	2.60E-01 - 2.80E+00	2.80E+00	4.10E+02	N	BSL
	75-00-3	Chloroethane	5.00E-01	U	9.80E+00		ug/L	MW-6	1/38	5.00E-01U - 9.80E+00	9.80E+00	2.30E+04	N	BSL
	67-66-3	Chloroform	2.50E-01	J	5.40E+01		ug/L	MW-17D	20/38	2.50E-01 - 5.40E+01	5.40E+01	7.10E-01	**Y**	ASL
	74-87-3	Chloromethane	5.00E-01	U	3.20E+00		ug/L	MW-11D	3/38	3.30E-01 - 3.20E+00	3.20E+00	2.60E+02	N	BSL
	156-59-2	cis-1,2-Dichloroethene	5.00E-01	U	6.30E+02	E	ug/L	MW-17D	30/38	5.00E-01U - 6.30E+02	6.30E+02	NA	--	NA
	124-48-1	Dibromochloromethane	5.00E-01	U	6.20E+00		ug/L	MW-17D	2/38	2.00E-01 - 6.20E+00	6.20E+00	2.80E+00	N	FOD
	75-71-8	Dichlorodifluoromethane	5.00E-01	U	1.50E+01		ug/L	MW-17D	2/38	2.90E-01 - 1.50E+01	1.50E+01	7.40E+00	N	FOD
	179601-23-1	m/p-Xylenes	2.50E-01	J	2.00E+00	U	ug/L	N/A	7/38	2.50E-01 - 2.00E+00	2.00E+00	3.60E+02	N	BSL
	1634-04-4	Methyl tert-Butyl Ether	2.40E-01	J	7.50E+00		ug/L	MW-6	14/38	2.40E-01 - 7.50E+00	7.50E+00	3.90E+02	N	BSL
	75-09-2	Methylene Chloride	2.20E-01	J	2.00E+00		ug/L	MW-4	3/38	2.00E-01 - 2.00E+00	2.00E+00	7.20E+02	N	BSL
	95-47-6	o-Xylene	5.00E-01	U	1.20E+00		ug/L	Ex-2	2/38	2.20E-01 - 1.20E+00	1.20E+00	4.90E+02	N	BSL
	127-18-4	Tetrachloroethene	5.00E-01	U	1.20E+04	E	ug/L	FSMW-14A	18/38	5.00E-01U - 1.20E+04	1.20E+04	1.30E+01	**Y**	ASL
	108-88-3	Toluene	5.00E-01	U	1.10E+00		ug/L	FSMW-14A	6/38	1.70E-01 - 1.10E+00	1.10E+00	1.90E+04	N	BSL
	156-60-5	trans-1,2-Dichloroethene	5.00E-01	U	2.10E+02	E	ug/L	MW-6	5/38	5.00E-01U - 2.10E+02	2.10E+02	3.80E+02	N	BSL
	79-01-6	Trichloroethene	3.20E-01	J	1.80E+03	E	ug/L	FSMW-14A	32/38	3.20E-01 - 1.80E+03	1.80E+03	1.10E+00	**Y**	ASL
	75-69-4	Trichlorofluoromethane	5.00E-01	U	7.90E+00		ug/L	MW-11D	1/38	5.00E-01U - 7.90E+00	7.90E+00	1.80E+02	N	BSL
	75-01-4	Vinyl Chloride	5.00E-01	U	1.10E+01		ug/L	EW-2B	3/38	3.50E-01 - 1.10E+01	1.10E+01	1.40E-01	**Y**	ASL

Notes

(1) Maximum detected concentration is used for screening.

(2) Vapor Intrusion Screening Level Calculator (v. 3.0) for Target Groundwater Concentration (November 2012).
Adjusted Target Groundwater Concentrations are based on a target excess lifetime cancer risk (ELCR) of E-06 and a noncancer hazard quotient (HQ) of 0.1.

(3) Selection Reason: Above Screening Levels (ASL)
Deletion Reason: Below Screening Level (BSL)
Frequency of Detection (FOD) determination approximately 5% (based in a data set of 20 as per RAGS A p.5-22)

RAGS TABLE 3.1.RME
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
New Cassel Industrial Area OU1
Nassau County, New York

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean (3)	95% UCL Distribution	Maximum Concentration (Qualifier)		Exposure Point Concentration			
							Value	Units	Statistic	Rationale
Groundwater (Tapwater)	1,1,1-Trichloroethane	ug/L	1.08E+02	4.32E+02	1.40E+03	D	4.32E+02	ug/L	99% KM (Chebyshev) UCL	(2)
	1,1,2,2-Tetrachloroethane	ug/L	--	--	2.30E+01		2.30E+01	ug/L	Maximum Detected Concentratoin	(1)
	1,1,2-Trichloroethane	ug/L	2.18E+00	1.38E+00	5.40E+00		1.38E+00	ug/L	95% KM (t) UCL	(2)
	1,1-Dichloroethane	ug/L	6.47E+01	3.02E+02	9.70E+02	D	3.02E+02	ug/L	99% KM (Chebyshev) UCL	(2)
	1,1-Dichloroethene	ug/L	1.08E+02	3.92E+02	8.40E+02	D	3.92E+02	ug/L	99% KM (Chebyshev) UCL	(2)
	1,2-Dichloroethane	ug/L	2.23E+00	1.25E+00	4.50E+00		1.25E+00	ug/L	95% KM (t) UCL	(2)
	Benzene	ug/L	6.75E+00	4.07E+00	1.00E+01		1.00E+01	ug/L	Maximum Detected Concentratoin	(1)
	Bromodichloromethane	ug/L	6.85E+00	3.43E+00	1.10E+01		1.10E+01	ug/L	Maximum Detected Concentratoin	(1)
	Carbon Tetrachloride	ug/L	5.97E+00	2.11E+00	1.30E+01		2.11E+00	ug/L	95% KM (t) UCL	(2)
	Chloroform	ug/L	7.69E+00	2.35E+01	5.40E+01		2.35E+01	ug/L	99% KM (Chebyshev) UCL	(2)
	cis-1,2-Dichloroethene	ug/L	5.27E+01	2.47E+02	6.30E+02	E	2.47E+02	ug/L	99% KM (Chebyshev) UCL	(2)
	Tetrachloroethene	ug/L	5.17E+02	3.54E+03	1.20E+04	E	3.54E+03	ug/L	99% KM (Chebyshev) UCL	(2)
	trans-1,2-Dichloroethene	ug/L	5.23E+01	1.82E+01	2.10E+02	E	1.82E+01	ug/L	95% KM (t) UCL	(2)
	Trichloroethene	ug/L	1.84E+02	3.88E+02	1.80E+03	E	3.88E+02	ug/L	95% KM (Chebyshev) UCL	(2)
	Vinyl chloride	ug/L	4.18E+00	1.46E+00	1.10E+01		1.10E+01	ug/L	Maximum Detected Concentratoin	(1)

(1) The maximum detected concentration was used as the EPC because there were less than 4 detected results.
(2) Distribution tests are inconclusive (data are not normal, log-normal, or gamma-distributed).
(3) ProUCL output mean detected values

NA = Not applicable
ug/L = Microgram per liter
J = Analyte was detected, but should be considered an estimated value.

RAGS TABLE 3.1.a.RME
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
New Cassel Industrial Area OU1
Nassau County, New York

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Bathroom Air

Exposure Point	Chemical of Potential Concern	Exposure Point Concentration		
		Value (1)	Value (2)	Units
Water Vapors in Bathroom Air	1,1,1-Trichloroethane	1.27E+01	2.26E+01	mg/m^3
	1,1,2,2-Tetrachloroethane	6.77E-01	1.20E+00	mg/m^3
	1,1,2-Trichloroethane	4.04E-02	7.19E-02	mg/m^3
	1,1-Dichloroethane	8.89E+00	1.58E+01	mg/m^3
	1,1-Dichloroethene	1.15E+01	2.05E+01	mg/m^3
	1,2-Dichloroethane	3.67E-02	6.53E-02	mg/m^3
	Benzene	2.94E-01	5.23E-01	mg/m^3
	Bromodichloromethane	3.24E-01	5.75E-01	mg/m^3
	Carbon Tetrachloride	6.22E-02	1.11E-01	mg/m^3
	Chloroform	6.93E-01	1.23E+00	mg/m^3
	cis-1,2-Dichloroethene	7.27E+00	1.29E+01	mg/m^3
	Tetrachloroethene	1.04E+02	1.85E+02	mg/m^3
	trans-1,2-Dichloroethene	5.35E-01	9.52E-01	mg/m^3
	Trichloroethene	1.14E+01	2.03E+01	mg/m^3
	Vinyl chloride	3.24E-01	5.75E-01	mg/m^3

(1) Adult shower air concentration modeled on Table 3.1.RME Supplement A.
(2) Child shower air concentration modeled on Table 3.1.RME Supplement A.

NA = Not applicable
ug/L = Microgram per liter
mg/m^3 = milligram per cubic meter

RAGS Table 3.1.RME Supplement A

Bathroom Air Exposure Concentrations from Upper Alluvial Aquifer Groundwater, Andelman Model, as Modified by Schaum

New Cassel Industrial Area OU1

Nassau County, New York

Chemical	Exposure Point Concentration Cwo (mg/l)	Adult		Child	
		C_{amax} (mg/m^3)	C_a (mg/m^3)	C_{amax} (mg/m^3)	C_a (mg/m^3)
1,1,1-Trichloroethane	4.32E-01	1.62E+01	1.27E+01	2.92E+01	2.26E+01
1,1,2,2-Tetrachloroethane	2.30E-02	8.63E-01	6.77E-01	1.55E+00	1.20E+00
1,1,2-Trichloroethane	1.38E-03	5.16E-02	4.04E-02	9.28E-02	7.19E-02
1,1-Dichloroethane	3.02E-01	1.13E+01	8.89E+00	2.04E+01	1.58E+01
1,1-Dichloroethene	3.92E-01	1.47E+01	1.15E+01	2.64E+01	2.05E+01
1,2-Dichloroethane	1.25E-03	4.68E-02	3.67E-02	8.42E-02	6.53E-02
Benzene	1.00E-02	3.75E-01	2.94E-01	6.75E-01	5.23E-01
Bromodichloromethane	1.10E-02	4.13E-01	3.24E-01	7.43E-01	5.75E-01
Carbon Tetrachloride	2.11E-03	7.92E-02	6.22E-02	1.43E-01	1.11E-01
Chloroform	2.35E-02	8.83E-01	6.93E-01	1.59E+00	1.23E+00
cis-1,2-Dichloroethene	2.47E-01	9.26E+00	7.27E+00	1.67E+01	1.29E+01
Tetrachloroethene	3.54E+00	1.33E+02	1.04E+02	2.39E+02	1.85E+02
trans-1,2-Dichloroethene	1.82E-02	6.82E-01	5.35E-01	1.23E+00	9.52E-01
Trichloroethene	3.88E-01	1.46E+01	1.14E+01	2.62E+01	2.03E+01
Vinyl chloride	1.10E-02	4.13E-01	3.24E-01	7.43E-01	5.75E-01

Variables	Units	Exposure Assumptions
C_a = concentration of chemical in air	mg/m^3	Solved by Eq 1
C_{amax} = maximum concentration of chemical in air	mg/m^3	Solved by Eq 2
t_1 = Adult time in shower	hr	2.5E-01
t_1 = Child time in shower	hr	4.5E-01
t_2 = Adult time in bathroom after shower	hr	3.3E-01
t_2 = Child time in bathroom after shower	hr	5.5E-01
f = fraction volatilized for chemical	unitless	**9.0E-01**
F_w = shower water flow rate (1)	L/hr	1.0E+03
V_a = bathroom volume (1)	m^3	6.0E+00

Equation 1:	C_a =	$((C_{amax}/2) * t_1 + C_{amax} \cdot t_2) / (t_1 + t_2)$
Equation 2:	C_{amax} =	$(C_w * f * F_w * t_1) / V_a$

(1) Shower flow rate and bathroom volume are EPA Region 2 values.

Equations and assumptions from Water Consumption and Health: Integration of Exposure Assessment, Toxicology, and Risk Assessment, edited by Rhoda G.M. Wang. Macel Dekker, Inc., New York. 1994. Exposure to Volatiles in Domestic Water, Schaum et al., Pages 307-320.

RAGS TABLE 4.1.RME
VALUES USED FOR DAILY INTAKE CALCULATIONS
REASONABLE MAXIMUM EXPOSURE
New Cassel Industrial Area OU1
Nassau County, New York

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Groundwater

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion	Residential	Adult	Groundwater (Tap Water)	CW	Chemical Concentration in Water	See Table 3s.RME	µg/l	See Table 3s.RME	Chronic Daily Intake (CDI) (mg/kg-day) =
				IR-W	Ingestion Rate of Water	2	L/day	EPA, 2002	CW x IR-W x EF x ED x CF1 x 1/BW x 1/AT
				EF	Exposure Frequency	350	days/year	EPA, 2002	
				ED	Exposure Duration	24	years	EPA, 2002	
				BW	Body Weight	70	kg	EPA, 2002	
				CF1	Conversion Factor 1	0.001	mg/µg	- -	
				AT-N		8,760	days	(1)	
		Child	Groundwater (Tap Water)	CW	Chemical Concentration in Water	See Table 3s.RME	µg/l	See Table 3s.RME	CDI (mg/kg-day) =
				IR-W	Ingestion Rate of Water	1	L/day	EPA, 2009	CW x IR-W x EF x ED x CF1 x 1/BW x 1/AT
				EF	Exposure Frequency	350	days/year	EPA, 2002	
				ED	Exposure Duration	6	years	EPA, 2002	
				BW	Body Weight	15	kg	EPA, 2002	
				CF1	Conversion Factor 1	0.001	mg/µg	- -	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	(1)	
		Child/Adult Aggregate	Groundwater (Tap Water)						CDI (mg/kg-day) =
				CW	Chemical Concentration in Water	See Table 3s.RME	µg/l	See Table 3s.RME	CW x IR-W-Adj x EF x CF1 x 1/AT
				IR-W-Adj	Ingestion Rate of Water, Age-adjusted	1.29	liter-year/kg-day	calculated	
				EF	Exposure Frequency	350	days/year	EPA, 2002	IR-W-Adj (liter-yr/day-kg) = ∑ (ED * IR-W) / BW
				CF1	Conversion Factor 1	0.001	mg/µg	- -	
				AT-C	Averaging Time (Cancer)	25,550	days	(2)	
	Commercial / Industrial Worker	Adult	Groundwater (Tap Water)	CW	Chemical Concentration in Water	See Table 3s.RME	µg/l	See Table 3s.RME	CDI (mg/kg-day) =
				IR-W	Ingestion Rate of Water	1	L/day	EPA, 1991	CW x IR-W x EF x ED x CF1 x 1/BW x 1/AT
				EF	Exposure Frequency	250	days/year	EPA, 2002	
				ED	Exposure Duration	25	years	EPA, 2002	
				BW	Body Weight	70	kg	EPA, 2002	
				CF1	Conversion Factor 1	0.001	mg/µg	- -	
				AT-C	Averaging Time (Cancer)	25,550	days	(2)	
				AT-N	Averaging Time (Non-Cancer)	9,125	days	(1)	

Dermal	Residential	Adult	Groundwater (Tap Water)	CW	Chemical Concentration in Water	See Table 3s.RME	µg/l	See Table 3s.RME	CDI (mg/kg-day) =
				DAevent	Dermally Absorbed Dose per Event	Calculated	mg/cm^2-event	Calculated	DAevent x SA x EV x EF x ED x 1/BW x 1/AT
				t_{event}	Event Time	0.58	hr/event	EPA, 2004	
				SA	Skin Surface Area Available for Contact	18,000	cm^2	EPA, 2004	Organics :
				EV	Event Frequency	1	events/day	EPA, 2004	$t_{event} \leq t^*$: DAevent (mg/cm^2-event) =
				EF	Exposure Frequency	350	days/year	EPA, 2002	2 x FA x Kp x CW x (sqrt((6 x τ x t_{event})/π)) x CF1 x CF2
				ED	Exposure Duration	24	years	EPA, 2002	
				BW	Body Weight	70	kg	EPA, 2002	$t_{event}>t^*$: DAevent (mg/cm^2-event) =
				AT-N	Averaging Time (Non-Cancer)	8,760	days	(1)	FA x Kp x CW x (t_{event}/(1+B) + 2 x τ x ((1 + 3B + $3B^2$)/$(1+B)^2$)) x CF1 x CF2
		Child	Groundwater (Tap Water)	CW	Chemical Concentration in Water	See Table 3s.RME	µg/l	See Table 3s.RME	CDI (mg/kg-day) =
				DAevent	Dermally Absorbed Dose per Event	Calculated	mg/cm^2-event	Calculated	DAevent x SA x EV x EF x ED x 1/BW x 1/AT
				t_{event}	Event Time	1	hr/event	EPA, 2004	
				SA	Skin Surface Area Available for Contact	6,600	cm^2	EPA, 2004	
				EV	Event Frequency	1	events/day	EPA, 2004	
				EF	Exposure Frequency	350	days/year	EPA, 2002	
				ED	Exposure Duration	6	years	EPA, 2002	
				BW	Body Weight	15	kg	EPA, 2002	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	(1)	
		Child/Adult Aggregate	Groundwater (Tap Water)	CW	Chemical Concentration in Water	See Table 3s.RME	µg/l	See Table 3s.RME	CDI (mg/kg-day) = DA-Adj x EF x EV x 1/AT
				DA-Adj	Dermally Absorbed Dose, Age-adjusted	Calculated	mg-year/event-kg	Calculated	DA-Adj = (DAevent-A x SA-A x ED-A x 1/BW-A)
				EV	Event Frequency	1	events/day	EPA, 2004	+ (Daevent-C x SA-C x ED-C x 1/BW-C)
				EF	Exposure Frequency	350	days/year	EPA, 2002	
				AT-C	Averaging Time (Cancer)	25,550	days	(2)	
									Total SA (cm2-yr/kg) = $\sum$ (ED * SA) / BW
Dermal (cont.)	Commercial / Industrial Worker	Adult	Groundwater (Tap Water)	CW	Chemical Concentration in Water	See Table 3s.RME	µg/l	See Table 3s.RME	CDI (mg/kg-day) =
				DAevent	Dermally Absorbed Dose per Event	Calculated	mg/cm^2-event	Calculated	DAevent x SA x EV x EF x ED x 1/BW x 1/AT
				t_{event}	Event Duration	1	hr/event	(4)	
				SA	Skin Surface Area Available for Contact	2,700	cm^2	EPA, 2004 (3)	
				EV	Event Frequency	1	events/day	EPA, 1991	
				EF	Exposure Frequency	250	days/year	EPA, 2002	
				ED	Exposure Duration	25	years	EPA, 2002	
				BW	Body Weight	70	kg	EPA, 2002	
				AT-C	Averaging Time (Cancer)	25,550	days	(2)	
				AT-N	Averaging Time (Non-Cancer)	9,125	days	(1)	
				FA	Fraction absorbed water	Chemical Specific	dimensionless	EPA, 2004	
				Kp	Permeability Coefficient	Chemical Specific	cm/hr	EPA, 2004	
				τ	Lag Time	Chemical Specific	hr/event	EPA, 2004	
				t*	Time to Reach Steady-state	Chemical Specific	hours	EPA, 2004	
				B	Ratio of Permeability of Stratum Corneum to Epidermis	Chemical Specific	dimensionless	EPA, 2004	
				CF1	Conversion Factor 1	0.001	mg/µg	- -	
				CF2	Conversion Factor 2	0.001	L/cm^3		

Notes:
(1) Calculated as the product of ED (years) x 365 days/year.
(2) Calculated as the product of 70 years assumed human lifetime (EPA, 1989) x 365 days/year.
(3) The SA for commercial/industrial worker exposed to tap water is based on face, forearms, and hands.
(4) Based on best professional judgment (total of 60 minutes per day).

Sources:
EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.
EPA, 1997: EPA. Exposure Factors Handbook, Volume I: General Factors. EPA/600/P-95/002Fa. Office of Research and Development, Washington, DC, August 1997.
EPA, 2002: Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites, OSWER 9355.4-24, December, 2002.
EPA, 2004: Risk Assessment Guidance for Superfund (RAGS) Volume I: Human Health Evaluation Manual. Part E Supplemental Guidance for Dermal Risk Assessment) Final.

cm/hr = Centimeter per hour
cm^2 = Square centimeter
hr/day = Hour per day
hr/event = Hour per event
kg = Kilogram
L/cm^3 = Liter per cubic centimeter
L/day = Liter per day
mg/cm^2 -event = Milligram per square centimeter per event
mg/kg-day = Milligram per kilogram per day
mg/L = Milligram per liter

RAGS TABLE 4.1.RME Supplement A

VALUES USED FOR DAILY INTAKE CALCULATIONS (MUTAGENIC MODE OF ACTION)

REASONABLE MAXIMUM EXPOSURE

New Cassel Industrial OU1

Nassau County, New York

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Groundwater

Exposure Route	Receptor Population	Exposure Point	Receptor Age		Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion	Residential	Groundwater (Tap Water)	Child/Adult Aggregate	Child	CW	Chemical Concentration in Water	RME	µg/l	RME	VC and TCE NHL & Liver: Chronic Daily Intake (CDI) (mg/kg-day) =
					IR-W-Adj	Ingestion Rate of Water, Age-adjusted (0-<6 yrs)	0.45	liter-year/kg-day	calculated	CW x IR-W-Adj (0-<6) x EF x CF x 1/AT
					EF	Exposure Frequency	350	days/year	EPA, 2002	TCE Kidney:
					AT-C	Averaging Time (Cancer)	25,550	days	(1)	CDI(mg/kg-day)= [10xCwxIRadj(0-2)xEFxCFx1/AT] x [3xCwXIR ajd(2-6)x
					CF	Conversion Factor	0.001	mg/µg	- -	EFXCFX1/AT] X [3xCwxIRadj(6-16)xEFxCFx1/AT] x [1xCwxIRadj(16-30)x
										EFXCFX1/AT]
										See Supplement 4.1 C for IR-W Adj (0-2, 2-6, 6-16, 16-30 yrs)
				Child/Adult Aggregate (6-<30 yrs)	CW	Chemical Concentration in Water	RME	µg/l	RME	VC and TCE NHL & Liver
					IR-W-Adj (6-<30)	Ingestion Rate of Water, Age-adjusted (6-<30 yrs)	0.84	liter-year/kg-day	calculated	CDI (mg/kg-day) =
					EF	Exposure Frequency	350	days/year	EPA, 2002	CW x IR-W-Adj (6-<30) x EF x CF x 1/AT
					AT-C	Averaging Time (Cancer)	25,550	days	(1)	[for adolescent/adult aged 6-<30 years]
					CF	Conversion Factor	0.001	mg/µg	- -	
Dermal	Residential	Groundwater (Tap Water)	Child/Adult Aggregate	Child/Adult Aggregate	CW	Chemical Concentration in Water	RME	µg/l	RME	Organics :
					DAevent	Dermally Absorbed Dose per Event	calculated	mg/cm^2-event	calculated	tevent<t*: DAevent (mg/cm^2-event) =
					FA	Fraction absorbed water	Chemical Specific	dimensionless	EPA, 2004	2 x FA x Kp x CW x (sqrt((6 x t x tevent)/p)) x CF1 x CF2
					Kp	Permeability Coefficient	Chemical Specific	cm/hr	EPA, 2004	
					t	Lag Time	Chemical Specific	hr/event	EPA, 2004	tevent>t*: DAevent (mg/cm2-event) =
					t*	Time to Reach Steady-state	Chemical Specific	hours	EPA, 2004	FA x Kp x CW x (tevent/(1+B) + 2 x t x
					B	Ratio of Permeability of Stratum Corneum to Epidermis	Chemical Specific	dimensionless	EPA, 2004	((1 + 3B + 3B2)/(1+B)2)) x CF1 x CF2
					tevent	Event Time	see below	hr/event	EPA, 2004	
					CF1	Conversion Factor 1	0.001	mg/µg	- -	
					CF2	Conversion Factor 2	0.001	l/cm^3	- -	
				Child	DA-Adj	Dermally Absorbed Dose per Event	calculated	mg/cm^2-event	calculated	VC and TCE NHL & Liver:
					SA-Adj (0-<6)	Skin Surface Area, Age-adjusted (0-<6 yrs)	2,654	cm^2-year/kg	calculated	CDI (mg/kg-day) = 'DAevent x SA-Adj (0-<6) x EV x EF x 1/AT
					EV	Event Frequency	1	events/day	EPA, 2004	TCE Kidney:
					t_{event}	Event Time (0-<6 yrs)	1.00	hr/event	EPA, 2004	CDI=[10 x Daevent x SAadj(0-2)xEVxEFx1/AT] + [3 x Daevent x
					EF	Exposure Frequency	350	days/year	EPA, 2002	SAadj(2-6)xEVxEFx1/AT] + [3 x Daevent x SAadj(6-16)xEVxEFx
					AT-C	Averaging Time (Cancer)	25,550	days	(1)	1/AT] + [1 x Daevent x SAadj(16-30)xEVxEFx1/AT]
										See Supplement 4.1 C for age group breakdowns for TCE
				Child/Adult Aggregate (6-<30 yrs)	DA-Adj	Dermally Absorbed Dose per Event	calculated	mg/cm^2-event	calculated	CDI (mg/kg-day) =
					SA-Adj (6-<30)	Skin Surface Area, Age-adjusted (6-<30 yrs)	6,697	cm^2-year/kg	calculated	DAevent x SA-Adj (6-<30) x EV x EF x 1/AT
					EV	Event Frequency	1	events/day	EPA, 2004	[for adolescent/adult aged 6-<30 years]
					t_{event}	Event Time (6-<30 yrs)	0.58	hr/event	EPA, 2004	
					EF	Exposure Frequency	350	days/year	EPA, 2002	
					AT-C	Averaging Time (Cancer)	25,550	days	(1)	

(1) Calculated as the product of 70 years assumed human lifetime (EPA, 1989) x 365 days/year.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. USEPA/540/1-89/002.

EPA, 2002: Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites, OSWER 9355.4-24, December, 2002.

EPA, 2004: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final. EPA/540/R/99/005.

cm/hr = Centimeter per hour

cm^2 -year/kg = Centimeter squared per year per kilogram

hr/day = Hour per day

hr/event = Hour per event

kg = Kilogram

L/cm^3 = Liter per cubic centimeter

L/day = Liter per day

mg/cm^2 -event = Milligram per square centimeter per event

mg/kg-day = Milligram per kilogram per day

mg/L = Milligram per liter

RAGS TABLE 4.1.RME Supplement B
AGE-ADJUSTED EXPOSURE FACTORS
New Cassel Industrial Area OU1
Nassau County, New York

AGE (year)	ED (years)	BW [1] (kg)	Intake Rate WATER IR-W [2] (L/day)	Dermal TOTAL SA [3] (cm^2)	Age-Adjusted Exposure Factors AGE GROUP	IR-W-Adj (liter-yr/day-kg)	TOTAL SA (cm2-yr/kg)
Birth to 1 month	0.083	4.8	0.839	2,900	0-<6 yrs	0.45	2,654
1 to <3 months	0.17	5.6	0.896	3,300			
3 to 6 < months	0.25	7.4	1.056	3,800			
6 to <12 months	0.5	9.2	1.055	4,500			
1 to < 2 yrs	1	11.4	0.837	5,300			
2 to <3 yrs	1	13.8	0.877	6,100			
3 to < 6 yrs	3	18.6	1.078	7,600			
6 to <11 yrs	5	31.8	1.235	10,800	6-<30 yrs	0.84	6,697
11 to <16 yrs	5	56.8	1.727	15,900			
16 to <18 yrs	2	71.6	1.983	18,400			
18 to < 21 yrs	3	71.6	2.54	18,400			
21 to < 30 yrs	9	70	2.559	18,000			

Equations and Definitions:

IR-W-Adj (liter-yr/day-kg) = ∑ (ED * IR-W) / BW

Total SA (cm^2-yr/kg) = ∑ (ED * SA) / BW

ED - Exposure duration
BW - Body weight
IR-W - Ingestion rate for groundwater
SA - Skin surface area

Notes:
(1) EPA 2008. Child-Specific Exposure Factors Handbook. Table 8-1 - Mean body weight. Value for adult (21 to < 30 yrs) body weight set at 70 kg, in accordance with RAGS Part A (1989).
(2) EPA 2008. Child-Specific Exposure Factors Handbook. Table 3-1 - Per Capita Ingestion of Drinking Water (95th Percentile). Adult (21 to < 30 yrs) value from EPA 1997 (Table 3-6).
(3) EPA 1991. Standard Default Exposure Factors. Default for resident child and adult.

RAGS TABLE 4.1.RME Supplement C
AGE-ADJUSTED EXPOSURE FACTORS FOR TCE
New Cassel Industrial Area OU1
Nassau County, New York

AGE (year)	ED (years)	BW [1] (kg)	Intake Rate WATER IR-W [2] (L/day)	Dermal TOTAL SA [3] (cm^2)	Age-Adjusted Exposure Factors AGE GROUP	IR-W-Adj (liter-yr/day-kg)	TOTAL SA (cm2-yr/kg)
Birth to 1 month	0.083	4.8	0.839	2,900	0-<2 yrs	0.21	986
1 to <3 months	0.17	5.6	0.896	3,300			
3 to 6 < months	0.25	7.4	1.056	3,800			
6 to <12 months	0.5	9.2	1.055	4,500			
1 to < 2 yrs	1	11.4	0.837	5,300			
2 to <3 yrs	1	13.8	0.877	6,100	2-<6 yrs	0.24	1668
3 to < 6 yrs	3	18.6	1.078	7,600			
6 to <11 yrs	5	31.8	1.235	10,800	6-<16 yrs	0.35	3098
11 to <16 yrs	5	56.8	1.727	15,900			
16 to <18 yrs	2	71.6	1.983	18,400	16-<30 yrs	0.49	3599
18 to < 21 yrs	3	71.6	2.54	18,400			
21 to < 30 yrs	9	70	2.559	18,000			

Equations and Definitions:

IR-W-Adj (liter-yr/day-kg) = ∑ (ED * IR-W) / BW

Total SA (cm^2-yr/kg) = ∑ (ED * SA) / BW

ED - Exposure duration
BW - Body weight
IR-W - Ingestion rate for groundwater
SA - Skin surface area

Notes:
(1) EPA 2008. Child-Specific Exposure Factors Handbook. Table 8-1 - Mean body weight. Value for adult (21 to < 30 yrs) body weight set at 70 kg, in accordance with RAGS Part A (1989).
(2) EPA 2008. Child-Specific Exposure Factors Handbook. Table 3-1 - Per Capita Ingestion of Drinking Water (95th Percentile). Adult (21 to < 30 yrs) value from EPA 1997 (Table 3-6).
(3) EPA 1991. Standard Default Exposure Factors. Default for resident child and adult.

RAGS TABLE 4.2.RME
VALUES USED FOR DAILY INTAKE CALCULATIONS
REASONABLE MAXIMUM EXPOSURE
New Cassel Industrial Area OU1
Nassau County, New York

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Bathroom Air

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Inhalation	Residential	Adult	Water Vapors in Bathroom Air	CW	Chemical Concentration in Water	See Table 3s.RME	µg/L	See Table 3s.RME	Exposure Concentration (EC) (mg/m^3) =
				CA_a	Chemical Concentration in Air from Shower	calculated	mg/m^3	See Table 3s.RME	CA_a x ET_a x ED_a x EF x CF x 1/AT
				ET_a	Exposure Time	0.58	hr/day	(1)	
				EF	Exposure Frequency	350	days/year	EPA, 2002	CA calculated based on CW using Andelman model
				ED_a	Exposure Duration	24	years	EPA, 2002	as modified by Schaum et al.
				AT-N	Averaging Time (Non-Cancer)	8,760	days	(2)	
				CF		1/24	day/hr	- -	
		Child	Water Vapors in Bathroom Air	CW	Chemical Concentration in Water	See Table 3s.RME	µg/L	See Table 3s.RME	EC (mg/m^3) =
				CA_c	Chemical Concentration in Air from Shower	calculated	mg/m^3	See Table 3s.RME	CAc x ETc x EDc x EF x CF x 1/AT
				ET_c	Exposure Time	1	hr/day	(1)	
				EF	Exposure Frequency	350	days/year	EPA, 2002	CA calculated based on CW using Andelman model
				ED_c	Exposure Duration	6	years	EPA, 2002	as modified by Schaum et al.
				AT-N	Averaging Time (Non-Cancer)	2,190	days	(2)	
				CF	Conversion Factor	1/24	day/hr	- -	
		Child/Adult Aggregate	Water Vapors in Bathroom Air	CA	Chemical Concentration in Air from Shower	Calculated	mg/m^3	Calculated	For carcinogenic evaluation, including VC MMOA & TCE (NHL/Liver):
									EC (mg/m^3) = (CAc x ETc x EDc + CAa x ETa x EDa) x EF x CF x 1/AT
				EF	Exposure Frequency	350	days/year	EPA, 2002	For TCE Kidney:
				AT-C	Averaging Time (Cancer)	25,550	days	(3)	EC (mg/m3) = [10 x CAc x ED(0-2)xETc + 3 x CAc xED(2-6)xETc +
				CF	Conversion Factor	1/24	day/hr	- -	3 x CAa xED(6-16)xETc + 1 x CAa xED(16-30)xETc] x EF x CF X 1/AT
									CA calculated based on CW using Andelman model
									as modified by Schaum et al.

Notes:
(1) EPA Region 2 and the Andelman model as modified by Schaum et. al.
(2) Calculated as the product of ED (years) x 365 days/year.
(3) Calculated as the product of 70 years assumed human lifetime (EPA, 1989a) x 365 days/year.

Sources:
EPA, 2002: Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites, OSWER 9355.4-24, December, 2002.

hr/day = Hour per day
mg/m^3 = Milligram per cubic meter
µg/L = Microgram per liter

RAGS TABLE 5.1
NON-CANCER TOXICITY DATA -- ORAL/DERMAL
New Cassel Industrial Area OU1
Nassau County, New York

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal (1)	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD:Target Organ(s)	
		Value	Units		Value	Units			Source(s)	Date(s) (MM/DD/YYYY)
1,1,1-Trichloroethane	Chronic	2.0E+00	mg/kg-day	>50%	2.0E+00	mg/kg-day	reduced body weight in mice	1000	IRIS	9/28/2007
1,1,2,2-Tetrachloroethane	Chronic	2.0E-02	mg/kg-day	>50%	2.0E-02	mg/kg-day	increased relative kidney weight in male rats	1000	IRIS	9/30/2010
1,1,2-Trichloroethane	Chronic	4.0E-03	mg/kg-day	>50%	4.0E-03	mg/kg-day	clinical serum chemistry	1000	IRIS	2/1/1995
1,1-Dichloroethane	Chronic	2.0E-01	mg/kg-day	>50%	2.0E-01	mg/kg-day	Kidney	NA	PPRTV	
1,1-Dichloroethene	Chronic	5.0E-02	mg/kg-day	>50%	5.0E-02	mg/kg-day	Liver	100	IRIS	8/13/2002
1,2-Dichloroethane	Chronic	6.0E-03	mg/kg-day	>50%	6.0E-03	mg/kg-day	Liver and Kidney	NA	PPRTV Appendix (screening value)	
Benzene	Chronic	4.0E-03	mg/kg-day	>50%	4.0E-03	mg/kg-day	Blood	300	IRIS	4/17/2003
Bromodichloromethane	Chronic	2.0E-02	mg/kg-day	>50%	2.0E-02	mg/kg-day	Kidney	1000	IRIS	3/1/1991
Carbon Tetrachloride	Chronic	4.0E-03	mg/kg-day	>50%	4.0E-03	mg/kg-day	Blood	1000	IRIS	3/31/2010
Chloroform	Chronic	1.0E-02	mg/kg-day	>50%	1.0E-02	mg/kg-day	Liver	100	IRIS	10/19/2001
cis-1,2-Dichloroethene	Chronic	2.0E-03	mg/kg-day	>50%	2.0E-03	mg/kg-day	Increased relative kidney weight in male rats	3000	IRIS	9/30/2010
Tetrachloroethene	Chronic	6.0E-03	mg/kg-day	>50%	6.0E-03	mg/kg-day	Neurotoxicity	1000	IRIS	2/10/2012
trans-1,2-Dichloroethene	Chronic	2.0E-02	mg/kg-day	>50%	2.0E-02	mg/kg-day	red blood cell	3000	IRIS	9/30/2010
Trichloroethene	Chronic	5.0E-04	mg/kg-day	>50%	5.0E-04	mg/kg-day	immunological; developmental immunotoxicity; heart malformations	1000 / 100 / 10	IRIS	9/28/2011
Vinyl Chloride	Chronic	3.0E-03	mg/kg-day	>50%	3.0E-03	mg/kg-day	Liver	30	IRIS	8/7/2000

Notes:
(1) Source: Risk Assessment Guidance for Superfund. Volume 1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final. Section 4.2 and Exhibit 4-1. USEPA recommends that the oral RfD should not be adjusted to estimate the absorbed dose for compounds when the absorption efficiency is greater than 50%.

Since no subchronic exposures were evaluated, only chronic non-cancer toxicity factors presented.

Definitions:
CNS = Central Nervous System
HEAST = Health Effects Assessment Summary Tables
IRIS = Integrated Risk Information System
NA = Not Available
PPRTV = Provisional Peer Reviewed Toxicity Value

RAGS TABLE 5.2
NON-CANCER TOXICITY DATA -- INHALATION
New Cassel Industrial Area OU1
Nassau County, New York

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation RfC		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfC : Target Organ(s)	
		Value	Units			Source(s)	Date(s) (MM/DD/YYYY)
1,1,1-Trichloroethane	Chronic	5.0E+00	mg/m^3	Liver	100	IRIS	9/28/2007
1,1,2,2-Tetrachloroethane	NA	NA	-	NA	NA	NA	NA
1,1,2-Trichloroethane	Chronic	2.0E-04	mg/m^3	vacuolation / microcysts in rats'	300	PPRTV Appendix (screening value)	12/1/1992
1,1-Dichloroethane	NA	NA	-	NA	NA	NA	NA
1,1-Dichloroethene	Chronic	2.0E-01	mg/m^3	Liver	30	IRIS	8/13/2002
1,2-Dichloroethane	Chronic	7.0E-03	mg/m^3	impaired neurobehavioral function	NA	PPRTV	
Benzene	Chronic	3.0E-02	mg/m^3	Blood	300	IRIS	4/17/2003
Bromodichloromethane	Chronic	NA	-	NA	NA	NA	
Carbon Tetrachloride	Chronic	1.0E-01	mg/m^3	Liver	100	IRIS	3/31/2010
Chloroform	Chronic	9.8E-02	mg/m^3	Liver	NA	ATSDR	
cis-1,2-Dichloroethene	NA	NA	-	NA	NA	NA	NA
Tetrachloroethene	Chronic	4.0E-02	mg/m^3	Nerotoxicity	1000	IRIS	2/10/2012
trans-1,2-Dichloroethene	Chronic	6.0E-02	mg/m^3	Liver, Lung	NA	PPRTV	
Trichloroethene	Chronic	2.0E-03	mg/m^3	CNS, liver, kidney, male reproductive system, and embryo, fetuses, and neonates (development toxicity)	100 / 10	IRIS	9/28/2011
Vinyl Chloride	Chronic	1.0E-01	mg/m3	Liver	30	IRIS	8/7/2000

Note:
Since no subchronic exposures were evaluated, only chronic non-cancer toxicity factors presented.

Definitions:
ATSDR = Agency for Toxic Substances & Disease Registry Minimal Risk Levels
Cal/EPA = California Environmental Protection Agency
IRIS = Integrated Risk Information System
NA = Not Available
PPRTV = Provisional Peer Reviewed Toxicity Value

RAGS TABLE 6.1
CANCER TOXICITY DATA -- ORAL/DERMAL
New Cassel Industrial Area OU1
Nassau County, New York

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal (1)	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence/ Cancer Guideline Description	Oral CSF	
	Value	Units		Value	Units		Source(s)	Date(s) (MM/DD/YYYY)
1,1,1-Trichloroethane	NA	$(mg/kg\text{-}day)^{-1}$	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	2.0E-01	$(mg/kg\text{-}day)^{-1}$	>50%	2.0E-01	$(mg/kg\text{-}day)^{-1}$	likely human carcinogen	IRIS	9/30/2010
1,1,2-Trichloroethane	5.7E-02	$(mg/kg\text{-}day)^{-1}$	>50%	5.7E-02	$(mg/kg\text{-}day)^{-1}$	C	IRIS	2/1/1994
1,1-Dichloroethane	5.7E-03	$(mg/kg\text{-}day)^{-1}$	>50%	5.7E-03	$(mg/kg\text{-}day)^{-1}$	C	Cal/EPA	
1,1-Dichloroethene	NA	$(mg/kg\text{-}day)^{-1}$	NA	NA	NA	C	IRIS	8/13/2002
1,2-Dichloroethane	9.1E-02	$(mg/kg\text{-}day)^{-1}$	>50%	9.1E-02	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	1/1/1991
Benzene	5.5E-02	$(mg/kg\text{-}day)^{-1}$	>50%	5.5E-02	$(mg/kg\text{-}day)^{-1}$	A	IRIS	1/9/2000
Bromodichloromethane	6.2E-02	$(mg/kg\text{-}day)^{-1}$	>50%	6.2E-02	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	3/1/1991
Carbon Tetrachloride	7.0E-02	$(mg/kg\text{-}day)^{-1}$	>50%	7.0E-02	$(mg/kg\text{-}day)^{-1}$	likely human carcinogen	IRIS	3/31/2010
Chloroform	3.1E-02	$(mg/kg\text{-}day)^{-1}$	>50%	3.1E-02	$(mg/kg\text{-}day)^{-1}$	B2	Cal/EPA	
cis-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	2.1E-03	$(mg/kg\text{-}day)^{-1}$	>50%	2.1E-03	$(mg/kg\text{-}day)^{-1}$	likely human carcinogen	IRIS	2/10/2012
trans-1,2-Dichloroethene	NA	$(mg/kg\text{-}day)^{-1}$	NA	NA	NA	NA	NA	NA
Trichloroethene (2,3)	4.6E-02	$(mg/kg\text{-}day)^{-1}$	>50%	4.6E-02	$(mg/kg\text{-}day)^{-1}$	A	IRIS	9/28/2011
Vinyl chloride (adulthood) (2)	7.2E-01	$(mg/kg\text{-}day)^{-1}$	>50%	7.2E-01	$(mg/kg\text{-}day)^{-1}$	A	IRIS	8/7/2000
Vinyl chloride (from birth) (2)	1.5E+00	$(mg/kg\text{-}day)^{-1}$	>50%	1.5E+00	$(mg/kg\text{-}day)^{-1}$	A	IRIS	8/7/2000

(1) Source: Risk Assessment Guidance for Superfund. Volume 1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final. Section 4.2 and Exhibit 4-1. USEPA recommends that the oral slope factor should not be adjusted to estimate the absorbed dose for compounds when the absorption efficiency is greater than 50%.

Definitions:
Cal/EPA = California Environmental Protection Agency
IRIS = Integrated Risk Information System
NA = Not Available

(2) This chemical operates with a mutagenic mode of action (USEPA 2005, 2011).

(3) TCE 9.30E-03 Kidney, 3.7E-02 NHL & Liver

Weight of Evidence definitions:
Group A chemicals (known human carcinogens) are agents for which there is sufficient evidence to support the causal association between exposure to the agents in humans and cancer.
Group B1 chemicals for which there is limited evidence of carcinogenicity in humans.
Group B2 chemicals for which there is sufficient evidence of carcinogenicity in animals but inadequate or no evidence in humans.
Group C chemicals (possible human carcinogens) are agents for which there is limited evidence of carcinogenicity in animals and inadequate or a lack of human data.
Group D chemicals (not classifiable as to human carcinogenicity) are agents with inadequate human and animal evidence of carcinogenicity or for which no data are available.
Group E chemicals (evidence of noncarcinogenicity in humans) are agents for which there is no evidence of carcinogenicity from human or animal studies, or both.

R2-0011794

RAGS TABLE 6.2
CANCER TOXICITY DATA -- INHALATION
New Cassel Industrial Area OU1
Nassau County, New York

Chemical of Potential Concern	Unit Risk		Weight of Evidence/ Cancer Guideline Description	Unit Risk : Inhalation CSF	
	Value	Units		Source(s)	Date(s) (MM/DD/YYYY)
1,1,1-Trichloroethane	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	5.8E-05	$(ug/m^3)^{-1}$	NA	Cal/EPA	9/30/2010
1,1,2-Trichloroethane	1.6E-05	$(ug/m^3)^{-1}$	C	IRIS	2/1/1994
1,1-Dichloroethane	1.6E-06	$(ug/m^3)^{-1}$	C	Cal/EPA	10/1/1996
1,1-Dichloroethene	NA	NA	C	IRIS	8/13/2002
1,2-Dichloroethane	2.6E-05	$(ug/m^3)^{-1}$	B2	IRIS	1/1/1991
Benzene	7.8E-06	$(ug/m^3)^{-1}$	A	IRIS	1/9/2000
Bromodichloromethane	3.7E-05	$(ug/m^3)^{-1}$	B2	IRIS	3/1/1991
Carbon Tetrachloride	6.0E-06	$(ug/m^3)^{-1}$	likely human carcinogen	IRIS	3/31/2010
Chloroform	2.3E-05	$(ug/m^3)^{-1}$	B2	IRIS	10/19/2001
cis-1,2-Dichloroethene	NA	NA	NA	NA	NA
Tetrachloroethene	2.6E-07	$(ug/m^3)^{-1}$	likely human carcinogen	IRIS	2/10/2012
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA
Trichloroethene (1,2)	4.1E-06	$(ug/m^3)^{-1}$	A	IRIS	9/28/2011
Vinyl chloride (adulthood) (1)	4.4E-06	$(ug/m^3)^{-1}$	A	IRIS	8/7/2000
Vinyl chloride (from birth) (1)	8.8E-06	$(ug/m^3)^{-1}$	A	IRIS	8/7/2000

Definitions:
NA = Not Available
IRIS = Integrated Risk Information System
Cal/EPA = California Environmental Protection Agency

Note:
Exposure to manganese by inhalation will not occur.

(1) This chemical operates with a mutagenic mode of action (USEPA 2005, 2011).
(2) TCE 8.6E-02 Kidney, 1.6E-01 NHL & Liver

Weight of Evidence definitions:
Group A chemicals (known human carcinogens) are agents for which there is sufficient evidence to support the causal association between exposure to the agents in humans and cancer.
Group B1 chemicals for which there is limited evidence of carcinogenicity in humans.
Group B2 chemicals for which there is sufficient evidence of carcinogenicity in animals but inadequate or no evidence in humans.
Group C chemicals (possible human carcinogens) are agents for which there is limited evidence of carcinogenicity in animals and inadequate or a lack of human data.
Group D chemicals (not classifiable as to human carcinogenicity) are agents with inadequate human and animal evidence of carcinogenicity or for which no data are available.
Group E chemicals (evidence of noncarcinogenicity in humans) are agents for which there is no evidence of carcinogenicity from human or animal studies, or both.

R2-0011795

RAGS TABLE 7.1.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

New Cassel Industrial Area OU1

Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Residential
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Ingestion	1,1,1-Trichloroethane	4.3E+02	ug/L	NA	NA	NA	NA	NA	1.2E-02	mg/kg-day	2.0E+00	mg/kg-day	5.9E-03
				1,1,2,2-Tetrachloroethane	2.3E+01	ug/L	NA	NA	NA	NA	NA	6.3E-04	mg/kg-day	2.0E-02	mg/kg-day	3.2E-02
				1,1,2-Trichloroethane	1.4E+00	ug/L	NA	NA	NA	NA	NA	3.8E-05	mg/kg-day	4.0E-03	mg/kg-day	9.4E-03
				1,1-Dichloroethane	3.0E+02	ug/L	NA	NA	NA	NA	NA	8.3E-03	mg/kg-day	2.0E-01	mg/kg-day	4.1E-02
				1,1-Dichloroethene	3.9E+02	ug/L	NA	NA	NA	NA	NA	1.1E-02	mg/kg-day	5.0E-02	mg/kg-day	2.1E-01
				1,2-Dichloroethane	1.2E+00	ug/L	NA	NA	NA	NA	NA	3.4E-05	mg/kg-day	6.0E-03	mg/kg-day	5.7E-03
				Benzene	1.0E+01	ug/L	NA	NA	NA	NA	NA	2.7E-04	mg/kg-day	4.0E-03	mg/kg-day	6.8E-02
				Bromodichloromethane	1.1E+01	ug/L	NA	NA	NA	NA	NA	3.0E-04	mg/kg-day	2.0E-02	mg/kg-day	1.5E-02
				Carbon Tetrachloride	2.1E+00	ug/L	NA	NA	NA	NA	NA	5.8E-05	mg/kg-day	4.0E-03	mg/kg-day	1.4E-02
				Chloroform	2.4E+01	ug/L	NA	NA	NA	NA	NA	6.4E-04	mg/kg-day	1.0E-02	mg/kg-day	6.4E-02
		(Tap Water)		cis-1,2-Dichloroethene	2.5E+02	ug/L	NA	NA	NA	NA	NA	6.8E-03	mg/kg-day	2.0E-03	mg/kg-day	3.4E+00
				Tetrachloroethene	3.5E+03	ug/L	NA	NA	NA	NA	NA	9.7E-02	mg/kg-day	6.0E-03	mg/kg-day	1.6E+01
				trans-1,2-Dichloroethene	1.8E+01	ug/L	NA	NA	NA	NA	NA	5.0E-04	mg/kg-day	2.0E-02	mg/kg-day	2.5E-02
				Trichloroethene	3.9E+02	ug/L	NA	NA	NA	NA	NA	1.1E-02	mg/kg-day	5.0E-04	mg/kg-day	2.1E+01
				Vinyl chloride	1.1E+01	ug/L	NA	NA	NA	NA	NA	3.0E-04	mg/kg-day	3.0E-03	mg/kg-day	1.0E-01
			Exp. Route Total								NA					4.1E+01
Groundwater	Groundwater	Groundwater	Dermal	1,1,1-Trichloroethane	4.3E+02	ug/L	NA	NA	NA	NA	NA	2.3E-03	mg/kg-day	2.0E+00	mg/kg-day	1.1E-03
				1,1,2,2-Tetrachloroethane	2.3E+01	ug/L	NA	NA	NA	NA	NA	8.0E-05	mg/kg-day	2.0E-02	mg/kg-day	4.0E-03
				1,1,2-Trichloroethane	1.4E+00	ug/L	NA	NA	NA	NA	NA	2.8E-06	mg/kg-day	4.0E-03	mg/kg-day	7.0E-04
				1,1-Dichloroethane	3.0E+02	ug/L	NA	NA	NA	NA	NA	6.5E-04	mg/kg-day	2.0E-01	mg/kg-day	3.3E-03
				1,1-Dichloroethene	3.9E+02	ug/L	NA	NA	NA	NA	NA	1.4E-03	mg/kg-day	5.0E-02	mg/kg-day	2.9E-02
				1,2-Dichloroethane	1.2E+00	ug/L	NA	NA	NA	NA	NA	1.7E-06	mg/kg-day	6.0E-03	mg/kg-day	2.8E-04
				Benzene	1.0E+01	ug/L	NA	NA	NA	NA	NA	4.2E-05	mg/kg-day	4.0E-03	mg/kg-day	1.0E-02
				Bromodichloromethane	1.1E+01	ug/L	NA	NA	NA	NA	NA	2.2E-05	mg/kg-day	2.0E-02	mg/kg-day	1.1E-03
				Carbon Tetrachloride	2.1E+00	ug/L	NA	NA	NA	NA	NA	1.6E-05	mg/kg-day	4.0E-03	mg/kg-day	3.9E-03
				Chloroform	2.4E+01	ug/L	NA	NA	NA	NA	NA	5.9E-05	mg/kg-day	1.0E-02	mg/kg-day	5.9E-03
		(Tap Water)		cis-1,2-Dichloroethene	2.5E+02	ug/L	NA	NA	NA	NA	NA	8.6E-04	mg/kg-day	2.0E-03	mg/kg-day	4.3E-01
				Tetrachloroethene	3.5E+03	ug/L	NA	NA	NA	NA	NA	5.8E-02	mg/kg-day	6.0E-03	mg/kg-day	9.7E+00
				trans-1,2-Dichloroethene	1.8E+01	ug/L	NA	NA	NA	NA	NA	6.3E-05	mg/kg-day	2.0E-02	mg/kg-day	3.2E-03
				Trichloroethene	3.9E+02	ug/L	NA	NA	NA	NA	NA	1.8E-03	mg/kg-day	5.0E-04	mg/kg-day	3.6E+00
				Vinyl chloride	1.1E+01	ug/L	NA	NA	NA	NA	NA	2.4E-05	mg/kg-day	3.0E-03	mg/kg-day	8.0E-03
			Exp. Route Total								NA					1.4E+01
		Exposure Point Total									NA					5.5E+01
	Exposure Medium Total										NA					5.5E+01

RAGS TABLE 7.1.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

New Cassel Industrial Area OU1

Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Residential
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Bathroom Air	Water Vapors in Bathroom Air	Inhalation	1,1,1-Trichloroethane	1.3E+01	ug/L	NA	NA	NA	NA	NA	2.9E-01	mg/m^3	5.0E+00	mg/m^3	5.9E-02
				1,1,2,2-Tetrachloroethane	6.8E-01	ug/L	NA	NA	NA	NA	NA	1.6E-02	mg/m^3	NA	NA	NA
				1,1,2-Trichloroethane	4.0E-02	ug/L	NA	NA	NA	NA	NA	9.4E-04	mg/m^3	2.0E-04	mg/m^3	4.7E+00
				1,1-Dichloroethane	8.9E+00	ug/L	NA	NA	NA	NA	NA	2.1E-01	mg/m^3	NA	NA	NA
				1,1-Dichloroethene	1.2E+01	ug/L	NA	NA	NA	NA	NA	2.7E-01	mg/m^3	2.0E-01	mg/m^3	1.3E+00
				1,2-Dichloroethane	3.7E-02	ug/L	NA	NA	NA	NA	NA	8.5E-04	mg/m^3	7.0E-03	mg/m^3	1.2E-01
				Benzene	2.9E-01	ug/L	NA	NA	NA	NA	NA	6.8E-03	mg/m^3	3.0E-02	mg/m^3	2.3E-01
				Bromodichloromethane	3.2E-01	ug/L	NA	NA	NA	NA	NA	7.5E-03	mg/m^3	NA	NA	NA
				Carbon Tetrachloride	6.2E-02	ug/L	NA	NA	NA	NA	NA	1.4E-03	mg/m^3	1.0E-01	mg/m^3	1.4E-02
				Chloroform	6.9E-01	ug/L	NA	NA	NA	NA	NA	1.6E-02	mg/m^3	9.8E-02	mg/m^3	1.6E-01
				cis-1,2-Dichloroethene	7.3E+00	ug/L	NA	NA	NA	NA	NA	1.7E-01	mg/m^3	NA	NA	NA
				Tetrachloroethene	1.0E+02	ug/L	NA	NA	NA	NA	NA	2.4E+00	mg/m^3	4.0E-02	mg/m^3	6.0E+01
				trans-1,2-Dichloroethene	5.4E-01	ug/L	NA	NA	NA	NA	NA	1.2E-02	mg/m^3	6.0E-02	mg/m^3	2.1E-01
				Trichloroethene	1.1E+01	ug/L	NA	NA	NA	NA	NA	2.6E-01	mg/m^3	2.0E-03	mg/m^3	1.3E+02
				Vinyl chloride	3.2E-01	ug/L	NA	NA	NA	NA	NA	7.5E-03	mg/m^3	1.0E-01	mg/m^3	7.5E-02
			Exp. Route Total								NA					2.0E+02
		Exposure Point Total									NA					2.0E+02
	Exposure Medium Total										NA					2.0E+02
Groundwater Total											NA					2.5E+02
Receptor Total											NA					2.5E+02

NA = Not applicable or they are presented in the child-adult aggregate residential exposure scenario

Carcinogenic risks are based on lifetime exposure and are presented on Table 7.3.RME.

RAGS TABLE 7.2.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

New Cassel Industrial Area OU1

Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Residential
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater (Tap Water)	Ingestion	1,1,1-Trichloroethane	4.3E+02	ug/L	NA	NA	NA	NA	NA	2.8E-02	mg/kg-day	2.0E+00	mg/kg-day	1.4E-02
				1,1,2,2-Tetrachloroethane	2.3E+01	ug/L	NA	NA	NA	NA	NA	1.5E-03	mg/kg-day	2.0E-02	mg/kg-day	7.4E-02
				1,1,2-Trichloroethane	1.4E+00	ug/L	NA	NA	NA	NA	NA	8.8E-05	mg/kg-day	4.0E-03	mg/kg-day	2.2E-02
				1,1-Dichloroethane	3.0E+02	ug/L	NA	NA	NA	NA	NA	1.9E-02	mg/kg-day	2.0E-01	mg/kg-day	9.7E-02
				1,1-Dichloroethene	3.9E+02	ug/L	NA	NA	NA	NA	NA	2.5E-02	mg/kg-day	5.0E-02	mg/kg-day	5.0E-01
				1,2-Dichloroethane	1.2E+00	ug/L	NA	NA	NA	NA	NA	8.0E-05	mg/kg-day	6.0E-03	mg/kg-day	1.3E-02
				Benzene	1.0E+01	ug/L	NA	NA	NA	NA	NA	6.4E-04	mg/kg-day	4.0E-03	mg/kg-day	1.6E-01
				Bromodichloromethane	1.1E+01	ug/L	NA	NA	NA	NA	NA	7.0E-04	mg/kg-day	2.0E-02	mg/kg-day	3.5E-02
				Carbon Tetrachloride	2.1E+00	ug/L	NA	NA	NA	NA	NA	1.4E-04	mg/kg-day	4.0E-03	mg/kg-day	3.4E-02
				Chloroform	2.4E+01	ug/L	NA	NA	NA	NA	NA	1.5E-03	mg/kg-day	1.0E-02	mg/kg-day	1.5E-01
				cis-1,2-Dichloroethene	2.5E+02	ug/L	NA	NA	NA	NA	NA	1.6E-02	mg/kg-day	2.0E-03	mg/kg-day	7.9E+00
				Tetrachloroethene	3.5E+03	ug/L	NA	NA	NA	NA	NA	2.3E-01	mg/kg-day	6.0E-03	mg/kg-day	3.8E+01
				trans-1,2-Dichloroethene	1.8E+01	ug/L	NA	NA	NA	NA	NA	1.2E-03	mg/kg-day	2.0E-02	mg/kg-day	5.8E-02
				Trichloroethene	3.9E+02	ug/L	NA	NA	NA	NA	NA	2.5E-02	mg/kg-day	5.0E-04	mg/kg-day	5.0E+01
				Vinyl chloride	1.1E+01	ug/L	NA	NA	NA	NA	NA	7.0E-04	mg/kg-day	3.0E-03	mg/kg-day	2.3E-01
			Exp. Route Total								NA					9.7E+01
Groundwater	Groundwater	Groundwater (Tap Water)	Dermal	1,1,1-Trichloroethane	4.3E+02	ug/L	NA	NA	NA	NA	NA	5.1E-03	mg/kg-day	2.0E+00	mg/kg-day	2.5E-03
				1,1,2,2-Tetrachloroethane	2.3E+01	ug/L	NA	NA	NA	NA	NA	1.8E-04	mg/kg-day	2.0E-02	mg/kg-day	9.0E-03
				1,1,2-Trichloroethane	1.4E+00	ug/L	NA	NA	NA	NA	NA	6.3E-06	mg/kg-day	4.0E-03	mg/kg-day	1.6E-03
				1,1-Dichloroethane	3.0E+02	ug/L	NA	NA	NA	NA	NA	1.5E-03	mg/kg-day	2.0E-01	mg/kg-day	7.5E-03
				1,1-Dichloroethene	3.9E+02	ug/L	NA	NA	NA	NA	NA	3.3E-03	mg/kg-day	5.0E-02	mg/kg-day	6.7E-02
				1,2-Dichloroethane	1.2E+00	ug/L	NA	NA	NA	NA	NA	3.9E-06	mg/kg-day	6.0E-03	mg/kg-day	6.5E-04
				Benzene	1.0E+01	ug/L	NA	NA	NA	NA	NA	9.8E-05	mg/kg-day	4.0E-03	mg/kg-day	2.5E-02
				Bromodichloromethane	1.1E+01	ug/L	NA	NA	NA	NA	NA	4.8E-05	mg/kg-day	2.0E-02	mg/kg-day	2.4E-03
				Carbon Tetrachloride	2.1E+00	ug/L	NA	NA	NA	NA	NA	3.5E-05	mg/kg-day	4.0E-03	mg/kg-day	8.9E-03
				Chloroform	2.4E+01	ug/L	NA	NA	NA	NA	NA	1.3E-04	mg/kg-day	1.0E-02	mg/kg-day	1.3E-02
				cis-1,2-Dichloroethene	2.5E+02	ug/L	NA	NA	NA	NA	NA	2.0E-03	mg/kg-day	2.0E-03	mg/kg-day	9.9E-01
				Tetrachloroethene	3.5E+03	ug/L	NA	NA	NA	NA	NA	1.3E-01	mg/kg-day	6.0E-03	mg/kg-day	2.2E+01
				trans-1,2-Dichloroethene	1.8E+01	ug/L	NA	NA	NA	NA	NA	1.5E-04	mg/kg-day	2.0E-02	mg/kg-day	7.3E-03
				Trichloroethene	3.9E+02	ug/L	NA	NA	NA	NA	NA	4.0E-03	mg/kg-day	5.0E-04	mg/kg-day	8.0E+00
				Vinyl chloride	1.1E+01	ug/L	NA	NA	NA	NA	NA	5.7E-05	mg/kg-day	3.0E-03	mg/kg-day	1.9E-02
			Exp. Route Total								NA					3.1E+01
		Exposure Point Total									NA					1.3E+02
	Exposure Medium Total										NA					1.3E+02

RAGS TABLE 7.2.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

New Cassel Industrial Area OU1

Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Residential
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Bathroom Air	Water Vapors in Bathroom Air	Inhalation	1,1,1-Trichloroethane	2.3E+01	ug/L	NA	NA	NA	NA	NA	9.0E-01	mg/m^3	5.0E+00	mg/m^3	1.8E-01
				1,1,2,2-Tetrachloroethane	1.2E+00	ug/L	NA	NA	NA	NA	NA	4.8E-02	mg/m^3	NA	NA	NA
				1,1,2-Trichloroethane	7.2E-02	ug/L	NA	NA	NA	NA	NA	2.9E-03	mg/m^3	2.0E-04	mg/m^3	1.4E+01
				1,1-Dichloroethane	1.6E+01	ug/L	NA	NA	NA	NA	NA	6.3E-01	mg/m^3	NA	NA	NA
				1,1-Dichloroethene	2.0E+01	ug/L	NA	NA	NA	NA	NA	8.2E-01	mg/m^3	2.0E-01	mg/m^3	4.1E+00
				1,2-Dichloroethane	6.5E-02	ug/L	NA	NA	NA	NA	NA	2.6E-03	mg/m^3	7.0E-03	mg/m^3	3.7E-01
				Benzene	5.2E-01	ug/L	NA	NA	NA	NA	NA	2.1E-02	mg/m^3	3.0E-02	mg/m^3	7.0E-01
				Bromodichloromethane	5.8E-01	ug/L	NA	NA	NA	NA	NA	2.3E-02	mg/m^3	NA	NA	NA
				Carbon Tetrachloride	1.1E-01	ug/L	NA	NA	NA	NA	NA	4.4E-03	mg/m^3	1.0E-01	mg/m^3	4.4E-02
				Chloroform	1.2E+00	ug/L	NA	NA	NA	NA	NA	4.9E-02	mg/m^3	9.8E-02	mg/m^3	5.0E-01
				cis-1,2-Dichloroethene	1.3E+01	ug/L	NA	NA	NA	NA	NA	5.2E-01	mg/m^3	NA	NA	NA
				Tetrachloroethene	1.8E+02	ug/L	NA	NA	NA	NA	NA	7.4E+00	mg/m^3	4.0E-02	mg/m^3	1.8E+02
				trans-1,2-Dichloroethene	9.5E-01	ug/L	NA	NA	NA	NA	NA	3.8E-02	mg/m^3	6.0E-02	mg/m^3	6.3E-01
				Trichloroethene	2.0E+01	ug/L	NA	NA	NA	NA	NA	8.1E-01	mg/m^3	2.0E-03	mg/m^3	4.1E+02
				Vinyl chloride	5.8E-01	ug/L	NA	NA	NA	NA	NA	2.3E-02	mg/m^3	1.0E-01	mg/m^3	2.3E-01
			Exp. Route Total								NA					6.1E+02
		Exposure Point Total									NA					6.1E+02
	Exposure Medium Total										NA					6.1E+02
Groundwater Total											NA					7.4E+02
Receptor Total											NA					7.4E+02

NA = Not applicable or they are presented in the child-adult aggregate residential exposure scenario

Carcinogenic risks are based on lifetime exposure and are presented on Table 7.3.RME.

RAGS TABLE 7.1 & 7.2.RME SUPPLEMENT A
RAGS TABLE 7.1.RME
REASONABLE MAXIMUM EXPOSURE
New Cassel Industrial Area OU1
Nassau County, New York

Chemical of Potential Concern	Exposure Point Concentration (C_W) (ug/L)	Permeability Coefficient (K_p) (cm/hr)	B (dimensionless)	Lag Time (τ_{event}) (hr/event)	t* (hr)	Fraction Absorbed Water (FA) (dimensionless)	Adult Duration of Event (t_{event}) (hr/event)	Child Duration of Event (t_{event}) (hr)	Adult DA_{event} (mg/cm^2-event)	Child DA_{event} (mg/cm^2-event)	Dermally Absorbed Dose, Age-adjusted (mg-year/event-kg)	Child Eq	Adult Eq
1,1,1-Trichloroethane	4.3E+02	1.3E-02	5.6E-02	6.0E-01	1.4E+00	1.0E+00	0.58	1.0	9.2E-06	1.2E-05	8.8E-02	1	1
1,1,2,2-Tetrachloroethane	2.3E+01	6.9E-03	3.5E-02	9.3E-01	2.2E+00	1.0E+00	0.58	1.0	3.2E-07	4.3E-07	3.1E-03	1	1
1,1,2-Trichloroethane	1.4E+00	5.0E-03	2.9E-02	6.0E-01	1.4E+00	1.0E+00	0.58	1.0	1.1E-08	1.5E-08	1.1E-04	1	1
1,1-Dichloroethane	3.0E+02	6.8E-03	2.6E-02	3.8E-01	9.2E-01	1.0E+00	0.58	1.0	2.6E-06	3.6E-06	2.6E-02	2	1
1,1-Dichloroethene	3.9E+02	1.2E-02	4.4E-02	3.7E-01	8.9E-01	1.0E+00	0.58	1.0	5.9E-06	7.9E-06	5.7E-02	2	1
1,2-Dichloroethane	1.2E+00	4.2E-03	1.6E-02	3.8E-01	9.2E-01	1.0E+00	0.58	1.0	6.8E-09	9.2E-09	6.6E-05	2	1
Benzene	1.0E+01	1.5E-02	5.1E-02	2.9E-01	7.0E-01	1.0E+00	0.58	1.0	1.7E-07	2.3E-07	1.7E-03	2	1
Bromodichloromethane	1.1E+01	4.0E-03	2.3E-02	8.8E-01	2.1E+00	1.0E+00	0.58	1.0	8.7E-08	1.1E-07	8.4E-04	1	1
Carbon Tetrachloride	2.1E+00	1.6E-02	7.8E-02	7.8E-01	1.9E+00	1.0E+00	0.58	1.0	6.4E-08	8.4E-08	6.2E-04	1	1
Chloroform	2.4E+01	6.8E-03	2.9E-02	5.0E-01	1.2E+00	1.0E+00	0.58	1.0	2.4E-07	3.1E-07	2.3E-03	1	1
cis-1,2-Dichloroethene	2.5E+02	1.1E-02	2.9E-02	3.7E-01	8.9E-01	1.0E+00	0.58	1.0	3.5E-06	4.7E-06	3.4E-02	2	1
Tetrachloroethene	3.5E+03	3.3E-02	1.7E-01	9.1E-01	2.2E+00	1.0E+00	0.58	1.0	2.4E-04	3.1E-04	2.3E+00	1	1
trans-1,2-Dichloroethene	1.8E+01	1.1E-02	2.9E-02	3.7E-01	8.9E-01	1.0E+00	0.58	1.0	2.6E-07	3.5E-07	2.5E-03	2	1
Trichloroethene	3.9E+02	1.2E-02	5.1E-02	5.8E-01	1.4E+00	1.0E+00	0.58	1.0	7.2E-06	9.5E-06	7.0E-02	1	1
Vinyl chloride	1.1E+01	8.4E-03	1.7E-02	2.4E-01	5.7E-01	1.0E+00	0.58	1.0	9.8E-08	1.4E-07	9.6E-04	2	2

Organics: DA_{event} (mg/cm^2-event) =

$t_{event} \le t^*$: DA_{event} (mg/cm^2-event) = (Eq 1)

$2 \times FA \times K_p \times C_w \times (\mathrm{sqrt}((6 \times \tau_{event} \times t_{event}) / (\pi))) \times CF1 \times CF2$

$t_{event} > t^*$: DA_{event} (mg/cm^2-event) = (Eq 2)

$FA \times K_p \times C_W \times (t_{event}/(1+B) + 2 \times \tau_{event} \times ((1 + 3B + 3B^2)/(1+B)^2)) \times CF1 \times CF2$

Dermally Absorbed Dose, Age-Adjusted (mg-year/event-kg)

$(DA_{event}\text{-}A \times SA\text{-}A \times ED\text{-}A \times 1/BW\text{-}A) + (DA_{event}\text{-}C \times SA\text{-}C \times ED\text{-}C \times 1/BW\text{-}C)$

Notes:
Adult and Child DA_{event} calculations used Equations 1 and 2 above. Receptor specific Duration of Event (t_{event}) were used as indicated.
Values for permeability constants, B, tau, t*, and FA are from USEPA 2004, *Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment - Final).* EPA/540/R/99/005.
NA - Not applicable.
t* - Time to reach steady-state
B - Dimensionless ratio of the permeability coefficient of a compound through the stratum corneum relative to its permeability coefficient across the viable epidermis (dimensionless).
CF1 - Conversion Factor 1 (0.001 mg/µg), CF2 - Conversion Factor 2 (0.001 L/cm^3)
Dermally absorbed dose components indicated "A" and "C" are adult and child components respectively and are presented in Table 4.2.RME.
SA - Skin Surface Area (cm^2), ED - Exposure Duration (years), BW - Body Weight (kg)

RAGS TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

New Cassel Industrial Area OU1

Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult/Child Aggregate

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater (Tap Water)	Ingestion	1,1,1-Trichloroethane	4.3E+02	ug/L	7.6E-03	mg/kg-day	NA	NA	NA	NA	NA	NA	NA	NA
				1,1,2,2-Tetrachloroethane	2.3E+01	ug/L	4.1E-04	mg/kg-day	2.0E-01	1/(mg/kg-day)	8.1E-05	NA	NA	NA	NA	NA
				1,1,2-Trichloroethane	1.4E+00	ug/L	2.4E-05	mg/kg-day	5.7E-02	1/(mg/kg-day)	1.4E-06	NA	NA	NA	NA	NA
				1,1-Dichloroethane	3.0E+02	ug/L	5.3E-03	mg/kg-day	5.7E-03	1/(mg/kg-day)	3.0E-05	NA	NA	NA	NA	NA
				1,1-Dichloroethene	3.9E+02	ug/L	6.9E-03	mg/kg-day	NA	NA	NA	NA	NA	NA	NA	NA
				1,2-Dichloroethane	1.2E+00	ug/L	2.2E-05	mg/kg-day	9.1E-02	1/(mg/kg-day)	2.0E-06	NA	NA	NA	NA	NA
				Benzene	1.0E+01	ug/L	1.8E-04	mg/kg-day	5.5E-02	1/(mg/kg-day)	9.7E-06	NA	NA	NA	NA	NA
				Bromodichloromethane	1.1E+01	ug/L	1.9E-04	mg/kg-day	6.2E-02	1/(mg/kg-day)	1.2E-05	NA	NA	NA	NA	NA
				Carbon Tetrachloride	2.1E+00	ug/L	3.7E-05	mg/kg-day	7.0E-02	1/(mg/kg-day)	2.6E-06	NA	NA	NA	NA	NA
				Chloroform	2.4E+01	ug/L	4.2E-04	mg/kg-day	3.1E-02	1/(mg/kg-day)	1.3E-05	NA	NA	NA	NA	NA
				cis-1,2-Dichloroethene	2.5E+02	ug/L	4.4E-03	mg/kg-day	NA	NA	NA	NA	NA	NA	NA	NA
				Tetrachloroethene	3.5E+03	ug/L	6.2E-02	mg/kg-day	2.1E-03	1/(mg/kg-day)	1.3E-04	NA	NA	NA	NA	NA
				trans-1,2-Dichloroethene	1.8E+01	ug/L	3.2E-04	mg/kg-day	NA	NA	NA	NA	NA	NA	NA	NA
				Trichloroethene	3.9E+02	ug/L	-- (1)	mg/kg-day	-- (2)	NA	4.7E-04	NA	NA	NA	NA	NA
				Vinyl chloride	1.1E+01	ug/L	1.9E-04	mg/kg-day	1.5E+00	1/(mg/kg-day)	1.9E-04	NA	NA	NA	NA	NA
			Exp. Route Total								9.4E-04					NA
Groundwater	Groundwater	Groundwater (Tap Water)	Dermal	1,1,1-Trichloroethane	4.3E+02	ug/L	1.3E-03	mg/kg-day	NA	NA	NA	NA	NA	NA	NA	NA
				1,1,2,2-Tetrachloroethane	2.3E+01	ug/L	4.5E-05	mg/kg-day	2.0E-01	1/(mg/kg-day)	9.0E-06	NA	NA	NA	NA	NA
				1,1,2-Trichloroethane	1.4E+00	ug/L	1.6E-06	mg/kg-day	5.7E-02	1/(mg/kg-day)	9.0E-08	NA	NA	NA	NA	NA
				1,1-Dichloroethane	3.0E+02	ug/L	3.7E-04	mg/kg-day	5.7E-03	1/(mg/kg-day)	2.1E-06	NA	NA	NA	NA	NA
				1,1-Dichloroethene	3.9E+02	ug/L	8.3E-04	mg/kg-day	NA	NA	NA	NA	NA	NA	NA	NA
				1,2-Dichloroethane	1.2E+00	ug/L	9.6E-07	mg/kg-day	9.1E-02	1/(mg/kg-day)	8.7E-08	NA	NA	NA	NA	NA
				Benzene	1.0E+01	ug/L	2.4E-05	mg/kg-day	5.5E-02	1/(mg/kg-day)	1.3E-06	NA	NA	NA	NA	NA
				Bromodichloromethane	1.1E+01	ug/L	1.2E-05	mg/kg-day	6.2E-02	1/(mg/kg-day)	7.6E-07	NA	NA	NA	NA	NA
				Carbon Tetrachloride	2.1E+00	ug/L	8.9E-06	mg/kg-day	7.0E-02	1/(mg/kg-day)	6.3E-07	NA	NA	NA	NA	NA
				Chloroform	2.4E+01	ug/L	3.3E-05	mg/kg-day	3.1E-02	1/(mg/kg-day)	1.0E-06	NA	NA	NA	NA	NA
				cis-1,2-Dichloroethene	2.5E+02	ug/L	4.9E-04	mg/kg-day	NA	NA	NA	NA	NA	NA	NA	NA
				Tetrachloroethene	3.5E+03	ug/L	3.3E-02	mg/kg-day	2.1E-03	1/(mg/kg-day)	6.9E-05	NA	NA	NA	NA	NA
				trans-1,2-Dichloroethene	1.8E+01	ug/L	3.6E-05	mg/kg-day	NA	NA	NA	NA	NA	NA	NA	NA
				Trichloroethene	3.9E+02	ug/L	-- (1)	mg/kg-day	-- (2)	NA	6.4E-05	NA	NA	NA	NA	NA
				Vinyl chloride	1.1E+01	ug/L	1.4E-05	mg/kg-day	1.5E+00	1/(mg/kg-day)	1.4E-05	NA	NA	NA	NA	NA
			Exp. Route Total								1.6E-04					NA
		Exposure Point Total									1.1E-03					NA
	Exposure Medium Total										1.1E-03					NA

RAGS TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

New Cassel Industrial Area OU1

Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult/Child Aggregate

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Bathroom Air	Water Vapors in Bathroom Air	Inhalation	1,1,1-Trichloroethane	1.3E+01	mg/m^3	1.8E-01	mg/m^3	NA	1/(ug/m^3)	NA	NA	NA	NA	NA	NA
				1,1,2,2-Tetrachloroethane	6.8E-01	mg/m^3	9.5E-03	mg/m^3	5.8E-05	1/(ug/m^3)	5.5E-04	NA	NA	NA	NA	NA
				1,1,2-Trichloroethane	4.0E-02	mg/m^3	5.7E-04	mg/m^3	1.6E-05	1/(ug/m^3)	9.1E-06	NA	NA	NA	NA	NA
				1,1-Dichloroethane	8.9E+00	mg/m^3	1.2E-01	mg/m^3	1.6E-06	1/(ug/m^3)	2.0E-04	NA	NA	NA	NA	NA
				1,1-Dichloroethene	1.2E+01	mg/m^3	1.6E-01	mg/m^3	NA	1/(ug/m^3)	NA	NA	NA	NA	NA	NA
				1,2-Dichloroethane	3.7E-02	mg/m^3	5.2E-04	mg/m^3	2.6E-05	1/(ug/m^3)	1.3E-05	NA	NA	NA	NA	NA
				Benzene	2.9E-01	mg/m^3	4.1E-03	mg/m^3	7.8E-06	1/(ug/m^3)	3.2E-05	NA	NA	NA	NA	NA
				Bromodichloromethane	3.2E-01	mg/m^3	4.5E-03	mg/m^3	3.7E-05	1/(ug/m^3)	1.7E-04	NA	NA	NA	NA	NA
				Carbon Tetrachloride	6.2E-02	mg/m^3	8.7E-04	mg/m^3	6.0E-06	1/(ug/m^3)	5.2E-06	NA	NA	NA	NA	NA
				Chloroform	6.9E-01	mg/m^3	9.7E-03	mg/m^3	2.3E-05	1/(ug/m^3)	2.2E-04	NA	NA	NA	NA	NA
				cis-1,2-Dichloroethene	7.3E+00	mg/m^3	1.0E-01	mg/m^3	NA	NA	NA	NA	NA	NA	NA	NA
				Tetrachloroethene	1.0E+02	mg/m^3	1.5E+00	mg/m^3	2.6E-07	1/(ug/m^3)	3.8E-04	NA	NA	NA	NA	NA
				trans-1,2-Dichloroethene	5.4E-01	mg/m^3	7.5E-03	mg/m^3	NA	1/(ug/m^3)	NA	NA	NA	NA	NA	NA
				Trichloroethene	1.1E+01	mg/m^3	-- (1)	mg/m^3	-- (2)	NA	5.8E-04	NA	NA	NA	NA	NA
				Vinyl chloride	3.2E-01	mg/m^3	4.5E-03	mg/m^3	8.8E-06	1/(ug/m^3)	2.9E-05	NA	NA	NA	NA	NA
			Exp. Route Total								2.2E-03					NA
		Exposure Point Total									2.2E-03					NA
	Exposure Medium Total										2.2E-03					NA
Groundwater Total											3.3E-03					NA
Receptor Total											3.3E-03					NA

NA = Not applicable or they are presented in the adult or child residential exposure scenario
Incremental non-carcinogenic hazards are presented separately for children and adults in Tables 7.1.RME and 7.2.RME, respectively.
For presentation purposes, EPC values presented for inhalation are the adult shower air (Ca) concentrations. Tables 3.1a and 3.1 Supplement A provide a summary of inhalation EPC for adult and child receptors.

Notes:
1. Refer to RAGS Table 7.3 Supplement A for TCE intake and cancer risk calculations
2. Refer to RAGS Table 6.1 and 6.2 for TCE cancer toxicity values.

RAGS TABLE 7.3 RME Supplement A MMOA - VC

CALCULATION OF CHEMICAL CANCER RISKS FOR COPCs WITH MUTAGENIC MODE OF ACTION

REASONABLE MAXIMUM EXPOSURE

New Cassel Industrial Area OU1

Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult/Child Aggregate

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						
							Intake			CSF/Unit Risk			Cancer Risk
					Value	Units	Value		Units	Value		Units	
							0-6 yrs	6-30 yrs		0-6 yrs	6-30 yrs		
Groundwater	Groundwater	Groundwater (Tap Water)	Ingestion	Vinyl Chloride	1.1E+01	ug/L	6.7E-05	1.3E-04	mg/kg-day	1.5E+00	7.2E-01	1/(mg/kg-day)	1.9E-04
			Dermal	Vinyl Chloride	1.1E+01	ug/L	4.9E-06	9.0E-06	mg/kg-day	1.5E+00	7.2E-01	1/(mg/kg-day)	1.4E-05
	Bathroom Air	Water Vapors in Bathroom	Inhalation	Vinyl Chloride	5.8E-01 3.2E-01	mg/m^3 (1) mg/m^3 (2)	2.0E-03	2.6E-03	mg/m^3	8.8E-06	4.4E-06	$1/(ug/m^3)$	2.9E-05

Note:
(1) EPC for the child exposure used to quantify intakes for 0 - 6 years.
(2) EPC for the adult exposure used to quantify intakes for 6 - 30 years.

RAGS TABLE 7.3 RME Supplement B MMOA - TCE

CALCULATION OF CHEMICAL CANCER RISKS FOR COPCs WITH MUTAGENIC MODE OF ACTION

REASONABLE MAXIMUM EXPOSURE

New Cassel Industrial Area OU1

Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult/Child Aggregate MMOA

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
							Intake		CSF/Unit Risk		Cancer Risk
							Value		Value		
					Value	Units	MMOA (0-2, 2-6, 6-16, 16-30 yrs)	Units	MMOA (0-2, 2-6, 6-16, 16-30 yrs)	Units	
Groundwater	Groundwater	Groundwater (Tap Water)	Ingestion	Trichloroethene Kidney	3.9E+02	ug/L	2.3E-02	mg/kg-day	9.3E-03	1/(mg/kg-day)	2.2E-04
			Dermal	Trichloroethene Kidney	3.9E+02	ug/L	2.9E-03	mg/kg-day	9.3E-03	1/(mg/kg-day)	2.7E-05
	Bathroom Air	Water Vapors in Bathroom	Inhalation	Trichloroethene Kidney	2.0E+01 1.1E+01	mg/m^3 (1) mg/m^3 (2)	8.6E-02	mg/m^3	1.0E-06	$1/(ug/m^3)$	8.6E-05

Note:

(1) EPC for the child exposure used to quantify intakes for 0 - 6 years.

(2) EPC for the adult exposure used to quantify intakes for 6 - 30 years.

RAGS TABLE 7.3 RME Supplement B MMOA - TCE
CALCULATION OF CHEMICAL CANCER RISKS FOR COPCs WITH MUTAGENIC MODE OF ACTION
REASONABLE MAXIMUM EXPOSURE
New Cassel Industrial Area OU1
Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult/Child Aggregate MMOA

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				
							Intake		CSF/Unit Risk		Cancer Risk
							Value		Value		
					Value	Units	Adult/Child Aggregate (0-6, 6-30 yrs)	Units	Adult/Child Aggregate (0-6, 6-30 yrs)	Units	
Groundwater	Groundwater	Groundwater (Tap Water)	Ingestion	Trichloroethene NHL & Liver	3.9E+02	ug/L	6.9E-03	mg/kg-day	3.7E-02	1/(mg/kg-day)	2.5E-04
			Dermal	Trichloroethene NHL & Liver	3.9E+02	ug/L	1.0E-03	mg/kg-day	3.7E-02	1/(mg/kg-day)	3.7E-05
	Bathroom Air	Water Vapors in Bathroom	Inhalation	Trichloroethene NHL & Liver	2.0E+01 1.1E+01	mg/m^3 (1) mg/m^3 (2)	1.6E-01	mg/m^3	3.1E-06	$1/(ug/m^3)$	5.0E-04

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	Kidney	NHL & Liver	**Total Cancer Risk**
Groundwater	Groundwater	Groundwater (Tap Water)	Ingestion	Trichloroethene	2.2E-04	2.5E-04	**4.7E-04**
			Dermal	Trichloroethene	2.7E-05	3.7E-05	**6.4E-05**
	Bathroom Air	Water Vapors in Bathroom	Inhalation	Trichloroethene	8.6E-05	5.0E-04	**5.8E-04**

Tricholorethene Total Cancer Risk = 1.1E-03

NHL = Non-Hodgkins lymphoma

RAGS TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

New Cassel Industrial Area OU1

Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Commercial/Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Ingestion	1,1,1-Trichloroethane	4.3E+02	ug/L	1.5E-03	mg/kg-day	NA	NA	NA	4.2E-03	mg/kg-day	2.0E+00	mg/kg-day	2.1E-03
				1,1,2,2-Tetrachloroethane	2.3E+01	ug/L	8.0E-05	mg/kg-day	2.0E-01	1/(mg/kg-day)	1.6E-05	2.3E-04	mg/kg-day	2.0E-02	mg/kg-day	1.1E-02
				1,1,2-Trichloroethane	1.4E+00	ug/L	4.8E-06	mg/kg-day	5.7E-02	1/(mg/kg-day)	2.7E-07	1.3E-05	mg/kg-day	4.0E-03	mg/kg-day	3.4E-03
				1,1-Dichloroethane	3.0E+02	ug/L	1.1E-03	mg/kg-day	5.7E-03	1/(mg/kg-day)	6.0E-06	3.0E-03	mg/kg-day	2.0E-01	mg/kg-day	1.5E-02
				1,1-Dichloroethene	3.9E+02	ug/L	1.4E-03	mg/kg-day	NA	NA	NA	3.8E-03	mg/kg-day	5.0E-02	mg/kg-day	7.7E-02
				1,2-Dichloroethane	1.2E+00	ug/L	4.4E-06	mg/kg-day	9.1E-02	1/(mg/kg-day)	4.0E-07	1.2E-05	mg/kg-day	6.0E-03	mg/kg-day	2.0E-03
				Benzene	1.0E+01	ug/L	3.5E-05	mg/kg-day	5.5E-02	1/(mg/kg-day)	1.9E-06	9.8E-05	mg/kg-day	4.0E-03	mg/kg-day	2.4E-02
				Bromodichloromethane	1.1E+01	ug/L	3.8E-05	mg/kg-day	6.2E-02	1/(mg/kg-day)	2.4E-06	1.1E-04	mg/kg-day	2.0E-02	mg/kg-day	5.4E-03
				Carbon Tetrachloride	2.1E+00	ug/L	7.4E-06	mg/kg-day	7.0E-02	1/(mg/kg-day)	5.2E-07	2.1E-05	mg/kg-day	4.0E-03	mg/kg-day	5.2E-03
				Chloroform	2.4E+01	ug/L	8.2E-05	mg/kg-day	3.1E-02	1/(mg/kg-day)	2.6E-06	2.3E-04	mg/kg-day	1.0E-02	mg/kg-day	2.3E-02
		(Tap Water)		cis-1,2-Dichloroethene	2.5E+02	ug/L	8.6E-04	mg/kg-day	NA	NA	NA	2.4E-03	mg/kg-day	2.0E-03	mg/kg-day	1.2E+00
				Tetrachloroethene	3.5E+03	ug/L	1.2E-02	mg/kg-day	2.1E-03	1/(mg/kg-day)	2.6E-05	3.5E-02	mg/kg-day	6.0E-03	mg/kg-day	5.8E+00
				trans-1,2-Dichloroethene	1.8E+01	ug/L	6.4E-05	mg/kg-day	NA	NA	NA	1.8E-04	mg/kg-day	2.0E-02	mg/kg-day	8.9E-03
				Trichloroethene	3.9E+02	ug/L	1.4E-03	mg/kg-day	4.6E-02	1/(mg/kg-day)	6.2E-05	3.8E-03	mg/kg-day	5.0E-04	mg/kg-day	7.6E+00
				Vinyl chloride	1.1E+01	ug/L	3.8E-05	mg/kg-day	7.2E-01	1/(mg/kg-day)	2.8E-05	1.1E-04	mg/kg-day	3.0E-03	mg/kg-day	3.6E-02
			Exp. Route Total								1.5E-04					1.5E+01

RAGS TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

New Cassel Industrial Area OU1

Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Commercial/Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater (Tap Water)	Dermal	1,1,1-Trichloroethane	4.3E+02	ug/L	1.1E-04	mg/kg-day	NA	NA	NA	3.2E-04	mg/kg-day	2.0E+00	mg/kg-day	1.6E-04
				1,1,2,2-Tetrachloroethane	2.3E+01	ug/L	4.0E-06	mg/kg-day	2.0E-01	1/(mg/kg-day)	8.0E-07	1.1E-05	mg/kg-day	2.0E-02	mg/kg-day	5.6E-04
				1,1,2-Trichloroethane	1.4E+00	ug/L	1.4E-07	mg/kg-day	5.7E-02	1/(mg/kg-day)	8.0E-09	3.9E-07	mg/kg-day	4.0E-03	mg/kg-day	9.8E-05
				1,1-Dichloroethane	3.0E+02	ug/L	3.4E-05	mg/kg-day	5.7E-03	1/(mg/kg-day)	1.9E-07	9.5E-05	mg/kg-day	2.0E-01	mg/kg-day	4.7E-04
				1,1-Dichloroethene	3.9E+02	ug/L	7.5E-05	mg/kg-day	NA	NA	NA	2.1E-04	mg/kg-day	5.0E-02	mg/kg-day	4.2E-03
				1,2-Dichloroethane	1.2E+00	ug/L	8.7E-08	mg/kg-day	9.1E-02	1/(mg/kg-day)	7.9E-09	2.4E-07	mg/kg-day	6.0E-03	mg/kg-day	4.1E-05
				Benzene	1.0E+01	ug/L	2.2E-06	mg/kg-day	5.5E-02	1/(mg/kg-day)	1.2E-07	6.1E-06	mg/kg-day	4.0E-03	mg/kg-day	1.5E-03
				Bromodichloromethane	1.1E+01	ug/L	1.1E-06	mg/kg-day	6.2E-02	1/(mg/kg-day)	6.7E-08	3.0E-06	mg/kg-day	2.0E-02	mg/kg-day	1.5E-04
				Carbon Tetrachloride	2.1E+00	ug/L	7.9E-07	mg/kg-day	7.0E-02	1/(mg/kg-day)	5.6E-08	2.2E-06	mg/kg-day	4.0E-03	mg/kg-day	5.6E-04
				Chloroform	2.4E+01	ug/L	3.0E-06	mg/kg-day	3.1E-02	1/(mg/kg-day)	9.2E-08	8.3E-06	mg/kg-day	1.0E-02	mg/kg-day	8.3E-04
				cis-1,2-Dichloroethene	2.5E+02	ug/L	4.4E-05	mg/kg-day	NA	NA	NA	1.2E-04	mg/kg-day	2.0E-03	mg/kg-day	6.2E-02
				Tetrachloroethene	3.5E+03	ug/L	2.9E-03	mg/kg-day	2.1E-03	1/(mg/kg-day)	6.2E-06	8.2E-03	mg/kg-day	6.0E-03	mg/kg-day	1.4E+00
				trans-1,2-Dichloroethene	1.8E+01	ug/L	3.3E-06	mg/kg-day	NA	NA	NA	9.2E-06	mg/kg-day	2.0E-02	mg/kg-day	4.6E-04
				Trichloroethene	3.9E+02	ug/L	8.9E-05	mg/kg-day	4.6E-02	1/(mg/kg-day)	4.1E-06	2.5E-04	mg/kg-day	5.0E-04	mg/kg-day	5.0E-01
				Vinyl chloride	1.1E+01	ug/L	1.3E-06	mg/kg-day	7.2E-01	1/(mg/kg-day)	9.2E-07	3.6E-06	mg/kg-day	3.0E-03	mg/kg-day	1.2E-03
			Exp. Route Total								1.3E-05					1.9E+00
		Exposure Point Total									1.6E-04					1.7E+01
	Exposure Medium Total										1.6E-04					1.7E+01
Groundwater Total											1.6E-04					1.7E+01
Receptor Total											1.6E-04					1.7E+01

NA = Not applicable.

RAGS TABLE 7.4 RME Supplement A
CALCULATION OF DAEVENT
REASONABLE MAXIMUM EXPOSURE
New Cassel Industrial Area OU1
Nassau County, New York

Chemical of Potential Concern	Exposure Point Concentration (C_W) (ug/L)	Permeability Coefficient (K_p) (cm/hr)	B (dimensionless)	Lag Time (τ_{event}) (hr/event)	t* (hr)	Fraction Absorbed Water (FA) (dimensionless)	Duration of Event (t_{event}) (hr/event)	DAevent (mg/cm^2-event)	Eq
1,1,1-Trichloroethane	4.3E+02	1.3E-02	5.6E-02	6.0E-01	1.4E+00	1.0E+00	1.0	1.2E-05	1
1,1,2,2-Tetrachloroethane	2.3E+01	6.9E-03	3.5E-02	9.3E-01	2.2E+00	1.0E+00	1.0	4.3E-07	1
1,1,2-Trichloroethane	1.4E+00	5.0E-03	2.9E-02	6.0E-01	1.4E+00	1.0E+00	1.0	1.5E-08	1
1,1-Dichloroethane	3.0E+02	6.8E-03	2.6E-02	3.8E-01	9.2E-01	1.0E+00	1.0	3.6E-06	2
1,1-Dichloroethene	3.9E+02	1.2E-02	4.4E-02	3.7E-01	8.9E-01	1.0E+00	1.0	7.9E-06	2
1,2-Dichloroethane	1.2E+00	4.2E-03	1.6E-02	3.8E-01	9.2E-01	1.0E+00	1.0	9.2E-09	2
Benzene	1.0E+01	1.5E-02	5.1E-02	2.9E-01	7.0E-01	1.0E+00	1.0	2.3E-07	2
Bromodichloromethane	1.1E+01	4.0E-03	2.3E-02	8.8E-01	2.1E+00	1.0E+00	1.0	1.1E-07	1
Carbon Tetrachloride	2.1E+00	1.6E-02	7.8E-02	7.8E-01	1.9E+00	1.0E+00	1.0	8.4E-08	1
Chloroform	2.4E+01	6.8E-03	2.9E-02	5.0E-01	1.2E+00	1.0E+00	1.0	3.1E-07	1
cis-1,2-Dichloroethene	2.5E+02	1.1E-02	2.9E-02	3.7E-01	8.9E-01	1.0E+00	1.0	4.7E-06	2
Tetrachloroethene	3.5E+03	3.3E-02	1.7E-01	9.1E-01	2.2E+00	1.0E+00	1.0	3.1E-04	1
trans-1,2-Dichloroethene	1.8E+01	1.1E-02	2.9E-02	3.7E-01	8.9E-01	1.0E+00	1.0	3.5E-07	2
Trichloroethene	3.9E+02	1.2E-02	5.1E-02	5.8E-01	1.4E+00	1.0E+00	1.0	9.5E-06	1
Vinyl chloride	1.1E+01	8.4E-03	1.7E-02	2.4E-01	5.7E-01	1.0E+00	1.0	1.4E-07	2

Organics: DA_{event} (mg/cm^2-event) =

$t_{event} \le t^*$: DA_{event} (mg/cm^2-event) =
$2 \times FA \times K_p \times C_w \times (\mathrm{sqrt}((6 \times \tau_{event} \times t_{event}) / (\pi))) \times CF1 \times CF2$ (Eq 1)

$t_{event} > t^*$: DA_{event} (mg/cm^2-event) =
$FA \times K_p \times C_W \times (t_{event}/(1+B) + 2 \times \tau_{event} \times ((1 + 3B + 3B^2)/(1+B)^2)) \times CF1 \times CF2$ (Eq 2)

Notes:
Values for permeability constants, B, tau, t*, and FA are from EPA 2004, *Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment - Final).* EPA/540/R/99/005.
NA - Not applicable.
t* - Time to reach steady-state
B - Dimensionless ratio of the permeability coefficient of a compound through the stratum corneum relative to its permeability coefficient across the viable epidermis (dimensionless).
CF1 - Conversion Factor 1 (0.001 mg/µg), CF2 - Conversion Factor 2 (0.001 L/cm^3)

RAGS TABLE 9.1.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
New Cassel Industrial Area OU1
Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Residential
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Groundwater	1,1,1-Trichloroethane	NA	NA	NA	NA	Reduced Body Weight in Mice	6E-03	NA	1E-03	7E-03
			1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	Kidney	3E-02	NA	4E-03	4E-02
			1,1,2-Trichloroethane	NA	NA	NA	NA	Blood	9E-03	NA	7E-04	1E-02
			1,1-Dichloroethane	NA	NA	NA	NA	Kidney	4E-02	NA	3E-03	4E-02
			1,1-Dichloroethene	NA	NA	NA	NA	Liver	2E-01	NA	3E-02	2E-01
			1,2-Dichloroethane	NA	NA	NA	NA	Liver, Kidney	6E-03	NA	3E-04	6E-03
			Benzene	NA	NA	NA	NA	Blood	7E-02	NA	1E-02	8E-02
			Bromodichloromethane	NA	NA	NA	NA	Kidney	2E-02	NA	1E-03	2E-02
			Carbon Tetrachloride	NA	NA	NA	NA	Blood	1E-02	NA	4E-03	2E-02
			Chloroform	NA	NA	NA	NA	Liver	6E-02	NA	6E-03	7E-02
		(Tap Water)	cis-1,2-Dichloroethene	NA	NA	NA	NA	Kidney	3E+00	NA	4E-01	4E+00
			Tetrachloroethene	NA	NA	NA	NA	CNS	2E+01	NA	1E+01	3E+01
			trans-1,2-Dichloroethene	NA	NA	NA	NA	Blood	2E-02	NA	3E-03	3E-02
			Trichloroethene	NA	NA	NA	NA	Immunological, Developmental, Heart	2E+01	NA	4E+00	2E+01
			Vinyl chloride	NA	NA	NA	NA	Liver	1E-01	NA	8E-03	1E-01
		Exposure Point Total		NA	NA	NA	NA		4E+01	NA	1E+01	6E+01
	Exposure Medium Total			NA	NA	NA	NA		4E+01	NA	1E+01	6E+01

RAGS TABLE 9.1.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
New Cassel Industrial Area OU1
Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Residential
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Bathroom Air	Water Vapors in Bathroom Air	1,1,1-Trichloroethane	NA	NA	NA	NA	Liver	NA	6E-02	NA	6E-02
			1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
			1,1,2-Trichloroethane	NA	NA	NA	NA	Vacuolation	NA	5E+00	NA	5E+00
			1,1-Dichloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
			1,1-Dichloroethene	NA	NA	NA	NA	Liver	NA	1E+00	NA	1E+00
			1,2-Dichloroethane	NA	NA	NA	NA	CNS	NA	1E-01	NA	1E-01
			Benzene	NA	NA	NA	NA	Blood	NA	2E-01	NA	2E-01
			Bromodichloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Carbon Tetrachloride	NA	NA	NA	NA	Liver	NA	1E-02	NA	1E-02
			Chloroform	NA	NA	NA	NA	Liver	NA	2E-01	NA	2E-01
			cis-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Tetrachloroethene	NA	NA	NA	NA	CNS	NA	6E+01	NA	6E+01
			trans-1,2-Dichloroethene	NA	NA	NA	NA	Liver, Lung	NA	2E-01	NA	2E-01
			Trichloroethene	NA	NA	NA	NA	CNS, Liver, Kidney, Reproductive, Immunological, Heart, Developmental	NA	1E+02	NA	1E+02
			Vinyl chloride	NA	NA	NA	NA	Liver	NA	7E-02	NA	7E-02
		Exposure Point Total		NA	NA	NA	NA		NA	2E+02	NA	2E+02
	Exposure Medium Total			NA	NA	NA	NA		NA	2E+02	NA	2E+02
Medium Total				NA	NA	NA	NA		4E+01	2E+02	1E+01	3E+02
Receptor Total				NA	NA	NA	NA		4E+01	2E+02	1E+01	3E+02

NA = Not applicable or they are presented in the child-adult aggregate residential exposure scenario

Total Blood HI Across Media =	4E-01
Total Kidney HI Across Media =	**1E+02**
Total CNS HI Across Media =	**2E+02**
Total Liver HI Across Media =	**1E+02**
Total Body Weight HI Across Media =	7E-03
Total Immunological HI Across Media =	**2E+02**
Total Developmental HI Across Media =	**2E+02**
Total Heart HI Across Media =	**2E+02**
Total Vacuolation HI Across Media =	**5E+00**
Total Lung HI Across Media =	2E-01
Total Reproductive HI Across Media =	**1E+02**

RAGS TABLE 9.2.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
New Cassel Industrial Area OU1
Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Residential
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Groundwater	1,1,1-Trichloroethane	NA	NA	NA	NA	Reduced Body Weight in Mice	1E-02	NA	3E-03	2E-02
			1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	Kidney	7E-02	NA	9E-03	8E-02
			1,1,2-Trichloroethane	NA	NA	NA	NA	Blood	2E-02	NA	2E-03	2E-02
			1,1-Dichloroethane	NA	NA	NA	NA	Kidney	1E-01	NA	8E-03	1E-01
			1,1-Dichloroethene	NA	NA	NA	NA	Liver	5E-01	NA	7E-02	6E-01
			1,2-Dichloroethane	NA	NA	NA	NA	Liver, Kidney	1E-02	NA	6E-04	1E-02
			Benzene	NA	NA	NA	NA	Blood	2E-01	NA	2E-02	2E-01
			Bromodichloromethane	NA	NA	NA	NA	Kidney	4E-02	NA	2E-03	4E-02
			Carbon Tetrachloride	NA	NA	NA	NA	Blood	3E-02	NA	9E-03	4E-02
			Chloroform	NA	NA	NA	NA	Liver	2E-01	NA	1E-02	2E-01
		(Tap Water)	cis-1,2-Dichloroethene	NA	NA	NA	NA	Kidney	8E+00	NA	1E+00	9E+00
			Tetrachloroethene	NA	NA	NA	NA	CNS	4E+01	NA	2E+01	6E+01
			trans-1,2-Dichloroethene	NA	NA	NA	NA	Blood	6E-02	NA	7E-03	7E-02
			Trichloroethene	NA	NA	NA	NA	Immunological, Developmental, Heart	5E+01	NA	8E+00	6E+01
			Vinyl chloride	NA	NA	NA	NA	Liver	2E-01	NA	2E-02	3E-01
		Exposure Point Total		NA	NA	NA	NA		1E+02	NA	3E+01	1E+02
	Exposure Medium Total			NA	NA	NA	NA		1E+02	NA	3E+01	1E+02

RAGS TABLE 9.2.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
New Cassel Industrial Area OU1
Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Residential
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Bathroom Air	Water Vapors in Bathroom Air	1,1,1-Trichloroethane	NA	NA	NA	NA	Liver	NA	2E-01	NA	2E-01
			1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
			1,1,2-Trichloroethane	NA	NA	NA	NA	Vacuolation	NA	1E+01	NA	1E+01
			1,1-Dichloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
			1,1-Dichloroethene	NA	NA	NA	NA	Liver	NA	4E+00	NA	4E+00
			1,2-Dichloroethane	NA	NA	NA	NA	CNS	NA	4E-01	NA	4E-01
			Benzene	NA	NA	NA	NA	Blood	NA	7E-01	NA	7E-01
			Bromodichloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Carbon Tetrachloride	NA	NA	NA	NA	Liver	NA	4E-02	NA	4E-02
			Chloroform	NA	NA	NA	NA	Liver	NA	5E-01	NA	5E-01
			cis-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Tetrachloroethene	NA	NA	NA	NA	CNS	NA	2E+02	NA	2E+02
			trans-1,2-Dichloroethene	NA	NA	NA	NA	Liver, Lung	NA	6E-01	NA	6E-01
			Trichloroethene	NA	NA	NA	NA	Liver, Kidney, Reproductive, Immunological, Heart, Developm	NA	4E+02	NA	4E+02
			Vinyl chloride	NA	NA	NA	NA	Liver	NA	2E-01	NA	2E-01
		Exposure Point Total		NA	NA	NA	NA		NA	6E+02	NA	6E+02
	Exposure Medium Total			NA	NA	NA	NA		NA	6E+02	NA	6E+02
Medium Total				NA	NA	NA	NA		1E+02	6E+02	3E+01	7E+02
Receptor Total				NA	NA	NA	NA		1E+02	6E+02	3E+01	7E+02

NA = Not applicable or they are presented in the child-adult aggregate residential exposure scenario

Total Blood HI Across Media =	1E+00
Total Kidney HI Across Media =	**4E+02**
Total CNS HI Across Media =	**7E+02**
Total Liver HI Across Media =	**4E+02**
Total Body Weight HI Across Media =	2E-02
Total Immunological HI Across Media =	**5E+02**
Total Developmental HI Across Media =	**5E+02**
Total Heart HI Across Media =	**5E+02**
Total Vacuolation HI Across Media =	**1E+01**
Total Lung HI Across Media =	6E-01
Total Reproductive HI Across Media =	**4E+02**

RAGS TABLE 9.3.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
Peninsula Boulevard
Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult/Child Aggregate

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Groundwater	1,1,1-Trichloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
			1,1,2,2-Tetrachloroethane	8E-05	NA	9E-06	9E-05	NA	NA	NA	NA	NA
			1,1,2-Trichloroethane	1E-06	NA	9E-08	1E-06	NA	NA	NA	NA	NA
			1,1-Dichloroethane	3E-05	NA	2E-06	3E-05	NA	NA	NA	NA	NA
			1,1-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			1,2-Dichloroethane	2E-06	NA	9E-08	2E-06	NA	NA	NA	NA	NA
			Benzene	1E-05	NA	1E-06	1E-05	NA	NA	NA	NA	NA
			Bromodichloromethane	1E-05	NA	8E-07	1E-05	NA	NA	NA	NA	NA
			Carbon Tetrachloride	3E-06	NA	6E-07	3E-06	NA	NA	NA	NA	NA
			Chloroform	1E-05	NA	1E-06	1E-05	NA	NA	NA	NA	NA
		(Tap Water)	cis-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Tetrachloroethene	1E-04	NA	7E-05	2E-04	NA	NA	NA	NA	NA
			trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Trichloroethene	5E-04	NA	6E-05	5E-04	NA	NA	NA	NA	NA
			Vinyl chloride	2E-04	NA	1E-05	2E-04	NA	NA	NA	NA	NA
		Exposure Point Total		9E-04	NA	2E-04	1E-03		NA	NA	NA	NA
	Exposure Medium Total			9E-04	NA	2E-04	1E-03		NA	NA	NA	NA

RAGS TABLE 9.3.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
Peninsula Boulevard
Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult/Child Aggregate

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Bathroom Air	Water Vapors in Bathroom Air	1,1,1-Trichloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
			1,1,2,2-Tetrachloroethane	NA	6E-04	NA	6E-04	NA	NA	NA	NA	NA
			1,1,2-Trichloroethane	NA	9E-06	NA	9E-06	NA	NA	NA	NA	NA
			1,1-Dichloroethane	NA	2E-04	NA	2E-04	NA	NA	NA	NA	NA
			1,1-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			1,2-Dichloroethane	NA	1E-05	NA	1E-05	NA	NA	NA	NA	NA
			Benzene	NA	3E-05	NA	3E-05	NA	NA	NA	NA	NA
			Bromodichloromethane	NA	2E-04	NA	2E-04	NA	NA	NA	NA	NA
			Carbon Tetrachloride	NA	5E-06	NA	5E-06	NA	NA	NA	NA	NA
			Chloroform	NA	2E-04	NA	2E-04	NA	NA	NA	NA	NA
			cis-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Tetrachloroethene	NA	4E-04	NA	4E-04	NA	NA	NA	NA	NA
			trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Trichloroethene	NA	6E-04	NA	6E-04	NA	NA	NA	NA	NA
			Vinyl chloride	NA	3E-05	NA	3E-05	NA	NA	NA	NA	NA
		Exposure Point Total		NA	2E-03	NA	2E-03		NA	NA	NA	NA
	Exposure Medium Total			NA	2E-03	NA	2E-03		NA	NA	NA	NA
Medium Total				9E-04	2E-03	2E-04	3E-03		NA	NA	NA	NA
Receptor Total				9E-04	2E-03	2E-04	3E-03		NA	NA	NA	NA

NA = Not applicable or they are presented in the adult or child residential exposure scenario

RAGS TABLE 9.4.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

New Cassel Industrial Area OU1

Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Groundwater (Tap Water)	1,1,1-Trichloroethane	NA	NA	NA	NA	Reduced Body Weight in Mice	2E-03	NA	2E-04	2E-03
			1,1,2,2-Tetrachloroethane	2E-05	NA	8E-07	2E-05	Kidney	1E-02	NA	6E-04	1E-02
			1,1,2-Trichloroethane	3E-07	NA	8E-09	3E-07	Blood	3E-03	NA	1E-04	3E-03
			1,1-Dichloroethane	6E-06	NA	2E-07	6E-06	Kidney	1E-02	NA	5E-04	2E-02
			1,1-Dichloroethene	NA	NA	NA	NA	Liver	8E-02	NA	4E-03	8E-02
			1,2-Dichloroethane	4E-07	NA	8E-09	4E-07	Liver, Kidney	2E-03	NA	4E-05	2E-03
			Benzene	2E-06	NA	1E-07	2E-06	Blood	2E-02	NA	2E-03	3E-02
			Bromodichloromethane	2E-06	NA	7E-08	2E-06	Kidney	5E-03	NA	2E-04	6E-03
			Carbon Tetrachloride	5E-07	NA	6E-08	6E-07	Blood	5E-03	NA	6E-04	6E-03
			Chloroform	3E-06	NA	9E-08	3E-06	Liver	2E-02	NA	8E-04	2E-02
			cis-1,2-Dichloroethene	NA	NA	NA	NA	Kidney	1E+00	NA	6E-02	1E+00
			Tetrachloroethene	3E-05	NA	6E-06	3E-05	CNS	6E+00	NA	1E+00	7E+00
			trans-1,2-Dichloroethene	NA	NA	NA	NA	Blood	9E-03	NA	5E-04	9E-03
			Trichloroethene	6E-05	NA	4E-06	7E-05	Immunological, Developmental, Heart	8E+00	NA	5E-01	8E+00
			Vinyl chloride	3E-05	NA	9E-07	3E-05	Liver	4E-02	NA	1E-03	4E-02
		Exposure Point Total		1E-04	NA	1E-05	2E-04		1E+01	NA	2E+00	2E+01
	Exposure Medium Total			1E-04	NA	1E-05	2E-04		1E+01	NA	2E+00	2E+01
Medium Total				1E-04	NA	1E-05	2E-04		1E+01	NA	2E+00	2E+01
Receptor Total				1E-04	NA	1E-05	2E-04		1E+01	NA	2E+00	2E+01

NA = Not applicable or no inhalation exposure scenario

Total Blood HI Across Media =	4E-02
Total Kidney HI Across Media =	**1E+00**
Total CNS HI Across Media =	**7E+00**
Total Liver HI Across Media =	1E-01
Total Body Weight HI Across Media =	2E-03
Total Immunological HI Across Media =	**8E+00**
Total Developmental HI Across Media =	**8E+00**
Total Heart HI Across Media =	**8E+00**

RAGS TABLE 10.1.RME
RISK SUMMARY
REASONABLE MAXIMUM EXPOSURE
New Cassel Industrial Area OU1
Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Residential
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Groundwater (Tapwater)	1,1-Dichloroethene	NA	NA	NA	NA	Liver	2E-01	NA	3E-02	2E-01
			cis-1,2-Dichloroethene	NA	NA	NA	NA	Kidney	3E+00	NA	4E-01	**4E+00**
			Tetrachloroethene	NA	NA	NA	NA	CNS	2E+01	NA	1E+01	**3E+01**
			Trichloroethene	NA	NA	NA	NA	Immunological, Developmental, Heart	2E+01	NA	4E+00	**2E+01**
			Vinyl chloride	NA	NA	NA	NA	Liver	1E-01	NA	8E-03	1E-01
		Exposure Point Total		NA	NA	NA	NA		4E+01	NA	1E+01	5E+01
	Exposure Medium Total			NA	NA	NA	NA		4E+01	NA	1E+01	5E+01

RAGS TABLE 10.1.RME
RISK SUMMARY
REASONABLE MAXIMUM EXPOSURE
New Cassel Industrial Area OU1
Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Residential
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Bathroom Air	Water Vapors in Bathroom Air	1,1,2-Trichloroethane	NA	NA	NA	NA	Vacuolation	NA	5E+00	NA	**5E+00**
			1,1-Dichloroethene	NA	NA	NA	NA	Liver	NA	1E+00	NA	**1E+00**
			1,2-Dichloroethane	NA	NA	NA	NA	CNS	NA	1E-01	NA	1E-01
			Benzene	NA	NA	NA	NA	Blood	NA	2E-01	NA	2E-01
			Chloroform	NA	NA	NA	NA	Liver	NA	2E-01	NA	2E-01
			Tetrachloroethene	NA	NA	NA	NA	CNS	NA	6E+01	NA	**6E+01**
			trans-1,2-Dichloroethene	NA	NA	NA	NA	Liver, Lung	NA	2E-01	NA	2E-01
			Trichloroethene	NA	NA	NA	NA	Liver, Kidney, Reproductive, Immunological, Heart, Developm	NA	1E+02	NA	**1E+02**
		Exposure Point Total		NA	NA	NA	NA		NA	2E+02	NA	2E+02
	Exposure Medium Total			NA	NA	NA	NA		NA	2E+02	NA	2E+02
Medium Total				NA	NA	NA	NA		4E+01	2E+02	1E+01	3E+02
Receptor Total				NA	NA	NA	NA		4E+01	2E+02	1E+01	3E+02

NA = Not applicable or they are presented in the child-adult aggregate residential exposure scenario

Total Blood HI Across Media =	4E-01
Total Kidney HI Across Media =	**1E+02**
Total CNS HI Across Media =	**2E+02**
Total Liver HI Across Media =	**1E+02**
Total Immunological HI Across Media =	**2E+02**
Total Heart HI Across Media =	**2E+02**
Total Developmental HI Across Media =	**2E+02**
Total Vacuolation HI Across Media =	**5E+00**
Total Lung HI Across Media =	2E-01
Total Reproductive HI Across Media =	**1E+02**

RAGS TABLE 10.2.RME
RISK SUMMARY
REASONABLE MAXIMUM EXPOSURE
New Cassel Industrial Area OU1
Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Residential
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Groundwater (Tap Water)	1,1-Dichloroethane	NA	NA	NA	NA	Kidney	1E-01	NA	8E-03	1E-01
			1,1-Dichloroethene	NA	NA	NA	NA	Liver	5E-01	NA	7E-02	6E-01
			Benzene	NA	NA	NA	NA	Blood	2E-01	NA	2E-02	2E-01
			Chloroform	NA	NA	NA	NA	Liver	2E-01	NA	1E-02	2E-01
			cis-1,2-Dichloroethene	NA	NA	NA	NA	Kidney	8E+00	NA	1E+00	**9E+00**
			Tetrachloroethene	NA	NA	NA	NA	CNS	4E+01	NA	2E+01	**6E+01**
			Trichloroethene	NA	NA	NA	NA	Immunological, Developmental, Heart	5E+01	NA	8E+00	**6E+01**
			Vinyl chloride	NA	NA	NA	NA	Liver	2E-01	NA	2E-02	3E-01
		Exposure Point Total		NA	NA	NA	NA		1E+02	NA	3E+01	1E+02
	Exposure Medium Total			NA	NA	NA	NA		1E+02	NA	3E+01	1E+02

RAGS TABLE 10.2.RME
RISK SUMMARY
REASONABLE MAXIMUM EXPOSURE
New Cassel Industrial Area OU1
Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Residential
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Bathroom Air	Water Vapors in Bathroom Air	1,1,1-Trichloroethane	NA	NA	NA	NA	Liver	NA	2E-01	NA	2E-01
			1,1,2-Trichloroethane	NA	NA	NA	NA	Vacuolation	NA	1E+01	NA	**1E+01**
			1,1-Dichloroethene	NA	NA	NA	NA	Liver	NA	4E+00	NA	**4E+00**
			1,2-Dichloroethane	NA	NA	NA	NA	CNS	NA	4E-01	NA	4E-01
			Benzene	NA	NA	NA	NA	Blood	NA	7E-01	NA	7E-01
			Chloroform	NA	NA	NA	NA	Liver	NA	5E-01	NA	5E-01
			Tetrachloroethene	NA	NA	NA	NA	CNS	NA	2E+02	NA	**2E+02**
			trans-1,2-Dichloroethene	NA	NA	NA	NA	Liver, Lung	NA	6E-01	NA	6E-01
			Trichloroethene	NA	NA	NA	NA	Liver, Kidney, Reproductive, Immunological, Heart, Developm	NA	4E+02	NA	**4E+02**
			Vinyl chloride	NA	NA	NA	NA	Liver	NA	2E-01	NA	2E-01
		Exposure Point Total		NA	NA	NA	NA		NA	6E+02	NA	6E+02
	Exposure Medium Total			NA	NA	NA	NA		NA	6E+02	NA	6E+02
Medium Total				NA	NA	NA	NA		1E+02	6E+02	3E+01	7E+02
Receptor Total				NA	NA	NA	NA		1E+02	6E+02	3E+01	7E+02

NA = Not applicable or they are presented in the child-adult aggregate residential exposure scenario

Total Blood HI Across Media =	**1E+00**
Total Kidney HI Across Media =	**4E+02**
Total CNS HI Across Media =	**7E+02**
Total Liver HI Across Media =	**4E+02**
Total Immunological HI Across Media =	**5E+02**
Total Heart HI Across Media =	**5E+02**
Total Developmental HI Across Media =	**5E+02**
Total Vacuolation HI Across Media =	**1E+01**
Total Lung HI Across Media =	6E-01
Total Reproductive HI Across Media =	**4E+02**

RAGS TABLE 10.3.RME
RISK SUMMARY
REASONABLE MAXIMUM EXPOSURE
New Cassel Industrial Area OU1
Nassau County, New York

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult/Child Aggregate

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Groundwater (Tap Water)	1,1,2,2-Tetrachloroethane	8E-05	NA	9E-06	9E-05	NA	NA	NA	NA	NA
			1,1,2-Trichloroethane	1E-06	NA	9E-08	1E-06	NA	NA	NA	NA	NA
			1,1-Dichloroethane	3E-05	NA	2E-06	3E-05	NA	NA	NA	NA	NA
			1,2-Dichloroethane	2E-06	NA	9E-08	2E-06	NA	NA	NA	NA	NA
			Benzene	1E-05	NA	1E-06	1E-05	NA	NA	NA	NA	NA
			Bromodichloromethane	1E-05	NA	8E-07	1E-05	NA	NA	NA	NA	NA
			Carbon Tetrachloride	3E-06	NA	6E-07	3E-06	NA	NA	NA	NA	NA
			Chloroform	1E-05	NA	1E-06	1E-05	NA	NA	NA	NA	NA
			Tetrachloroethene	1E-04	NA	7E-05	**2E-04**	NA	NA	NA	NA	NA
			Trichloroethene	5E-04	NA	6E-05	**5E-04**	NA	NA	NA	NA	NA
			Vinyl chloride	2E-04	NA	1E-05	**2E-04**	NA	NA	NA	NA	NA
		Exposure Point Total		9E-04	NA	2E-04	1E-03		NA	NA	NA	NA
	Exposure Medium Total			9E-04	NA	2E-04	1E-03		NA	NA	NA	NA
Groundwater	Bathroom Air	Water Vapors in Bathroom Air	1,1,2,2-Tetrachloroethane	NA	6E-04	NA	**6E-04**	NA	NA	NA	NA	NA
			1,1,2-Trichloroethane	NA	9E-06	NA	9E-06	NA	NA	NA	NA	NA
			1,1-Dichloroethane	NA	2E-04	NA	**2E-04**	NA	NA	NA	NA	NA
			1,2-Dichloroethane	NA	1E-05	NA	1E-05	NA	NA	NA	NA	NA
			Benzene	NA	3E-05	NA	3E-05	NA	NA	NA	NA	NA
			Bromodichloromethane	NA	2E-04	NA	**2E-04**	NA	NA	NA	NA	NA
			Carbon Tetrachloride	NA	5E-06	NA	5E-06	NA	NA	NA	NA	NA
			Chloroform	NA	2E-04	NA	**2E-04**	NA	NA	NA	NA	NA
			Tetrachloroethene	NA	4E-04	NA	**4E-04**	NA	NA	NA	NA	NA
			Trichloroethene	NA	6E-04	NA	**6E-04**	NA	NA	NA	NA	NA
			Vinyl chloride	NA	3E-05	NA	3E-05	NA	NA	NA	NA	NA
		Exposure Point Total		NA	2E-03	NA	2E-03		NA	NA	NA	NA
	Exposure Medium Total			NA	2E-03	NA	2E-03		NA	NA	NA	NA
Medium Total				9E-04	2E-03	2E-04	3E-03		NA	NA	NA	NA
Receptor Total				9E-04	2E-03	2E-04	3E-03		NA	NA	NA	NA

NA = Not applicable or they are presented in the adult or child residential exposure scenario

RAGS TABLE 10.4.RME
RISK SUMMARY
REASONABLE MAXIMUM EXPOSURE
New Cassel Industrial Area OU1
Nassau County, New York

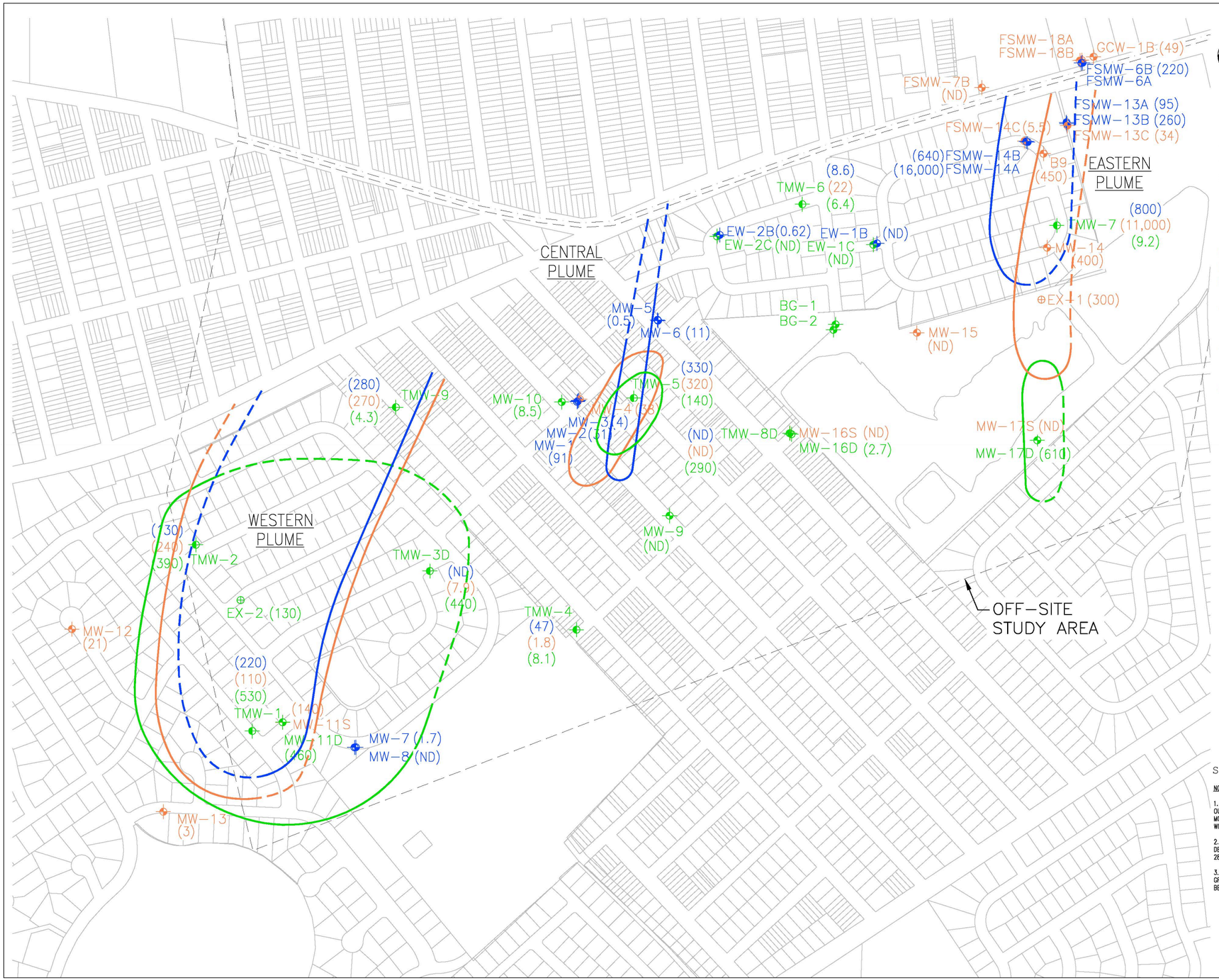
Scenario Timeframe: Current/Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Groundwater (Tap Water)	1,1,2,2-Tetrachloroethane	2E-05	NA	8E-07	2E-05	NA	NA	NA	NA	NA
			1,1-Dichloroethane	6E-06	NA	2E-07	6E-06	NA	NA	NA	NA	NA
			Benzene	2E-06	NA	1E-07	2E-06	NA	NA	NA	NA	NA
			Bromodichloromethane	2E-06	NA	7E-08	2E-06	NA	NA	NA	NA	NA
			Chloroform	3E-06	NA	9E-08	3E-06	NA	NA	NA	NA	NA
			cis-1,2-Dichloroethene	NA	NA	NA	NA	Kidney	1E+00	NA	6E-02	**1E+00**
			Tetrachloroethene	3E-05	NA	6E-06	3E-05	CNS	6E+00	NA	1E+00	**7E+00**
			Trichloroethene	6E-05	NA	4E-06	7E-05	Immunological, Developmental, Heart	8E+00	NA	5E-01	**8E+00**
			Vinyl chloride	3E-05	NA	9E-07	3E-05	NA	NA	NA	NA	NA
		Exposure Point Total		1E-04	NA	1E-05	2E-04		1E+01	NA	2E+00	2E+01
	Exposure Medium Total			1E-04	NA	1E-05	2E-04		1E+01	NA	2E+00	2E+01
Medium Total				1E-04	NA	1E-05	2E-04		1E+01	NA	2E+00	2E+01
Receptor Total				1E-04	NA	1E-05	2E-04		1E+01	NA	2E+00	2E+01

NA = Not applicable or no inhalation exposure scenario

Total CNS HI Across Media =	**7E+00**
Total Immunological HI Across Media =	**8E+00**
Total Heart HI Across Media =	**8E+00**
Total Developmental HI Across Media =	**8E+00**
Total Kidney HI Across Media =	**1E+00**

Appendix B – Isoconcentration Figures



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LEGEND:

- TMW-7 — TEMPORARY MONITORING WELL LOCATION
- MW-5 — MONITORING WELL LOCATION
- LIMIT OF OFF-SITE STUDY AREA
- LIMIT OF NEW CASSEL INDUSTRIAL AREA
- SOURCE AREA PROPERTIES
- BGS — BELOW GROUND SURFACE
- PPB — PART PER BILLION
- ug/l — MICROGRAMS PER LITER
- PCE — TETRACHLOROETHENE
- < 175 FEET BGS
- 175 – 250 FEET BGS
- > 250 FEET BGS
- 100 PPB (ug/l) PCE ISO CONCENTRATION CENTER AT 150 FEET BGS (DASHED WHERE INFERRED)
- 100 PPB (ug/l) PCE ISO CONCENTRATION CENTER AT 200 FEET BGS (DASHED WHERE INFERRED)
- 100 PPB (ug/l) PCE ISO CONCENTRATION CENTER AT 285 FEET BGS (DASHED WHERE INFERRED)
- (800) — PCE CONCENTRATION AT 150 FEET BGS
- (11,000) — PCE CONCENTRATION AT 200 FEET BGS
- (9.2) — PCE CONCENTRATION AT 285 FEET BGS

Source: HDR, Inc. PDI 2011

NOTES:

1. FIGURE DEPICTS MONITORING WELLS LOCATED WITHIN THE OU3 AREA SOUTH OF OLD COUNTRY ROAD. NUMEROUS EXISTING MONITORING WELLS ARE FOUND NORTH OF OLD COUNTRY ROAD WITHIN INDUSTRIAL AREA THAT ARE NOT SHOWN.

2. TMW-1, 2, 4, 5, 6, 7, AND 9 WERE SAMPLED AT MULTIPLE DEPTHS FROM GROUNDWATER SURFACE TO A TOTAL DEPTH OF 285 FEET BELOW GROUND SURFACE.

3. TMW-3D AND 8D WERE SAMPLED AT MULTIPLE DEPTHS FROM GROUNDWATER SURFACE TO A TOTAL DEPTH OF 502 FEET BELOW GROUND SURFACE.

GRAPHIC SCALE

200 0 200 400

(IN FEET)
1 inch = 200 ft.

US Army Corps of Engineers ® Kansas City District

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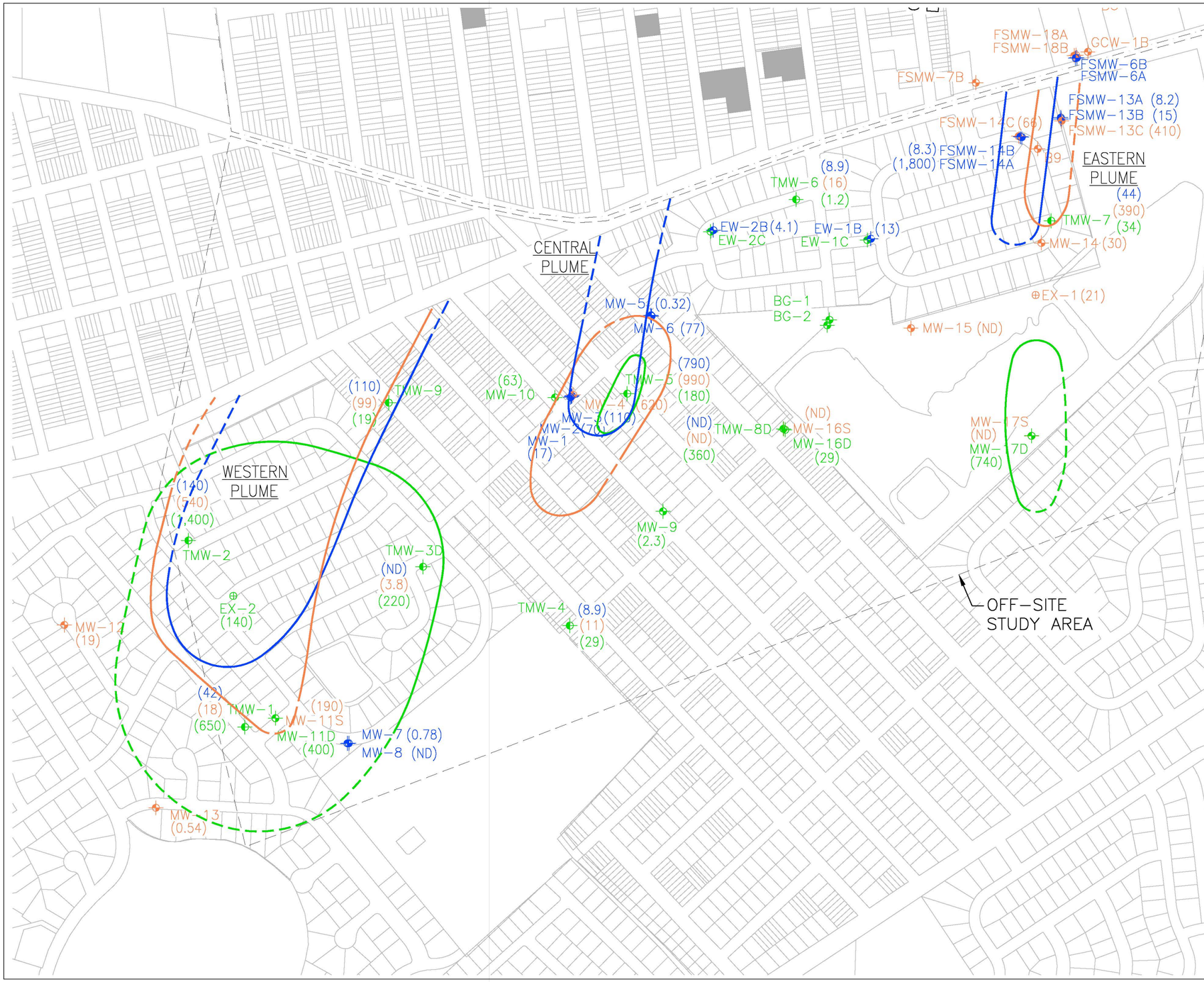
NEW CASSEL INDUSTRIAL AREA OU-3
NORTH HEMPSTEAD, NEW YORK

PCE ISO-CONCENTRATION CONTOUR MAP

Sheet Reference Number:

APPENDIX B

R2-0011823



LEGEND:

TMW-7	TEMPORARY MONITORING WELL LOCATION
MW-5	MONITORING WELL LOCATION
	LIMIT OF OFF-SITE STUDY AREA
	LIMIT OF NEW CASSEL INDUSTRIAL AREA
	SOURCE AREA PROPERTIES
BGS	BELOW GROUND SURFACE
PPB	PART PER BILLION
ug/l	MICROGRAMS PER LITER
TCE	TRICHLOROETHENE
	< 175 FEET BGS
	175 – 250 FEET BGS
	> 250 FEET BGS
	100 PPB (ug/l) TCE ISO CONCENTRATION CENTER AT 150 FEET BGS (DASHED WHERE INFERRED)
	100 PPB (ug/l) TCE ISO CONCENTRATION CENTER AT 200 FEET BGS (DASHED WHERE INFERRED)
	100 PPB (ug/l) TCE ISO CONCENTRATION CENTER AT 285 FEET BGS (DASHED WHERE INFERRED)
(800)	TCE CONCENTRATION AT 150 FEET BGS
(11,000)	TCE CONCENTRATION AT 200 FEET BGS
(9.2)	TCE CONCENTRATION AT 285 FEET BGS

Source: HDR,Inc. PDI 2011

NOTES:

1. FIGURE DEPICTS MONITORING WELLS LOCATED WITHIN THE OU3 AREA SOUTH OF OLD COUNTRY ROAD. NUMEROUS EXISTING MONITORING WELLS ARE FOUND NORTH OF OLD COUNTRY ROAD WITHIN INDUSTRIAL AREA THAT ARE NOT SHOWN.

2. TMW-1, 2, 4, 5, 6, 7, AND 9 WERE SAMPLED AT MULTIPLE DEPTHS FROM GROUNDWATER SURFACE TO A TOTAL DEPTH OF 285 FEET BELOW GROUND SURFACE.

3. TMW-3D AND 8D WERE SAMPLED AT MULTIPLE DEPTHS FROM GROUNDWATER SURFACE TO A TOTAL DEPTH OF 502 FEET BELOW GROUND SURFACE.

GRAPHIC SCALE

200 0 200 400

(IN FEET)
1 inch = 200 ft.

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Kansas City District

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KANSAS CITY, MISSOURI

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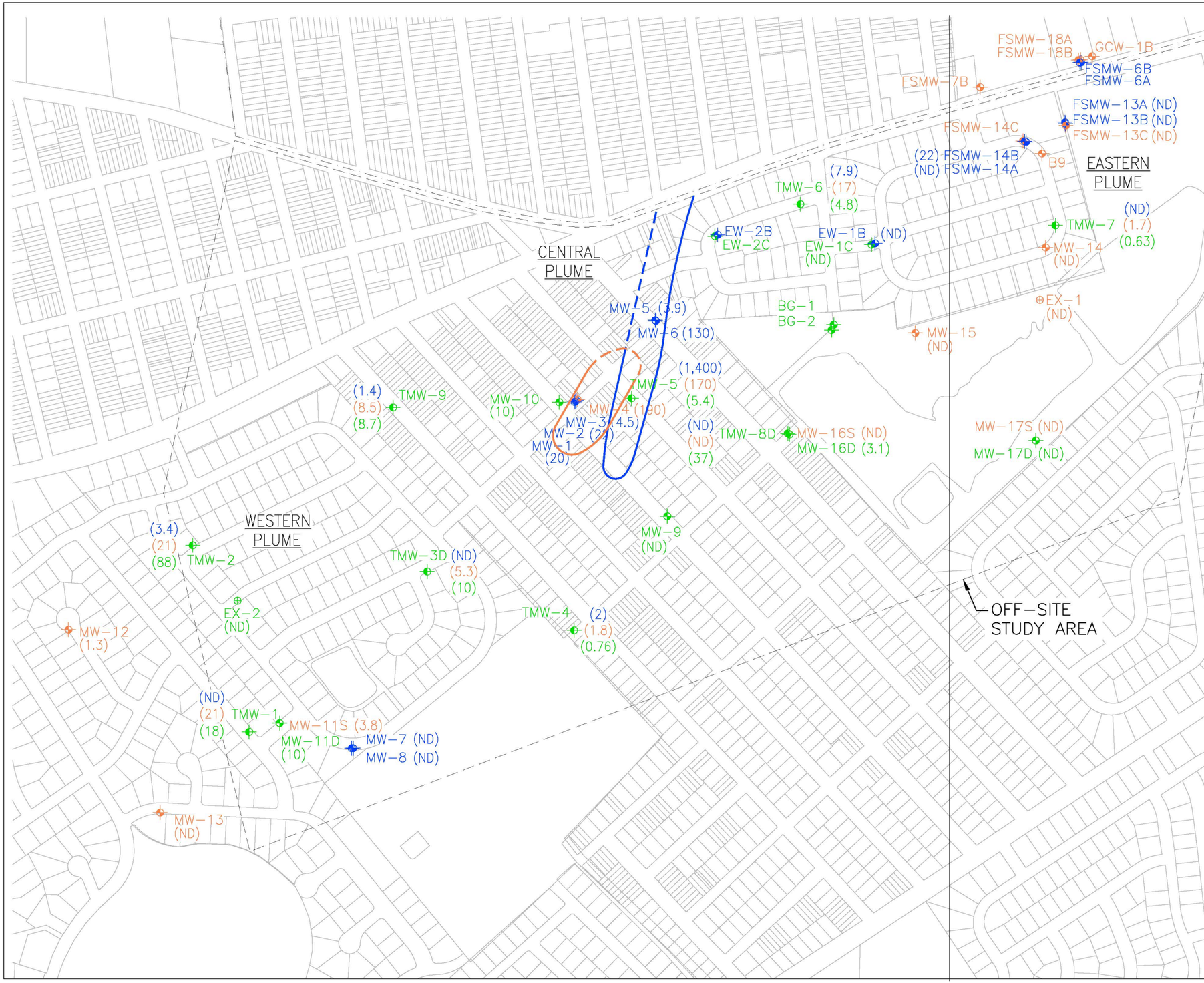
NEW CASSEL INDUSTRIAL AREA OU-3
NORTH HEMPSTEAD, NEW YORK

TCE ISO-CONCENTRATION CONTOUR MAP

Sheet Reference Number:

APPENDIX **B**

R2-0011824



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LEGEND:

TMW-7	TEMPORARY MONITORING WELL LOCATION
MW-5	MONITORING WELL LOCATION
	LIMIT OF OFF-SITE STUDY AREA
	LIMIT OF NEW CASSEL INDUSTRIAL AREA
	SOURCE AREA PROPERTIES
BGS	BELOW GROUND SURFACE
PPB	PART PER BILLION
ug/l	MICROGRAMS PER LITER
TCE	1,1,1 – TRICHLOROETHANE
	< 175 FEET BGS
	175 – 250 FEET BGS
	> 250 FEET BGS
	100 PPB (ug/l) TCA ISO CONCENTRATION CENTER AT 150 FEET BGS (DASHED WHERE INFERRED)
	100 PPB (ug/l) TCA ISO CONCENTRATION CENTER AT 200 FEET BGS (DASHED WHERE INFERRED)
	100 PPB (ug/l) TCA ISO CONCENTRATION CENTER AT 285 FEET BGS (DASHED WHERE INFERRED)
(800)	PCE CONCENTRATION AT 150 FEET BGS
(11,000)	PCE CONCENTRATION AT 200 FEET BGS
(9.2)	PCE CONCENTRATION AT 285 FEET BGS

Source: HDR, Inc. PDI 2011

NOTES:

1. FIGURE DEPICTS MONITORING WELLS LOCATED WITHIN THE OU3 AREA SOUTH OF OLD COUNTRY ROAD. NUMEROUS EXISTING MONITORING WELLS ARE FOUND NORTH OF OLD COUNTRY ROAD WITHIN INDUSTRIAL AREA THAT ARE NOT SHOWN.

2. TMW-1, 2, 4, 5, 6, 7, AND 9 WERE SAMPLED AT MULTIPLE DEPTHS FROM GROUNDWATER SURFACE TO A TOTAL DEPTH OF 285 FEET BELOW GROUND SURFACE.

3. TMW-3D AND 8D WERE SAMPLED AT MULTIPLE DEPTHS FROM GROUNDWATER SURFACE TO A TOTAL DEPTH OF 502 FEET BELOW GROUND SURFACE.

GRAPHIC SCALE

200 0 200 400

(IN FEET)
1 inch = 200 ft.

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Symbol	Description	Date	Appr.

Designed by: TC
Drawn by: SK
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Date: 01/23/13
Drawing code:
Plot scale:
CADD File Name:

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NEW CASSEL INDUSTRIAL AREA OU-3
NORTH HEMPSTEAD, NEW YORK

TCA ISO-CONCENTRATION CONTOUR MAP

Sheet Reference Number:

APPENDIX B

R2-0011825

Appendix C – Vapor Intrusion Study Figures

Work Plan

New Cassel
Operable Unit 4
Site No. 1-30-043A-V
Vapor Intrusion Investigation
Work Assignment #D00490-40

Towns of Hempstead and North Hempstead, Nassau County, New York

New York State Department of Environmental Conservation

March 2006

O'BRIEN & GERE

R2-0011827

T:\10653_NYSDEC\NEW_CASSEL\MXD\37976\SAMP_LOC.MXD

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PLOT DATE: 12/7/05 DIV. 84 JPS

FIGURE 2

LEGEND

LOCATION TYPE

♦ APPROXIMATE SOIL VAPOR SAMPLING LOCATION

NOTES:
Final soil vapor locations will be selected after access agreements are obtained and an on-site visit is conducted

NEW CASSEL
STUDY AREA OU-4
TOWNS OF HEMPSTEAD
AND NORTH HEMPSTEAD
NEW YORK

SAMPLE LOCATIONS

0 500 1,000 2,000
Feet

DECEMBER 2005
10653.37976

O'BRIEN & GERE

R2-0011828

FIGURE 3

LEGEND

VOC ISOPLETHS

NOTES:
Final soil vapor locations will be selected after access agreements are obtained and an on-site visit is conducted

NEW CASSEL
STUDY AREA OU-4
TOWNS OF HEMPSTEAD
AND NORTH HEMPSTEAD,
NEW YORK

(after Figure 3, Record of Decision
New Cassel Industrial Area Sites
October 2000)

VOC ISOPLETHS (ug/L)
65 TO 200 ft bgs

0 500 1,000 2,000
Feet

DECEMBER 2005
10653.37976

O'BRIEN & GERE

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T:\10653_NYSDEC\NEW_CASSEL\MXD\37976\VOC_ISOPLETHS.MXD

PLOT DATE: 12/14/05 DIV. 84 JPS

R2-0011829

T:\10653_NYSDEC\NEW_CASSEL\MXD\37976\VOC_ISOPLETHS_2.MXD

FIGURE 4

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LEGEND

VOC ISOPLETHS

NOTES:
Final soil vapor locations will be selected after access agreements are obtained and an on-site visit is conducted

NEW CASSEL
STUDY AREA OU-4
TOWNS OF HEMPSTEAD
AND NORTH HEMPSTEAD,
NEW YORK

(after Figure 3, Record of Decision
New Cassel Industrial Area Sites
October 2000)

VOC ISOPLETHS (ug/L)
0 TO 64 ft bgs

0 500 1,000 2,000
Feet

DECEMBER 2005
10653.37976

O'BRIEN & GERE

PLOT DATE: 12/14/05 DIV. 71 JSB

R2-0011830

SITE CHARACTERIZATION REPORT
OPERABLE UNIT 4 PHASE 3 OFF-SITE VAPOR INTRUSION EVALUATION
New Cassel Industrial Area
(Site No. 1-30-043-A, B, C, F, K, N and V)
North Hempstead and Westbury, Nassau County, New York

Prepared for

New York State Department of Environmental Conservation
Investigation and Design Engineering Services
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Legend

- New Cassel Industrial Area Sites
- Proposed Sampling Location

N

0 275 550 Feet

CDM

Figure 1-1
Site Location Map
New Cassel Industrial Area Sites
Residential and Public Properties
North Hempstead and Westbury, New York

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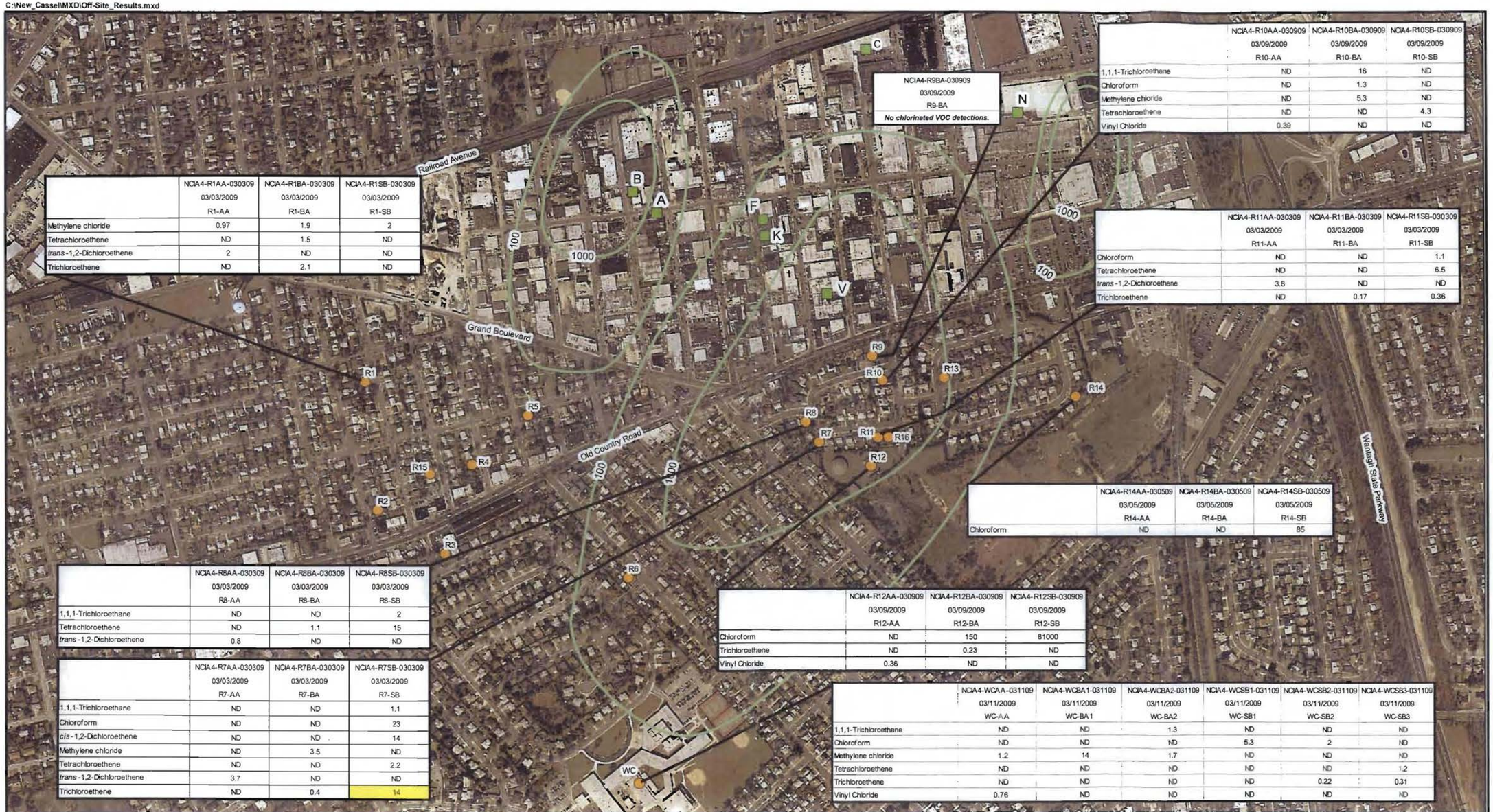

	NCIA4-R1AA-030309 03/03/2009 R1-AA	NCIA4-R1BA-030309 03/03/2009 R1-BA	NCIA4-R1SB-030309 03/03/2009 R1-SB
Methylene chloride	0.97	1.9	2
Tetrachloroethene	ND	1.5	ND
trans-1,2-Dichloroethene	2	ND	ND
Trichloroethene	ND	2.1	ND

	NCIA4-R9BA-030909 03/09/2009 R9-BA
No chlorinated VOC detections.	

	NCIA4-R10AA-030909 03/09/2009 R10-AA	NCIA4-R10BA-030909 03/09/2009 R10-BA	NCIA4-R10SB-030909 03/09/2009 R10-SB
1,1,1-Trichloroethane	ND	16	ND
Chloroform	ND	1.3	ND
Methylene chloride	ND	5.3	ND
Tetrachloroethene	ND	ND	4.3
Vinyl Chloride	0.39	ND	ND

	NCIA4-R11AA-030309 03/03/2009 R11-AA	NCIA4-R11BA-030309 03/03/2009 R11-BA	NCIA4-R11SB-030309 03/03/2009 R11-SB
Chloroform	ND	ND	1.1
Tetrachloroethene	ND	ND	6.5
trans-1,2-Dichloroethene	3.8	ND	ND
Trichloroethene	ND	0.17	0.36

	NCIA4-R14AA-030509 03/05/2009 R14-AA	NCIA4-R14BA-030509 03/05/2009 R14-BA	NCIA4-R14SB-030509 03/05/2009 R14-SB
Chloroform	ND	ND	85

	NCIA4-R8AA-030309 03/03/2009 R8-AA	NCIA4-R8BA-030309 03/03/2009 R8-BA	NCIA4-R8SB-030309 03/03/2009 R8-SB
1,1,1-Trichloroethane	ND	ND	2
Tetrachloroethene	ND	1.1	15
trans-1,2-Dichloroethene	0.8	ND	ND

	NCIA4-R7AA-030309 03/03/2009 R7-AA	NCIA4-R7BA-030309 03/03/2009 R7-BA	NCIA4-R7SB-030309 03/03/2009 R7-SB
1,1,1-Trichloroethane	ND	ND	1.1
Chloroform	ND	ND	23
cis-1,2-Dichloroethene	ND	ND	14
Methylene chloride	ND	3.5	ND
Tetrachloroethene	ND	ND	2.2
trans-1,2-Dichloroethene	3.7	ND	ND
Trichloroethene	ND	0.4	14

	NCIA4-R12AA-030909 03/09/2009 R12-AA	NCIA4-R12BA-030909 03/09/2009 R12-BA	NCIA4-R12SB-030909 03/09/2009 R12-SB
Chloroform	ND	150	81000
Trichloroethene	ND	0.23	ND
Vinyl Chloride	0.36	ND	ND

	NCIA4-WCAA-031109 03/11/2009 WC-AA	NCIA4-WCBA1-031109 03/11/2009 WC-BA1	NCIA4-WCBA2-031109 03/11/2009 WC-BA2	NCIA4-WCSB1-031109 03/11/2009 WC-SB1	NCIA4-WCSB2-031109 03/11/2009 WC-SB2	NCIA4-WCSB3-031109 03/11/2009 WC-SB3
1,1,1-Trichloroethane	ND	ND	1.3	ND	ND	ND
Chloroform	ND	ND	ND	5.3	2	ND
Methylene chloride	1.2	14	1.7	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	1.2
Trichloroethene	ND	ND	ND	ND	0.22	0.31
Vinyl Chloride	0.76	ND	ND	ND	ND	ND

New Cassel Industrial Area Sites

Sampling Location

VOC Isopleths (µg/L) (from O'Brien & Gere Phase I&II Report, November 2007)

Notes:
All units in µg/m3.
ND = Non-detect
AA = Ambient Air Sample
BA = Indoor Air (Basement) Sample
SB = Sub-slab Vapor Sample

- Subslab vapor concentration exceeds 5 µg/m3; NYSDOH Matrix 1 indicates Monitoring may be required

N

0 275 550
Feet

CDM

Figure 4-1
Soil Vapor Chlorinated VOC Detections
New Cassel Industrial Area Sites
Residential and Public Properties
North Hempstead and Westbury, New York

Appendix D – Hot Spot/Trend Analysis Evaluation

Appendix D
Detected Concentrations Comparison
New Cassel Industrial Area OU1
Nassau County, New York

StationID	Tapwater RSL (1)	Max Det. Conc.	Calc. UCL	EX-1	EX-2	MW-3	MW-4	MW-6	MW-9	EW-1B	EW-2B	EW-2C	MW-10	MW-11S	MW-11D	MW-14
SampleID				NCIA-EX-1-GW-205-0	NCIA-EX-2-GW-285-0	NCIA-MW-3-GW-150-0	NCIA-MW-4-GW-199-0	NCIA-MW-6-GW-128-0	NCIA-MW-9-GW-315-0	NCIA-EW-1B-GW-158-0	NCIA-EW-2B-GW-131-0	NCIA-EW-2C-GW-514-0	NCIA-MW-10-GW-284-0	NCIA-MW-11S-GW-225-0	NCIA-MW-11D-GW-285-0	NCIA-MW-14-GW-200-0
Date Collected				04/06/11	04/12/11	04/05/11	04/05/11	04/07/11	04/06/11	04/08/11	04/06/11	04/06/11	04/07/11	04/04/11	04/04/11	04/11/11
1,1,1-Trichloroethane	7.50E+02	1.40E+03	4.32E+02	-	-	4.5	160 E	140 E	-	-	-	-	10	3.8	10	-
1,1,2,2-Tetrachloroethane	6.60E-02	2.30E+01	2.30E+01	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	4.10E-02	5.40E+00	1.38E+00	-	-	-	1.3	-	-	-	-	-	-	-	1.2	-
1,1-Dichloroethane	2.40E+00	9.70E+02	3.02E+02	-	3.9	31	110	160 E	-	-	-	0.65 J	13	7.4	11	-
1,1-Dichloroethene	2.60E+01	8.40E+02	3.92E+02	-	3.4	82	450 E	140 E	0.54 J	-	-	-	24	19	24	-
1,2-Dichloroethane	1.50E-01	4.50E+00	1.25E+00	-	0.84 J	1.1	3.4	1.6	-	-	-	-	-	-	-	-
Benzene	3.90E-01	1.00E+01	4.07E+00	-	10	-	-	-	-	-	-	-	-	-	3.5	-
Bromodichloromethane	1.20E-01	1.10E+01	3.44E+00	-	-	-	-	-	-	-	-	-	-	-	2.7	-
Carbon Tetrachloride	3.90E-01	1.30E+01	2.11E+00	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	1.90E-01	5.40E+01	2.35E+01	1.8	-	0.55 J	1.1	1.2	-	-	-	-	4.4	25	47	-
cis-1,2-Dichloroethene	2.80E+00	6.30E+02	2.47E+02	14	16	9.4	18	7.8	0.6 J	1 J	0.72 J	-	3.4	41	92	23
Tetrachloroethene	3.50E+00	1.20E+04	3.54E+03	270 E	120 E	4	35	15	-	1.9	0.62 J	-	8.5	120	350 E	330 E
trans-1,2-Dichloroethene	8.60E+00	2.10E+02	1.82E+01	-	-	-	-	-	-	-	-	-	-	-	3.7	-
Trichloroethene	2.60E-01	1.80E+03	3.88E+02	23	120 E	110	470 E	91	2.3	1.3	4.1	-	63	170 E	330 E	30
Vinyl chloride	1.50E-02	1.10E+01	1.46E+00	-	-	-	-	-	-	-	0.6 J	-	-	-	-	-

All concentrations are expressed in ug/L.
(1) Tapwater RSL (November 2012) based on ELCR = $1x10^{-6}$ and an adjusted HQ=0.1

Note: Table displays only detected concentrations. Non-detect concentrations were not included. The 4 samples not indicated were 100% non-detect for the listed compounds.

Constituent exceeds screening level
Constituent exceeds 100X screening level

Max. Det. Conc. = Maximum Detected Concentration
Calc. UCL = Calculated Upper Confidence Limit

Appendix D
Detected Concentrations Comparison
New Cassel Industrial Area OU1
Nassau County, New York

StationID	Tapwater RSL (1)	Max Det. Conc.	Calc. UCL	MW-16S	MW-16D	MW-17D	FSMW-13B	FSMW-13C	FSMW-14A	FSMW-14B	FSMW-14C	MW-1	MW-2	MW-3	MW-4	MW-5
SampleID				NCIA-MW-16S-GW-225-0	NCIA-MW-16D-GW-285-0	NCIA-MW-17D-GW-287-0	NCIA-FSMW-13B-GW-128-0	NCIA-FSMW-13C-GW-249-0	NCIA-FSMW-14A-GW-139-0	NCIA-FSMW-14B-GW-167-0	NCIA-FSMW-14C-GW-251-0	MW-1	MW-2	MW-3	MW-4	MW-5
Date Collected				04/07/11	04/07/11	04/08/11	04/11/11	04/11/11	04/12/11	04/12/11	04/12/11	02/25/08	02/25/08	02/25/08	02/25/08	02/26/08
1,1,1-Trichloroethane	7.50E+02	1.40E+03	4.32E+02	-	3.1	36	-	-	-	22	-	20 D	22 D	60 D	250 D	3.9
1,1,2,2-Tetrachloroethane	6.60E-02	2.30E+01	2.30E+01	-	-	23	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	4.10E-02	5.40E+00	1.38E+00	-	-	5.4	-	-	-	-	-	-	-	1	2	-
1,1-Dichloroethane	2.40E+00	9.70E+02	3.02E+02	-	3.1	11	-	1.8	-	2.7	5.4	22 D	28 D	67 D	160 D	1.1
1,1-Dichloroethene	2.60E+01	8.40E+02	3.92E+02	-	6.3	1.5	-	2.9	2.2	8.3	3	23 D	62 D	180 D	810 D	2.2
1,2-Dichloroethane	1.50E-01	4.50E+00	1.25E+00	-	-	-	-	-	-	-	-	-	-	-	4.5	-
Benzene	3.90E-01	1.00E+01	4.07E+00	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	1.20E-01	1.10E+01	3.44E+00	-	-	11	-	-	-	-	-	-	-	-	-	-
Carbon Tetrachloride	3.90E-01	1.30E+01	2.11E+00	-	-	2.7	-	13	-	-	7.3	-	-	-	-	-
Chloroform	1.90E-01	5.40E+01	2.35E+01	0.97 J	6.4	54	-	2.7	-	-	2	0.47 J	0.78	1.4	1.6	-
cis-1,2-Dichloroethene	2.80E+00	6.30E+02	2.47E+02	-	6.1	630 E	6.1	61	500 E	1.2	15	3.3	6.1	13	31 D	-
Tetrachloroethene	3.50E+00	1.20E+04	3.54E+03	-	2.7	530 E	240 E	25	12000 E	510 E	5.5	91 D	31 D	37 D	140 D	0.5 J
trans-1,2-Dichloroethene	8.60E+00	2.10E+02	1.82E+01	-	-	40	-	1.1	6.7	-	-	-	-	-	-	-
Trichloroethene	2.60E-01	1.80E+03	3.88E+02	-	29	580 E	17	330 E	1800 E	7.6	66	17	70 D	310 D	910 D	0.32 J
Vinyl chloride	1.50E-02	1.10E+01	1.46E+00	-	-	-	-	-	-	-	-	-	-	-	-	-

All concentrations are expressed in ug/L.
(1) Tapwater RSL (November 2012) based on ELCR = $1x10^{-6}$ and an adjusted HQ=0.1

Note: Table displays only detected concentrations. Non-detect concentrations were not included. The 4 samples not indicated were 100% non-detect for the listed compounds.
Constituent exceeds screening level
Constituent exceeds 100X screening level

Max. Det. Conc. = Maximum Detected Concentration
Calc. UCL = Calculated Upper Confidence Limit

Appendix D
Detected Concentrations Comparison
New Cassel Industrial Area OU1
Nassau County, New York

StationID	Tapwater RSL (1)	Max Det. Conc.	Calc. UCL	MW-6	MW-7	MW-8	MW-9	EW-1B	EW-2B	EW-1C	EW-2C
SampleID				MW-6	MW-7	MW-8	MW-9	EW-1B	EW-2B	EW-1C	EW-2C
Date Collected				02/26/08	02/26/08	02/26/08	02/28/08	02/27/08	02/27/08	02/27/08	02/27/08
1,1,1-Trichloroethane	7.50E+02	1.40E+03	4.32E+02	1400 D	-	0.41 J	3.8	2.8	1.1	0.25 J	-
1,1,2,2-Tetrachloroethane	6.60E-02	2.30E+01	2.30E+01	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	4.10E-02	5.40E+00	1.38E+00	-	-	-	-	-	-	-	-
1,1-Dichloroethane	2.40E+00	9.70E+02	3.02E+02	970 D	0.33 J	1.4	2.6	0.79	1.6	0.47 J	-
1,1-Dichloroethene	2.60E+01	8.40E+02	3.92E+02	840 D	-	0.77	6.9	4.2	2.6	0.34 J	-
1,2-Dichloroethane	1.50E-01	4.50E+00	1.25E+00	-	-	-	-	-	-	-	-
Benzene	3.90E-01	1.00E+01	4.07E+00	-	-	-	-	-	-	-	-
Bromodichloromethane	1.20E-01	1.10E+01	3.44E+00	-	-	-	-	-	-	-	-
Carbon Tetrachloride	3.90E-01	1.30E+01	2.11E+00	-	-	-	-	-	-	0.89	-
Chloroform	1.90E-01	5.40E+01	2.35E+01	1.2	-	0.25 J	0.55	-	-	0.39 J	-
cis-1,2-Dichloroethene	2.80E+00	6.30E+02	2.47E+02	5.2	4.5	1	3.6	7.4	6.5	1.1	-
Tetrachloroethene	3.50E+00	1.20E+04	3.54E+03	18	1.7	1.1	4.7	74 D	11	0.96	-
trans-1,2-Dichloroethene	8.60E+00	2.10E+02	1.82E+01	210 E	-	-	-	-	-	-	-
Trichloroethene	2.60E-01	1.80E+03	3.88E+02	59 D	0.78	1.6	19 D	17	42 D	20 D	0.5 J
Vinyl chloride	1.50E-02	1.10E+01	1.46E+00	0.94	-	-	-	-	11	-	-

All concentrations are expressed in ug/L.
(1) Tapwater RSL (November 2012) based on ELCR = $1x10^{-6}$ and an adjusted HQ=0.1

Note: Table displays only detected concentrations. Non-detect concentrations were not included. The 4 samples not indicated were 100% non-detect for the listed compounds.

Constituent exceeds screening level
Constituent exceeds 100X screening level

Max. Det. Conc. = Maximum Detected Concentration
Calc. UCL = Calculated Upper Confidence Limit

Appendix E – ProUCL Output

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	C:\Documents and Settings\squarry\Desktop\NCIAOU3.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

1,1,1-Trichloroethane

General Statistics

Number of Valid Data	38	Number of Detected Data	20
Number of Distinct Detected Data	17	Number of Non-Detect Data	18
		Percent Non-Detects	47.37%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.25	Minimum Detected	-1.386
Maximum Detected	1400	Maximum Detected	7.244
Mean of Detected	107.7	Mean of Detected	2.488
SD of Detected	311.4	SD of Detected	2.181
Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	20
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	18
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	52.63%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.374	Shapiro Wilk Test Statistic	0.978
5% Shapiro Wilk Critical Value	0.905	5% Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution	Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	56.9
SD	229.6
95% DL/2 (t) UCL	119.7
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

DL/2 Substitution Method	
Mean	0.945
SD	2.277
95% H-Stat (DL/2) UCL	163
Log ROS Method	
Mean in Log Scale	0.419
SD in Log Scale	2.926
Mean in Original Scale	56.85
SD in Original Scale	229.7
95% t UCL	119.7
95% Percentile Bootstrap UCL	128.3
95% BCA Bootstrap UCL	174.8
95% H-UCL	1319

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.299
Theta Star	360.1
nu star	11.96
A-D Test Statistic	1.336
5% A-D Critical Value	0.842
K-S Test Statistic	0.842
5% K-S Critical Value	0.21

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	1400
Mean	56.68
Median	0.33
SD	229.7
k star	0.0994

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	56.83
SD	226.6
SE of Mean	37.72
95% KM (t) UCL	120.5
95% KM (z) UCL	118.9
95% KM (jackknife) UCL	119.7
95% KM (bootstrap t) UCL	370.9
95% KM (BCA) UCL	128.4
95% KM (Percentile Bootstrap) UCL	127.6
95% KM (Chebyshev) UCL	221.2
97.5% KM (Chebyshev) UCL	292.4
99% KM (Chebyshev) UCL	432.1

Theta star	570.2
Nu star	7.554
AppChi2	2.48
95% Gamma Approximate UCL (Use when n >= 40)	172.7
95% Adjusted Gamma UCL (Use when n < 40)	181.4

Potential UCLs to Use

99% KM (Chebyshev) UCL	432.1

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

1,1,2,2-Tetrachloroethane

General Statistics

Number of Valid Data	38	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	37
		Percent Non-Detects	97.37%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable 1,1,2,2-Tetrachloroethane was not processed!

1,1,2-Trichloroethane

General Statistics

Number of Valid Data	38	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	33
		Percent Non-Detects	86.84%

Raw Statistics **Log-transformed Statistics**

Minimum Detected	1	Minimum Detected	0
Maximum Detected	5.4	Maximum Detected	1.686
Mean of Detected	2.18	Mean of Detected	0.565
SD of Detected	1.839	SD of Detected	0.677
Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	33
Number treated as Detected	5
Single DL Non-Detect Percentage	86.84%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.718	Shapiro Wilk Test Statistic	0.845
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.649	Mean	-0.728
SD	0.862	SD	0.636
95% DL/2 (t) UCL	0.885	95% H-Stat (DL/2) UCL	0.731
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.709
		SD in Log Scale	1.937
		Mean in Original Scale	0.373

SD in Original Scale	0.942
95% t UCL	0.631
95% Percentile Bootstrap UCL	0.651
95% BCA Bootstrap UCL	0.798
95% H-UCL	1.392

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.127
Theta Star	1.934
nu star	11.27
A-D Test Statistic	0.603
5% A-D Critical Value	0.684
K-S Test Statistic	0.684
5% K-S Critical Value	0.36

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	5.4
Mean	0.287
Median	0.000001
SD	0.961
k star	0.0897
Theta star	3.198
Nu star	6.817
AppChi2	2.07
95% Gamma Approximate UCL (Use when n >= 40)	0.944
95% Adjusted Gamma UCL (Use when n < 40)	0.996

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	1.155
SD	0.718
SE of Mean	0.13
95% KM (t) UCL	1.375
95% KM (z) UCL	1.369
95% KM (jackknife) UCL	1.342
95% KM (bootstrap t) UCL	1.9
95% KM (BCA) UCL	2.089
95% KM (Percentile Bootstrap) UCL	1.858
95% KM (Chebyshev) UCL	1.723
97.5% KM (Chebyshev) UCL	1.968
99% KM (Chebyshev) UCL	2.45

Potential UCLs to Use

95% KM (t) UCL	1.375

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

For additional insight, the user may want to consult a statistician.

1,1-Dichloroethane

General Statistics

Number of Valid Data	38	Number of Detected Data	25
Number of Distinct Detected Data	23	Number of Non-Detect Data	13
		Percent Non-Detects	34.21%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.33	Minimum Detected	-1.109
Maximum Detected	970	Maximum Detected	6.877
Mean of Detected	64.65	Mean of Detected	2.01
SD of Detected	194.4	SD of Detected	2.069
Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	17
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	21
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	44.74%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.356	Shapiro Wilk Test Statistic	0.961
5% Shapiro Wilk Critical Value	0.918	5% Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	42.7	Mean	1.067
SD	159.6	SD	2.132
95% DL/2 (t) UCL	86.37	95% H-Stat (DL/2) UCL	112.2

Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Log ROS Method	
Mean in Log Scale	0.825
SD in Log Scale	2.461
Mean in Original Scale	42.67
SD in Original Scale	159.6
95% t UCL	86.35
95% Percentile Bootstrap UCL	93.56
95% BCA Bootstrap UCL	133.8
95% H-UCL	283.9

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.305
Theta Star	211.8
nu star	15.26
A-D Test Statistic	1.779
5% A-D Critical Value	0.848
K-S Test Statistic	0.848
5% K-S Critical Value	0.189

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	970
Mean	42.53
Median	1.5
SD	159.6
k star	0.121
Theta star	352.7
Nu star	9.165
AppChi2	3.427
95% Gamma Approximate UCL (Use when n >= 40)	113.7
95% Adjusted Gamma UCL (Use when n < 40)	118.8

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	42.71
SD	157.5
SE of Mean	26.07
95% KM (t) UCL	86.69
95% KM (z) UCL	85.59
95% KM (jackknife) UCL	86.38
95% KM (bootstrap t) UCL	223.6
95% KM (BCA) UCL	92.54
95% KM (Percentile Bootstrap) UCL	90.87
95% KM (Chebyshev) UCL	156.3
97.5% KM (Chebyshev) UCL	205.5
99% KM (Chebyshev) UCL	302.1

Potential UCLs to Use

99% KM (Chebyshev) UCL	302.1

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

1,1-Dichloroethene

General Statistics

Number of Valid Data	38	Number of Detected Data	25
Number of Distinct Detected Data	23	Number of Non-Detect Data	13
		Percent Non-Detects	34.21%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.34	Minimum Detected	-1.079
Maximum Detected	840	Maximum Detected	6.733
Mean of Detected	108	Mean of Detected	2.493
SD of Detected	236.1	SD of Detected	2.237
Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	16
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	22
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	42.11%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.509	Shapiro Wilk Test Statistic	0.947
5% Shapiro Wilk Critical Value	0.918	5% Shapiro Wilk Critical Value	0.918
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution	Assuming Lognormal Distribution
DL/2 Substitution Method	DL/2 Substitution Method

Mean	71.19
SD	197
95% DL/2 (t) UCL	125.1
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.302
Theta Star	357.4
nu star	15.1
A-D Test Statistic	1.68
5% A-D Critical Value	0.849
K-S Test Statistic	0.849
5% K-S Critical Value	0.189

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	840
Mean	71.03
Median	2.4
SD	197.1
k star	0.118
Theta star	601

Mean	1.367
SD	2.403
95% H-Stat (DL/2) UCL	392.5
Log ROS Method	
Mean in Log Scale	0.984
SD in Log Scale	2.898
Mean in Original Scale	71.13
SD in Original Scale	197.1
95% t UCL	125.1
95% Percentile Bootstrap UCL	130.9
95% BCA Bootstrap UCL	139.1
95% H-UCL	2041

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	71.18
SD	194.4
SE of Mean	32.19
95% KM (t) UCL	125.5
95% KM (z) UCL	124.1
95% KM (jackknife) UCL	125.1
95% KM (bootstrap t) UCL	196.3
95% KM (BCA) UCL	130.5
95% KM (Percentile Bootstrap) UCL	128.7
95% KM (Chebyshev) UCL	211.5
97.5% KM (Chebyshev) UCL	272.2
99% KM (Chebyshev) UCL	391.5

Nu star	8.982	**Potential UCLs to Use**	
AppChi2	3.316	99% KM (Chebyshev) UCL	391.5
95% Gamma Approximate UCL (Use when n >= 40)	192.4		
95% Adjusted Gamma UCL (Use when n < 40)	201		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

1,2-Dichloroethane

General Statistics

Number of Valid Data	38	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	33
		Percent Non-Detects	86.84%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.84	Minimum Detected	-0.174
Maximum Detected	4.5	Maximum Detected	1.504
Mean of Detected	2.288	Mean of Detected	0.624
SD of Detected	1.59	SD of Detected	0.72
Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	34
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	4
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	89.47%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.883
5% Shapiro Wilk Critical Value	0.762

Data appear Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.928
5% Shapiro Wilk Critical Value	0.762

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.656
SD	0.837
95% DL/2 (t) UCL	0.885
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-0.739
SD	0.666
95% H-Stat (DL/2) UCL	0.747
Log ROS Method	
Mean in Log Scale	-2.362
SD in Log Scale	1.787
Mean in Original Scale	0.417
SD in Original Scale	0.917
95% t UCL	0.668
95% Percentile Bootstrap UCL	0.684
95% BCA Bootstrap UCL	0.753
95% H-UCL	1.275

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.176
Theta Star	1.946
nu star	11.76
A-D Test Statistic	0.339
5% A-D Critical Value	0.683
K-S Test Statistic	0.683
5% K-S Critical Value	0.36

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	1.031
SD	0.711

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	4.5
Mean	0.301
Median	0.000001
SD	0.942
k star	0.0894
Theta star	3.366
Nu star	6.798
AppChi2	2.06
95% Gamma Approximate UCL (Use when n >= 40)	0.993
95% Adjusted Gamma UCL (Use when n < 40)	1.047

Note: DL/2 is not a recommended method.

SE of Mean	0.129
95% KM (t) UCL	1.248
95% KM (z) UCL	1.243
95% KM (jackknife) UCL	1.241
95% KM (bootstrap t) UCL	1.464
95% KM (BCA) UCL	3.458
95% KM (Percentile Bootstrap) UCL	1.942
95% KM (Chebyshev) UCL	1.593
97.5% KM (Chebyshev) UCL	1.836
99% KM (Chebyshev) UCL	2.314

Potential UCLs to Use

95% KM (t) UCL	1.248
95% KM (Percentile Bootstrap) UCL	1.942

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Benzene

General Statistics

Number of Valid Data	38
Number of Distinct Detected Data	2

Number of Detected Data	2
Number of Non-Detect Data	36
Percent Non-Detects	94.74%

Raw Statistics

Minimum Detected	3.5
Maximum Detected	10
Mean of Detected	6.75
SD of Detected	4.596

Log-transformed Statistics

Minimum Detected	1.253
Maximum Detected	2.303
Mean of Detected	1.778
SD of Detected	0.742

Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	36
Number treated as Detected	2
Single DL Non-Detect Percentage	94.74%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	N/A	Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A	5% Shapiro Wilk Critical Value	N/A
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.743	Mean	-0.8
SD	1.626	SD	0.708
95% DL/2 (t) UCL	1.188	95% H-Stat (DL/2) UCL	0.737
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	

MLE method failed to converge properly

Mean in Log Scale	N/A
SD in Log Scale	N/A
Mean in Original Scale	N/A
SD in Original Scale	N/A
95% t UCL	N/A
95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A
95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	N/A
Theta Star	N/A
nu star	N/A
A-D Test Statistic	N/A
5% A-D Critical Value	N/A
K-S Test Statistic	N/A
5% K-S Critical Value	N/A

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	N/A
Maximum	N/A
Mean	N/A
Median	N/A
SD	N/A
k star	N/A
Theta star	N/A
Nu star	N/A
AppChi2	N/A
95% Gamma Approximate UCL (Use when n >= 40)	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	3.671
SD	1.04
SE of Mean	0.239
95% KM (t) UCL	4.074
95% KM (z) UCL	4.064
95% KM (jackknife) UCL	7.914
95% KM (bootstrap t) UCL	N/A
95% KM (BCA) UCL	10
95% KM (Percentile Bootstrap) UCL	N/A
95% KM (Chebyshev) UCL	4.712
97.5% KM (Chebyshev) UCL	5.162
99% KM (Chebyshev) UCL	6.046

Potential UCLs to Use

95% KM (t) UCL	4.074
95% KM (% Bootstrap) UCL	N/A

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Bromodichloromethane

General Statistics

Number of Valid Data	38	Number of Detected Data	2
Number of Distinct Detected Data	2	Number of Non-Detect Data	36
		Percent Non-Detects	94.74%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2.7	Minimum Detected	0.993
Maximum Detected	11	Maximum Detected	2.398
Mean of Detected	6.85	Mean of Detected	1.696
SD of Detected	5.869	SD of Detected	0.993
Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	36
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	2
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	94.74%

Warning: Data set has only 2 Distinct Detected Values.
This may not be adequate enough to compute meaningful and reliable test statistics and estimates.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.

However, results obtained using 4 to 9 distinct values may not be reliable.

It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	N/A
5% Shapiro Wilk Critical Value	N/A

Data not Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	0.749
SD	1.752
95% DL/2 (t) UCL	1.228
Maximum Likelihood Estimate(MLE) Method	N/A

MLE method failed to converge properly

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-0.805
SD	0.701
95% H-Stat (DL/2) UCL	0.727
Log ROS Method	
Mean in Log Scale	N/A
SD in Log Scale	N/A
Mean in Original Scale	N/A
SD in Original Scale	N/A
95% t UCL	N/A
95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A
95% H-UCL	N/A

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	N/A
Theta Star	N/A
nu star	N/A
A-D Test Statistic	N/A
5% A-D Critical Value	N/A

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method

K-S Test Statistic	N/A
5% K-S Critical Value	N/A

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	N/A
Maximum	N/A
Mean	N/A
Median	N/A
SD	N/A
k star	N/A
Theta star	N/A
Nu star	N/A
AppChi2	N/A
95% Gamma Approximate UCL (Use when n >= 40)	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A

Note: DL/2 is not a recommended method.

Mean	2.918
SD	1.329
SE of Mean	0.305
95% KM (t) UCL	3.433
95% KM (z) UCL	3.42
95% KM (jackknife) UCL	8.336
95% KM (bootstrap t) UCL	N/A
95% KM (BCA) UCL	11
95% KM (Percentile Bootstrap) UCL	11
95% KM (Chebyshev) UCL	4.247
97.5% KM (Chebyshev) UCL	4.822
99% KM (Chebyshev) UCL	5.951

Potential UCLs to Use

95% KM (t) UCL	3.433
95% KM (% Bootstrap) UCL	11

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Carbon Tetrachloride

General Statistics

Number of Valid Data	38
Number of Distinct Detected Data	4

Number of Detected Data	4
Number of Non-Detect Data	34
Percent Non-Detects	89.47%

Raw Statistics

Minimum Detected	0.89
Maximum Detected	13

Log-transformed Statistics

Minimum Detected	-0.117
Maximum Detected	2.565

Mean of Detected	5.973	Mean of Detected	1.357
SD of Detected	5.406	SD of Detected	1.178
Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	35
Number treated as Detected	3
Single DL Non-Detect Percentage	92.11%

Warning: There are only 4 Distinct Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.943	Shapiro Wilk Test Statistic	0.971
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.997	Mean	-0.696
SD	2.318	SD	0.85
95% DL/2 (t) UCL	1.632	95% H-Stat (DL/2) UCL	0.977
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	8.694	Mean in Log Scale	-3.932
SD	4.213	SD in Log Scale	2.975
95% MLE (t) UCL	9.847	Mean in Original Scale	0.701
95% MLE (Tiku) UCL	12.74	SD in Original Scale	2.399
		95% t UCL	1.358

95% Percentile Bootstrap UCL	1.361
95% BCA Bootstrap UCL	1.74
95% H UCL	21.25

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.493
Theta Star	12.12
nu star	3.943
A-D Test Statistic	0.219
5% A-D Critical Value	0.664
K-S Test Statistic	0.664
5% K-S Critical Value	0.401

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	13
Mean	0.629
Median	0.000001
SD	2.413
k star	0.0837
Theta star	7.511
Nu star	6.361
AppChi2	1.827
95% Gamma Approximate UCL (Use when n >= 40)	2.189
95% Adjusted Gamma UCL (Use when n < 40)	N/A

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	1.425
SD	2.177
SE of Mean	0.408
95% KM (t) UCL	2.113
95% KM (z) UCL	2.096
95% KM (jackknife) UCL	2.627
95% KM (bootstrap t) UCL	2.08
95% KM (BCA) UCL	13
95% KM (Percentile Bootstrap) UCL	7.75
95% KM (Chebyshev) UCL	3.203
97.5% KM (Chebyshev) UCL	3.972
99% KM (Chebyshev) UCL	5.483

Potential UCLs to Use

95% KM (t) UCL	2.113
95% KM (Percentile Bootstrap) UCL	7.75

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Chloroform

General Statistics

Number of Valid Data	38	Number of Detected Data	20
Number of Distinct Detected Data	18	Number of Non-Detect Data	18
		Percent Non-Detects	47.37%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.25	Minimum Detected	-1.386
Maximum Detected	54	Maximum Detected	3.989
Mean of Detected	7.688	Mean of Detected	0.669
SD of Detected	15.65	SD of Detected	1.525
Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	25
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	13
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	65.79%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.516	Shapiro Wilk Test Statistic	0.885
5% Shapiro Wilk Critical Value	0.905	5% Shapiro Wilk Critical Value	0.905
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.25	Mean	-0.0675
SD	11.8	SD	1.364
95% DL/2 (t) UCL	7.48	95% H-Stat (DL/2) UCL	4.482
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-0.298

SD in Log Scale	1.639
Mean in Original Scale	4.224
SD in Original Scale	11.81
95% t UCL	7.456
95% Percentile Bootstrap UCL	7.475
95% BCA Bootstrap UCL	8.885
95% H-UCL	6.779

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.431
Theta Star	17.83
nu star	17.25
A-D Test Statistic	2.237
5% A-D Critical Value	0.809
K-S Test Statistic	0.809
5% K-S Critical Value	0.206

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	0.000001
Maximum	54
Mean	4.095
Median	0.43
SD	11.86
k star	0.12
Theta star	34.2
Nu star	9.1
AppChi2	3.388
95% Gamma Approximate UCL (Use when n >= 40)	11
95% Adjusted Gamma UCL (Use when n < 40)	11.49

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	4.261
SD	11.64
SE of Mean	1.938
95% KM (t) UCL	7.53
95% KM (z) UCL	7.448
95% KM (jackknife) UCL	7.49
95% KM (bootstrap t) UCL	12.4
95% KM (BCA) UCL	7.474
95% KM (Percentile Bootstrap) UCL	7.704
95% KM (Chebyshev) UCL	12.71
97.5% KM (Chebyshev) UCL	16.36
99% KM (Chebyshev) UCL	23.54

Potential UCLs to Use

99% KM (Chebyshev) UCL	23.54

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

cis-1,2-Dichloroethene

General Statistics

Number of Valid Data	38	Number of Detected Data	30
Number of Distinct Detected Data	27	Number of Non-Detect Data	8
		Percent Non-Detects	21.05%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.6	Minimum Detected	-0.511
Maximum Detected	630	Maximum Detected	6.446
Mean of Detected	50.97	Mean of Detected	2.168
SD of Detected	142.1	SD of Detected	1.716
Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	28
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	26.32%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.378	Shapiro Wilk Test Statistic	0.942
5% Shapiro Wilk Critical Value	0.927	5% Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	40.33	Mean	1.529
SD	127.6	SD	1.974

95% DL/2 (t) UCL	75.24

Maximum Likelihood Estimate(MLE) Method	
Mean	9.294
SD	152.2
95% MLE (t) UCL	50.94
95% MLE (Tiku) UCL	51.5

95% H-Stat (DL/2) UCL	108

Log ROS Method	
Mean in Log Scale	1.381
SD in Log Scale	2.198
Mean in Original Scale	40.3
SD in Original Scale	127.6
95% t UCL	75.21
95% Percentile Bootstrap UCL	81.19
95% BCA Bootstrap UCL	90.85
95% H UCL	191.6

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.361
Theta Star	141.1
nu star	21.68
A-D Test Statistic	2.87
5% A-D Critical Value	0.837
K-S Test Statistic	0.837
5% K-S Critical Value	0.172

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	630
Mean	40.24
Median	5.65
SD	127.6
k star	0.161
Theta star	249.3
Nu star	12.27
AppChi2	5.403

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	40.37
SD	125.9
SE of Mean	20.77
95% KM (t) UCL	75.4
95% KM (z) UCL	74.53
95% KM (jackknife) UCL	75.26
95% KM (bootstrap t) UCL	262.8
95% KM (BCA) UCL	81.05
95% KM (Percentile Bootstrap) UCL	75
95% KM (Chebyshev) UCL	130.9
97.5% KM (Chebyshev) UCL	170.1
99% KM (Chebyshev) UCL	247

Potential UCLs to Use

99% KM (Chebyshev) UCL	247

95% Gamma Approximate UCL (Use when n >= 40)	91.35
95% Adjusted Gamma UCL (Use when n < 40)	94.65

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Tetrachloroethene

General Statistics

Number of Valid Data	38	Number of Detected Data	30
Number of Distinct Detected Data	29	Number of Non-Detect Data	8
		Percent Non-Detects	21.05%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.5	Minimum Detected	-0.693
Maximum Detected	12000	Maximum Detected	9.393
Mean of Detected	499.3	Mean of Detected	3.254
SD of Detected	2177	SD of Detected	2.427
Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	11
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	27
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	28.95%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.232	Shapiro Wilk Test Statistic	0.968
5% Shapiro Wilk Critical Value	0.927	5% Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	394.3
SD	1939
95% DL/2 (t) UCL	924.9
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	2.405
SD	2.721
95% H-Stat (DL/2) UCL	3917
Log ROS Method	
Mean in Log Scale	2.228
SD in Log Scale	3.006
Mean in Original Scale	394.3
SD in Original Scale	1939
95% t UCL	924.9
95% Percentile Bootstrap UCL	1018
95% BCA Bootstrap UCL	1615
95% H-UCL	11626

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.239
Theta Star	2085
nu star	14.37
A-D Test Statistic	2.514
5% A-D Critical Value	0.88
K-S Test Statistic	0.88
5% K-S Critical Value	0.176

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	12000
Mean	394.2
Median	9.75
SD	1939

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	394.3
SD	1913
SE of Mean	315.6
95% KM (t) UCL	926.8
95% KM (z) UCL	913.5
95% KM (jackknife) UCL	924.9
95% KM (bootstrap t) UCL	6479
95% KM (BCA) UCL	1047
95% KM (Percentile Bootstrap) UCL	1007
95% KM (Chebyshev) UCL	1770
97.5% KM (Chebyshev) UCL	2365

k star	0.133	99% KM (Chebyshev) UCL	3535
Theta star	2974		
Nu star	10.07	**Potential UCLs to Use**	
AppChi2	3.988	99% KM (Chebyshev) UCL	3535
95% Gamma Approximate UCL (Use when n >= 40)	995.7		
95% Adjusted Gamma UCL (Use when n < 40)	1037		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

trans-1,2-Dichloroethene

General Statistics

Number of Valid Data	38	Number of Detected Data	5
Number of Distinct Detected Data	5	Number of Non-Detect Data	33
		Percent Non-Detects	86.84%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.1	Minimum Detected	0.0953
Maximum Detected	210	Maximum Detected	5.347
Mean of Detected	52.3	Mean of Detected	2.468
SD of Detected	89.56	SD of Detected	2.066
Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	33
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	5
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	86.84%

Warning: There are only 5 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.679
5% Shapiro Wilk Critical Value	0.762

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.968
5% Shapiro Wilk Critical Value	0.762

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	7.237
SD	34.4
95% DL/2 (t) UCL	16.65
Maximum Likelihood Estimate(MLE) Method	N/A

MLE yields a negative mean

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	-0.496
SD	1.389
95% H-Stat (DL/2) UCL	3.08
Log ROS Method	
Mean in Log Scale	-7.802
SD in Log Scale	6.073
Mean in Original Scale	6.894
SD in Original Scale	34.47
95% t UCL	16.33
95% Percentile Bootstrap UCL	17.07
95% BCA Bootstrap UCL	28
95% H-UCL	1183000000

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.308
Theta Star	170
nu star	3.077
A-D Test Statistic	0.369
5% A-D Critical Value	0.72

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

K-S Test Statistic	0.72
5% K-S Critical Value	0.374

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	210
Mean	6.882
Median	0.000001
SD	34.47
k star	0.0755
Theta star	91.13
Nu star	5.739
AppChi2	1.508
95% Gamma Approximate UCL (Use when n >= 40)	26.19
95% Adjusted Gamma UCL (Use when n < 40)	27.8

Note: DL/2 is not a recommended method.

Mean	7.837
SD	33.82
SE of Mean	6.134
95% KM (t) UCL	18.19
95% KM (z) UCL	17.93
95% KM (jackknife) UCL	15.82
95% KM (bootstrap t) UCL	168.1
95% KM (BCA) UCL	44.47
95% KM (Percentile Bootstrap) UCL	26.23
95% KM (Chebyshev) UCL	34.57
97.5% KM (Chebyshev) UCL	46.14
99% KM (Chebyshev) UCL	68.87

Potential UCLs to Use

95% KM (t) UCL	18.19

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Trichloroethene

General Statistics

Number of Valid Data	38
Number of Distinct Detected Data	29

Number of Detected Data	32
Number of Non-Detect Data	6
Percent Non-Detects	15.79%

Raw Statistics

Minimum Detected	0.32
Maximum Detected	1800

Log-transformed Statistics

Minimum Detected	-1.139
Maximum Detected	7.496

Mean of Detected	178.5	Mean of Detected	3.467
SD of Detected	359.5	SD of Detected	2.235
Minimum Non-Detect	1	Minimum Non-Detect	0
Maximum Non-Detect	1	Maximum Non-Detect	0

UCL Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.542
5% Shapiro Wilk Critical Value	0.93

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.966
5% Shapiro Wilk Critical Value	0.93

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	150.4
SD	335.6
95% DL/2 (t) UCL	242.2
Maximum Likelihood Estimate(MLE) Method	
Mean	82.2
SD	396.2
95% MLE (t) UCL	190.6
95% MLE (Tiku) UCL	190.4

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean	2.81
SD	2.559
95% H-Stat (DL/2) UCL	3034
Log ROS Method	
Mean in Log Scale	2.835
SD in Log Scale	2.551
Mean in Original Scale	150.4
SD in Original Scale	335.5
95% t UCL	242.3
95% Percentile Bootstrap UCL	247.2
95% BCA Bootstrap UCL	286.3
95% H UCL	3013

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.37
Theta Star	482.1
nu star	23.69
A-D Test Statistic	0.603

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

5% A-D Critical Value	0.836
K-S Test Statistic	0.836
5% K-S Critical Value	0.167

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	1800
Mean	150.3
Median	21.5
SD	335.6
k star	0.179
Theta star	838.1
Nu star	13.63
AppChi2	6.318
95% Gamma Approximate UCL (Use when n >= 40)	324.2
95% Adjusted Gamma UCL (Use when n < 40)	335.2

Note: DL/2 is not a recommended method.

Kaplan-Meier (KM) Method	
Mean	150.4
SD	331.1
SE of Mean	54.57
95% KM (t) UCL	242.5
95% KM (z) UCL	240.2
95% KM (jackknife) UCL	242.2
95% KM (bootstrap t) UCL	351
95% KM (BCA) UCL	242
95% KM (Percentile Bootstrap) UCL	247.7
95% KM (Chebyshev) UCL	388.3
97.5% KM (Chebyshev) UCL	491.2
99% KM (Chebyshev) UCL	693.4

Potential UCLs to Use

95% KM (Chebyshev) UCL	388.3

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Vinyl chloride

General Statistics

Number of Valid Data	38
Number of Distinct Detected Data	3

Number of Detected Data	3
Number of Non-Detect Data	35
Percent Non-Detects	92.11%

Raw Statistics

Minimum Detected	0.6

Log-transformed Statistics

Minimum Detected	-0.511

Maximum Detected	11	Maximum Detected	2.398
Mean of Detected	4.18	Mean of Detected	0.608
SD of Detected	5.909	SD of Detected	1.566
Minimum Non-Detect	0.5	Minimum Non-Detect	-0.693
Maximum Non-Detect	1	Maximum Non-Detect	0

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	37
Number treated as Detected	1
Single DL Non-Detect Percentage	97.37%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.774	Shapiro Wilk Test Statistic	0.863
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.718	Mean	-0.791
SD	1.719	SD	0.635
95% DL/2 (t) UCL	1.189	95% H-Stat (DL/2) UCL	0.685
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-3.815
		SD in Log Scale	2.549

Mean in Original Scale	0.432
SD in Original Scale	1.787
95% t UCL	0.921
95% Percentile Bootstrap UCL	0.981
95% BCA Bootstrap UCL	1.417
95% H-UCL	3.863

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	N/A
Theta Star	N/A
nu star	N/A
A-D Test Statistic	N/A
5% A-D Critical Value	N/A
K-S Test Statistic	N/A
5% K-S Critical Value	N/A

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics using Extrapolated Data

Minimum	N/A
Maximum	N/A
Mean	N/A
Median	N/A
SD	N/A
k star	N/A
Theta star	N/A
Nu star	N/A
AppChi2	N/A
95% Gamma Approximate UCL (Use when n >= 40)	N/A
95% Adjusted Gamma UCL (Use when n < 40)	N/A

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	0.899
SD	1.663
SE of Mean	0.331
95% KM (t) UCL	1.458
95% KM (z) UCL	1.444
95% KM (jackknife) UCL	1.295
95% KM (bootstrap t) UCL	3.698
95% KM (BCA) UCL	11
95% KM (Percentile Bootstrap) UCL	N/A
95% KM (Chebyshev) UCL	2.343
97.5% KM (Chebyshev) UCL	2.968
99% KM (Chebyshev) UCL	4.195

Potential UCLs to Use

95% KM (t) UCL	1.458
95% KM (Percentile Bootstrap) UCL	N/A

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

For additional insight, the user may want to consult a statistician.

Appendix F – Analytical Data (2011 & 2008)

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	71-55-6	1,1,1-Trichloroethane	10		ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	79-00-5	1,1,2-Trichloroethane	1.2		ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	13		ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	75-34-3	1,1-Dichloroethane	11		ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	75-35-4	1,1-Dichloroethene	24		ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	71-43-2	Benzene	3.5		ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	74-97-5	Bromodichloromethane	2.7		ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	67-66-3	Chloroform	47		ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	74-87-3	Chloromethane	3.2		ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	156-59-2	cis-1,2-Dichloroethene	92		ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	124-48-1	Dibromochloromethane	3.1		ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	75-09-2	Methylene Chloride	1.2		ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	95-47-6	o-Xylene	0.52	J	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	127-18-4	Tetrachloroethene	350	E	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	156-60-5	trans-1,2-Dichloroethene	3.7		ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	79-01-6	Trichloroethene	330	E	ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	75-69-4	Trichlorofluoromethane	7.9		ug/L	1	VOC
Residential Tapwater	MW-11D	NC1A-MW-11D-GW-285-0	285	4/4/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	71-55-6	1,1,1-Trichloroethane	3.8		ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	3.6		ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	75-34-3	1,1-Dichloroethane	7.4		ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	75-35-4	1,1-Dichloroethene	19		ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	67-66-3	Chloroform	25		ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	74-87-3	Chloromethane	2		ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	156-59-2	cis-1,2-Dichloroethene	41		ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	127-18-4	Tetrachloroethene	120		ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	108-88-3	Toluene	0.5	J	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	79-01-6	Trichloroethene	170	E	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-11S	NC1A-MW-11S-GW-225-0	225	4/4/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	71-55-6	1,1,1-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	75-34-3	1,1-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	75-35-4	1,1-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	67-66-3	Chloroform	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	156-59-2	cis-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	127-18-4	Tetrachloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	79-01-6	Trichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-3	NC1A-MW-3-GW-150-0	150	4/5/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	71-55-6	1,1,1-Trichloroethane	160	E	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	79-00-5	1,1,2-Trichloroethane	1.3		ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	75-34-3	1,1-Dichloroethane	110		ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	75-35-4	1,1-Dichloroethene	450	E	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	107-06-2	1,2-Dichloroethane	3.4		ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	67-66-3	Chloroform	1.1		ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	156-59-2	cis-1,2-Dichloroethene	18		ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	127-18-4	Tetrachloroethene	35		ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	79-01-6	Trichloroethene	470	E	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-4	NC1A-MW-4-GW-199-0	199	4/5/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	71-55-6	1,1,1-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	75-34-3	1,1-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	75-35-4	1,1-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	67-66-3	Chloroform	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	156-59-2	cis-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	127-18-4	Tetrachloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	79-01-6	Trichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-8	NC1A-MW-8-GW-139-0	139	4/5/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	71-55-6	1,1,1-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	2.9		ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	75-34-3	1,1-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	75-35-4	1,1-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	67-66-3	Chloroform	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	156-59-2	cis-1,2-Dichloroethene	0.72	J	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	127-18-4	Tetrachloroethene	0.62	J	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	108-88-3	Toluene	0.63	J	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	79-01-6	Trichloroethene	4.1		ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2B	NC1A-EW-2B-GW-131-0	131	4/6/2011	WG	75-01-4	Vinyl Chloride	0.6	J	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	71-55-6	1,1,1-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	75-34-3	1,1-Dichloroethane	0.65	J	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	75-35-4	1,1-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	67-66-3	Chloroform	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	156-59-2	cis-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	127-18-4	Tetrachloroethene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	79-01-6	Trichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-2C	NC1A-EW-2C-GW-514-0	514	4/6/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	71-55-6	1,1,1-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	75-34-3	1,1-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	75-35-4	1,1-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	67-66-3	Chloroform	1.8		ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	156-59-2	cis-1,2-Dichloroethene	14		ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	1634-04-4	Methyl tert-Butyl Ether	0.97	J	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	127-18-4	Tetrachloroethene	270	E	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	79-01-6	Trichloroethene	23		ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-1	NC1A-EX-1-GW-205-0	205	4/6/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	71-55-6	1,1,1-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	75-34-3	1,1-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	75-35-4	1,1-Dichloroethene	0.54	J	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	67-66-3	Chloroform	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	156-59-2	cis-1,2-Dichloroethene	0.6	J	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	127-18-4	Tetrachloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	79-01-6	Trichloroethene	2.3		ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-9	NC1A-MW-9-GW-315-0	315	4/6/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	71-55-6	1,1,1-Trichloroethane	10		ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	75-34-3	1,1-Dichloroethane	13		ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	75-35-4	1,1-Dichloroethene	24		ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	67-66-3	Chloroform	4.4		ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	156-59-2	cis-1,2-Dichloroethene	3.4		ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	127-18-4	Tetrachloroethene	8.5		ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	79-01-6	Trichloroethene	63		ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-10	NC1A-MW-10-GW-284-0	284	4/7/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	71-55-6	1,1,1-Trichloroethane	3.1		ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	75-34-3	1,1-Dichloroethane	3.1		ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	75-35-4	1,1-Dichloroethene	6.3		ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	67-66-3	Chloroform	6.4		ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	156-59-2	cis-1,2-Dichloroethene	6.1		ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	1634-04-4	Methyl tert-Butyl Ether	3.6		ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	127-18-4	Tetrachloroethene	2.7		ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	79-01-6	Trichloroethene	29		ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16D	NC1A-MW-16D-GW-285-0	285	4/7/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	71-55-6	1,1,1-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	75-34-3	1,1-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	75-35-4	1,1-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	67-66-3	Chloroform	0.97	J	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	156-59-2	cis-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	127-18-4	Tetrachloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	108-88-3	Toluene	0.52	J	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	79-01-6	Trichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-16S	NC1A-MW-16S-GW-225-0	225	4/7/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	71-55-6	1,1,1-Trichloroethane	140	E	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	75-34-3	1,1-Dichloroethane	160	E	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	75-35-4	1,1-Dichloroethene	140	E	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	107-06-2	1,2-Dichloroethane	1.6		ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	67-66-3	Chloroform	1.2		ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	156-59-2	cis-1,2-Dichloroethene	7.8		ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	1634-04-4	Methyl tert-Butyl Ether	7.5		ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	127-18-4	Tetrachloroethene	15		ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	79-01-6	Trichloroethene	91		ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-6	NC1A-MW-6-GW-128-0	128	4/7/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	71-55-6	1,1,1-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	75-34-3	1,1-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	75-35-4	1,1-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	67-66-3	Chloroform	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	156-59-2	cis-1,2-Dichloroethene	1	J	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	127-18-4	Tetrachloroethene	1.9		ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	79-01-6	Trichloroethene	1.3		ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1B	NC1A-EW-1B-GW-158-0	158	4/8/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	71-55-6	1,1,1-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	75-34-3	1,1-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	75-35-4	1,1-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	67-64-1	Acetone	4.6	J	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	67-66-3	Chloroform	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	156-59-2	cis-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	127-18-4	Tetrachloroethene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	79-01-6	Trichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	EW-1C	NC1A-EW-1C-GW-516-0	516	4/8/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	71-55-6	1,1,1-Trichloroethane	36		ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	23		ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	79-00-5	1,1,2-Trichloroethane	5.4		ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	75-34-3	1,1-Dichloroethane	11		ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	75-35-4	1,1-Dichloroethene	1.5		ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	67-64-1	Acetone	4.1	J	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	74-97-5	Bromodichloromethane	11		ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	75-25-2	Bromoform	1.5		ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	56-23-5	Carbon Tetrachloride	2.7		ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	67-66-3	Chloroform	54		ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	74-87-3	Chloromethane	1.4		ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	156-59-2	cis-1,2-Dichloroethene	630	E	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	124-48-1	Dibromochloromethane	6.2		ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	75-71-8	Dichlorodifluoromethane	15		ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	127-18-4	Tetrachloroethene	530	E	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	156-60-5	trans-1,2-Dichloroethene	40		ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	79-01-6	Trichloroethene	580	E	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17D	NC1A-MW-17D-GW-287-0	287	4/8/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	71-55-6	1,1,1-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	75-34-3	1,1-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	75-35-4	1,1-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	67-66-3	Chloroform	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	156-59-2	cis-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	127-18-4	Tetrachloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	79-01-6	Trichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-17S	NC1A-MW-17S-GW-228-0	228	4/8/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	71-55-6	1,1,1-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	75-34-3	1,1-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	75-35-4	1,1-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	67-66-3	Chloroform	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	156-59-2	cis-1,2-Dichloroethene	6.1		ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	1634-04-4	Methyl tert-Butyl Ether	0.69	J	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	127-18-4	Tetrachloroethene	240	E	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	79-01-6	Trichloroethene	17		ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13B	NC1A-FSMW-13B-GW-128-0	128	4/11/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	71-55-6	1,1,1-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	75-34-3	1,1-Dichloroethane	1.8		ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	75-35-4	1,1-Dichloroethene	2.9		ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	56-23-5	Carbon Tetrachloride	13		ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	67-66-3	Chloroform	2.7		ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	156-59-2	cis-1,2-Dichloroethene	61		ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	127-18-4	Tetrachloroethene	25		ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	156-60-5	trans-1,2-Dichloroethene	1.1		ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	79-01-6	Trichloroethene	330	E	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-13C	NC1A-FSMW-13C-GW-249-0	249	4/11/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	71-55-6	1,1,1-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	75-34-3	1,1-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	75-35-4	1,1-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	67-66-3	Chloroform	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	156-59-2	cis-1,2-Dichloroethene	23		ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	75-71-8	Dichlorodifluoromethane	0.75	J	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1.6		ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	127-18-4	Tetrachloroethene	330	E	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	79-01-6	Trichloroethene	30		ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-14	NC1A-MW-14-GW-200-0	200	4/11/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	71-55-6	1,1,1-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	75-34-3	1,1-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	75-35-4	1,1-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	67-66-3	Chloroform	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	156-59-2	cis-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	1634-04-4	Methyl tert-Butyl Ether	2.7		ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	127-18-4	Tetrachloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	79-01-6	Trichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	MW-15	NC1A-MW-15-GW-204-0	204	4/11/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	71-55-6	1,1,1-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	75-34-3	1,1-Dichloroethane	3.9		ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	75-35-4	1,1-Dichloroethene	3.4		ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	107-06-2	1,2-Dichloroethane	0.84	J	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	78-93-3	2-Butanone	2.9	J	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	67-64-1	Acetone	15		ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	71-43-2	Benzene	10		ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	67-66-3	Chloroform	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	156-59-2	cis-1,2-Dichloroethene	16		ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	95-47-6	o-Xylene	1.2		ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	127-18-4	Tetrachloroethene	120	E	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	108-88-3	Toluene	0.55	J	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	79-01-6	Trichloroethene	120	E	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	EX-2	NC1A-EX-2-GW-285-0	285	4/12/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	71-55-6	1,1,1-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	75-34-3	1,1-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	75-35-4	1,1-Dichloroethene	2.2		ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	120-82-1	1,2,4-Trichlorobenzene	3.6		ug/L	1	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	95-50-1	1,2-Dichlorobenzene	1.1		ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	108-90-7	Chlorobenzene	2.8		ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	67-66-3	Chloroform	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	156-59-2	cis-1,2-Dichloroethene	500	E	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1.4		ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	127-18-4	Tetrachloroethene	12000	E	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	108-88-3	Toluene	1.1		ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	156-60-5	trans-1,2-Dichloroethene	6.7		ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	79-01-6	Trichloroethene	1800	E	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14A	NC1A-FSMW-14A-GW-139-0	139	4/12/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	71-55-6	1,1,1-Trichloroethane	22		ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	75-34-3	1,1-Dichloroethane	2.7		ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	75-35-4	1,1-Dichloroethene	8.3		ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	56-23-5	Carbon Tetrachloride	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	67-66-3	Chloroform	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	156-59-2	cis-1,2-Dichloroethene	1.2		ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	127-18-4	Tetrachloroethene	510	E	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	108-88-3	Toluene	0.53	J	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	79-01-6	Trichloroethene	7.6		ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14B	NC1A-FSMW-14B-GW-167-0	167	4/12/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	71-55-6	1,1,1-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	79-34-5	1,1,2,2-Tetrachloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	79-00-5	1,1,2-Trichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	75-34-3	1,1-Dichloroethane	5.4		ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	75-35-4	1,1-Dichloroethene	3		ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	120-82-1	1,2,4-Trichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	96-12-8	1,2-Dibromo-3-Chloropropane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	106-93-4	1,2-Dibromoethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	95-50-1	1,2-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	107-06-2	1,2-Dichloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	78-87-5	1,2-Dichloropropane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	541-73-1	1,3-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	106-46-7	1,4-Dichlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	78-93-3	2-Butanone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	591-78-6	2-Hexanone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	108-10-1	4-Methyl-2-Pentanone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	67-64-1	Acetone	5	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	71-43-2	Benzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	74-97-5	Bromodichloromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	75-25-2	Bromoform	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	74-83-9	Bromomethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	75-15-0	Carbon Disulfide	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	56-23-5	Carbon Tetrachloride	7.3		ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	108-90-7	Chlorobenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	75-00-3	Chloroethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	67-66-3	Chloroform	2		ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	74-87-3	Chloromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	156-59-2	cis-1,2-Dichloroethene	15		ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	10061-01-5	cis-1,3-Dichloropropene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	110-82-7	Cyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	124-48-1	Dibromochloromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	75-71-8	Dichlorodifluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	100-41-4	Ethyl Benzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	98-82-8	Isopropylbenzene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	179601-23-1	m/p-Xylenes	2	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	79-20-9	Methyl Acetate	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	1634-04-4	Methyl tert-Butyl Ether	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	108-87-2	Methylcyclohexane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	75-09-2	Methylene Chloride	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	95-47-6	o-Xylene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	100-42-5	Styrene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	10061-02-6	t-1,3-Dichloropropene^	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	127-18-4	Tetrachloroethene	5.5		ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	108-88-3	Toluene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	156-60-5	trans-1,2-Dichloroethene	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	79-01-6	Trichloroethene	66		ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	75-69-4	Trichlorofluoromethane	1	U	ug/L	1	VOC
Residential Tapwater	FSMW-14C	NC1A-FSMW-14C-GW-251-0	251	4/12/2011	WG	75-01-4	Vinyl Chloride	1	U	ug/L	1	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	71-55-6	1,1,1-Trichloroethane	20	D	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	79-00-5	1,1,2-Trichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	75-34-3	1,1-Dichloroethane	22	D	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	75-35-4	1,1-Dichloroethene	23	D	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	120-82-1	1,2,4-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	96-12-8	1,2-Dibromo-3-Chloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	106-93-4	1,2-Dibromoethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	95-50-1	1,2-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	107-06-2	1,2-Dichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	78-87-5	1,2-Dichloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	541-73-1	1,3-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	106-46-7	1,4-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	87-61-6	1,2,3-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	78-93-3	2-Butanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	591-78-6	2-Hexanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	108-10-1	4-Methyl-2-Pentanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	67-64-1	Acetone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	71-43-2	Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	74-97-5	Bromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	75-27-4	Bromodichloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	75-25-2	Bromoform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	74-83-9	Bromomethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	75-15-0	Carbon Disulfide	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	56-23-5	Carbon Tetrachloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	108-90-7	Chlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	75-00-3	Chloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	67-66-3	Chloroform	0.47	J	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	74-87-3	Chloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	156-59-2	cis-1,2-Dichloroethene	3.3		ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	10061-01-5	cis-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	110-82-7	Cyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	124-48-1	Dibromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	75-71-8	Dichlorodifluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	100-41-4	Ethyl Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	98-82-8	Isopropylbenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	179601-23-1	m/p-Xylenes	0.55	B*	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	79-20-9	Methyl Acetate	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	1634-04-4	Methyl tert-Butyl Ether	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	108-87-2	Methylcyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	75-09-2	Methylene Chloride	0.5	U	ug/L	0.5	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	95-47-6	o-Xylene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	100-42-5	Styrene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	10061-02-6	t-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	127-18-4	Tetrachloroethene	91	D	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	108-88-3	Toluene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	156-60-5	trans-1,2-Dichloroethene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	79-01-6	Trichloroethene	17		ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	75-69-4	Trichlorofluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-1	MW-1 (2008)	90-110	2/25/2008	WG	75-01-4	Vinyl Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	71-55-6	1,1,1-Trichloroethane	22	D	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	79-00-5	1,1,2-Trichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1.3		ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	75-34-3	1,1-Dichloroethane	28	D	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	75-35-4	1,1-Dichloroethene	62	D	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	120-82-1	1,2,4-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	96-12-8	1,2-Dibromo-3-Chloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	106-93-4	1,2-Dibromoethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	95-50-1	1,2-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	107-06-2	1,2-Dichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	78-87-5	1,2-Dichloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	541-73-1	1,3-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	106-46-7	1,4-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	87-61-6	1,2,3-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	78-93-3	2-Butanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	591-78-6	2-Hexanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	108-10-1	4-Methyl-2-Pentanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	67-64-1	Acetone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	71-43-2	Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	74-97-5	Bromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	75-27-4	Bromodichloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	75-25-2	Bromoform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	74-83-9	Bromomethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	75-15-0	Carbon Disulfide	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	56-23-5	Carbon Tetrachloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	108-90-7	Chlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	75-00-3	Chloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	67-66-3	Chloroform	0.78		ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	74-87-3	Chloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	156-59-2	cis-1,2-Dichloroethene	6.1		ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	10061-01-5	cis-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	110-82-7	Cyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	124-48-1	Dibromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	75-71-8	Dichlorodifluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	100-41-4	Ethyl Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	98-82-8	Isopropylbenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	179601-23-1	m/p-Xylenes	0.27	BJ*	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	79-20-9	Methyl Acetate	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	1634-04-4	Methyl tert-Butyl Ether	0.38	J	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	108-87-2	Methylcyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	75-09-2	Methylene Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	95-47-6	o-Xylene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	100-42-5	Styrene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	10061-02-6	t-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	127-18-4	Tetrachloroethene	31	D	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	108-88-3	Toluene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	156-60-5	trans-1,2-Dichloroethene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	79-01-6	Trichloroethene	70	D	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	75-69-4	Trichlorofluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-2	MW-2 (2008)	110-130	2/25/2008	WG	75-01-4	Vinyl Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	71-55-6	1,1,1-Trichloroethane	60	D	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	79-00-5	1,1,2-Trichloroethane	1		ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	1.8		ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	75-34-3	1,1-Dichloroethane	67	D	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	75-35-4	1,1-Dichloroethene	180	D	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	120-82-1	1,2,4-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	96-12-8	1,2-Dibromo-3-Chloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	106-93-4	1,2-Dibromoethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	95-50-1	1,2-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	107-06-2	1,2-Dichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	78-87-5	1,2-Dichloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	541-73-1	1,3-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	106-46-7	1,4-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	87-61-6	1,2,3-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	78-93-3	2-Butanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	591-78-6	2-Hexanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	108-10-1	4-Methyl-2-Pentanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	67-64-1	Acetone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	71-43-2	Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	74-97-5	Bromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	75-27-4	Bromodichloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	75-25-2	Bromoform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	74-83-9	Bromomethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	75-15-0	Carbon Disulfide	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	56-23-5	Carbon Tetrachloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	108-90-7	Chlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	75-00-3	Chloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	67-66-3	Chloroform	1.4		ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	74-87-3	Chloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	156-59-2	cis-1,2-Dichloroethene	13		ug/L	0.5	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	10061-01-5	cis-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	110-82-7	Cyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	124-48-1	Dibromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	75-71-8	Dichlorodifluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	100-41-4	Ethyl Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	98-82-8	Isopropylbenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	179601-23-1	m/p-Xylenes	0.34	BJ*	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	79-20-9	Methyl Acetate	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	1634-04-4	Methyl tert-Butyl Ether	0.24	J	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	108-87-2	Methylcyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	75-09-2	Methylene Chloride	0.22	J	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	95-47-6	o-Xylene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	100-42-5	Styrene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	10061-02-6	t-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	127-18-4	Tetrachloroethene	37	D	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	108-88-3	Toluene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	156-60-5	trans-1,2-Dichloroethene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	79-01-6	Trichloroethene	310	D	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	75-69-4	Trichlorofluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-3	MW-3 (2008)	130-150	2/25/2008	WG	75-01-4	Vinyl Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	71-55-6	1,1,1-Trichloroethane	250	D	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	79-00-5	1,1,2-Trichloroethane	2		ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	18		ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	75-34-3	1,1-Dichloroethane	160	D	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	75-35-4	1,1-Dichloroethene	810	D	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	120-82-1	1,2,4-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	96-12-8	1,2-Dibromo-3-Chloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	106-93-4	1,2-Dibromoethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	95-50-1	1,2-Dichlorobenzene	0.23	J	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	107-06-2	1,2-Dichloroethane	4.5		ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	78-87-5	1,2-Dichloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	541-73-1	1,3-Dichlorobenzene	0.38	J	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	106-46-7	1,4-Dichlorobenzene	0.41	J	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	87-61-6	1,2,3-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	78-93-3	2-Butanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	591-78-6	2-Hexanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	108-10-1	4-Methyl-2-Pentanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	67-64-1	Acetone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	71-43-2	Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	74-97-5	Bromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	75-27-4	Bromodichloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	75-25-2	Bromoform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	74-83-9	Bromomethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	75-15-0	Carbon Disulfide	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	56-23-5	Carbon Tetrachloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	108-90-7	Chlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	75-00-3	Chloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	67-66-3	Chloroform	1.6		ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	74-87-3	Chloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	156-59-2	cis-1,2-Dichloroethene	31	D	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	10061-01-5	cis-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	110-82-7	Cyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	124-48-1	Dibromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	75-71-8	Dichlorodifluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	100-41-4	Ethyl Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	98-82-8	Isopropylbenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	179601-23-1	m/p-Xylenes	0.41	BJ*	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	79-20-9	Methyl Acetate	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	1634-04-4	Methyl tert-Butyl Ether	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	108-87-2	Methylcyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	75-09-2	Methylene Chloride	2		ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	95-47-6	o-Xylene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	100-42-5	Styrene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	10061-02-6	t-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	127-18-4	Tetrachloroethene	140	D	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	108-88-3	Toluene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	156-60-5	trans-1,2-Dichloroethene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	79-01-6	Trichloroethene	910	D	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	75-69-4	Trichlorofluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-4	MW-4 (2008)	180-200	2/25/2008	WG	75-01-4	Vinyl Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	71-55-6	1,1,1-Trichloroethane	3.9		ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	79-00-5	1,1,2-Trichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	75-34-3	1,1-Dichloroethane	1.1		ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	75-35-4	1,1-Dichloroethene	2.2		ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	120-82-1	1,2,4-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	96-12-8	1,2-Dibromo-3-Chloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	106-93-4	1,2-Dibromoethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	95-50-1	1,2-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	107-06-2	1,2-Dichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	78-87-5	1,2-Dichloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	541-73-1	1,3-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	106-46-7	1,4-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	87-61-6	1,2,3-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	78-93-3	2-Butanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	591-78-6	2-Hexanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	108-10-1	4-Methyl-2-Pentanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	67-64-1	Acetone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	71-43-2	Benzene	0.5	U	ug/L	0.5	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	74-97-5	Bromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	75-27-4	Bromodichloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	75-25-2	Bromoform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	74-83-9	Bromomethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	75-15-0	Carbon Disulfide	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	56-23-5	Carbon Tetrachloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	108-90-7	Chlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	75-00-3	Chloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	67-66-3	Chloroform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	74-87-3	Chloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	156-59-2	cis-1,2-Dichloroethene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	10061-01-5	cis-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	110-82-7	Cyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	124-48-1	Dibromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	75-71-8	Dichlorodifluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	100-41-4	Ethyl Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	98-82-8	Isopropylbenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	179601-23-1	m/p-Xylenes	0.42	J	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	79-20-9	Methyl Acetate	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	1634-04-4	Methyl tert-Butyl Ether	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	108-87-2	Methylcyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	75-09-2	Methylene Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	95-47-6	o-Xylene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	100-42-5	Styrene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	10061-02-6	t-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	127-18-4	Tetrachloroethene	0.5	J	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	108-88-3	Toluene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	156-60-5	trans-1,2-Dichloroethene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	79-01-6	Trichloroethene	0.32	J	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	75-69-4	Trichlorofluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-5	MW-5 (2008)	90-110	2/26/2008	WG	75-01-4	Vinyl Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	71-55-6	1,1,1-Trichloroethane	1400	D	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	79-00-5	1,1,2-Trichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	2.3		ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	75-34-3	1,1-Dichloroethane	970	D	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	75-35-4	1,1-Dichloroethene	840	D	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	120-82-1	1,2,4-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	96-12-8	1,2-Dibromo-3-Chloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	106-93-4	1,2-Dibromoethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	95-50-1	1,2-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	107-06-2	1,2-Dichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	78-87-5	1,2-Dichloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	541-73-1	1,3-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	106-46-7	1,4-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	87-61-6	1,2,3-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	78-93-3	2-Butanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	591-78-6	2-Hexanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	108-10-1	4-Methyl-2-Pentanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	67-64-1	Acetone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	71-43-2	Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	74-97-5	Bromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	75-27-4	Bromodichloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	75-25-2	Bromoform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	74-83-9	Bromomethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	75-15-0	Carbon Disulfide	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	56-23-5	Carbon Tetrachloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	108-90-7	Chlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	75-00-3	Chloroethane	9.8		ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	67-66-3	Chloroform	1.2		ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	74-87-3	Chloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	156-59-2	cis-1,2-Dichloroethene	5.2		ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	10061-01-5	cis-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	110-82-7	Cyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	124-48-1	Dibromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	75-71-8	Dichlorodifluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	100-41-4	Ethyl Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	98-82-8	Isopropylbenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	179601-23-1	m/p-Xylenes	0.29	BJ*	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	79-20-9	Methyl Acetate	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	1634-04-4	Methyl tert-Butyl Ether	5.8		ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	108-87-2	Methylcyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	75-09-2	Methylene Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	95-47-6	o-Xylene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	100-42-5	Styrene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	10061-02-6	t-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	127-18-4	Tetrachloroethene	18		ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	108-88-3	Toluene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	156-60-5	trans-1,2-Dichloroethene	210	E	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	79-01-6	Trichloroethene	59	D	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	75-69-4	Trichlorofluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-6	MW-6 (2008)	110-130	2/26/2008	WG	75-01-4	Vinyl Chloride	0.94		ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	71-55-6	1,1,1-Trichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	79-00-5	1,1,2-Trichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	75-34-3	1,1-Dichloroethane	0.33	J	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	75-35-4	1,1-Dichloroethene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	120-82-1	1,2,4-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	96-12-8	1,2-Dibromo-3-Chloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	106-93-4	1,2-Dibromoethane	0.5	U	ug/L	0.5	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	95-50-1	1,2-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	107-06-2	1,2-Dichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	78-87-5	1,2-Dichloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	541-73-1	1,3-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	106-46-7	1,4-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	87-61-6	1,2,3-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	78-93-3	2-Butanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	591-78-6	2-Hexanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	108-10-1	4-Methyl-2-Pentanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	67-64-1	Acetone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	71-43-2	Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	74-97-5	Bromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	75-27-4	Bromodichloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	75-25-2	Bromoform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	74-83-9	Bromomethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	75-15-0	Carbon Disulfide	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	56-23-5	Carbon Tetrachloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	108-90-7	Chlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	75-00-3	Chloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	67-66-3	Chloroform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	74-87-3	Chloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	156-59-2	cis-1,2-Dichloroethene	4.5		ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	10061-01-5	cis-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	110-82-7	Cyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	124-48-1	Dibromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	75-71-8	Dichlorodifluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	100-41-4	Ethyl Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	98-82-8	Isopropylbenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	179601-23-1	m/p-Xylenes	0.25	J	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	79-20-9	Methyl Acetate	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	1634-04-4	Methyl tert-Butyl Ether	0.35	J	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	108-87-2	Methylcyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	75-09-2	Methylene Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	95-47-6	o-Xylene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	100-42-5	Styrene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	10061-02-6	t-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	127-18-4	Tetrachloroethene	1.7		ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	108-88-3	Toluene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	156-60-5	trans-1,2-Dichloroethene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	79-01-6	Trichloroethene	0.78		ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	75-69-4	Trichlorofluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-7	MW-7 (2008)	90-110	2/26/2008	WG	75-01-4	Vinyl Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	71-55-6	1,1,1-Trichloroethane	0.41	J	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	79-00-5	1,1,2-Trichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	75-34-3	1,1-Dichloroethane	1.4		ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	75-35-4	1,1-Dichloroethene	0.77		ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	120-82-1	1,2,4-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	96-12-8	1,2-Dibromo-3-Chloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	106-93-4	1,2-Dibromoethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	95-50-1	1,2-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	107-06-2	1,2-Dichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	78-87-5	1,2-Dichloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	541-73-1	1,3-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	106-46-7	1,4-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	87-61-6	1,2,3-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	78-93-3	2-Butanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	591-78-6	2-Hexanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	108-10-1	4-Methyl-2-Pentanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	67-64-1	Acetone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	71-43-2	Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	74-97-5	Bromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	75-27-4	Bromodichloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	75-25-2	Bromoform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	74-83-9	Bromomethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	75-15-0	Carbon Disulfide	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	56-23-5	Carbon Tetrachloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	108-90-7	Chlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	75-00-3	Chloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	67-66-3	Chloroform	0.25	J	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	74-87-3	Chloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	156-59-2	cis-1,2-Dichloroethene	1		ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	10061-01-5	cis-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	110-82-7	Cyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	124-48-1	Dibromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	75-71-8	Dichlorodifluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	100-41-4	Ethyl Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	98-82-8	Isopropylbenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	179601-23-1	m/p-Xylenes	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	79-20-9	Methyl Acetate	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	1634-04-4	Methyl tert-Butyl Ether	0.51		ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	108-87-2	Methylcyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	75-09-2	Methylene Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	95-47-6	o-Xylene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	100-42-5	Styrene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	10061-02-6	t-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	127-18-4	Tetrachloroethene	1.1		ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	108-88-3	Toluene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	156-60-5	trans-1,2-Dichloroethene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	79-01-6	Trichloroethene	1.6		ug/L	0.5	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	75-69-4	Trichlorofluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-8	MW-8 (2008)	120-140	2/26/2008	WG	75-01-4	Vinyl Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	71-55-6	1,1,1-Trichloroethane	3.8		ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	79-00-5	1,1,2-Trichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	75-34-3	1,1-Dichloroethane	2.6		ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	75-35-4	1,1-Dichloroethene	6.9		ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	120-82-1	1,2,4-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	96-12-8	1,2-Dibromo-3-Chloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	106-93-4	1,2-Dibromoethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	95-50-1	1,2-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	107-06-2	1,2-Dichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	78-87-5	1,2-Dichloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	541-73-1	1,3-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	106-46-7	1,4-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	87-61-6	1,2,3-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	78-93-3	2-Butanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	591-78-6	2-Hexanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	108-10-1	4-Methyl-2-Pentanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	67-64-1	Acetone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	71-43-2	Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	74-97-5	Bromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	75-27-4	Bromodichloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	75-25-2	Bromoform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	74-83-9	Bromomethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	75-15-0	Carbon Disulfide	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	56-23-5	Carbon Tetrachloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	108-90-7	Chlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	75-00-3	Chloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	67-66-3	Chloroform	0.55		ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	74-87-3	Chloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	156-59-2	cis-1,2-Dichloroethene	3.6		ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	10061-01-5	cis-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	110-82-7	Cyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	124-48-1	Dibromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	75-71-8	Dichlorodifluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	100-41-4	Ethyl Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	98-82-8	Isopropylbenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	179601-23-1	m/p-Xylenes	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	79-20-9	Methyl Acetate	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	1634-04-4	Methyl tert-Butyl Ether	0.32	J	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	108-87-2	Methylcyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	75-09-2	Methylene Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	95-47-6	o-Xylene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	100-42-5	Styrene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	10061-02-6	t-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	127-18-4	Tetrachloroethene	4.7		ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	108-88-3	Toluene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	156-60-5	trans-1,2-Dichloroethene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	79-01-6	Trichloroethene	19	D	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	75-69-4	Trichlorofluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	MW-9	MW-9 (2008)	310-315	2/28/2008	WG	75-01-4	Vinyl Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	71-55-6	1,1,1-Trichloroethane	2.8		ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	79-00-5	1,1,2-Trichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	75-34-3	1,1-Dichloroethane	0.79		ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	75-35-4	1,1-Dichloroethene	4.2		ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	120-82-1	1,2,4-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	96-12-8	1,2-Dibromo-3-Chloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	106-93-4	1,2-Dibromoethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	95-50-1	1,2-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	107-06-2	1,2-Dichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	78-87-5	1,2-Dichloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	541-73-1	1,3-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	106-46-7	1,4-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	87-61-6	1,2,3-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	78-93-3	2-Butanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	591-78-6	2-Hexanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	108-10-1	4-Methyl-2-Pentanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	67-64-1	Acetone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	71-43-2	Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	74-97-5	Bromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	75-27-4	Bromodichloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	75-25-2	Bromoform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	74-83-9	Bromomethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	75-15-0	Carbon Disulfide	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	56-23-5	Carbon Tetrachloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	108-90-7	Chlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	75-00-3	Chloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	67-66-3	Chloroform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	74-87-3	Chloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	156-59-2	cis-1,2-Dichloroethene	7.4		ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	10061-01-5	cis-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	110-82-7	Cyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	124-48-1	Dibromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	75-71-8	Dichlorodifluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	100-41-4	Ethyl Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	98-82-8	Isopropylbenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	179601-23-1	m/p-Xylenes	0.5	U	ug/L	0.5	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	79-20-9	Methyl Acetate	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	1634-04-4	Methyl tert-Butyl Ether	4.1		ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	108-87-2	Methylcyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	75-09-2	Methylene Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	95-47-6	o-Xylene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	100-42-5	Styrene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	10061-02-6	t-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	127-18-4	Tetrachloroethene	74	D	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	108-88-3	Toluene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	156-60-5	trans-1,2-Dichloroethene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	79-01-6	Trichloroethene	17		ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	75-69-4	Trichlorofluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1B	EW-1B (2008)	154-164	2/27/2008	WG	75-01-4	Vinyl Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	71-55-6	1,1,1-Trichloroethane	1.1		ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	79-00-5	1,1,2-Trichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	20		ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	75-34-3	1,1-Dichloroethane	1.6		ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	75-35-4	1,1-Dichloroethene	2.6		ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	120-82-1	1,2,4-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	96-12-8	1,2-Dibromo-3-Chloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	106-93-4	1,2-Dibromoethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	95-50-1	1,2-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	107-06-2	1,2-Dichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	78-87-5	1,2-Dichloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	541-73-1	1,3-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	106-46-7	1,4-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	87-61-6	1,2,3-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	78-93-3	2-Butanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	591-78-6	2-Hexanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	108-10-1	4-Methyl-2-Pentanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	67-64-1	Acetone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	71-43-2	Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	74-97-5	Bromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	75-27-4	Bromodichloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	75-25-2	Bromoform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	74-83-9	Bromomethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	75-15-0	Carbon Disulfide	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	56-23-5	Carbon Tetrachloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	108-90-7	Chlorobenzene	0.42	J	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	75-00-3	Chloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	67-66-3	Chloroform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	74-87-3	Chloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	156-59-2	cis-1,2-Dichloroethene	6.5		ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	10061-01-5	cis-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	110-82-7	Cyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	124-48-1	Dibromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	75-71-8	Dichlorodifluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	100-41-4	Ethyl Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	98-82-8	Isopropylbenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	179601-23-1	m/p-Xylenes	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	79-20-9	Methyl Acetate	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	1634-04-4	Methyl tert-Butyl Ether	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	108-87-2	Methylcyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	75-09-2	Methylene Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	95-47-6	o-Xylene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	100-42-5	Styrene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	10061-02-6	t-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	127-18-4	Tetrachloroethene	11		ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	108-88-3	Toluene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	156-60-5	trans-1,2-Dichloroethene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	79-01-6	Trichloroethene	42	D	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	75-69-4	Trichlorofluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2B	EW-2B (2008)	132-142	2/27/2008	WG	75-01-4	Vinyl Chloride	11		ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	71-55-6	1,1,1-Trichloroethane	0.25	J	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	79-00-5	1,1,2-Trichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	0.5		ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	75-34-3	1,1-Dichloroethane	0.47	J	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	75-35-4	1,1-Dichloroethene	0.34	J	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	120-82-1	1,2,4-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	96-12-8	1,2-Dibromo-3-Chloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	106-93-4	1,2-Dibromoethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	95-50-1	1,2-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	107-06-2	1,2-Dichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	78-87-5	1,2-Dichloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	541-73-1	1,3-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	106-46-7	1,4-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	87-61-6	1,2,3-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	78-93-3	2-Butanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	591-78-6	2-Hexanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	108-10-1	4-Methyl-2-Pentanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	67-64-1	Acetone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	71-43-2	Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	74-97-5	Bromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	75-27-4	Bromodichloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	75-25-2	Bromoform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	74-83-9	Bromomethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	75-15-0	Carbon Disulfide	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	56-23-5	Carbon Tetrachloride	0.89		ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	108-90-7	Chlorobenzene	0.5	U	ug/L	0.5	VOC

Appendix F
Analytical Data
New Cassel Industrial Area OU1
Nassau County, New York

Sample Grouping	Station ID	Sample ID	Sample Depth	Date Collected	Matrix	CAS	Parameter Name	Result	Qual	Units	Detect Limit	Chemical Group
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	75-00-3	Chloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	67-66-3	Chloroform	0.39	J	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	74-87-3	Chloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	156-59-2	cis-1,2-Dichloroethene	1.1		ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	10061-01-5	cis-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	110-82-7	Cyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	124-48-1	Dibromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	75-71-8	Dichlorodifluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	100-41-4	Ethyl Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	98-82-8	Isopropylbenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	179601-23-1	m/p-Xylenes	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	79-20-9	Methyl Acetate	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	1634-04-4	Methyl tert-Butyl Ether	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	108-87-2	Methylcyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	75-09-2	Methylene Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	95-47-6	o-Xylene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	100-42-5	Styrene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	10061-02-6	t-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	127-18-4	Tetrachloroethene	0.96		ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	108-88-3	Toluene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	156-60-5	trans-1,2-Dichloroethene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	79-01-6	Trichloroethene	20	D	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	75-69-4	Trichlorofluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-1C	EW-1C (2008)	506-516	2/27/2008	WG	75-01-4	Vinyl Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	71-55-6	1,1,1-Trichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	79-00-5	1,1,2-Trichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	76-13-1	1,1,2-Trichlorotrifluoroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	75-34-3	1,1-Dichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	75-35-4	1,1-Dichloroethene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	120-82-1	1,2,4-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	96-12-8	1,2-Dibromo-3-Chloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	106-93-4	1,2-Dibromoethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	95-50-1	1,2-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	107-06-2	1,2-Dichloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	78-87-5	1,2-Dichloropropane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	541-73-1	1,3-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	106-46-7	1,4-Dichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	87-61-6	1,2,3-Trichlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	78-93-3	2-Butanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	591-78-6	2-Hexanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	108-10-1	4-Methyl-2-Pentanone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	67-64-1	Acetone	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	71-43-2	Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	74-97-5	Bromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	75-27-4	Bromodichloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	75-25-2	Bromoform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	74-83-9	Bromomethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	75-15-0	Carbon Disulfide	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	56-23-5	Carbon Tetrachloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	108-90-7	Chlorobenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	75-00-3	Chloroethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	67-66-3	Chloroform	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	74-87-3	Chloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	156-59-2	cis-1,2-Dichloroethene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	10061-01-5	cis-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	110-82-7	Cyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	124-48-1	Dibromochloromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	75-71-8	Dichlorodifluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	100-41-4	Ethyl Benzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	98-82-8	Isopropylbenzene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	179601-23-1	m/p-Xylenes	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	79-20-9	Methyl Acetate	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	1634-04-4	Methyl tert-Butyl Ether	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	108-87-2	Methylcyclohexane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	75-09-2	Methylene Chloride	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	95-47-6	o-Xylene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	100-42-5	Styrene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	10061-02-6	t-1,3-Dichloropropene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	127-18-4	Tetrachloroethene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	108-88-3	Toluene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	156-60-5	trans-1,2-Dichloroethene	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	79-01-6	Trichloroethene	0.5	J	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	75-69-4	Trichlorofluoromethane	0.5	U	ug/L	0.5	VOC
Residential Tapwater	EW-2C	EW-2C (2008)	504-514	2/27/2008	WG	75-01-4	Vinyl Chloride	0.5	U	ug/L	0.5	VOC