INTERIM PHASE II COMPREHENSIVE SITE ASSESSMENT AND IMMEDIATE RESPONSE ACTION STATUS REPORT

Former Payne Cutlery Site
295 Phillips Avenue
New Bedford, Massachusetts
Release Tracking Number 4-15373

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Acronyms

ABCA	Analysis of Brownfields Cleanup Alternatives
ACEC	Areas of Critical Environmental Concern
ACM	Asbestos Containing Material
ADD	Average Daily Dose
AO	Administrative Order
AP	Average Period
APH	Air-Phase Petroleum Hydrocarbons
ARS	ARS Technologies, Incorporated
AST	Above-ground Storage Tank
atm-m^3/mol	atmospheres per cubic meter per mole
ºC	Degrees Celsius
CEP	Critical Exposure Pathway
cis-1,2-DCE	cis-1,2-dichloroethene
cm/sec	centimeters per second
COPC	Compound of Potential Concern
CRP	Community Relations Plan
CSA	Comprehensive Site Assessment
DHCD	Massachusetts Department of Housing and Community Development
DNAPL	Dense Non-Aqueous Phase Liquid
DO	Dissolved Oxygen
DPI	Department of Public Infrastructure
DPT	Direct Push Technology
ECM	Electronically Commutated Motor
EDR	Environmental Data Resources, Incorporated
ELCR	Excess Lifetime Cancer Risk
EPC	Exposure Point Concentration
EPA	United States Environmental Protection Agency
EPH	Extractable Petroleum Hydrocarbons
ft/ft	feet/foot
GC	Gas Chromatograph
GHR	GHR Engineering Associates
GPS	Global Positioning System
HI	Hazard Index
HVAC	Heating, Ventilation and Air Conditioning
IATV	Indoor Air Threshold Values
IDW	Investigation-Derived Waste
IH	Imminent Hazard
IRA	Immediate Response Action
LADD	Lifetime Average Daily Dose
LCS	Laboratory Control Sample
LEL	Lower Explosive Limit
LOAEL	Lowest Observed Adverse Effect Level
MassDEP	Massachusetts Department of Environmental Protection
MADEQE	Massachusetts Department of Environmental Quality Engineering

MCA	Mabbett, Capaccio, & Associates, Incorporated
MCP	Massachusetts Contingency Plan
MEK	Methyl Ethyl Ketone
mg/L	milligrams per liter
MIBK	Methyl Isobutyl Ketone
mmHg	millimeters of Mercury
MNBK	2-Hexanone
MTBE	Methyl Tert-Butyl Ether
NOAEL	No Observed Adverse Effect Level
NRS	Numerical Ranking System
OHM	Oil or Hazardous Material
ORP	Oxidation-Reduction Potential
PAH	Polyaromatic Hydrocarbon
PA/SI	Preliminary Assessment / Site Investigation
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethylene
PID	Photoionization Detector
PRP	Potentially Responsible Party
PVC	Polyvinyl Chloride
QAPP	Quality Assurance Project Plan
RAF	Relative Absorption Factors
RAM	Release Abatement Measure
RAO	Response Action Outcome
RC	Reportable Concentration
RCRA	Resource Conservation and Recovery Act
RfC	Reference Concentrations
RfD	Reference Dose
RP	Responsible Party
RTN	Release Tracking Number
SF	Slope Factors
SQG	Small Quantity Generator
SRM	Substantial Release Migration
STSC	Superfund Technical Support Center
TCE	Trichloroethylene
TCLP	Toxicity Characteristic Leaching Procedure
TOC	Total Organic Carbon
TPH	Total Petroleum Hydrocarbons
TRC	TRC Environmental Corporation
TSCA	Toxic Substances Control Act
TVO	Total Volatile Organics
UCL	Upper Concentration Limit
UCL	Upper Confidence Limit
umhos/cm	micromhos per centimeter
USGS	United States Geological Survey
UR	Unit Risks
UST	Underground Storage Tank

UTM	Universal Transverse Mercator
µg/L	micrograms per liter
$\mu g/m^3$	micrograms per cubic meter
VDEQ	Virginia Department of Environmental Quality
VHB	Vanasse Hangen Brustlin
VPH	Volatile Petroleum Hydrocarbons
VOC	Volatile Organic Compound

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1.0 INTRODUCTION

TRC Environmental Corporation (TRC) prepared this Interim Phase II Comprehensive Site Assessment (Interim Phase II CSA) and Immediate Response Action (IRA) Status Report for the Former Payne Cutlery (Payne) property located at 295 Phillips Avenue in New Bedford, Massachusetts (the "Site") on behalf of the City of New Bedford (the "City"). The Disposal Site includes the Payne property as well as select off-property locations on Oneko Lane, Coffin Avenue and Brook Street. This report was prepared under the New Bedford Brownfields Program, which is funded by grants from the United States Environmental Protection Agency (EPA). The purpose of this report is to meet the requirements of an IRA Status Report while presenting the concentrations of oil and hazardous materials detected in soil, soil gas, indoor air and groundwater in support of an Interim Phase II CSA. The Interim Phase II CSA incorporates the requirements of a Phase I Report and supports a Tier Classification of the Disposal Site pursuant to 310 CMR 40.1500 of the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000).

Two Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Numbers (RTNs) are associated with the Site. The first RTN (4-00404) is associated with a reported release of petroleum-based oil in April 1987 prior to the establishment of the 1993 MCP revisions. This property was previously categorized as a *Transition Site* per the pre-1993 MCP. The second RTN 4-15373 is associated with a release of trichloroethylene (TCE) discovered in March 2001, which led to an IRA under the MCP. The Site was previously in default relative to Tier Classification obligations under the MCP (310 CMR 40.0500) for both RTNs prior to submission of this report. RTN 4-15373 is hereby linked to RTN 4-00404 and Tier Classification for the Disposal Site in accordance with the Numerical Ranking System (NRS) scoring system (310 CMR 40.1500) is provided herein.

The Former Payne Cutlery property is variously impacted by the presence of soil, groundwater, soil gas and indoor air contaminated by volatile organic compounds (VOCs), petroleum hydrocarbons and polyaromatic hydrocarbons (PAHs), and heavy metals (e.g., chromium and nickel). Contaminant sources are thought to be primarily related to past Site uses and activities (e.g., cold pressing of steel, metal grinding, degreasing of metal with TCE, chromium and nickel electroplating, chemical storage, trench drain usage, operation of auto body shop, etc.) as well as both on-property and off-property usage of various aboveground and subsurface storage tanks.

Assessment activities at the Site have been conducted intermittently between 1987 and the present by TRC and others; however Site characterization is regarded to be incomplete. This Interim Phase II CSA evaluates Site impacts as currently understood in support of supplemental environmental investigation and remedial planning activities. Analytical results for samples collected through September 2013 have been included and data generated up to this date are sufficient to characterize the nature and extent of impact, subject to the limitations and known data gaps described herein. Additional environmental sampling is recommended to refine contaminant delineation, support remedial planning, and achieve Site closure.

Additionally, this document includes an IRA Status Report (Section 8.0) describing the status of assessment and characterization of soil, groundwater, soil gas and indoor air for the Critical Exposure Pathway (CEP) and Substantial Release Migration (SRM) conditions at the Site. The IRA Status report has been prepared per 310 CMR 40.0425 of the MCP.

2.0 DISPOSAL SITE BACKGROUND INFORMATION

2.1 Site Description

Per 310 CMR 40.0835(4) subparts (a) through (c), the following provides basic information related to the Disposal Site (name, location, etc.), a summary of Disposal Site maps depicting relevant investigation and sampling points, and an updated Disposal Site history.

2.1.1 Geographic Information Summary

The MCP required geographic information for this Site is provided below.

Geographic Information Summary for the Disposal Site	
Address	295 Phillips Avenue
City	New Bedford
Latitude	41º 39’ 44.6”
Longitude	70º 55’ 55.6”
Universal Transverse Mercator (UTM) Coordinates	Zone 19, 339085N 461404E

A Site Location Map is included as Figure 1.

2.1.2 Disposal Site Map

A Disposal Site Map is presented as Figure 2. Per 310 CMR 40.0835(4)(a), the Disposal Site Map depicts the Site layout and general features including:

- The Disposal Site boundary;
- The locations of former on-property buildings;
- The locations of known storm sewer and sanitary sewer lines;
- The locations of monitoring wells and soil borings; and
- Subsurface utilities serving or transecting the Site.

Additional Disposal Site features, including the approximate location of the former floor drains, are depicted in the historic figures included in Appendix A.

Tables 1 through 4 depict historical impact concentrations identified in soil, groundwater, soil gas and indoor air, respectively, based on past environmental investigations of the Site conducted by TRC and others. Approximate soil boring and monitoring well locations are depicted on Figure 2. Soil gas and indoor air sample locations are depicted on Figures 3 and 4, respectively.

2.1.3 Site Demographics

The Payne property is currently vacant with no on-site workers; however the Disposal Site includes a portion of the Taber Mill building which has a limited number of onsite workers. An estimated 3,900 people reside within a ½-mile radius of the Site. This estimate is based on community profile data for the City of New Bedford obtained from the Massachusetts Department of Housing and Community Development (DHCD) website http://www.mass.gov/hed/economic/eohed/dhcd/community-profiles-dhcd/. A copy of the DHCD community profile is included as Appendix B.

2.1.4 Land Uses Surrounding the Disposal Site

The Site is bordered to the north by the former Elco Dress site (now demolished), formerly located at 330 Collette Street. The Site is bordered to the west across Church Street by greenhouses owned and operated by the Sid Wainer & Son Company. The Site is bordered to the south across Coffin Avenue by residential housing and the Taber Mill senior and disabled adult apartment complex (formally the Taber Mill textile manufacturing complex). To the east, the Site is bordered by residential homes across Oneko Lane (Figure 2).

Historically, the adjacent property to the north, 330 Collette Street, was owned and operated by the Hoosac Mills Corporation prior to 1959. The property was purchased by the Elias Realty Company, Incorporated in 1961. Former occupants of the property also include the Elco Dress Company, Best Manufacturing Company, Incorporated, Linda Sportswear and Brooke Manufacturing Corporation.

In August 2006, a 20,000-gallon underground storage tank (UST) was uncovered at the Former Elco Dress (330 Collette Street) property by Mill City Environmental Corporation (Mill City). Mill City pumped remaining product/sludge from the tank. Tighe & Bond Consulting Engineers (Tighe & Bond) performed UST removal activities at this property in September 2006. Tighe & Bond concluded that a No. 4 fuel oil release had occurred in the tank area due to tank overflows and from product piping leaks (Tighe & Bond, 2006), and noted that soil analytical results collected from the limits of excavation were in excess of MCP Reportable Concentrations (RCs). RTN 4-20272 was subsequently assigned to this release in January 2007.

Tighe & Bond further investigated the extent of petroleum impacts associated with the former UST. Soil borings were advanced and soil and a groundwater sample was collected from existing monitoring well MW-1 in October 2007. Tighe & Bond determined that a Condition of No Significant Risk existed for the UST area for residual soil impact and that groundwater was not impacted by the release. The RTN was closed with a Class A-2 Response Action Outcome (RAO) on January 7, 2008 (Tighe & Bond, 2008).

Sid Wainer & Son Company, a wholesale, importer, exporter, distributor and grower of specialty produce and gourmet specialties, currently owns and operates three greenhouses located across Church Street to the west of the Former Payne Cutlery property. The greenhouse property was part of the former Taber Mill textile manufacturing complex. A single story manufacturing

building formerly located on the property was constructed prior to 1906, and served as a weave mill for Taber Mill until the 1940s. Alden Corrugated Container Company (Alden), a manufacturer of cardboard boxes and paper products, occupied the property from 1947 to 1991. In 1995, the building was destroyed by fire, and later demolished. After demolition, significant quantities of unprocessed demolition debris contaminated with lead and PAHs remained in the basement of the former building, and four abandoned USTs containing petroleum products remained in the southern portion of the property. Two RTNs (4-11155 and 4-14950) are associated with the former Alden property.

The USTs at the former Alden property were removed in 2003 and the City excavated approximately 30,000 cubic yards of material and restored the site to grade with clean fill. The two RTNs (RTN 4-11155 and 4-14950) were closed with Class A-1 and Class A-2 RAOs, respectively. To facilitate redevelopment, the City subdivided the property into three lots. The northern-most lot (0.42-acres) was sold to an abutting business to promote expansion. The center lot (2.8-acres) and southern lot (0.42-acre) were retained by the City. The center lot was later sold and is currently owned by Sid Wainer & Son Company.

In 2006, TRC conducted a database search using the services of Environmental Data Resources, Incorporated (EDR) to evaluate properties within the vicinity of the Site with the potential to environmentally impact the Site. Information for properties located within ¼ mile of the Site was reviewed. For the purposes of the assessment, properties located to the south and east of the Site were considered hydraulically downgradient of the Site and therefore, were unlikely to impact the Site. Properties located west or southwest of the Site were considered cross-gradient with respect to the Site and were also considered unlikely to impact the Site, while properties located north and northwest of the Site are considered upgradient of the Site.

Of the 35 non-adjacent sites listed as potentially upgradient of the Site, three of these properties (EDR Map I.D. #s 8, C9, and C10) were within ¼ mile of the Site. The former Taber Mill property and the former Elco Dress Company property were not listed in the EDR report. No enforcement or violation information indicating a release of hazardous substances was identified for the three identified properties within ¼ mile upgradient of the Site. Two properties (Map I.D. #s C9 and C10) were identified in the UST database, indicating these facilities performed registered UST operations. No information was identified in the database listings that would indicate a release of hazardous substances associated with these UST sites. The referenced EDR report is provided in Appendix C.

2.1.5 Institutions and Natural Resources within 500 feet of the Site

A MassDEP NRS Scoring Map is provided as Figure 5 with 500-foot and ½-mile radii indicated. There are surface waters, wetlands, drinking water supplies or Areas of Critical Environmental Concern (ACECs) located within 500 feet of the Site. The Taber Mill senior and disabled adult apartment complex is considered an institution in accordance with 310 CMR 40.0006 of the MCP.

2.2 Disposal Site Maps

Per 310 CMR 40.0835(4)(b), Figure 2 presents the Disposal Site Boundary.

2.3 Disposal Site History

Consistent with 310 CMR 40.0835(4)(c), the following presents a Site description and Site history for the Former Payne Cutlery Disposal Site.

2.3.1 Site Description

The Site consists of a vacant 3.3-acre parcel located in an industrial and residential area of New Bedford, Massachusetts. A 100,000 square-foot one-to-two story brick building occupied the Site until it was demolished in September/October 2000. The Site is relatively flat and slopes slightly in a southerly direction. The Payne property is currently vacant with no structures and is surrounded by a chain-link fence. A Site Location Map is presented as Figure 1 and the general Site layout is presented on Figure 2.

The property is zoned Industrial B District (IB) according to the City's Assessor's Map 98 and the City's Comprehensive Zoning Bylaw.

2.3.2 Site Ownership History

The owners of record for the Former Payne Cutlery property (City of New Bedford Assessor's Map 98, Parcel 264) are as follows:

Year	Owner	Use
2000	City of New Bedford	Tax Foreclosure
1989	Joseph F. Oliveira[1]	Commercial
1963	Payne Cutlery Corporation	Commercial
1959	Farr Instruments, Incorporated	Commercial
1930	Hoosac Mills Corporation	Commercial
1909	New Bedford Cotton Mills Corporation	Commercial

2.3.3 Site History

The Site has a long history of industrial use dating from the early 1900s when it was developed for cotton fabric milling operations. New Bedford Cotton Mills Corporation purchased the property in 1909 and occupied the property until 1930 when Hoosac Mills Corporation purchased the property. Farr Instruments, Incorporated purchased the property in 1959. In 1963, Payne Cutlery occupied the property until 1988 for manufacturing shears and manicure

[1] Mr. Joseph F. Oliveira owned and operated A-1 Storage Company and Nu-Traffic, Incorporated at the property.

implements. During this time, on-property activities included cold pressing of steel, metal grinding, chemical storage, degreasing of metal with TCE, as well as chromium and nickel electroplating. After Payne Cutlery filed for bankruptcy in 1988, the property was used for a number of activities, including a hazardous materials storage and auto body repair.

2.3.4 Release History

Two MassDEP RTNs are associated with the Site. The first RTN (4-00404) is associated with a reported release of petroleum in April 1987 prior to the establishment of the 1993 MCP revisions. The Site was previously categorized as a *Transition Site* pursuant to the pre-1993 MCP. The second RTN (4-15373) is associated with the detection of TCE in groundwater in March 2001. The Site was previously in default relative to Tier Classification obligations under the MCP (310 CMR 40.0500) for both RTNs prior to the submission of this Interim Phase II CSA report.

2.3.4.1 Source/Location of Release

Chlorinated VOCs (particularly TCE), petroleum hydrocarbons and PAHs, and metals (e.g., nickel and chromium) have impacted the Site. Please refer to Tables 1 through 4 for a summary of constituents of concern detected at the Site above applicable MCP cleanup criteria and screening values.

The specific release events associated with the Site and upgradient properties are not known. The sources and locations of releases of petroleum-based oil associated with the historical use of USTs at the Site and upgradient properties are evident, though the specific causes, durations and volumes of the releases are not. TCE was historically used at the Site for metals degreasing, and is noted in waste shipping documentation as noted herein. Metals releases at the Site are potentially associated with metal-working and plating operations formerly conducted on the property. PAHs are potentially associated with coal, clinkers, asphalt fragments, and the reported petroleum releases detected on the Site.

On September 7, 1983, the Massachusetts Department of Environmental Quality Engineering (DEQE), precursor to MassDEP, conducted an inspection of the Payne Cutlery property to determine its status with regard to hazardous waste regulations (MassDEP, 1994). Payne Cutlery Corporation was considered a SQG, generating less than 1,000 kilograms (kg) of hazardous waste per month. The report inspection indicated minor infractions and noted that, per the RCRA Inspection Checklist, one drum of waste TCE was generated per month from the degreasing process (MassDEP, 1994).

On July 2, 1987, GHR Engineering Associates (GHR) conducted a site inspection for the purposes of identifying potential areas of concern with respect to potential releases of oil and hazardous materials. The site inspection included an interview with the owner of Payne Cutlery, document review and interior/exterior site walk. The results of the site inspection are detailed in GHR's Site Assessment Summary report dated September 1, 1987 (GHR, 1987). In addition to

on-property tanks noted in Section 2.2.4.2, significant findings of GHR's site inspection relative to potential releases included the following (see Appendix A):

- Some evidence of soil staining in the vicinity of the 8,000-gallon #4 fuel oil UST filler cap;
- The filler cap feeding the TCE tank located on the first floor was observed within the buildings southern wall, along Coffin Avenue. No obvious signs of staining were observed in the vicinity of the filler cap;
- The presence of possible asbestos-containing material (ACM), including pipe insulation and roofing cement;
- The wooden floor beneath the manufacturing machinery on the first floor, including the forge press in the northeast portion of the building, was observed to be oil stained. Water impacted with oil was observed in the basement beneath the forge press;
- Several 5 to 55-gallon storage containers containing various products (e.g., lubricating oil, roofing cement, powdered boric acid, hydrochloric acid, sulfuric acid, nickel brightener, nickel chloride, metal grindings waste, TCE collection drums and rust preventer);
- Evidence of recent chromium spillage in the vicinity of the chromium tank in the electroplating area, which was noted as having seeped through the wooden floor to the underlying basement;
- The degreasing area contained two solvent baths. A 250-gallon TCE storage tank was located in this area and spent solvent was noted as being transferred via a pipeline to 55-gallon barrels in the basement directly below the degreasing area pending off-site disposal; and
- The southern and eastern portions of the basement included a concrete floor, while the remaining portions of the basement were dirt. The southern section of the basement included an in-floor trench drain system consisting of either polyvinyl chloride (PVC) piping or concrete troughs that channeled wastewater from the basement grinding area and first floor electroplating area to the municipal sewer system. A portion of the drain network was observed to be abandoned and cement filled, while standing discolored water and sediment were observed in portions of the remaining trench sections. The approximate location of the former trench drain, as well as depictions of the locations of former activities within the Payne Cutlery property, are depicted GHR's *Site Assessment Summary*, Figure SP-1, and Cygnus Environmental, Incorporated (Cygnus) *IRA Status Report No. 2*, Figure 2 (Site Plan).

An inventory of waste material was conducted by Roy F. Weston, Incorporated (Weston) subsequent to the cessation of Payne Cutlery operations at the property. The inventory indicated over 5,000 55-gallon drums, packages and various sized containers storing known and unknown substances, including hazardous materials, were present on the Site. The containers were reportedly in varying states of deterioration, including some leaking and overturned drums

(Weston, 1992b). EPA implemented and oversaw removal of the various drums and containers in 1992/1993.

2.3.4.2 Measures Taken to Assess, Contain or Mitigate the Release

IRA assessment activities were initially conducted by Cygnus in 2000/2001 (Cygnus, 2001a and 2001b). Recent IRA-related activities, including remedial additive injection and ventilation system modifications at the Taber Mill building, have been conducted by TRC on behalf of the City. IRA activities are documented in Section 8.0.

On November 24, 2009, TRC submitted a Release Abatement Measure (RAM) Plan to MassDEP on behalf of the City to address activities associated with the construction of a parking lot in the southeast corner of the Former Payne Cutlery property, near the intersection of Coffin Avenue and Oneko Lane (TRC, 2009). The RAM plan also included plans for assessment of current Site conditions through groundwater sampling from existing monitoring wells on and near the Site, pre-construction soil sampling, and indoor air sampling in the Taber Mill building. RAM-related activities are discussed in Section 2.3.6.7.

2.3.5 Oil and Hazardous Material Use, Storage and Disposal History

The information presented in this section was obtained as a result of TRC's research at the City's municipal offices and review of previous environmental reports prepared by others.

2.3.5.1 Types and Use of Oil and/or Hazardous Material

The types of oil and/or hazardous materials used or disposed of at the Site are not fully known, other than those noted in historical documents and/or determined based on the analytes detected in Site soil, groundwater, soil gas and indoor air. Hazardous substances formerly used and stored on the Site are consistent with metal plating operations and the manufacture of rubber, plastic, and metal goods. GHR noted Site conditions, manufacturing processes and material storage during a site inspection in 1987. Weston prepared a 21-page inventory of hazardous materials in the former Site building in 1992 (Weston, 1992a). Hazardous substances identified in the inventory appeared to be leftover from metal plating processes or manufacture of polymers for plastic and rubber tool grips.

The presence of TCE at the Site is consistent with historical Site uses including metal products manufacturing and waste documentation. Oil and/or petroleum were likely used at the Site for lubrication and/or fuel/heating. Chromium and nickel are commonly used in electroplating operations.

Historical manufacturing operations that potentially used TCE as a degreaser occurred from approximately 1959 when Farr Instruments purchased the Site, until Payne Cutlery ceased operations in 1988. Former on-property activities, including the storage of TCE, are depicted in the figures included as Appendix A. The period of use of petroleum-based compounds most likely relates to heating of the first known occupied structures on the Site in early 1900s up until

the last known UST was removed in 2000. Heavy metal use is consistent with the period/use of electroplating processes, which is noted by GHR as occurring from 1963 to 1987 (GHR, 1987).

2.3.5.2 On-site Tank/Container Storage Locations

Previous investigations reported that one 20,000-gallon UST and one 8,000-gallon UST were removed from the Site in November 1962 and September 2000, respectively. The exact locations and ages are unknown; however, removal of the 8,000-gallon UST was documented by Vanasse Hangen Brustlin (VHB) in a letter report dated January 15, 2001 (VHB, 2001) and approximate locations are depicted in Appendix A. In addition, ten 55-gallon drums of sludge were removed during cleaning of the UST.

As discussed in Section 2.1.4, a 20,000-gallon UST was uncovered at the Elco Dress property by Mill City in August 2006. Mill City pumped remaining product/sludge from the tank. Tighe & Bond performed UST removal activities at this property in September 2006. In a UST Closure Report dated October 2006, Tighe & Bond concluded that a No. 4 fuel oil release had occurred in the tank area due to tank overflows and from product piping leaks (Tighe & Bond, 2006). The report indicated that soil analytical results collected from the limits of excavation were in excess of MCP RCs. RTN 4-20272 was subsequently assigned to this release in January 2007, and the RTN was then closed with a Class A-2 RAO submitted to MassDEP on January 7, 2008 (Tighe & Bond, 2008).

Three aboveground storage tanks (ASTs) were identified at the Site in previous reports, including a 50-gallon heating oil tank. The ages of these tanks are unknown. The 50-gallon AST was described by GHR as located in the oil heating room (Appendix A), which is west of the 8,000-gallon UST location (GHR, 1987). GHR also identified a brick-lined tank, approximately 7 feet by 15 feet in size, within the northeastern portion of the basement. This tank was observed by GHR to contain approximately 6-inches of wastewater and oil (GHR, 1987). Approximately 10 feet west of the brick-lined tank, GHR observed two connected concrete tanks. Combined, the tanks measured approximately 6 feet by 16 feet and 4 feet deep and were observed to be empty. These tanks are believed to have been associated with a humidifier/water filtration system employed by the Hoosac Mill Corporation (GHR, 1987). These tanks were removed as part of building demolition in 2000.

Currently, no ASTs or USTs are known to be present on the Former Payne Cutlery property.

2.3.5.3 Waste Management History

The September 16, 1992 inventory of waste material was conducted by Weston indicated in excess of 5,000 55-gallon drums, packages and various sized containers storing known and unknown substances, including hazardous materials, were present on the property. The containers were reportedly in varying states of deterioration, including some leaking and overturned drums (Weston, 1992b).

In March 2000, the City took possession of the property for non-payment of taxes. EPA supervised a two-part removal of hazardous materials at the property from November 3, 1992 to July 20, 1993. The first removal was funded by the EPA and included removal of all materials associated with former Payne operations. The second removal performed by Erie Chemical Sales as part of an agreement with EPA, completed the removal of materials associated with its former operations at the Site. Frank Corp. Environmental Services (Frank Corp.) acted on behalf of Erie Chemical Sales throughout the removal action (Frank Corp., 1993).

In May 2000, VHB, the general contractor for the building demolition, removed additional contents of the building and reportedly disposed of them as hazardous waste.

As described in TRC's RAM Completion Report submitted to MassDEP on February 26, 2013, transportation and off-site disposal of excess and impacted soil material was conducted in August 2010 (TRC, 2013c). In addition, a limited amount of investigation-derived waste, including impacted soil and groundwater, was transported offsite in association with TRC's IRA-related activities. Management of these wastes is described in TRC's previous IRA Status Reports (TRC, 2012e and TRC, 2013e) and Section 8.0.

2.3.5.4 Waste Disposal History

No landfills, lagoons, surface water bodies or surface water discharges were identified at the Site. A Preliminary Assessment Report by MassDEP indicated the presence of a network of shallow (i.e., 8-inch by 6-inch) drainage trenches in the basement of the former building (MassDEP, 1994). The drainage system channeled wastewater from the basement grinding operations and first floor electroplating operations, along with non-contact cooling water, to the municipal sewer system near the intersection of Coffin Avenue and Church Street. The approximate location of the former trench drain, as well as depictions of the locations of former activities within the Payne Cutlery property, are depicted on GHR's *Site Assessment Summary,* Figure SP-1, and Cygnus *IRA Status Report No. 2,* Figure 2 (Site Plan).

2.3.6 Historic Site Investigation & Removal Activities

Numerous investigative and response actions have been conducted at the Site from approximately 1987 to 2001 by Mabbett, Capaccio, & Associates, Incorporated (MCA), GHR, Weston, Frank Corp., Cygnus, EPA, and VHB. These investigations and response actions are summarized in the following sections. Soil, groundwater, soil gas and indoor air laboratory analytical results are summarized in Tables 1 through 4.

2.3.6.1 MCA Preliminary Site Assessment – March 1987

A Preliminary Site Assessment was performed by MCA on behalf of ACME United Corporation (ACME), which focused on the southern portion of the basement where grinding and burnishing operations were conducted (MCA, 1987). The Preliminary Site Assessment included a limited subsurface investigation beneath the concrete portion of the basement floor. A total of 11

shallow soil borings were advanced, with samples collected from between 0 to 0.5 feet and 1.5 to 2.0 feet below grade (see Figure 2). The samples were field screened for pH and conductivity. The samples were also screened for TCE using a portable gas chromatograph (GC). Based on the screening results, select samples were submitted for laboratory analysis of metals (cadmium, chromium, copper, cyanide, lead, nickel and zinc) and oil and grease (Table 1).

This investigation concluded that Site soils were impacted by TCE, chromium, nickel, lead, petroleum products, and the pH readings indicated acidic conditions and indicated the potential for groundwater impacts.

2.3.6.2 GHR Site Assessment – September 1987

In September 1987, GHR documented the results of a Site Assessment, including a site inspection and subsurface investigation of soil and groundwater at the Site. The results of the site inspection activities are described above in Section 2.2.3.1.

Seven 2-inch diameter PVC monitoring wells were installed (MW-1 through MW-5, MW-2A and MW-3A) by GHR in June/July 1987 (see Figure 2). Soil borings associated with monitoring well installation were field screened for VOCs and total volatile organics (TVO) using a field GC. Soil samples collected for laboratory analysis were analyzed for oil and grease, EPA "toxic metals" (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and nickel), polychlorinated biphenyls (PCBs) and/or purgeable halocarbons/purgeable aromatics. Groundwater samples were analyzed for metals (antimony, arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium and thallium) and purgeable halocarbons/purgeable aromatics.

GHR reported the presence of TCE and nickel in subsurface soil. TCE was detected above soil cleanup standards. PCBs were not detected in the soil samples with the exception of one sample from soil boring MW-5 with a PCB concentration of 1.44 milligram per kilogram (mg/kg), which is slightly above the Toxic Substances Control Act (TSCA; 40 CFR Part 761) criteria of 1 mg/kg for potential classification as PCB Remediation Waste. It should be noted that soil boring MW-5 is located outside the property boundary, adjacent to Oneko Lane, and the detected PCB concentration was below applicable MCP soil cleanup standards. Also, locations where shallow soil samples were collected may have been disturbed or removed during subsequent building demolition, UST removal, and/or parking lot construction activities. A summary of GHR's soil sample analytical results are presented in Table 1.

GHR's groundwater investigation detected copper, thallium, antimony, nickel, TCE, tetrachloroethylene (PCE) and chloroform. TCE, PCE, and nickel were detected above groundwater cleanup standards, with the highest concentration of TCE (53,000 micrograms per liter [µg/L]) detected in monitoring well MW-1, which is located within the intersection of Coffin Avenue and Brook Street. A summary of GHR's groundwater sample analytical results are presented in Table 2.

GHR also collected interior samples from the basement including:

- One sample of pipe insulation for asbestos analysis;
- Two samples of wastewater within the drainage trench;
- One sample of sediments from the drainage trench;
- One surficial soil sample;
- One sample of liquid from the brick-lined tank; and
- One sample of oily water from the basement floor.

GHR's analysis of materials found in the former building such as wastewater, sediment and sludge, soil, the contents of an in-ground tank and a sample identified as "Surface Water" identified the constituents summarized in the following table.

GHR Interior Sampling Results (1987)	
Media Sampled	**Constituent(s) Detected**
Wastewater	chromium, nickel, TCE, 1,2-dichloroethene, toluene, ethylbenzene, xylene
Sediment/Sludge	xylene
Soil	nickel
In-ground Tank Contents*	oil and grease
Surface Water*	oil and grease

* - GHR analyzed the in-ground tank contents and surface water for PCBs. No PCBs were detected (<0.10 parts per million [ppm]).

2.3.6.3 EPA/ Weston & Erie Chemical Sales Removal Action

During the 1990s, the building fell into further disrepair, with several reports noting large holes in the floor and roof of the structure. In 1992, prompted by officials from the City's Fire Department, MassDEP sought assistance from EPA in stabilizing the hazardous conditions at the Site. On August 20, 1992, EPA conducted a Preliminary Assessment/Site Investigation (PA/SI) to investigate impact and to remove hazardous materials at the Site (EPA, 1992), and named Joseph F. Oliveira (owner); A-1 Storage, Incorporated; Nu-Traffic, Incorporated; Erie Chemical Sales; and Payne Cutlery as respondents compelled to perform removal activities.

The September 16 through September 22, 1992 EPA/Weston inventory identified over 5,000 containers, including approximately 1,300 55-gallon drums and various sized containers and 3,600 packages, storing known and unknown substances, including hazardous materials (EPA, 1994). The containers were reportedly in varying states of deterioration, including some leaking and overturned drums. EPA determined the facility represented an imminent and substantial threat to public health and a uni-lateral Administrative Order (AO) was issued on December 10, 1992 to preform removal activities (EPA, 1992).

The site owner, Joseph F. Oliveira, was unable to comply with the AO, though Erie Chemical Sales assumed full responsibility for its on-site materials. As a result, EPA supervised a two-part removal process of hazardous materials at the Site from November 3, 1992 to July 20, 1993, as noted previously.

The majority of the waste removed during the EPA-funded phase consisted of plating solutions and associated chemicals, with lesser amounts associated with other former Payne Cutlery operations such as machine maintenance (EPA, 1994). Frank Corp., on behalf of Erie Chemical Sales, inventoried 139 drums for removal (Frank Corp., 1993). Following removal, final inspection of the property was conducted by Frank Corp. on September 9, 1993.

2.3.6.4 VHB Demolition

In March 2000, the City took ownership of the property for non-payment of taxes. In May 2000, VHB, the general contractor for the building demolition, removed additional building materials that were disposed of as hazardous waste. The 8,000-gallon UST was also removed during the demolition activities (VHB, 2001).

2.3.6.5 Cygnus Environmental, Incorporated

In February 2000, Cygnus performed a subsurface investigation at the Site under an EPA Brownfields Pilot Grant. Laboratory data summary tables associated with soil, groundwater and indoor air sampling by Cygnus are presented in Tables 1, 2 and 4, respectively. Two Cygnus IRA Status Reports describe the investigation activities on January 16, 2001 (Cygnus, 2001a) and August 30, 2001 (Cygnus, 2001b), respectively.

Cygnus identified TCE in Site soil and groundwater, as well as volatile and extractable petroleum hydrocarbons (VPH and EPH). Cygnus identified a release or threat of release condition that warranted an IRA as defined in the MCP based on concentrations of total VOCs in groundwater greater than 5 milligrams per liter (mg/L) within 30 feet of an occupied residential structure, where groundwater is less than 15 feet below ground surface. Cygnus concluded that the presence of TCE in groundwater in monitoring well CGW-8 (89,000 µg/L), upgradient of residential buildings (e.g., the Taber Mill building), was likely to trigger the aforementioned criteria due to the proximity of occupied residential structures (see Figure 2).

As a result of these data and the occupied residences nearby, Cygnus collected indoor air quality samples in downgradient homes using SUMMA™-type passivated stainless steel canisters on March 27 & 29, 2000. The samples were collected at 348, 350, 353, 357, 358, 362, and 364 Coffin Avenue, 6, 8, and 12 Oneko Lane, and in the Taber Mill building. Several chlorinated and petroleum-related VOCs were detected in one or more of the residences above MassDEP Residential Indoor Air Threshold Values (IATVs), including cis-1,2-dichloroethene (cis-1,2-DCE), 1,1,1-trichloroethane, benzene, TCE, toluene, PCE, ethylbenzene, xylenes, 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene, and 1,4-dichlorobenzene. The highest concentrations of TCE, PCE and cis-1,2-DCE were identified in the crawlspace of the Taber Mill building.

Cygnus also undertook an underground utility survey and field screened accessible storm drain manholes for VOCs using a photoionization detector (PID) in February 2001. No detectable concentrations of VOCs were measured in accessible manhole locations at the intersections of Brook and Church Streets, and Brook Street and Coffin Avenue. Cygnus did not collect any stormwater or sediment samples for laboratory VOC analysis.

In February 2001, Cygnus installed eleven temporary micro-wells (CW-1 through CW-11). Groundwater samples were collected from the micro-wells for aqueous headspace field screening using a portable GC to evaluate locations for additional permanent monitoring wells. Detected concentrations of TCE ranged from 11 µg/L (CW-9) to 15,000 µg/L (CW-8), with the highest concentrations of TCE detected in CW-8 and CW-11 (7,900 µg/L).

On March 28 and April 3, 2001, Cygnus conducted a second round of indoor air sampling from 348, 350, 357, and 362 Coffin Avenue, and in the Taber Mill building. TCE and petroleum constituents were detected in several of the residences and in the Taber Mill building at levels greater than MassDEP Residential IATVs.

MassDEP used the Cygnus air monitoring data to conduct an Imminent Hazard analysis and concluded that no conditions were identified that required expedited actions (e.g., building evacuations) to protect the health and safety of the public. MassDEP did, however, recommend further investigation (MassDEP, 2000a and 2000b).

Between April 10 and June 15, 2001, Cygnus installed and sampled eight additional monitoring wells (CGW-10, CGW-11, and CGW-12 through CGW-17). Soil and groundwater samples were collected for analysis from these well locations. TCE, PCE, and cis-1,2-DCE were detected in groundwater above MCP GW-2 and/or GW-3 groundwater standards in one or more of the groundwater monitoring wells sampled.

Cygnus soil sampling results detected PAHs, chromium, and TCE above applicable MCP soil standards. PAH compounds detected above the standards include benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, and dibenzo(a,h)anthracene.

The detection of Site-related groundwater compound-constituents in indoor air constitutes a CEP condition under the MCP. The CEP was identified by Cygnus and involved the detection of vapor-phase TCE in the living or working space of an occupied residential dwelling (e.g., Taber Mill building). The presence of TCE has been documented in the soil and groundwater at the Site. The indoor air CEP conditions were partially investigated by Cygnus, but not eliminated.

Future sampling was proposed by Cygnus in the August 30, 2001 IRA Status Report No. 2; however, the proposed work was not conducted (Cygnus, 2001b).

2.3.6.6 Underground Storage Tank Removal

On September 28, 2000, Frank Corp. removed an 8,000-gallon UST from the Site under the supervision of VHB. A total of 5,250 gallons of No. 4 fuel oil and 1,450 gallons of No. 6 fuel oil

were removed from the 8,000-gallon UST (VHB, 2001). In addition, ten 55-gallon drums of sludge were removed during cleaning of the UST. The UST was observed to be in good condition, with no visible holes or pitting, and following approval by the City's Fire Department the tank was transported off-site for disposal at A.W. Martin, Incorporated of New Bedford, Massachusetts (VHB, 2001).

VHB conducted field screening of the base and sidewalls of the excavation using a PID following removal of the UST. Field screening indicated no impacts to soil material surrounding the tank and no sheens were visible on the groundwater encountered at approximately 12 feet below grade (VHB, 2001). The soil material was described as a light to dark brown silty sand with some gravel.

VHB collected a total of five soil samples from the excavation, including one sample from the base of the excavation (Tank-1) and one sample from each of the four sidewalls (Tank-2 through Tank-5). The sidewall samples were collected from 10 to 11 feet below grade and the sample from the base of the excavation was collected at 12 feet below grade. Each soil sample was submitted to Woods Hole Group Laboratory of Raynham, Massachusetts for EPH analysis. No EPH compounds were detected above laboratory detection limits in soil (VHB, 2001).

Based on field screening and laboratory results, VHB determined that no reportable release had occurred in association with the UST and additional response actions were not warranted.

2.3.6.7 Parking Lot RAM Plan Activities

On November 24, 2009, TRC submitted a RAM Plan to MassDEP on behalf of the City to address activities associated with the construction of a parking lot in the southeast corner of the Former Payne Cutlery property, near the intersection of Coffin Avenue and Oneko Lane (TRC, 2009). The RAM Plan also included plans for assessment of current Site conditions through groundwater sampling from existing monitoring wells on and near the Site, pre-construction soil sampling, and indoor air sampling in the Taber Mill building.

The RAM Plan supported the construction of a parking lot on a portion of the Site and to layout plans for groundwater and indoor air sampling and analysis to assess current Site conditions. The RAM Plan outlined the following activities:

- Excavation of soil during Site construction activities including the removal of soil in order to establish a suitable base for paving of the parking lot and excavation of soils in order to install drainage catch basins;
- Sampling and analysis of soils from the base of the excavation in order to assess post-excavation/post-construction soil conditions;
- Temporary soil stockpiling and stockpile management (or equivalent use of roll-offs);
- Sampling and analysis of excavated soils for waste characterization and subsequent disposal purposes;

- Off-site reuse, recycling, or disposal of potentially contaminated soils displaced during construction activities; and
- Replacement of the removed soil where necessary with appropriately documented compliant fill material screened in advance for the presence of regulated compounds.

TRC provided environmental oversight and monitoring throughout the implementation of RAM-related activities. The above-listed activities were largely completed between December 2009 and July 2010, as described in the RAM Completion Report submitted to MassDEP on February 26, 2013 (TRC, 2013c). Transportation and off-site disposal of excess and impacted soil material was conducted in August 2010.

On April 2, 2010, a TRC field engineer collected six samples of surface soils located within the proposed footprint of the parking lot to characterize post-construction soil. The excavation was divided into six areas and a sample was taken from 0 to 0.5 feet below the excavated surface from the middle of each area. TRC submitted the samples for laboratory analysis of VOCs, PAHs, nickel, and chromium. The locations of the post-excavation soil samples are shown on Figure 2.

TCE was detected in two soil samples and PCE was detected in one sample but neither contaminant was detected above MCP Method 1 S-1 standards. PAHs, chromium and nickel were detected above MCP standards in some of the soil samples. A summary of laboratory data for these post-excavation soil samples is included in Table 1.

In addition, the RAM Plan included the following environmental data collection activity unrelated to the construction project, which was included at the request of MassDEP:

- Sampling and analysis of 11 existing groundwater monitoring wells in order to assess current Site conditions; and
- Sampling of indoor air at the Taber Mill building in order to assess current conditions.

On March 23, 2012, four new monitoring wells (TRC-1 through TRC-4) were installed to replace monitoring wells which were destroyed or damaged, and the road boxes of two existing monitoring wells (CGW-8 and CGW-16) were repaired (see Figure 2). TRC collected groundwater samples from the four newly-installed monitoring wells (TRC-1 through TRC-4) and seven existing monitoring wells (CGW-8, CGW-10, CGW-11, CGW-14, CGW-15, CGW-16, and CGW-17) between April 4 and 11, 2012 using EPA Region 1 Low-Stress guidelines. Groundwater samples were submitted for laboratory analysis of VOCs, VPH and/or EPH.

A summary of the laboratory groundwater analytical data associated with the RAM activities is provided in Table 2. Several VOCs (cis-1,2-DCE, TCE and PCE) were identified above MCP GW-2 and GW-3 groundwater standards at locations CGW-8, CGW-11, TRC-2, TRC-3 and/or TRC-4. One VPH parameter, C_5-C_8 aliphatic, exceeded MCP GW-2 and GW-3 criteria in monitoring well CGW-8. No other VPH or EPH compounds were detected above applicable standards.

A total of four indoor air samples and one outdoor ambient air sample were collected from the Taber Mill building on July 29, 2012. One indoor air sample was collected from the basement area with a concrete floor (the southeastern portion of the Taber Mill building), two indoor air samples were collected from the dirt-floor basement crawlspace, and another sample was collected from the northeast portion of the first floor of the Taber Mill building. An outdoor ambient air sample was also collected concurrently with the indoor air samples to evaluate background conditions at the time of sampling. The indoor air samples were collected in pre-cleaned, evacuated, passivated stainless steel laboratory-supplied SUMMA® canisters and analyzed for VOCs and air-phase petroleum hydrocarbons (APH).

TCE was detected above the MassDEP IATV in the basement indoor air sample. TCE was not detected above the IATV in the first floor indoor air or crawlspace, which supports a hypothesis that the historical release at Payne Cutlery has not significantly impacted the indoor air quality in the Taber Mill living space. Several other compounds were detected above MassDEP IATVs in indoor air samples collected within the basement and in the first floor including C_5-C_8 aliphatics, C_9-C_{10} aromatics, and/or naphthalene. The detected concentrations of C_9-C_{10} aromatics and naphthalene are likely to be related to other sources within the building, as they were not previously identified in groundwater associated with the Site at concentrations greater than the MCP GW-2 standards, which are considered to be protective against potential vapor exposures. A summary of the indoor air sample laboratory analytical results is presented in Table 4.

2.3.6.8 Previous TRC Immediate Response Action Activities

TRC IRA activities performed from 2012 to the present have included: installation of soil vapor monitoring wells; installation of groundwater monitoring wells; collection of soil vapor, indoor air, groundwater, soil, and aqueous sewer samples; performance of permanganate injection in one portion of the Site; and the installation of ventilation system modifications in a nearby residential structure (Taber Mill). Cleanup activities and pre- and post-remediation investigation activities (e.g., groundwater sampling, storm sewer and sanitary sewer, and indoor air sampling) were conducted in accordance with the EPA-approved QAPP Addendum NB-H (TRC, 2013a) and NB-I (TRC, 2013b).

Between March and November 2012, TRC performed the following assessment activities:

- Monitoring well installation, road box repair, groundwater sampling activities and groundwater sampling results;
- Soil gas sampling point installation, sampling activities and two rounds of analytical results;
- Indoor air sampling activities;
- IH evaluation; and
- IRA modifications including identification of remedial alternatives, evaluation of remedial alternatives, selected remedial alternative (i.e., Taber Mill building ventilation

system modification and remedial additive injection) and implementation schedule; and investigation and remediation waste management.

These activities and the associated analytical results were documented in the *IRA Status and Modification Report* submitted to MassDEP on December 11, 2012 (TRC, 2012e). The IRA Status and Modification Report also summarized the site background, release discovery and previous IRA-related activities.

In November 2012, TRC submitted a draft Analysis of Brownfields Cleanup Alternatives (ABCA) and Community Relations Plan (CRP) to MassDEP and EPA (TRC, 2012b and 2012c). The ABCA evaluated and documented the practicable alternatives for remediating the Site to limit exposure to nearby residents. The CRP provides a communication plan to the City to address the needs and concerns of the public.

During the December 2012 through May 2013 reporting period, TRC conducted additional Site investigation activities to further characterize VOC concentrations in soil and groundwater and implemented initial remedial activities including:

- Collection of soil samples for laboratory analysis;
- Installation of additional monitoring wells, replacement of monitoring well TRC-3 collection of water level measurements and the collection of pre-remedial additive injection groundwater samples from select monitoring wells;
- Collection of aqueous samples from storm sewer and sanitary sewer manholes in advance of remedial additive injection activities; and
- Remedial additive (potassium permanganate) injection activities in the vicinity of monitoring wells CGW-8 and TRC-5;
- Ongoing periodic visual screening of select monitoring wells to evaluate the degree of oxidation prior to post-injection groundwater sample collection; and
- Screening evaluation of the basement/crawl space of the Taber Mill building

Investigation and remediation activities were conducted in accordance with the MassDEP approval IRA Plan Modification dated December 11, 2012 (TRC, 2012e) and EPA-approved QAPP Addendum NB-H dated February 12, 2013 (TRC, 2013a) and QAPP Addendum NB-I dated February 20, 2013 (TRC, 2013b). For the purposes of this Interim Phase II CSA, remedial activities implemented prior to the current reporting period, including pre- and post-remedial environmental sampling, are summarized below.

Pre-Injection Groundwater Sampling

TRC collected groundwater samples from the four newly-installed monitoring wells (TRC-5 through TRC-8) and two existing monitoring wells (CGW-8 and TRC-4) on February 25 and 26, 2013. Groundwater sampling was conducted using adjustable rate submersible bladder pumps per EPA Region 1 Low Stress (Low Flow) guidelines. The pump was set at the approximate

center of the water column, based on measured total well depth and depth to water. During purging water quality parameters were monitored and recorded using a YSI 600XL water quality meter. Parameters recorded included temperature, conductivity, pH, dissolved oxygen (DO), and oxygen reduction potential (ORP). A separate LaMotte 2020 turbidity meter was used for turbidity measurements. Groundwater samples were collected after the water quality parameters stabilized, as set forth in the EPA-approved QAPP Addendum NB-G, except at CGW-11 and CGW-17, where extremely slow recharge necessitated collection of a grab sample after purging the well dry at CGW-11, and below the pump intake at CGW-17 (TRC, 2012e).

Laboratory analytical results for the groundwater samples collected as part of pre-injection investigation activities were compared to MCP Method 1 GW-2 and GW-3 cleanup criteria. Several VOC constituents were identified above both the GW-2 and GW-3 groundwater standards at several locations, as listed below:

- cis-1,2-DCE: CGW-8 and TRC-5 (including duplicate);
- PCE: CGW-8 and TRC-5 (including duplicate); and
- TCE: CGW-8, TRC-4, TRC-5 (including duplicate), TRC-7 and TRC-8.

In addition, 1,1,1-trichloroethane was detected below the GW-2 and GW-3 criteria at a concentration of 1.4 µg/L. No other VOC compounds were detected above applicable standards in February 2013 (see Table 2).

Pre-Injection Storm Sewer and Sanitary Sewer Sampling

Prior to potassium permanganate injection, aqueous samples were collected from manholes connected to the City's storm sewer and sanitary sewer that pass through the injection zone. Storm sewer and sanitary sewer sample locations are depicted on Figure 6.

Four aqueous samples (MH-2 through MH-4) were collected from the storm sewer and five samples (MH-1-S and MH-5 through MH-8) were collected from the sanitary sewer line[2]. Upon opening, the mouth of each manhole was screened with a PID for the presence of VOCs, with measurements ranging from background (0.0 ppmv) to 109.1 ppmv (i.e., MH-6 location). PID screening of the mouth of each manhole was continued until sample collection was completed, with monitoring results ranging from background to 70 ppmv. A summary of the PID screening results are provided in Table 2.

PID detections above background were noted at each of the storm sewer and sanitary sewer manholes screened during the baseline sampling event, including a detection of 12.6 ppmv at the upstream (MH-1) location. However, the highest screen results were detected at the storm sewer manhole location within the injection zone (i.e., MH-2) and the sanitary sewer locations

[2] At location MH-1, upstream of the injection zone, the shallow storm sewer stream combines into the deeper sanitary sewer stream. Individual aqueous samples were collected from both the storm sewer and sanitary sewer streams; however only the sanitary sewer sample was analyzed. The storm sewer aliquot was submitted as a laboratory "hold" sample.

downgradient/downstream of the injection zone (i.e., MH-6, MH-7 and MH-8), indicating that Site-related subsurface impacts are potentially intruding to the existing infrastructure.

Baseline aqueous samples were collected from the ground surface using dedicated tubing and peristaltic pump. Each aqueous sample, including one duplicate, was submitted to Con-Test Analytical Laboratory of East Longmeadow, Massachusetts (Con-Test) for VOC analysis.

The pre-injection storm sewer and sanitary sewer sampling analytical results are summarized in Table 5. Several VOCs, including select VOCs detected in groundwater samples in excess of MCP criteria, were also identified in both the storm sewer and sanitary sewer samples including:

- Acetone;
- cis-1,2-Dichloroethylene;
- n-Propylbenzene;
- Toluene;
- Trichloroethylene;
- 1,2,4-trimethylbenzene;
- 1,3,5-trimethylbenzene; and
- o- and m+p-Xylene.

Several additional VOCs were detected in the sanitary sewer samples, but were not present in the storm sewer samples. With the exception of PCE, none of these compounds were detected in the pre-injection groundwater samples collected in February 2013.

Remedial Additive Injection

In accordance with the MassDEP approved IRA Plan Modification and the EPA approved QAPP Addendum NB-H, potassium permanganate was injected in the zone with the highest concentrations of VOCs in shallow groundwater between March 12 and 16, 2013. A copy of the MassDEP Conditional Approval letter dated March 11, 2013 is included as Appendix J. The objective of the injection activities was to significantly reduce the VOC concentrations in shallow groundwater and the probability that chlorinated VOCs will migrate to indoor air. The complete elimination of the VOC mass was not considered to be feasible.

Potassium permanganate was the selected remedial additive due to its properties as an oxidant with a relatively rapid reaction time that did not present a potential threat to subsurface infrastructure or nearby residents. The remedial additive application consisted of injection of a potassium permanganate slurry. Prior to mobilization, the appropriate amount of additive was calculated by TRC's subcontractor based on the stoichiometric amount of permanganate required to degrade the mass of VOCs identified in the shallow groundwater, plus an engineering safety factor of excess oxidant for the reaction period. The estimate was based on the following assumptions:

- A weighted-average stoichiometry of 3:13;
- A weighted-average VOC concentration of 40 ppm;
- Evaluation of Soil Oxidant Demand (SOD) results from soil samples collected in the source area. The effective SOD was determined to be 10% of the laboratory value of approximately 2.5 grams/kilogram (g/kg)[3];
- Engineering safety factor of 4;
- Treatment zone pore volume of approximately 100,000 gallons; and
- Evaluation of the likely concentration of permanganate within the formation following emplacement, dilution and advection.

Based on these assumptions, up to an estimated 10,500 gallons of a 5% (50,000 ppm) solution of pre-mixed potassium permanganate was considered to be required for application at up to 30 injection points within the approximately 3,100 square foot treatment zone (see Figure 7).

Remedial additive application was conducted by ARS Technologies, Incorporated of New Brunswick, New Jersey (ARS). TRC provided environmental oversight and monitoring during the injection activities. The remedial additive was hydraulically injected using integrated direct push technology (DPT), whereby a pump is used to introduce the potassium permanganate through the direct push rods. Distribution of the potassium permanganate was achieved by using an 8140 RotoSonic drill rig to drive 2.25-inch OD rods (1.5-inch ID). Once the DPT injection assembly was driven to depth, the rods were retracted to expose the injection assembly to the formation. The injection took place in two individual overburden depth intervals (shallow and deep) in a bottom-up method, while maintaining appropriate flows and pressures. Once the injection was complete within the deeper interval (approximately 8 to 15-feet below grade), the injection assembly was retracted upward to the shallow injection interval (approximately 2 to 8-feet below grade). This process was repeated until the entire targeted treatment zone was addressed to the degree feasible.[4]

Injection was performed within an approximately 3,100 square-foot treatment zone located on the southern edge of the former Payne Cutlery property and the intersection of Coffin Avenue and Brook Street (Figure 7). A total of 23 injection points were successfully treated with varying amounts of remedial additive, ranging from 83 to 1,073 gallons per location. Approximately 10,200 gallons of remedial additive were injected. Figure 7A depicts the approximate volume of additive injected at each location.

In accordance with the MassDEP approved IRA Plan Modification and TRC's *Former Payne Cutlery – Proposed Remedial Additive Monitoring* memorandum to the MassDEP dated March

[3] The effective SOD adjusts for the good mixing/good contact in laboratory applications versus the potential for no mixing/pour contact during field application.

[4] Due to drilling refusal and actual or anticipated "daylighting" of the remedial additive during treatment activities, no injection was feasible at a number of locations. However additional potassium permanganate was injected at the successfully treated locations to compensate for the reduction in the total number of injection points.

5, 2013 (TRC, 2013d), TRC provided environmental oversight and monitoring activities throughout the application of remedial additive. As the proposed permanganate injection zone was located in the vicinity of existing City-owned sanitary and stormwater infrastructure beneath Brook Street and Coffin Avenue, TRC monitored water within the stormwater and sanitary sewer manholes located closest to the permanganate injection zone twice daily throughout the injection activities for visual evidence of permanganate (indicated by a purple tint).

Evidence of potassium permanganate intrusion to the storm sewer line extending south within Brook Street and portion of the sanitary sewer line extending west from the intersection of Coffin Avenue and Brook Street was observed[5]. In anticipation of the potential for intrusion to the storm and/or sanitary sewer infrastructure, TRC notified and subsequently received written authorization from the City's Department of Public Infrastructure (DPI) to move forward with the injection activities. No discharge permit was deemed to be required by DPI.

Due to the nature of the subsurface conditions, including presence of urban fill and demolition debris, presence of existing infrastructure and existing monitoring well network, the potential existed for surface breakout or "daylighting" of potassium permanganate during injection activities. Concerns regarding breakout were discussed with the MassDEP prior to initiation of injection activities. Limited breakout and groundwater mounding were observed during remedial additive application as described in TRC's IRA Status reported dated July 1, 2013 (TRC, 2013e).

The MassDEP was notified of breakout events and associated corrective actions. Flow rates and pressures were routinely adjusted in response to remedial additive "daylighting" and the additive was immediately neutralized using a water-vinegar-hydrogen peroxide solution or dilute sodium thiosulfate solution. Breakout volumes associated with these events were generally minimal (i.e., less than approximately 1 gallon) and readily controlled with reductions in flow rates and pressures. Alternatively, injection activities were discontinued at a particular location.

The basement/crawl space portion of the Taber Mill building was monitored daily for potential breakout during the implementation of remedial additive injection activities. No breakout was observed within the basement/crawl space area.

Following the completion of injection activities, each point was grouted and patched with concrete. Each injection point was located in the field with a Trimble handheld Global Positioning System (GPS) unit.

2.3.7 Release Discovery

RTN 4-00404 is associated with a reported release of petroleum-based oil in April 1987 prior to the establishment of the 1993 MCP revisions. Payne Cutlery's mortgage holder (Shawmut Bank) subsequently contracted with GHR to conduct as Site Assessment as described in Section 2.3.6.2; however Payne filed for bankruptcy on September 20, 1988 (Frank Corp, 1993) and

[5] Potassium permanganate was observed within the portion of the sanitary sewer line extending west from a dead-end point within the intersection of Coffin Avenue and Brook Street. No remedial additive was observed within the portion of the sanitary sewer that extends south within Brook Street.

further investigation, as recommended by GHR, was not conducted. Site-related activities were discontinued until Site stabilization activities were initiated by EPA/Weston in 1992. Cygnus conducted a file review as reported in the IRA Status Report dated January 16, 2001, but found no documentation related to assessment or remedial actions completed in association with RTN 4-00404 for stabilization of the Site (Cygnus, 2001a).

In February 2000, Cygnus commenced a subsurface investigation at the Site funded by an EPA Brownfields Pilot Grant (Cygnus, 2001a). Cygnus identified TCE impacts in Site soil and groundwater, as well as other VPH and EPH compounds. TCE was detected in groundwater (in monitoring well CGW-8) at concentrations of 89,000 µg/L upgradient of residential buildings (e.g., Taber Mill). This release condition warranted an IRA based on concentrations of total VOCs in groundwater greater than 5 mg/L within 30 feet of an occupied residential structure, where groundwater is less than 15 feet below ground surface (approximate depth to groundwater at the Site ranges from 8 to 12 feet below ground surface.)

The detection of Site-related groundwater VOCs in indoor air constituted a CEP condition under the MCP. Per 310 CMR 40.0313(4), this condition represented a 72-hour regulatory reporting obligation to MassDEP. Cygnus reported the condition to MassDEP on March 13, 2000 (Cygnus, 2001a).

2.3.8 Environmental Permits and Compliance History

No documentation of state and federal environmental permits was available for review. The property is currently undeveloped, with the exception of a paved parking area, and fenced.

As discussed herein, the Site is listed under RTNs 4-00404 and 4-15373. The details pertaining to each listing are discussed above.

3.0 SITE HYDROGEOLOGICAL CHARACTERISTICS

Per 310 CMR 40.0835(4)(d), the following presents a preliminary description and depiction of Site hydrogeologic conditions based on available reports and data. The following description of the geologic and hydrogeologic setting is derived from work conducted by TRC and others.

A summary of the previous subsurface investigation activities is provided above in Section 2.3.6. Detailed descriptions of the investigation activities are provided in the site-specific reports referenced in Section 11.0.

Subsurface and hydrogeologic conditions were evaluated using a combination of soil boring and monitoring wells as discussed herein. A total of 58 soil borings have been advanced at the Site with many converted into monitoring wells[6]. Available soil boring and well construction logs are provided in Appendix D. In addition, six surface soil samples have been collected at the Site. Boring logs were not prepared for surface soil samples collected with hand tools.

3.1 General Site Topography

The Site is relatively flat with a slight downward slope in a southerly direction. No bedrock outcrops or significant surface drainage features are evident at the Site.

3.2 Site Geology

The Former Payne Cutlery property is covered by an approximately two to four foot thick fill layer that includes asphalt, brick and concrete demolition debris from the former structures on the Site. The fill layer is generally underlain by a fine to medium grained sand, silt and fine to medium grained gravel. This is consistent with the United States Geological Survey (USGS) surficial geology map for northern New Bedford which depicts the Site within a zone of glacial till and moraine deposits identified as a "thin till" unit (USGS, 2011). The thin till is described as a non-sorted, non-stratified matrix of sand, some silt and little clay containing scattered gravel clasts and few large boulders. The material is loose to moderately compact and may contain both ablation (looser, coarser grained) and lodgement till (more compact, finer grained) facies (USGS, 2011).

During site investigation activities, auger refusal was encountered between approximately 10.5 and 30 feet below grade, with several field logs noting the refusal as the presumed depth of the bedrock surface. The boring logs indicate the bedrock surface topography generally slopes northwest across the Site.

The Bedrock Geologic Map of Massachusetts (Zen et al., 1983) indicates that the Site is underlain by a zone of hornblende and biotite schist and gneiss defined as the Gneiss and Schist Near New Bedford (Proterozoic Z). The mapped geologic unit (Zgs) is within the Milford-

[6] Eleven (CW-1 through CW-11) were completed as temporary monitoring wells by Cygnus in 2001 for the purpose of grab groundwater sample collection and soil gas screening activities (Cygnus, 2001b). Soil boring total does not include direct-push remedial additive injection points.

Dedham Zone tectonic unit (Tertiary rocks and older). Metamorphism in and around New Bedford is noted as middle grade with predominately feldspathic gneiss and amphibolite with few indicators of metamorphic grade (Zen et al., 1983).

The gneiss and schist have been described as thin-bedded to laminated, medium-gray to dark-greenish-gray with differing proportions of feldspar, quartz, hornblende, biotite and epidote and locally containing muscovite (Goldsmith, 1987a). The gneiss and schist have a principal foliation parallel to layering, which is marked by a preferred mineral orientation, primarily of the micas (Goldsmith, 1987b).

The geologic units in the vicinity of New Bedford are complexly folded, with variability evident in the major fold orientations (Goldsmith, 1987b). The Site lies between the Acushnet Synform and the South Dartmouth Antiform, which is noted as a zone of interfingering units, likely tight folding and rotation, and possibly east-trending strike-slip faulting (Goldsmith, 1987b). A generally north-south trending normal fault (downward block to the east) bisects New Bedford Harbor along a generally north-south trend, extending east of the Site, to Long Pond in Lakeville and Freetown, Massachusetts (Zen et al., 1983)[7]. A second, parallel fault is depicted to the west by Zen et. al., as well as an inferred east-west trending fault extending between North Watuppa Pond and South Watuppa Pond in Fall River, Massachusetts (Zen et al., 1983). At its eastern limit, the inferred east-west trending fault combines with the north-south trending fault in close proximity to the Site (Zen et al., 1983).

3.3 Site Hydrogeology

On February 25, 2013, a relative well elevation survey was conducted by Land Planning, Incorporated of Hansen, Massachusetts (Land Planning). Newly installed and existing well locations, as well as general Site features, were surveyed relative to an arbitrary 200.00 foot benchmark. Due to the winter weather conditions, including snow cover, all existing wells could not be located at the time of the survey. Monitoring wells TRC-2 and CGW-8 were subsequently tied into the relative elevation survey by TRC on March 13, 2013. Monitoring well TRC-5D was surveyed by TRC on September 5, 2013.

A monitoring well gauging event was conducted by TRC on February 25, 2013 to assess groundwater flow direction and gradient across the study area. The well head was screened with a PID and the depth to water was measured at each location with a Solinst oil/water interface probe. A summary of the well gauging and PID screening results are included as Table 6. Depth to groundwater measurements in February 2013 ranged from between approximately 1 foot and 8 feet below grade.

An estimated groundwater contour map is included as Figure 8. The Site is within the New England Coastal Drainage Basin. Based on the groundwater elevation survey, groundwater appears to slope steeply across the Site with an interpreted direction of flow primarily to the south. The groundwater flows at an estimated gradient of approximately 0.02 to 0.04 feet per foot (ft/ft) as measured on February 25, 2013. The groundwater aquifer is unconfined and

[7] Goldsmith (1987b) labels this as the Freetown Fault.

composed of fill material and/or glacial till (listed from the ground surface down, as typically observed). The fill layer varies from approximately two to four feet thick. The aquifer extends down to the underlying bedrock, estimated to be between approximately 10.5 to 30 feet below grade, depending on the portion of the Site, based on previous drilling activities. This aquifer is not potentially productive, as shown on Figure 5.

3.3.1 Hydraulic Conductivity Estimates

TRC conducted in-situ recovery testing on overburden monitoring well TRC-5 and shallow bedrock well TRC-5D on August 6, 2013[8]. The recovery testing measurements were used to estimate the bulk horizontal hydraulic conductivity of the overburden and shallow (fractured) bedrock formations using AQTESOLV for Windows software (see Appendix E). The bulk horizontal hydraulic conductivities were calculated consistent with both the Bouwer and Rice slug test method (Bouwer and Rice, 1976) and Hvorslev method (Hvorslev, 1951). Moreover, the calculated hydraulic conductivity is in the range expected based on literature values.[9] The calculated bulk horizontal hydraulic conductivity values (cm/sec) are presented in the table below.

Given the calculated bedrock bulk hydraulic conductivity values, the average fracture aperture (e) and bedrock fracture hydraulic conductivity (K_f) can be calculated using the following equations:

$$e = \left[\frac{K_b * L * 12 * \mu}{n * \rho * g}\right]^{1/3}$$

and:

$$K_f = \frac{e^2 * \rho * g}{12 * \mu}$$

Where:

e = Average fracture aperture (length);
K_b = Bulk hydraulic conductivity of bedrock (length/time);
μ = Viscosity of water (mass/length-time at groundwater temperature);
L = Length of the tested interval in bedrock (length);
n = Number of fractures identified in tested interval;
ρ = Density of water (mass per length^3 at groundwater temperature);
g = Gravitational constant (length/time^2); and
K_f = Average hydraulic conductivity of fractures (length/time).

[8] Two individual recovery well tests were conducted on the shallow bedrock well (TRC-5D) on August 6, 2013.
[9] According to Fetter, 2001, the glacial till deposits, containing silty sands, could exhibit a hydraulic conductivity in the range of 10^{-3} to 10^{-5} centimeters per second (cm/sec).

Assuming a groundwater temperature of 12-degrees Celsius, which is reasonable based on previous groundwater temperature measurements, the calculated average hydraulic conductivity of the bedrock fractures (cm/sec) for TRC-5D are also presented in the following table.

Summary of Hydraulic Conductivity Data

Well Location	Method	Bulk Horizontal Hydraulic Conductivity [1]	Average Fracture Aperture	Fracture Hydraulic Conductivity
		(cm/sec)	(cm)	(cm/sec)
Overburden Well				
TRC-5	Bouwer & Rice	2.56E-05	Not Applicable	Not Applicable
	Hvorslev	3.47E-05	Not Applicable	Not Applicable
Bedrock Well [2]				
TRC-5D (Test #1)	Bouwer & Rice	3.85E-04	97	0.62
	Hvorslev	4.94E-04	105	0.73
TRC-5D (Test #2)	Bouwer & Rice	3.66E-04	95	0.60
	Hvorslev	4.38E-04	101	0.67

Notes:

(1) – Bulk horizontal hydraulic conductivity values calculated with AQTESOLV for Windows.

(2) – Two recovery well tests were conducted on monitoring well TRC-5D. As a result, bulk permeability calculations were performed based on the individual tests with unique water level displacements. The results agree within approximately 10-percent.

The calculated bulk horizontal conductivity values are reasonable for both a glacial till overburden material and the shallow bedrock. In addition, the calculated fracture permeability values, which are approximately three orders of magnitude greater than the bulk permeability values, are reasonable for fractured bedrock.

As a verification of the hydraulic conductivity values calculated using the recovery test data, the horizontal hydraulic conductivity for monitoring wells TRC-5, TRC-8 and TRC-5D were calculated using low-flow sampling purge water flow measurements collected in August 2013. The horizontal hydraulic conductivity of saturated soils penetrated by a monitoring well can be estimated using flow rates and drawdowns measured during low flow sampling and the following radial flow equation developed by Muskat (1937) cited by Robbins et. al. in "*Determining Hydraulic Conductivity using Pumping Data from Low-Flow Sampling*" (Robbins, 2009) by:

$$K = \frac{\left[2.303 * Q * Log\left(\frac{R_e}{r_c}\right)\right]}{2 * \pi * H}$$

Where:

K = Horizontal hydraulic conductivity (length/time);
Q = Steady state flow rate (cubic length/time);

R_e = Effective radius[10];
n = Sandpack porosity;
r_c = Well casing radius (length);
r_w = Borehole radius (length);
L = Screen length exposed to aquifer (length); and
H = Steady state drawdown (length).

The bulk hydraulic conductivity for bedrock at TRC-5D was further evaluated using the following formula as presented in Cedegren (1989):

$$K = \frac{Q}{2 * \pi * H} * LN(\frac{L}{r_w})$$

Where:

LN = Natural log; and
All other parameters are defined above.

The results of the verification analysis are summarized in the following table.

Summary of Hydraulic Conductivity Verification Data			
Well Location	**Method**	**Bulk Hydraulic Conductivity**	**Horizontal Hydraulic Conductivity**
		(cm/sec)	**(cm/sec)**
Overburden Wells			
TRC-5	Muskat	Not Applicable	2.56E-04
TRC-8	Muskat	Not Applicable	3.41E-05
Bedrock Well			
TRC-5D	Muskat	Not Applicable	4.54E-05
	Cedegren	2.18E-04	Not Applicable

The results of the alternative analysis are consistent with the calculated values based on the recovery test data for monitoring wells TRC-5 and TRC-5D.

3.3.2 Estimated Groundwater Flow Velocity

The estimated hydraulic conductivity in the overburden unit equates to an average linear velocity (Darcy velocity) of less than 10 feet per year. Darcy velocity is calculated as v =- (Ki/n), where K is hydraulic conductivity (estimated in the previous section), is hydraulic gradient, and n is effective porosity. The ground water flow velocity in the fractured rock cannot be calculated from the available data, but based on the calculated hydraulic conductivity of the fractured

[10] For porous media = $[(1-n)r_c^2 + n*r_w^2]^{1/2}$. For fractured media, literature suggests using the length of the well screen or 200 times the well screen radius (Silva and Ballestero in "Hydraulic Tests in Fractured Bedrock Formation"). This is because the effective radius of influence in fractured rock is typically greater than in porous media due to generally lower storage properties of bedrock. For TRC-5D, the length of the well screen was used.

bedrock, the groundwater flow velocity is likely to be significantly greater than in the overburden.

3.4 Flooding Potential

The City of New Bedford receives an average of 47.34 inches of precipitation annually (www.fedstats.gov). There are no surface water bodies on the Site. As shown on Figure 5, the Site is not within the 100-year or 500-year flood plains and flooding potential appears to be low.

4.0 NATURE AND EXTENT OF IMPACT

Consistent with 310 CMR 40.0835(4)(f) of the MCP, this section provides information on the current nature and extent of impact at the Site. This section summarizes the results of chemical analyses for soil, groundwater, soil gas and indoor air samples collected at the Site by TRC and others. There is evidence of oil and/or hazardous materials (OHM) releases to the environment based on available soil, groundwater, soil gas and indoor air sample analyses.

The impacts detected are consistent with known primary past Site uses (e.g., electroplating, metal work, and fuel storage). Petroleum releases on upgradient properties may also have impacted the Site. The volumes of OHM released at the Site are not known since documentation regarding release events is not available for review or is non-existent. Additional data collection is warranted; however, sufficient data are available at this time to estimate the magnitude of impact at the Site via the MassDEP NRS (310 CMR 40.1500) and to evaluate the nature and extent of impact at this phase of investigation.

4.1 Data Usability Assessment

A data usability assessment was performed by TRC to evaluate the usability of the data obtained by TRC in fulfilling the project objectives. All data associated with soil, groundwater, soil gas and indoor air samples collected by TRC and utilized for this report were reviewed. Laboratory data reports, documents and records associated with samples collected by TRC were reviewed in accordance with TRC's Generic Brownfields QAPP (EPA RFA# 13028, November 2012).

TRC conducted a Data Usability Assessment for all analysis of soil, groundwater, soil gas and indoor data collected by TRC. In general, the data are usable for decisions based on a review of accuracy, precision, and sensitivity of the data. Although there were sporadic QC non-conformances, the data are valid as reported and may be used for decision-making purposes with certain cautions and/or limitations identified in the assessment and data validation reports attached in Appendix F.

Available historic data collected by MCA, GHR, Cygnus and VHB were also reviewed by TRC on a limited basis to screen for significant data quality issues and confirm or reject certain suspect data. The following provides a summary of quality control non-conformances, including rejected analytical data:

Soil -

- Due to a lack of field preservation, VOC data associated with soil samples #105, MW-1A (5-6.5'), MW-2 (10-10.8'), MW-3 (5-6'), MW-4 (5-6.5') and MW-5 (0-1.5') collected by GHR in 1987 have been rejected.
- Due to a lack of field preservation, the non-detect data are not usable and the positive results are significantly low bias for soil samples associated with borings MW-2, MW-3, MW-4 collected by GHR in 1987.

- Due to 0% recovery of naphthalene and 2-methylnaphthalene in the laboratory control sample (LCS) for PAH and EPH analysis of soil samples CGW-12 (0-2'), CGW-12 (5-7'), CGW-13 (0-2'), CGW-13 (5-7') and CGW-14 (0-2') collected in 2001, the non-detect data collected byt Cygnus are not usable and the positive results are significantly biased low.
- Due to VOC analysis of soil samples CGW-12 (5-7'), CGW-13 (5-7'), CGW-14 (15-17'), CGW-15 (5-7') and CGW-17 (5', 10', 15' and 20') collected in 2001 being conducted 27-days beyond the 14-day hold time, the non-detect results are not usable and the positive results are significantly biased low.

Groundwater -

- Due to less than 10% surrogate recovery in the EPH analysis, the C_9-C_{18} aliphatics and C_{19}-C_{36} aliphatics in groundwater sample CGW-13 (June 2001) were rejected.

The analytical summary tables associated with soil samples (Table 1) and groundwater samples (Table 2) appropriately reference rejected results significantly biased low.

4.2 Primary Sources of OHM at the Site and Primary Release Mechanisms

The primary sources of OHM at the Site are assumed to be:

- Industrial use at the Site including cold pressing of steel, metal grinding, degreasing of metal with TCE, chemical storage including substances used in metal plating processes and the manufacturing of polymers for plastic and rubber tool grips, and chromium and nickel electroplating resulting in VOC, petroleum hydrocarbon and metals impacts; and
- Previous use of storage tanks on-property, as well as upgradient of the Former Payne Cutlery property, resulting in petroleum hydrocarbon impacts.

Several storage tanks were previously used on-property and at the adjacent (upgradient) Former Elco Dress property. All known USTs and ASTs have been removed from the property; however petroleum impacts have been identified in soil material near the central portion(CGW-12 and CGW-13) and northeastern portion (SS-1 and CGW-3) of the Former Payne Cutlery property. VOCs have also been detected above applicable screening levels in soil gas and indoor air samples collected adjacent to Oneko Lane.

The primary release mechanisms associated with these presumed historical sources are not known, but they can be inferred where the historical locations of OHM sources coincide with known OHM in soil and groundwater. Significant industrial activities, including metal working, electroplating, and chemical storage and degreasing, primarily took place in the southern portion of the property, adjacent to Coffin Avenue. In addition, a trench drain system, conveying waste to the municipal sewer system at a connection near the intersection of Coffin Avenue and Church

Street, formerly bisected the southern portion of the property (see Appendix A)[11]. The available data indicate that VOC, petroleum, and metals impacts to soil have largely been observed in the southern portion of the Site, in the vicinity of the previous industrial activities and trench drain usage. Furthermore, impacts have primarily been observed in the shallow soil material, indicating historic releases to the surface and/or via compromised portions of the trench drain system.

4.3 Analytical Results

The following is a discussion of the results of laboratory analysis for soil, groundwater, soil gas and indoor air samples collected at the Site. Analytical results indicate impacts consistent with the Site's historic uses (e.g., electroplating, metal work, and fuel storage). Soil, groundwater, soil gas and indoor air laboratory analytical results are summarized in Tables 1 through 4. Available laboratory data reports are provided in Appendix G.

4.3.1 Soil

Soil samples have been collected for laboratory analysis between 1987 and 2013 by TRC and others. A summary of the soil analytical results from soil samples collected at the Site is presented in Table 1 and soil boring locations are depicted on Figure 2. Analytical results indicate soil impact consistent with the Site's historic uses (e.g., electroplating, metal work, and fuel storage). Note that some of the historical near-surface soil samples may no longer be representative of the Site due to building demolition in 2000, post-demolition regrading, soil excavation during the 2010 parking lot construction, and pavement of the parking lot (also in 2010).

Soil samples were collected from depths ranging from the surface (0 to 0.5 feet below grade) to 20 feet below grade. Soil samples were selectively submitted for laboratory VOC, VPH, EPH, PAH, PCB, total petroleum hydrocarbons (TPH), total metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver and/or zinc), Toxicity Characteristic Leaching Procedure (TCLP) metals (arsenic, barium, cadmium, chromium, lead, mercury, nickel, selenium and/or silver), cyanide and/or Total Organic Carbon (TOC) analysis. All soil sample collection and submittal by TRC was conducted in accordance with the EPA approved QAPP Addenda and IRA Plan Modification.

4.3.1.1 VOCs in Soil

As indicated in Table 1, the VOCs detected in soil samples include acetone, bromomethane, carbon disulfide, chloroform, chloromethane, cis-1,2-DCE, trichlorofluormethane (Freon-11), 2-hexanone, methylene chloride, methyl ethyl ketone (MEK), methyl isobutyl ketone (MIBK), m/p-xylenes, n-butylbenzene, n-propylbenezene, p-isopropyltoluene, sec-butylbenezene, styrene, trans-1,2-dichloroethene, PCE, 1,1,1-TCA, TCE, 1,2,4-trimethylbenzene and toluene. Three

[11] The approximate location of the former trench drain, as well as depictions of the locations of former activities within the Payne Cutlery property, are depicted GHR's *Site Assessment Summary*, Figure SP-1, and Cygnus *IRA Status Report No. 2*, Figure 2 (Site Plan).

VOCs (bromomethane, cis-1,2-DCE and TCE) have been detected in excess of applicable MCP Method 1 standards as summarized in the following table.

Soil Results Summary –VOCs						
			MCP Method 1 Standards* and UCLs			
Compound	**Maximum**	**Max. Location**	**S-1**	**S-2**	**S-3**	**UCL**
Bromomethane	1.5	CGW-16 (0-2')	0.5	0.5	0.5	10,000
cis-1,2-dichloroethene	7.2	CGW-17 (15')	0.4	0.4	0.4	5,000
Trichloroethylene	530	CGW-16 (0-2')	2	2	2	10,000

Notes:
* - Most conservative of GW-2 and GW-3 based soil standard presented. Groundwater category GW-1 does not apply.
All concentrations in milligrams per kilogram (mg/kg)
UCL – Upper Concentration Limit

VOCs concentrations above applicable MCP Method 1 standards in soil samples were identified in the southern portion of the Site, extending beneath Coffin Avenue. Bromomethane was detected in the shallow soil samples (0-2 feet below grade) at CGW-15 and CGW-16. Similarly, cis-1,2-DCE was detected at a concentration of 3.0 mg/kg in CGW-15 (0-2'). A maximum TCE concentration of 530 mg/kg was identified in soil sample CGW-16 (0-2'). TCE concentrations above Method 1 soil cleanup standards were detected as deep as 15 to 15.5 feet below grade (TRC-5 at 4.9 mg/kg). No other VOCs were detected in Site soil above Method 1 soil cleanup standards.

4.3.1.2 Petroleum Hydrocarbons and PAHs in Soil

The extent of petroleum hydrocarbons in soil detected above MCP soil standards is primarily present in the central/southern areas of the Site, near the CGW-12 through CGW-15 and SS-1 through SS-3 and SS-5 locations. Benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene and/or dibenzo(a,h)anthracene were detected above MCP standards in soil samples within this portion of the Site at depths ranging from the surface (0 to 0.5 feet below grade) to 7 feet below grade.

Petroleum hydrocarbons were also identified in soil at concentrations above MCP soil standards at SS-1 and CGW-3 sample locations in a small area north of the property boundary (Elco Dress property). Dibenzo(a,h)anthracene (1.5 mg/kg) and C_9-C_{10} aromatics (110 mg/kg) were detected above MCP soil standards within the soil samples. Petroleum hydrocarbon range contaminants in excess of MCP soil standards have been found as deep as 10 to 12 feet below grade, while PAHs were detected in the surface soils (0-1 foot below grade).

As previously discussed, a 20,000-gallon UST was removed from the Elco Dress property in August 2006. The UST Closure Report (Tighe & Bond, 2006) concluded that a No. 4 fuel oil release had occurred in the tank area due to tank overflows and from product piping leaks. The report indicated that soil analytical results collected from the limits of excavation were in excess of RCs. A Class A-2 RAO was filed for RTN 4-20272 in January 2008 (Tighe & Bond, 2008).

As a result, the potential exists for UST-related compounds to have impacted the former Payne Cutlery property.

The soil sample from soil boring MW-5, located just beyond the eastern property boundary, collected from 0-1.5 feet below grade exhibited an Oil & Grease concentration of 1,200 mg/kg. The detected concentration is in excess of the Method 1 S-1 standard for TPH. However, the MW-5 location is outside the property boundary as indicated on Figure SP-1 of GHR's Site Assessment Summary report and does not appear to be associated with historic activites at the Site.

The following table summarizes the maximum concentration of petroleum and PAHs detected in Site soil at concentrations above applicable soil standards.

Soil Results Summary – Petroleum and Polyaromatic Hydrocarbons

Compound	Maximum	Max. Location	MCP Method 1 Standards*			
			S-1	S-2	S-3	UCL
C_9-C_{10} Aromatics	110	CGW-3 (10-12')	100	500	500	5,000
Benzo(a)anthracene	12	CGW-12 (0-2')	7	40	300	3,000
Benzo(b)fluoranthene	13	SS-1 (0-0.5')	7	40	300	3,000
Benzo(a)pyrene	10	SS-1 (0-0.5')	2	4	30	300
Indeno(1,2,3-c,d)pyrene	7.7	CGW-12 (0-2')	7	40	300	3,000
Dibenzo(a,h)anthracene	7.7	CGW-12 (0-2')	0.7	4	30	300
TPH (Oil & Grease)	1,200	MW-5 (0-1.5')	1,000	3,000	5,000	10,000

Notes:
* - Most conservative of GW-2 or GW-3 based soil standard presented. Groundwater category GW-1 does not apply.
All concentrations in milligrams per kilogram (mg/kg)
UCL – Upper concentration limit
TPH – Total Petroleum Hydrocarbons as Oil & Grease

Other petroleum-associated parameters and PAHs detected in Site soils below applicable soil cleanup standards include: C_5-C_8 aliphatics, C_9-C_{12} aliphatics, C_9-C_{18} aliphatics, C_{19}-C_{36} aliphatics, C_{11}-C_{22} aromatics, acenaphthylene, acenaphthene, fluorene, anthracene, fluoranthene, pyrene, chrysene, benzo(k)fluoranthene, benzo(g,h,i)perylene naphthalene, 2-methylnaphthalene and methyl tert-butyl ether (MTBE).

4.3.1.3 PCBs in Soil

Soil samples for PCB Aroclor analysis have been collected throughout the Site. Soil samples were generally collected from the ground surface (0-2 feet below grade), 5-7 feet below grade and 10-12 feet below grade. PCB Aroclors were not detected in any soil samples at concentrations greater than theMassDEP Method 1 soil standards. Detected concentrations of PCB Aroclors ranged from 0.034 mg/kg to 1.44 mg/kg.

The detection of PCB Aroclors (1.44 mg/kg) in soil sample MW-5 (0-1.5') is slightly above the TSCA (40 CFR Part 761) criteria of 1 mg/kg for potential classification as PCB Remediation Waste. However, the MW-5 location is outside the property boundary as indicated on Figure SP-1 of GHR's Site Assessment Summary report and does not appear to be associated with historic activites at the Site. Only three of the sixteen (including one duplicate) other site-related soil samples analyzed for PCBs exhibited detectable concentrations of total PCB Aroclors. The highest concentration was detected in sample CGW-13 (0-2') with a total PCB Aroclor concentration of 0.268 mg/kg, well below the TSCA threshold of 1 mg/kg.

4.3.1.4 Metals in Soil

Metals detected at the Site are consistent with known primary past uses and activities (e.g., electroplating, metal work and use of trench drain system). Various metals (i.e., arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel and zinc) have been detected in Site soils from ground surface (0-0.5 feet below grade) to 12 feet below grade. Chromium and nickel have been detected at concentrations in excess of the applicable MCP soil standards. The detection of metals above MCP soil standards is primarily within the shallow (0-2 feet below grade) soil material in the southern portion of the Site. No metals were detected above applicable MCP soi standards is soil samples collected from 5-7 feet or 10-12 feet below grade, suggesting the vertical extents of metal impacts to soil is limited. The following table summarizes the maximum concentrations of metals detected in Site soil above applicable MCP soil standards.

Soil Results Summary – Select Metals

Compound	Maximum	Max. Location	MCP Method 1 Standards*			
			S-1	S-2	S-3	UCL
Chromium	350	MCA-3 (0-0.6')	30	200	200	3,000
Nickel	1,600	MCA-3 (0-0.6')	20	700	700	7,000

Notes:
* - Most conservative of GW-2 or GW-3 based soil standard presented. Groundwater category GW-1 does not apply.
All concentrations in milligrams per kilogram (mg/kg)
UCL – Upper Concentration Limit

Soil samples submitted for TCLP metals analysis were collected from the ground surface (0-1.5 feet below grade) to 6.5 feet below grade along the perimeter of the property boundary in 1987. Several leachable metals were detected including: barium, cadmium, chromium, lead, mercury and nickel, though none were detected at concentrations that would be expected to exhibit toxicity as defined in Chapter 7, Table 7-1 of EPA's SW-846 - *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (EPA, 2007).

4.3.1.5 Cyanide in Soil

A total of ten shallow (0 to 2 feet below grade) soil samples collected in 1987 were analyzed for total cyanide. The samples were collected from the southern portion of the Site, proximate to previous electroplating activities, metal working activities and trench drain usage. Cyanide was not identified in any of the soil samples in excess of laboratory detection limit (0.50 mg/kg).

4.3.1.6 Soil Conductivity and pH

During investigation activities by MCA in February 1987, shallow soil samples from the southern portion of the Site were screened in the field for conductivity and pH. A total of twenty samples were screened by MCA, with field screening conductivity measurements ranging from 50 microhos per centimeter (umhos/cm) to 1,350 umhos/cm. The field screened pH measurements ranged from 3.9 to 7.2 (standard units), with MCA noting acidic soil conditions indicative of acidic conditions.

4.3.2 Groundwater

The following is a discussion of the results of laboratory analysis for groundwater samples collected at the Site. A summary of the analytical results from groundwater samples collected at the Site is presented in Table 2. Monitoring well locations are depicted in Figure 2. A summary of well construction details is provided in Table 6.

4.3.2.1 VOCs in Groundwater

Concentrations of cis-1,2-DCE, C_5-C_8 aliphatics, PCE, TCE and vinyl chloride were detected in overburden groundwater samples in excess of MCP GW-2 and/or GW-3 standards. Chlorinated VOC concentrations in excess of MCP groundwater standards have predominantly been detected in monitoring wells located within the southern portion of the Site, along Coffin Avenue and near the eastern portion of the Taber Mill building adjacent to Brook Street.

In 2001, TCE was detected at a concentration of 2,400 µg/L in the sample collected from CGW-9, located in the eastern portion of the Site, along Oneko Lane. This well was destroyed during a recent sidewalk construction project and TRC located well TRC-1 nearby to explore the VOCs (and petroleum compounds) previously measured in CGW-9. The 2012 groundwater sample from TRC-1 did not detect chlorinated VOCs or petroleum compounds, therefore the 2001 measurements in CGW-9 are not considered to be relevant to current conditions at the Site.

Historically, TCE concentrations above the 50,000 µg/L MCP Upper Concentration Limit (UCL) were identified in overburden monitoring well CGW-8 (89,000 µg/L in 2001) and MW-1 (53,000 µg/L in 1987). Both of these wells are located at the intersection of Coffin Avenue and Brook Street within the 2013 potassium permanganate injection zone. Since the potassium permanganate injection event, TCE concentrations in these wells are significantly lower.

The shallow bedrock monitoring well TRC-5D exhibited PCE (630 g/L) and TCE (40,000 µg/L) in excess of the GW-2 and/or GW-3 standards.

The following table summarizes the maximum concentrations of VOCs recently detected in Site groundwater above groundwater standards, and those VOCs detected for which Method 1 cleanup standards have not been promulgated. For wells located within the potassium permanganate injection zone (i.e., CGW-8, TRC-5 and TRC-5D), only post-injection (August

2013) analytical results are shown. For wells located outside the injection zone, all 2012 and 2013 analytical data were considered.

Groundwater Results Summary –VOCs (2012 and 2013 Data Only)					
	Maximum Concentration (µg/L)	Max. Location	MCP Method 1 Standards and UCLs (µg/L)		
Compound			GW-2	GW-3	UCL
Cis-1,2-dichloroethene	3,600	TRC-5	100	5000	100,000
C_5-C_8 Aliphatics	15,000	CGW-8	3,000	50,000	50,000
Tetrachloroethylene	630	TRC-5D	50	30,000	100,000
Trichloroethylene	40,000	TRC-5D	30	5,000	50,000
Vinyl Chloride	13	TRC-4	2.0	50,000	100,000

Notes:
All concentrations in micrograms per liter (µg/L)
UCL – Upper Concentration Limit
J – Estimated
NS – No MassDEP standard exists for the analyte

4.3.2.2 VOCs in Storm Sewer and Sanitary Sewer

Prior to potassium permanganate injection activities, aqueous samples were collected by TRC from manholes connected to the municipal storm sewer and sanitary sewer that pass through the injection zone. Four samples (MH-2 through MH-4) were collected from the storm sewer and five samples (MH-1-S and MH-5 through MH-8) were collected from the sanitary sewer line[12]. Upon opening, each manhole was immediately screened with a PID for the presence of VOCs, which were detected above background (non-detect) at each location, with measurements ranging from background to 109.1 parts per million by volume (ppmv [MH-6]). PID screening of each manhole was continued until sample collection was completed, with monitoring results ranging from background to 70 ppmv (MH-8).

VOC concentrations above background were detected via PID screening at each of the storm sewer and sanitary sewer manholes screened during the baseline sampling event, including a detection of 12.6 ppmv at the upstream (MH-1) location. However, the highest screening results were detected at the storm sewer manhole location within the injection zone (i.e., MH-2) and the sanitary sewer locations downgradient/downstream of the injection zone (i.e., MH-6, MH-7 and MH-8), indicating that Site-related subsurface impacts are potentially present within, and may be migrating via, the sewer lines.

Several additional VOCs were detected in the sanitary sewer samples, but were not present in the storm sewer samples. With the exception of PCE, none of these compounds were detected in the

[12] At location MH-1, upstream of the injection zone, the shallow storm sewer stream combines into the deeper sanitary sewer stream. Individual aqueous samples were collected from both the storm sewer and sanitary sewer streams at MH-1; however only the sanitary sewer sample was analyzed.

pre-injection groundwater samples collected in February 2013. Further discussion of the sanitary sewer and storm sewer sampling results is provided in Section 8.0.

4.3.2.3 Petroleum Hydrocarbons and PAHs in Groundwater

VPH and EPH parameters were identified in overburden monitoring wells above MCP Method 1 GW-2 and/or GW-3 standards. Samples collected from monitoring wells CGW-8, located within Coffin Avenue, contained concentrations of C_5-C_8 aliphatics in greater than MCP Method 1 GW-2 and GW-3 standards.

Other petroleum parameters and PAHs detected in Site groundwater, but at concentrations below Method 1 GW-2 and/or GW-3 standards include: C_9-C_{12} aliphatics, C_{19}-C_{36} aliphatics, C_9-C_{10} aromatics, C_{11}-C_{22} aromatics, acenaphthylene, acenaphthene, fluorene, benzo(a)pyrene, and indeno(1,2,3-cd)pyrene, naphthalene and 2-methylnaphthalene

4.3.2.4 Metals in Groundwater

Groundwater samples were collected for dissolved (field filtered) metals analysis between July 1987 and June 2001. Cadmium, nickel and silver have been detected at concentrations above applicable MCP Method 1 GW-3 groundwater standards at maximum concentrations of 8.0 µg/L, 6,290 µg/L and 10 µg/L, respectively. The maximum cadmium concentration was detected in a sample collected from monitoring well MW-3, located north of the property boundary and adjacent to Church Street. Maximum nickel and silver concentrations were identified in a sample collected from monitoring well MW-1, located within Coffin Avenue. It should be noted that these samples were collected by GHR in 1987 using purge/bailer methods which have been superseded by low flow sampling techniques and that additional sampling for dissolved metals at monitoring well locations MW-1 and MW-3 has not been conducted.

4.3.3 Soil Gas

The following is a discussion of the results of laboratory analysis for soil gas samples collected at the Site. Soil gas sampling was conducted by TRC in close proximity to or beneath several residences along Oneko Lane and Coffin Avenue, including the Taber Mill building, in April and June 2012. A summary of the analytical results from soil gas samples collected at the Site is presented in Table 3 and soil gas sample locations are depicted on Figure 3.

4.3.3.1 Chlorinated VOCs in Soil Gas

No VOCs were identified at concentrations greater than the MassDEP Residential Soil Gas Screening Values in the soil gas samples analyzed in April 2012. In June 2012, PCE was detected in the soil gas sample and duplicate sample collected from 6 Oneko Lane at concentrations of 203 micrograms per cubic meter (µg/m^3) and 176 µg/m^3, respectively. Both concentrations are above the applicable MassDEP Soil Gas Screening Value of 98 µg/m^3. A concentrations of TCE (446 µg/m^3) above the MassDEP Soil Gas Screening Value (28 µg/m^3)

was also detected in a sample from location TM-1, within the basement of the Taber Mill building in June 2012.

Concentrations of acetone, benzene, bromodichloromethane, 2-butanone, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, methylene chloride, p/m xylene, styrene, 1,2,4-trichlorobenzene, 1,1,1-TCA, TCE, PCE and toluene were detected in one or more soil gas samples at concentrations below MassDEP Soil Gas Screening Values. With the exception of benzene, bromodichloromethane, 1,2-dichlorobenzene, 1.4-dichlorobenzene, and styrene these compounds were also detected in Site groundwater samples analyzed for VOCs.

4.3.3.2 Petroleum Hydrocarbons in Soil Gas

No petroleum hydrocarbon constituents were identified above MassDEP Residential Soil Gas Screening Values in the soil gas samples analyzed in April 2012. In June 2012, naphthalene (48 $\mu g/m^3$) was detected above the MassDEP Soil Gas Screening Value at soil gas sampling location TM-1 within the Taber Mill building basement. In addition, C_5-C_8 aliphatics, C_9-C_{12} aliphatics, and C_9-C_{10} aromatics were detected at one or more soil gas sample locations at concentrations below applicable MassDEP Soil Gas Screening Values.

4.3.4 Indoor Air

The following provides a discussion of the results of laboratory analysis of indoor air samples collected at the Site. Indoor air sampling has been conducted by TRC and others at several residences along Oneko Lane and Coffin Avenue, including the Taber Mill building. Analyzed constituents detected at concentrations above MassDEP Residential IATVs were identified in samples collected at the Taber Mill building and in samples collected from ten private residences along Coffin Avenue and Oneko Lane. Compounds detected in indoor air samples, including site-specific compounds of concern such as TCE and PCE, were largely consistent with those detected in soil gas samples collected in 2012, indicating the potential for Site-related impacts to residences along Coffin Avenue and Oneko Lane. However, several compounds (e.g., carbon tetrachloride, cis-1,2-DCE, ethylbenzene, o-xylene and 1,3,5-trimethylbenzene) detected in the indoor air samples were not detected in soil gas samples, indicating potential high likelihood that sources unrelated to the Site resulted in impacts indoor air quality. In addition, some compounds (e.g., chloroform at 348 Coffin Avenue) were detected in indoor air samples collected from the first floor, but not the basement of individual residences, which also indicates the potential for alternative sources.

A summary of the analytical results for indoor air samples collected at the Site is presented in Table 4. Indoor air sample locations are depicted on Figure 4.

4.3.4.1 VOCs in Indoor Air

VOCs including benzene, C_5-C_8 aliphatics, C_9-C_{12} aliphatics, 1,4-dichlorobenzene, 1,2-dichloroethane, naphthalene and TCE were detected at levels above the MassDEP Residential IATVs in samples collected form Taber Mill in 2012 and 2013. In 2001, VOCs in excess of

applicable MassDEP IATVs were detected in ten private residences and the Taber Mill building. However, the results of soil gas sampling performed in 2012 eliminated vapor intrusion into these private residences as an exposure pathway. The following table summarizes the maximum concentrations of VOCs detected in indoor air samples and the associated sample locations.

Indoor Air Results Summary – VOCs (2012 and 2013)

Compound	Maximum Concentration ($\mu g/m^3$)	Property	Location	MassDEP Residential IATV ($\mu g/m^3$)
Benzene	2.6	Taber Mill	1st Floor	2.3
1,4-Dichlorobenzene	0.77	Taber Mill	1st Floor	0.5
1,2-Dichloroethane	0.142	Taber Mill	Basement	0.09
Naphthalene	4.4	Taber Mill	1st Floor	0.6
Trichloroethylene	1.72	Taber Mill	Basement	0.4

Notes:
*IATV for C9-C10 aromatics used
All concentrations are micrograms per cubic meter ($\mu g/m^3$)

Notably, the compounds observed in groundwater at the Payne Cutlery Site have not been measured in the first floor living areas of the Taber Mill building in excess of IATVs.

4.3.4.2 Petroleum Hydrocarbons in Indoor Air

Samples were collected from the Taber Mill building in June 2012 and September 2013 to evaluate the presence of petroleum hydrocarbons in indoor air. Petroleum hydrocarbon compounds including C_5-C_8 aliphatics, C_9-C_{10} aromatics and C_9-C_{12} aliphatics have been detected within the basement and/or first floor of the Taber Mill building in excess of applicable MassDEP Residential IATVs of 58 $\mu g/m^3$, 10 $\mu g/m^3$ and 68 $\mu g/m^3$, respectively. The maximum detected concentrations of C_5-C_8 aliphatics, C_9-C_{10} aromatics and C_9-C_{12} aliphatics were 130 $\mu g/m^3$, 14 $\mu g/m^3$ and 96 $\mu g/m^3$, respectively.

4.4 Approximate Extent of Impact

This section describes the approximate horizontal and vertical extent of impact for potential chemicals of concern identified during TRC's subsurface investigations and during previous assessments conducted by others. Additional sampling is required to refine the impact delineation and support remedial planning, as described in Section 4.6.

4.4.1 Soil

As noted in Section 4.2.1, compounds detected in soil samples collected from the Site in excess of their respective MCP soil cleanup standards include VOCs, petroleum hydrocarbons and PAHs, and metals (chromium and nickel). A summary of the soil analytical results is presented in Table 1.

VOCs – VOCs (i.e., bromomethane, cis-1,2-DCE and TCE) were detected above applicable MCP soil standards in samples collected from the southern portion of the Site, extending in Coffin Avenue (i.e., soil borings CGW-8, CGW-15, CGW-16 and TRC-5). Exceedances were detected in surface soil (0-2 feet below grade) to 15.5 feet below grade, which is the approximate depth of the bedrock surface in the south-central portion of the Site, with the highest concentrations detected during implementation of the parking lot construction RAM. The location of the VOC impacts appear to be consistent with the Site's historic activities (e.g., electroplating, metal working, use/storage of solvents) and use of the trench drain system.

Petroleum Hydrocarbons and PAHs - The extent of PAHs (i.e., benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene and/or dibenzo(a,h)anthracene), which tend to be relatively persistent and immobile, reported above MCP standards is primarily present in the central/southern areas of the Site, near the locations of CGW-12 through CGW-15 and SS-1 through SS-3 and SS-5. Soil samples collected from within this portion of the Site generally exhibited exceedances of MCP soil standards in surface soils (0-2 feet below grade); however impacts were detected to 7 feet below grade. Limited soil sampling for petroleum hydrocarbons has been conducted within this portion of the Site at depths greater than 7 feet below grade.

Petroleum hydrocarbons were also identified above MCP standards at SS-1 (Cygnus) and CGW-3 sample locations in a small area north of the property boundary (Elco Dress property) in the vicinity of a former UST. Dibenzo(a,h)anthracene and C_9-C_{10} aromatics were detected above MCP soil standards in the soil samples collected from depths of 0-1 and 10-12 feet below grade, respectively.

A soil sample from soil boring MW-5, located just beyond the eastern property boundary, collected from 0-1.5 feet below grade exhibited an Oil & Grease concentration of 1,200 mg/kg. The detected concentration is in excess of the Method 1 S-1 standard for TPH, however the MW-5 location is outside the property boundary as indicated on Figure SP-1 of GHR's Site Assessment Summary report and does not appear to be associated with historic activites at the Site.

Metals - Chromium and nickel have been detected at concentrations in excess of the applicable MCP soil standards. The detection of metals above MCP soil standards is primarily within the surface soil (0-2 feet below grade) material in the southern portion of the Site. No metals were detected above applicable MCP standards is soil samples collected from 5-7 feet or 10-12 feet below grade, suggesting the vertical extent of metal impacts to Site soil is limited; however, previous investigation activities have focused primarily on shallow soil material within the southern portion of the property.

4.4.2 Groundwater

The results of the analysis of Site groundwater for VOCs, petroleum hydrocarbons and dissolved metals indicated the presence of compounds in excess of the applicable MCP groundwater standards. A summary of the groundwater analytical results is presented in Table 2.

VOCs – VOC concentrations in overburden groundwater are highest (in the range of 30,000 µg/L) at the intersection of Brook Street and Coffin Avenue and on the southern portion of the former Payne property. These concentrations diminish significantly in downgradient (southerly) wells, suggesting that the chlorinated VOCs may have migrated into fractured bedrock and/or storm sewers running down Brook Street. The lateral extent of VOC contamination is known to extend as far as Deane Street (TRC-7 and TRC-8) in a southerly direction. Groundwater impact has not been observed east of Brook Street. The lateral extent west of Brook Street also appears to be limited but is not fully defined.

The presence of elevated concentrations of chlorinated VOCs samples collected from the overburden monitoring wells within the southern portion of the Site is consistent with known primary past activities (e.g., electroplating, metal work and solvent storage/use) and the use of the trench drain system. Migration of these impacts south of Coffin Avenue, including impacts to groundwater at monitoring well locations TRC-4, TRC-7 and TRC-8, is consistent with shallow groundwater contours (see Figure 8) and potential for subsurface utilities to provide a preferential migration pathway.

The sample collected from shallow bedrock monitoring well TRC-5D, installed in August 2013, exhibited PCE (630 µg/L) and TCE (40,000 µg/L) in excess of the applicable MCP Method 1 GW-2 and/or GW-3 standards, indicating that chlorinated VOCs impacts extend vertically beyond the overburden and into the shallow fractured bedrock. Given that TCE groundwater concentrations in overburden monitoring wells have historically exceeded one percent of the maximum solubility of TCE in water (11,000 µg/L), Dense Non-Aqueous Phase Liquids (DNAPL) migration was anticipated, as discussed below in Section 4.5. The observed presence of TCE in TRC-5D confirms this. However, monitoring well TRC-5D is currently the only Site well screened within bedrock, and further investigation is required to further evaluate the nature and extent of bedrock impacts.

Petroleum Hydrocarbons - VPH and EPH constituents have been identified in overburden monitoring wells CGW-8 and CGW-9 above applicable MCP GW-2 and/or GW-3 groundwater standards. Samples from monitoring wells CGW-8 has exhibited concentrations of C_5-C_8 aliphatics in excess of MCP GW-2 and GW-3 standards that are likely related to past Site activities. Further investigation is warranted to determine the nature and extent of petroleum hydrocarbon impacts to groundwater.

Metals – Dissolved cadmium, nickel and silver have been detected above the GW-3 groundwater standards. Cadmium (8.0 µg/L) was detected in samples from monitoring well MW-3, located north of the property boundary and adjacent to Church Street, and though it is likely related to an

off-site source. Nickel (6,290 µg/L) and silver (10 µg/L) were detected above GW-3 standards in monitoring well MW-1, located within the intersection of Coffin Avenue and Brook Street. The detected concentration of nickel exceeds the GW-3 standard by a factor of more than 30 and could be related to past electroplating activities. Groundwater samples have not been analyzed for dissolved metals since 2001, when samples were obtained using purge/bailer (non-low flow) collection methods, and nearby wells (e.g., CGW-8, CGW-11 and TRC-3 through TRC-6) have never been analyzed for nickel, indicating a need for further metals sampling/analysis using proper collection techniques to determine the extent of impacts or if the previous detection of nickel is anomalous.

4.4.3 Soil Gas

No VOCs were identified above MassDEP Residential Soil Gas Screening Values in the soil gas samples analyzed in April 2012. In June 2012, PCE was detected in duplicate soil gas samples collected from outside 6 Oneko Lane above the applicable MassDEP Soil Gas Screening Value. The presence of PCE in this soil gas sample indicates the potential for migration of Site-related VOCs in the vicinity of 6 Oneko Lane.

In addition, TCE and naphthalene were detected in the soil gas sample collected from the Taber Mill building basement at concentrations in excess of the applicable MassDEP Soil Gas Screening Values. The presence of TCE and naphthalene in soil gas beneath the Taber Mill building basement is consistent with the migration of VOC and petroleum impacts downgradient of the Site.

4.4.4 Indoor Air

VOCs in excess of applicable MassDEP Residential IATVs were detected in ten private residences and the Taber Mill building. In addition, petroleum hydrocarbon parameters including C_5-C_8 aliphatics and C_9-C_{10} aromatics have been detected within the basement and first floor of the Taber Mill building in excess of applicable MassDEP IATVs. Compounds detected in indoor air samples, including site-specific compounds of concern such as TCE and PCE, were largely consistent with those detected in soil gas samples collected in 2012, indicating the potential for Site-related impacts to residences along Coffin Avenue and Oneko Lane. However, several compounds (e.g., carbon tetrachloride, cis-1,2-DCE, ethylbenzene, o-xylene and 1,3,5-trimethylbenzene) detected in the indoor air samples were not detected in soil gas samples, indicating potential high likelihood that sources unrelated to the Site resulted in impacts indoor air quality. In addition, some compounds (e.g., chloroform at 348 Coffin Avenue) were detected in indoor air samples collected from the first floor, but not the basement of individual residences, which also indicates the potential for alternative sources.

4.5 Non-Aqueous Phase Liquids

TCE solubility in water is approximately 1,100,000 ug/L. As a general rule, DNAPL migration is presumed when TCE concentration in groundwater is measured at concentrations exceeding one percent of the solubility in water (or 11,000 ug/L). TCE concentrations in excess of 11,000

ug/L have been observed in samples collected from several wells. However, none of the available information has indicated the presence of separate-phase DNAPL. At this time, the potential presence of TCE DNAPL is suspected based on pure phase solubility inference, but has not been confirmed.

4.6 Data Gaps

Extensive subsurface and indoor environmental investigation activities have been implemented throughout the Site and several surrounding properties by TRC and others between 1987 and the present; however known and perceived data gaps exist. The following provides a summary of the data gaps as currently understood.

Soil – Although a substantial number of soil samples have been submitted for laboratory analysis, the sample locations and targeted sample depth intervals currently provide an incomplete understanding of the lateral and vertical extents of impacts to Site soils. To date, soil boring locations have provided a detailed assessment of conditions in the southern portion and perimeter of the Former Payne Cutlery property. Limited investigation has been conducted to evaluate fill and soil characteristics in the northern portion of the property, as well as proximate and downgradient of former on-property and off-property storage tank locations.

Previously targeted sample depths currently provide a limited understanding of the extent of subsurface VOC, petroleum hydrocarbon and metals impacts. Based on investigation activities conducted by GHR and Cygnus around the perimeter of the property, with the exception of the vicinity of the intersection of Coffin Avenue and Brook Street, the identified VOC impacts are primarily located in shallow soil material. However, additional soil sampling and analysis is warranted to verify the vertical extent of VOC, PAH and metals impacts to soil.

The lateral extent of shallow soil impacts, particularly petroleum hydrocarbons and PAHs, chromium (including the potential presence of hexavalent chromium) and nickel, are also not well defined[13]. Further investigation is required to determine the lateral extents of PAHs detected above MCP Method 1 soil standards within the southern (CGW-14, SS-1, SS-2, SS-3 and SS-5) and western (CGW-12, CGW-13 and CGW-15) portions of the Site, and dibenzo(a,h)anthracene and C_9-C_{10} aromatics near the northeastern property boundary (CGW-3 and SS-1). In addition, shallow detections of chromium and nickel in excess of MCP Method 1 soil standards are widespread within the southern portion of the property, and remain largely undelineated.

Groundwater – The lateral and vertical extents of VOC impacts to groundwater within the southern portion of the Site require further refinement. Monitoring wells screened within the overburden in the southern portion of the property, extending south within Coffin Avenue, Brook Street and Dean Street have yielded samples that exhibit chlorinated VOCs, particularly TCE, in excess of applicable MCP Method 1 GW-2 and/or GW-3 groundwater standards. As described

[13] Chromium speciation data (hexavalent chromium) has not been collected for the Site, therefore total chromium was assumed to be and evaluated as hexavalent chromium for the purposed of the Method 3 Risk Characterization in Section 6.0.

in the IRA Status Report submitted to MassDEP on July 1, 2013 (TRC, 2013e), a SRM condition was confirmed during remedial additive injection activities in March 2013 due to the infiltration of potassium permanganate into the existing storm water and sanitary sewer infrastructure. Infiltration was observed in the stormwater pipeline extending south within Brook Street and west within Dean Street, as well as the sanitary sewer pipeline within Coffin Avenue. The SRM condition appears to have limited migration of compounds cross-gradient (e.g., CGW-7, CW-5 and TRC-2) and downgradient (e.g., TRC-5, TRC-7 and TRC-8) of the Former Payne Cutlery property. Additional investigation is warranted to delineate the lateral extents of VOCs impacts south of the Former Payne Cutlery property.

Soil boring MW-5, where shallow soil data for VOCs were rejected and Oil & Grease analysis revealed a concentration of 1,200 mg/kg, has undergone groundwater sampling for VOCs since 1987 but has never been sampled for petroleum-related groundwater impacts.

In addition, due to concentrations of TCE and PCE in groundwater samples collected from monitoring wells CGW-8, TRC-5 and TRC-5D high enough require laboratory dilutions, elevated detections limits have been reported for other VOCs, which may result in a failure to consider some potential compounds of concern. However, because of the relatively high toxicity of TCE in comparison to most other VOCs, and the lower concentrations present in the vicinity of potential residential exposures points, the increased detection limits are unlikely to affect the conclusions of this Site assessment.

Monitoring well TRC-5D is currently the only on-Site monitoring well screened within the underlying bedrock. Sampling of the well in August 2013, following remedial additive injection within the surrounding overburden, indicated a groundwater TCE concentration (40,000 µg/L), approximately 15-times higher than proximate overburden monitoring well TRC-5 (2,700 µg/L). Although the potassium permanganate injection activities significantly reduced the concentrations of chlorinated VOCs in the overburden, the installation and sampling of TRC-5D confirms the suspicion that VOC impacts have migrated, at a minimum, into the shallow bedrock. Additional investigation is necessary to evaluate the potential extent of impact to the bedrock aquifer.

Groundwater samples have not been collected at the Site for submission for metals analysis since 2000/2001. Further investigation is necessary to confirm and evaluate the extents of metals impacts, particularly in the vicinity of monitoring wells MW-1 (nickel and silver) and MW-3 (cadmium) where dissolved metals have historically been detected in excess of applicable MCP Method 1 GW-3 groundwater standards.

Similarly, although limited investigation of groundwater petroleum and PAH impacts has been conducted as recently as April 2012 (i.e., CGW-8, TRC-1, TRC-2 and TRC-4), the majority of the Site monitoring wells have not been sampled for the parameters since 2000/2001.

Soil Gas – Soil gas sample results collected in close proximity to or beneath several residences along Oneko Lane and Coffin Avenue (i.e., Taber Mill building) in April and June 2012 indicated the presence of chlorinated VOC (i.e., PCE) and volatile petroleum constituents in

excess of MassDEP Residential Soil Gas Screening Values. Potential vapor intrusion to the Taber Mill building has been mitigated with the recent ventilation system modifications. However, additional soil gas sampling, in conjunction with supplemental indoor air sampling, may be required for private residences on Oneko Lane and/or Coffin Avenue prior to Site closure (e.g., 6 Oneko Lane property).

Indoor Air – Based on recent indoor air sample results collected from the first floor of the Taber Mill building, modifications to the existing HVAC system have been successful in mitigating potential migration of VOC vapors to indoor air. However, additional investigation of residential properties on Oneko Lane and/or Coffin Avenue to evaluate the vapor intrusion exposure pathway may be required prior to Site closure.

Ecological - Though the maximum concentrations of DCE, TCE and nickel identified in groundwater exceed their respective GW-3 standards, which are considered to be protective of ecological receptors exposed to groundwater contaminants that potentially emerge in surface waters. The Exposure Point Concentrations (EPCs) (Table 13) calculated for the parameters are less than the standards. Therefore, a condition of no significant risk to the environment for the groundwater impacts associated with the Site (see Section 6.0).

It is important to note, however, only 1987 groundwater data were available to characterize nickel impacts. These groundwater samples were collected via the bailer method. Though low-flow sampling protocols were not used to collect these samples, the sample data were quantitatively evaluated because the samples were filtered and no other data were available to evaluate the concentrations of nickel in groundwater. Additional sampling for metals in groundwater should be performed in order to determine whether a condition of significant environmental risk exists for nickel.

4.7 Disposal Site Boundary

The extent of known OHM associated with the Site is shown in Figure 2 as the Disposal Site Boundary (DSB). The DSB includes the entire property formerly occupied by Payne Cutlery and the known or estimated extent of the chlorinated VOC groundwater plume. As such, the DSB is shown to include the eastern portion of Taber Mill and extends as far south as Deane Street (see Figure 2).

5.0 FATE AND TRANSPORT ANALYSIS

Consistent with 310 CMR 40.0835(4)(e), the following section provides an analysis of the fate and transport of compounds identified at the Site. This section summarizes environmental fate and transport characteristics of identified contaminants and identifies existing and potential migration pathways of OHM at the Site based on observations and analytical results.

5.1 Environmental Fate and Transport Characteristics

Compounds identified in Site soil and groundwater include VOCs, petroleum hydrocarbons and PAHs, chromium, nickel, and silver (see Tables 1 to 2) based on TRC's subsurface investigations and during previous assessments conducted by others. PCBs and select metals (i.e., arsenic, barium, cadmium, copper, lead, mercury, selenium, thallium and zinc) were also detected in Site soil and/or groundwater; however the detection frequency and detected concentrations of PCBs and the metals noted above were below the applicable MCP Method 1 standards, signifying that they are not compounds of concern, and the fate and transport of these compounds is not discussed in the following sections. Soil samples were also analyzed for total cyanide; however cyanide was not detected in any of the soil samples in excess of laboratory detection limits and therefore is excluded from the following discussion of fate and transport. VOCs and petroleum hydrocarbons have been detected in soil gas and indoor air samples as well.

The distribution of chemical impact is influenced, in part, by factors such as the physical and chemical properties of the constituents, the nature and location of sources, and Site characteristics such as geology, hydrology, and topography. Characteristics of these compounds that affect mobility, stability, volatility, persistence, and bioaccumulative potential are discussed herein. Compound chemical characteristics are summarized in a table provided in Table 7.

5.1.1 Compound Properties

To evaluate the fate and transport of chemicals in the environment, it is important to identify the physical and chemical properties that influence fate and transport processes. Chemicals that are structurally similar tend to exhibit like behavior in the environment and as such are grouped into classes. Classes of chemicals detected at the Site include VOCs, petroleum hydrocarbons and PAHs, and metals.

General definitions of physical properties are discussed below, followed by a description of the characteristics of each chemical class.

Specific Gravity. The specific gravity of a chemical is the ratio of the mass of a given volume of the chemical to an equal volume of water at a specified temperature, usually 4 degrees Celsius (°C). Specific gravity is a relative measure of density. Compounds with specific gravities greater than 1.0, if they are immiscible with water, will separate as a sinking phase. Immiscible compounds with specific gravities less than 1.0 will tend to float on water. The majority of the impact evidenced on the Site includes various compounds with specific gravities greater than 1.0 indicating the potential to sink in water.

Water Solubility. The solubility of a chemical in water is the maximum amount of chemical that will dissolve in pure water at a specific temperature and pressure. Water solubility is a general predictor of a chemical's potential mobility and distribution in the environment. Chemicals with moderate to high solubility (greater than 100 milligrams per liter [mg/L]) can readily leach from soils into groundwater, and once there, are generally mobile. Compounds that are highly soluble in water will be less likely to volatilize from water and may be more susceptible to microbial degradation. OHM detected at the Site generally exhibit a range of water solubility, as some VOCs are highly water soluble, some PAHs are somewhat soluble, while metals are relatively insoluble.

Vapor Pressure. The vapor pressure of a liquid or solid is a relative measure of its volatility in its pure form. This value expresses the pressure of the vapor phase of a compound in equilibrium with its liquid or solid phase of the compound at a given temperature. Vapor pressure is important in evaluating migration of chemicals to air from other environmental media; factors such as temperature, wind speed, water solubility and degree of adsorption also play a key role. Chemicals with vapor pressures greater than 10 millimeters of mercury (mm Hg) are considered to be highly volatile. VOCs and VPH fractions detected at the Site exhibit relatively high vapor pressures, while all other compounds generally have low vapor pressures.

Henry's Law Constant. The Henry's Law Constant is another measure of chemical volatility. It is expressed as a ratio of the concentration of a chemical in air to the chemical's concentration in water (i.e., dissolved state). The higher the Henry's Law Constant value, the greater the tendency to volatilize. In general, compounds with values above 10^{-5} atmospheres-cubic meter per mole (atm-m^3/mol) are considered highly volatile and have a greater potential for movement into groundwater. OHM detected at the Site generally exhibit a range of Henry's Law Constants, with VOCs and select petroleum carbon ranges having high values, while most PAHs exhibit low values.

Organic Carbon Partition Coefficient (K_{oc}). This value is a measure of the relative sorption potential of organic compounds. K_{oc} reflects the tendency of an organic compound to be adsorbed onto soils and sediments and is generally independent of soil properties. This value is expressed as the ratio of the amount of a compound adsorbed per unit weight of organic carbon, to the concentration of the compound in aqueous solution at equilibrium. Chemicals with a high K_{oc} (greater than 1,000 milliliters per gram [mL/g]) may exhibit a high sorption potential in soils and are less likely to leach into groundwater. K_{oc} values less than 100 mL/g indicate that the chemical has a high potential to leach into groundwater. VOCs detected at the Site generally exhibit low K_{oc} values indicating a high potential to leach, while the petroleum hydrocarbons and PAHs and metals detected at the Site have relatively high K_{oc} values and tend to exhibit high sorption potential and limited potential to leach.

Log K_{ow} (log octanol/water partition coefficient). This value is a measure of the tendency of a compound to partition between an organic phase (octanol) and an aqueous phase. Log K_{ow} relates indirectly to water solubility and directly to soil adsorption. Chemicals with low partition coefficients (log K_{ow} less than 1) have high water solubilities and low adsorption coefficients,

and would, therefore, be expected to have a high potential to leach into groundwater. Organic compounds detected at the Site generally exhibit relatively high K_{oc} values and tend to exhibit high sorption potential and limited potential to leach. The organic compounds detected in soil are more likely to bind to soil, based on their log K_{ow} values.

5.1.2 Compound Types

Chemical classes detected at the Site include VOCs, petroleum hydrocarbons, PAHs, and metals. The compounds detected in excess of MCP standards are likely attributable to previous Site uses and activities (e.g., electroplating, metal working, degreasing, chemical storage and trench drain usage) and potential impacts related to former on-site and off-site storage tanks.

Volatile Organic Compounds - VOCs and volatile petroleum compounds have been detected on-site. The VOCs have primarily been detected in the southern portion of the Site in the vicinity and downgradient of the former electroplating, metal working, degreasing and chemical storage area, as well as the former trench drain system. VOCs have also been detected in groundwater and soil gas near the eastern property boundary. VOCs generally have high solubilities, contributing to their propensity to mobilize, as well as a high tendency to volatilize.

Polycyclic Aromatic Hydrocarbons - PAHs are the product of incomplete combustion of fossil fuels. They are also components of petroleum and coal. EPH carbon ranges are components of petroleum, including fuel oils, and are often associated with releases of OHM from storage tanks. Compounds of this class generally have low mobility in soil and possess very low aqueous solubility. Therefore, compounds in this class are not likely to be conveyed in the dissolved phase in groundwater and have low relative mobility. PAHs have a tendency to strongly partition (adsorb) to soils and soil organic phases. PAHs and petroleum hydrocarbons have been detected in the southern portion of the property, near the eastern property and in the vicinity of the northeastern property boundary.

Cadmium - Cadmium is a naturally-occurring metal and always occurs in combination with zinc. About three-fourths of cadmium is used in Ni-Cd batteries, most of the remaining one-fourth is used mainly for pigments, coatings and plating, and as stabilizers for plastics. Cadmium has a very low solubility in water and little potential for transport via dissolved phase. Cadmium has been detected in groundwater near the northwestern property boundary and is likely related to an off-site source.

Chromium - Chromium is a naturally-occurring metal and was mainly used in alloys such as stainless steel, in chrome plating and in ceramics. Chromium plating was once widely used to give steel a polished silvery mirror coating. Chromium is used in metallurgy to impart corrosion resistance and a shiny finish; as dyes and paints, as a catalyst in dyeing and in the tanning of leather. Chromium has a very low solubility in water and little potential for transport via the dissolved phase.

Chromium is present in the environment in several different forms, the most common forms being the metal form chromium(0), chromium(III), and chromium(VI). Chromium(III) occurs

naturally in the environment and is an essential nutrient. Chromium(VI) and chromium(0) are generally produced by industrial processes. The less toxic chromium(III) is far more prevalent in the environment than chromium(VI), as chromium(VI) requires extreme pH and Eh conditions that rarely exist in the natural environment to predominate over chromium(III).

Chromium has been detected in soil samples throughout the southern portion of the Site. The presence of chromium is consistent with past Site uses, including chromium and nickel electroplating, metal working activities and former trench drain usage within the southern portion of the property.

Nickel - Nickel is a naturally-occurring metal and the major use of nickel is in the preparation of alloys. A majority of the nickel is used to make stainless steel with other industrial uses being the manufacture of alloy steels, rechargeable batteries, catalysts and other chemicals, coinage, foundry products, and plating. Nickel has a very low solubility in water and little potential for transport via the dissolved phase. The presence of nickel is consistent with former chromium and nickel electroplating, metal working activities and former trench drain usage within the southern portion of the property.

5.2 Potential Migration Pathways

The following summarizes available information regarding potential migration pathways associated with Site impacts.

5.2.1 Soil

Potential routes of migration associated with soil include leaching, erosion, and fugitive dust. Leaching of contaminants from the soil to groundwater is a potential migration pathway as evidenced by the presence of similar VOCs, petroleum and PAH constituents, and metals in soil and groundwater. Furthermore, some of the compounds (i.e., chlorinated VOCs, VPH/EPH carbon ranges and metals) are present in groundwater in excess of applicable MCP groundwater standards. Erosion and fugitive dust may be of a concern at the Site as the majority of the ground surface is not paved and some portions of the Site are sparsely vegetated (i.e., with grass).

5.2.2 Groundwater

Groundwater is a migration pathway as evidenced by the presence of several chlorinated VOCs, petroleum compounds, and metals in the groundwater above GW-2 and/or GW-3 cleanup standards.

Groundwater Pathway to Air

The Site property is not currently occupied and no structures are present; therefore, migration of vapors to indoor air is not a significant concern under current conditions at the Site property. Due to the depth to groundwater at the Site in relation to occupied structures on adjacent

properties, groundwater is classified as GW-2. Consistent with the requirements of 310 CMR 40.0932(2), which states all groundwater is assumed to eventually discharge to surface waters, the groundwater at the Site is also classified as GW-3.

The potential for groundwater to serve as a source of compound migration to indoor air exists at off-property Site locations such as the residences on Coffin Avenue, include the Taber Mill building, and Oneko Lane. The presence of chlorinated VOCs (e.g., TCE) and volatile petroleum constituents have been documented in the soil, groundwater and soil gas samples collected at the Site. As initially documented by Cygnus (2001b), the detection of Site-related groundwater compounds in indoor air, including vapor-phase TCE in the living or working space of an occupied residential dwelling (e.g., Taber Mill building), constitutes a CEP condition under the MCP[14]. Cygnus reported the condition to MassDEP on March 13, 2000 and the indoor air CEP conditions were partially investigated by Cygnus, but not eliminated.

As described in TRC's recent IRA Status Reports (TRC, 2012e and TRC, 2013e) and QAPP Addenda (TRC, 2013a and 2013b), supplemental investigation activities were conducted to evaluate the CEP condition. Remedial activities, including potassium permanganate injection and modifications to the existing HVAC system of the Taber Mill building, were also recently implemented by TRC on behalf of the City. The remedial additive injection activities are described in TRC's IRA Status Report submitted to MassDEP on July 1, 2013 (TRC, 2013e) and recently completed HVAC system modifications are discussed in Section 8.0. Recently completed HVAC system modifications to address the potential intrusion of vapors to the Taber Mill building are discussed in Section 8.0. Additional evaluation of indoor air impacts within residential properties on Coffin Avenue and Oneko Lane may be warranted prior to Site closure.

Preferential Migration Pathways for Impacted Groundwater

The detection of potassium permanganate within the storm sewer and sanitary sewer line during remedial additive injection activities in March 2013 confirmed Site-related compound intrusion to the existing municipal infrastructure, which represents a SRM condition as defined in 310 CMR 40.0006 of the MCP (releases to the groundwater that have migrated or are expected to migrate more than 200 feet per year). Additional data collection is warranted to evaluate the influence of subsurface utilities on contaminated groundwater migration.

Groundwater Pathway to Surface Water and Sediments

The nearest downgradient surface water body (the Acushnet River) is located approximately 2,500 feet east of the property boundary. A wetland is located approximately 750 feet southwest of the property, west of Purchase Street. A sufficient monitoring well network exists at this time to suggest that it is unlikely for Site groundwater compounds to impact the Acushnet River, the wetland and/or associated sediments.

[14] Per the MCP, an indoor air CEP is the route by which OHM released at a Disposal Site are transported, or are likely to be transported, to human receptors via vapor phase emissions of measurable concentrations of OHM into the living or working space of a pre-school, daycare, school or occupied residential dwelling (310 CMR 40.0006).

5.2.3 Air

Cygnus identified a CEP for VOCs in indoor air at the Site. The detection of Site-related groundwater constituents in indoor air constitutes a CEP condition under the MCP. The indoor air CEP conditions were initially investigated by Cygnus, but not eliminated. The investigation of the CEP by Cygnus included two rounds of indoor air sampling, a basement inspection of the Taber Mill building, and groundwater sampling, which was conducted in conjunction with an Imminent Hazard analysis conducted by the MassDEP. MassDEP concluded no Imminent Hazard was present.

TRC subsequently conducted groundwater, soil gas and indoor air sampling to further evaluate the CEP condition. The presence of chlorinated VOCs (e.g., TCE) and volatile petroleum compounds have been documented in the soil, groundwater and soil gas samples collected at the Site. Although confounding sources (e.g., residential fuel and solvent use and/or storage) unrelated to the Site could also be contributing to the detection of OHM in indoor air, remedial activities, including potassium permanganate injection and modifications to the existing HVAC system within the Taber Mill building, were recently implemented at the Site. Additional evaluation of indoor air impacts within residential properties on Coffin Avenue and Oneko Lane may be warranted prior to Site closure.

5.2.4 Surface Water and Sediment

Groundwater flow is generally to the south towards the Atlantic Ocean. The closest major surface water body is the Acushnet River located approximately 2,500 feet east of the Site. Direct migration of Site compounds to surface water via groundwater is unlikely, due to the distance to surface water bodies from the Site and lack of detected Site compounds in available downgradient wells.

5.2.5 Food Chain

No ecologically important habitats are located at the Site. The Payne property consists of a vacant 3.3-acre parcel and is relatively flat with a slight downward slope in a southerly direction. The property is currently vacant with no structures, and is surrounded by a chain-link fence. The majority of the ground surface is unpaved and is sparsely covered with grass and small shrubs. The Site has a history of past industrial use, is located within an urbanized area and is surrounded by industrial or residential areas. Therefore, the Site does not provide important habitat for ecological receptors nor does it provide an undeveloped connection between areas of important ecological habitat.

5.3 Potential Exposure Pathways

Possible exposure pathways related to impact observed at the Site include the following:

- Human exposure to contaminated soil and/or groundwater; and
- Human exposure to contaminated vapors.

The groundwater beneath the Site is not within a Current Drinking Water Source Area and not within a Potential Drinking Water Source Area as defined by the MCP. According to the City of New Bedford Health Department, there are no known private drinking water wells within 500 feet of the Site. No domestic wells were identified in the MassDEP well drilling database in close proximity to the Site (MassDEP, 2013a). Therefore, the potential for human exposure to Site compounds through drinking water is considered unlikely.

The potential for human exposure to soil affected by petroleum products, chlorinated VOCs, or metals in the soils is limited because access is restricted by a locked chain-link fence, there is little opportunity for uncontrolled direct human contact with potentially impacted soils at the Site.

Potential exposure to chlorinated VOC vapors that may have been present in Taber Mill has been controlled by the installation of ventilation system modifications throughout the eastern portion of the crawl space. Low concentrations of chlorinated VOCs have been measured in Taber Mill subsequent to completion of the ventilation system modifications, but the levels are within the range of typical background concentrations (see Table 4).

There is a potential for exposure to vapors associated with chlorinated VOCs in groundwater that may be migrating beyond the known extent of the groundwater plume. However, these exposures are considered unlikely because soil vapor testing at residences along Coffin Avenue and Oneko Lane have not identified elevated vapor concentrations associated with the Site and the structures located beyond the known southerly extent of the plume are not residential.

5.4 Conceptual Site Model

The conceptual site model for the Site is derived from interpretations of historical review and observations during soil, groundwater, soil gas and indoor air sampling activities. Figure 9 presents a schematic conceptual site model that illustrates, on a site-specific basis, how compounds likely entered the environment, how the compounds were transported at the Site, and the potential for exposure to human and environmental receptors, as currently supported by the available information on compounds identified at the Site.

The primary sources of OHM at the Site are assumed to be:

- Industrial use at the Site including cold pressing of steel, metal grinding, degreasing of metal with TCE, chemical storage including substances used in metal plating processes and the manufacturing of polymers for plastic and rubber tool grips, and chromium and nickel electroplating resulting in VOC, petroleum hydrocarbon and metals impacts; and
- Previous use of storage tanks on-property, as well as upgradient of the Former Payne Cutlery property, resulting in petroleum hydrocarbon impacts.

The primary release mechanisms from these presumed historical sources are not known, but they can be inferred where the historical locations of OHM sources coincide with known OHM in soil

and groundwater. Significant industrial activities, including metal working, electroplating, and chemical storage and degreasing, primarily took place in the southern portion of the property, adjacent to Coffin Avenue. In addition, a trench drain system, conveying waste to the municipal sewer system at a connection near the intersection of Coffin Avenue and Church Street, formerly bisected the southern portion of the property (see Appendix A)[15].

The available data indicate that VOC, petroleum, and metals impacts to soil have largely been observed in the southern portion of the Site, in the vicinity of the previous industrial activities and trench drain usage. Furthermore, impacts have primarily been observed in the shallow soil material, indicating historic releases to the surface and/or via compromised portions of the trench drain system.

Releases in the southern portion of the Site have apparently migrated to groundwater, with VOC and metals extending from the southern portion of the property into Coffin Avenue and south along Brook Street. VOC impacts, including site-specific compounds of concern, have also been detected in soil gas and indoor air samples collected south of the property. Compound migration in groundwater has likely been influenced by subsurface utilities located within the property boundary and along Coffin Avenue and Brook Street.

VOC concentrations in overburden groundwater are highest at the intersection of Brook Street and Coffin Avenue and on the southern portion of the former Payne property. These concentrations diminish significantly in downgradient (southerly) wells, suggesting that the chlorinated VOCs may have migrated into fractured bedrock or storm sewers running down Brook Street (or both). The downgradient (southerly) extent of VOC impact is known to extend as far as Deane Street (TRC-7 and TRC-8). Plume dispersion to the east and west of Brook Street appears to be limited, possibly due to interception by storm sewers or migration to fractured bedrock.

Migration of VOCs in fractured bedrock is not yet understood because data is limited to a single bedrock well (TRC-5D).

[15] The approximate location of the former trench drain, as well as depictions of the locations of former activities within the Payne Cutlery property, are depicted GHR's *Site Assessment Summary*, Figure SP-1, and Cygnus *IRA Status Report No. 2*, Figure 2 (Site Plan).

6.0 METHOD 3 RISK CHARACTERIZATION

Consistent with 310 CMR 40.0835(4)(g) and (h), the following section provides a risk characterization for the Site. This risk characterization has been conducted in a manner consistent with the Massachusetts Contingency Plan and the requirements of 310 CMR 40.0900, guidelines laid out in MassDEP's Guidance for Disposal Site Risk Characterization (MassDEP, 1995 and updates) and MassDEP petroleum policies (MassDEP, 2002; MassDEP, 2003).

Supplemental information for this Method 3 risk characterization is included in Appendix H-1 (Soil, Groundwater and Indoor Air Data), Appendix H-2 (ProUCL Output), Appendix H-3 (Trench Air Modeling), Appendix H-4 (Soil Risk Calculations), Appendix H-5 (Groundwater Risk Calculations), Appendix H-6 (Trench Air Risk Calculations) and Appendix H-7 (Indoor Air Risk Calculations). Figure 2 depicts Site features and soil and groundwater sampling locations; Figures 3 and 4 depict the soil gas and indoor air monitoring locations, respectively.

This risk characterization is intended to determine whether a condition of no significant risk exists for the Site, based on current and future unlimited site activities and uses. Though future receptors on the former Payne Cutlery property could be exposed to compounds in indoor air following subsurface migration from soil and groundwater, this exposure pathway is not quantitatively evaluated in the current risk characterization because no building currently exists on the property. This exposure pathway will require quantitative evaluation in the future or a vapor mitigation system installed to protect the health of future building occupants.

6.1 Current and Reasonably Foreseeable Site Activities and Uses

6.1.1 Current Use

The former Payne Cutlery (i.e., source area) property consists of a vacant 3.3-acre parcel located in an industrial and residential area of New Bedford, Massachusetts. Downgradient residential properties along Oneko Lane and Coffin Avenue may be potentially impacted by VOCs in shallow groundwater migrating from the source area property. There currently is a paved parking lot at the southeast corner of the source area property. The remainder of the source area property is vacant and surrounded by a chain-link fence. There are no on-property buildings present. The Site is bordered to the north by a vacant mill building; to the west across Church Street by greenhouses; to the south across Coffin Avenue by residential housing and the Taber Mill building; and to the east by residential homes across Oneko Lane.

Depth to groundwater at the Site is less than 10 feet below ground surface. Groundwater flow beneath the Site follows a general southerly flow pattern. The nearest surface water body is the Acushnet River, located approximately 2,500 feet east of the property boundary. A wetland is located approximately 750 feet southwest of the property (i.e. groundwater is not considered a current or potential potable water source).

According to the NRS Scoring Map, included as Figure 5, surface waters, wetlands, or Areas of Critical Environmental Concern located within 500 feet of the Site. In addition, the Site is not

located within a designated Zone II, Interim Wellhead Protection Area, a Potentially Productive Aquifer, or the Zone A of a Class A Surface Water Body. Pursuant to the MCP, the GW-1 category does not apply to the Site.

Because the source area property is vacant and fenced, and an asphalt parking lot covers the unfenced area, intermittent trespassers breaching the chain-link fence would be the primary current human receptors to potentially contact impacted surface soil in unpaved areas via ingestion and dermal contact. Emergency utility workers may also contact chemicals in soil for a brief (i.e., 1 day) period of time. Exposure pathways for emergency utility workers include dermal contact with soil and shallow groundwater, incidental ingestion of soil, inhalation of fugitive dusts released from contaminated soils, and inhalation of VOCs in trench air released from soil and shallow groundwater as a result of subsurface activities. Because impact extends beyond the source area property boundary, emergency utility workers in the surrounding roadways may also contact substances in soil and groundwater via the same exposure pathways as the emergency utility worker at the source area property. Though utility worker soil exposures would likely be confined to the upper 6-foot interval, these receptors have been evaluated for exposures to soil contaminants within the 0 to 15-foot interval due to the lack of sufficient data representative of the 3 to 6-foot soil depth interval.

Because Site groundwater is not considered a current or potential potable water source, potential exposure of human receptors to impacted groundwater, used directly as a potable water supply or for non-potable purposes, is considered highly unlikely and has not been further evaluated. However, due to the presence of residences downgradient of the source area property, the subsurface vapor intrusion pathway is considered potentially complete and evaluated at:

- 6, 8 and 12 Oneko Lane;
- 348, 350, 353, 357, 358, 362 and 364 Coffin Avenue; and
- the Tabor Mills building.

Because the basements at these residences are not currently used as living space, only the first floor indoor air data have been evaluated for current exposures except for 350 Coffin Avenue which has a partially finished basement. At this location, air measurement data collected from the finished basement as well as the first floor were evaluated for current exposures to site-related indoor air contaminants.

6.1.2 Future Foreseeable Use

Redevelopment plans for the former Payne Cutlery property are unknown, but could include use as commercial, residential or green space. Therefore, the risk characterization has evaluated four future soil exposure scenarios: (1) park visitor; (2) commercial worker; (3) adult and child residents; and (4) construction/utility workers.

Under future foreseeable Site activities and uses, exposure pathways for workers involved in excavation activities for redevelopment of the source area property or for emergency utility work

include dermal contact with soil and shallow groundwater, incidental ingestion of soil, inhalation of fugitive dusts released from impacred soils, and inhalation of VOCs in trench air released from soil and shallow groundwater as a result of subsurface activities. Future utility workers on the source area property and in the surrounding roadways may contact soil and substances in groundwater via the same exposure pathways as the construction worker.

The subsurface vapor intrusion pathway is considered complete in the future at the downgradient residences. For the future conditions scenario, use of the basement and first floor areas as living space is assumed to occur.

Future residential use of the source area property is evaluated through child, youth and adult receptors. This evaluation assumes that future residents could be exposed to both surface and subsurface soil, assuming that the existing pavement is removed and that future excavation work results in the movement of subsurface soil impacts to the surface. Future residents could potentially be exposed to substances in soil through dermal contact, incidental ingestion, and the ingestion of chemicals taken up by homegrown fruits and vegetables. Because chemical concentrations in groundwater exceed MCP GW-2 standards on the source area property, the subsurface vapor intrusion pathway (i.e., groundwater and soil gas to indoor air) is considered potentially complete under future residential Site use and will required evaluation in the future. The inhalation of fugitive dusts entrained from friable soils is considered an incomplete exposure pathway because the Site is assumed to be landscaped in the future.

Future commercial use of the source area property (fromer Payne Cutlery) has also been evaluated. Future commercial workers were assumed to be exposed to impacted soil through dermal contact, incidental ingestion and inhalation of fugitive dusts released from contaminated soils. The subsurface vapor intrusion pathway is considered complete under future commercial use and will require evaluation should redevelopment involve the construction of occupied buildings.

Should the property be used as green space, child, youth and adult park visitors would be exposed to substances in surface and subsurface soils through dermal contact and incidental ingestion. The subsurface vapor intrusion pathway is considered complete under future park use and will require evaluation should redevelopment into recreational space involve the construction of occupied buildings.

6.2 Imminent Hazards

An Imminent Hazard is not presented by the OHM that has been identified at this Site. This determination is based on a review of criteria for releases “deemed to pose” an Imminent Hazard under 310 CMR 40.0321(1) and the criteria for releases that “could pose” an Imminent Hazard under 310 CMR 40.0321(2). The results of this review are provided in the following sections.

6.2.1 Criteria for Releases Deemed to Pose an Imminent Hazard – 310 CMR 40.0321(1)

The release to the environment is not known to have resulted in the presence of OHM within buildings, structures, or underground utility conduits at a concentration equal to or greater than 10-percent of the Lower Explosive Limit (LEL), as set forth in 310 CMR 40.0321(1)(a). The substances detected at the Site either do not possess reactive or explosive characteristics consistent with 310 CMR 40.0321(1)(b), or the compounds are not present at concentrations or in situations expected to threaten human health or safety.

The OHM detected at the Site does not appear to be related to a release to a roadway that could endanger public safety as set forth in 310 CMR 40.0321(1)(c).

The release would not pose a significant risk to human health if present for even a short period of time consistent with 310 CMR 40.0321(1)(d) and 310 CMR 40.0950. The former Payne Cutlery property is currently surrounded by a chain-link fence or covered by asphalt pavement. Consequently, Impaced soils identified at the Site are not characterized as "accessible surface soil" as defined in 310 CMR 40.0953(2). In addition, drinking water exposures are not a pathway associated with this Site.

The release did not result in immediate and acute adverse impacts to freshwater or saltwater fish populations consistent with 310 CMR 40.0321(e). The nearest water body is the Acushnet River, located approximately 2,500 feet east of the property boundary.

The release did not result in any apparent effects to human health such as respiratory distress or dermal irritations as set forth in 310 CMR 40.0321(1)(f). No such effects have been reported to public health agencies, the Site owner, or TRC.

6.2.2 Criteria for Release that Could Pose an Imminent Hazard – 310 CMR 40.0321(2)

There are no reports of the impacts identidied at the Site resulting in the measurement of OHM in a private drinking water supply well at a concentration equal to or greater than ten-times the GW-1 RC, as set forth in 310 CMR 40.0321(2)(a); the GW-1 reporting category does not apply to this Site. In addition, no private drinking water supply wells are known to be present in the vicinity of the Site. The Site and surrounding area are supplied potable water by the municipality.

The release did not trigger the Imminent Hazard concentration thresholds established under 310 CMR 40.0321(2)(b).

Current exposures to the top foot of soil, as discussed in Section 6.8 and presented on Table 15, do not exceed the Cumulative Risk Limits set forth in 310 CMR 40.0955(2)(a). Current exposures to surface soil assume that trespassers periodically breach the fence and come into contact with exposed soils. In addition, no imminent hazard condition exists associated with

exposure to indoor air at any of the residential properties evaluated or at the Tabor Mills building (see Table 15). This determination is based on 2000/2001 data collected at the residential properties along Oneko Lane/Coffin Avenue and 2013 indoor air data collected at the Tabor Mills building following the completion of ventilation system modifications.

6.3 Soil and Groundwater Category Classification

6.3.1 Groundwater

As previously described, the Site is not located within a designated Zone II, Interim Wellhead Protection Area, a Potentially Productive Aquifer, or the Zone A of a Class A Surface Water Body. In addition, the Site area is serviced by municipal water and is not reported to be within 500 feet of any private wells. Therefore, a MCP GW-1 Groundwater Category classification is not considered applicable to this Site.

Because buildings are present downgradient of the source area properties, buildings may be constructed on the source area properties in the future, and average annual depth to groundwater is less than 10 feet across the Site, the GW-2 Groundwater Category is considered applicable under current and future foreseeable Site conditions and uses.

Consistent with the requirements of 310 CMR 40.0932(3), where all groundwater is assumed to eventually discharge to surface waters, the groundwater at the Site is classified into the GW-3 Groundwater Category.

6.3.2 Soil

Based on current use of the source area property, both adult and child exposures correspond to low frequency/low intensity use. Accordingly, the applicable MCP soil category for current activities and uses is S-2 for unpaved, fenced soils and S-3 for paved soils. Assuming future use of the source area properties as a residence, both children and adults would be present with high frequency and undergo high intensity exposures. Therefore, the applicable MCP soil category for anticipated future activities and uses is S-1.

6.4 Hazard Identification

Soil, groundwater, and indoor air analytical data were reviewed to evaluate the nature and extent of impact at the Site and to identify contaminants of potential concern (COPCs) as part of the Hazard Identificaton. Soil gas data, collected adjacent to and beneath the downgradient residences, have not been quantitatively evaluated in the risk characterization, but have been used qualitatively to assist in the selection of COPCs for the vapor intrusion pathway. Soil, groundwater, soil gas and indoor air analytical data available for qualitative and quantitative use in the risk characterization are presented in Tables 1 through 4, respectively.

6.4.1 Hot Spot Evaluation

Soil and groundwater data from the Site were evaluated for the presence of hot spots. Indoor air data were not evaluated for hot spots because maximum detected concentrations were used as exposure point concentrations (EPCs). A hot spot is defined in the MCP as a discrete area where the chemical concentrations are substantially higher than those present in the surrounding area. A discrete area where the average concentration within the area is greater than ten but less than one hundred times the average concentration in the immediate surrounding area is a hot spot unless there is no evidence that the discrete area would be associated with greater exposure potential than the surrounding area. In all cases, a discrete area where the chemical concentration is greater than one hundred times the concentration in the surrounding area is to be considered a hot spot. The identification of hot spots is performed to minimize the likelihood that a location with significantly elevated chemical concentrations will be diluted by combining it with locations of lesser chemical concentrations in the evaluation.

As further stated in the MCP, in no case should chemical concentrations equal to or less than an applicable MCP Method 1 soil standard be considered indicative of a hot spot. Therefore, one chemical for the 0 to 1 foot and 0 to 3 foot (current) soil intervals (Tables 8 and 9), 10 chemicals for the 0 to 3 foot (future) soil interval (Table 10), and 12 chemicals for the 0 to 15 foot soil interval (Table 11) were included in the hot spot analysis for soil as all other detected chemicals were present at levels less than applicable MCP Method 1 soil standards or the maximum detected concentration was used for the risk calculations. Four additional chemicals lacked Method 1 soil standards (chloromethane, trichlorofluoromethane, carbon disulfide and 2-hexanone). These chemicals were not included in the hot spot analysis because their maximum detected concentrations were used for the risk calculations. Six chemicals were included in the hot spot analysis for groundwater (Table 13) as all other detected chemicals were present at concentrations less than applicable MCP Method 1 groundwater standards or the maximum detected concentration was used for the risk calculations.

The following table shows the natural soil background (MassDEP, 2002) concentration of the compounds examined for the hot spot analysis, the maximum detected concentration of each of the identified compounds, the average concentration for each chemical in the applicable soil interval excluding the maximum detection, and the variance between the maximum concentration and the average concentration. Soils within each specific interval will be equally accessible to receptors; therefore, the 100-fold variance for a hot spot is applicable to each interval.

Soil – Hot Spot Analysis				
Chemical	**"Natural" Soil Background Concentration (mg/kg)**	**Maximum Concentration (mg/kg)**	**Average Concentration Excluding Maximum (mg/kg)**	**Variance (Maximum versus Average Excluding Maximum)**
0 to 1 Foot Soil Interval				
TPH	NA	1200	426	2.8-fold
0 to 3 Foot (Current) Soil Interval				
TPH	NA	1200	359	3.3-fold
0 to 3 Foot (Future) Soil Interval				
Bromomethane	NA	1.5	0.07	21-fold
Dichloroethene, cis-1,2	NA	3	0.09	33-fold
Benzo(a)anthracene	2	12	4.0	3-fold
Benzo(b)fluoranthene	2	13	4.2	3.1-fold
Benzo(a)pyrene	2	10	3.1	3.2-fold
Indeno(1,2,3-cd)pyrene	1	7.7	2.5	3.1-fold
Dibenz(a,h)anthracene	0.5	7.7	1.2	6.4-fold
TPH	NA	1200	221	5.4-fold
Chromium	30	350	66	5.3-fold
Nickel	20	1600	180	8.9-fold
0 to 15 Foot Soil Interval				
Bromomethane	NA	1.5	0.061	25-fold
Dichloroethene, cis-1,2	NA	7.2	0.6	12-fold
Trichloroethylene	NA	530	12	44-fold
C_{11}-C_{22} Aromatics	NA	110	3.2	34-fold
Benzo(a)anthracene	2	12	3.0	4-fold
Benzo(b)fluoranthene	2	13	3.2	4.1-fold
Benzo(a)pyrene	2	10	2.1	4.8-fold
Indeno(1,2,3-cd)pyrene	1	7.7	1.9	4.1-fold
Dibenz(a,h)anthracene	0.5	7.7	0.96	8-fold
TPH	NA	1200	221	5.4-fold
Chromium	30	350	56	6.3-fold
Nickel	20	1600	180	8.9-fold

As shown above, the maximum detected concentrations of the compounds selected for evaluation for each soil interval vary from the average soil interval concentrations by less than 100-fold. Therefore, no hot spots as defined by the MCP were identified for soil.

The following table shows the compounds included in the hot spot analysis for shallow groundwater, the maximum detected concentration of each of the identified compounds, the average concentration for each chemical excluding the maximum detection, and the variance

between the maximum concentration and the average concentration. Shallow groundwater will be equally accessible to construction/utility workers; therefore, the 100-fold variance for a hot spot is applicable for groundwater.

Shallow Groundwater – Hot Spot Analysis			
Chemical	**Maximum Concentration (µg/L)**	**Average Concentration Excluding Maximum (µg/L)**	**Variance (Maximum versus Average Excluding Maximum)**
Shallow Groundwater			
Dichloroethene, cis-1,2	3,800	64	59-fold
Tetrachloroethylene	260	17	15-fold
Trichloroethylene	18,000	488	37-fold
C5-C8 Aliphatics	14,500	380	38-fold
Cadmium	8	1.5	5.3-fold
Silver	10	3	3.3-fold

As shown above, the maximum concentrations of the compounds selected for evaluation for shallow groundwater vary from the average soil interval concentrations by less than 100-fold. Therefore, no hot spots as defined by the MCP were identified for groundwater.

6.4.2 Soil

Soil sampling data have been collected from across the Site during multiple field efforts between 1987 and 2013. The comprehensive soil data set is provided in Appendix H-1, Table H-1.1. Results from soil samples collected from locations greater than 15 feet below ground surface (CGW-14 15-17', CGW-17 20', MW-3 15-16.5', and TRC-5 15-15.5'; shaded yellow on Table H-1.1) have not been included in the risk characterization data set. In addition, results from soil samplescontaining non-detect or below natural soil background levels of contaminants (CGW-1 10-12', CGW-2 10-12', CGW-4 10-12', CGW-5 10-12', CGW-6 10-12', CGW-10 10-12', CGW-11 10-12', CGW-16 5-7', MW-2 5-6.5' and 10-10.8', MW-3 5-6' and 10-12', MW-3A 0-1.5', MW-4 5-6.5' and 10-11.5', MW-5 10-10.9', SB-1 7-11' and SB-2 7-11'; shaded green on Table H-1.1) were not included in the risk assessment data set because these locations are beyond the horizontal and/or vertical extent of the Site. The risk characterization data sets are provided in Appendix H-1, Tables H-1.2 through H-1.6 for the five exposure points/soil intervals evaluated in the risk characterization. Data summary tables were generated for the following exposure points/soil intervals:

- Surface soil (0 to 1 foot interval) at the former Payne Cutlery property (Table H-1.2);
- Surface soil at currently unpaved locations (0 to 3 foot interval) at the former Payne Cutlery property (Table H-1.3);
- Surface soil at paved and unpaved locations (0 to 3 foot interval) at the former Payne Cutlery property (Table H-1.4);

- Surface and subsurface soil at paved and unpaved locations (0 to 15 foot interval) at the former Payne Cutlery property (Table H-1.5); and
- Roadway soils (0 to 15 foot interval (Table H-1.6).

6.4.3 Groundwater

Groundwater sampling data from across the Site are available dating back to 1987. For the risk characterization, shallow groundwater data collected in 1987 and 2001 for inorganics (the most recent available data) and 2012 and 2013 for organics (the most representative of current site conditions) have been quantitatively evaluated, though all available shallow groundwater data have been qualitatively considered in the selection of COPCs for the vapor intrusion pathway (see Section 6.5.2). For monitoring wells CGW-8 and TRC-5, only VOC results from the August 2013 sampling event were quantitatively evaluated because oxidant injection, targeted in this area, significantly decreased concentrations of VOCs in these two wells. Groundwater samples evaluated in the risk characterization are presented in Appendix H-1, Table H-1.7.

Due to the depth of the well, data from TRC-5D have not been used in the evaluation of shallow groundwater exposures for an excavation worker or for the vapor intrusion pathway.

Summarized groundwater chemistry data are presented in Table 13. These data were used to evaluate direct contact exposures for an excavation worker and also used to model estimated trench air concentrations, as applicable.

6.4.4 Indoor Air

Indoor air samples were collected in March 2000 from the basement and first floor spaces at 6, 8 and 12 Oneko Lane, 348, 350, 353, 357, 358, 362 and 364 Coffin Avenue and the Tabor Mills building. A second round of sampling was conducted from a subset of locations in March/April 2001 (348, 350, 357 and 362 Coffin Avenue and the Tabor Mills building). The crawl space, basement and first floor of the Tabor Mills building were subsequently sampled in June 2012. Following ventilation system modifications performed in August 2013 to provide constant negative pressure for the building throughout the year, first floor indoor air sampling was conducted at three first floor locations within the Tabor Mills building.

The 2000/2001 indoor air sampling results for the Oneko Lane and Coffin Avenue residential properties were quantitatively evaluated in the risk characterization. For the Tabor Mills building, both the 2012 and 2013 indoor air data were quantitatively evaluated. The 2013 sampling results were used to evaluate current exposures, including the potential for an imminent hazard condition to be present. The 2012 sampling results were assumed to be representative of future worst-case conditions, should the system modifications fail in the future, resulting in a loss of negative pressure. Because the 2013 indoor air samples were analyzed for APH fractions as well as some individual petroleum-related VOCs included in the TO-15 analyte list, the petroleum-related VOCs (cyclohexane, heptane, 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene and 4-ethyltoluene) were not quantitatively evaluated to avoiddouble-count the contribution from

these compounds. Data for indoor air contaminants are presented in Table 4. Appendix H-1, Tables H-1.8 and H-1.9 contain data segregated by property address for the Oneko Lane/Coffin Avenue residences and Tabor Mills building, respectively

6.5 Compounds of Potential Concern

COPCs for the risk characterization may be identified by: a) screening contaminant levels against available or applicable background values, b) eliminating contaminants with low detection frequencies, and c) eliminating contaminants that are considered laboratory contaminants and not related to the OHM release. In addition, substances that are not reported above laboratory reporting limits may also be removed from further consideration as COPCs.

Petroleum-related VOCs (1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene) detected in indoor air were evaluated as C9-C10 aromatic compounds. For soil and groundwater, these and other VOCs included in the C9-C10 aromatic fraction (e.g., p-isopropyltoluene, n-butylbenzene, etc.) were not included in the quantitative analysis since the samples in which these were detected were also analyzed for VPH fractions. Evaluating both the VPH fractions and specific VOCs included in the fractions would be double-counting the contribution of these compounds during the risk characterization. In addition, for compounds that were captured by more than one analytical method (e.g., naphthalene reported in the VOC, VPH and EPH analyses), the analysis that resulted in the more conservative data set (i.e., the higher concentration) was quantitatively evaluated.

6.5.1 Soil and Groundwater COPC Selection

Summarized data for detected compounds are presented on Tables 8 through 12 for soil, and Table 13 for groundwater. For soil, all detected substances are considered COPCs, except for arsenic, cadmium, copper, mercury and zinc in the former Payne Cutlery property data sets and arsenic, barium and chromium in the roadway data set which were detected at concentrations less than the MassDEP background values for natural soils. Lead was excluded from the list of groundwater COPCs since the maximum detected concentration was less than the groundwater background concentration used by MassDEP in setting the MCP standards for this compound.

6.5.2 Indoor Air COPC Selection

Because indoor air may be impacted by many types of sources, including site related substances in shallow groundwater via vapor intrusion, the indoor use of VOC containing products and equipment, off-gassing from building materials and furnishings, and outdoor air quality, selecting COPCs for off-property indoor air is a multi-step process that needs to consider:

- The potential for source area site-related volatile groundwater compounds to migrate to off-property locations;

- Whether concentrations of site-related volatile groundwater compounds that have migrated off-property are present at sufficient concentrations to impact soil gas beneath the off-property residences, and potentially indoor air quality within the residences;
- The distribution of any detected site-related volatile compounds within potentially impacted buildings to determine whether their presence is related to indoor sources or to vapor intrusion; and
- The concentrations of volatile compounds in upwind outdoor air with the potential to impact indoor air quality.

Figure 10 outlines the procedure used to determine indoor air COPCs.

As a first step in the COPC selection process, a comprehensive list of VOCs detected in site-wide groundwater was compiled. This list, in theory, provides the site-related VOCs that could potentially be considered indoor air COPCs. If a VOC was never been detected in groundwater but was detected in indoor air, then the finding is likely related to a source other than the Site. Compounds detected in site-wide groundwater include primarily chlorinated VOCs and petroleum-related compounds. Only cis-1,2-DCE, TCE, PCE and C5-C8 aliphatics were detected at concentrations above MCP GW-2 standards in site-wide groundwater. The comprehensive list of compounds detected in site-wide groundwater is shown under the "Groundwater" column of Figure 10.

Soil gas sampling data were then considered to assist in establishing whether a complete vapor intrusion pathway exists between shallow groundwater and residential indoor air. Many of the same compounds detected in shallow groundwater were also detected in soil gas samples, with exceedances of residential soil gas screening criteria noted for TCE, PCE, and naphthalene. Cis-1,2-dichloroethene and C5-C8 aliphatics, which are present in shallow groundwater at concentrations greater than their GW-2 standards, were not detected (cis-1,2-dichloroethene) or only detected at low concentration (C5-C8 aliphatics) in soil gas. However, detected compounds in soil gas were retained as potential site-related COPCs because groundwater reporting limits were elevated in a few wells. Of these additional compounds, only naphthalene exceeded soil gas screening criteria. Four additional compounds (highlighted yellow on Figure 10) were retained for further considered in the COPC selection process because these compounds were detected in indoor air, but were not included in the groundwater analytical program or had elevated reporting limits in some monitoring wells samples.

Indoor air data for the basement and first floor of the Oneko Lane/Coffin Avenue residential properties combined were considered to select indoor air COPCs for these buildings. This is a conservative approach since not all buildings may be impacted to the same degree through the vapor intrusion pathway. Indoor air COPCs were selected separately for the Tabor Mills building since this building was more recently sampled.

For indoor air, compounds that were never detected in Site groundwater or soil gas were considered unrelated to the Site (dichlorodifluoromethane [Freon-12], chloromethane, Freon-114, chloroethane, Freon-113, 1,2-dichloroethane and carbon tetrachloride). These VOCs were considered not to be site-related and were not selected as indoor air COPCs (highlighted green

on Figure 10). All other VOCs detected in indoor air, including the four VOCs lacking suitable groundwater data (highlighted yellow on Figure 10), were considered potentially site-related and further considered in the COPC selection process for indoor air.

To determine whether any of the potentially site-related VOCs detected in indoor air were more likely to be present as a result of outdoor air influence or indoor sources unrelated to the Site, the first floor, basement and outdoor air results were compared for each of the residential properties. If a VOC is present as a result of a complete vapor intrusion pathway, basement air should be impacted more significantly than first floor air.The progression of concentrations from highest to lowest should be basement > first floor > outdoor air. If the outdoor air results are consistently the highest for a VOC, then an outdoor source is implicated in causing the indoor air VOC detections. Conversely, if an indoor (first floor) source is the cause, first floor VOC results should be consistently higher than basement or outdoor air results. Though this type of comparative analysis cannot distinguish vapor intrusion as a source of VOCs from a basement source (e.g., a lawn mower stored in the basement), if a basement source was suspected, the soil gas results proximate to the building in question were reviewed to determine if soil gas or a basement source was the more likely cause (refer to Table 3 for soil gas data). The comparison of first floor, basement and outdoor air results for the potentially site-related VOCs is shown in Appendix H-1, Table H-1.8 (for the Oneko Lane/Coffin Avenue residences) and H-1.9 (for the Tabor Mills building).

The final indoor air COPC selection process for each residential building is shown in Appendix H-1, Table H-1.8. Compounds were eliminated from quantitative evaluation if: (1) they were not detected in indoor air; (2) first floor or outdoor air concentrations were consistently higher than basement air concentrations; or (3) a compound was not detected in soil gas in the vicinity of the residence even though it was detected in indoor air. One instance requiring further discussion is PCE at 364 Coffin Avenue (highlighted purple on Figure 10). At this residence, PCE was detected in soil gas beneath the building at a lower concentration than detected in the basement or first floor indoor air samples, indicating an indoor source contributing at least partially to the measured indoor air concentrations. Therefore, the maximum detected soil gas concentration (14.4 µg/m3) attenuated by a factor of 70 was used as the worst-case contribution from the vapor intrusion pathway (0.206 µg/m3). The attenuation factor of 70 is used by MassDEP in deriving the subslab soil vapor screening values.

As shown on the Appendix H-1, Table H-1.9, for the Tabor Mills building, a few of the potentially site-related VOCs were not detected in 2012 indoor air samples (i.e., cis-1,2-DCE, PCE and styrene), though PCE and styrene were detected in the 2013 indoor air samples. Some additional compounds were present at higher concentrations in first floor air than in the basement/crawl space air or is soil gas (i.e., acetone, chloroform, 1,4-dichlorobenzene, ethylbenzene, methylene chloride, methyl isobutyl ketone, naphthalene, toluene, Freon 11, xylenes, C_5-C_8 aliphatics and C_9-C_{12} aliphatics). Therefore, it appears that these VOCs (highlighted blue on Figure 10), though potentially related to the Site, are not primarily present in indoor air as a result of a complete vapor intrusion pathway, but rather as a result of an indoor source. Because the 2013 indoor air samples were analyzed by a different analytical laboratory using a different TO-15 analyte list, a number of VOCs were detected in indoor air that had

never been analyzed for in groundwater or soil gas (ethanol, ethyl acetate, isopropanol, carbon disulfide, tetrahydrofuran and 2-hexanone). As a conservative approach, these VOCs were included in the list of 2013 indoor air COPCs.

COPCs for the indoor air samples collected at the residential properties are presented in Table 14.

6.6 Dose-Response Assessment

The Dose-Response Assessment is designed to evaluate the potential non-carcinogenic (threshold) and carcinogenic (non-threshold) effects of COPCs and describes the effects observed in humans and/or laboratory animals following the intake of a specific dose of the compound. The information from the Dose-Response Assessment is used in conjunction with information from the Exposure Assessment (Section 6.7) to estimate the risk and hazard generated by each COPC from an exposure (Section 6.8).

6.6.1 Non-Carcinogenic Dose-Response Assessment

The toxicity values used in this Dose-Response Assessment of COPCs producing non-carcinogenic effects are the Reference Doses (RfDs) for oral and dermal exposures and Reference Concentrations (RfCs) for inhalation exposures. RfD and RfC values provide an estimate of the daily dose of the COPC to which an individual may be exposed without an appreciable risk of adverse health effects (including organ damage or reproductive effects) appearing during their lifetime. RfD and RfC values assume that a threshold dose exists below which there will be minimal risk for adverse effects to occur.

The chronic RfD and RfC values are based upon a 70-year lifetime exposure, and are approximate doses derived from an available No Observed Adverse Effect Level (NOAEL) or the Lowest Observed Adverse Effect Level (LOAEL). Subchronic RfD values are based on defined, less than lifetime exposures. Subchronic RfDs are appropriate for use in evaluating excavation worker-related risks or short-term risks to children.

Uncertainty factors (which account for varying sensitivities among populations and extrapolation of data from animal studies to humans) and modifying factors (which reflect professional judgment of the toxicity information available) are applied to the NOAEL or LOAEL to determine RfD and RfC values. These safety factors reflect the quality of the data used and build conservatism into the Dose-Response Assessment.

COPCs produce non-carcinogenic effects by acting on specific organs (e.g., liver or kidney) within the body through distinct mechanisms of action. The organ that is affected at the lowest dose (i.e., the most sensitive or critical effect) is identified as the target organ. Effects of COPCs acting on the same target organ and through the same mechanism of action are considered to be additive. COPCs that produced effects on different target organs or produce effects on the same target organ, but through different mechanisms of action, are not considered to be additive.

Relative Absorption Factors (RAFs) are used to account for differences between the method of administration in the study on which the RfD is based and the Site-specific routes of exposure. These values vary with the medium and route of exposure.

The RfD and RfC values used in this risk characterization were selected by giving primary consideration to values used by MassDEP in the 2012 Short-forms (MassDEP, 2013b). Due to a lack of chromium speciation data, total chromium was assumed to be and evaluated as hexavalent chromium. When toxicity values could not be obtained from this source (e.g., for trichlorofluoromethane, chloromethane, carbon disulfide, isopropanol, tetrahydrofuran and 2-hexanone), values were obtained from the U.S. EPA's *Integrated Risk Information System* (IRIS) (US EPA, 2013) the Health Effects Assessment Summary Table (HEAST, 1997), the California Environmental Protection Agency (CalEPA) or the *Superfund Technical Support Center* (STSC). Because RfCs were not available for ethanol and ethyl acetate, the methanol RfC developed by CalEPA was used as a conservative surrogate for ethanol and the RfC for ethyl acetate was calculated from the IRIS RfD using a body weight of 70 kg and a ventilation rate of 20 m^3/day. Chronic and subchronic RfDs and RfCs and medium-specific RAFs are listed in the Risk Calculation Spreadsheets and as part of the Shortform documentation (Appendices H-4 through H-7).

6.6.2 Carcinogenic Dose-Response Assessment

The U.S. EPA has developed a system for classifying chemicals according to the likelihood that the compound is a human carcinogen. This system groups chemicals into five classes based upon the weight-of-evidence (of carcinogenicity) of the available data. Consistent with MassDEP risk characterization guidelines, class A, B, and C carcinogens are evaluated in a Method 3 risk characterization. The oral slope factors (SFs) and inhalation unit risks (URs) used in this risk characterization were selected by giving primary consideration to values used by MassDEP in the 2012 Short-forms (MassDEP, 2013b). Carcinogenic toxicity values (SFs and URs) are presented in the Risk Calculation Spreadsheets and as part of the Shortform documentation (Appendices H-4 through H-7).

6.7 Exposure Assessment

Consistent with the requirements of 310 CMR 40.0923, the Exposure Assessment requires the identification of all current and reasonable foreseeable activities and uses associated with a site and a description of how these uses and activities could result in the exposure of human receptors to the COPCs present. Receptors and exposure pathways applicable to this risk characterization are discussed in Section 6.1. The following sections discuss the exposure assumptions used for each receptor, developed to estimate the frequency and intensity of the exposure, and the medium-specific exposure point concentrations, used to describe the environmental concentrations to which specific receptors may be exposed.

Current receptors include off-property residents exposed to COPCs in indoor air, trespassers occasionally contacting surface soil (0-1 foot and 0-3 foot intervals) within the fenced portion of the former Payne Cutlery property and emergency utility workers exposed to substances in soil

and shallow groundwater on the former Payne Cutlery property and within the surrounding roadways. Future receptors include residents, park visitors, commercial workers and construction/utility workers on the former Payne Cutlery property, utility workers in the surrounding roadways, and residents in the off-property residential neighborhood exposed to indoor air. Because MassDEP Shortforms have been used for the residential soil, park visitor soil, residential indoor air, and construction worker soil scenarios, standard default exposure assumptions provided by MassDEP have been used for these scenarios.

6.7.1 Exposure Assumptions

Exposure assumption values listed represent either best professional judgment based on site-specific information or values considered consistent with or those listed in MassDEP's Guidance For Disposal Site Risk Characterization (July 1995), presented by MassDEP in published Shortforms or used by MassDEP in the development of the MCP numerical standards (MassDEP, 2008).

Though future on-property receptors may be exposed to substances in indoor air following subsurface migration from soil and groundwater, this exposure pathway has not been quantitatively evaluated because no building currently exists on the former Payne Cutlery property. This exposure pathway will require quantitative evaluation in the future, should a building be constructed, or managed via a vapor mitigation system to protect the health of building occupants.

Trespasser - For the 11 to 18 year-old older child, exposures to surface soil are assumed to occur 2 days per week for the warmest 30 weeks of the year for a total of 60 days. Incidental ingestion of soil was set at 50 milligrams per day (mg/day). Dermal contact with COPCs in soil was evaluated using a soil adherence factor of 0.14 milligram per square centimeter (mg/cm^2) and assumed exposure via the hands, forearms and feet (approximate body surface area of 2,940 cm^2). The exposure duration for non-cancer endpoints of toxicity was averaged over 30 weeks. The average weight of the child was set at 50.7 kilograms (kg). MassDEP's Trespasser Shortforms (v10-12) were used to evaluate this receptor. The same exposure assumptions were used to evaluate risks and hazards for a potential imminent hazard condition as used to evaluate chronic risks and hazards, except an exposure period of 5 years instead of 7 years was used for the imminent hazard evaluation.

Commercial Worker - Under this scenario, exposures to COPCs could occur through outdoor activities. Outdoor soil exposures are assumed to occur for 150 days/year (5 days/week for 30 weeks). A 61 kg average body weight is assumed. The incidental ingestion rate of soil was set at 50 mg/day. Dermal contact with soil COPCs was assumed via the hands, forearms, and feet (3477 cm^2) using a soil adherence factor of 0.03 mg/cm^2, consistent with the values developed by MassDEP for industrial/outdoor commercial workers. Workers are assumed to be involved in physical activities equivalent to an average inhalation rate of 20 cubic meters/day [m^3/day]. Inhalation of fugitive dusts outdoors by adult workers was evaluated using a PM10 of 60 micrograms/cubic meter [$\mu g/m^3$]. The exposure duration for non-cancer endpoints of toxicity was averaged over 27 years for the worker.

Construction/Utility Worker - Under current and future foreseeable Site activities and uses, exposures to COPCs could occur during subsurface excavations that expose impacted soils and groundwater. Potential exposures to COPCs are assumed to occur 8 hours/day for 130 days/year for excavation workers. Utility worker exposures are assumed to occur for 8 hours on one day. The exposure duration for non-cancer endpoints was averaged over 0.5 years (182 days) for the construction worker and one week for the utility worker. Workers are identified as adults (58 kg average body weight) involved in physical activities equivalent to an average inhalation rate of 20 m^3/day. Inhalation of fugitive dusts outdoors by adult workers was evaluated using a PM_{10} of 60 µg/m^3. The incidental ingestion rate of soil was set at 100 mg/day. Dermal contact with soil COPCs was assumed via the face, hands, forearms, and feet (3477 square centimeters [cm^2]) using a soil adherence factor of 0.29 mg/cm^2. MassDEP's Construction Worker Shortform (v10-12) for soil was used to evaluate this receptor. Excavations were assumed to proceed down to the water table. Contact with shallow groundwater was conservatively assumed to occur 8 hours/day for 65 days/year. Dermal contact with groundwater COPCs was also assumed to occur via the face, hands, forearms, and feet. Construction worker exposures to trench air COPCs are assumed to occur 8 hours/day, 130 days/year for 0.5 years, consistent with the soil exposure evaluation, while utility workers were assumed to be exposed for 8 hours on one day. Assumptions used in the modeling of COPCs from soil and groundwater to trench air are included in Appendix H-3.

Resident - For the adult, youth and child resident, outdoor exposures to COPCs in soil are assumed to occur for 150 days/year (5 days/week for 30 weeks/year). The exposure duration for non-cancer endpoints of toxicity was averaged over 16 years for the adult, and 7 years each for the youth and child. The average weights of the adult, youth and child were set at 58.7 kg, 39.9 kg, and 17.0 kg, respectively. Incidental ingestion of soil was set at 50 mg/day and 100 mg/day for the adult/youth and child, respectively. Dermal contact with COPCs in soil was evaluated using a soil adherence factor of 0.13 mg/cm2 for the adult, 0.14 mg/cm^2 for the youth, and 0.35 mg/cm2 for the child which assumes exposure via the face, hands, forearms, lower legs, and feet (5653 cm2, 4427 cm2, and 2431 cm2 for the adult, youth and child, respectively). Exposures to indoor air COPCs are assumed to occur 24 hours/day, 365 days/year for 30 years. The vegetable intake pathway was included as a complete exposure pathway, as indicated by the residential soil Shortform. MassDEP's Residential Shortform (v10-12) for soil was used to evaluate this receptor. For the indoor air pathway, exposure were assumed to occur for 24 hours/day, 365 days/year for 30 years. An exposure period of 5 years was used for the imminent hazard calculation. MassDEP's Residential Shortforms (v10-12) for indoor air were used to evaluate this receptor.

Park Visitor - For the adult, youth and child, outdoor exposures to COPCs in soil are assumed to occur for 90 days/year (3 days/week for 30 weeks/year). The exposure duration for non-cancer endpoints of toxicity was averaged over 16 years for the adult, and 7 years each for the youth and child. The average weights of the adult, youth and child were set at 58.7 kg, 39.9 kg, and 17.0 kg, respectively. Incidental ingestion of soil was set at 50 mg/day and 100 mg/day for the adult/youth and child, respectively. Dermal contact with COPCs in soil was evaluated using a soil adherence factor of 0.13 mg/cm2 for the adult, 0.14 mg/cm^2 for the youth, and 0.35

mg/cm^2 for the child which assumes exposure via the face, hands, forearms, lower legs, and feet (5653 cm^2, 4427 cm^2, and 2431 cm^2 for the adult, youth, and child, respectively). MassDEP's Park Visitor Shortform (v10-12) for soil was used to evaluate this receptor.

6.7.2 Exposure Point Concentrations

EPCs represent the COPC concentrations in a medium that a receptor may come in contact with at the exposure point. Depending on the exposure scenario, the exposure point may consist of an area or zone of potential exposure, or a single exposure point. EPCs for this risk characterization were derived from the analytical soil, groundwater, and indoor air data tabulated in Appendix H-1, and based on soil and groundwater to air fate and transport modeling results presented in Appendix H-3 for trench air.

For the measured indoor air datasets for Oneko Lane and Coffin Avenue, first floor/finished basement and basement/unfinished basement maximum concentrations have been used as EPCs (Table 14) for the current and future scenarios, respectively. For the Tabor Mills building, maximum detected concentrations from the 2013 data set have been used as current EPCs; maximum detected concentrations from the 2012 data set have been used as future EPCs, assuming the ventilation system modifications fail in the future, resulting in a loss of negative pressure (Table 14).

For exposures to substances in soil, the arithmetic mean concentration has been used for most COPCs. However, for those COPCs with concentrations that exceed their Method 1 standard by more than 10-fold or in more than 25% of the instances, the 95% Upper Confidence Limit (UCL) on the arithmetic mean concentration has been used as the EPC. In cases where the mean or 95% UCL exceeded the maximum detected concentration, the maximum detected concentration has been used as the EPC. UCLs were calculated using EPA's software program "ProUCL Statistical Software". ProUCL tests for normality, lognormality, and gamma distribution of a data set, and computes a conservative and stable UCL of the population mean. Based on the data distribution, ProUCL computes the UCL of the population mean using appropriate statistical methods. Consistent with current MassDEP guidance, levels of COPCs reported as "below the reporting limit" were assigned a value of one-half the reporting limit in the calculation of the 95% UCL. ProUCL outputs are provided in Appendix H-2. Tables 8 through 12 indicate whether the soil EPC is based on a maximum detected concentration, arithmetic mean concentration or a UCL, and for each UCL, the statistical test used by ProUCL to determine the value.

Consistent with soil, arithmetic mean or 95% UCL concentrations were used as groundwater EPCs, as applicable, except in those cases where the calculated mean or 95% UCL value exceeded the maximum detected value. In these instances, the maximum detected concentration has been used as the EPC (see Table 13).

The soil EPCs for volatile compounds presented in Tables 11 (0 to 15 foot interval on the former Payne Cutlery property) and 11 (roadway soil) and groundwater EPCs presented in Table 13 were used to model trench air concentrations for the construction/roadway utility worker

scenario. The combined impacts from soil and groundwater on trench air were calculated by summing the risks and hazards estimated for each medium.

For the soil to trench air scenario, the Johnson & Ettinger model was used to estimate a soil gas concentration, which was then diluted into a trench using conservative algorithms and assumptions. The modeling algorithms and assumptions are documented in Appendix H-3. For the groundwater to trench air scenario, modeling algorithms and assumptions are provided in Appendix H-3. For this pathway, a model developed by the Virginia Department of Environmental Quality (VDEQ) for groundwater encountered at depths less than 15 feet below ground surface has been used. Detailed information concerning the model can be found at www.deq.state.va.us/vrprisk/raguide.html.

6.7.3 Estimation of Chemical Intake

To evaluate the risk of harm to human health, the intake of each COPC must be estimated, a process which involves assessing the amount of material in contact with the receptor and the amount actually available for absorption by the body. This assessment is achieved through the calculation of an average daily dose (ADD) for each COPC and for each route of exposure. Compound-specific and exposure route-specific RAFs are used in the ADD equations to convert an exposure (amount) to a dose (amount per unit body weight).

The general ADD equation is as follows and is consistent with that provided in MADEP's *Guidance for Disposal Site Risk Characterization* (July, 1995):

$$ADD = \frac{\text{Total Amount of Chemical Taken In}}{(\text{Body Weight}) * (\text{Averaging Period})}$$

The specific ADD equations for the various exposure pathways evaluated are provided below:

Incidental Ingestion of Soil

$$ADD = \frac{(EPC)*(\text{Ingestion Rate})*(\text{Exposure Frequency})*(\text{Exposure Period})*RAF}{(\text{Body Weight})*(\text{Averaging Period})}$$

Dermal Contact with Soil

$$ADD = \frac{(EPC)*(\text{Surface Area})*(\text{Exposure Frequency})*(\text{Exposure Period})*(\text{Adherence Factor})*RAF}{(\text{Body Weight})*(\text{Averaging Period})}$$

Dermal Contact with Groundwater

$$ADD = \frac{(EPC)*(\text{Surface Area})*(\text{Exposure Frequency})*(\text{Exposure Duration})*(\text{Exposure Period})*RAF*K_p}{(\text{Body Weight})*(\text{Averaging Period})}$$

Inhalation of Indoor Air or Trench Air

$$ADD = \frac{(EPC)*(\text{Exposure Time})*(\text{Exposure Frequency})*(\text{Exposure Duration})}{(\text{Averaging Period})}$$

For the fugitive dust pathway, equations presented in *Characterization of risks due to inhalation of particulates by construction workers (Revised Technical Update; 2007a)* were used. The equations used are as follows:

Inhalation of Fugitive Dust – GI System

$$ADD = \frac{(EPC)*1.5*(Inhalation\ Rate)*RAF*(Exposure\ Duration)*(Exposure\ Frequency)*(Exposure\ Period)*PM_{10}}{(Body\ Weight)*(Averaging\ Period)}$$

Inhalation of Fugitive Dust – Respiratory System

$$ADD = \frac{(EPC)*0.5*(Inhalation\ Rate)*RAF*(Exposure\ Duration)*(Exposure\ Frequency)*(Exposure\ Period)*PM_{10}}{(Body\ Weight)*(Averaging\ Period)}$$

The averaging period (AP), or period of time over which the total intake of contaminant is averaged, can be adjusted to calculate the ADD for an acute exposure (AP = 1 day or less), for a subchronic exposure (AP = few days to several months), and for a chronic exposure (AP = several months to 70 years).

Exposure assumptions and the specific equations used to calculate ADDs are provided in the spreadsheets and as part of the Short-form documentation provided in Appendices H-4 through H-7. The ADD values calculated for chronic/subchronic exposures were compared to the toxicity values (e.g., RfDs, RfCs, and SFs) discussed in Section 6.6. This comparison provides a numerical estimate of the levels of risk and the potential for adverse health effects to occur due to exposure to COPCs, as described in the next section.

6.8 Risk Characterization

To characterize the risk of harm to human health from potential exposures to COPCs identified at the Site, carcinogenic and non-carcinogenic risks were characterized for each COPC present at each exposure point/soil interval for each receptor, and the cumulative receptor risk values were compared to the MassDEP Risk Limits to assess the condition of "No Significant Risk." In addition, the condition of "No Significant Risk" was evaluated through comparison of EPCs for the COPCs to Applicable, Available or Suitably Analogous Public Health Standards.

To estimate non-carcinogenic risk, the Hazard Quotient for each COPC was calculated by dividing the ADD computed in the Exposure Assessment (Section 6.7) by the RfD or RfC identified in the Dose-Response Assessment (Section 6.6). The cumulative Hazard Index (HI) for each receptor was subsequently calculated by summing the COPC hazard quotients for the exposure pathways applicable to each receptor. This HI is called a Screening HI and provides a conservative estimate of the true hazard because it assumes additivity even though COPCs may exert effects on different organ systems and/or through different mechanism of action. The Screening HI was first compared to the Cumulative Receptor Non-Carcinogenic Risk Limit (Cumulative Receptor Hazard Index) of 1 (310 CMR 40.0993(6)) to characterize the risk of harm

to human health, and to establish whether a condition of "No Significant Risk" exists at the Site. If the Screening HI was less than 1, no further discussion was necessary to characterize noncancer hazard. However, if the Screening HI exceeded the Risk Limit of 1, the Screening HI was segregated by target organ, as described in MassDEP guidance (MassDEP, 1995). Each target organ HI was then compared to the Risk Limit of 1 to establish whether a condition of "No Significant Risk" exists at the Site.

To calculate the Excess Lifetime Cancer Risk (ELCR) for each COPC, the Lifetime Average Daily Dose (LADD) estimated in the Exposure Assessment is multiplied by the SF or UR identified in the Dose-Response Assessment. The ELCR for each COPC is then summed to calculate the Total ELCR for each exposure pathway. The Total Site Cancer Risk for each receptor is subsequently computed by summing the Total ELCR values for the exposure pathways applicable to each receptor. The Total Site Cancer Risk is then compared to the Total Site Cancer Risk Limit of 1E-05 (CMR 40.0993(6)) to characterize the risk of harm to human health, and to establish whether a condition of "No Significant Risk" exists at the Site, as defined in 310 CMR 40.0993(7).

The following provides a discussion of the receptor-specific risks and hazards for each of the exposure points evaluated in the risk characterization. Tables 15, 16 and 17 present summaries of the receptor-specific total risks and hazards applicable to imminent hazard, current and future scenarios, respectively. Individual COPC, pathway and route-specific HQs and ELCRs are shown in Appendices H-4 through H-7 for soil, groundwater, trench air and indoor air, respectively.

6.8.1 Off-Property Residences

The off-property residences along Oneko Lane and Coffin Avenue as well as the Taber Mill facility were evaluated for potential vapor intrusion risk and hazards associated with shallow groundwater VOC impacts. No imminent hazard condition exists associated with exposure to indoor air at any of the residential properties evaluated or at the Tabor Mills building. In addition, screening HIs and total receptor ELCRs are less than MassDEP Risk Limits for the evaluated residential properties under current and future worst-case conditions.

6.8.2 Former Payne Cutlery Property

No imminent hazard condition exists associated with trespasser exposures to surface soil compounds, assuming the fence is breached. In addition, screening HIs and ELCRs do not exceed the MassDEP Risk Limits for current trespassers exposed to substances in surface soil or for 1-day emergency utility workers exposed to surface/subsurface soil, shallow groundwater and trench air.

Future receptors evaluated include construction/utility workers, commercial workers, park visitors and residents. Screening HIs and ELCRs are less than MassDEP Risk Limits for future commercial worker and 1-day emergency utility worker contact with surface and subsurface soil,

shallow groundwater and/or trench air, though target organ HIs and/or ELCRs exceed the MassDEP Risk Limits for park visitors, residents and 6-month construction workers.

For the construction worker scenario, TCE in shallow groundwater is the primary risk contributing COPC, either via direct dermal contact with exposed groundwater or via inhalation of impacted trench air. TCE in surface and subsurface soil and benzo(a)pyrene in surface soil are the primary risk contributing COPCs for the park visitor. For the future resident, the primary risk contributors are TCE, benzo(a)pyrene, PCBs, lead and nickel in surface soil and subsurface soil.

Though future receptors on the former Payne Cutlery property may be exposed to contaminants in indoor air following subsurface migration from soil and groundwater, this exposure pathway has not been quantitatively evaluated because no building currently exists on the property. This exposure pathway will require quantitative evaluation in the future or a vapor mitigation system installed to protect the health of future building occupants.

6.8.3 Adjacent Roadways

Receptors evaluated for exposures in the adjacent roadways include emergency utility workers (1 day of exposure). Screening HIs and ELCRs do not exceed the MassDEP Risk Limits for the emergency utility worker exposed to soil, shallow groundwater and trench air.

6.8.4 Applicable or Suitably Analogous Public Health Standards

As part of the evaluation of the condition of "No Significant Risk" of harm to human health (as defined in 310 CMR 40.0993(7)), the MCP requires a comparison of COPC EPCs to Applicable or Suitably Analogous Public Health Standards (310 CMR 40.0993(3)). Such standards include, but are not limited to, Massachusetts Air Quality Standards promulgated in 310 CMR 6.00, Massachusetts *Surface Water Quality Standards* promulgated in 314 CMR 4.00, and Massachusetts *Drinking Water Quality Standards* promulgated in 310 CMR 22.00.

As noted in Section 6.1, the Site is not considered to be part of a potentially productive aquifer. Therefore, comparison of COPC groundwater concentrations to MassDEP Drinking Water Standards is not required for the evaluation of "No Significant Risk" of harm to human health. In addition, air and surface water quality standards are not considered applicable to the Site.

6.9 Uncertainty Analysis

Risk characterizations are subject to a number of uncertainties. As a result, risk estimates derived from the equations and assumptions in this risk characterization should not be interpreted as absolute estimates of the risks of harm to human health posed by potential exposures to COPCs reported at the Site.

General sources of uncertainty include:

- adequacy of the Site characterization;
- adequacy of the sampling plan;
- quality and treatment of the analytical data;
- accuracy of the exposure assumptions; and
- development of toxicity values (RfDs, RfCs, SFs, and URs).

Site-specific uncertainties are discussed below. As discussed below, conservative assumptions are selected for use in the risk characterization process which generally leads to overestimation, rather than underestimation, of Site risks and hazards.

6.9.1 Hazard Identification/ Data Quality

Sampling was conducted with bias, targeting areas that were likely to have elevated concentrations of OHM based on Site history and field screening. This type of sampling strategy is commonly used for site characterization. However, it should be noted that because of the sampling bias, soil and groundwater data sets may overestimate the concentrations of COPCs present across the Site, resulting in an overestimation of the risks and hazards at the Site.

The Data Usability Assessment identified instances where sampling data for VOCs and petroleum-related compounds in soil and groundwater may be biased low due to holding time exceedances, improper preservation techniques and/or low surrogate recoveries (see Appendix E for additional details). In some instances, the data were rejected and not included in the quantitative assessment of risk and hazard. However, some of the data were included in the quantitative analysis. Because VOCs were identified as significant risk contributing chemicals for soil and groundwater in the risk assessment, these low bias data did not significantly impact the conclusions of the risk characterization. Additional data collection will occur to fill any data gaps created by these low quality data prior to Site closure.

Only 1987 groundwater data were available to characterize nickel impacts. These groundwater samples were collected via the bailer method. Though low-flow sampling protocols were not used to collect these samples, the sample data were quantitatively evaluated because the samples were filtered and no other data were available to evaluate the concentrations of nickel in groundwater. Additional sampling for metals in groundwater should be performed prior to Site closure.

6.9.2 Dose-Response Assessment

In the Dose-Response Assessment, Uncertainty and Modifying Factors, applied to toxicity information to obtain RfD and RfC values, are used to account for the following uncertainties, which, in turn, can add to the overall uncertainty of the risk characterization findings:

- the use of dose-response information from effects observed at high doses to predict the adverse health effects that may occur following exposure to the low levels expected from human contact with the COPCs in the environment;
- the use of dose-response information from short-term exposure studies to predict the effects of long-term exposures, and vice-versa;
- the use of dose-response information from animal studies to predict adverse health effects in humans; and
- the use of dose-response information from homogeneous animal populations or healthy human populations to predict the adverse health effects likely to be observed in the general population, consisting of individuals with a wide range of sensitivities.

In addition, the following practices result in additional uncertainties in the dose-response assessment:

- the use of oral toxicity values as surrogate toxicity values for the dermal route of exposure; and
- the use of surrogate toxicity values for compounds without assigned values, such as those used to characterize the petroleum hydrocarbon fractions.

6.9.3 Exposure Assessment

The Exposure Assessment focuses on the evaluation of non-carcinogenic and carcinogenic effects for an individual who is exposed to the COPCs. Conservative exposure assumptions, as recommended by MassDEP, were used for intake rates, surface areas, and body weights. Exposure frequencies and exposure periods were default MassDEP values, or selected to conservatively represent site-specific exposure conditions. The use of conservative assumptions can potentially overestimate the estimate of the risk of harm from exposure to the COPCs and contribute to the uncertainty of the risk characterization.

For some compounds, maximum detected concentrations were used as EPCs which results in uncertainty in the evaluation and may over- or underestimate the true risks and hazards at the Site, depending on the representativeness of the samples selected for site characterization.

6.10 Public Welfare Risk Characterization

Per the MCP (310 CMR 40.0994), there are two purposes for characterizing the risk to public welfare: 1) to identify and evaluate nuisance conditions, which may be localized, and 2) to identify and evaluate significant community effects.

The characterization of risk to public welfare considers effects that are or may result from the presence of residual impacts. Further, the characterization of risk to public welfare is for current and reasonably foreseeable Site activities and uses, requiring an understanding of the Site, the

receptors and exposure information. Per 310 CMR 40.0994, the characterization of risk to public welfare does not consider pecuniary effects or private resources.

Factors that the MCP takes into consideration to evaluate nuisance conditions and significant community effects include the following:

- **Nuisance conditions –** The breathing zone of ambient and/or indoor air at the Site is free of persistent, noxious odors (at present and for the reasonably foreseeable future). There are also no impacts from the Site on drinking water (noxious taste/odors), and there are no livestock impacts. Per the MCP, a nuisance condition is not present.
- **Loss of active or passive property uses –** The former Payne Cutlery property is currently vacant and not in active use. Use of surrounding properties will remain consistent with the current use.
- **Non-pecuniary effects –** The Site is not a public resource (such as a park), and no public resources are known to be impacted by the Site. No public water supplies are impacted (odors, etc.), and the atmosphere is not impacted by noxious odors.
- **Upper Concentration Limits –** Soil EPCs do not exceed their respective MCP UCLs for any exposure point or soil interval (see Tables 8 through 12). However, as shown on Table 13, the groundwater EPC for nickel exceeds its respective MCP UCL.

Based on the above information a condition of "Significant Risk" to public welfare exists at the Site based on the UCL exceedance for nickel in groundwater.

6.11 Characterization of Risk to Safety

Risk of harm to Safety associated with the release of COPCs at the Site was evaluated in accordance with the requirements of 310 CMR 40.0941(2) and 40.960, and was based on Site visits and on observations made consistent with MCP Response Action Performance Standards (RAPS) as defined in 310 CMR 40.0191. COPC-related safety hazards evaluated under current and future foreseeable site conditions included: the presence of open pits; lagoons; uncontained corrosive, flammable/ignitable, reactive, or infectious materials; threat of fire or explosion (including the presence of explosive vapors); weakened berms; and rusted or corroded drums or containers.

Qualitative observations did not reveal hazards associated with the COPC release likely to pose a threat of physical harm or bodily injury to people, and consequently, a condition of "No Significant Risk" of harm to safety was considered to exist at the Site. Evaluation of risk of harm to safety through comparison of Site conditions to applicable or suitably analogous safety standards (e.g., Lower Explosive Limits) was not considered applicable to this Site.

6.12 Stage I Environmental Screening

This environmental risk characterization briefly describes the terrestrial habitat present at the Site and evaluates the quality of the habitat associated with the Site. This risk assessment represents a Stage I - Method 3 Environmental Screening under the MCP and was conducted in accordance with the *Guidance for Disposal Site Risk Characterization, Method 3 - Environmental Risk Characterization* (Massachusetts Department of Environmental Protection, Interim Final Policy WSC/ORS-95-141, April 1996). The objectives of this Stage I environmental screening are to determine whether significant environmental exposure exists at the Site and whether additional investigation to assess environmental risks is warranted.

The 3.3-acre Payne property consists primarily of a sparsely vegetated area that is located within an urbanized setting that provides limited terrestrial habitat for ecological receptors. Although undeveloped areas that are sparely vegetated are present on the Site, the lack of aquatic habitats or a diverse terrestrial plant community severely limit the use of the Site by ecological receptors. Land use at the Site is not expected to change in the foreseeable future that would result in the establishment of more valuable habitat for terrestrial receptors. Therefore, in accordance with the environmental risk characterization guidance, no significant soil exposure pathways exist at the Site

No aquatic or wetland habitats are present on the Site or in the vicinity (i.e., within 500 feet) of the Site. The nearest surface water body is the Acushnet River, located approximately 2,500 feet east of the Site. Based on a review of priority habitats (Natural Heritage Atlas, 13th Edition, MassGIS, 2008), no state-listed threatened, endangered or species of special concern are present at the Site or in the vicinity. In addition, Areas of Critical Environmental Concern (ACEC) are not located in the vicinity of the Site.

Groundwater EPCs are summarized in Table 13. As shown in this table, EPCs for TCE and nickel exceed their respective its GW-3 standards. Therefore, the groundwater analysis indicates a condition of significant risk potentially exists to the environment for the groundwater exposure pathway. However, only 1987 groundwater data were available to characterize nickel impacts. These groundwater samples were collected via the bailer method. Though low-flow sampling protocols were not used to collect these samples, the sample data were quantitatively evaluated because the samples were filtered and no other data were available to evaluate the concentrations of nickel in groundwater. Additional sampling for metals in groundwater should be performed in order to determine whether a condition of significant environmental risk exists for nickel.

7.0 TIER CLASSIFICATION

This Interim Phase II CSA report has been designed to conform to the applicable requirements specified in 310 CMR 40.0835 of the MCP. The information presented in this report has been used to complete a Tier Classification for this Disposal Site in accordance with the NRS (310 CMR 40.1500). The Disposal Site does not meet the inclusionary criteria in 310 CMR 40.0520(2), and received a score of 296 on the NRS Scoresheet included in Appendix I. The Site has therefore been classified as Tier II Disposal Site pursuant to 310 CMR 40.1500 of the MCP.

Requirements and deadlines for conducting response actions at a Tier II Disposal Site are included in 310 CMR 40.0560. The Tier II Classification is effective for five years, at which time a RAO or Tier II Classification Extension (310 CMR 40.0560(7)) may be required.

8.0 IMMEDIATE RESPONSE ACTION STATUS REPORT (310 CMR 40.0425)

Consistent with 310 CMR 40.0425, the following section fulfills the requirements of an IRA Status Report. As with previous IRA-related submittals, this IRA Status Report specifically addresses CEP related response actions at the Site. Cygnus reported the CEP condition to MassDEP on March 13, 2000 due to the detection of TCE in groundwater at concentrations greater than 5 mg/L within 30 feet of occupied residential structures, where groundwater is less than 15 feet below ground surface. This IRA Status Report also addresses responses actions related to a SRM condition confirmed at the Site and reported to MassDEP on March 13, 2013. These response actions are tracked by MassDEP under RTN 4-15373.

Please refer to the IRA reports submitted by Cygnus in January and August 2001 (Cygnus 2001a and 2001b), as well as previous IRA Status Reports submitted by TRC in December 2012 (TRC, 2012e) and July 2013 (TRC, 2013e) for additional details.

8.1 IRA Activities Performed Prior to this Status Period

IRA activities completed at the Site prior to this reporting period are discussed in previous sections of this report. The activities are also detailed in previous IRA-related reports for the Site including the following:

- *Updated Immediate Response Action Plan and IRA Status Report No. 1, Former Payne Cutlery Property, 295 Phillips Avenue, New Bedford, Massachusetts, DEP Release Tracking Number #4-0000404* (Cygnus, 2001a).
- *Immediate Response Action Status Report No. 2, Former Payne Cutlery Property, 295 Phillips Avenue, New Bedford, Massachusetts, DEP Release Tracking Number #4-0000404 and #4-15373* (Cygnus, 2001b).
- *Immediate Response Action Status and Modification Report, Former Payne Cutlery Site, 295 Phillips Avenue, New Bedford, Massachusetts, Release Tracking Number 4-15373* (TRC, 2012e).
- *Immediate Response Action Status Report, Former Payne Cutlery Site, 295 Phillips Avenue, New Bedford, Massachusetts, Release Tracking Number 4-15373* (TRC, 2013e).

The following sections describe activities performed subsequent to activities described in the last IRA Status Report submitted to MassDEP on July 1, 2013.

8.2 The Status of Assessment and/or Remedial Actions

This IRA Status Report is organized per 310 CMR 40.0425(3)(a) through (e) of the MCP. This section describes activities performed subsequent to activities described in the last IRA Status Report submitted to MassDEP on July 1, 2013.

8.2.1 Monitoring Well Installation

On August 5 and 6, 2013, a bedrock monitoring well was installed within the southern portion of the Coffin Avenue parking lot, proximate to overburden monitoring well TRC-5, to provide an initial evaluation of potential VOC impacts to the bedrock. Monitoring well TRC-5D was installed by Geosearch, Incorporated (Geosearch) of Fitchburg, Massachusetts using a truck-mounted drill rig and telescoping drilling techniques with a combination of hollow-stem augers and HQ-diameter core barrels. The boring was advanced to 28 feet below grade and the monitoring well was constructed with ten feet of screen within the shallow bedrock. The boring/well construction log is included in Appendix C.

As described below, post-injection groundwater samples collected in August 2013 indicate that chlorinated VOCs impacts extend vertically beyond the overburden and into the shallow fractured bedrock.

8.2.2 Supplemental Relative Elevation Survey & Well Gauging

On February 25, 2013, a relative well elevation survey was conducted by Land Planning. Newly installed and existing well locations, as well as general site features, were relative to an arbitrary 200.00 foot benchmark. Due to the winter weather conditions, including snow cover, all existing wells could not be located at the time of the survey. Monitoring wells TRC-2 and CGW-8 were subsequently tied into the relative elevation survey by TRC on March 13, 2013.

Following installation of monitoring well TRC-5D in August 2013, the well casing elevation was tied into the existing relative elevation survey by TRC on September 5, 2013 (see Table 6).

Prior to the collection of groundwater samples, a limited monitoring well gauging event was conducted by TRC on September 5, 2013 to evaluate the vertical groundwater gradient in the vicinity of monitoring well TRC-5. The relative well elevations of monitoring wells gauged on September 5, 2013 are summarized in the following table.

Relative Groundwater Elevations – September 5, 2013

Monitoring Well	Depth to Water (feet)	Relative Well Elevation (feet)
CGW-8	7.91	199.21
TRC-2	7.77	199.05
TRC-3R	7.91	199.52
TRC-4	6.25	197.51
TRC-5	7.62	200.26
TRC-5D	7.87	200.17
TRC-6	7.20	198.97
TRC-7	5.18	194.66

Relative Groundwater Elevations – September 5, 2013		
Monitoring Well	**Depth to Water (feet)**	**Relative Well Elevation (feet)**
TRC-8	5.13	195.16

The relative groundwater elevations at monitoring well TRC-5 (overburden) and TRC-5D (shallow bedrock) indicate a relatively weak (less than 0.1 foot) downward vertical hydraulic gradient between the overburden and the shallow bedrock. This is consistent with calculated hydraulic conductivity values discussed in Section 3.3; however, further evaluation is necessary to determine the consistency, magnitude variability and potential influence of subsurface utilities on the vertical hydraulic gradient in the vicinity of monitoring well TRC-5 as well as other portions of the Site (e.g., near monitoring well CGW-8).

8.2.3 Post-Injection Visual Monitoring

Following completion of the injection activities, select monitoring wells within (i.e., CGW-8, MW-1 and TRC-5), upgradient (i.e., CGW-14) and/or downgradient (i.e., TRC-3R, TRC-4 and TRC-6) of the injection zone have been routinely visually screened for the presence of potassium permanganate. Screening events have been conducted on the following dates:

- April 3, 2013
- April 16, 2013
- May 1, 2013
- May 14, 2013
- June 19, 2013
- July 15, 2013
- August 5, 2013

Following screening on July 15, 2013, monitoring wells CGW-8 and TRC-5 were re-developed due to siltation. TRC believes that the siltation was associated with the precipitation and accumulation of iron- and/or manganese-oxide following remedial additive injection activities. In addition, monitoring wells were also field screened in accordance with the EPA-approved QAPP Addendum NB-H (TRC, 2013a) and QAPP Addendum NB-I (TRC, 2013b) prior to groundwater sample collection activities on August 14 and 15, 2013.

To date, only monitoring wells CGW-8, MW-1, TRC-5 and TRC-5D, all located within the injection zone (see Figure 7), have visually exhibited the presence of potassium permanganate. As described below, the presence of potassium permanganate was also confirmed in monitoring wells CGW-8, TRC-5 and TRC-5D during colorimeter field screening using a Hach DR/890 on August 15, 2013.

8.2.4 Post-Injection Groundwater Sampling

Post-injection groundwater monitoring was performed in accordance with the EPA approved QAPP Addendum NB-H (TRC, 2013a) and QAPP Addendum NB-I (TRC, 2013b) on August 14 and 15, 2013. Groundwater samples were collected from eight existing monitoring wells located within, upgradient and downgradient of the treatment zone including the following:

- CGW-8 (injection zone);
- CGW-14 (upgradient of injection zone);
- TRC-4 (downgradient of injection zone);
- TRC-5 (injection zone);
- TRC-5D (injection zone – shallow bedrock);
- TRC-6 (downgradient of injection zone);
- TRC-7 (downgradient of injection zone); and
- TRC-8 (downgradient of injection zone).

Groundwater sampling was conducted using adjustable rate submersible bladder pumps per EPA Region 1 Low Stress (Low Flow) guidelines. During purging water quality parameters were monitored and recorded using a YSI 600XL water quality meter. Parameters recorded included temperature, conductivity, pH, dissolved oxygen (DO), and oxidation-reduction potential (ORP). A separate LaMotte 2020 turbidity meter was used for turbidity measurements. Groundwater sampling logs are provided in Appendix K.

Each of the groundwater samples was field screened for the presence of potassium permanganate using a Hach DR/890 colorimeter (although the presence of potassium permanganate is also evidenced by the presence or absence of a distinctive purple color in the sample). For those wells in which potassium permanganate was identified (i.e., CGW-8, TRC-5 and TRC-5D), the sample was neutralized by preservation with ascorbic acid until the water was clear.[16] The potassium permanganate was neutralized following sample collection to prevent continued oxidation prior to laboratory analysis. Each sample was then submitted for laboratory VOC analysis.

[16] Three downgradient monitoring wells (i.e., TRC-4, TRC-7 and TRC-8) had measured permanganate anion concentrations on August 14, 2013 of 2.3 mg/L, 5.0 mg/L and 73.9 mg/L, respectively. However, these samples were observed in the field to have not visual indications of residual potassium permanganate and each well exhibited an elevated turbidity value (as high 3,800 NTU). Turbidity is noted in EPA's *Ground Water Sample Preservation at In-Situ Chemical Oxidation Sites – Recommended Guidelines* by Saebom et. al. that turbidity is a potential interference (Saebom et. al., 2012) and therefore these samples were not preserved with ascorbic acid.

8.2.5 Ventilation System Modifications

The Taber Mill facility is an approximately 41,000 square-foot renovated mill building. The majority of the building has a crawl space with a dirt floor, making subslab venting impractical. However, the basement and crawl space are serviced by a ventilation system previously consisting of 13 vents and two fans. The fans operated in spring, summer, and fall, but the vents were closed and the fan was shut off during the winter. The portion of the basement/crawl space that is adjacent to groundwater with historically elevated VOC concentrations represents approximately half of the 21,000 square foot footprint and included four vents and both fans.

As described in the IRA Status and Modification Report dated December 11, 2012, the City proposed modification of the existing system by providing vent controls and a single variable speed exhaust fan. The modified system was designed to provide ventilation during the warm months and a negative pressure during cold months, thereby eliminating the potential for vapor migration into the living areas of the building.

TRC prepared designs for the HVAC modifications, which have been discussed and approved by Taber Mill representatives, and contracted with Suburban Mechanical Design Services of Stoughton, Massachusetts, the selected bidder, in advance of construction. HVAC modifications were initiated on July 22, 2013.

Copies of the HVAC and electrical modification plans are included as Appendix L. The intake vents are provided with a plenum with manual dampers to control the amount of flow through each. The exhaust fan includes a variable speed Electronically Commutated Motor (ECM), allowing the air volume to be easily adjusted with a speed dial to provide balancing. The exhaust fan is ducted through the exterior of the building to a platform roof mount. The plenums and the exhaust ductwork are aluminum to prevent corrosion due to the moisture levels.

During the warmer months, the fan will run continuously to provide one air change per hour to the space. The air volume can be easily adjusted with a speed dial to provide balancing. In the winter months, the flow rate can be reduced to the extent possible, while still providing a negative pressure in the basement and crawl space.

Operation of the modified HVAC system was initiated on August 29, 2013. A final engineering inspection was conducted on September 4, 2013 in advance of post-ventilation system modification indoor air sampling on September 5, 2013, as described below.

8.2.6 Post-Ventilation System Modification Indoor Air Sampling

A total of four indoor air samples (including one duplicate) and one outdoor ambient air sample were collected from the Taber Mill building on September 5, 2013 in accordance with the EPA-approved QAPP Addendum NB-H (TRC, 2013a) and QAPP Addendum NB-I (TRC, 2013b). Each of the indoor air samples was collected from the first floor of the Taber Mill building as depicted on Figure 4. The outdoor ambient air sample was also collected concurrently with as the indoor air samples to evaluate background conditions at the time of sampling.

Prior to indoor air sampling, the surrounding area was inspected for other potential sources of VOCs (i.e., oil tanks, gasoline cans, paints, thinners, dirty rags, etc.) that could introduce VOCs to the indoor air. Temperature, barometric pressure and air velocity were also recorded at the time of sample collection.

The indoor air samples were collected in pre-cleaned, evacuated, passivated stainless steel laboratory-supplied SUMMA® canisters and analyzed for VOCs and APH. The canisters were placed at a height typical of an average person's breathing zone height (i.e., at approximately five feet). Indoor air and ambient air laboratory analytical data are summarized in Table 4.

8.3 New Site Information and Data

Supplemental investigation activities completed under the IRA between March and June 2012 included: installation and sampling of soil gas points, indoor air sampling, and additional monitoring well installation and groundwater sampling.

8.3.1 Post-Injection Groundwater Sampling Results

Laboratory analytical results for the groundwater samples collected as part of post-injection investigation activities are presented in Table 2. Consistent with previous sampling events, several VOC constituents were identified above the GW-2 and/or GW-3 groundwater standards including:

- cis-1,2-DCE: CGW-8 and TRC-5;
- PCE: CGW-8, TRC-5 and TRC-5D;
- TCE: CGW-8, TRC-4 (including duplicate), TRC-5, TRC-5D and TRC-7; and
- Vinyl Chloride: TRC-4 (not detected in the duplicate sample).

In addition, acetone was detected below the GW-2 and GW-3 criteria at a concentration of 25 µg/L.

Monitoring well CGW-14, located upgradient of the injection zone, exhibited a slight increase in the concentration of acetone relative to previous sampling in April 2012; however the concentration of TCE decreased from 1.3 µg/L (April 2012) to non-detect (less than 1.0 µg/L) in August 2013.

Overburden monitoring wells within the injection zone (i.e., CGW-8 and TRC-5) both exhibited significant decrease in the concentrations of cis-1,2-DCE, PCE and TCE relative to pre-injection groundwater sampling in February 2013, indicating that potassium permanganate injection was successful in reducing the contaminant mass within the targeted injection zone. A comparison of the pre- and post-injection compound concentrations is provided in the following table.

Pre- and Post-Injection Groundwater Concentrations				
Compound	**Monitoring Well Location**	**Concentrations (µg/L)**		**Approximate Reduction (%)**
		Pre-Injection (February 2013)	**Post-Injection (August 2013)**	
cis-1,2-Dichloroethene	CGW-8	4,700	3,800	19.1
	TRC-5	3,600 (3,600)	540	85.0
Tetrachloroethylene	CGW-8	380	260	31.6
	TRC-5	400 / 390	130	67.5 (66.6)
Trichloroethylene	CGW-8	28,000	18,000	35.7
	TRC-5	28,000 / 31,000	2,700	90.3 (91.2)

Notes:
All concentrations in micrograms per liter (µg/L).
Duplicate concentrations listed in parentheses.

Monitoring well TRC-5D, screened within the shallow bedrock, exhibited concentrations of PCE (630 µg/L) and TCE (40,000 µg/L) in excess of MCP GW-2 and/or GW-3 groundwater standards and which are significantly higher than post-injection results from overburden monitoring well TRC-5, indicating that chlorinated VOCs impacts extend vertically beyond the overburden and into the shallow bedrock. The presence of TCE in the bedrock fractures suggests that TCE migration may have been influenced by DNAPL.

Monitoring wells located downgradient of the injection zone (i.e., TRC-4, TRC-6, TRC-7 and TRC-8) generally exhibited increases in the concentrations of previously detected VOC compounds (see Table 2). However, based on the estimated groundwater flow velocity of less than 10 feet per year in the overburden aquifer (Section 3.3.2), the impacts of the injection are likely limited to wells within the injection zone.

8.3.2 Post-Ventilation System Modification Indoor Air Sampling Results

Post-ventilation system modification indoor air samples were collected in September 2013. These indoor air sampling results are included in Table 4. TCE concentrations in the three first floor samples (IAQ-1, IAQ-2 and IAQ-3) were either non-detect (IAQ-1) or consistent with background (ambient air sample AA-1). None of these concentrations exceeded the MassDEP Residential IATV for TCE, suggesting that modifications to the Taber Mill building ventilation system have been successful in mitigating Site-related substances from potentially impacting the indoor air quality in Taber Mill building and associated living spaces.

Concentrations of several other compounds were detected above MassDEP Residential IATVs in indoor air samples collected within the first floor (IAQ-1, IAQ-2 and/or IAQ-3), including benzene, C_5-C_8 aliphatics, C_9-C_{12} aliphatics, 1,4-dichlorobenzene, 1,2-dichloroethane, and naphthalene (Table 4). Concentrations of benzene, C_5-C_8 aliphatics, 1,4-dichlorobenzene, 1,2-dichloroethane and naphthalene have previously been detected in indoor air samples collected from the basement and/or first floor of the Taber Mill building. The naphthalene concentrations

are also consistent with background, as measured in the September 2013 ambient air sample (AAQ). These compounds are likely associated with storage or use of petroleum products within the Taber Mill building.

8.4 Management of Investigation or Remediation Waste

IRA activities have largely been limited to assessment activities at and adjacent to the Former Payne Cutlery property; however remedial additive injection activities were recently implemented within the southern portion of the Former Payne Cutlery property and Coffin Avenue. These activities have generated a limited amount of investigation-derived waste (IDW) as described in the IRA Status Report submitted on July 1, 2013. In addition, a limited amount of excess soil material was containerized during recent monitoring well installation activities, including installation of monitoring well TRC-5D in August 2013.

On August 14, 2013, Cyn Environmental Services (Cyn) transported three 55-gallon drums of soil cuttings and one 55-gallon drum of soil-liquid mixture (Manifest No. 011874769-JJK) offsite for disposal as hazardous waste. No additional IDW is currently stored on-site.

Purge water generated during well development and groundwater sampling in February 2013 and September 2013 was discharged to the ground surface in accordance with 310 CMR 40.0045(7).

There have been no other investigation-derived or remediation wastes generated during this reporting period under this IRA.

9.0 PUBLIC NOTIFICATION

TRC submitted a CRP to the MassDEP and EPA in November 2012 explaining the communication strategies that will address the needs and concerns of residents living in the vicinity of the Site, particularly those residents potentially directly affected (TRC, 2012c). The City has also conducted period public information meetings to update residents on the status of response actions at the Site.

Per 310 CMR 40.1403(10), property owners have been notified of environmental sampling activities conducted by TRC and been provided with laboratory analytical data.

Per 310 CMR 40.1403(3)(e), the Mayor and the Board of Health for the City of New Bedford will be notified of availability of this Interim Phase II CSA. In addition, the Mayor and the Board of Health of the City will be provided written notice of the Tier II Disposal Site classification per 310 CMR 40.1403(6)(b). Copies of the draft notification letters sent to the Mayor and Health Department are provided in Appendix L.

10.0 PHASE I COMPLETION STATEMENT

This Interim Phase II CSA report incorporates the requirements of a Phase I Report per 310 CMR 40.0483 of the MCP. The information provided hererin also supports a Tier Classification of the Disposal Site pursuant to 310 CMR 40.1500 of the MCP. Based on the findings of this Interim Phase II CSA, supplemental investigation and comprehensive remedial actions are required to achieve Site closure.

11.0 CONCLUSIONS

This Interim Phase II CSA report was completed for the Former Payne Cutlery property and limited off-property locations on Oneko Lane, Coffin Avenue and Brook Street, which are part the Disposal Site tracked under RTN 4-15373[17]. This Interim Phase II CSA included evaluation of laboratory analyses of soil, groundwater, soil gas and indoor air samples to characterize the nature and extent of impact at the Site. The Interim Phase II CSA also includes an MCP Method 3 Risk Characterization, to characterize the potential risk of harm to health, safety, public welfare and the environment posed by the Site, Tier Classification and IRA Status Report addressing CEP and SRM related response actions at the Site. This report is subject to the Limitations presented in Appendix N.

Consistent with 310 CMR 40.0835(4)(i), TRC has developed the following conclusions based on the results of the Interim Phase II CSA:

11.1 Summary of Analytical Results

11.1.1 Soil

Soil samples have been collected for laboratory analysis between 1987 and 2013 by TRC and others. Soil samples were collected from depths ranging from the surface (0 to 0.5 feet below grade) to 20 feet below grade. Soil samples were submitted for laboratory VOC, VPH, EPH, PAH, PCB, TPH, total metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver and/or zinc), TCLP metals (arsenic, barium, cadmium, chromium, lead, mercury, nickel, selenium and/or silver), cyanide and/or TOC.

Three VOCs (bromomethane, cis-1,2-DCE and TCE) have been detected in excess of applicable MCP soil standards. Benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene and/or dibenzo(a,h)anthracene were detected above MCP soil standards in soil samples within the central/southern portions of the Site at depths ranging from the surface (0 to 0.5 feet below grade) to 7 feet below grade. The soil sample from soil boring MW-5, located just beyond the eastern property boundary, collected from 0-1.5 feet below grade exhibited an Oil & Grease concentration of 1,200 mg/kg. However, the MW-5 location is outside the property boundary as indicated on Figure SP-1 of GHR's Site Assessment Summary report and does not appear to be Site-related.

Various metals (i.e., arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel and zinc) have been detected in Site soils from ground surface (0-0.5 feet below grade) to 12 feet below grade. Chromium and nickel have been detected at concentrations in excess of the applicable MCP soil standards. No TCLP metals were detected at concentrations that would exhibit the characteristic of toxicity as defined in Chapter 7, Table 7-1 of EPA's SW-846 - *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (EPA, 2007).

[17] RTN 4-15373 is herein linked to RTN 4-00404.

PCB Aroclors were not detected in any of the soil samples in excess of MCP soil standards. Similarly, cyanide was not detected in any of the soil samples in excess of laboratory detection limits (0.50 mg/kg).

11.1.2 Groundwater

Concentrations of cis-1,2-DCE, PCE, TCE and vinyl chloride have been detected in overburden groundwater samples in excess of GW-2 and/or GW-3 standards. Concentrations in excess of MCP groundwater standards were primarily detected in monitoring wells located within the southern portion of the Site, Coffin Avenue and the eastern portion of the Taber Mill building adjacent to Brook Street. Concentrations of TCE reported above the UCL were identified in overburden monitoring well CGW-8 (89,000 µg/L) and MW-1 (53,000 µg/l) in Coffin Avenue, although concentrations of chlorinated VOCs in overburden wells are substaintially less following permanganate injection activities in March 2013. In addition, several VOC constituents, including select VOCs detect in groundwater samples in excess of GW-2 and GW-3 criteria, were identified in both the storm sewer and sanitary sewer samples collected in February 2013.

The shallow bedrock monitoring well TRC-5D exhibited PCE (630 g/L) and TCE (40,000 µg/L) in excess of the applicable GW-2 and/or GW-3 standards.

VPH and EPH constituents were identified in overburden monitoring wells above GW-2 and/or GW-3. Monitoring wells CGW-8, located within Coffin Avenue, has exhibited concentrations of C_5-C_8 aliphatics in excess of GW-2 and GW-3 standards.

Historical dissolved metals data (from the 1980s) reported cadmium, nickel and silver concentrations above applicable GW-3 groundwater standards at concentrations of 8.0 µg/L, 6,290 µg/L and 10 µg/L, respectively. Cadmium was detected in monitoring well MW-3, located north of the property boundary and adjacent to Church Street. Nickel and silver were detected in monitoring well MW-1, located within Coffin Avenue.

11.1.3 Soil Gas

TRC collected soil gas samples in April and June 2012. In the April 2012 soil gas samples, no VOC constituents were identified above MassDEP Residential Soil Gas Screening Values. In June 2012, PCE was detected at 203 µg/m^3 in a soil gas sample collected from 6 Oneko Lane. This concentration is above the applicable MassDEP Soil Gas Screening Value of 98 µg/m^3. However, PCE is not a substance of concern in this portion of the site, and the presence of PCE in soil vapor at this location is suspected to be associated with an off-site source. Also in June 2012, a TCE concentration of 446 µg/m^3 was also detected above the MassDEP Soil Gas Screening Value (28 µg/m^3) at location TM-1 within the basement of the Taber Mill building.

No petroleum hydrocarbon constituents were identified above MassDEP Residential Soil Gas Screening Values in the soil gas samples analyzed in April 2012. In June 2012, naphthalene (48

µg/m^3) was detected above the MassDEP Soil Gas Screening Value at soil gas sampling location TM-1 within the Taber Mill building basement.

It should be emphasized that recent modifications to the Taber Mill building ventilation system have mitigated the potential for vapor intrusion of VOC and petroleum hydrocarbon compounds to the living space.

11.1.4 Indoor Air

VOCs including benzene, chloroform, cis-1,2-dichloroethene, 1,4-dichlorobenzene, 1,2-dichloroethane, ethylbenzene, m/p xylenes, o-xylene, styrene, PCE, 1,1,1-TCA, TCE, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene and toluene were detected at levels above the MassDEP Residential IATVs. In 2001, VOCs in excess of applicable MassDEP IATVs were detected in ten private residences and the Taber Mill building.

Samples were collected from the Taber Mill building in June 2012 and September 2013 to evaluate the presence of petroleum hydrocarbons in indoor air. Petroleum hydrocarbon compounds including C_5-C_8 aliphatics, C_9-C_{10} aromatics and C_9-C_{12} aliphatics have been detected within the basement and/or first floor of the Taber Mill building in excess of applicable MassDEP Residential IATVs of 58 µg/m^3, 10 µg/m^3 and 68 µg/m^3, respectively.

The September 2013 post-ventilation system modification indoor air sampling results show that TCE was not detected above background (ambient) concentrations in any of the samples. This suggests that modifications to the Taber Mill building ventilation system have been successful in mitigating historical releases at the Former Payne Cutlery property from potentially impacting the indoor air quality in Taber Mill building and associated living spaces.

11.2 Summary of Conceptual Site Model

The Site, which consists of RTN 4-15373 and the linked RTN 4-00404, includes soil, groundwater, soil gas and/or indoor air impacts on the Former Payne Cutlery property and limited off-property locations on Oneko Lane, Coffin Avenue and Brook Street. A Disposal Site map is provided as Figure 2.

Significant industrial activities, including metal working, chromium and nickel electroplating, chemical storage and degreasing, primarily took place in the southern portion of the property, adjacent to Coffin Avenue. In addition, a trench drain system, conveying waste to the municipal sewer system at a connection near the intersection of Coffin Avenue and Church Street, formerly bisected the southern portion of the property. Based on the available data, VOC, petroleum and metals impacts to soil have largely been observed in the southern portion of the Site, in the vicinity of the previous industrial activities and trench drain usage. Furthermore, impacts have primarily been observed in the shallow soil material, indicating historic releases to the surface and/or via compromised portions of the trench drain system.

Releases in the southern portion of the Site have apparently migrated to groundwater, with VOC and metals impact extending from the southern portion of the property into Coffin Avenue and south along Brook Street. VOC impacts, including site-specific substances of concern, have also been detected in soil gas and indoor air samples collected south of the property. Compond migration in groundwater has likely been influenced by subsurface utilities located within the property boundary and along Coffin Avenue and Brook Street.

VOC concentrations in overburden groundwater are highest at the intersection of Brook Street and Coffin Avenue and on the southern portion of the former Payne property. These concentrations diminish significantly in downgradient (southerly) wells, suggesting that the chlorinated VOCs may have migrated into fractured bedrock or storm sewers running down Brook Street (or both). The downgradient (southerly) extent of VOC impact is known to extend as far as Deane Street (TRC-7 and TRC-8). Plume dispersion to the east and west of Brook Street appears to be limited, possibly due to interception by storm sewers or migration to fractured bedrock.

Migration of VOCs in fractured bedrock is not yet understood because data is limited to a single bedrock well (TRC-5D).

11.3 Summary of Risk

11.3.1 Current Human Health Risk Characterization

No imminent hazard condition exists at the Site associated with soil or indoor air exposure pathways. Total receptor risks or hazards are less than MassDEP Risk Limits for current exposures to indoor air at the downgradient residential properties potentially impacted by the migration of site-related VOCs in shallow groundwater. Total receptor risks and hazards are also less than MassDEP Risk Limits for trespasser soil exposures at the former Payne Cutlery Property and emergency utility worker exposures to soil, shallow groundwater and trench air at both the former Payne Cutlery property and in the surrounding roadways. Note that the former Payne Cutlery property is secured by a chain link fence or covered with asphalt pavement, limiting current exposures to soil. Therefore, a condition of "No Significant Risk" exists at the Site under current conditions.

11.3.2 Future Human Health Risk Characterization

Total receptor risks or hazards are less than MassDEP Risk Limits for future exposures to indoor air at the downgradient residential properties. However, total receptor risks and hazards exceed MassDEP Risk Limits for:

- Park visitor and residential exposures to surface and subsurface soil at the former Payne Cutlery property, primarily associated with TCE, PCBs, benzo(a)pyrene, lead and nickel; and

- Construction worker exposure to shallow groundwater at the former Payne Cutlery property, primarily associated with TCE.

Therefore, a condition of "No Significant Risk" would not exist at the Site under future use conditions. Remedial action and/or an Activity and Use Limitation are recommended to address this finding. Though future receptors on the former Payne Cutlery property may be exposed to contaminants in indoor air following subsurface migration from soil and groundwater, this exposure pathway has not been quantitatively evaluated because no building currently exists on the property. This exposure pathway will require quantitative evaluation in the future or a vapor mitigation system installed to protect the health of future building occupants.

11.3.3 Public Welfare

Even though soil Upper Concentration Limits are not exceeded and no community in the vicinity of the Site experiences specific adverse impacts to public welfare, a condition of "No Significant Risk" of harm to public welfare does not exist at the Site because a groundwater Upper Concentration Limit exceedance exists for nickel.

11.3.4 Safety

Qualitative observations did not reveal hazards associated with the COPC release likely to pose a threat of physical harm or bodily injury to people, and consequently, a condition of "No Significant Risk" of harm to safety exists at the Site. Evaluation of risk of harm to safety through comparison of Site conditions to applicable or suitably analogous safety standards (e.g., Lower Explosive Limits) was not considered applicable to this Site.

11.3.5 Environment

Because Site-specific information indicates that no significant current or future soil exposure pathways exist at the Site and groundwater data indicate a condition of no significant risk to aquatic receptors, the Site presents a condition of no significant risk to the environment and a Stage II Environmental Risk Characterization is not required.

11.4 Summary of Data Gaps

Significant subsurface and indoor environmental investigation activities have been implemented throughout the Former Payne Cutlery property and several surrounding properties by TRC and others between 1987 and the present; however known and perceived data gaps exist. The following provides a summary of the data gaps as currently understood.

11.4.1 Soil

Known or perceived data gaps related to the lateral and vertical extents of soil impacts include the following:

- Limited investigation has been conducted to evaluate fill characteristics and soil in the northern portion of the property, as well as proximate and downgradient to former on-property and off-property tank locations.
- Within the Former Payne Cutlery property boundary, soil samples analyzed for VOCs, petroleum hydrocarbons and PAHs and metals have primarily been collected from near the surface (approximately 0-2 feet below grade) and from 5-7 feet below grade, with limited data collected at greater depths.
- The analytical results for samples collected from CGW-12 through CGW-15 from 5-7 feet below grade have a significant low bias due to gross holding time exceedances.
- The lateral extents of shallow soil impacts, particularly petroleum hydrocarbons, PAHs, chromium (including the potential presence of hexavalent chromium) and nickel, are not well defined, requiring further investigation to determine the lateral extents of PAHs detected above MCP soil standards within the southern and western portions of the Site, dibenzo(a,h)anthracene and C_9-C_{10} aromatics near the northeastern property boundary (CGW-3 and SS-1) and possible petroleum impacts near the eastern property boundary (near MW-5).
- Shallow detections of chromium and nickel in excess of MCP soil standards are widespread within the southern portion of the property, with undefined limits.

11.4.2 Groundwater

Known or perceived data gaps related to groundwater impacts include the following:

- The lateral and vertical extents of VOC impacts to groundwater within the southern portion of the Site require further refinement.
- The effects of groundwater intrusion to the sanitary and storm sewer systems on chlorinated VOC migration requires additional investigation.
- Due to elevated concentrations requiring laboratory dilutions, elevated detections limits have been reported for groundwater samples collected from monitoring wells CGW-8, TRC-5 and TRC-5D, potentially masking additional source area VOC constituents.
- Additional investigation is required to evaluate the lateral and vertical extents of bedrock impacts. Monitoring well TRC-5D is currently the only site-specific monitoring well screened within the any portion of the underlying bedrock. Sampling of the well in August 2013 indicated a TCE concentration (40,000 µg/L) approximately 15-times higher than proximate overburden monitoring well TRC-5 (2,700 µg/L).
- Groundwater samples for laboratory metals analysis have not been collected since 2000/2001. Further investigation is required to confirm and evaluate the extents of metals impacts.

- Although limited investigation of groundwater petroleum and PAH impacts has been conducted as recently as April 2012 (i.e., CGW-8, TRC-1, TRC-2 and TRC-4), the majority of the monitoring wells have not been samples since 2000/2001.

11.4.3 Soil Gas

Soil gas sample results collected in close proximity to or beneath several residences along Oneko Lane and Coffin Avenue (i.e., Taber Mill building) in April and June 2012 indicated the presence of chlorinated VOC (i.e., PCE) and volatile petroleum hydrocarbon constituents in excess of MassDEP Residential Soil Gas Screening Values. Potential vapor intrusion to the Taber Mill building has been migrated with the installation of ventilation system modifications; however additional soil gas sampling, in conjunction with supplemental indoor air sampling, may be required for private residences on Oneko Lane and/or Coffin Avenue prior to Site closure.

11.4.4 Indoor Air

Based on recent indoor air sample results collected from the first floor of the Taber Mill building, modifications to the existing HVAC system have been successful in mitigating potential migration of vapors to indoor air. However, additional investigation of residential properties on Oneko Lane and/or Coffin Avenue to evaluate the vapor intrusion exposure pathway may be required prior to Site closure.

11.4.5 Ecological

Groundwater EPCs for TCE and nickel exceed their respective its GW-3 standards. Therefore, the groundwater analysis indicates a condition of significant risk potentially exists to the environment for the groundwater exposure pathway. However, only 1987 groundwater data were available to characterize nickel impacts. These groundwater samples were collected via the bailer method. Though low-flow sampling protocols were not used to collect these samples, the sample data were quantitatively evaluated because the samples were filtered and no other data were available to evaluate the concentrations of nickel in groundwater. Additional sampling for metals in groundwater should be performed in order to determine whether a condition of significant environmental risk exists for nickel.

12.0 CONCEPTUAL PHASE II SCOPE OF WORK

Per 310 CMR 40.0510 of the MCP, this Section includes a Conceptual Scope of Work for supplemental Phase II environmental investigation activities and an estimate of the associated costs. As described herein, a Phase II level of assessment and preliminary remedial actions have already been conducted at the Site including:

- Soil, groundwater, soil gas and indoor sample and analysis;
- Imminent Hazard evaluation;
- Targeted in-situ oxidant injection;
- Ventilation system modifications within the Taber Mill building to mitigate potential vapor intrusion; and
- Initial investigation of bedrock VOC contamination.

However, based on the findings of this Interim Phase II CSA, supplemental comprehensive response actions at the Site are required. The following supplemental activities are recommended for the Conceptual Phase II Scope of Work:

- Evaluate the nature and extent of soil contamination within the northern portion of the Site, as well as proximate and downgradient to former on-property and off-property tank locations;
- Address known or precieved data gaps in soil including:
    - On-property VOC, metals, petroleum and PAH impacts within the deep overburden.
    - Shallow soil metals (e.g., chromium and nickel), petroleum and PAH impacts throughout the Payne property.
    - Low bias analytical results associated with soil borings CGW-12 and CGW-15.
- Address known or precieved data gaps in groundwater including:
    - Evaluate the lateral and vertical extents of VOC impacts within the southern portion of the Site, select wells with sample results exhibiting elevated detection limits and VOC impacted groundwater intrusion to the sanitary and storm sewer system;
    - Groundwater analyses for nickel to futher evaluate ecological risk at the Site.
    - Determine the lateral and vertical extents of metals, petroleum and PAH impacts.
    - Installation and sampling of additional bedrock monitoring wells to further evaluate the nature and extent of bedrock groundwater impacts;
- Additional collection of soil gas and/or indoor air samples from private properties on Oneko Lane to evaluate potential vapor intrusion.

The proposed activities are based on the current conceptual site model and understanding of known and precieved data gaps. Depending on the results of the supplemental environmental investigation activities, response actions beyond those listed above may be required.

Prior to initiating Phase II activities, a final Phase II Scope of Work will be prepared in consultantion with the City pursuant to 310 CMR 40.0834 of the MCP. The estimated cost to implement the above Conceptual Phase II Scope of Work is approximately $200,000.

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TABLES

Table 1
Summary of Analytical Results for Soil Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	#105	CGW-01	CGW-02	CGW-03		CGW-04	CGW-05	CGW-06	CGW-07	CGW-08		CGW-09	CGW-10	CGW-11
	Sample ID:	#105	CGW-1/S-3	CGW-2/S-3	CGW-3/S-3	CGW-3/S-3 DUP	CGW-4/S-3	CGW-5/S-3	CGW-6/S-3	CGW-7/S-3	CGW-8/S-3	CGW-8/S-3 DUP	CGW-9/S-3	CGW-10/S-3	CGW-11/S-3
	Sample Depth (ft.):	Surficial Soil	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12
	Sample Date:	07/09/1987	02/24/2000	02/24/2000	02/24/2000	02/24/2000	02/24/2000	02/25/2000	02/25/2000	02/25/2000	02/25/2000	02/25/2000	02/25/2000	04/10/2001	04/10/2001
	Analyte					Field Dup						Field Dup			
VOCs															
(mg/kg)	Dichlorodifluoromethane (Freon 12)	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Chloromethane	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Vinyl Chloride	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Bromomethane	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Chloroethane	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Trichlorofluoromethane (Freon 11)	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Acetone	NA	0.20 U	0.14 U	0.18 U	0.25 U	0.20 U	0.16 U	0.21 U	0.16 U	0.18 U	0.16 U	0.18 U	**0.0047**	**0.0079**
	Dichloroethylene, 1,1-	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0005 U	0.0007 U
	Carbon Disulfide	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Methylene Chloride	R3	0.20 U	**0.036 J**	0.18 U	0.25 U	0.20 U	0.16 U	**0.15 J**	0.16 U	0.18 U	0.16 U	0.18 U	**0.00130 JB**	**0.0016 JB**
	Methyl T-Butyl Ether (MTBE)	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Dichloroethene, trans-1,2-	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Dichloroethane, 1,1-	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Vinyl Acetate	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Methyl Ethyl Ketone (MEK)	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Dichloroethene, cis-1,2-	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Dichloropropane, 2,2-	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Chloroform	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Trichloroethane, 1,1,1-	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Acrolein	NA	0.20 U	0.14 U	0.18 U	0.25 U	0.20 U	0.16 U	0.21 U	0.18 U	0.18 U	0.18 U	0.18 U	0.0052 U	0.0068 U
	Carbon Tetrachloride	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Benzene	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Dichloroethane, 1,2-	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Trichloroethylene (TCE)	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	**0.17**	**4.7**	**3.9**	**0.78**	0.0010 U	**0.010**
	Dichloropropane, 1,2-	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Dibromomethane	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Bromodichloromethane	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	2-Chloroethyl vinyl ether	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Methyl Isobutyl Ketone (MIBK)	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Dichloropropene, cis-1,3	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0003 U	0.0003 U
	Toluene	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	**0.089**	0.0010 U	0.0014 U
	Dichloropropene, trans-1,3	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0003 U	0.0003 U
	Trichloroethane, 1,1,2-	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Bromochloromethane	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Hexanone (MNBK), 2-	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Tetrachloroethylene (PCE)	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	**0.042 J**	**0.035 J**	0.071 U	0.0010 U	0.0014 U
	Dichloropropane, 1,3-	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Dibromochloromethane	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Ethylene Dibromide	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Chlorobenzene	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Tetrachloroethane, 1,1,1,2-	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Ethylbenzene	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Xylenes, m/p-	NA	0.16 U	0.11 U	0.14 U	0.20 U	0.16 U	0.13 U	0.17 U	0.12 U	0.14 U	0.13 U	0.14 U	0.0021 U	0.0027 U
	Xylene, o-	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Styrene	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Bromoform	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Acrylonitrile	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Tetrachloroethane, 1,1,2,2-	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	0.0010 U	0.0014 U
	Bromobenzene	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Trichloropropane, 1,2,3-	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Propylbenzene, n-	NA	0.081 U	0.055 U	**0.13**	**0.19**	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Chlorotoluene, 2-	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Trimethylbenzene, 1,3,5-	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Chlorotoluene, 4-	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA

Table 1
Summary of Analytical Results for Soil Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	#105	CGW-01	CGW-02	CGW-03		CGW-04	CGW-05	CGW-06	CGW-07	CGW-08		CGW-09	CGW-10	CGW-11
	Sample ID:	#105	CGW-1/S-3	CGW-2/S-3	CGW-3/S-3	CGW-3/S-3 DUP	CGW-4/S-3	CGW-5/S-3	CGW-6/S-3	CGW-7/S-3	CGW-8/S-3	CGW-8/S-3 DUP	CGW-9/S-3	CGW-10/S-3	CGW-11/S-3
	Sample Depth (ft.):	Surficial Soil	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12
	Sample Date:	07/09/1987	02/24/2000	02/24/2000	02/24/2000	02/24/2000	02/24/2000	02/25/2000	02/25/2000	02/25/2000	02/25/2000	02/25/2000	02/25/2000	04/10/2001	04/10/2001
	Analyte					Field Dup						Field Dup			
	Butylbenzene, tert-	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Trimethylbenzene, 1,2,4-	NA	0.081 U	0.055 U	**0.059 J**	**0.094 J**	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Butylbenzene, sec-	NA	0.081 U	0.055 U	**0.31**	**0.41**	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Dichlorobenzene, 1,3- (m-DCB)	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Isopropyltoluene, p- (Cymene)	NA	0.081 U	0.055 U	**0.35**	**0.55**	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Dichlorobenzene, 1,4-; (p-DCB)	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Butylbenzene, n-	NA	0.081 U	0.055 U	**0.82**	**1.2**	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Dichlorobenzene, 1,2- (o-DCB)	R3	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	1,2-Dibromo-3-chloropropane	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Trichlorobenzene, 1,2,4-	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Hexachlorobutadiene	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Naphthalene	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Trichlorobenzene, 1,2,3-	NA	0.081 U	0.055 U	0.072 U	0.10 U	0.078 U	0.066 U	0.085 U	0.062 U	0.070 U	0.065 U	0.071 U	NA	NA
	Xylenes (Total)	R3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloropropene, 1,1-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tetrahydrofuran (THF)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Isopropylbenzene (Cumene)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Diisopropyl Ether (DIPE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethyl Tert-buryl Ether (ETBE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Amyl Methyl Ether (TAME), tert-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dioxane, 1,4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Diethyl Ether (Ethyl ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Dichloroethylene (total)	R3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VPH															
(mg/kg)	C5-C8 Aliphatics	NA	13 U	10 U	87 U	74 U	17 U	12 U	12 U	15 U	11 U	10 U	16 U	NA	NA
	C9-C12 Aliphatics	NA	3.6 U	2.9 U	**68**	**72**	5.0 U	3.4 U	3.4 U	4.2 U	3.2 U	2.8 U	4.4 U	NA	NA
	C9-C10 Aromatics	NA	7.2 U	5.9 U	**110**	**110**	10 U	6.8 U	6.7 U	8.3 U	6.4 U	5.7 U	8.9 U	NA	NA
	Methyl T-Butyl Ether (MTBE)	NA	0.18 U	0.15 U	1.2 U	1.1 U	0.25 U	0.17 U	0.17 U	0.21 U	0.16 U	0.14 U	0.22 U	NA	NA
	Benzene	NA	0.18 U	0.15 U	1.2 U	1.1 U	0.25 U	0.17 U	0.17 U	0.21 U	0.16 U	0.14 U	0.22 U	NA	NA
	Toluene	NA	0.54 U	0.44 U	3.7 U	3.2 U	0.75 U	0.50 U	0.50 U	0.63 U	0.48 U	0.43 U	0.66 U	NA	NA
	Ethylbenzene	NA	0.18 U	0.15 U	1.2 U	1.1 U	0.25 U	0.17 U	0.17 U	0.21 U	0.16 U	0.14 U	0.22 U	NA	NA
	Xylene, o-	NA	0.36 U	0.29 U	2.5 U	2.1 U	0.50 U	0.34 U	0.34 U	0.42 U	0.32 U	0.28 U	0.44 U	NA	NA
	Naphthalene	NA	0.36 U	0.29 U	2.5 U	2.1 U	0.50 U	0.34 U	0.34 U	0.42 U	0.32 U	0.28 U	0.44 U	NA	NA
	Xylenes, m/p-	NA	0.36 U	0.29 U	2.5 U	2.1 U	0.50 U	0.34 U	0.34 U	0.42 U	0.32 U	0.28 U	0.44 U	NA	NA
EPH															
(mg/kg)	C9-C18 Aliphatics	NA	3.3 U	3.2 U	**840**	**950**	3.3 U	3.2 U	3.1 U	3.2 U	3.1 U	3.1 U	3.2 U	NA	NA
	C19-C36 Aliphatics	NA	4.4 U	4.3 U	**130**	**160**	4.4 U	4.3 U	4.2 U	4.2 U	4.2 U	4.2 U	4.3 U	NA	NA
	C11-C22 Aromatics	NA	9.4 U	9.1 U	**360**	**360**	9.3 U	9.1 U	8.9 U	9.0 U	8.9 U	8.9 U	9.2 U	NA	NA
	Naphthalene	NA	0.55 U	0.54 U	**0.70**	**1.0**	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U	0.52 U	0.54 U	NA	NA
	Methylnaphthalene, 2-	NA	0.55 U	0.54 U	**3.6**	**4.8**	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U	0.52 U	0.54 U	NA	NA
	Acenaphthylene	NA	0.55 U	0.54 U	**2.3**	**2.4**	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U	0.52 U	0.54 U	NA	NA
	Acenaphthene	NA	0.55 U	0.54 U	**2.1**	**2.0**	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U	0.52 U	0.54 U	NA	NA
	Fluorene	NA	0.55 U	0.54 U	**4.4**	**3.4**	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U	0.52 U	0.54 U	NA	NA
	Phenanthrene	NA	0.55 U	0.54 U	**3.1**	**3.1**	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U	0.52 U	0.54 U	NA	NA
	Anthracene	NA	0.55 U	0.54 U	**0.73**	**0.70**	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U	0.52 U	0.54 U	NA	NA
	Fluoranthene	NA	0.55 U	0.54 U	0.52 U	0.54 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U	0.52 U	0.54 U	NA	NA
	Pyrene	NA	0.55 U	0.54 U	0.52 U	0.54 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U	0.52 U	0.54 U	NA	NA
	Benzo(a)anthracene	NA	0.55 U	0.54 U	0.52 U	0.54 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U	0.52 U	0.54 U	NA	NA
	Chrysene	NA	0.55 U	0.54 U	0.52 U	0.54 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U	0.52 U	0.54 U	NA	NA
	Benzo(b)fluoranthene	NA	0.55 U	0.54 U	0.52 U	0.54 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U	0.52 U	0.54 U	NA	NA
	Benzo(k)fluoranthene	NA	0.55 U	0.54 U	0.52 U	0.54 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U	0.52 U	0.54 U	NA	NA
	Benzo(a)pyrene	NA	0.55 U	0.54 U	0.52 U	0.54 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U	0.52 U	0.54 U	NA	NA
	Indeno(1,2,3-cd)pyrene	NA	0.55 U	0.54 U	0.52 U	0.54 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U	0.52 U	0.54 U	NA	NA
	Dibenzo(a,h)anthracene	NA	0.55 U	0.54 U	0.52 U	0.54 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U	0.52 U	0.54 U	NA	NA
	Benzo(g,h,i)perylene	NA	0.55 U	0.54 U	0.52 U	0.54 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U	0.52 U	0.54 U	NA	NA

Table 1
Summary of Analytical Results for Soil Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	#105	CGW-01	CGW-02	CGW-03		CGW-04	CGW-05	CGW-06	CGW-07	CGW-08		CGW-09	CGW-10	CGW-11
	Sample ID:	#105	CGW-1/S-3	CGW-2/S-3	CGW-3/S-3	CGW-3/S-3 DUP	CGW-4/S-3	CGW-5/S-3	CGW-6/S-3	CGW-7/S-3	CGW-8/S-3	CGW-8/S-3 DUP	CGW-9/S-3	CGW-10/S-3	CGW-11/S-3
	Sample Depth (ft.):	Surficial Soil	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12
	Sample Date:	07/09/1987	02/24/2000	02/24/2000	02/24/2000	02/24/2000	02/24/2000	02/25/2000	02/25/2000	02/25/2000	02/25/2000	02/25/2000	02/25/2000	04/10/2001	04/10/2001
	Analyte					Field Dup						Field Dup			
PAHs															
(mg/kg)	Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methylnaphthalene, 2-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs															
(mg/kg)	Aroclor-1016	NA	NA	NA	0.053 U	0.054 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1221	NA	NA	NA	0.053 U	0.054 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1232	NA	NA	NA	0.053 U	0.054 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1242	NA	NA	NA	0.053 U	0.054 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1248	NA	NA	NA	0.053 U	0.054 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1254	NA	NA	NA	0.053 U	0.054 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1260	NA	NA	NA	0.053 U	0.054 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	NA	NA	NA	0.053 U	0.054 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH															
(mg/kg)	Gasoline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Oil & Grease	**842**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals, total															
(mg/kg)	Arsenic	NA	**0.18**	**0.19**	**0.34**	**0.43**	**0.51**	**0.22**	**0.16**	**0.53**	0.12 U	**0.15**	**0.34**	NA	NA
	Barium	NA	**11**	**14**	**16**	**21**	**45**	**9.2**	**8.2**	**24**	**7.8**	**8.6**	**18**	NA	NA
	Cadmium	NA	0.35 U	0.30 U	0.45 U	0.40 U	**0.52**	0.25 U	0.30 U	0.30 U	0.28 U	0.32 U	0.34 U	NA	NA
	Chromium	NA	**2.4**	**2.4**	**3.8**	**3.4**	**28**	**1.5**	**1.8**	**4.6**	**3.5**	**4.8**	**17**	NA	NA
	Copper	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	NA	7.0 U	6.1 U	9.0 U	8.1 U	**8.2**	5.0 U	5.9 U	6.0 U	5.6 U	6.4 U	6.9 U	NA	NA
	Mercury	NA	0.015 U	0.014 U	0.013 U	0.013 U	0.013 U	0.011 U	0.012 U	0.011 U	0.011 U	0.009 U	0.012 U	NA	NA
	Nickel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	NA	14 U	12 U	18 U	16 U	15 U	10 U	12 U	12 U	11 U	13 U	14 U	NA	NA
	Silver	NA	0.70 U	0.60 U	0.90 U	0.81 U	0.76 U	0.35 U	0.83 U	0.83 U	0.78 U	0.90 U	0.97 U	NA	NA
	Zinc	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals, TCLP															
(mg/L)	Arsenic	0.0050 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	**0.29**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	0.010 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	**0.03**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	0.10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	0.0002 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	**0.44**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	0.0050 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	0.010 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide															
(mg/kg)	Cyanide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbons															
(%)	Total Organic Carbon (Rep1)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total Organic Carbon (Rep2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1
Summary of Analytical Results for Soil Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	CGW-12		CGW-13		CGW-14		CGW-15		CGW-16		CGW-17				MW-01		
	Sample ID:	CGW-12/S-1	CGW-12/S-2	CGW-13/S-1	CGW-13/S-2	CGW-14/S-1	CGW-14/S-4	CGW-15/S-1	CGW-15/S-2	CGW-16/S-1	CGW-16/S-2	CGW-17/S-1	CGW-17/S-2	CGW-17/S-3	CGW-17/S-4	MW-1	MW-1	MW-1A
	Sample Depth (ft.):	0 - 2	5 - 7	0 - 2	5 - 7	0 - 2	15 - 17	0 - 2	5 - 7	0 - 2	5 - 7	5.0	10	15	20	0.5 - 2	10 - 11.5	5 - 6.5
	Sample Date:	05/29/2001	05/29/2001	05/29/2001	05/29/2001	05/29/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	07/03/1987	07/03/1987	07/03/1987
	Analyte																	
VOCs																		
(mg/kg)	Dichlorodifluoromethane (Freon 12)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.015 U	0.015 U	R3
	Chloromethane	0.0014 U	**0.038 JB**	0.0014 U	**0.026 JB**	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U	R3
	Vinyl Chloride	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U	R3
	Bromomethane	0.0014 U	R2	0.0014 U	R2	**0.0007 J**	R2	**0.68 JB**	R2	**1.5 JB**	NA	R2	R2	R2	R2	0.015 U	0.015 U	R3
	Chloroethane	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	NA	NA	NA
	Trichlorofluoromethane (Freon 11)	**0.0022**	R2	**0.0022**	R2	**0.0053**	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U	R3
	Acetone	**0.041 B**	**0.12 J**	**0.13 B**	**0.097 J**	**0.20 B**	**0.082 J**	**1.0 J**	**0.089 J**	**2.7 J**	NA	**0.093 J**	**0.11 J**	**0.10 J**	**0.063 J**	NA	NA	NA
	Dichloroethylene, 1,1-	0.0007 U	R2	0.0007 U	R2	0.0006 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U	R3
	Carbon Disulfide	**0.0010 J**	R2	**0.0026 J**	R2	**0.0009 J**	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	NA	NA	NA
	Methylene Chloride	**0.0025 JB**	**0.34 B**	**0.0024 JB**	**0.25 B**	**0.0042 B**	**0.37 B**	**1.5 JB**	**0.37 B**	**2.3 JB**	NA	**0.33 B**	**0.35 B**	**0.30 B**	**0.18 B**	0.015 U	0.015 U	R3
	Methyl T-Butyl Ether (MTBE)	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	NA	NA	NA
	Dichloroethene, trans-1,2-	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	**0.051 J**	**0.10**	**0.035 J**	NA	NA	NA
	Dichloroethane, 1,1-	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U	R3
	Vinyl Acetate	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	NA	NA	NA
	Methyl Ethyl Ketone (MEK)	**0.0029**	**0.32**	**0.042**	**0.29**	**0.015**	**0.34**	1.2 U	**0.35**	1.9 U	NA	**0.43**	**0.53**	**0.46**	**0.26**	NA	NA	NA
	Dichloroethene, cis-1,2-	0.0014 U	R2	**0.0016**	R2	0.0013 U	R2	**3.0**	**0.034 J**	1.9 U	NA	**0.68**	**5.4**	**7.2 E**	**3.9**	NA	NA	NA
	Dichloropropane, 2,2-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chloroform	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	**0.043 J**	R2	R2	R2	0.015 U	0.015 U	R3
	Trichloroethane, 1,1,1-	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	**0.039 J**	R2	R2	R2	0.015 U	0.015 U	R3
	Acrolein	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Carbon Tetrachloride	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U	R3
	Benzene	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	NA	NA	R3
	Dichloroethane, 1,2-	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U	R3
	Trichloroethylene (TCE)	**0.0045**	R2	**0.029**	R2	**0.098**	R2	**71**	**1.4**	**530**	NA	**57 E**	**33 E**	**41 E**	**19 E**	**0.016**	**1.3**	R3
	Dichloropropane, 1,2-	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U	R3
	Dibromomethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bromodichloromethane	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U	R3
	2-Chloroethyl vinyl ether	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U	R3
	Methyl Isobutyl Ketone (MIBK)	0.0014 U	R2	**0.0010 J**	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	NA	NA	NA
	Dichloropropene, cis-1,3	0.0004 U	R2	0.0004 U	R2	0.0003 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U	R3
	Toluene	**0.0015**	R2	**0.0074**	R2	**0.0093**	R2	1.2 U	R2	1.9 U	NA	**0.033**	R2	R2	R2	NA	NA	R3
	Dichloropropene, trans-1,3	0.0004 U	R2	0.0004 U	R2	0.0003 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U	R3
	Trichloroethane, 1,1,2-	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U	R3
	Bromochloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Hexanone (MNBK), 2-	0.0014 U	R2	**0.0031**	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	NA	NA	NA
	Tetrachloroethylene (PCE)	0.0014 U	R2	0.0014 U	R2	**0.0025**	R2	**0.62 J**	R2	**4.3**	NA	**4.8**	**1.1**	**1.9**	**0.54**	0.015 U	0.015 U	R3
	Dichloropropane, 1,3-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibromochloromethane	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U	R3
	Ethylene Dibromide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chlorobenzene	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	NA	NA	R3
	Tetrachloroethane, 1,1,1,2-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	NA	NA	R3
	Xylenes, m/p-	0.0029 U	R2	0.0029 U	R2	0.0026 U	R2	2.4 U	R2	3.8 U	NA	**0.076 J**	R2	R2	R2	NA	NA	NA
	Xylene, o-	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	NA	NA	NA
	Styrene	0.0014 U	R2	**0.0008 J**	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	NA	NA	NA
	Bromoform	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U	R3
	Acrylonitrile	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tetrachloroethane, 1,1,2,2-	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U	R3
	Bromobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trichloropropane, 1,2,3-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Propylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chlorotoluene, 2-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trimethylbenzene, 1,3,5-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chlorotoluene, 4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1
Summary of Analytical Results for Soil Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	CGW-12		CGW-13		CGW-14		CGW-15		CGW-16		CGW-17				MW-01		
	Sample ID:	CGW-12/S-1	CGW-12/S-2	CGW-13/S-1	CGW-13/S-2	CGW-14/S-1	CGW-14/S-4	CGW-15/S-1	CGW-15/S-2	CGW-16/S-1	CGW-16/S-2	CGW-17/S-1	CGW-17/S-2	CGW-17/S-3	CGW-17/S-4	MW-1	MW-1	MW-1A
	Sample Depth (ft.):	0 - 2	5 - 7	0 - 2	5 - 7	0 - 2	15 - 17	0 - 2	5 - 7	0 - 2	5 - 7	5.0	10	15	20	0.5 - 2	10 - 11.5	5 - 6.5
	Sample Date:	05/29/2001	05/29/2001	05/29/2001	05/29/2001	05/29/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	07/03/1987	07/03/1987	07/03/1987
	Analyte																	
	Butylbenzene, tert-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trimethylbenzene, 1,2,4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Butylbenzene, sec-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichlorobenzene, 1,3- (m-DCB)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	R3
	Isopropyltoluene, p- (Cymene)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichlorobenzene, 1,4-; (p-DCB)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	R3
	Butylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichlorobenzene, 1,2- (o-DCB)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	R3
	1,2-Dibromo-3-chloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trichlorobenzene, 1,2,4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trichlorobenzene, 1,2,3-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Xylenes (Total)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	R3
	Dichloropropene, 1,1-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tetrahydrofuran (THF)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Isopropylbenzene (Cumene)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Diisopropyl Ether (DIPE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethyl Tert-buryl Ether (ETBE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Amyl Methyl Ether (TAME), tert-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dioxane, 1,4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Diethyl Ether (Ethyl ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Dichloroethylene (total)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.015 U	0.015 U	R3
VPH																		
(mg/kg)	C5-C8 Aliphatics	NA	10 U	NA	8.5 U	NA	10 U	NA	11 U	NA	NA	**58**	**21**	**35**	**17**	NA	NA	NA
	C9-C12 Aliphatics	NA	3.0 U	NA	2.4 U	NA	3.0 U	NA	3.1 U	NA	NA	3.3 U	3.4 U	3.2 U	2.2 U	NA	NA	NA
	C9-C10 Aromatics	NA	5.9 U	NA	4.9 U	NA	5.9 U	NA	6.1 U	NA	NA	6.6 U	6.8 U	6.4 U	4.3 U	NA	NA	NA
	Methyl T-Butyl Ether (MTBE)	NA	0.15 U	NA	0.12 U	NA	0.15 U	NA	0.15 U	NA	NA	0.16 U	**0.26**	**0.34**	**0.23**	NA	NA	NA
	Benzene	NA	0.15 U	NA	0.12 U	NA	0.15 U	NA	0.15 U	NA	NA	0.16 U	0.17 U	0.16 U	0.11 U	NA	NA	NA
	Toluene	NA	0.45 U	NA	0.36 U	NA	0.44 U	NA	0.46 U	NA	NA	0.49 U	0.51 U	0.48 U	0.32 U	NA	NA	NA
	Ethylbenzene	NA	0.15 U	NA	0.12 U	NA	0.15 U	NA	0.15 U	NA	NA	0.16 U	0.17 U	0.16 U	0.11 U	NA	NA	NA
	Xylene, o-	NA	0.30 U	NA	0.24 U	NA	0.30 U	NA	0.31 U	NA	NA	0.33 U	0.34 U	0.32 U	0.22 U	NA	NA	NA
	Naphthalene	NA	0.30 U	NA	0.24 U	NA	0.30 U	NA	0.31 U	NA	NA	0.33 U	0.34 U	0.32 U	0.22 U	NA	NA	NA
	Xylenes, m/p-	NA	0.59 U	NA	0.49 U	NA	0.59 U	NA	0.61 U	NA	NA	0.66 U	0.68 U	0.64 U	0.43 U	NA	NA	NA
EPH																		
(mg/kg)	C9-C18 Aliphatics	**5.4**	3.2 U	**9.5**	3.2 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.1 U	NA	NA	NA	NA	NA	NA	NA
	C19-C36 Aliphatics	**150**	4.3 U	**1,500**	**210**	**150**	4.4 U	**140**	4.4 U	**38**	4.2 U	NA	NA	NA	NA	NA	NA	NA
	C11-C22 Aromatics	**200**	**13**	**500**	**90**	**59**	9.4 U	**33**	9.4 U	**25**	8.9 U	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	**0.54**	R1	R1	R1	R1	0.55 U	0.55 U	0.55 U	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA	NA
	Methylnaphthalene, 2-	**0.59**	R1	R1	R1	R1	0.55 U	0.55 U	0.55 U	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	0.53 U	0.53 U	0.61 U	**1.3**	0.54 U	0.55 U	0.55 U	0.55 U	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA	NA
	Acenaphthene	0.53 U	0.53 U	0.61 U	0.53 U	0.54 U	0.55 U	0.55 U	0.55 U	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA	NA
	Fluorene	**3.2**	0.53 U	0.61 U	0.53 U	0.54 U	0.55 U	0.55 U	0.55 U	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	**24**	0.53 U	**13**	0.53 U	**1.7**	0.55 U	**1.2**	0.55 U	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA	NA
	Anthracene	**6.5**	0.53 U	**1.6**	0.53 U	0.54 U	0.55 U	0.55 U	0.55 U	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	**27**	0.53 U	**18**	0.53 U	**3.2**	0.55 U	**2.3**	0.55 U	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA	NA
	Pyrene	**24**	0.53 U	**18**	0.53 U	**2.9**	0.55 U	**2.4**	0.55 U	**0.62**	0.52 U	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	**12**	0.53 U	**8.7**	0.53 U	**1.8**	0.55 U	**1.5**	0.55 U	**0.66**	0.52 U	NA	NA	NA	NA	NA	NA	NA
	Chrysene	**11**	0.53 U	**8.2**	0.53 U	**1.0**	0.55 U	**0.93**	0.55 U	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	**12**	**0.73**	**9.0**	0.53 U	**1.5**	0.55 U	**1.3**	0.55 U	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	**5.9**	0.53 U	**4.2**	0.53 U	**0.81**	0.55 U	**0.76**	0.55 U	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	**9.2**	**0.64**	**6.0**	0.53 U	**1.2**	0.55 U	**1.1**	0.55 U	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	**7.7**	**0.89**	**4.9**	0.53 U	**1.0**	0.55 U	**0.96**	0.55 U	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	**7.7**	**0.89**	**4.9**	0.53 U	**1.0**	0.55 U	**0.96**	0.55 U	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	**5.4**	0.53 U	**3.3**	0.53 U	**0.72**	0.55 U	**0.80**	0.55 U	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA	NA

Table 1
Summary of Analytical Results for Soil Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	CGW-12		CGW-13		CGW-14		CGW-15		CGW-16		CGW-17				MW-01		
	Sample ID:	CGW-12/S-1	CGW-12/S-2	CGW-13/S-1	CGW-13/S-2	CGW-14/S-1	CGW-14/S-4	CGW-15/S-1	CGW-15/S-2	CGW-16/S-1	CGW-16/S-2	CGW-17/S-1	CGW-17/S-2	CGW-17/S-3	CGW-17/S-4	MW-1	MW-1	MW-1A
	Sample Depth (ft.):	0 - 2	5 - 7	0 - 2	5 - 7	0 - 2	15 - 17	0 - 2	5 - 7	0 - 2	5 - 7	5.0	10	15	20	0.5 - 2	10 - 11.5	5 - 6.5
	Sample Date:	05/29/2001	05/29/2001	05/29/2001	05/29/2001	05/29/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	07/03/1987	07/03/1987	07/03/1987
	Analyte																	
PAHs																		
(mg/kg)	Acenaphthene	**2.9**	1.1 U	**0.36 J**	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	1.1 U	1.1 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
	Anthracene	**6.2**	1.1 U	**1.4**	1.1 U	**0.34 J**	1.1 U	**0.32 J**	1.1 U	1.1 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	**12**	1.1 U	**8.5**	1.1 U	**1.4**	1.1 U	**1.1 J**	1.1 U	**0.28 J**	1.0 U	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	**9.3**	1.1 U	**5.8**	1.1 U	**1.2**	1.1 U	**0.98 J**	1.1 U	**0.25 J**	1.0 U	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	**11**	1.1 U	**8.2**	1.1 U	**1.4**	1.1 U	**1.2**	1.1 U	**0.31 J**	1.0 U	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	**4.4**	1.1 U	**2.3**	1.1 U	**0.67 J**	1.1 U	**0.60 J**	1.1 U	1.1 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	**5.7**	1.1 U	**3.5**	1.1 U	**0.90 J**	1.1 U	**0.56 J**	1.1 U	1.1 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
	Chrysene	**10**	1.1 U	**7.7**	1.1 U	**1.4**	1.1 U	**1.1 J**	1.1 U	**0.41 J**	1.0 U	NA	NA	NA	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	**1.1 J**	1.1 U	**0.73 J**	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	**29**	1.1 U	**19**	1.1 U	**3.0**	1.1 U	**2.2**	1.1 U	**0.47 J**	1.0 U	NA	NA	NA	NA	NA	NA	NA
	Fluorene	**2.4**	1.1 U	**0.30 J**	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	**4.5**	1.1 U	**2.4**	1.1 U	**0.64 J**	1.1 U	**0.55 J**	1.1 U	1.1 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
	Methylnaphthalene, 2-	**0.41 J**	R1	R1	R1	R1	1.1 U	1.1 U	1.1 U	1.1 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	**0.57 J**	R1	**0.31 J**	R1	R1	1.1 U	1.1 U	1.1 U	1.1 U	1.0 U	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	**24**	1.1 U	**11**	1.1 U	**1.6**	1.1 U	**1.2**	1.1 U	**0.49 J**	1.0 U	NA	NA	NA	NA	NA	NA	NA
	Pyrene	**21**	1.1 U	**16**	1.1 U	**2.5**	1.1 U	**1.9**	1.1 U	**0.49 J**	1.0 U	NA	NA	NA	NA	NA	NA	NA
PCBs																		
(mg/kg)	Aroclor-1016	0.027 U	0.028 U	0.012 U	0.027 U	0.028 U	0.028 U	0.027 U	0.028 U	0.028 U	0.026 U	NA	NA	NA	NA	0.050 U	NA	NA
	Aroclor-1221	0.027 U	0.028 U	0.012 U	0.027 U	0.028 U	0.028 U	0.027 U	0.028 U	0.028 U	0.026 U	NA	NA	NA	NA	0.050 U	NA	NA
	Aroclor-1232	0.027 U	0.028 U	0.012 U	0.027 U	0.028 U	0.028 U	0.027 U	0.028 U	0.028 U	0.026 U	NA	NA	NA	NA	0.050 U	NA	NA
	Aroclor-1242	0.027 U	0.028 U	0.012 U	0.027 U	0.028 U	0.028 U	0.027 U	0.028 U	0.028 U	0.026 U	NA	NA	NA	NA	0.050 U	NA	NA
	Aroclor-1248	0.027 U	0.028 U	**0.098**	0.027 U	**0.043**	0.028 U	0.027 U	0.028 U	0.028 U	0.026 U	NA	NA	NA	NA	0.050 U	NA	NA
	Aroclor-1254	0.027 U	0.028 U	0.012 U	0.027 U	0.028 U	0.028 U	0.027 U	0.028 U	0.028 U	0.026 U	NA	NA	NA	NA	0.050 U	NA	NA
	Aroclor-1260	0.027 U	0.028 U	**0.17**	0.027 U	0.028 U	0.028 U	0.027 U	0.028 U	**0.034**	0.026 U	NA	NA	NA	NA	0.050 U	NA	NA
	Total PCBs	0.027 U	0.028 U	**0.268**	0.027 U	**0.043**	0.028 U	0.027 U	0.028 U	**0.034**	0.026 U	NA	NA	NA	NA	0.050 U	NA	NA
TPH																		
(mg/kg)	Gasoline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Oil & Grease	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**430**	NA	NA
Metals, total																		
(mg/kg)	Arsenic	16 U	15 U	19 U	15 U	17 U	17 U	19 U	16 U	22 U	18 U	NA	NA	NA	NA	NA	NA	NA
	Barium	**71**	**14**	**950**	**12**	**270**	**19**	**70**	**35**	**60**	**9.3**	NA	NA	NA	NA	NA	NA	NA
	Cadmium	0.82 U	0.76 U	9.4 U	0.75 U	**1.8**	0.83 U	0.95 U	0.81 U	1.1 U	0.90 U	NA	NA	NA	NA	NA	NA	NA
	Chromium	**10**	**2.7**	**120**	**3.0**	**34**	**7.5**	**14**	**4.4**	**78**	**4.0**	NA	NA	NA	NA	NA	NA	NA
	Copper	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	**18**	15 U	**110**	15 U	**96**	17 U	**21**	16 U	**25**	18 U	NA	NA	NA	NA	NA	NA	NA
	Mercury	**0.022**	0.0098 U	**0.093**	0.010 U	**0.12**	0.011 U	**0.024**	0.011 U	**0.042**	0.010 U	NA	NA	NA	NA	NA	NA	NA
	Nickel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	33 U	30 U	38 U	30 U	33 U	33 U	38 U	32 U	43 U	36 U	NA	NA	NA	NA	NA	NA	NA
	Silver	16 U	1.5 U	19 U	1.5 U	1.7 U	1.7 U	1.9 U	1.6 U	2.2 U	1.8 U	NA	NA	NA	NA	NA	NA	NA
	Zinc	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals, TCLP																		
(mg/L)	Arsenic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0050 U	NA	0.0050 U
	Barium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.36**	NA	0.10 U
	Cadmium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.012**	NA	0.010 U
	Chromium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.02 U	NA	0.02 U
	Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.15**	NA	0.10 U
	Mercury	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0002 U	NA	0.0002 U
	Nickel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.04 U	NA	0.04 U
	Selenium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0050 U	NA	0.0050 U
	Silver	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.010 U	NA	0.010 U
Cyanide																		
(mg/kg)	Cyanide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbons																		
(%)	Total Organic Carbon (Rep1)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total Organic Carbon (Rep2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1
Summary of Analytical Results for Soil Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	MW-02			MW-03				MW-03A	MW-04			MW-05			MCA-02	MCA-03	
	Sample ID:	MW-2	MW-2	MW-2	MW-3	MW-3	MW-3	MW-3	MW-3A	MW-4	MW-4	MW-4	MW-5	MW-5	MW-5	S-2-B	S-3-A	S-3-B
	Sample Depth (ft.):	0.5 - 2	5 - 6.5	10 - 10.8	0 - 1.5	5 - 6	10 - 12	15 - 16.5	0 - 1.5	0 - 1.5	5 - 6.5	10 - 11.5	0 - 1.5	5 - 6.5	10 - 10.9	1.5 - 2	0 - 0.6	1 - 1.5
	Sample Date:	06/29/1987	06/29/1987	06/29/1987	06/24/1987	06/24/1987	06/29/1987	06/29/1987	06/25/1987	06/25/1987	06/25/1987	06/25/1987	06/26/1987	06/26/1987	06/26/1987	02/25/1987	02/25/1987	02/25/1987
	Analyte																	
VOCs																		
(mg/kg)	Dichlorodifluoromethane (Freon 12)	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Chloromethane	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Vinyl Chloride	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Bromomethane	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Chloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trichlorofluoromethane (Freon 11)	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Acetone	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloroethylene, 1,1-	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Carbon Disulfide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methylene Chloride	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Methyl T-Butyl Ether (MTBE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloroethene, trans-1,2-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloroethane, 1,1-	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Vinyl Acetate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl Ethyl Ketone (MEK)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloroethene, cis-1,2-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloropropane, 2,2-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chloroform	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Trichloroethane, 1,1,1-	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Acrolein	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Carbon Tetrachloride	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Benzene	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Dichloroethane, 1,2-	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Trichloroethylene (TCE)	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Dichloropropane, 1,2-	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Dibromomethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bromodichloromethane	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	2-Chloroethyl vinyl ether	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Methyl Isobutyl Ketone (MIBK)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloropropene, cis-1,3	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Toluene	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Dichloropropene, trans-1,3	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Trichloroethane, 1,1,2-	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Bromochloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Hexanone (MNBK), 2-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tetrachloroethylene (PCE)	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Dichloropropane, 1,3-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibromochloromethane	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Ethylene Dibromide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chlorobenzene	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Tetrachloroethane, 1,1,1,2-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Xylenes, m/p-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Xylene, o-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Styrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bromoform	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Acrylonitrile	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tetrachloroethane, 1,1,2,2-	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Bromobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trichloropropane, 1,2,3-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Propylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chlorotoluene, 2-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trimethylbenzene, 1,3,5-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chlorotoluene, 4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1
Summary of Analytical Results for Soil Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	MW-02			MW-03				MW-03A	MW-04			MW-05			MCA-02	MCA-03	
	Sample ID:	MW-2	MW-2	MW-2	MW-3	MW-3	MW-3	MW-3	MW-3A	MW-4	MW-4	MW-4	MW-5	MW-5	MW-5	S-2-B	S-3-A	S-3-B
	Sample Depth (ft.):	0.5 - 2	5 - 6.5	10 - 10.8	0 - 1.5	5 - 6	10 - 12	15 - 16.5	0 - 1.5	0 - 1.5	5 - 6.5	10 - 11.5	0 - 1.5	5 - 6.5	10 - 10.9	1.5 - 2	0 - 0.6	1 - 1.5
	Sample Date:	06/29/1987	06/29/1987	06/29/1987	06/24/1987	06/24/1987	06/29/1987	06/29/1987	06/25/1987	06/25/1987	06/25/1987	06/25/1987	06/26/1987	06/26/1987	06/26/1987	02/25/1987	02/25/1987	02/25/1987
	Analyte																	
	Butylbenzene, tert-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trimethylbenzene, 1,2,4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Butylbenzene, sec-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichlorobenzene, 1,3- (m-DCB)	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Isopropyltoluene, p- (Cymene)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichlorobenzene, 1,4-; (p-DCB)	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Butylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichlorobenzene, 1,2- (o-DCB)	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	1,2-Dibromo-3-chloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trichlorobenzene, 1,2,4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trichlorobenzene, 1,2,3-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Xylenes (Total)	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
	Dichloropropene, 1,1-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tetrahydrofuran (THF)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Isopropylbenzene (Cumene)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Diisopropyl Ether (DIPE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethyl Tert-buryl Ether (ETBE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Amyl Methyl Ether (TAME), tert-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dioxane, 1,4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Diethyl Ether (Ethyl ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Dichloroethylene (total)	NA	NA	R3	NA	R3	NA	NA	NA	NA	R3	NA	R3	NA	NA	NA	NA	NA
VPH																		
(mg/kg)	C5-C8 Aliphatics	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C12 Aliphatics	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C10 Aromatics	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl T-Butyl Ether (MTBE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Toluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Xylene, o-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Xylenes, m/p-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPH																		
(mg/kg)	C9-C18 Aliphatics	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C19-C36 Aliphatics	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C11-C22 Aromatics	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methylnaphthalene, 2-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1
Summary of Analytical Results for Soil Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	MW-02			MW-03				MW-03A	MW-04			MW-05			MCA-02	MCA-03	
	Sample ID:	MW-2	MW-2	MW-2	MW-3	MW-3	MW-3	MW-3	MW-3A	MW-4	MW-4	MW-4	MW-5	MW-5	MW-5	S-2-B	S-3-A	S-3-B
	Sample Depth (ft.):	0.5 - 2	5 - 6.5	10 - 10.8	0 - 1.5	5 - 6	10 - 12	15 - 16.5	0 - 1.5	0 - 1.5	5 - 6.5	10 - 11.5	0 - 1.5	5 - 6.5	10 - 10.9	1.5 - 2	0 - 0.6	1 - 1.5
	Sample Date:	06/29/1987	06/29/1987	06/29/1987	06/24/1987	06/24/1987	06/29/1987	06/29/1987	06/25/1987	06/25/1987	06/25/1987	06/25/1987	06/26/1987	06/26/1987	06/26/1987	02/25/1987	02/25/1987	02/25/1987
	Analyte																	
PAHs																		
(mg/kg)	Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methylnaphthalene, 2-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																		
(mg/kg)	Aroclor-1016	0.050 U	NA	NA	NA	NA	NA	NA	0.050 U	0.050 U	NA	NA	0.050 U	NA	NA	NA	NA	NA
	Aroclor-1221	0.050 U	NA	NA	NA	NA	NA	NA	0.050 U	0.050 U	NA	NA	0.050 U	NA	NA	NA	NA	NA
	Aroclor-1232	0.050 U	NA	NA	NA	NA	NA	NA	0.050 U	0.050 U	NA	NA	0.050 U	NA	NA	NA	NA	NA
	Aroclor-1242	0.050 U	NA	NA	NA	NA	NA	NA	0.050 U	0.050 U	NA	NA	0.050 U	NA	NA	NA	NA	NA
	Aroclor-1248	0.050 U	NA	NA	NA	NA	NA	NA	0.050 U	0.050 U	NA	NA	0.050 U	NA	NA	NA	NA	NA
	Aroclor-1254	0.050 U	NA	NA	NA	NA	NA	NA	0.050 U	0.050 U	NA	NA	**1.44**	NA	NA	NA	NA	NA
	Aroclor-1260	0.050 U	NA	NA	NA	NA	NA	NA	0.050 U	0.050 U	NA	NA	0.050 U	NA	NA	NA	NA	NA
	Total PCBs	0.050 U	NA	NA	NA	NA	NA	NA	0.050 U	0.050 U	NA	NA	**1.44**	NA	NA	NA	NA	NA
TPH																		
(mg/kg)	Gasoline	**0.04**	**0.04**	**0.070**	R3	**0.02**	**0.02**	**0.02**	NA	**0.010**	**0.03**	**0.02**	**0.02**	R3	**0.010**	NA	NA	NA
	Oil & Grease	**280**	NA	NA	NA	NA	NA	NA	25 U	**260**	NA	NA	**1,200**	NA	NA	**140**	**84**	**56**
Metals, total																		
(mg/kg)	Arsenic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.0 U	2.0 U	2.0 U
	Chromium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.0 U	**350**	**120**
	Copper	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4.3**	**32**	**20**
	Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**12**	**81**	**62**
	Mercury	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.0 U	**1,600**	**620**
	Selenium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**12**	**60**	**31**
Metals, TCLP																		
(mg/L)	Arsenic	0.0050 U	0.0050 U	NA	0.0050 U	0.0050 U	NA	NA	NA	0.0050 U	0.0050 U	NA	0.0050 U	0.0050 U	NA	NA	NA	NA
	Barium	**0.10**	0.10 U	NA	0.10 U	0.10 U	NA	NA	NA	**0.14**	0.10 U	NA	**0.30**	0.10 U	NA	NA	NA	NA
	Cadmium	0.010 U	**0.042**	NA	**0.12**	0.010 U	NA	NA	NA	0.010 U	0.010 U	NA	0.010 U	0.010 U	NA	NA	NA	NA
	Chromium	**0.02**	**0.02**	NA	**0.02**	**0.02**	NA	NA	NA	**0.02**	**0.03**	NA	**0.02**	**0.03**	NA	NA	NA	NA
	Lead	**0.12**	0.10 U	NA	0.10 U	0.10 U	NA	NA	NA	0.10 U	0.10 U	NA	0.10 U	0.10 U	NA	NA	NA	NA
	Mercury	0.0002 U	0.0002 U	NA	**0.0002**	0.0002 U	NA	NA	NA	0.0002 U	0.0002 U	NA	0.0002 U	0.0002 U	NA	NA	NA	NA
	Nickel	**0.04**	**0.04**	NA	**0.04**	**0.04**	NA	NA	NA	**0.070**	**0.14**	NA	**0.03**	**0.03**	NA	NA	NA	NA
	Selenium	0.0050 U	0.0050 U	NA	0.0050 U	0.0050 U	NA	NA	NA	0.0050 U	0.0050 U	NA	0.0050 U	0.0050 U	NA	NA	NA	NA
	Silver	0.010 U	0.010 U	NA	0.010 U	0.010 U	NA	NA	NA	0.010 U	0.010 U	NA	0.010 U	0.010 U	NA	NA	NA	NA
Cyanide																		
(mg/kg)	Cyanide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.50 U	0.50 U	0.50 U
Carbons																		
(%)	Total Organic Carbon (Rep1)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total Organic Carbon (Rep2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1
Summary of Analytical Results for Soil Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	MCA-04	MCA-05	MCA-06	MCA-08	MCA-09	MCA-10	MCA-11	SB-01	SB-02	SS-01	SS-01_Cygnus	SS-02	SS-03	SS-04	
	Sample ID:	S-4-B	S-5-B	S-6-B	S-8-A	S-9-A	S-10-B	S-11-B	SB-1	SB-2	SS-1	SS-1	SS-2	SS-3	SS-4	SS-Dup
	Sample Depth (ft.):	1.5 - 2	1.5 - 2	1.5 - 2	0 - 1.5	0 - 0.5	1 - 1.5	1.5 - 2	7 - 11	7 - 11	0 - 0.5	0 - 1	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
	Sample Date:	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	03/06/2000	03/06/2000	04/02/2010	02/24/2000	04/02/2010	04/02/2010	04/02/2010	04/02/2010 Field Dup
	Analyte															
VOCs (mg/kg)	Dichlorodifluoromethane (Freon 12)	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.018 U	0.085 U	0.018 U	0.019 U	0.0096 U	0.012 U
	Chloromethane	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0089 U	0.085 U	0.0091 U	0.0096 U	0.0048 U	0.006 U
	Vinyl Chloride	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0089 U	0.085 U	0.0091 U	0.0096 U	0.0048 U	0.006 U
	Bromomethane	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0089 U	0.085 U	0.0091 U	0.0096 U	0.0048 U	0.006 U
	Chloroethane	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.018 U	0.085 U	0.018 U	0.019 U	0.0096 U	0.012 U
	Trichlorofluoromethane (Freon 11)	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0089 U	0.085 U	0.0091 U	0.0096 U	0.0048 U	0.006 U
	Acetone	NA	NA	NA	NA	NA	NA	NA	**0.013**	**0.020**	0.089 U	**0.17 J**	0.091 U	0.096 U	0.048 U	0.06 U
	Dichloroethylene, 1,1-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0036 U	0.085 U	0.0037 U	0.0039 U	0.0019 U	0.0024 U
	Carbon Disulfide	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0053 U	0.085 U	0.0055 U	0.0058 U	0.0029 U	0.0036 U
	Methylene Chloride	NA	NA	NA	NA	NA	NA	NA	**0.0010 J**	**0.0010 J**	0.018 U	0.21 U	0.018 U	0.019 U	0.0096 U	0.012 U
	Methyl T-Butyl Ether (MTBE)	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0036 U	0.085 U	0.0037 U	0.0039 U	0.0019 U	0.0024 U
	Dichloroethene, trans-1,2-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Dichloroethane, 1,1-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Vinyl Acetate	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	NA	0.085 U	NA	NA	NA	NA
	Methyl Ethyl Ketone (MEK)	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.036 U	0.085 U	0.037 U	0.039 U	0.019 U	0.024 U
	Dichloroethene, cis-1,2-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Dichloropropane, 2,2-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Chloroform	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0036 U	0.085 U	0.0037 U	0.0039 U	0.0019 U	0.0024 U
	Trichloroethane, 1,1,1-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Acrolein	NA	NA	NA	NA	NA	NA	NA	0.0050 U	0.003 U	NA	0.21 U	NA	NA	NA	NA
	Carbon Tetrachloride	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Benzene	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Dichloroethane, 1,2-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Trichloroethylene (TCE)	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	**0.029**	0.0019 U	**0.058**	**0.046**
	Dichloropropane, 1,2-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Dibromomethane	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Bromodichloromethane	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	2-Chloroethyl vinyl ether	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	NA	0.085 U	NA	NA	NA	NA
	Methyl Isobutyl Ketone (MIBK)	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.018 U	0.085 U	0.018 U	0.019 U	0.0096 U	0.012 U
	Dichloropropene, cis-1,3	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.00089 U	0.085 U	0.00091 U	0.00096 U	0.00048 U	0.0006 U
	Toluene	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Dichloropropene, trans-1,3	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.00089 U	0.085 U	0.00091 U	0.00096 U	0.00048 U	0.0006 U
	Trichloroethane, 1,1,2-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Bromochloromethane	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Hexanone (MNBK), 2-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.018 U	0.085 U	0.018 U	0.019 U	0.0096 U	0.012 U
	Tetrachloroethylene (PCE)	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	**0.0024**	**0.0015**
	Dichloropropane, 1,3-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.00089 U	0.085 U	0.00091 U	0.00096 U	0.00048 U	0.0006 U
	Dibromochloromethane	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.00089 U	0.085 U	0.00091 U	0.00096 U	0.00048 U	0.0006 U
	Ethylene Dibromide	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.00089 U	0.085 U	0.00091 U	0.00096 U	0.00048 U	0.0006 U
	Chlorobenzene	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Tetrachloroethane, 1,1,1,2-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Xylenes, m/p-	NA	NA	NA	NA	NA	NA	NA	0.003 U	0.003 U	0.0036 U	0.17 U	0.0037 U	0.0039 U	0.0019 U	0.0024 U
	Xylene, o-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Styrene	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Bromoform	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0036 U	0.085 U	0.0037 U	0.0039 U	0.0019 U	0.0024 U
	Acrylonitrile	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	NA	0.085 U	NA	NA	NA	NA
	Tetrachloroethane, 1,1,2,2-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.00089 U	0.085 U	0.00091 U	0.00096 U	0.00048 U	0.0006 U
	Bromobenzene	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Trichloropropane, 1,2,3-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Propylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Chlorotoluene, 2-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Trimethylbenzene, 1,3,5-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Chlorotoluene, 4-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U

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Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	MCA-04	MCA-05	MCA-06	MCA-08	MCA-09	MCA-10	MCA-11	SB-01	SB-02	SS-01	SS-01_Cygnus	SS-02	SS-03	SS-04	
	Sample ID:	S-4-B	S-5-B	S-6-B	S-8-A	S-9-A	S-10-B	S-11-B	SB-1	SB-2	SS-1	SS-1	SS-2	SS-3	SS-4	SS-Dup
	Sample Depth (ft.):	1.5 - 2	1.5 - 2	1.5 - 2	0 - 1.5	0 - 0.5	1 - 1.5	1.5 - 2	7 - 11	7 - 11	0 - 0.5	0 - 1	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
	Sample Date:	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	03/06/2000	03/06/2000	04/02/2010	02/24/2000	04/02/2010	04/02/2010	04/02/2010	04/02/2010 Field Dup
	Analyte															
	Butylbenzene, tert-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Trimethylbenzene, 1,2,4-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Butylbenzene, sec-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Dichlorobenzene, 1,3- (m-DCB)	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Isopropyltoluene, p- (Cymene)	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Dichlorobenzene, 1,4-; (p-DCB)	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Butylbenzene, n-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Dichlorobenzene, 1,2- (o-DCB)	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	1,2-Dibromo-3-chloropropane	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0036 U	0.085 U	0.0037 U	0.0039 U	0.0019 U	0.0024 U
	Trichlorobenzene, 1,2,4-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Naphthalene	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0036 U	0.085 U	0.0037 U	0.0039 U	0.0019 U	0.0024 U
	Trichlorobenzene, 1,2,3-	NA	NA	NA	NA	NA	NA	NA	0.0020 U	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Xylenes (Total)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloropropene, 1,1-	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0018 U	NA	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Tetrahydrofuran (THF)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0089 U	NA	0.0091 U	0.0096 U	0.0048 U	0.006 U
	Isopropylbenzene (Cumene)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0018 U	NA	0.0018 U	0.0019 U	0.00096 U	0.0012 U
	Diisopropyl Ether (DIPE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00089 U	NA	0.00091 U	0.00096 U	0.00048 U	0.0006 U
	Ethyl Tert-buryl Ether (ETBE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00089 U	NA	0.00091 U	0.00096 U	0.00048 U	0.0006 U
	Amyl Methyl Ether (TAME), tert-	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00089 U	NA	0.00091 U	0.00096 U	0.00048 U	0.0006 U
	Dioxane, 1,4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.089 U	NA	0.091 U	0.096 U	0.048 U	0.06 U
	Diethyl Ether (Ethyl ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.018 U	NA	0.018 U	0.019 U	0.0096 U	0.012 U
	1,2-Dichloroethylene (total)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VPH																
(mg/kg)	C5-C8 Aliphatics	NA	NA	NA	NA	NA	NA	NA	17 U	13 U	NA	13 U	NA	NA	NA	NA
	C9-C12 Aliphatics	NA	NA	NA	NA	NA	NA	NA	4.9 U	3.6 U	NA	3.8 U	NA	NA	NA	NA
	C9-C10 Aromatics	NA	NA	NA	NA	NA	NA	NA	9.8 U	7.2 U	NA	7.6 U	NA	NA	NA	NA
	Methyl T-Butyl Ether (MTBE)	NA	NA	NA	NA	NA	NA	NA	0.25 U	0.18 U	NA	0.19 U	NA	NA	NA	NA
	Benzene	NA	NA	NA	NA	NA	NA	NA	0.25 U	0.18 U	NA	0.19 U	NA	NA	NA	NA
	Toluene	NA	NA	NA	NA	NA	NA	NA	0.74 U	0.54 U	NA	0.57 U	NA	NA	NA	NA
	Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	0.25 U	0.18 U	NA	0.19 U	NA	NA	NA	NA
	Xylene, o-	NA	NA	NA	NA	NA	NA	NA	0.49 U	0.36 U	NA	0.38 U	NA	NA	NA	NA
	Naphthalene	NA	NA	NA	NA	NA	NA	NA	0.49 U	0.36 U	NA	0.38 U	NA	NA	NA	NA
	Xylenes, m/p-	NA	NA	NA	NA	NA	NA	NA	0.49 U	0.36 U	NA	0.38 U	NA	NA	NA	NA
EPH																
(mg/kg)	C9-C18 Aliphatics	NA	NA	NA	NA	NA	NA	NA	3.2 U	3.2 U	NA	**7.3**	NA	NA	NA	NA
	C19-C36 Aliphatics	NA	NA	NA	NA	NA	NA	NA	4.3 U	4.2 U	NA	**150**	NA	NA	NA	NA
	C11-C22 Aromatics	NA	NA	NA	NA	NA	NA	NA	9.1 U	9.0 U	NA	**65**	NA	NA	NA	NA
	Naphthalene	NA	NA	NA	NA	NA	NA	NA	0.53 U	0.53 U	NA	0.57 U	NA	NA	NA	NA
	Methylnaphthalene, 2-	NA	NA	NA	NA	NA	NA	NA	0.53 U	0.53 U	NA	0.57 U	NA	NA	NA	NA
	Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	0.53 U	0.53 U	NA	0.57 U	NA	NA	NA	NA
	Acenaphthene	NA	NA	NA	NA	NA	NA	NA	0.53 U	0.53 U	NA	0.57 U	NA	NA	NA	NA
	Fluorene	NA	NA	NA	NA	NA	NA	NA	0.53 U	0.53 U	NA	0.57 U	NA	NA	NA	NA
	Phenanthrene	NA	NA	NA	NA	NA	NA	NA	0.53 U	0.53 U	NA	**1.6**	NA	NA	NA	NA
	Anthracene	NA	NA	NA	NA	NA	NA	NA	0.53 U	0.53 U	NA	0.57 U	NA	NA	NA	NA
	Fluoranthene	NA	NA	NA	NA	NA	NA	NA	0.53 U	0.53 U	NA	**2.5**	NA	NA	NA	NA
	Pyrene	NA	NA	NA	NA	NA	NA	NA	0.53 U	0.53 U	NA	**2.6**	NA	NA	NA	NA
	Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	0.53 U	0.53 U	NA	**1.3**	NA	NA	NA	NA
	Chrysene	NA	NA	NA	NA	NA	NA	NA	0.53 U	0.53 U	NA	**1.7**	NA	NA	NA	NA
	Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	0.53 U	0.53 U	NA	**1.7**	NA	NA	NA	NA
	Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	0.53 U	0.53 U	NA	**0.94**	NA	NA	NA	NA
	Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	0.53 U	0.53 U	NA	**1.3**	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	0.53 U	0.53 U	NA	**1.4**	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	0.53 U	0.53 U	NA	**1.4**	NA	NA	NA	NA
	Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	0.53 U	0.53 U	NA	**1.0**	NA	NA	NA	NA

Table 1
Summary of Analytical Results for Soil Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	MCA-04	MCA-05	MCA-06	MCA-08	MCA-09	MCA-10	MCA-11	SB-01	SB-02	SS-01	SS-01_Cygnus	SS-02	SS-03	SS-04	
	Sample ID:	S-4-B	S-5-B	S-6-B	S-8-A	S-9-A	S-10-B	S-11-B	SB-1	SB-2	SS-1	SS-1	SS-2	SS-3	SS-4	SS-Dup
	Sample Depth (ft.):	1.5 - 2	1.5 - 2	1.5 - 2	0 - 1.5	0 - 0.5	1 - 1.5	1.5 - 2	7 - 11	7 - 11	0 - 0.5	0 - 1	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
	Sample Date:	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	03/06/2000	03/06/2000	04/02/2010	02/24/2000	04/02/2010	04/02/2010	04/02/2010	04/02/2010 Field Dup
	Analyte															
PAHs																
(mg/kg)	Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.2**	NA	0.90 U	**1.0**	0.19 U	0.20 U
	Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.45 U	NA	0.90 U	0.41 U	0.19 U	0.20 U
	Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.1**	NA	**1.7**	**2.4**	0.19 U	0.20 U
	Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	**12**	NA	**5.9**	**8.6**	0.19 U	0.20 U
	Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	**10**	NA	**4.9**	**7.1**	0.19 U	0.20 U
	Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	**13**	NA	**6.0**	**9.7**	0.19 U	0.20 U
	Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.0**	NA	**4.7**	**3.4**	0.19 U	0.20 U
	Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	**6.8**	NA	**2.3**	**3.7**	0.19 U	0.20 U
	Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	**12**	NA	**6.0**	**8.7**	0.19 U	0.20 U
	Dibenzo(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.4**	NA	**1.3**	**0.98**	0.19 U	0.20 U
	Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	**21**	NA	**12**	**19**	**0.20**	0.20 U
	Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.95**	NA	0.90 U	**0.87**	0.19 U	0.20 U
	Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	**6.9**	NA	**5.2**	**4.8**	0.19 U	0.20 U
	Methylnaphthalene, 2-	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.45 U	NA	0.90 U	0.41 U	0.19 U	0.20 U
	Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.45 U	NA	0.90 U	**0.67**	0.19 U	0.20 U
	Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	**14**	NA	**8.2**	**14**	0.19 U	0.20 U
	Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	**24**	NA	**11**	**16**	**0.19**	0.20 U
PCBs																
(mg/kg)	Aroclor-1016	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1221	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1232	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1242	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1248	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1254	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1260	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH																
(mg/kg)	Gasoline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Oil & Grease	**87**	**110**	**26**	**380**	**220**	**30**	**420**	NA	NA	NA	NA	NA	NA	NA	NA
Metals, total																
(mg/kg)	Arsenic	NA	NA	NA	NA	NA	NA	NA	**0.28**	**0.42**	NA	**2.6**	NA	NA	NA	NA
	Barium	NA	NA	NA	NA	NA	NA	NA	**15**	**14**	NA	**57**	NA	NA	NA	NA
	Cadmium	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.27 U	0.28 U	NA	**1.2**	NA	NA	NA	NA
	Chromium	**130**	**92**	**15**	**310**	**74**	**13**	**45**	**1.8**	**2.4**	**37**	**16**	**49**	**27**	**110**	**100**
	Copper	**5.7**	**37**	**7.9**	**30**	**19**	**3.7**	**11**	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	**44**	**260**	**12**	**42**	**150**	**85**	**63**	5.4 U	5.7 U	NA	**56**	NA	NA	NA	NA
	Mercury	NA	NA	NA	NA	NA	NA	NA	0.011 U	0.010 U	NA	**0.028**	NA	NA	NA	NA
	Nickel	**870**	**49**	**220**	**280**	**29**	**15**	**58**	NA	NA	**43**	NA	**82**	**44**	**110**	**120**
	Selenium	NA	NA	NA	NA	NA	NA	NA	11 U	11 U	NA	14 U	NA	NA	NA	NA
	Silver	NA	NA	NA	NA	NA	NA	NA	0.38 U	0.40 U	NA	0.70 U	NA	NA	NA	NA
	Zinc	**17**	**52**	**10**	**55**	**43**	**15**	**96**	NA	NA	NA	NA	NA	NA	NA	NA
Metals, TCLP																
(mg/L)	Arsenic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide																
(mg/kg)	Cyanide	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	NA	NA	NA	NA	NA	NA	NA	NA
Carbons																
(%)	Total Organic Carbon (Rep1)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total Organic Carbon (Rep2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1
Summary of Analytical Results for Soil Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	SS-05	SS-06	Tank-1	Tank-2	Tank-3	Tank-4	Tank-5	TRC-05					TRC-08
	Sample ID:	SS-5	SS-6	Tank-1	Tank-2	Tank-3	Tank-4	Tank-5	TRC-5 7-9	TRC-5-1 7-11 COMP	TRC-5-2 13-15.5 COMP	TRC-5 15-15.5	DUP-1	TRC-8 13.5-15
	Sample Depth (ft.):	0 - 0.5	0 - 0.5	12	10-11	10-11	10-11	10-11	7 - 9	7 - 11	13 - 15.5	15 - 15.5	15 - 15.5	13.5 - 15
	Sample Date:	04/02/2010	04/02/2010	9/28/2000	9/28/2000	9/28/2000	9/28/2000	9/28/2000	02/11/2013	02/11/2013	02/11/2013	02/11/2013	02/11/2013 Field Dup	02/12/2013
	Analyte													
VOCs														
(mg/kg)	Dichlorodifluoromethane (Freon 12)	0.013 U	0.011 U	NA	NA	NA	NA	NA	0.66 U	NA	NA	0.95 U	0.86 U	0.0065 U
	Chloromethane	0.0067 U	0.0054 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Vinyl Chloride	0.0067 U	0.0054 U	NA	NA	NA	NA	NA	0.13 U	NA	NA	0.19 U	0.17 U	0.0013 U
	Bromomethane	0.0067 U	0.0054 U	NA	NA	NA	NA	NA	0.13 U	NA	NA	0.19 U	0.17 U	0.0013 U
	Chloroethane	0.013 U	0.011 U	NA	NA	NA	NA	NA	0.13 U	NA	NA	0.19 U	0.17 U	0.0013 U
	Trichlorofluoromethane (Freon 11)	0.0067 U	0.0054 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Acetone	0.067 U	0.054 U	NA	NA	NA	NA	NA	2.4 U	NA	NA	3.4 U	3.1 U	0.024 U
	Dichloroethylene, 1,1-	0.0027 U	0.0022 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	Carbon Disulfide	0.004 U	0.0032 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Methylene Chloride	0.013 U	0.011 U	NA	NA	NA	NA	NA	0.66 U	NA	NA	0.95 U	0.86 U	0.0065 U
	Methyl T-Butyl Ether (MTBE)	0.0027 U	0.0022 U	NA	NA	NA	NA	NA	0.13 U	NA	NA	0.19 U	0.17 U	0.0013 U
	Dichloroethene, trans-1,2-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.099 U	NA	NA	0.14 U	0.13 U	0.00098 U
	Dichloroethane, 1,1-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.099 U	NA	NA	0.14 U	0.13 U	0.00098 U
	Vinyl Acetate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl Ethyl Ketone (MEK)	0.027 U	0.022 U	NA	NA	NA	NA	NA	0.66 U	NA	NA	0.95 U	0.86 U	0.0065 U
	Dichloroethene, cis-1,2-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	**0.30**	NA	NA	0.095 U	0.086 U	**0.0056**
	Dichloropropane, 2,2-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.33 U	NA	NA	0.48 U	0.43 U	0.0033 U
	Chloroform	0.0027 U	0.0022 U	NA	NA	NA	NA	NA	0.099 U	NA	NA	0.14 U	0.13 U	0.00098 U
	Trichloroethane, 1,1,1-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	Acrolein	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Carbon Tetrachloride	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	Benzene	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	Dichloroethane, 1,2-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	Trichloroethylene (TCE)	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	**2.6**	NA	NA	**4.9**	**2.0**	**0.26**
	Dichloropropane, 1,2-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.23 U	NA	NA	0.33 U	0.30 U	0.0023 U
	Dibromomethane	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Bromodichloromethane	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	2-Chloroethyl vinyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl Isobutyl Ketone (MIBK)	0.013 U	0.011 U	NA	NA	NA	NA	NA	0.66 U	NA	NA	0.95 U	0.86 U	0.0065 U
	Dichloropropene, cis-1,3	0.00067 U	0.00054 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	Toluene	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.099 U	NA	NA	0.14 U	0.13 U	0.00098 U
	Dichloropropene, trans-1,3	0.00067 U	0.00054 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	Trichloroethane, 1,1,2-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.099 U	NA	NA	0.14 U	0.13 U	0.00098 U
	Bromochloromethane	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Hexanone (MNBK), 2-	0.013 U	0.011 U	NA	NA	NA	NA	NA	0.66 U	NA	NA	0.95 U	0.86 U	0.0065 U
	Tetrachloroethylene (PCE)	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	**0.13**	0.086 U	**0.0067**
	Dichloropropane, 1,3-	0.00067 U	0.00054 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Dibromochloromethane	0.00067 U	0.00054 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	Ethylene Dibromide	0.00067 U	0.00054 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Chlorobenzene	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	Tetrachloroethane, 1,1,1,2-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	Ethylbenzene	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	Xylenes, m/p-	0.0027 U	0.0022 U	NA	NA	NA	NA	NA	0.13 U	NA	NA	0.19 U	0.17 U	0.0013 U
	Xylene, o-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.13 U	NA	NA	0.19 U	0.17 U	0.0013 U
	Styrene	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.13 U	NA	NA	0.19 U	0.17 U	0.0013 U
	Bromoform	0.0027 U	0.0022 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Acrylonitrile	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tetrachloroethane, 1,1,2,2-	0.00067 U	0.00054 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	Bromobenzene	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.33 U	NA	NA	0.48 U	0.43 U	0.0033 U
	Trichloropropane, 1,2,3-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Propylbenzene, n-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	Chlorotoluene, 2-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Trimethylbenzene, 1,3,5-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Chlorotoluene, 4-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U

Table 1
Summary of Analytical Results for Soil Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	SS-05	SS-06	Tank-1	Tank-2	Tank-3	Tank-4	Tank-5	TRC-05					TRC-08
	Sample ID:	SS-5	SS-6	Tank-1	Tank-2	Tank-3	Tank-4	Tank-5	TRC-5 7-9	TRC-5-1 7-11 COMP	TRC-5-2 13-15.5 COMP	TRC-5 15-15.5	DUP-1	TRC-8 13.5-15
	Sample Depth (ft.):	0 - 0.5	0 - 0.5	12	10-11	10-11	10-11	10-11	7 - 9	7 - 11	13 - 15.5	15 - 15.5	15 - 15.5	13.5 - 15
	Sample Date:	04/02/2010	04/02/2010	9/28/2000	9/28/2000	9/28/2000	9/28/2000	9/28/2000	02/11/2013	02/11/2013	02/11/2013	02/11/2013	02/11/2013 Field Dup	02/12/2013
	Analyte													
	Butylbenzene, tert-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Trimethylbenzene, 1,2,4-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Butylbenzene, sec-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	Dichlorobenzene, 1,3- (m-DCB)	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Isopropyltoluene, p- (Cymene)	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	Dichlorobenzene, 1,4-; (p-DCB)	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Butylbenzene, n-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	Dichlorobenzene, 1,2- (o-DCB)	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	1,2-Dibromo-3-chloropropane	0.0027 U	0.0022 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Trichlorobenzene, 1,2,4-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Hexachlorobutadiene	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Naphthalene	0.0027 U	0.0022 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Trichlorobenzene, 1,2,3-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Xylenes (Total)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloropropene, 1,1-	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Tetrahydrofuran (THF)	0.0067 U	0.0054 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Isopropylbenzene (Cumene)	0.0013 U	0.0011 U	NA	NA	NA	NA	NA	0.066 U	NA	NA	0.095 U	0.086 U	0.00065 U
	Diisopropyl Ether (DIPE)	0.00067 U	0.00054 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Ethyl Tert-buryl Ether (ETBE)	0.00067 U	0.00054 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Amyl Methyl Ether (TAME), tert-	0.00067 U	0.00054 U	NA	NA	NA	NA	NA	0.26 U	NA	NA	0.38 U	0.34 U	0.0026 U
	Dioxane, 1,4-	0.067 U	0.054 U	NA	NA	NA	NA	NA	6.6 U	NA	NA	9.5 U	8.6 U	0.026 U
	Diethyl Ether (Ethyl ether)	0.013 U	0.011 U	NA	NA	NA	NA	NA	0.33 U	NA	NA	0.48 U	0.43 U	0.0033 U
	1,2-Dichloroethylene (total)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VPH														
(mg/kg)	C5-C8 Aliphatics	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C12 Aliphatics	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C10 Aromatics	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl T-Butyl Ether (MTBE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Toluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Xylene, o-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Xylenes, m/p-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPH														
(mg/kg)	C9-C18 Aliphatics	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	C19-C36 Aliphatics	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	C11-C22 Aromatics	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	Naphthalene	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	Methylnaphthalene, 2-	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	Acenaphthylene	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	Acenaphthene	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	Fluorene	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	Phenanthrene	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	Anthracene	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	Fluoranthene	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	Pyrene	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	Chrysene	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA

Table 1
Summary of Analytical Results for Soil Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	**SS-05**	**SS-06**	**Tank-1**	**Tank-2**	**Tank-3**	**Tank-4**	**Tank-5**	**TRC-05**					**TRC-08**
	Sample ID:	SS-5	SS-6	Tank-1	Tank-2	Tank-3	Tank-4	Tank-5	TRC-5 7-9	TRC-5-1 7-11 COMP	TRC-5-2 13-15.5 COMP	TRC-5 15-15.5	DUP-1	TRC-8 13.5-15
	Sample Depth (ft.):	0 - 0.5	0 - 0.5	12	10-11	10-11	10-11	10-11	7 - 9	7 - 11	13 - 15.5	15 - 15.5	15 - 15.5	13.5 - 15
	Sample Date:	04/02/2010	04/02/2010	9/28/2000	9/28/2000	9/28/2000	9/28/2000	9/28/2000	02/11/2013	02/11/2013	02/11/2013	02/11/2013	02/11/2013 Field Dup	02/12/2013
	Analyte													
PAHs														
(mg/kg)	Acenaphthene	**0.63**	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	0.22 U	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Anthracene	**1.3**	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	**3.5**	**0.27**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	**3.1**	**0.26**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	**4.0**	**0.34**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	**1.2**	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	**1.5**	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chrysene	**3.6**	**0.33**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	**0.33**	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	**6.3**	**0.39**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluorene	**0.62**	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	**1.5**	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methylnaphthalene, 2-	**0.23**	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	**0.36**	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	**6.3**	**0.31**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pyrene	**6.5**	**0.47**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs														
(mg/kg)	Aroclor-1016	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1221	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1232	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1242	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1248	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1254	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1260	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH														
(mg/kg)	Gasoline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Oil & Grease	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals, total														
(mg/kg)	Arsenic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	**78**	**13**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Copper	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	**250**	**21**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals, TCLP														
(mg/L)	Arsenic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide														
(mg/kg)	Cyanide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbons														
(%)	Total Organic Carbon (Rep1)	NA	NA	NA	NA	NA	NA	NA	NA	**0.034**	0.010 U	NA	NA	NA
	Total Organic Carbon (Rep2)	NA	NA	NA	NA	NA	NA	NA	NA	**0.045**	0.010 U	NA	NA	NA

Table 1
Summary of Analytical Results for Soil Samples
Former Payne Cutlery
New Bedford, Massachusetts

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

mg/L - milligrams per liter.

B - Compound detected in associated method blank

E - Estimated value due to interference.

J - Estimated value.

NA - Sample not analyzed for the listed analyte.

N/A - Not applicable.

ND - Not detected.

NS - No MassDEP standards exist for this analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

VOCs - Volatile Organic Compounds.

VPH - Volatile Petroleum Hydrocarbons.

EPH - Extractable Petroleum Hydrocarbons.

PAHs - Polynuclear Aromatic Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

R1 - Rejected data point due to 0% recovery in associated LCS.

R2 - Rejected data point due to gross holding time exceedance.

R3 - Rejected data point due to lack of field preservation.

orange shading - Significant low bias due to 0% recovery in associated LCS.

green shading - Significant low bias due to gross holding time exceedance.

blue shading - Significant low bias due to lack of field preservation.

Table 2
Summary of Analytical Results for Groundwater Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	CGW-01	CGW-02	CGW-03	CGW-04	CGW-05	CGW-06	CGW-07	CGW-07_(Payne)	CGW-08					CGW-09	CGW-10		CGW-11		CGW-12	CGW-13
	Sample ID:	CGW-1	CGW-2	CGW-3	CGW-4	CGW-5	CGW-6	CGW-7	CGW-7 (Payne	CGW-8	CGW-8	DUP-1	CGW-8	CGW-8	CGW-9	CGW-10	CGW-10	CGW-11	CGW-11	CGW-12	CGW-13
	Sample Date:	03/02/2000	03/02/2000	03/02/2000	03/02/2000	03/02/2000	03/02/2000	03/02/2000	03/10/2000	03/02/2000	04/05/2012	04/05/2012 Field Dup	02/26/2013	8/15/2013	03/02/2000	06/15/2001	04/05/2012	06/15/2001	04/11/2012	06/15/2001	06/15/2001
	Analyte																				
VOCs																					
(ug/L)	Acetone	**3.0 J**	5.0 U	**21**	**4.0 J**	**20**	5.0 U	NA	**91 JB**	5,000 U	5,000 U	5,000 U	1,000 U	1,000 U	**750**	**1.2 J**	10 U	5.0 U	50 U	**2.7 J**	**260**
	Benzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	20 U
	Bromobenzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	NA	1.0 U	NA	1.0 U	NA	NA
	Bromochloromethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	NA	1.0 U	NA	1.0 U	NA	NA
	Bromodichloromethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	20 U
	Bromoform	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	2.0 U	1.0 U	2.0 U	5.0 U	2.0 U	20 U
	Bromomethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	2,500 U	2,500 U	500 U	200 U	100 U	2.0 U	5.0 U	2.0 U	2.0 U	2.0 U	20 U
	Methyl Ethyl Ketone (MEK)	2.0 U	2.0 U	**3.0**	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	5,000 U	5,000 U	1,000 U	1,000 U	100 U	2.0 U	10 U	2.0 U	10 U	2.0 U	**40**
	Butylbenzene, n-	2.0 U	2.0 U	**4.0**	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	NA	1.0 U	NA	1.0 U	NA	NA
	Butylbenzene, sec-	2.0 U	2.0 U	**2.0**	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	NA	1.0 U	NA	1.0 U	NA	NA
	Ethyl Tert-buryl Ether (ETBE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	250 U	250 U	50 U	50 U	NA	NA	0.5 U	NA	0.5 U	NA	NA
	Carbon Disulfide	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	2,500 U	2,500 U	500 U	500 U	100 U	2.0 U	5.0 U	2.0 U	10 U	2.0 U	20 U
	Carbon Tetrachloride	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	20 U
	Chlorobenzene	2.0 U	2.0 U	2.0 U	**3.0**	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	20 U
	Dibromochloromethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	250 U	250 U	50 U	50 U	100 U	2.0 U	0.5 U	2.0 U	5.0 U	2.0 U	20 U
	Chloroethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	1,000 U	1,000 U	200 U	200 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	20 U
	Chloroform	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	1,000 U	1,000 U	200 U	200 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	20 U
	Chloromethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	1,000 U	1,000 U	200 U	200 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	20 U
	Chlorotoluene, 2-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	NA	1.0 U	NA	1.0 U	NA	NA
	Chlorotoluene, 4-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	NA	1.0 U	NA	1.0 U	NA	NA
	Ethylene Dibromide	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	250 U	250 U	50 U	50 U	100 U	NA	0.5 U	NA	0.5 U	NA	NA
	Dibromomethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	NA	1.0 U	NA	1.0 U	NA	NA
	Dichlorobenzene, 1,2- (o-DCB)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	NA	1.0 U	NA	1.0 U	NA	NA
	Dichlorobenzene, 1,3- (m-DCB)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	NA	1.0 U	NA	1.0 U	NA	NA
	Dichlorobenzene, 1,4-; (p-DCB)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	NA	1.0 U	NA	1.0 U	NA	NA
	Dichlorodifluoromethane (Freon 12)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	1,000 U	1,000 U	200 U	200 U	100 U	NA	2.0 U	NA	2.0 U	NA	NA
	Dichloroethane, 1,1-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	20 U
	Dichloroethane, 1,2-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	20 U
	Dichloroethylene, 1,1-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	**1.5**	1.0 U	10 U
	Dichloroethene, cis-1,2-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	**8,200**	**6,500**	**4,700**	**3,800**	**51 J**	2.0 U	1.0 U	**1.2 J**	**160**	2.0 U	20 U
	Dichloroethene, trans-1,2-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	20 U
	Dichloropropane, 1,2-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	20 U
	Dichloropropane, 1,3-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	250 U	250 U	50 U	50 U	100 U	NA	0.5 U	NA	0.5 U	NA	NA
	Dichloropropane, 2,2-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	NA	1.0 U	NA	2.0 U	NA	NA
	Dichloropropene, 1,1-	NA	NA	NA	NA	NA	NA	NA	NA	NA	250 U	250 U	50 U	50 U	NA	NA	0.5 U	NA	0.5 U	NA	NA
	Dichloropropene, cis-1,3	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	200 U	200 U	40 U	40 U	100 U	0.5 U	0.4 U	0.5 U	2.0 U	0.5 U	5.0 U
	Dichloropropene, trans-1,3	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	200 U	200 U	40 U	40 U	100 U	0.5 U	0.4 U	0.5 U	5.0 U	0.5 U	5.0 U
	Diethyl Ether (Ethyl ether)	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	200 U	200 U	NA	NA	2.0 U	NA	2.0 U	NA	NA
	Diisopropyl Ether (DIPE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	250 U	250 U	50 U	50 U	NA	NA	0.5 U	NA	0.5 U	NA	NA
	Dioxane, 1,4-	NA	NA	NA	NA	NA	NA	NA	NA	NA	50,000 U	50,000 U	5,000 U	5,000 U	NA	NA	100 U	NA	50 U	NA	NA
	Ethylbenzene	2.0 U	2.0 U	2.0 U	2.0 U	**2.0 J**	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	**240**	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	20 U
	Hexachlorobutadiene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	250 U	250 U	50 U	50 U	100 U	NA	0.5 U	NA	0.5 U	NA	NA
	Hexanone (MNBK), 2-	2.0 U	2.0 U	2.0 U	2.0 U	**3.0**	2.0 U	NA	40 U	2,000 U	5,000 U	5,000 U	1,000 U	1,000 U	100 U	2.0 U	10 U	2.0 U	10 U	2.0 U	20 U
	Methyl T-Butyl Ether (MTBE)	2.0 U	2.0 U	**3.0**	2.0 U	**2.0 J**	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	2.0 U	1.0 U	**1.1 J**	1.0 U	2.0 U	20 U
	Methylene Chloride	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	100 U	5,000 U	2,500 U	2,500 U	500 U	500 U	250 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**29 JB**
	Methyl Isobutyl Ketone (MIBK)	2.0 U	2.0 U	**2.0 J**	2.0 U	**2.0 J**	2.0 U	NA	40 U	2,000 U	5,000 U	5,000 U	1,000 U	1,000 U	**120**	2.0 U	10 U	2.0 U	10 U	2.0 U	20 U
	Naphthalene	2.0 U	2.0 U	**7.0**	2.0 U	**2.0 J**	2.0 U	NA	40 U	2,000 U	2,500 U	2,500 U	200 U	200 U	100 U	NA	5.0 U	NA	5.0 U	NA	NA
	Propylbenzene, n-	2.0 U	2.0 U	**3.0**	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	**350**	NA	1.0 U	NA	1.0 U	NA	NA
	Styrene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	20 U
	Tetrachloroethane, 1,1,1,2-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	NA	1.0 U	NA	5.0 U	NA	NA
	Tetrachloroethane, 1,1,2,2-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	250 U	250 U	50 U	50 U	100 U	2.0 U	0.5 U	2.0 U	0.5 U	2.0 U	20 U
	Tetrachloroethylene (PCE)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	**46**	2,000 U	**740**	**750**	**380**	**260**	100 U	2.0 U	1.0 U	2.0 U	**2.5**	2.0 U	20 U
	Tetrahydrofuran (THF)	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000 U	1,000 U	200 U	200 U	NA	NA	2.0 U	NA	2.0 U	NA	NA
	Toluene	2.0 U	2.0 U	**2.0 J**	2.0 U	**4.0**	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	**1,900**	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	20 U
	Trichlorobenzene, 1,2,3-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	1,000 U	1,000 U	200 U	200 U	100 U	NA	2.0 U	NA	2.0 U	NA	NA
	Trichlorobenzene, 1,2,4-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	NA	1.0 U	NA	1.0 U	NA	NA
	Trichloroethane, 1,1,1-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	20 U
	Trichloroethane, 1,1,2-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	20 U
	Trichloroethylene (TCE)	**2.0 J**	2.0 U	**1.0 J**	2.0 U	2.0 U	2.0 U	NA	**2,100**	**89,000**	**42,000**	**44,000**	**28,000**	**18,000**	**2,400**	2.0 U	1.0 U	**22**	**1,500**	2.0 U	**15 J**
	Trichlorofluoromethane (Freon 11)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	1,000 U	1,000 U	200 U	200 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**11 J**
	Trimethylbenzene, 1,2,4-	2.0 U	2.0 U	**8.0**	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	**3,500**	NA	1.0 U	NA	1.0 U	NA	NA
	Trimethylbenzene, 1,3,5-	2.0 U	2.0 U	**1.0 J**	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	**910**	NA	1.0 U	NA	1.0 U	NA	NA
	Vinyl Chloride	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	1,000 U	1,000 U	200 U	200 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	20 U
	Xylenes, m/p-	4.0 U	4.0 U	**2.0 J**	4.0 U	**5.0**	4.0 U	NA	80 U	4,000 U	1,000 U	1,000 U	200 U	200 U	**820**	4.0 U	2.0 U	4.0 U	2.0 U	4.0 U	40 U
	Xylene, o-	2.0 U	2.0 U	2.0 U	2.0 U	**1.0 J**	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	**380**	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	20 U
	1,2-Dibromo-3-chloropropane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	1,000 U	1,000 U	200 U	200 U	100 U	NA	2.0 U	NA	5.0 U	NA	NA
	Trichloropropane, 1,2,3-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	1,000 U	1,000 U	200 U	200 U	100 U	NA	2.0 U	NA	2.0 U	NA	NA
	Butylbenzene, tert-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	NA	1.0 U	NA	1.0 U	NA	NA
	Isopropylbenzene (Cumene)	NA	NA	NA	NA	NA	NA	NA	NA	NA	500 U	500 U	100 U	100 U	NA	NA	1.0 U	NA	1.0 U	NA	NA
	Amyl Methyl Ether (TAME), tert-	NA	NA	NA	NA	NA	NA	NA	NA	NA	250 U	250 U	50 U	50 U	NA	NA	0.5 U	NA	0.5 U	NA	NA

Table 2
Summary of Analytical Results for Groundwater Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	CGW-01	CGW-02	CGW-03	CGW-04	CGW-05	CGW-06	CGW-07	CGW-07_(Payne)	CGW-08					CGW-09	CGW-10		CGW-11		CGW-12	CGW-13
	Sample ID:	CGW-1	CGW-2	CGW-3	CGW-4	CGW-5	CGW-6	CGW-7	CGW-7 (Payne	CGW-8	CGW-8	DUP-1	CGW-8	CGW-8	CGW-9	CGW-10	CGW-10	CGW-11	CGW-11	CGW-12	CGW-13
	Sample Date:	03/02/2000	03/02/2000	03/02/2000	03/02/2000	03/02/2000	03/02/2000	03/02/2000	03/10/2000	03/02/2000	04/05/2012	04/05/2012 Field Dup	02/26/2013	8/15/2013	03/02/2000	06/15/2001	04/05/2012	06/15/2001	04/11/2012	06/15/2001	06/15/2001
	Analyte																				
	Isopropyltoluene, p- (Cymene)	2.0 U	2.0 U	**3.0**	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	500 U	500 U	100 U	100 U	100 U	NA	1.0 U	NA	1.0 U	NA	NA
	Acrolein	10 U	10 U	10 U	10 U	10 U	10 U	NA	50 U	10,000 U	NA	NA	NA	NA	500 U	NA	NA	NA	NA	NA	NA
	Acrylonitrile	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	10 U	2,000 U	NA	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA
	Vinyl Acetate	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	NA	NA	NA	NA	100 U	2.0 U	NA	2.0 U	NA	2.0 U	20 U
	2-Chloroethyl vinyl ether	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	40 U	2,000 U	NA	NA	NA	NA	100 U	2.0 U	NA	2.0 U	NA	2.0 U	20 U
	1,2-Dichloroethylene (total)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Xylenes (Total)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VPH																					
(ug/L)	C5-C8 Aliphatics	240 U	240 U	240 U	240 U	240 U	240 U	NA	**950**	**56,000**	**15,000**	**14,000**	NA	NA	**4,000**	NA	100 U	NA	**1,200**	240 U	2,400 U
	C9-C12 Aliphatics	100 U	100 U	**240**	100 U	100 U	100 U	NA	100 U	100 U	1,000 U	1,000 U	NA	NA	**3,800**	NA	100 U	NA	100 U	100 U	**1,300**
	C9-C10 Aromatics	70 U	70 U	**200**	**70**	70 U	70 U	NA	70 U	**300**	1,000 U	1,000 U	NA	NA	**5,700**	NA	100 U	NA	100 U	70 U	700 U
	Methyl T-Butyl Ether (MTBE)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	**32**	10 U	10 U	NA	NA	25 U	NA	1.0 U	NA	1.0 U	**5.4**	**320**
	Benzene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	10 U	10 U	NA	NA	25 U	NA	1.0 U	NA	1.0 U	5.0 U	50 U
	Toluene	15 U	15 U	15 U	15 U	15 U	15 U	NA	15 U	**100**	10 U	10 U	NA	NA	**1,200**	NA	1.0 U	NA	1.0 U	15 U	150 U
	Ethylbenzene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	**30**	10 U	10 U	NA	NA	**180**	NA	1.0 U	NA	1.0 U	5.0 U	50 U
	Xylenes, m/p-	10 U	10 U	10 U	10 U	10 U	10 U	NA	10 U	**20**	20 U	20 U	NA	NA	**470**	NA	2.0 U	NA	2.0 U	20 U	200 U
	Xylene, o-	10 U	10 U	10 U	10 U	10 U	10 U	NA	10 U	**43**	10 U	10 U	NA	NA	**270**	NA	1.0 U	NA	1.0 U	10 U	100 U
	Naphthalene	10 U	10 U	**12**	10 U	10 U	10 U	NA	10 U	**39**	50 U	50 U	NA	NA	50 U	NA	5.0 U	NA	5.0 U	10 U	100 U
EPH																					
(ug/L)	C9-C18 Aliphatics	38 U	38 U	**410**	36 U	31 U	45 U	40 U	35 U	40 U	100 U	100 U	NA	NA	**7,900**	NA	NA	NA	100 U	30 U	R
	C19-C36 Aliphatics	51 U	51 U	49 U	48 U	42 U	60 U	53 U	46 U	53 U	100 U	100 U	NA	NA	**20,000**	NA	NA	NA	100 U	40 U	R
	C11-C22 Aromatics	110 U	110 U	**560**	100 U	88 U	130 U	110 U	99 U	110 U	100 U	100 U	NA	NA	**4,000**	NA	NA	NA	100 U	85 U	90 U
	Naphthalene	6.4 U	6.3 U	**12**	6.0 U	5.2 U	7.5 U	6.7 U	5.8 U	6.7 U	2.0 U	2.0 U	NA	NA	**20**	NA	NA	NA	2.0 U	5.0 U	5.3 U
	Methylnaphthalene, 2-	6.4 U	6.3 U	**65**	6.0 U	5.2 U	7.5 U	6.7 U	5.8 U	6.7 U	2.0 U	2.0 U	NA	NA	**5.4**	NA	NA	NA	2.0 U	5.0 U	5.3 U
	Acenaphthylene	6.4 U	6.3 U	**11**	6.0 U	5.2 U	7.5 U	6.7 U	5.8 U	6.7 U	2.0 U	2.0 U	NA	NA	5.3 U	NA	NA	NA	2.0 U	5.0 U	5.3 U
	Acenaphthene	6.4 U	6.3 U	**10**	6.0 U	5.2 U	7.5 U	6.7 U	5.8 U	6.7 U	2.0 U	2.0 U	NA	NA	5.3 U	NA	NA	NA	2.0 U	5.0 U	5.3 U
	Fluorene	6.4 U	6.3 U	**10**	6.0 U	5.2 U	7.5 U	6.7 U	5.8 U	6.7 U	2.0 U	2.0 U	NA	NA	5.3 U	NA	NA	NA	2.0 U	5.0 U	5.3 U
	Phenanthrene	6.4 U	6.3 U	6.2 U	6.0 U	5.2 U	7.5 U	6.7 U	5.8 U	6.7 U	2.0 U	2.0 U	NA	NA	5.3 U	NA	NA	NA	2.0 U	5.0 U	5.3 U
	Anthracene	6.4 U	6.3 U	6.2 U	6.0 U	5.2 U	7.5 U	6.7 U	5.8 U	6.7 U	2.0 U	2.0 U	NA	NA	5.3 U	NA	NA	NA	2.0 U	5.0 U	5.3 U
	Fluoranthene	6.4 U	6.3 U	6.2 U	6.0 U	5.2 U	7.5 U	6.7 U	5.8 U	6.7 U	2.0 U	2.0 U	NA	NA	5.3 U	NA	NA	NA	2.0 U	5.0 U	5.3 U
	Pyrene	6.4 U	6.3 U	6.2 U	6.0 U	5.2 U	7.5 U	6.7 U	5.8 U	6.7 U	2.0 U	2.0 U	NA	NA	5.3 U	NA	NA	NA	2.0 U	5.0 U	5.3 U
	Benzo(a)anthracene	6.4 U	6.3 U	6.2 U	6.0 U	5.2 U	7.5 U	6.7 U	5.8 U	6.7 U	2.0 U	2.0 U	NA	NA	5.3 U	NA	NA	NA	2.0 U	5.0 U	5.3 U
	Chrysene	6.4 U	6.3 U	6.2 U	6.0 U	5.2 U	7.5 U	6.7 U	5.8 U	6.7 U	2.0 U	2.0 U	NA	NA	5.3 U	NA	NA	NA	2.0 U	5.0 U	5.3 U
	Benzo(b)fluoranthene	6.4 U	6.3 U	6.2 U	6.0 U	5.2 U	7.5 U	6.7 U	5.8 U	6.7 U	2.0 U	2.0 U	NA	NA	5.3 U	NA	NA	NA	2.0 U	5.0 U	5.3 U
	Benzo(k)fluoranthene	6.4 U	6.3 U	6.2 U	6.0 U	5.2 U	7.5 U	6.7 U	5.8 U	6.7 U	2.0 U	2.0 U	NA	NA	**5.3**	NA	NA	NA	2.0 U	5.0 U	5.3 U
	Benzo(a)pyrene	6.4 U	6.3 U	6.2 U	6.0 U	5.2 U	7.5 U	6.7 U	5.8 U	6.7 U	2.0 U	2.0 U	NA	NA	**5.3**	NA	NA	NA	2.0 U	5.0 U	5.3 U
	Indeno(1,2,3-cd)pyrene	6.4 U	6.3 U	6.2 U	6.0 U	5.2 U	7.5 U	6.7 U	5.8 U	6.7 U	2.0 U	2.0 U	NA	NA	5.3 U	NA	NA	NA	2.0 U	5.0 U	5.3 U
	Dibenzo(a,h)anthracene	6.4 U	6.3 U	6.2 U	6.0 U	5.2 U	7.5 U	6.7 U	5.8 U	6.7 U	2.0 U	2.0 U	NA	NA	5.3 U	NA	NA	NA	2.0 U	5.0 U	5.3 U
	Benzo(g,h,i)perylene	6.4 U	6.3 U	6.2 U	6.0 U	5.2 U	7.5 U	6.7 U	5.8 U	6.7 U	2.0 U	2.0 U	NA	NA	5.3 U	NA	NA	NA	2.0 U	5.0 U	5.3 U
Metals, dissolved																					
(ug/L)	Antimony	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	200 U	200 U	200 U	200 U	200 U	200 U	200 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	NA	NA	25 U	25 U
	Barium	20 U	**24**	**87**	**42**	**27**	**33**	20 U	NA	**47**	NA	NA	NA	NA	**36**	NA	NA	NA	NA	**46**	**120**
	Beryllium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	0.5 U	0.5 U
	Chromium	10 U	10 U	10 U	10 U	10 U	10 U	**160**	NA	10 U	NA	NA	NA	NA	10 U	NA	NA	NA	NA	5.0 U	**14**
	Copper	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	100 U	100 U	100 U	100 U	100 U	100 U	100 U	NA	100 U	NA	NA	NA	NA	100 U	NA	NA	NA	NA	**0.5**	**2.3**
	Mercury	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	NA	0.20 U	NA	NA	NA	NA	0.20 U	NA	NA	NA	NA	0.20 U	0.20 U
	Nickel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	200 U	200 U	200 U	200 U	200 U	200 U	200 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	NA	NA	10 U	10 U
	Silver	7.0 U	7.0 U	7.0 U	7.0 U	7.0 U	7.0 U	7.0 U	NA	7.0 U	NA	NA	NA	NA	7.0 U	NA	NA	NA	NA	0.5 U	0.5 U
	Thallium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
ug/L - micrograms per liter.
B - Compound detected in associated method blank
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this analyte.
U - Compound was not detected at specified quantitation limit.
VOCs - Volatile Organic Compounds.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.
R - Rejected data point due to <10% recovery of the surrogate.

Table 2
Summary of Analytical Results for Groundwater Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	CGW-14			CGW-15		CGW-16		CGW-17			EMW-01	MW-01	MW-02	MW-02A	MW-03	MW-03A	MW-04	MW-05
	Sample ID:	CGW-14	CGW-14	CGW-14	CGW-15	CGW-15	CGW-16	CGW-16	CGW-17	Duplicate	CGW-17	EMW-1	MW-1	MW-2	MW-2A	MW-3	MW-3A	MW-4	MW-5
	Sample Date:	06/15/2001	04/05/2012	8/14/2013	06/15/2001	04/05/2012	06/15/2001	04/05/2012	06/15/2001	06/15/2001 Field Dup	04/05/2012	03/02/2000	07/14/1987	07/14/1987	07/14/1987	07/14/1987	07/14/1987	07/14/1987	07/14/1987
	Analyte																		
VOCs																			
(ug/L)	Acetone	**10**	**10**	**25**	**4.5 J**	10 U	**2.1 J**	10 U	250 U	250 U	10 U	5.0 U	NA	NA	NA	NA	NA	NA	NA
	Benzene	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	100 U	100 U	1.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Bromobenzene	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Bromochloromethane	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Bromodichloromethane	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	100 U	100 U	1.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Bromoform	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	100 U	100 U	1.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Bromomethane	2.0 U	5.0 U	2.0 U	2.0 U	5.0 U	2.0 U	5.0 U	100 U	100 U	5.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Methyl Ethyl Ketone (MEK)	2.0 U	10 U	10 U	2.0 U	10 U	2.0 U	10 U	100 U	100 U	10 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Butylbenzene, n-	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Butylbenzene, sec-	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Ethyl Tert-buryl Ether (ETBE)	NA	0.5 U	0.50 U	NA	0.5 U	NA	0.5 U	NA	NA	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA
	Carbon Disulfide	2.0 U	5.0 U	5.0 U	2.0 U	5.0 U	2.0 U	5.0 U	100 U	100 U	5.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Carbon Tetrachloride	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	100 U	100 U	1.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Chlorobenzene	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	100 U	100 U	1.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Dibromochloromethane	2.0 U	0.5 U	0.50 U	2.0 U	0.5 U	2.0 U	0.5 U	100 U	100 U	0.5 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Chloroethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	100 U	100 U	2.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Chloroform	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	100 U	100 U	2.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	**2.6**	2.0 U
	Chloromethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	100 U	100 U	2.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Chlorotoluene, 2-	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Chlorotoluene, 4-	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Ethylene Dibromide	NA	0.5 U	0.50 U	NA	0.5 U	NA	0.5 U	NA	NA	0.5 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Dibromomethane	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Dichlorobenzene, 1,2- (o-DCB)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Dichlorobenzene, 1,3- (m-DCB)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Dichlorobenzene, 1,4-; (p-DCB)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Dichlorodifluoromethane (Freon 12)	NA	2.0 U	2.0 U	NA	2.0 U	NA	2.0 U	NA	NA	2.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Dichloroethane, 1,1-	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	100 U	100 U	1.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Dichloroethane, 1,2-	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	100 U	100 U	1.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Dichloroethylene, 1,1-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U	50 U	1.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Dichloroethene, cis-1,2-	**2.7**	1.0 U	1.0 U	**5.5**	1.0 U	**2.9**	**6.3**	**240**	**240**	**1.1**	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Dichloroethene, trans-1,2-	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	100 U	100 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Dichloropropane, 1,2-	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	100 U	100 U	1.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Dichloropropane, 1,3-	NA	0.5 U	0.50 U	NA	0.5 U	NA	0.5 U	NA	NA	0.5 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Dichloropropane, 2,2-	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Dichloropropene, 1,1-	NA	0.5 U	0.50 U	NA	0.5 U	NA	0.5 U	NA	NA	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloropropene, cis-1,3	0.5 U	0.4 U	0.40 U	0.5 U	0.4 U	0.5 U	0.4 U	25 U	25 U	0.4 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Dichloropropene, trans-1,3	0.5 U	0.4 U	0.40 U	0.5 U	0.4 U	0.5 U	0.4 U	25 U	25 U	0.4 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Diethyl Ether (Ethyl ether)	NA	2.0 U	2.0 U	NA	2.0 U	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA
	Diisopropyl Ether (DIPE)	NA	0.5 U	0.50 U	NA	0.5 U	NA	0.5 U	NA	NA	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA
	Dioxane, 1,4-	NA	100 U	50 U	NA	100 U	NA	100 U	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	100 U	100 U	1.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Hexachlorobutadiene	NA	0.5 U	0.50 U	NA	0.5 U	NA	0.5 U	NA	NA	0.5 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Hexanone (MNBK), 2-	2.0 U	10 U	10 U	2.0 U	10 U	2.0 U	10 U	100 U	100 U	10 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Methyl T-Butyl Ether (MTBE)	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	100 U	100 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Methylene Chloride	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**150 JB**	**160 JB**	5.0 U	5.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Methyl Isobutyl Ketone (MIBK)	2.0 U	10 U	10 U	2.0 U	10 U	2.0 U	10 U	100 U	100 U	10 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	NA	5.0 U	2.0 U	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Propylbenzene, n-	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Styrene	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	100 U	100 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Tetrachloroethane, 1,1,1,2-	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Tetrachloroethane, 1,1,2,2-	2.0 U	0.5 U	0.50 U	2.0 U	0.5 U	2.0 U	0.5 U	100 U	100 U	0.5 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Tetrachloroethylene (PCE)	**8.0**	1.0 U	1.0 U	2.0 U	1.0 U	**2.1**	**1.9**	**110**	**140**	1.0 U	2.0 U	**560**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**2.0**
	Tetrahydrofuran (THF)	NA	2.0 U	2.0 U	NA	2.0 U	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA
	Toluene	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	100 U	100 U	1.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Trichlorobenzene, 1,2,3-	NA	2.0 U	2.0 U	NA	2.0 U	NA	2.0 U	NA	NA	2.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Trichlorobenzene, 1,2,4-	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Trichloroethane, 1,1,1-	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	100 U	100 U	1.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Trichloroethane, 1,1,2-	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	100 U	100 U	1.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Trichloroethylene (TCE)	**120**	**1.3**	1.0 U	**94**	**3.5**	**140**	**20**	**8,400**	**8,700**	**11**	**20**	**53,000**	2.0 U	2.0 U	2.0 U	**3.2**	**26**	**7.0**
	Trichlorofluoromethane (Freon 11)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	100 U	100 U	2.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Trimethylbenzene, 1,2,4-	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Trimethylbenzene, 1,3,5-	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Vinyl Chloride	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	100 U	100 U	2.0 U	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Xylenes, m/p-	4.0 U	2.0 U	2.0 U	4.0 U	2.0 U	4.0 U	2.0 U	200 U	200 U	2.0 U	4.0 U	NA	NA	NA	NA	NA	NA	NA
	Xylene, o-	2.0 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	100 U	100 U	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	1,2-Dibromo-3-chloropropane	NA	2.0 U	2.0 U	NA	2.0 U	NA	2.0 U	NA	NA	2.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Trichloropropane, 1,2,3-	NA	2.0 U	2.0 U	NA	2.0 U	NA	2.0 U	NA	NA	2.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Butylbenzene, tert-	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Isopropylbenzene (Cumene)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA
	Amyl Methyl Ether (TAME), tert-	NA	0.5 U	0.50 U	NA	0.5 U	NA	0.5 U	NA	NA	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA

Table 2
Summary of Analytical Results for Groundwater Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	CGW-14			CGW-15		CGW-16		CGW-17			EMW-01	MW-01	MW-02	MW-02A	MW-03	MW-03A	MW-04	MW-05
	Sample ID:	CGW-14	CGW-14	CGW-14	CGW-15	CGW-15	CGW-16	CGW-16	CGW-17	Duplicate	CGW-17	EMW-1	MW-1	MW-2	MW-2A	MW-3	MW-3A	MW-4	MW-5
	Sample Date:	06/15/2001	04/05/2012	8/14/2013	06/15/2001	04/05/2012	06/15/2001	04/05/2012	06/15/2001	06/15/2001 Field Dup	04/05/2012	03/02/2000	07/14/1987	07/14/1987	07/14/1987	07/14/1987	07/14/1987	07/14/1987	07/14/1987
	Analyte																		
	Isopropyltoluene, p- (Cymene)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Acrolein	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	NA	NA	NA	NA	NA	NA
	Acrylonitrile	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA
	Vinyl Acetate	2.0 U	NA	NA	2.0 U	NA	2.0 U	NA	100 U	100 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA
	2-Chloroethyl vinyl ether	2.0 U	NA	NA	2.0 U	NA	2.0 U	NA	100 U	100 U	NA	2.0 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2-Dichloroethylene (total)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Xylenes (Total)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
VPH																			
(ug/L)	C5-C8 Aliphatics	240 U	NA	NA	240 U	NA	240 U	NA	**3,000**	**2,800**	100 U	240 U	NA	NA	NA	NA	NA	NA	NA
	C9-C12 Aliphatics	100 U	NA	NA	100 U	NA	100 U	NA	100 U	100 U	100 U	100 U	NA	NA	NA	NA	NA	NA	NA
	C9-C10 Aromatics	70 U	NA	NA	70 U	NA	70 U	NA	70 U	70 U	100 U	70 U	NA	NA	NA	NA	NA	NA	NA
	Methyl T-Butyl Ether (MTBE)	**5.1**	NA	NA	5.0 U	NA	5.0 U	NA	**16**	**17**	1.0 U	5.0 U	NA	NA	NA	NA	NA	NA	NA
	Benzene	5.0 U	NA	NA	5.0 U	NA	5.0 U	NA	5.0 U	5.0 U	1.0 U	5.0 U	NA	NA	NA	NA	NA	NA	NA
	Toluene	15 U	NA	NA	15 U	NA	15 U	NA	15 U	15 U	1.0 U	15 U	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	5.0 U	NA	NA	5.0 U	NA	5.0 U	NA	5.0 U	5.0 U	1.0 U	5.0 U	NA	NA	NA	NA	NA	NA	NA
	Xylenes, m/p-	20 U	NA	NA	20 U	NA	20 U	NA	20 U	20 U	2.0 U	10 U	NA	NA	NA	NA	NA	NA	NA
	Xylene, o-	10 U	NA	NA	10 U	NA	10 U	NA	10 U	10 U	1.0 U	10 U	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	10 U	NA	NA	10 U	NA	10 U	NA	10 U	10 U	5.0 U	10 U	NA	NA	NA	NA	NA	NA	NA
EPH																			
(ug/L)	C9-C18 Aliphatics	30 U	NA	NA	32 U	NA	30 U	NA	30 U	30 U	NA	31 U	NA	NA	NA	NA	NA	NA	NA
	C19-C36 Aliphatics	40 U	NA	NA	43 U	NA	40 U	NA	40 U	40 U	NA	41 U	NA	NA	NA	NA	NA	NA	NA
	C11-C22 Aromatics	85 U	NA	NA	90 U	NA	85 U	NA	85 U	85 U	NA	87 U	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	5.0 U	NA	NA	**6.5**	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.1 U	NA	NA	NA	NA	NA	NA	NA
	Methylnaphthalene, 2-	5.0 U	NA	NA	5.3 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.1 U	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	5.0 U	NA	NA	5.3 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.1 U	NA	NA	NA	NA	NA	NA	NA
	Acenaphthene	5.0 U	NA	NA	5.3 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.1 U	NA	NA	NA	NA	NA	NA	NA
	Fluorene	5.0 U	NA	NA	5.3 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.1 U	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	5.0 U	NA	NA	5.3 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.1 U	NA	NA	NA	NA	NA	NA	NA
	Anthracene	5.0 U	NA	NA	5.3 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.1 U	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	5.0 U	NA	NA	5.3 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.1 U	NA	NA	NA	NA	NA	NA	NA
	Pyrene	5.0 U	NA	NA	5.3 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.1 U	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	5.0 U	NA	NA	5.3 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.1 U	NA	NA	NA	NA	NA	NA	NA
	Chrysene	5.0 U	NA	NA	5.3 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.1 U	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	5.0 U	NA	NA	5.3 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.1 U	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	5.0 U	NA	NA	5.3 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.1 U	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	5.0 U	NA	NA	5.3 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.1 U	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	5.0 U	NA	NA	5.3 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.1 U	NA	NA	NA	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	5.0 U	NA	NA	5.3 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.1 U	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	5.0 U	NA	NA	5.3 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.1 U	NA	NA	NA	NA	NA	NA	NA
Metals, dissolved																			
(ug/L)	Antimony	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**510**	**410**	**460**	**470**	**360**	**370**	200 U
	Arsenic	25 U	NA	NA	25 U	NA	25 U	NA	25 U	25 U	NA	200 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Barium	**64**	NA	NA	**34**	NA	**22**	NA	**7.9**	**7.9**	NA	**30**	100 U	100 U	**240**	**130**	**120**	**100**	100 U
	Beryllium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20 U	20 U	20 U	20 U	20 U	20 U	20 U
	Cadmium	**1.8**	NA	NA	0.5 U	NA	0.5 U	NA	0.5 U	0.5 U	NA	5.0 U	**2.0**	1.0 U	1.0 U	**8.0**	1.0 U	1.0 U	1.0 U
	Chromium	5.0 U	NA	NA	5.0 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	10 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
	Copper	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**20**	20 U	20 U	20 U	20 U	20 U	**20**
	Lead	0.5 U	NA	NA	0.5 U	NA	0.5 U	NA	0.5 U	0.5 U	NA	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Mercury	0.20 U	NA	NA	0.20 U	NA	0.20 U	NA	0.20 U	0.20 U	NA	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
	Nickel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**6,290**	40 U	40 U	40 U	40 U	40 U	40 U
	Selenium	10 U	NA	NA	10 U	NA	10 U	NA	10 U	10 U	NA	200 U	**5.0**	2.0 U	2.0 U	2.0 U	**2.0**	2.0 U	2.0 U
	Silver	0.5 U	NA	NA	0.5 U	NA	0.5 U	NA	0.5 U	0.5 U	NA	7.0 U	**10**	10 U	10 U	10 U	10 U	10 U	10 U
	Thallium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	**150**	100 U	100 U	100 U	100 U	100 U

Notes:
ug/L - micrograms per liter.
B - Compound detected in associated method blank
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this analyte.
U - Compound was not detected at specified quantitation lir
VOCs - Volatile Organic Compounds.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.
R - Rejected data point due to <10% recovery of the surrog

Table 2
Summary of Analytical Results for Groundwater Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	SB-01	SB-02	SB-02_(ELCO)	TRC-01	TRC-02	TRC-03	TRC-04				TRC-05			TRC-05D	TRC-06		TRC-07		TRC-08	
	Sample ID:	SB-1	SB-2	SB-2 (ELCO)	TRC-1	TRC-2	TRC-3	TRC-4	TRC-4	TRC-4	DUP-1	TRC-5	DUP-GW	TRC-5	TRC-05D	TRC-6	TRC-6	TRC-7	TRC-7	TRC-8	TRC-8
	Sample Date:	03/07/2000	03/07/2000	03/10/2000	04/04/2012	04/04/2012	04/04/2012	04/04/2012	02/26/2013	8/14/2013	8/14/2013 Field Dup	02/26/2013	02/26/2013 Field Dup	8/15/2013	8/15/2013	02/26/2013	8/14/2013	02/25/2013	8/14/2013	02/25/2013	8/14/2013
	Analyte																				
VOCs																					
(ug/L)	Acetone	**16**	**8.0**	**7.0**	10 U	20 U	200 U	200 U	10 U	50 U	100 U	1,000 U	1,000 U	500 U	5,000 U	10 U	10 U	10 U	10 U	10 U	10 U
	Benzene	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromobenzene	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromochloromethane	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromodichloromethane	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromoform	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromomethane	2.0 U	2.0 U	2.0 U	5.0 U	10 U	100 U	100 U	5.0 U	10 U	20 U	500 U	500 U	100 U	1,000 U	5.0 U	2.0 U	5.0 U	2.0 U	5.0 U	2.0 U
	Methyl Ethyl Ketone (MEK)	2.0 U	2.0 U	2.0 U	10 U	20 U	200 U	200 U	10 U	50 U	100 U	1,000 U	1,000 U	500 U	5,000 U	10 U	10 U	10 U	10 U	10 U	10 U
	Butylbenzene, n-	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Butylbenzene, sec-	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Ethyl Tert-buryl Ether (ETBE)	NA	NA	NA	0.5 U	1.0 U	10 U	10 U	0.5 U	2.5 U	5.0 U	50 U	50 U	25 U	250 U	0.5 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U
	Carbon Disulfide	2.0 U	2.0 U	2.0 U	5.0 U	10 U	100 U	100 U	5.0 U	25 U	50 U	500 U	500 U	250 U	2,500 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Carbon Tetrachloride	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chlorobenzene	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dibromochloromethane	2.0 U	2.0 U	2.0 U	0.5 U	1.0 U	10 U	10 U	0.5 U	2.5 U	5.0 U	50 U	50 U	25 U	250 U	0.5 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U
	Chloroethane	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	40 U	40 U	2.0 U	10 U	20 U	200 U	200 U	100 U	1,000 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Chloroform	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	40 U	40 U	2.0 U	10 U	20 U	200 U	200 U	100 U	1,000 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Chloromethane	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	40 U	40 U	2.0 U	10 U	20 U	200 U	200 U	100 U	1,000 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Chlorotoluene, 2-	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chlorotoluene, 4-	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Ethylene Dibromide	2.0 U	2.0 U	2.0 U	0.5 U	1.0 U	10 U	10 U	0.5 U	2.5 U	5.0 U	50 U	50 U	25 U	250 U	0.5 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U
	Dibromomethane	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichlorobenzene, 1,2- (o-DCB)	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichlorobenzene, 1,3- (m-DCB)	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichlorobenzene, 1,4-; (p-DCB)	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichlorodifluoromethane (Freon 12)	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	40 U	40 U	2.0 U	10 U	20 U	200 U	200 U	100 U	1,000 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Dichloroethane, 1,1-	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichloroethane, 1,2-	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichloroethylene, 1,1-	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichloroethene, cis-1,2-	2.0 U	2.0 U	2.0 U	1.0 U	**56**	**61**	**50**	**28**	**69**	**59**	**3,600**	**3,600**	**540**	500 U	1.0 U	**9.9**	**4.0**	**4.7**	**13**	**1.7**
	Dichloroethene, trans-1,2-	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichloropropane, 1,2-	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichloropropane, 1,3-	2.0 U	2.0 U	2.0 U	0.5 U	1.0 U	10 U	10 U	0.5 U	2.5 U	5.0 U	50 U	50 U	25 U	250 U	0.5 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U
	Dichloropropane, 2,2-	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichloropropene, 1,1-	NA	NA	NA	0.5 U	1.0 U	10 U	10 U	0.5 U	2.5 U	5.0 U	50 U	50 U	25 U	250 U	0.5 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U
	Dichloropropene, cis-1,3	2.0 U	2.0 U	2.0 U	0.4 U	0.8 U	8.0 U	8.0 U	0.4 U	2.0 U	4.0 U	40 U	40 U	20 U	200 U	0.4 U	0.40 U	0.4 U	0.40 U	0.4 U	0.40 U
	Dichloropropene, trans-1,3	2.0 U	2.0 U	2.0 U	0.4 U	0.8 U	8.0 U	8.0 U	0.4 U	2.0 U	4.0 U	40 U	40 U	20 U	200 U	0.4 U	0.40 U	0.4 U	0.40 U	0.4 U	0.40 U
	Diethyl Ether (Ethyl ether)	NA	NA	NA	2.0 U	4.0 U	40 U	40 U	2.0 U	10 U	20 U	200 U	200 U	100 U	1,000 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Diisopropyl Ether (DIPE)	NA	NA	NA	0.5 U	1.0 U	10 U	10 U	0.5 U	2.5 U	5.0 U	50 U	50 U	25 U	250 U	0.5 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U
	Dioxane, 1,4-	NA	NA	NA	100 U	200 U	2,000 U	2,000 U	50 U	250 U	500 U	5,000 U	5,000 U	2,500 U	25,000 U	50 U	50 U	50 U	50 U	50 U	50 U
	Ethylbenzene	**1.0 J**	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Hexachlorobutadiene	2.0 U	2.0 U	2.0 U	0.5 U	1.0 U	10 U	10 U	0.5 U	2.5 U	5.0 U	50 U	50 U	25 U	250 U	0.5 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U
	Hexanone (MNBK), 2-	2.0 U	2.0 U	2.0 U	10 U	20 U	200 U	200 U	10 U	50 U	100 U	1,000 U	1,000 U	500 U	5,000 U	10 U	10 U	10 U	10 U	10 U	10 U
	Methyl T-Butyl Ether (MTBE)	**1.0 J**	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Methylene Chloride	5.0 U	5.0 U	5.0 U	5.0 U	10 U	100 U	100 U	5.0 U	25 U	50 U	500 U	500 U	250 U	2,500 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Methyl Isobutyl Ketone (MIBK)	2.0 U	2.0 U	2.0 U	10 U	20 U	200 U	200 U	10 U	50 U	100 U	1,000 U	1,000 U	500 U	5,000 U	10 U	10 U	10 U	10 U	10 U	10 U
	Naphthalene	2.0 U	2.0 U	2.0 U	5.0 U	10 U	100 U	100 U	2.0 U	10 U	20 U	200 U	200 U	100 U	1,000 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Propylbenzene, n-	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Styrene	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Tetrachloroethane, 1,1,1,2-	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Tetrachloroethane, 1,1,2,2-	2.0 U	2.0 U	2.0 U	0.5 U	1.0 U	10 U	10 U	0.5 U	2.5 U	5.0 U	50 U	50 U	25 U	250 U	0.5 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U
	Tetrachloroethylene (PCE)	2.0 U	2.0 U	2.0 U	1.0 U	**18**	**68**	**20**	**4.2**	**8.5**	10 U	**400**	**390**	**130**	**630**	1.0 U	1.0 U	1.0 U	**1.4**	**19**	1.0 U
	Tetrahydrofuran (THF)	NA	NA	NA	2.0 U	4.0 U	40 U	40 U	2.0 U	10 U	20 U	200 U	200 U	100 U	1,000 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Toluene	**6.0**	**2.0 J**	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Trichlorobenzene, 1,2,3-	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	40 U	40 U	2.0 U	10 U	20 U	200 U	200 U	100 U	1,000 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Trichlorobenzene, 1,2,4-	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Trichloroethane, 1,1,1-	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.4**	1.0 U
	Trichloroethane, 1,1,2-	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Trichloroethylene (TCE)	2.0 U	2.0 U	**5.0**	**15**	**240**	**1,100**	**1,800**	**250**	**560**	**480**	**28,000**	**31,000**	**2,700**	**40,000**	**1.0**	**30**	**36**	**65**	**640**	**6.5**
	Trichlorofluoromethane (Freon 11)	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	40 U	40 U	2.0 U	10 U	20 U	200 U	200 U	100 U	1,000 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Trimethylbenzene, 1,2,4-	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Trimethylbenzene, 1,3,5-	**1.0 J**	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Vinyl Chloride	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	40 U	40 U	2.0 U	**13**	20 U	200 U	200 U	100 U	1,000 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Xylenes, m/p-	**3.0 J**	**2.0 J**	4.0 U	2.0 U	4.0 U	40 U	40 U	2.0 U	10 U	20 U	200 U	200 U	100 U	1,000 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Xylene, o-	**2.0 J**	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dibromo-3-chloropropane	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	40 U	40 U	2.0 U	10 U	20 U	200 U	200 U	100 U	1,000 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Trichloropropane, 1,2,3-	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	40 U	40 U	2.0 U	10 U	20 U	200 U	200 U	100 U	1,000 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Butylbenzene, tert-	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Isopropylbenzene (Cumene)	NA	NA	NA	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Amyl Methyl Ether (TAME), tert-	NA	NA	NA	0.5 U	1.0 U	10 U	10 U	0.5 U	2.5 U	5.0 U	50 U	50 U	25 U	250 U	0.5 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U

Table 2
Summary of Analytical Results for Groundwater Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample Location:	SB-01	SB-02	SB-02_(ELCO)	TRC-01	TRC-02	TRC-03	TRC-04				TRC-05			TRC-05D	TRC-06		TRC-07		TRC-08	
	Sample ID:	SB-1	SB-2	SB-2 (ELCO)	TRC-1	TRC-2	TRC-3	TRC-4	TRC-4	TRC-4	DUP-1	TRC-5	DUP-GW	TRC-5	TRC-05D	TRC-6	TRC-6	TRC-7	TRC-7	TRC-8	TRC-8
	Sample Date:	03/07/2000	03/07/2000	03/10/2000	04/04/2012	04/04/2012	04/04/2012	04/04/2012	02/26/2013	8/14/2013	8/14/2013 Field Dup	02/26/2013	02/26/2013 Field Dup	8/15/2013	8/15/2013	02/26/2013	8/14/2013	02/25/2013	8/14/2013	02/25/2013	8/14/2013
	Analyte																				
	Isopropyltoluene, p- (Cymene)	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	20 U	20 U	1.0 U	5.0 U	10 U	100 U	100 U	50 U	500 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Acrolein	2.0 U	5.0 U	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acrylonitrile	2.0 U	2.0 U	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Vinyl Acetate	2.0 U	2.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Chloroethyl vinyl ether	2.0 U	2.0 U	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,2-Dichloroethylene (total)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Xylenes (Total)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VPH																					
(ug/L)	C5-C8 Aliphatics	240 U	240 U	240 U	100 U	**130**	NA	**800**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C12 Aliphatics	100 U	100 U	100 U	100 U	100 U	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C10 Aromatics	70 U	70 U	70 U	100 U	100 U	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl T-Butyl Ether (MTBE)	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzene	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Toluene	15 U	15 U	15 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Xylenes, m/p-	10 U	10 U	10 U	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Xylene, o-	10 U	10 U	10 U	1.0 U	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	10 U	10 U	10 U	5.0 U	5.0 U	NA	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPH																					
(ug/L)	C9-C18 Aliphatics	39 U	44 U	NA	100 U	100 U	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C19-C36 Aliphatics	53 U	59 U	NA	100 U	100 U	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C11-C22 Aromatics	110 U	120 U	NA	100 U	100 U	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	6.6 U	7.4 U	NA	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methylnaphthalene, 2-	6.6 U	7.4 U	NA	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	6.6 U	7.4 U	NA	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthene	6.6 U	7.4 U	NA	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluorene	6.6 U	7.4 U	NA	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	6.6 U	7.4 U	NA	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Anthracene	6.6 U	7.4 U	NA	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	6.6 U	7.4 U	NA	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pyrene	6.6 U	7.4 U	NA	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	6.6 U	7.4 U	NA	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chrysene	6.6 U	7.4 U	NA	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	6.6 U	7.4 U	NA	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	6.6 U	7.4 U	NA	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	6.6 U	7.4 U	NA	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	6.6 U	7.4 U	NA	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	6.6 U	7.4 U	NA	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	6.6 U	7.4 U	NA	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals, dissolved																					
(ug/L)	Antimony	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Arsenic	200 U	200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	**28**	20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Beryllium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	5.0 U	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	10 U	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Copper	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	100 U	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	0.20 U	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	200 U	200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	7.0 U	7.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Thallium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
ug/L - micrograms per liter.
B - Compound detected in associated method blank
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this analyte.
U - Compound was not detected at specified quantitation lir
VOCs - Volatile Organic Compounds.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.
R - Rejected data point due to <10% recovery of the surrog

Table 3
Summary of Analytical Results for Soil Gas Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:	357-COFFIN-1		357-COFFIN-2		358-COFFIN-1		358-COFFIN-2		362-COFFIN-1		362-COFFIN-2		364-COFFIN-1		364-COFFIN-2		6-ONEKO-1				6-ONEKO-2		10-ONEKO-1		10-ONEKO-2	TM-1
		Sample Date:	4/4/2012	6/28/2012	4/4/2012	6/28/2012	4/4/2012	6/29/2012	4/4/2012	6/29/2012	4/5/2012	6/28/2012	4/5/2012	6/28/2012	4/4/2012	6/28/2012	4/4/2012	6/28/2012	4/5/2012	4/5/2012 Field Dup	6/28/2012	6/28/2012 Field Dup	4/5/2012	6/28/2012	4/5/2012	6/29/2012	4/5/2012	6/29/2012
		Soil Gas Screening Value*																										
APH																												
(ug/m3)	1,3-Butadiene	NS	2.00 U	2.00 U	2.00 U	6.60 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	6.60 U	6.60 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	3.40 U
	Methyl tert butyl ether	2,700	2.00 U	2.00 U	2.00 U	6.60 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	6.60 U	6.60 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	3.40 U
	Benzene	160	2.00 U	2.00 U	2.00 U	6.60 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	6.60 U	6.60 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	**7.00**
	Toluene	3,800	2.00 U	2.00 U	2.00 U	6.60 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	6.60 U	6.60 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	**5.50**
	Ethylbenzene	520	2.00 U	2.00 U	2.00 U	6.60 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	6.60 U	6.60 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	3.40 U
	p/m-Xylene	1,400	4.00 U	4.00 U	4.00 U	13.00 U	4.00 U	8.00 U	4.00 U	4.00 U	4.00 U	8.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	13.0 U	13.0 U	4.00 U	8.00 U	4.00 U	4.00 U	4.00 U	6.80 U
	o-Xylene	1,400	2.00 U	2.00 U	2.00 U	6.60 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	6.60 U	6.60 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	3.40 U
	Naphthalene	42	2.00 U	2.00 U	2.00 U	6.60 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	**2.50**	2.00 U	2.00 U	2.00 U	2.00 U	6.60 U	6.60 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U	**48.0**
	C5-C8 Aliphatics	4,100	**17.0**	**61.0**	12.0 U	**50.0**	**15.0**	**42.0**	**23.0**	**22.0**	12.0 U	**150**	12.0 U	**27.0**	12.0 U	**37.0**	12.0 U	**36.0**	12.0 U	12.0 U	**41.0**	**81.0**	12.0 U	24.0 U	12.0 U	**61.0**	12.0 U	**28.0**
	C9-C12 Aliphatics	4,800	**110**	**110**	**43.0**	**47.0**	14.0 U	28.0 U	14.0 U	14.0 U	14.0 U	28.0 U	**24**	14.0 U	14.0 U	**110**	14.0 U	14.0 U	14.0 U	14.0 U	46.0 U	46.0 U	14.0 U	**37.0**	14.0 U	**150**	14.0 U	**74.0**
	C9-C10 Aromatics	700	**18.0**	10.0 U	10.0 U	33.0 U	10.0 U	20.0 U	10.0 U	10.0 U	10.0 U	20.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	33.0 U	33.0 U	10.0 U	20.0 U	10.0 U	10.0 U	10.0 U	**24.0**
TO-15																												
(ug/m3)	Vinyl chloride	19	0.511 U	0.511 U	0.511 U	1.70 U	0.511 U	1.02 U	0.511 U	0.511 U	0.511 U	1.02 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	1.70 U	1.70 U	0.511 U	1.02 U	0.511 U	0.511 U	0.511 U	0.851 U
	Bromomethane	42	0.777 U	0.777 U	0.777 U	2.59 U	0.777 U	1.55 U	0.777 U	0.777 U	0.777 U	1.55 U	0.777 U	0.777 U	0.777 U	0.777 U	0.777 U	0.777 U	0.777 U	0.777 U	2.59 U	2.59 U	0.777 U	1.55 U	0.777 U	0.777 U	0.777 U	1.29 U
	Acetone	6,400	**10.6**	**2.61**	**2.38**	7.91 U	**3.52**	4.75 U	**4.61**	**2.66**	**3.16**	4.75 U	**3.54**	2.38 U	**3.75**	**2.45**	**2.76**	**5.63**	2.38 U	2.38 U	7.91 U	7.91 U	**2.68**	**7.08**	**2.85**	**12.6**	**4.23**	**4.37**
	1,1-Dichloroethene	56	0.793 U	0.793 U	0.793 U	2.64 U	0.793 U	1.58 U	0.793 U	0.793 U	0.793 U	1.58 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	2.64 U	2.64 U	0.793 U	1.58 U	0.793 U	0.793 U	0.793 U	1.32 U
	Methylene chloride	770	4.86 U	4.86 U	4.86 U	16.2 U	4.86 U	9.73 U	4.86 U	**6.91**	4.86 U	9.73 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	16.2 U	16.2 U	4.86 U	9.73 U	4.86 U	4.86 U	4.86 U	8.09 U
	trans-1,2-Dichloroethene	56	0.793 U	0.793 U	0.793 U	2.64 U	0.793 U	1.58 U	0.793 U	0.793 U	0.793 U	1.58 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	2.64 U	2.64 U	0.793 U	1.58 U	0.793 U	0.793 U	0.793 U	1.32 U
	1,1-Dichloroethane	56	0.809 U	0.809 U	0.809 U	2.70 U	0.809 U	1.62 U	0.809 U	0.809 U	0.809 U	1.62 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	2.70 U	2.70 U	0.809 U	1.62 U	0.809 U	0.809 U	0.809 U	1.35 U
	Methyl tert butyl ether	2,700	0.721 U	0.721 U	0.721 U	2.40 U	0.721 U	1.44 U	0.721 U	0.721 U	0.721 U	1.44 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	2.40 U	2.40 U	0.721 U	1.44 U	0.721 U	0.721 U	0.721 U	1.20 U
	2-Butanone	840	**1.32**	0.590 U	0.590 U	1.97 U	0.590 U	1.18 U	0.590 U	0.590 U	**0.717**	1.18 U	**1.21**	0.59 U	0.590 U	0.590 U	**3.33**	**1.75**	0.590 U	0.590 U	1.97 U	1.97 U	0.590 U	1.180 U	0.590 U	**1.96**	**0.908**	**17.7**
	cis-1,2-Dichloroethene	56	0.793 U	0.793 U	0.793 U	2.64 U	0.793 U	1.58 U	0.793 U	0.793 U	0.793 U	1.58 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	2.64 U	2.64 U	0.793 U	1.58 U	0.793 U	0.793 U	0.793 U	1.32 U
	Chloroform	130	0.977 U	**39.7**	0.977 U	3.26 U	**1.24**	**16.2**	0.977 U	0.977 U	0.977 U	1.95 U	0.977 U	0.977 U	0.977 U	0.977 U	0.977 U	0.977 U	0.977 U	0.977 U	3.26 U	3.26 U	0.977 U	1.95 U	0.977 U	**1.21**	**1.64**	1.63 U
	1,2-Dichloroethane	6.3	0.809 U	0.809 U	0.809 U	2.70 U	0.809 U	1.62 U	0.809 U	0.809 U	0.809 U	1.62 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	2.70 U	2.70 U	0.809 U	1.62 U	0.809 U	0.809 U	0.809 U	1.35 U
	1,1,1-Trichloroethane	210	1.09 U	1.09 U	1.09 U	3.64 U	1.09 U	2.18 U	1.09 U	1.09 U	1.09 U	**3.20**	1.09 U	**16.6**	1.09 U	1.09 U	1.09 U	1.09 U	**2.13**	**2.25**	**8.29**	**7.75**	1.09 U	2.18 U	1.09 U	1.09 U	1.09 U	1.82 U
	Benzene	160	0.639 U	0.639 U	0.639 U	2.13 U	0.639 U	1.28 U	0.639 U	0.639 U	0.639 U	1.28 U	0.639 U	0.639 U	0.639 U	0.639 U	0.639 U	0.639 U	0.639 U	0.639 U	2.13 U	2.13 U	0.639 U	1.28 U	0.639 U	0.639 U	0.639 U	**7.12**
	Carbon tetrachloride	38	1.26 U	1.26 U	1.26 U	4.20 U	1.26 U	2.52 U	1.26 U	1.26 U	1.26 U	2.52 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	4.20 U	4.20 U	1.26 U	2.52 U	1.26 U	1.26 U	1.26 U	2.09 U
	1,2-Dichloropropane	8.4	0.924 U	0.924 U	0.924 U	3.08 U	0.924 U	1.85 U	0.924 U	0.924 U	0.924 U	1.85 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	3.08 U	3.08 U	0.924 U	1.85 U	0.924 U	0.924 U	0.924 U	1.54 U
	Bromodichloromethane	9.1	1.34 U	**1.45**	1.34 U	4.47 U	1.34 U	2.68 U	1.34 U	1.34 U	1.34 U	2.68 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	4.47 U	4.47 U	1.34 U	2.68 U	1.34 U	1.34 U	1.34 U	2.23 U
	1,4-Dioxane	40	0.721 U	0.721 U	0.721 U	2.40 U	0.721 U	1.44 U	0.721 U	0.721 U	0.721 U	1.44 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	2.40 U	2.40 U	0.721 U	1.44 U	0.721 U	0.721 U	0.721 U	1.20 U
	Trichloroethene	28	1.07 U	1.07 U	1.07 U	3.58 U	1.07 U	2.15 U	1.07 U	1.07 U	1.07 U	2.15 U	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U	**2.49**	**2.53**	**14.2**	**13.4**	1.07 U	2.15 U	1.07 U	1.07 U	**2.06**	**446**
	cis-1,3-Dichloropropene	41	0.908 U	0.908 U	0.908 U	3.03 U	0.908 U	1.82 U	0.908 U	0.908 U	0.908 U	1.82 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	3.03 U	3.03 U	0.908 U	1.82 U	0.908 U	0.908 U	0.908 U	1.51 U
	4-Methyl-2-pentanone	150	0.820 U	0.82 U	0.820 U	2.73 U	0.820 U	1.64 U	0.820 U	0.820 U	0.820 U	1.64 U	0.820 U	0.820 U	0.820 U	0.820 U	0.820 U	0.820 U	0.820 U	0.820 U	2.73 U	2.73 U	0.820 U	1.64 U	0.820 U	0.820 U	0.820 U	1.360 U
	trans-1,3-Dichloropropene	41	0.908 U	0.908 U	0.908 U	3.03 U	0.908 U	1.82 U	0.908 U	0.908 U	0.908 U	1.82 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	3.03 U	3.03 U	0.908 U	1.82 U	0.908 U	0.908 U	0.908 U	1.51 U
	1,1,2-Trichloroethane	11	1.09 U	1.09 U	1.09 U	3.64 U	1.09 U	2.18 U	1.09 U	1.09 U	1.09 U	2.18 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	3.64 U	3.64 U	1.09 U	2.18 U	1.09 U	1.09 U	1.09 U	1.82 U
	Toluene	3,800	**0.938**	0.754 U	0.754 U	2.51 U	0.754 U	1.51 U	**1.29**	0.754 U	0.754 U	1.51 U	0.754 U	0.754 U	0.754 U	0.754 U	0.754 U	0.754 U	0.754 U	0.754 U	2.51 U	2.51 U	0.754 U	1.51 U	**0.901**	0.754 U	0.754 U	**4.79**
	Dibromochloromethane	6.8	1.70 U	1.70 U	1.70 U	5.68 U	1.70 U	3.41 U	1.70 U	1.70 U	1.70 U	3.41 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	5.68 U	5.68 U	1.70 U	3.41 U	1.70 U	1.70 U	1.70 U	2.84 U
	1,2-Dibromoethane	0.55	1.54 U	1.54 U	1.54 U	5.12 U	1.54 U	3.07 U	1.54 U	1.54 U	1.54 U	3.07 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	5.12 U	5.12 U	1.54 U	3.07 U	1.54 U	1.54 U	1.54 U	2.56 U
	Tetrachloroethene	98	**2.23**	**3.49**	**1.37**	4.52 U	**1.38**	**3.46**	1.36 U	1.36 U	1.36 U	2.71 U	1.36 U	1.36 U	**1.45**	**3.39**	**5.61**	**14.4**	**52.8**	**55.5**	**203**	**176**	**6.24**	**19.2**	**1.65**	**3.18**	**2.56**	**12.7**
	Chlorobenzene	160	0.921 U	0.921 U	0.921 U	3.07 U	0.921 U	1.84 U	0.921 U	0.921 U	0.921 U	1.84 U	0.921 U	0.921 U	0.921 U	0.921 U	0.921 U	0.921 U	0.921 U	0.921 U	3.07 U	3.07 U	0.921 U	1.84 U	0.921 U	0.921 U	0.921 U	1.53 U
	Ethylbenzene	520	0.869 U	0.869 U	0.869 U	2.90 U	0.869 U	1.74 U	0.869 U	0.869 U	0.869 U	1.74 U	0.869 U	0.869 U	0.869 U	0.869 U	0.869 U	0.869 U	0.869 U	0.869 U	2.90 U	2.90 U	0.869 U	1.74 U	0.869 U	0.869 U	0.869 U	1.45 U
	p/m-Xylene	1,400	1.74 U	1.74 U	1.74 U	5.78 U	1.74 U	3.47 U	1.74 U	1.74 U	1.74 U	3.47 U	1.74 U	1.74 U	1.74 U	1.74 U	1.74 U	1.74 U	1.74 U	1.74 U	5.78 U	5.78 U	1.74 U	3.47 U	1.74 U	1.74 U	1.74 U	**3.52**
	Bromoform	150	2.07 U	2.07 U	2.07 U	6.9 U	2.07 U	4.14 U	2.07 U	2.07 U	2.07 U	4.14 U	2.07 U	2.07 U	2.07 U	2.07 U	2.07 U	2.07 U	2.07 U	2.07 U	6.90 U	6.90 U	2.07 U	4.14 U	2.07 U	2.07 U	2.07 U	3.44 U
	Styrene	98	0.852 U	0.852 U	0.852 U	2.84 U	0.852 U	1.70 U	0.852 U	0.852 U	0.852 U	1.70 U	0.852 U	0.852 U	0.852 U	0.852 U	0.852 U	0.852 U	0.852 U	0.852 U	2.84 U	2.84 U	0.852 U	1.7 U	0.852 U	0.852 U	0.852 U	**2.02**
	1,1,2,2-Tetrachloroethane	2.8	1.37 U	1.37 U	1.37 U	4.58 U	1.37 U	2.75 U	1.37 U	1.37 U	1.37 U	2.75 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	4.58 U	4.58 U	1.37 U	2.75 U	1.37 U	1.37 U	1.37 U	2.29 U
	o-Xylene	1,400	0.869 U	0.869 U	0.869 U	2.90 U	0.869 U	1.74 U	0.869 U	0.869 U	0.869 U	1.74 U	0.869 U	0.869 U	0.869 U	0.869 U	0.869 U	0.869 U	0.869 U	0.869 U	2.90 U	2.90 U	0.869 U	1.74 U	0.869 U	0.869 U	0.869 U	1.45 U
	1,3-Dichlorobenzene	42	1.20 U	1.20 U	1.20 U	4.01 U	1.20 U	2.40 U	1.20 U	1.20 U	1.20 U	2.40 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	4.01 U	4.01 U	1.20 U	2.40 U	1.20 U	1.20 U	1.20 U	2.00 U
	1,4-Dichlorobenzene	35	1.20 U	1.20 U	1.20 U	4.01 U	1.20 U	2.40 U	1.20 U	1.20 U	1.20 U	2.40 U	1.20 U	1.20 U	1.20 U	**2.21**	1.20 U	1.20 U	1.20 U	1.20 U	4.01 U	4.01 U	1.20 U	2.40 U	1.20 U	1.20 U	1.20 U	2.00 U
	1,2-Dichlorobenzene	50	1.20 U	1.20 U	1.20 U	4.01 U	1.20 U	2.40 U	1.20 U	1.20 U	1.20 U	2.40 U	1.20 U	1.20 U	1.20 U	**21.6**	1.20 U	1.20 U	1.20 U	1.20 U	**13.3**	4.01 U	1.20 U	**4.91**	1.20 U	1.20 U	1.20 U	2.00 U
	1,2,4-Trichlorobenzene	240	1.48 U	1.48 U	1.48 U	4.95 U	1.48 U	2.97 U	1.48 U	1.48 U	1.48 U	2.97 U	1.48 U	1.48 U	1.48 U	**1.57**	1.48 U	1.48 U	1.48 U	1.48 U	4.95 U	4.95 U	1.48 U	2.97 U	1.48 U	1.48 U	1.48 U	2.47 U
	Naphthalene	42	0.343 U	1.05 U	0.343 U	3.5 U	0.343 U	2.10 U	0.343 U	1.05 U	0.343 U	2.10 U	0.343 U	1.05 U	0.343 U	**1.26**	0.343 U	1.05 U	0.343 U	0.343 U	3.50 U	3.50 U	0.343 U	2.10 U	0.343 U	1.05 U	0.343 U	**33.0**
	Hexachlorobutadiene	7.7	2.13 U	2.13 U	2.13 U	7.11 U	2.13 U	4.27 U	2.13 U	2.13 U	2.13 U	4.27 U	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U	7.11 U	7.11 U	2.13 U	4.27 U	2.13 U	2.13 U	2.13 U	3.55 U

Notes:

ug/m3 - micrograms per cubic meter.

NS - No MassDEP Standards exist for this analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

APH - Air-Phase Petroleum Hydrocarbons.

TO - Toxic organics.

* - MassDEP, Residential Sub-Slab Soil Gas Screening Values, Vapor Intrusion Guidance - Interim Final, December 2011 with updated screening values from February 22 and March 7,2013..

Table 4
Summary of Analytical Results for Indoor Air Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Analyte	Sample Location:	6_Oneko_Lane			8_Oneko_Lane		120_Oneko_Lane		348_Coffin_Avenue					350_Coffin_Avenue			
		Sample ID:	6O-1	6O-3	6O-2	8 ONEK 1ST	8 ONEKO B	12O-1	12O-2	348 COFFIN ST. 1ST	348 COFFIN ST. A	348 COFFIN ST. B	348B	348L	350C-1	350C-2	350F Finished Basement	350V Unfinished Basement
		Location:	Baement	Basement	1st Floor	Basement	1st Floor	Basement	1st Floor	1st Floor	Basement	Basement	Basement	1st Floor	Basement	1st Floor	Basement	Basement
		Sample Date:	03/27/2000	03/27/2000 Field Dup	03/27/2000	03/29/2000	03/29/2000	03/27/2000	03/27/2000	03/29/2000	03/29/2000	03/29/2000 Field Dup	03/28/2001	03/28/2001	03/27/2000	03/27/2000	04/03/2001	04/03/2001
		Residential IATV*																
APH																		
(ug/m3)	Benzene	2.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,3-Butadiene	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl T-Butyl Ether (MTBE)	39	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Toluene	54	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	0.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Xylenes, m/p-	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Xylene, o-	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C5-C8 Aliphatics	58	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C10 Aromatics	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C12 Aliphatics	68	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TO-15																		
(ug/m3)	Acetone	91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzene	2.3	**3.58**	2.88 U	**4.38**	**12.8**	**3.8**	2.88 U	**6.65**	**4.63**	**3**	**2.88**	2.88 U	2.88 U	**5.75**	**5.69**	**3.87**	**3**
	Benzyl chloride	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bromodichloromethane	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bromoform	2.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bromomethane	0.6	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U
	1,3-Butadiene	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl Ethyl Ketone (MEK); 2-Butanone	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Carbon Disulfide	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Carbon Tetrachloride	0.54	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U
	Chlorobenzene	2.3	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U
	Chloroethane	NS	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U
	Chloroform	1.9	2.38 U	2.38 U	2.38 U	2.38 U	2.38 U	2.38 U	2.38 U	**36.3**	2.38 U	2.38 U	2.38 U	2.38 U	2.38 U	2.38 U	2.38 U	2.38 U
	Chloromethane	NS	**2.75**	1.63 U	**4.3**	1.63 U	1.63 U	1.63 U	**3.04**	1.63 U	1.63 U	1.63 U	1.63 U	1.63 U	**5.1**	1.63 U	1.63 U	1.63 U
	Cyclohexane	58[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibromochloromethane	0.097	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylene Dibromide	0.0078	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U
	Dichlorobenzene, 1,2- (o-DCB)	0.72	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U
	Dichlorobenzene, 1,3- (m-DCB)	0.6	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U
	Dichlorobenzene, 1,4-; (p-DCB)	0.5	4.87 U	4.87 U	4.87 U	**65.5**	4.87 U	4.87 U	4.87 U	**31**	4.87 U	**6.01**	4.87 U	4.87 U	4.87 U	4.87 U	4.87 U	4.87 U
	Dichlorodifluoromethane (Freon 12)	NS	**8.21**	**8.61**	**8.31**	**18.1**	**13.1**	**9.2**	**10.29**	**9.01**	**10.3**	**8.91**	**2.77**	**2.67**	**12**	**24.3**	**3.12**	**3.17**
	Dichloroethane, 1,1-	0.8	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U
	Dichloroethane, 1,2-	0.09	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U
	Dichloroethylene, 1,1-	0.8	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U
	Dichloroethene, cis-1,2-	0.8	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U
	Dichloroethene, trans-1,2-	0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloropropane, 1,2-	0.12	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U
	Dichloropropene, cis-1,3	0.58	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U
	Dichloropropene, trans-1,3	0.58	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U
	Freon-114	NS	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	**6.22**	5.73 U	5.73 U	5.73 U
	Dioxane, 1,4-	0.57	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethanol	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethyl Acetate	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	7.4	2.34 U	2.34 U	**2.6**	**8.63**	**2.38**	2.34 U	**2.69**	2.34 U	2.34 U	2.34 U	2.34 U	2.34 U	**24.3**	**4.94**	2.34 U	2.34 U
	4-Ethyltoluene	10[2]	3.14 U	3.14 U	3.14 U	3.14 U	3.14 U	3.14 U	3.14 U	3.14 U	3.14 U	3.14 U	NA	NA	3.14 U	3.14 U	NA	NA
	Heptane	58[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobutadiene	0.11	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U
	Hexane	58[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Hexanone (MBK)	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Isopropanol	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl T-Butyl Ether (MTBE)	39	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 4
Summary of Analytical Results for Indoor Air Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Analyte	Sample Location:	6_Oneko_Lane			8_Oneko_Lane		120_Oneko_Lane		348_Coffin_Avenue					350_Coffin_Avenue			
		Sample ID:	6O-1	6O-3	6O-2	8 ONEK 1ST	8 ONEKO B	12O-1	12O-2	348 COFFIN ST. 1ST	348 COFFIN ST. A	348 COFFIN ST. B	348B	348L	350C-1	350C-2	350F Finished Basement	350V Unfinished Basement
		Location:	Baement	Basement	1st Floor	Basement	1st Floor	Basement	1st Floor	1st Floor	Basement	Basement	Basement	1st Floor	Basement	1st Floor	Basement	Basement
		Sample Date:	03/27/2000	03/27/2000 Field Dup	03/27/2000	03/29/2000	03/29/2000	03/27/2000	03/27/2000	03/29/2000	03/29/2000	03/29/2000 Field Dup	03/28/2001	03/28/2001	03/27/2000	03/27/2000	04/03/2001	04/03/2001
		Residential IATV*																
	Methylene Chloride	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl Isobutyl Ketone (MIBK)	2.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	0.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Propene	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Styrene	1.4	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	**2.13**	**2.76**	2.04 U	2.04 U
	Tetrachloroethane, 1,1,2,2-	0.04	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
	Tetrachloroethylene (PCE)	1.4	2.85 U	2.85 U	2.85 U	2.85 U	2.85 U	2.85 U	2.85 U	2.85 U	2.85 U	2.85 U	2.85 U	2.85 U	**3.67**	**8.15**	2.85 U	2.85 U
	Tetrahydrofuran	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Toluene	54	**6.86**	**7.04**	**35**	**43.7**	**13.1**	**5.69**	**19.5**	**19.5**	**7.38**	**7.38**	3.58 U	**7.83**	**44.4**	**44.4**	**15.8**	**11.8**
	Trichlorobenzene, 1,2,4-	3.4	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U
	Trichloroethane, 1,1,1-	3	2.18 U	2.18 U	2.18 U	**22.8**	**5.55**	2.18 U	2.18 U	**128**	**3.48**	**5.82**	2.18 U	2.18 U	**10.5**	**14**	**4.57**	2.18 U
	Trichloroethane, 1,1,2-	0.15	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U
	Trichloroethylene (TCE)	0.4	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	**5.46**	**2.73**	**6.27**	**3.43**
	Trichlorofluoromethane (Freon 11)	NS	**2.24**	**2.35**	**2.56**	**20**	1.48 U	**2.32**	**3.83**	**9.37**	**4.83**	1.48 U	3.15 U	**3.54**	**3.91**	**7.78**	**8.38**	**6.13**
	Freon-113	NS	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U
	Trimethylbenzene, 1,2,4-	10(2)	**4.96**	**5.35**	**9.72**	**20.7**	**72.1**	**5.55**	**7.95**	**9.57**	**10**	**10.1**	4.17 U	4.17 U	**233**	**34.4**	**5.94**	**5.01**
	Trimethylbenzene, 1,3,5-	10(2)	3.14 U	3.14 U	3.14 U	**6.33**	**18.8**	3.14 U	3.14 U	3.14 U	**3.39**	3.14 U	3.14 U	3.14 U	**62.8**	**9.32**	3.14 U	3.14 U
	Vinyl Acetate	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Vinyl Chloride	0.27	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U
	Xylenes, m/p-	20	**4.42**	**4.68**	**8.06**	**26.6**	**9.15**	**5.59**	**8.15**	**6.33**	**3.68**	**3.81**	1.65 U	1.65 U	**129**	**22.1**	**10.9**	**9.88**
	Xylene, o-	20	**2.04**	**2.12**	**3.81**	**7.98**	**6.03**	**2.56**	1.99 U	**3.12**	1.99 U	**2.04**	1.99 U	1.99 U	**62.9**	**10.8**	**3.94**	**3.73**

Notes:
ug/m3 - micrograms per cubic meter.
B - Compound detected in associated method blank
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this analyte.
U - Compound was not detected at specified quantitation limit.
Values in **Bold** indicate the compound was detected.
APH - Air-Phase Petroleum Hydrocarbons.
TO - Toxic organics.
IATV - MassDEP, Indoor Air Threshold Values (IATV), Vapor Intrusion Guidance - Interim Final, December 2011 with updated screening values from February 22 and March 7,2013.
(1) - IATV for C5-C8 aliphatics used.
(2) - IATV for C9-C10 aromatics used.

Table 4
Summary of Analytical Results for Indoor Air Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Analyte	Sample Location:	353_Coffin_Avenue		357_Coffin_Avenue				358_Coffin_Avenue		362_Coffin_Avenue				364_Coffin_Avenue		295_Phillips_Ave
		Sample ID:	353C-1	353C-2	357C-1	357C-2	357B	357L	92529	92530	362C-2	362L	362B	362C-1	364C-1	364C-2	295P-1A
		Location:	Basement	1st Floor	Basement	1st Floor	Basement	1st Floor	1st Floor	Basement	1st Floor	1st Floor	Basement	Basement	Basement	1st Floor	Couryeard
		Sample Date:	03/27/2000	03/27/2000	03/27/2000	03/27/2000	04/03/2001	04/03/2001	03/29/2000	03/27/2000	03/27/2000	03/28/2001	03/28/2001	03/27/2000	03/27/2000	03/27/2000	03/27/2000
		Residential IATV*															
APH																	
(ug/m3)	Benzene	2.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1,3-Butadiene	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl T-Butyl Ether (MTBE)	39	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Toluene	54	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	0.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Xylenes, m/p-	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Xylene, o-	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C5-C8 Aliphatics	58	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C10 Aromatics	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C12 Aliphatics	68	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TO-15																	
(ug/m3)	Acetone	91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzene	2.3	**4.25**	**5.24**	**11**	**19.1**	2.88 U	**4.54**	**5.46**	**12.7**	**44.1**	**5.46**	**6.77**	**39**	**14.4**	**13**	2.88 U
	Benzyl chloride	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bromodichloromethane	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bromoform	2.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Bromomethane	0.6	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U
	1,3-Butadiene	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl Ethyl Ketone (MEK); 2-Butanone	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Carbon Disulfide	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Carbon Tetrachloride	0.54	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U
	Chlorobenzene	2.3	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U
	Chloroethane	NS	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U	**42.5**	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U
	Chloroform	1.9	2.38 U	2.38 U	2.38 U	2.38 U	2.38 U	2.38 U	2.38 U	2.38 U	**18.2**	2.38 U	2.38 U	**26.8**	2.38 U	2.38 U	2.38 U
	Chloromethane	NS	1.63 U	1.63 U	1.63 U	1.63 U	1.63 U	1.63 U	**4.71**	1.63 U	1.63 U	1.63 U	1.63 U	1.63 U	1.63 U	1.63 U	1.63 U
	Cyclohexane	58[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibromochloromethane	0.097	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylene Dibromide	0.0078	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U
	Dichlorobenzene, 1,2- (o-DCB)	0.72	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U
	Dichlorobenzene, 1,3- (m-DCB)	0.6	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U
	Dichlorobenzene, 1,4-; (p-DCB)	0.5	**8.36**	**9.98**	4.87 U	4.87 U	4.87 U	4.87 U	4.87 U	4.87 U	4.87 U	4.87 U	4.87 U	4.87 U	4.87 U	**8.36**	4.87 U
	Dichlorodifluoromethane (Freon 12)	NS	**11.3**	**5.79**	**6.48**	**8.36**	2.03 U	**2.82**	**14.7**	**12.4**	**8.56**	**2.87**	**3.56**	**13.6**	**27**	**589**	**10**
	Dichloroethane, 1,1-	0.8	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U
	Dichloroethane, 1,2-	0.09	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U
	Dichloroethylene, 1,1-	0.8	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U
	Dichloroethene, cis-1,2-	0.8	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U
	Dichloroethene, trans-1,2-	0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloropropane, 1,2-	0.12	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U
	Dichloropropene, cis-1,3	0.58	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U
	Dichloropropene, trans-1,3	0.58	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U
	Freon-114	NS	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U
	Dioxane, 1,4-	0.57	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethanol	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethyl Acetate	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	7.4	2.34 U	**4.03**	**12.6**	**12.9**	2.34 U	2.34 U	2.34 U	**14.9**	**2.9**	2.34 U	**4.64**	**32.8**	**12.1**	**6.29**	2.34 U
	4-Ethyltoluene	10[2]	3.14 U	3.14 U	3.14 U	3.14 U	NA	NA	3.14 U	3.14 U	3.14 U	NA	NA	3.14 U	3.14 U	3.14 U	3.14 U
	Heptane	58[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Hexachlorobutadiene	0.11	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U
	Hexane	58[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2-Hexanone (MBK)	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Isopropanol	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl T-Butyl Ether (MTBE)	39	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 4
Summary of Analytical Results for Indoor Air Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Analyte	Sample Location:	353_Coffin_Avenue		357_Coffin_Avenue				358_Coffin_Avenue		362_Coffin_Avenue				364_Coffin_Avenue		295_Phillips_Ave
		Sample ID:	353C-1	353C-2	357C-1	357C-2	357B	357L	92529	92530	362C-2	362L	362B	362C-1	364C-1	364C-2	295P-1A
		Location:	Basement	1st Floor	Basement	1st Floor	Basement	1st Floor	1st Floor	Basement	1st Floor	1st Floor	Basement	Basement	Basement	1st Floor	Couryeard
		Sample Date:	03/27/2000	03/27/2000	03/27/2000	03/27/2000	04/03/2001	04/03/2001	03/29/2000	03/27/2000	03/27/2000	03/28/2001	03/28/2001	03/27/2000	03/27/2000	03/27/2000	03/27/2000
		Residential IATV*															
	Methylene Chloride	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl Isobutyl Ketone (MIBK)	2.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	0.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Propene	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Styrene	1.4	2.04 U	2.04 U	2.04 U	**5.4**	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	**5.32**	2.04 U	2.04 U	2.04 U
	Tetrachloroethane, 1,1,2,2-	0.04	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
	Tetrachloroethylene (PCE)	1.4	2.85 U	**4.01**	**6.99**	**21.9**	2.85 U	**9.78**	**7.2**	2.85 U	2.85 U	2.85 U	2.85 U	**3.94**	**37.8**	**7.74**	2.85 U
	Tetrahydrofuran	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Toluene	54	**5.5**	**14.7**	**33.7**	**56.5**	**7.08**	**18.2**	**13.8**	**75.3**	**32.2**	**8.29**	**30.4**	**168**	**62.5**	**42.9**	3.58 U
	Trichlorobenzene, 1,2,4-	3.4	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U
	Trichloroethane, 1,1,1-	3	2.18 U	**3.64**	**7.78**	**3.05**	**4.19**	2.18 U	**4.79**	**6.69**	**12.3**	2.18 U	**16.6**	**86.5**	2.18 U	**5.49**	2.18 U
	Trichloroethane, 1,1,2-	0.15	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U
	Trichloroethylene (TCE)	0.4	1.82 U	1.82 U	**1.88**	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U
	Trichlorofluoromethane (Freon 11)	NS	**3.19**	**4.27**	**2.64**	**2.8**	3.15 U	3.15 U	**4.01**	**4.06**	**3.62**	3.15 U	3.15 U	**3.35**	**5.83**	**117**	**3.35**
	Freon-113	NS	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	4.67 U	**4.89**
	Trimethylbenzene, 1,2,4-	10(2)	**5.35**	**5.94**	**114**	**57.9**	**11.6**	**6.72**	**8.34**	**61.3**	**10.3**	4.17 U	**7.17**	**135**	**46**	**24.6**	**6.28**
	Trimethylbenzene, 1,3,5-	10(2)	3.14 U	3.14 U	**35.6**	**18.1**	**5.64**	3.14 U	3.14 U	**15.7**	**3.24**	3.14 U	3.14 U	**32.8**	3.14 U	**6.33**	3.14 U
	Vinyl Acetate	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Vinyl Chloride	0.27	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U
	Xylenes, m/p-	20	**4.6**	**12.2**	**59.8**	**50.3**	**10.4**	**10.6**	**6.89**	**66.8**	**8.76**	1.65 U	**25.2**	**150**	**55.5**	**27.3**	**3.55**
	Xylene, o-	20	**2.38**	**5.51**	**26.7**	**22.8**	**4.21**	**3.77**	**3.6**	**26.2**	**3.94**	1.99 U	**6.85**	**55.9**	**19.7**	**10.4**	1.99 U

Notes:
ug/m3 - micrograms per cubic meter.
B - Compound detected in associated method blank
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this analyte.
U - Compound was not detected at specified quantitation limit.
Values in **Bold** indicate the compound was detected.
APH - Air-Phase Petroleum Hydrocarbons.
TO - Toxic organics.
IATV - MassDEP, Indoor Air Threshold Values (IATV), Vapor Intrusion Guidance - Interim Final, December 2011 with updated screening values from February 22 and March 7,2013.
(1) - IATV for C5-C8 aliphatics used.
(2) - IATV for C9-C10 aromatics used.

Table 4
Summary of Analytical Results for Indoor Air Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Analyte	Sample Location:	Taber_Mill														
		Sample ID:	AAQ	AAQ	TABER MILL B	TABER MILL ST.	TABER BASEMENT	TABER-BASEMENT #	TABER KITCHEN	TM IAQ-B	IAQ-DUP	TM-CRAWLSPACE-1 Dirt Floor	TM-CRAWLSPACE-2 Dirt Floor	TM IAQ-1	IAQ-1	DUP-1	IAQ-2	IAQ-3
		Location:	Parking Lot	Parking Lot	Basement	1st Floor	Basement	Basement	1st Floor	Basement	Basement	Crawlspace	Crawlspace	1st Floor	1st Floor	1st Floor	1st Floor	1st Floor
		Sample Date:	06/29/2012	9/5/2013	03/29/2000	03/29/2000	03/28/2001	03/28/2001 Field Dup	03/28/2001	06/29/2012	06/29/2012 Field Dup	06/29/2012	06/29/2012	06/29/2012	9/5/2013	9/5/2013 Field Dup	9/5/2013	9/5/2013
		Residential IATV*																
APH																		
(ug/m3)	Benzene	2.3	2.0 U	**1.4**	NA	NA	NA	NA	NA	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**1.7**	**2.6**	**1.9**	**1.8**
	1,3-Butadiene	NS	2.0 U	**120**	NA	NA	NA	NA	NA	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.29 U	0.29 U	0.29 U	0.29 U
	Ethylbenzene	7.4	2.0 U	0.57 U	NA	NA	NA	NA	NA	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**1.5**	**1.5**	**0.79**	**1.2**
	Methyl T-Butyl Ether (MTBE)	39	2.0 U	0.48 U	NA	NA	NA	NA	NA	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.48 U	0.48 U	0.48 U	0.48 U
	Toluene	54	**2.3**	**1.4**	NA	NA	NA	NA	NA	**9.6**	**9.9**	**3.6**	**4.5**	**3.3**	**11**	**11**	**3.8**	**3.8**
	Naphthalene	0.6	2.0 U	**110**	NA	NA	NA	NA	NA	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**1.6**	**1.2**	**4.1**	**4.4**
	Xylenes, m/p-	20	4.0 U	0.57 U	NA	NA	NA	NA	NA	**4.1**	**4.2**	4.0 U	4.0 U	4.0 U	**3.5**	**3.4**	**1.9**	**2.5**
	Xylene, o-	20	2.0 U	0.57 U	NA	NA	NA	NA	NA	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**1.4**	**1.4**	**0.83**	**1.2**
	C5-C8 Aliphatics	58	**24**	6.0 U	NA	NA	NA	NA	NA	**84**	**90**	**48**	**55**	**130**	**290**	**330**	**170**	**190**
	C9-C10 Aromatics	10	10 U	6.6 U	NA	NA	NA	NA	NA	**13**	**14**	10 U	10 U	10 U	6.6 U	6.6 U	6.6 U	**7.2**
	C9-C12 Aliphatics	68	14 U	9.3 U	NA	NA	NA	NA	NA	**40**	**40**	**16**	**23**	**68**	**96**	**73**	**70**	**55**
TO-15																		
(ug/m3)	Acetone	91	**15.1**	**20**	NA	NA	NA	NA	NA	**34.7**	**33.5**	**26.8**	**25.2**	**64.4**	**57**	**66**	**46**	**58**
	Benzene	2.3	0.639 U	**1.2**	**4.6**	**5.05**	**5.4**	**4.5**	2.88 U	**0.805**	**0.866**	**0.789**	**0.939**	**0.891**	**1.4**	**2.2**	**1.6**	**1.5**
	Benzyl chloride	NS	NA	0.18 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.18 U	0.18 U	0.18 U	0.18 U
	Bromodichloromethane	0.13	0.134 U	0.24 U	NA	NA	NA	NA	NA	0.134 U	0.134 U	0.134 U	0.134 U	0.134 U	0.24 U	0.24 U	0.24 U	0.24 U
	Bromoform	2.1	2.07 U	0.36 U	NA	NA	NA	NA	NA	2.07 U	2.07 U	2.07 U	2.07 U	2.07 U	0.36 U	0.36 U	0.36 U	0.36 U
	Bromomethane	0.6	0.078 U	**0.26**	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.14 U	0.14 U	0.14 U	0.14 U
	1,3-Butadiene	NS	NA	0.078 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.16**	**0.15**	0.078 U	0.078 U
	Methyl Ethyl Ketone (MEK); 2-Butanone	12	**2.06**	4.1 U	NA	NA	NA	NA	NA	**10.4**	**8.76**	**4.48**	**2.41**	**3.18**	4.1 U	**4.5**	**4.1**	4.1 U
	Carbon Disulfide	NS	NA	1.1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.1 U	1.1 U	**4.3**	1.1 U
	Carbon Tetrachloride	0.54	**0.352**	**0.47**	4.09 U	4.09 U	4.09 U	4.09 U	4.09 U	**0.365**	**0.377**	**0.352**	**0.352**	**0.358**	**0.51**	**0.49**	**0.51**	**0.51**
	Chlorobenzene	2.3	0.921 U	0.16 U	2.03 U	2.03 U	2.03 U	2.03 U	2.03 U	0.921 U	0.921 U	0.921 U	0.921 U	0.921 U	0.16 U	0.16 U	0.16 U	0.16 U
	Chloroethane	NS	NA	0.093 U	6.35 U	6.35 U	6.35 U	6.35 U	6.35 U	NA	NA	NA	NA	NA	0.093 U	0.093 U	0.093 U	0.093 U
	Chloroform	1.9	0.977 U	0.17 U	2.38 U	2.38 U	2.38 U	2.38 U	2.38 U	0.977 U	0.977 U	0.977 U	0.977 U	0.977 U	**1.0**	**0.99**	**0.95**	**1.1**
	Chloromethane	NS	NA	**0.97**	1.63 U	1.63 U	1.63 U	1.63 U	1.63 U	NA	NA	NA	NA	NA	**1.1**	**1.2**	**1.1**	**1.2**
	Cyclohexane	58[1]	NA	0.12 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.1**	**1.1**	0.12 U	0.12 U
	Dibromochloromethane	0.097	0.17 U	0.30 U	NA	NA	NA	NA	NA	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.30 U	0.30 U	0.30 U	0.30 U
	Ethylene Dibromide	0.0078	0.154 U	0.27 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	0.154 U	0.154 U	0.154 U	0.154 U	0.154 U	0.27 U	0.27 U	0.27 U	0.27 U
	Dichlorobenzene, 1,2- (o-DCB)	0.72	0.12 U	0.21 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.21 U	0.21 U	0.21 U	0.21 U
	Dichlorobenzene, 1,3- (m-DCB)	0.6	0.12 U	0.21 U	4.69 U	4.69 U	4.69 U	4.69 U	4.69 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.21 U	0.21 U	0.21 U	0.21 U
	Dichlorobenzene, 1,4-; (p-DCB)	0.5	0.12 U	0.21 U	**18.3**	**42**	4.87 U	4.87 U	4.87 U	**0.12**	**0.126**	0.12 U	0.12 U	0.12 U	0.21 U	0.21 U	**0.77**	**0.72**
	Dichlorodifluoromethane (Freon 12)	NS	NA	**1.6**	**12**	**11.2**	**4.6**	**4.6**	**2.67**	NA	NA	NA	NA	NA	**1.6**	**1.5**	**1.7**	**1.6**
	Dichloroethane, 1,1-	0.8	0.809 U	0.14 U	1.66 U	1.66 U	1.66 U	1.66 U	1.66 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.14 U	0.14 U	0.14 U	0.14 U
	Dichloroethane, 1,2-	0.09	0.081 U	0.14 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	**0.125**	**0.125**	**0.085**	**0.142**	**0.134**	**0.68**	**0.69**	**0.71**	**0.69**
	Dichloroethylene, 1,1-	0.8	0.793 U	0.14 U	2.47 U	2.47 U	2.47 U	2.47 U	2.47 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.14 U	0.14 U	0.14 U	0.14 U
	Dichloroethene, cis-1,2-	0.8	0.793 U	0.14 U	1.59 U	1.59 U	**8.37**	**8.09**	1.59 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.14 U	0.14 U	0.14 U	0.14 U
	Dichloroethene, trans-1,2-	0.8	0.793 U	0.14 U	NA	NA	NA	NA	NA	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.14 U	0.14 U	0.14 U	0.14 U
	Dichloropropane, 1,2-	0.12	0.092 U	0.16 U	1.76 U	1.76 U	1.76 U	1.76 U	1.76 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.16 U	0.16 U	0.16 U	0.16 U
	Dichloropropene, cis-1,3	0.58	0.091 U	0.16 U	1.32 U	1.32 U	1.32 U	1.32 U	1.32 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.16 U	0.16 U	0.16 U	0.16 U
	Dichloropropene, trans-1,3	0.58	0.091 U	0.16 U	1.59 U	1.59 U	1.59 U	1.59 U	1.59 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.16 U	0.16 U	0.16 U	0.16 U
	Freon-114	NS	NA	0.25 U	5.73 U	5.73 U	5.73 U	5.73 U	5.73 U	NA	NA	NA	NA	NA	0.25 U	0.25 U	0.25 U	0.25 U
	Dioxane, 1,4-	0.57	0.36 U	1.3 U	NA	NA	NA	NA	NA	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	1.3 U	1.3 U	1.3 U	1.3 U
	Ethanol	NS	NA	**15**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3,300**	**3,500**	**410**	**1,000**
	Ethyl Acetate	NS	NA	0.13 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**9.1**	**8.8**	**4.1**	**17**
	Ethylbenzene	7.4	0.869 U	**0.21**	2.34 U	**3.25**	**47.1**	**48.3**	2.34 U	**1.18**	**1.2**	0.869 U	0.869 U	0.869 U	**1.5**	**1.4**	**0.76**	**1.1**
	4-Ethyltoluene	10[2]	NA	0.17 U	3.14 U	3.14 U	NA	NA	NA	NA	NA	NA	NA	NA	**0.36**	**0.34**	**0.29**	**0.41**
	Heptane	58[1]	NA	**0.23 B**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.3 B**	**5.2 B**	**0.60 B**	**0.49 B**
	Hexachlorobutadiene	0.11	2.13 U	0.37 U	6.08 U	6.08 U	6.08 U	6.08 U	6.08 U	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U	0.37 U	0.37 U	0.37 U	0.37 U
	Hexane	58[1]	NA	4.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.9 U	4.9 U	4.9 U	4.9 U
	2-Hexanone (MBK)	NS	NA	**0.39**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.50**	**0.85**	**0.76**	**0.68**
	Isopropanol	NS	NA	3.4 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**180**	**200**	**45**	**84**
	Methyl T-Butyl Ether (MTBE)	39	0.721 U	0.13 U	NA	NA	NA	NA	NA	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.13 U	0.13 U	0.13 U	0.13 U

Table 4
Summary of Analytical Results for Indoor Air Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Analyte	Sample Location:	Taber_Mill															
		Sample ID:	AAQ	AAQ	TABER MILL B	TABER MILL ST.	TABER BASEMENT	TABER-BASEMENT #	TABER KITCHEN	TM IAQ-B	IAQ-DUP	TM-CRAWLSPACE-1 Dirt Floor Crawlspace	TM-CRAWLSPACE-2 Dirt Floor Crawlspace	TM IAQ-1	IAQ-1	DUP-1	IAQ-2	IAQ-3
		Location:	Parking Lot	Parking Lot	Basement	1st Floor	Basement	Basement	1st Floor	Basement	Basement			1st Floor	1st Floor	1st Floor	1st Floor	1st Floor
		Sample Date:	06/29/2012	9/5/2013	03/29/2000	03/29/2000	03/28/2001	03/28/2001 Field Dup	03/28/2001	06/29/2012	06/29/2012 Field Dup	06/29/2012	06/29/2012	06/29/2012	9/5/2013	9/5/2013 Field Dup	9/5/2013	9/5/2013
		Residential IATV*																
	Methylene Chloride	11	4.86 U	**3.4**	NA	NA	NA	NA	NA	4.86 U	4.86 U	4.86 U	4.86 U	4.86 U	**2.6**	**1.6**	**1.9**	**4.1**
	Methyl Isobutyl Ketone (MIBK)	2.2	0.82 U	**0.18**	NA	NA	NA	NA	NA	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	**0.35**	0.14 U	**0.35**	**0.41**
	Naphthalene	0.6	1.05 U	0.18 U	NA	NA	NA	NA	NA	**0.802 J**	**0.734 J**	0.262 U	0.262 U	**0.383 J**	**1.2**	**0.93**	**3.1**	**3.3**
	Propene	NS	NA	2.4 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.4 U	2.4 U	2.4 U	2.4 U
	Styrene	1.4	0.852 U	0.15 U	2.04 U	2.04 U	2.04 U	2.04 U	**10.8**	0.852 U	0.852 U	0.852 U	0.852 U	0.852 U	**0.90**	**0.88**	**0.90**	**0.68**
	Tetrachloroethane, 1,1,2,2-	0.04	0.137 U	0.24 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U	0.24 U	0.24 U	0.24 U	0.24 U
	Tetrachloroethylene (PCE)	1.4	1.36 U	0.24 U	2.85 U	2.85 U	**24.2**	**25.4**	2.85 U	1.36 U	1.36 U	1.36 U	1.36 U	1.36 U	0.24 U	0.24 U	**0.31**	**0.27**
	Tetrahydrofuran	NS	NA	0.10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.22**	0.10 U	**0.19**	0.10 U
	Toluene	54	**2.14**	**1.2**	**10.9**	**16.9**	**244**	**250**	**57.6**	**8.44**	**8.74**	**3.48**	**4.14**	**2.8**	**9.6**	**9.5**	**3.3**	**3.3**
	Trichlorobenzene, 1,2,4-	3.4	1.48 U	0.26 U	8.22 U	8.22 U	8.22 U	8.22 U	8.22 U	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U	0.26 U	0.26 U	0.26 U	0.26 U
	Trichloroethane, 1,1,1-	3	1.09 U	0.19 U	**344**	**18.9**	**3.32**	**3.43**	2.18 U	**1.14**	**1.27**	1.09 U	1.09 U	1.09 U	0.19 U	0.19 U	**0.19**	0.19 U
	Trichloroethane, 1,1,2-	0.15	0.109 U	0.19 U	2.18 U	2.18 U	2.18 U	2.18 U	2.18 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.19 U	0.19 U	0.19 U	0.19 U
	Trichloroethylene (TCE)	0.4	**0.64**	**0.29**	**37.4**	**13.9**	**251**	**264**	**3.91**	**1.28**	**1.72**	**0.338**	**0.677**	**0.274**	0.19 U	0.19 U	**0.20**	**0.23**
	Trichlorofluoromethane (Freon 11)	NS	NA	**1.5**	**3.51**	**6.33**	3.15 U	3.15 U	3.15 U	NA	NA	NA	NA	NA	**1.6**	**1.6**	**1.6**	**1.7**
	Freon-113	NS	NA	**0.62**	**13.1**	4.67 U	4.67 U	4.67 U	4.67 U	NA	NA	NA	NA	NA	**0.66**	**0.61**	**0.65**	**0.63**
	Trimethylbenzene, 1,2,4-	10(2)	NA	**0.21**	**20.8**	**37.7**	**107**	**110**	**31.9**	NA	NA	NA	NA	NA	**0.89**	**0.88**	**0.76**	**1.1**
	Trimethylbenzene, 1,3,5-	10(2)	NA	0.17 U	**6.63**	**10**	**71.2**	**73**	**10.2**	NA	NA	NA	NA	NA	**0.39**	**0.29**	**0.27**	**0.37**
	Vinyl Acetate	NS	NA	2.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.5 U	2.5 U	2.5 U	2.5 U
	Vinyl Chloride	0.27	0.051 U	0.090 U	2.48 U	2.48 U	2.48 U	2.48 U	2.48 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.090 U	0.090 U	0.090 U	0.090 U
	Xylenes, m/p-	20	1.74 U	**0.53**	**7.28**	**11.7**	**218**	**225**	**5.94**	**4**	**3.96**	**2.48**	**2.67**	1.74 U	**3.3**	**3.2**	**1.8**	**2.3**
	Xylene, o-	20	0.869 U	**0.22**	**3.38**	**5.42**	**83.7**	**86**	**4.73**	**1.42**	**1.48**	**0.899**	**1.0**	0.869 U	**1.4**	**1.3**	**0.79**	**1.2**

Notes:
ug/m3 - micrograms per cubic meter.
B - Compound detected in associated method blank
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this analyte.
U - Compound was not detected at specified quantitation limit.
Values in **Bold** indicate the compound was detected.
APH - Air-Phase Petroleum Hydrocarbons.
TO - Toxic organics.
IATV - MassDEP, Indoor Air Threshold Values (IATV), Vapor Intrusion Guidance - Interim Final, December 2011 with updated screening values from February 22 and March 7,2013.
(1) - IATV for C5-C8 aliphatics used.
(2) - IATV for C9-C10 aromatics used.

Table 5
Summary of Analytical Results for Storm Sewer and Sanitary Sewer Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample ID:	MH-1S	MH-2	MH-3	MH-4	MH-5	MH-6		MH-7	MH-8
	Sample Date:	2/26/2013	2/26/2013	2/26/2013	2/26/2013	2/26/2013	2/26/2013	2/26/2013 Field Dup	2/26/2013	2/26/2013
	Analyte									
VOCs										
(ug/L)	Acetone	**1,700**	10 U	**15**	**14**	**1,600**	**1,800**	**1,600**	**1,800**	**1,400**
	tert-Amyl Methyl Ether (TAME)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Benzene	**1.9**	1.0 U	1.0 U	1.0 U	**1.6**	**1.6**	**1.6**	**1.5**	**1.6**
	Bromobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromochloromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromodichloromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromoform	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromomethane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	2-Butanone (MEK)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	n-Butylbenzene	**1.4**	1.0 U	1.0 U	1.0 U	**1.4**	**2.7**	**2.6**	**2.2**	**2.1**
	sec-Butylbenzene	**1.1**	1.0 U	1.0 U	1.0 U	**1.1**	**2.3**	**2.2**	**1.9**	**1.8**
	tert-Butylbenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	tert-Butyl Ethyl Ether (TBEE)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Carbon Disulfide	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Carbon Tetrachloride	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chlorodibromomethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Chloroethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Chloroform	**11**	2.0 U	2.0 U	2.0 U	**2.0**	2.0 U	**2.4**	2.0 U	2.0 U
	Chloromethane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	2-Chlorotoluene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	4-Chlorotoluene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2-Dibromoethane (EDB)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Dibromomethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3-Dichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,4-Dichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichlorodifluoromethane (Freon 12)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,1-Dichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1-Dichloroethylene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	cis-1,2-Dichloroethylene	**4.3**	1.0 U	**2.1**	**1.5**	**3.7**	**3.9**	**4.1**	**4.7**	**5.1**
	trans-1,2-Dichloroethylene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3-Dichloropropane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	2,2-Dichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1-Dichloropropene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	cis-1,3-Dichloropropene	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
	trans-1,3-Dichloropropene	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
	Diethyl Ether	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Diisopropyl Ether (DIPE)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	1,4-Dioxane	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U

Table 5
Summary of Analytical Results for Storm Sewer and Sanitary Sewer Samples
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Sample ID:	MH-1S	MH-2	MH-3	MH-4	MH-5	MH-6		MH-7	MH-8
	Sample Date:	2/26/2013	2/26/2013	2/26/2013	2/26/2013	2/26/2013	2/26/2013	2/26/2013 Field Dup	2/26/2013	2/26/2013
	Analyte									
	Ethylbenzene	**5.4**	1.0 U	1.0 U	1.0 U	**4.7**	**6.1**	**5.8**	**4.9**	**5.6**
	Hexachlorobutadiene	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	2-Hexanone (MBK)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Isopropylbenzene (Cumene)	**3.6**	1.0 U	1.0 U	1.0 U	**3.3**	**7.4**	**6.6**	**5.3**	**5.4**
	p-Isopropyltoluene (p-Cymene)	**1.5**	1.0 U	1.0 U	1.0 U	**1.3**	**2.4**	**2.3**	**2.0**	**1.9**
	Methyl tert-Butyl Ether (MTBE)	**1.9**	1.0 U	1.0 U	1.0 U	**1.7**	**1.6**	**1.4**	**1.6**	**1.5**
	Methylene Chloride	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	4-Methyl-2-pentanone (MIBK)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Naphthalene	**3.2**	2.0 U	2.0 U	2.0 U	**2.4**	**2.8**	**2.6**	**2.5**	**3.0**
	n-Propylbenzene	**17**	**2.8**	**1.8**	**1.2**	**15**	**35**	**31**	**25**	**25**
	Styrene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,1,2-Tetrachloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,2,2-Tetrachloroethane	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Tetrachloroethylene	**4.8**	1.0 U	1.0 U	1.0 U	**4.3**	**3.6**	**3.7**	**3.8**	**3.3**
	Tetrahydrofuran	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**5.6**	2.0 U	2.0 U	2.0 U
	Toluene	**26**	**1.6**	**2.6**	**2.5**	**19**	**19**	**20**	**22**	**32**
	1,2,3-Trichlorobenzene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2,4-Trichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,1-Trichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,2-Trichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Trichloroethylene	**15**	**2.1**	**8.5**	**7.0**	**13**	**17**	**16**	**32**	**35**
	Trichlorofluoromethane (Freon 11)	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2,3-Trichloropropane	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2,4-Trimethylbenzene	**120**	**39**	**17**	**11**	**110**	**220**	**180**	**170**	**160**
	1,3,5-Trimethylbenzene	**40**	**18**	**8.9**	**5.4**	**39**	**78**	**70**	**60**	**61**
	Vinyl Chloride	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	m+p Xylene	**26**	**3.9**	**2.4**	2.0 U	**22**	**33**	**32**	**26**	**30**
	o-Xylene	**17**	**4.6**	**2.6**	**1.8**	**15**	**22**	**20**	**17**	**20**
	Total Xylenes	**43**	**8.5**	**5.0**	**1.8**	**37**	**55**	**52**	**43**	**50**

Notes:

ug/L - micrograms per liter.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

VOCs - Volatile Organic Compounds.

Table 6
Monitoring Well Construction and Gauging Summary
(February 25, 2013)
Former Payne Cutlery
New Bedford, Massachusetts

Well Identification Number	Depth to Water [1]	Depth to Bottom [2]	Screened Interval	Top of Casing Elevation	Groundwater Elevation	PID Well Mouth Screening	Comments
	(feet)	(feet)	(feet)	(relative)	(relative)	(ppmv)	
CGW-1	--	--	--	--	--	--	Condition unknown
CGW-2	--	--	--	--	--	--	Condition unknown
CGW-3	--	--	--	--	--	--	Condition unknown
CGW-4	--	--	--	--	--	--	Condition unknown
CGW-5	4.18	12.83	--	214.87	210.69	Bkg	
CGW-6	2.15	10.25	--	210.01	207.86	Bkg	
CGW-7	--	--	--	--	--	--	Condition unknown
CGW-8	6.95	15.00	--	207.12	200.17	9.1	
CGW-9	--	--	--	--	--	--	Condition unknown
CGW-10	4.91	--	5 to 10	199.60	194.69	Bkg	
CGW-11	8.08	10.60	4 to 14	208.14	200.06	Bkg	
CGW-12	3.47	14.35	4 to 14	213.47	210.00	Bkg	
CGW-13	--	12.00	2 to 12	--	--	--	PVC riser damaged. Well not gauged.
CGW-14	4.15	15.00	5 to 15	211.07	206.92	Bkg	
CGW-15	4.91	15.40	4 to 14	210.37	205.46	Bkg	
CGW-16	5.14	16.26	5 to 15	208.29	203.15	0.5	
CGW-17	6.61	15.75	5 to 20	209.74	203.13	Bkg	
CW-1	--	14.50	9 to 14	--	--	--	Micro-well
CW-2	--	15.40	9.9 to 15.4	--	--	--	Micro-well
CW-3	--	14.80	9.3 to 14.3	--	--	--	Micro-well
CW-4	--	13.50	8 to 13	--	--	--	Micro-well
CW-5	--	16.10	10.6 to 15.6	--	--	--	Micro-well
CW-6	--	15.50	10 to 15	--	--	--	Micro-well
CW-7	--	15.00	9.5 to 14.5	--	--	--	Micro-well
CW-8	--	14.50	9 to 14	--	--	--	Micro-well
CW-9	--	14.70	9.5 to 14.5	--	--	--	Micro-well
CW-10	--	14.50	9.3 to 14.3	--	--	--	Micro-well
CW-11	--	15.00	9.5 to 14.5	--	--	--	Micro-well
MW-1	--	14.50	4.5 to 14.5	--	--	--	
MW-2	--	27.50	22.5 to 27.5	--	--	--	
MW-2A	--	15.00	5 to 15	--	--	--	
MW-3	--	29.00	19 to 29	--	--	--	
MW-3A	--	20.00	10 to 20	--	--	--	
MW-4	--	15.00	5 to 15	--	--	--	
MW-5	--	15.00	5 to 15	--	--	--	
TRC-1	0.77	13.88	5 to 15	210.73	209.96	Bkg	
TRC-2	--	13.75	5 to 15	206.82	--	--	Well could not be located due to snow cover.
TRC-3	--	14.20	5 to 15	--	--	--	Well abandoned.
TRC-3R	7.05	15.30	5 to 15	207.43	200.38	23.8	Replacement for TRC-3.
TRC-4	5.87	13.15	4 to 14	203.76	197.89	Bkg	
TRC-5	6.22	15.30	5.5 to 15.5	207.88	201.66	78.0	
TRC-5D [3]	--	--	16.5 to 28	208.04	--	--	Shallow bedrock monitoring well.
TRC-6	6.47	10.25	5 to 10	206.17	199.70	1.4	
TRC-7	5.29	14.80	4 to 14	199.84	194.55	2.6	
TRC-8	6.48	15.00	5 to 15	200.29	193.81	0.5	

Notes:

(1) - Depth to water as measured on February 25, 2013.

(2) - Based on measured on February 25, 2013, historic measurement or boring log.

(3) - Well installed in August 2013.

feet - below top of PVC casing.

relative - feet based on relative elevation survey and arbitrary 200.00 benchmark.

ppmv - parts per million by volume.

Bkg - Background (0.0 ppmv).

Table 7
Summary of Chemical Characteristics

Oil or Hazardous Material	CAS	Specific Gravity	Solubility		Vapor Pressure	Henry's Law Constant	log K_{ow}	K_{oc}
		(g/cm^3 at 20 C)	(µg/L)	(mg/l)	(mmHg 20-30 C)	($atm\text{-}m^3/mol$)		(ml/g)
BENZENE	71-43-2	0.88	1.79E+06	1790	95	5.55E-03	2.13	61.7
BROMOMETHANE	74-83-9	1.73	1.52E+07	15200	1420	7.34E-03	1.19	5.89
CHLOROFORM	67-66-3	1.48	7.95E+06	7950	160	3.67E-03	1.97	52.5
DICHLOROBENZENE, 1,4- (p-DCB)	106-46-7	1.25	8.13E+04	81.3	1.8	2.41E-03	3.44	616
DICHLOROETHYLENE, CIS-1,2-	156-59-2		6.41E+06	6410	202	4.08E-03	1.76	35.5
ETHYLBENZENE	100-41-4	0.87	1.69E+05	169	10	7.88E-03	3.15	204
NAPHTHALENE	91-20-3	1.15	3.10E+04	31	0.082	4.40E-04	3.3	1190
STYRENE	100-42-5	0.91	3.10E+05	310	5	2.75E-03	2.95	912
TETRACHLOROETHYLENE	127-18-4	1.62	2.06E+05	206	19	1.77E-02	3.4	265
TOLUENE	108-88-3	0.87	5.26E+05	526	28	6.64E-03	2.73	140
TRICHLOROBENZENE, 1,2,4-	120-82-1	1.45	4.90E+04	49		1.42E-03	4.02	1660
TRICHLOROBENZENE, 1,3,5-	108-67-8	0.86	2.00E+04	20	2	8.77E-03	3.42	700
TRICHLOROETHANE, 1,1,1-	71-55-6	1.34	1.29E+06	1290	100	1.72E-02	2.49	135
TRICHLOROETHYLENE	79-01-6	1.46	1.28E+06	1280	77	9.85E-03	2.42	94.3
VINYL CHLORIDE	75-01-4	2.21	8.80E+06	8800	2580	2.78E-02	1.62	18.6
XYLENES (Mixed Isomers)	1330-20-7		1.06E+05	106	6	6.63E-03	3.16	249.3
PETROLEUM HYDROCARBONS								
Aliphatics								
C5 to C8	NA		1.10E+04	11	76	1.30E+00	3.85	2265
C9 to C18	NA		1.00E+01	0.01	0.106	1.66E+00	5.94	680000
Aromatics								
C9 to C10	NA		5.10E+04	51	2.204	7.92E-03	3.93	1778
BENZO(a)ANTHRACENE	56-55-3	1.27	9.40E+00	0.0094	5.00E-09	1.20E-05	5.76	358000
BENZO(a)PYRENE	50-32-8	1.35	1.62E+00	0.00162	5.00E-09	4.57E-07	6.13	969000
BENZO(b)FLUORANTHENE	205-99-2		1.50E+00	0.0015		6.57E-07	5.78	1230000
DIBENZO(a,h)ANTHRACENE	53-70-3	1.28	2.49E+00	0.00249	1.00E-10	1.23E-07	6.75	1790000
INDENO(1,2,3-cd)PYRENE	193-39-5		1.90E-01	0.00019	1.00E-09	3.48E-07	6.7	3470000
CADMIUM	7440-43-9	8.64	0	0	0		-0.07	0
CHROMIUM (TOTAL)	7440-47-3	7.20	0	0	0		0.23	0
NICKEL	7440-02-0	8.90	0	0	0		-0.57	0
SILVER	7440-22-4	10.49	0	0	0		0.23	0

Notes:

g/cm^3 at 20 C - grams per cubic centimeter at 20-degrees Celsius

µg/L - micrograms per liter

mg/l - milligrams per liter

mmHg 20-30 C - millimeters of mercury at 20 to 30-degrees Celsius

$atm\text{-}m^3/mol$ - atmosphers per cubic meter per mole

Table 8
Summary Statistics for Soil -- 0 to 1 Foot Depth Interval
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	S-1/GW-2	S-1/GW-3	UCLs	Background	# of Samples	# of Detects	Freq. of Detects	Min. of Detects (mg/kg)	Max. of Detects (mg/kg)	Location of Max. Detected	Min. of Non-Detects (mg/kg)	Max. of Non-Detects (mg/kg)	Mean Concentration (mg/kg)	EPC (mg/kg)	EPC Rationale
VOCs																
	Bromomethane	0.5	30	10,000	NA	4	1	25.0%	0.68	**0.68**	CGW-15	0.0014	0.085	1.8E-01	6.8E-01	Maximum
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NA	4	2	50.0%	0.0022	0.0022	CGW-12	0.085	1.2	1.6E-01	2.2E-03	Maximum
	Acetone	50	400	10,000	NA	4	4	100.0%	0.041	1	CGW-15	--	--	3.4E-01	3.4E-01	Mean
	Carbon Disulfide	NS	NS	NS	NA	4	2	50.0%	0.001	0.0026	CGW-13	0.085	1.2	1.6E-01	2.6E-03	Maximum
	Methylene Chloride	20	200	10,000	NA	4	3	75.0%	0.0024	1.5	CGW-15	0.21	0.21	4.0E-01	4.0E-01	Mean
	Methyl Ethyl Ketone (MEK)	50	400	10,000	NA	4	2	50.0%	0.0029	0.042	CGW-13	0.085	1.2	1.7E-01	4.2E-02	Maximum
	Dichloroethene, cis-1,2-	0.4	100	5,000	NA	4	2	50.0%	0.0016	**3**	CGW-15	0.0014	0.085	7.6E-01	3.0E+00	Maximum
	Trichloroethylene (TCE)	2	90	10,000	NA	4	3	75.0%	0.0045	**71**	CGW-15	0.085	0.085	1.8E+01	7.1E+01	Maximum
	Methyl Isobutyl Ketone (MIBK)	50	400	10,000	NA	4	1	25.0%	0.001	0.001	CGW-13	0.0014	1.2	1.6E-01	1.0E-03	Maximum
	Toluene	500	500	10,000	NA	4	2	50.0%	0.0015	0.0074	CGW-13	0.085	1.2	1.6E-01	7.4E-03	Maximum
	Hexanone (MNBK), 2-	NS	NS	NS	NA	4	1	25.0%	0.0031	0.0031	CGW-13	0.0014	1.2	1.6E-01	3.1E-03	Maximum
	Tetrachloroethylene (PCE)	10	30	10,000	NA	4	1	25.0%	0.62	0.62	CGW-15	0.0014	0.085	1.7E-01	1.7E-01	Mean
	Styrene	4	30	10,000	NA	4	1	25.0%	0.0008	0.0008	CGW-13	0.0014	1.2	1.6E-01	8.0E-04	Maximum
EPH																
	C9-C18 Aliphatics	1,000	1,000	20,000	NA	4	3	75.0%	5.4	9.5	CGW-13	3.3	3.3	6.0E+00	6.0E+00	Mean
	C19-C36 Aliphatics	3,000	3,000	20,000	NA	4	4	100.0%	140	1500	CGW-13	--	--	4.9E+02	4.9E+02	Mean
	C11-C22 Aromatics	1,000	1,000	10,000	NA	4	4	100.0%	33	500	CGW-13	--	--	2.0E+02	2.0E+02	Mean
	Naphthalene	40	500	10,000	0.5	4	2	50.0%	0.31	0.57	CGW-12	0.085	0.55	3.0E-01	3.0E-01	Mean
	Methylnaphthalene, 2-	80	300	5,000	1	3	1	33.3%	0.59	0.59	CGW-12	0.55	0.57	3.8E-01	3.8E-01	Mean
	Acenaphthene	1,000	1,000	10,000	1	4	2	50.0%	0.36	2.9	CGW-12	0.55	0.57	9.6E-01	9.6E-01	Mean
	Fluorene	1,000	1,000	10,000	1	4	2	50.0%	0.3	3.2	CGW-12	0.55	0.57	1.0E+00	1.0E+00	Mean
	Phenanthrene	500	500	10,000	3	4	4	100.0%	1.2	24	CGW-12	--	--	9.9E+00	9.9E+00	Mean
	Anthracene	1,000	1,000	10,000	1	4	3	75.0%	0.32	6.5	CGW-12	0.57	0.57	2.2E+00	2.2E+00	Mean
	Fluoranthene	1,000	1,000	10,000	4	4	4	100.0%	2.3	29	CGW-12	--	--	1.3E+01	1.3E+01	Mean
	Pyrene	1,000	1,000	10,000	4	4	4	100.0%	2.4	24	CGW-12	--	--	1.2E+01	1.2E+01	Mean
	Benzo(a)anthracene	7	7	3,000	2	4	4	100.0%	1.3	**12**	CGW-12	--	--	5.9E+00	1.2E+01	Maximum
	Chrysene	70	70	10,000	2	4	4	100.0%	1.1	11	CGW-12	--	--	5.5E+00	5.5E+00	Mean
	Benzo(b)fluoranthene	7	7	3,000	2	4	4	100.0%	1.3	**12**	CGW-12	--	--	6.0E+00	1.2E+01	Maximum
	Benzo(k)fluoranthene	70	70	10,000	1	4	4	100.0%	0.76	5.9	CGW-12	--	--	3.0E+00	3.0E+00	Mean
	Benzo(a)pyrene	2	2	300	2	4	4	100.0%	1.1	**9.3**	CGW-12	--	--	4.4E+00	9.3E+00	Maximum
	Indeno(1,2,3-cd)pyrene	7	7	3,000	1	4	4	100.0%	0.96	**7.7**	CGW-12	--	--	3.7E+00	7.7E+00	Maximum
	Dibenzo(a,h)anthracene	0.7	0.7	300	0.5	4	4	100.0%	0.96	**7.7**	CGW-12	--	--	3.7E+00	7.7E+00	Maximum
	Benzo(g,h,i)perylene	1,000	1,000	10,000	1	4	4	100.0%	0.8	5.4	CGW-12	--	--	2.6E+00	2.6E+00	Mean
PCBs																
	Total PCBs	2	2	100	NA	5	2	40.0%	0.268	1.44	MW-05	0.027	0.05	3.5E-01	3.5E-01	Mean
TPH																
	TPH	1,000	1,000	10,000	NA	5	5	100.0%	220	**1200.02**	MW-05	--	--	5.8E+02	5.8E+02	Mean
Metals, total																
	Arsenic	20	20	200	20	4	1	25.0%	2.6	2.6	SS-01_Cygnus	16	19	7.4E+00	NA	Below background
	Barium	1,000	1,000	10,000	50	4	4	100.0%	57	950	CGW-13	--	--	2.9E+02	2.9E+02	Mean
	Cadmium	2	2	300	2	6	1	16.7%	1.2	1.2	SS-01_Cygnus	0.82	9.4	1.5E+00	NA	Below background
	Chromium	30	30	2,000	30	6	6	100.0%	10	**310**	MCA-8	--	--	9.1E+01	3.1E+02	Maximum
	Copper	NS	NS	NS	40	2	2	100.0%	19	30	MCA-8	--	--	2.5E+01	NA	Below background
	Lead	300	300	3,000	100	6	6	100.0%	18	150	MCA-9	--	--	6.6E+01	6.6E+01	Mean
	Mercury	20	20	300	0.3	4	4	100.0%	0.022	0.093	CGW-13	--	--	4.2E-02	NA	Below background
	Nickel	20	20	7,000	20	2	2	100.0%	29	**280**	MCA-8	--	--	1.5E+02	2.8E+02	Maximum
	Zinc	2,500	2,500	10,000	100	2	2	100.0%	43	55	MCA-8	--	--	4.9E+01	NA	Below background

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.

Boxed maxima exceed natural soil background.

VOCs - Volatile Organic Compounds.

EPH - Extractable Petroleum Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

UCLs - Upper concentration limits.

NS - No standard available for this compound.

Background - Background Concentration for natural soil.

EPC - Exposure point concentration.

Table 9
Summary Statistics for Soil -- 0 to 3 Foot Depth Interval (Unpaved)
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	S-1/GW-2	S-1/GW-3	UCLs	Background	# of Samples	# of Detects	Freq. of Detects	Min. of Detects (mg/kg)	Max. of Detects (mg/kg)	Location of Max. Detected	Min. of Non-Detects (mg/kg)	Max. of Non-Detects (mg/kg)	Mean Concentration (mg/kg)	EPC (mg/kg)	EPC Rationale
VOCs																
	Bromomethane	0.5	30	10,000	NA	4	1	25.0%	0.68	**0.68**	CGW-15	0.0014	0.085	1.8E-01	6.8E-01	Maximum
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NA	4	2	50.0%	0.0022	0.0022	CGW-12	0.085	1.2	1.6E-01	2.2E-03	Maximum
	Acetone	50	400	10,000	NA	4	4	100.0%	0.041	1	CGW-15	--	--	3.4E-01	3.4E-01	Mean
	Carbon Disulfide	NS	NS	NS	NA	4	2	50.0%	0.001	0.0026	CGW-13	0.085	1.2	1.6E-01	2.6E-03	Maximum
	Methylene Chloride	20	200	10,000	NA	4	3	75.0%	0.0024	1.5	CGW-15	0.21	0.21	4.0E-01	4.0E-01	Mean
	Methyl Ethyl Ketone (MEK)	50	400	10,000	NA	4	2	50.0%	0.0029	0.042	CGW-13	0.085	1.2	1.7E-01	4.2E-02	Maximum
	Dichloroethene, cis-1,2-	0.4	100	5,000	NA	4	2	50.0%	0.0016	**3**	CGW-15	0.0014	0.085	7.6E-01	3.0E+00	Maximum
	Trichloroethylene (TCE)	2	90	10,000	NA	4	3	75.0%	0.0045	**71**	CGW-15	0.085	0.085	1.8E+01	7.1E+01	Maximum
	Methyl Isobutyl Ketone (MIBK)	50	400	10,000	NA	4	1	25.0%	0.001	0.001	CGW-13	0.0014	1.2	1.6E-01	1.0E-03	Maximum
	Toluene	500	500	10,000	NA	4	2	50.0%	0.0015	0.0074	CGW-13	0.085	1.2	1.6E-01	7.4E-03	Maximum
	Hexanone (MNBK), 2-	NS	NS	NS	NA	4	1	25.0%	0.0031	0.0031	CGW-13	0.0014	1.2	1.6E-01	3.1E-03	Maximum
	Tetrachloroethylene (PCE)	10	30	10,000	NA	4	1	25.0%	0.62	0.62	CGW-15	0.0014	0.085	1.7E-01	1.7E-01	Mean
	Styrene	4	30	10,000	NA	4	1	25.0%	0.0008	0.0008	CGW-13	0.0014	1.2	1.6E-01	8.0E-04	Maximum
EPH																
	C9-C18 Aliphatics	1,000	1,000	20,000	NA	4	3	75.0%	5.4	9.5	CGW-13	3.3	3.3	6.0E+00	6.0E+00	Mean
	C19-C36 Aliphatics	3,000	3,000	20,000	NA	4	4	100.0%	140	1500	CGW-13	--	--	4.9E+02	4.9E+02	Mean
	C11-C22 Aromatics	1,000	1,000	10,000	NA	4	4	100.0%	33	500	CGW-13	--	--	2.0E+02	2.0E+02	Mean
	Naphthalene	40	500	10,000	0.5	4	2	50.0%	0.31	0.57	CGW-12	0.085	0.55	3.0E-01	3.0E-01	Mean
	Methylnaphthalene, 2-	80	300	5,000	1	3	1	33.3%	0.59	0.59	CGW-12	0.55	0.57	3.8E-01	3.8E-01	Mean
	Acenaphthene	1,000	1,000	10,000	1	4	2	50.0%	0.36	2.9	CGW-12	0.55	0.57	9.6E-01	9.6E-01	Mean
	Fluorene	1,000	1,000	10,000	1	4	2	50.0%	0.3	3.2	CGW-12	0.55	0.57	1.0E+00	1.0E+00	Mean
	Phenanthrene	500	500	10,000	3	4	4	100.0%	1.2	24	CGW-12	--	--	9.9E+00	9.9E+00	Mean
	Anthracene	1,000	1,000	10,000	1	4	3	75.0%	0.32	6.5	CGW-12	0.57	0.57	2.2E+00	2.2E+00	Mean
	Fluoranthene	1,000	1,000	10,000	4	4	4	100.0%	2.3	29	CGW-12	--	--	1.3E+01	1.3E+01	Mean
	Pyrene	1,000	1,000	10,000	4	4	4	100.0%	2.4	24	CGW-12	--	--	1.2E+01	1.2E+01	Mean
	Benzo(a)anthracene	7	7	3,000	2	4	4	100.0%	1.3	**12**	CGW-12	--	--	5.9E+00	1.2E+01	Maximum
	Chrysene	70	70	10,000	2	4	4	100.0%	1.1	11	CGW-12	--	--	5.5E+00	5.5E+00	Mean
	Benzo(b)fluoranthene	7	7	3,000	2	4	4	100.0%	1.3	**12**	CGW-12	--	--	6.0E+00	1.2E+01	Maximum
	Benzo(k)fluoranthene	70	70	10,000	1	4	4	100.0%	0.76	5.9	CGW-12	--	--	3.0E+00	3.0E+00	Mean
	Benzo(a)pyrene	2	2	300	2	4	4	100.0%	1.1	**9.3**	CGW-12	--	--	4.4E+00	9.3E+00	Maximum
	Indeno(1,2,3-cd)pyrene	7	7	3,000	1	4	4	100.0%	0.96	**7.7**	CGW-12	--	--	3.7E+00	7.7E+00	Maximum
	Dibenzo(a,h)anthracene	0.7	0.7	300	0.5	4	4	100.0%	0.96	**7.7**	CGW-12	--	--	3.7E+00	7.7E+00	Maximum
	Benzo(g,h,i)perylene	1,000	1,000	10,000	1	4	4	100.0%	0.8	5.4	CGW-12	--	--	2.6E+00	2.6E+00	Mean
PCBs																
	Total PCBs	2	2	100	NA	5	2	40.0%	0.268	1.44	MW-05	0.027	0.05	3.5E-01	3.5E-01	Mean
TPH																
	TPH	1,000	1,000	10,000	NA	7	7	100.0%	30	**1200.02**	MW-05	--	--	4.8E+02	4.8E+02	Mean
Metals, total																
	Arsenic	20	20	200	20	4	1	25.0%	2.6	2.6	SS-01_Cygnus	16	19	7.4E+00	NA	Below background
	Barium	1,000	1,000	10,000	50	4	4	100.0%	57	950	CGW-13	--	--	2.9E+02	2.9E+02	Mean
	Cadmium	2	2	300	2	8	1	12.5%	1.2	1.2	SS-01_Cygnus	0.82	9.4	1.3E+00	NA	Below background
	Chromium	30	30	2,000	30	8	8	100.0%	10	**310**	MCA-8	--	--	7.5E+01	3.1E+02	Maximum
	Copper	NS	NS	NS	40	4	4	100.0%	3.7	30	MCA-8	--	--	1.6E+01	NA	Below background
	Lead	300	300	3,000	100	8	8	100.0%	18	150	MCA-9	--	--	6.8E+01	6.8E+01	Mean
	Mercury	20	20	300	0.3	4	4	100.0%	0.022	0.093	CGW-13	--	--	4.2E-02	NA	Below background
	Nickel	20	20	7,000	20	4	4	100.0%	15	**280**	MCA-8	--	--	9.6E+01	2.8E+02	Maximum
	Zinc	2,500	2,500	10,000	100	4	4	100.0%	15	96	MCA-11	--	--	5.2E+01	NA	Below background

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.

Boxed maxima exceed natural soil background.

VOCs - Volatile Organic Compounds.

EPH - Extractable Petroleum Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

UCLs - Upper concentration limits.

NS - No standard available for this compound.

Background - Background Concentration for natural soil.

EPC - Exposure point concentration.

Table 10
Summary Statistics for Soil -- 0 to 3 Foot Depth Interval (Paved and Unpaved)
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	S-1/GW-2	S-1/GW-3	UCLs	Background	# of Samples	# of Detects	Freq. of Detects	Min. of Detects (mg/kg)	Max. of Detects (mg/kg)	Location of Max. Detected	Min. of Non-Detects (mg/kg)	Max. of Non-Detects (mg/kg)	Mean Concentration (mg/kg)	EPC (mg/kg)	EPC Rationale
VOCs																
(mg/kg)	Bromomethane	0.5	30	10,000	NA	12	3	25.0%	0.0007	**1.5**	CGW-16	0.0014	0.085	1.9E-01	1.9E-01	Mean
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NA	12	3	25.0%	0.0022	0.0053	CGW-14	0.0054	1.9	1.4E-01	5.3E-03	Maximum
	Acetone	50	400	10,000	NA	12	6	50.0%	0.041	2.7	CGW-16	0.054	0.096	3.7E-01	3.7E-01	Mean
	Carbon Disulfide	NS	NS	NS	NA	12	3	25.0%	0.0009	0.0026	CGW-13	0.0032	1.9	1.3E-01	2.6E-03	Maximum
	Methylene Chloride	20	200	10,000	NA	12	5	41.7%	0.0024	2.3	CGW-16	0.0108	0.21	3.3E-01	3.3E-01	Mean
	Methyl Ethyl Ketone (MEK)	50	400	10,000	NA	12	3	25.0%	0.0029	0.042	CGW-13	0.0215	1.9	1.5E-01	4.2E-02	Maximum
	Dichloroethene, cis-1,2-	0.4	100	5,000	NA	12	2	16.7%	0.0016	**3**	CGW-15	0.00108	1.9	3.3E-01	3.3E-01	Mean
	Trichloroethylene (TCE)	2	90	10,000	NA	12	7	58.3%	0.0045	**530**	CGW-16	0.0011	0.085	5.0E+01	5.3E+02	Maximum
	Methyl Isobutyl Ketone (MIBK)	50	400	10,000	NA	12	1	8.3%	0.001	0.001	CGW-13	0.0013	1.9	1.4E-01	1.0E-03	Maximum
	Toluene	500	500	10,000	NA	12	3	25.0%	0.0015	0.0093	CGW-14	0.00108	1.9	1.3E-01	9.3E-03	Maximum
	Hexanone (MNBK), 2-	NS	NS	NS	NA	12	1	8.3%	0.0031	0.0031	CGW-13	0.0013	1.9	1.4E-01	3.1E-03	Maximum
	Tetrachloroethylene (PCE)	10	30	10,000	NA	12	4	33.3%	0.00195	4.3	CGW-16	0.0011	0.085	4.1E-01	4.1E-01	Mean
	Styrene	4	30	10,000	NA	12	1	8.3%	0.0008	0.0008	CGW-13	0.00108	1.9	1.3E-01	8.0E-04	Maximum
EPH																
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	20,000	NA	6	3	50.0%	5.4	9.5	CGW-13	3.3	3.3	4.5E+00	4.5E+00	Mean
	C19-C36 Aliphatics	3,000	3,000	20,000	NA	6	6	100.0%	38	1500	CGW-13	--	--	3.5E+02	3.5E+02	Mean
	C11-C22 Aromatics	1,000	1,000	10,000	NA	6	6	100.0%	25	500	CGW-13	--	--	1.5E+02	1.5E+02	Mean
	Naphthalene	40	500	10,000	0.5	11	4	36.4%	0.31	0.67	SS-03	0.00215	0.55	2.3E-01	2.3E-01	Mean
	Methylnaphthalene, 2-	80	300	5,000	1	10	2	20.0%	0.23	0.59	CGW-12	0.195	0.9	2.7E-01	2.7E-01	Mean
	Acenaphthene	1,000	1,000	10,000	1	12	5	41.7%	0.36	2.9	CGW-12	0.195	0.9	6.5E-01	6.5E-01	Mean
	Fluorene	1,000	1,000	10,000	1	12	5	41.7%	0.3	3.2	CGW-12	0.195	0.9	6.4E-01	6.4E-01	Mean
	Phenanthrene	500	500	10,000	3	12	11	91.7%	0.31	24	CGW-12	0.195	0.195	7.1E+00	7.1E+00	Mean
	Anthracene	1,000	1,000	10,000	1	12	8	66.7%	0.32	6.5	CGW-12	0.195	0.57	1.5E+00	1.5E+00	Mean
	Fluoranthene	1,000	1,000	10,000	4	12	11	91.7%	0.15	29	CGW-12	0.55	0.55	9.6E+00	9.6E+00	Mean
	Pyrene	1,000	1,000	10,000	4	12	12	100.0%	0.145	24	CGW-12	--	--	9.1E+00	9.1E+00	Mean
	Benzo(a)anthracene	7	7	3,000	2	12	11	91.7%	0.27	**12**	CGW-12	0.195	0.195	4.7E+00	9.5E+00	95% Approximate Gamma UCL
	Chrysene	70	70	10,000	2	12	11	91.7%	0.33	12	SS-01	0.195	0.195	4.5E+00	4.5E+00	Mean
	Benzo(b)fluoranthene	7	7	3,000	2	12	11	91.7%	0.31	**13**	SS-01	0.195	0.195	4.9E+00	1.0E+01	95% Approximate Gamma UCL
	Benzo(k)fluoranthene	70	70	10,000	1	12	9	75.0%	0.76	6.8	SS-01	0.195	0.55	2.3E+00	2.3E+00	Mean
	Benzo(a)pyrene	2	2	300	2	12	11	91.7%	0.25	**10**	SS-01	0.195	0.195	3.7E+00	5.6E+00	95% Student's-t UCL
	Indeno(1,2,3-cd)pyrene	7	7	3,000	1	12	9	75.0%	0.96	**7.7**	CGW-12	0.195	0.55	2.9E+00	2.9E+00	Mean
	Dibenzo(a,h)anthracene	0.7	0.7	300	0.5	12	9	75.0%	0.33	**7.7**	CGW-12	0.195	0.55	1.7E+00	3.5E+00	95% Approximate Gamma UCL
	Benzo(g,h,i)perylene	1,000	1,000	10,000	1	12	9	75.0%	0.72	5.4	CGW-12	0.195	0.55	2.2E+00	2.2E+00	Mean
PCBs																
(mg/kg)	Total PCBs	2	2	100	NA	7	4	57.1%	0.034	1.44	MW-05	0.027	0.05	2.6E-01	2.6E-01	Mean
TPH																
(mg/kg)	TPH	1,000	1,000	10,000	NA	13	13	100.0%	26	**1200.02**	MW-05	--	--	3.0E+02	3.0E+02	Mean
Metals, total																
(mg/kg)	Arsenic	20	20	200	20	6	1	16.7%	2.6	2.6	SS-01_Cygnus	16	22	8.2E+00	NA	Below background
	Barium	1,000	1,000	10,000	50	6	6	100.0%	57	950	CGW-13	--	--	2.5E+02	2.5E+02	Mean
	Cadmium	2	2	300	2	16	2	12.5%	1.2	1.8	CGW-14	0.82	9.4	1.2E+00	NA	Below background
	Chromium	30	30	2,000	30	22	21	95.5%	10	**350**	MCA-3	2	2	7.9E+01	1.2E+02	95% Approximate Gamma UCL
	Copper	NS	NS	NS	40	10	10	100.0%	3.7	37	MCA-5	--	--	1.7E+01	NA	Below background
	Lead	300	300	3,000	100	16	16	100.0%	12	260	MCA-5	--	--	7.1E+01	7.1E+01	Mean
	Mercury	20	20	300	0.3	6	6	100.0%	0.022	0.12	CGW-14	--	--	5.5E-02	NA	Below background
	Nickel	20	20	7,000	20	16	15	93.8%	15	**1600**	MCA-3	2	2	2.7E+02	5.5E+02	95% Approximate Gamma UCL
	Zinc	2,500	2,500	10,000	100	10	10	100.0%	10	96	MCA-11	--	--	3.9E+01	NA	Below background

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.

Boxed maxima exceed natural soil background.

VOCs - Volatile Organic Compounds.

VPH - Volatile Petroleum Hydrocarbons.

EPH - Extractable Petroleum Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

UCLs - Upper concentration limits.

NS - No standard available for this compound.

Background - Background Concentration for natural soil.

EPC - Exposure point concentration.

Table 11
Summary Statistics for Soil -- 0 to 15 Foot Depth Interval
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	S-1/GW-2	S-1/GW-3	UCLs	Background	# of Samples	# of Detects	Freq. of Detects	Min. of Detects (mg/kg)	Max. of Detects (mg/kg)	Location of Max. Detected	Min. of Non-Detects (mg/kg)	Max. of Non-Detects (mg/kg)	Mean Concentration (mg/kg)	EPC (mg/kg)	EPC Rationale
VOCs																
	Chloromethane	NS	NS	NS	NA	16	2	12.5%	0.026	0.038	CGW-12	0.0013	1.9	1.1E-01	3.8E-02	Maximum
	Bromomethane	0.5	30	10,000	NA	14	3	21.4%	0.0007	**1.5**	CGW-16	0.0013	0.086	1.6E-01	1.6E-01	Mean
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NA	14	3	21.4%	0.0022	0.0053	CGW-14	0.0026	1.9	1.2E-01	5.3E-03	Maximum
	Acetone	50	400	10,000	NA	20	12	60.0%	0.041	2.7	CGW-16	0.024	0.215	2.6E-01	2.6E-01	Mean
	Carbon Disulfide	NS	NS	NS	NA	14	3	21.4%	0.0009	0.0026	CGW-13	0.0026	1.9	1.2E-01	2.6E-03	Maximum
	Methylene Chloride	20	200	10,000	NA	20	11	55.0%	0.0024	2.3	CGW-16	0.0065	0.215	3.0E-01	3.0E-01	Mean
	Dichloroethene, trans-1,2-	1	500	10,000	NA	16	2	12.5%	0.051	0.1	CGW-17	0.00098	1.9	1.1E-01	1.0E-01	Maximum
	Methyl Ethyl Ketone (MEK)	50	400	10,000	NA	20	9	45.0%	0.0029	0.53	CGW-17	0.0065	1.9	2.1E-01	2.1E-01	Mean
	Dichloroethene, cis-1,2-	0.4	100	5,000	NA	18	7	38.9%	0.0016	**7.2**	CGW-17	0.00108	1.9	9.6E-01	2.1E+00	95% Hall's Bootstrap UCL
	Chloroform	0.3	400	8,000	NA	15	1	6.7%	0.043	0.043	CGW-17	0.00098	1.9	1.1E-01	4.3E-02	Maximum
	Trichloroethane, 1,1,1-	500	500	10,000	NA	15	1	6.7%	0.039	0.039	CGW-17	0.00065	1.9	1.1E-01	3.9E-02	Maximum
	Trichloroethylene (TCE)	2	90	10,000	NA	18	12	66.7%	0.0045	**530**	CGW-16	0.0011	0.086	4.1E+01	2.5E+02	95% Hall's Bootstrap UCL
	Methyl Isobutyl Ketone (MIBK)	50	400	10,000	NA	14	1	7.1%	0.001	0.001	CGW-13	0.0013	1.9	1.2E-01	1.0E-03	Maximum
	Toluene	500	500	10,000	NA	15	4	26.7%	0.0015	0.033	CGW-17	0.00098	1.9	1.1E-01	3.3E-02	Maximum
	Hexanone (MNBK), 2-	NS	NS	NS	NA	14	1	7.1%	0.0031	0.0031	CGW-13	0.0013	1.9	1.2E-01	3.1E-03	Maximum
	Tetrachloroethylene (PCE)	10	30	10,000	NA	17	8	47.1%	0.00195	4.8	CGW-17	0.0011	0.086	7.5E-01	7.5E-01	Mean
	Xylenes (total)	300	500	10,000	NA	15	1	6.7%	0.076	0.076	CGW-17	0.0013	3.8	2.2E-01	7.6E-02	Maximum
	Styrene	4	30	10,000	NA	14	1	7.1%	0.0008	0.0008	CGW-13	0.00108	1.9	1.2E-01	8.0E-04	Maximum
VPH																
	C5-C8 Aliphatics	100	100	5,000	NA	8	3	37.5%	21	58	CGW-17	8.5	80.5	2.2E+01	2.2E+01	Mean
	C9-C12 Aliphatics	1,000	1,000	20,000	NA	8	1	12.5%	70	70	CGW-03	2.4	3.8	1.0E+01	1.0E+01	Mean
	C9-C10 Aromatics	100	100	5,000	NA	8	1	12.5%	110	**110**	CGW-03	4.9	7.6	1.7E+01	1.7E+01	Mean
	Methyl T-Butyl Ether (MTBE)	100	100	5,000	NA	20	2	10.0%	0.26	0.34	CGW-17	0.0013	1.9	1.3E-01	1.3E-01	Mean
EPH																
	C9-C18 Aliphatics	1,000	1,000	20,000	NA	10	4	40.0%	5.4	895	CGW-03	3.2	3.3	9.3E+01	9.3E+01	Mean
	C19-C36 Aliphatics	3,000	3,000	20,000	NA	10	8	80.0%	38	1500	CGW-13	4.3	4.4	2.5E+02	2.5E+02	Mean
	C11-C22 Aromatics	1,000	1,000	10,000	NA	10	9	90.0%	13	500	CGW-13	9.4	9.4	1.3E+02	1.3E+02	Mean
	Naphthalene	40	500	10,000	0.5	14	5	35.7%	0.31	0.85	CGW-03	0.00215	0.55	2.6E-01	2.6E-01	Mean
	Methylnaphthalene, 2-	80	300	5,000	0.5	12	3	25.0%	0.23	4.2	CGW-03	0.195	0.9	6.0E-01	6.0E-01	Mean
	Acenaphthylene	600	10	10,000	0.5	16	2	12.5%	1.3	2.35	CGW-03	0.195	0.9	4.4E-01	4.4E-01	Mean
	Acenaphthene	1,000	1,000	10,000	0.5	16	6	37.5%	0.36	2.9	CGW-12	0.195	0.9	6.7E-01	6.7E-01	Mean
	Fluorene	1,000	1,000	10,000	1	16	6	37.5%	0.3	3.9	CGW-03	0.195	0.9	7.7E-01	7.7E-01	Mean
	Phenanthrene	500	500	10,000	3	16	12	75.0%	0.31	24	CGW-12	0.195	0.55	5.6E+00	5.6E+00	Mean
	Anthracene	1,000	1,000	10,000	1	16	9	56.3%	0.32	6.5	CGW-12	0.195	0.57	1.2E+00	1.2E+00	Mean
	Fluoranthene	1,000	1,000	10,000	4	16	11	68.8%	0.15	29	CGW-12	0.53	0.55	7.3E+00	7.3E+00	Mean
	Pyrene	1,000	1,000	10,000	4	16	12	75.0%	0.145	24	CGW-12	0.53	0.55	6.9E+00	6.9E+00	Mean
	Benzo(a)anthracene	7	7	3,000	2	16	11	68.8%	0.27	**12**	CGW-12	0.195	0.55	3.6E+00	7.0E+00	95% Approximate Gamma UCL
	Chrysene	70	70	10,000	2	16	11	68.8%	0.33	12	SS-01	0.195	0.55	3.5E+00	3.5E+00	Mean
	Benzo(b)fluoranthene	7	7	3,000	2	16	12	75.0%	0.31	**13**	SS-01	0.195	0.55	3.8E+00	7.4E+00	95% Approximate Gamma UCL
	Benzo(k)fluoranthene	70	70	10,000	1	16	9	56.3%	0.76	6.8	SS-01	0.195	0.55	1.8E+00	1.8E+00	Mean
	Benzo(a)pyrene	2	2	300	2	16	12	75.0%	0.25	**10**	SS-01	0.195	0.55	2.9E+00	5.5E+00	95% Approximate Gamma UCL
	Indeno(1,2,3-cd)pyrene	7	7	3,000	1	16	10	62.5%	0.89	**7.7**	CGW-12	0.195	0.55	2.3E+00	2.3E+00	Mean
	Dibenzo(a,h)anthracene	0.7	0.7	300	0.5	16	10	62.5%	0.33	**7.7**	CGW-12	0.195	0.55	1.4E+00	3.6E+00	95% Chebyshev (Mean, Sd) UCL
	Benzo(g,h,i)perylene	1,000	1,000	10,000	1	16	9	56.3%	0.72	5.4	CGW-12	0.195	0.55	1.7E+00	1.7E+00	Mean

Table 11
Summary Statistics for Soil -- 0 to 15 Foot Depth Interval
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	S-1/GW-2	S-1/GW-3	UCLs	Background	# of Samples	# of Detects	Freq. of Detects	Min. of Detects (mg/kg)	Max. of Detects (mg/kg)	Location of Max. Detected	Min. of Non-Detects (mg/kg)	Max. of Non-Detects (mg/kg)	Mean Concentration (mg/kg)	EPC (mg/kg)	EPC Rationale
PCBs																
	Total PCBs	2	2	100	NA	11	4	36.4%	0.034	1.44	MW-05	0.027	0.0535	1.7E-01	1.7E-01	Mean
TPH																
	TPH	1,000	1,000	10,000	NA	13	13	100.0%	26	**1200.02**	MW-05	--	--	3.0E+02	3.0E+02	Mean
Metals, total																
	Arsenic	20	20	200	20	10	2	20.0%	0.385	2.6	SS-01_Cygnus	15	22	7.2E+00	NA	Below background
	Barium	1,000	1,000	10,000	50	10	10	100.0%	12	950	CGW-13	--	--	1.6E+02	1.6E+02	Mean
	Cadmium	2	2	300	2	20	2	10.0%	1.2	1.8	CGW-14	0.425	9.4	1.0E+00	NA	Below background
	Chromium	30	30	2,000	30	26	25	96.2%	2.7	**350**	MCA-3	2	2	6.7E+01	1.1E+02	95% Approximate Gamma UCL
	Copper	NS	NS	NS	40	10	10	100.0%	3.7	37	MCA-5	--	--	1.7E+01	NA	Below background
	Lead	300	300	3,000	100	20	16	80.0%	12	260	MCA-5	8.55	16	5.8E+01	5.8E+01	Mean
	Mercury	20	20	300	0.3	10	6	60.0%	0.022	0.12	CGW-14	0.0098	0.013	3.5E-02	NA	Below background
	Nickel	20	20	7,000	20	16	15	93.8%	15	**1600**	MCA-3	2	2	2.7E+02	5.5E+02	95% Approximate Gamma UCL
	Zinc	2,500	2,500	10,000	100	10	10	100.0%	10	96	MCA-11	--	--	3.9E+01	NA	Below background

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.

Boxed maxima exceed natural soil background.

VOCs - Volatile Organic Compounds.

VPH - Volatile Petroleum Hydrocarbons.

EPH - Extractable Petroleum Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

UCLs - Upper concentration limits.

NS - No standard available for this compound.

Background - Background Concentration for natural soil.

EPC - Exposure point concentration.

Table 12
Summary Statistics for Soil -- 0 to 15 Foot Depth Interval (Raodway)
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	S-3/GW-2	S-3/GW-3	UCLs	Background	# of Samples	# of Detects	Freq. of Detects	Min. of Detects (mg/kg)	Max. of Detects (mg/kg)	Location of Max. Detected	Min. of Non-Detects (mg/kg)	Max. of Non-Detects (mg/kg)	Mean Concentration (mg/kg)	EPC (mg/kg)	EPC Rationale
VOCs																
	Dichloroethene, cis-1,2-	0.4	500	5,000	NA	4	1	25.0%	0.3	0.3	TRC-05	0.062	0.071	1.0E-01	1.0E-01	Mean
	Trichloroethylene (TCE)	2	2,000	10,000	NA	6	6	100.0%	0.016	**4.3**	CGW-08	--	--	1.5E+00	4.3E+00	Maximum
	Toluene	2000	3000	10,000	NA	4	1	25.0%	0.089	0.089	CGW-09	0.062	0.099	5.1E-02	5.1E-02	Mean
	Tetrachloroethylene (PCE)	10	1,000	10,000	NA	6	1	16.7%	0.0385	0.0385	CGW-08	0.015	0.071	2.5E-02	2.5E-02	Mean
TPH																
	TPH	5,000	5,000	10,000	NA	2	2	100.0%	280.04	430	MW-01	--	--	3.6E+02	3.6E+02	Mean
Metals, total																
	Arsenic	20	20	200	20	3	3	100.0%	0.105	0.53	CGW-07	--	--	3.3E-01	NA	Below background
	Barium	5,000	5,000	10,000	50	3	3	100.0%	8.2	24	CGW-07	--	--	1.7E+01	NA	Below background
	Chromium	200	200	2000	30	3	3	100.0%	4.15	17	CGW-09	--	--	8.6E+00	NA	Below background

Notes:
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
NS - No MassDEP standards exist for this analyte.
Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.
VOCs - Volatile Organic Compounds.
TPH - Total Petroleum Hydrocarbons.
UCLs - Upper concentration limits.
Background - Background Concentration for natural soil.
EPC - Exposure point concentration.

Table 13
Summary Statistics for Groundwater
Former Payne Cutlery Site
New Bedford, Massachusetts

Analysis	Analyte	GW-2	GW-3	UCL*	Background	# of Samples	# of Detects	Freq. of Detects	Min. of Detects (ug/L)	Max. of Detects (ug/L)	Location of Max. Detected	Min. of Non-Detects (ug/L)	Max. of Non-Detects (ug/L)	Mean Concentration (ug/L)	EPC (ug/L)	EPC Rationale
VOCs																
	Acetone	50,000	50,000	100,000	NA	15	1	6.7%	17.5	17.5	CGW-14	10	1000	6.6E+01	1.8E+01	Maximum of detects
	Dichloroethylene, 1,1-	80	30,000	100,000	NA	15	1	6.7%	1.5	1.5	CGW-11	1	100	6.4E+00	1.5E+00	Maximum of detects
	Dichloroethene, cis-1,2-	100	50,000	100,000	NA	15	11	73.3%	1.1	**3800**	CGW-08	1	1	3.1E+02	2.8E+02	99% Chebyshev (Mean, Sd) UCL
	Tetrachloroethylene (PCE)	50	30,000	100,000	NA	15	9	60.0%	0.95	**260**	CGW-08	1	1	3.4E+01	3.4E+01	Mean
	Trichloroethane, 1,1,1-	4,000	20,000	100,000	NA	15	1	6.7%	0.95	0.95	TRC-08	1	100	6.4E+00	9.5E-01	Maximum of detects
	Trichloroethylene (TCE)	30	5,000	50,000	NA	15	14	93.3%	0.9	**18000**	CGW-08	1	1	1.7E+03	6.3E+03	95% Adjusted Gamma UCL
	Vinyl Chloride	2	50,000	100,000	NA	15	1	6.7%	10.83	**10.83**	TRC-04	2	200	1.3E+01	1.1E+01	Maximum of detects
VPH																
	C5-C8 Aliphatics	3,000	50,000	100,000	NA	7	4	57.1%	130	**14500**	CGW-08	100	100	2.4E+03	2.4E+03	Mean
Metals, dissolved																
	Antimony	NS	8,000	80,000	NA	7	6	85.7%	360	510	MW-01	200	200	3.8E+02	3.8E+02	Mean
	Barium	NS	50,000	100,000	NA	23	19	82.6%	7.9	240	MW-02A	20	100	6.1E+01	6.1E+01	Mean
	Cadmium	NS	4	50	4.2	23	3	13.0%	1.8	**8**	MW-03	0.5	5	1.8E+00	1.8E+00	Mean
	Chromium	NS	300	3,000	4.9	23	2	8.7%	14	160	CGW-07	5	20	1.3E+01	1.3E+01	Mean
	Copper	NS	NS	NA	NA	7	2	28.6%	20	20	MW-01	20	20	1.3E+01	1.3E+01	Mean
	Lead	NS	10	150	8.8	23	2	8.7%	0.5	2.3	CGW-13	0.5	100	2.2E+01	NA	Below background
	Nickel	NS	200	2,000	NA	7	1	14.3%	6290	**6290**	MW-01	40	40	9.2E+02	6.3E+03	Maximum of detects
	Selenium	NS	100	1,000	NA	23	2	8.7%	2	5	MW-01	2	200	4.5E+01	5.0E+00	Maximum of detects
	Silver	NS	7	1,000	4.7	23	1	4.3%	10	**10**	MW-01	0.5	10	3.3E+00	3.3E+00	Mean
	Thallium	NS	3,000	30,000	NA	7	1	14.3%	150	150	MW-02	100	100	6.4E+01	6.4E+01	Mean

Notes:
ug/L - micrograms per liter.
NA - Not available or not applicable.
Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.
VOCs - Volatile Organic Compounds.
VPH - Volatile Petroleum Hydrocarbons.
UCL* - Upper Concentration Limit.
EPH - Extractable Petroleum Hydrocarbons.
EPC - Exposure point concentration.
UCL - Upper Confidence Limts on the Mean

Table 14
Exposure Point Concentrations for Indoor Air
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	8 Oneko Lane Current	8 Oneko Lane Future	350 Coffin Street Current	350 Coffin Street Future	357 Coffin Street Current	357 Coffin Street Future	358 Coffin Streeet Current	358 Coffin Street Future	362 Coffin Street Current	362 Coffin Street Future	364 Coffin Street Current	364 Coffin Street Future
COPC													
(ug/m^3)	Trichlorofluoromethane (Freon 11)	--	2.0E+01	8.4E+00	8.4E+00	--	--	4.0E+00	4.1E+00	--	--	--	--
	Trichloroethane, 1,1,1-	5.6E+00	2.3E+01	--	--	3.1E+00	7.8E+00	4.8E+00	6.7E+00	1.2E+01	8.7E+01	--	--
	Benzene	--	--	--	--	--	--	--	--	--	--	--	--
	Carbon Disulfide	--	--	--	--	--	--	--	--	--	--	--	--
	Ethanol	--	--	--	--	--	--	--	--	--	--	--	--
	Ethyl Acetate	--	--	--	--	--	--	--	--	--	--	--	--
	2-Hexanone	--	--	--	--	--	--	--	--	--	--	--	--
	Isopropanol	--	--	--	--	--	--	--	--	--	--	--	--
	Tetrahydrofuran	--	--	--	--	--	--	--	--	--	--	--	--
	Trichloroethene (TCE)	--	--	--	--	--	1.9E+00	--	--	--	--	--	--
	Toluene	1.3E+01	4.4E+01	4.4E+01	4.4E+01	--	--	1.4E+01	7.5E+01	3.2E+01	1.7E+02	4.3E+01	6.3E+01
	Tetrachloroethene (PCE)	--	--	--	--	--	--	--	--	--	--	2.1E-01 *	2.1E-01 *
	Ethylbenzene	2.4E+00	8.6E+00	4.9E+00	2.4E+01	--	--	--	1.5E+01	2.9E+00	3.3E+01	6.3E+00	1.2E+01
	Styrene	--	--	--	--	--	--	--	--	--	5.3E+00	--	--
	Methyl Ethyl Ketone	--	--	--	--	--	--	--	--	--	--	--	--
	C9-C10 Aromatics	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

-- Indicates that compound was either not detected in either round of sampling in the current living space and/or future living space.

ug/m^3 - micrograms per cubic meters.

COPC - Compound of Potential Concern.

* - The maximum soil vapor concentration attenuated by a factor of 70 was used as the indoor air concentration due to an indoor source.

+ - Maximum detected concetrations for the 2012 Tabor Mills data set, representative of future worst-case conditions assuming the negative-pressure system installed in 2013 fails to operate correctly.

Table 14
Exposure Point Concentrations for Indoor Air
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Tabor Mills 2012 - Future+	Tabor Mills 2013 - Current
COPC (ug/m^3)	Trichlorofluoromethane (Freon 11)	--	--
	Trichloroethane, 1,1,1-	1.2E+00	1.9E-01
	Benzene	9.4E-01	2.6E+00
	Carbon Disulfide	--	4.3E+00
	Ethanol	--	3.4E+03
	Ethyl Acetate	--	1.7E+01
	2-Hexanone	--	8.5E-01
	Isopropanol	--	1.9E+02
	Tetrahydrofuran	--	1.9E-01
	Trichloroethene (TCE)	1.5E+00	2.3E-01
	Toluene	--	--
	Tetrachloroethene (PCE)	--	3.1E-01
	Ethylbenzene	--	
	Styrene	--	9.0E-01
	Methyl Ethyl Ketone	9.6E+00	4.1E+00
	C9-C10 Aromatics	1.4E+01	7.2E+00

Notes:

-- Indicates that compound was either not detected in either rou

ug/m^3 - micrograms per cubic meters.

COPC - Compound of Potential Concern.

* - The maximum soil vapor concentration attenuated by a facto

+ - Maximum detected concetrations for the 2012 Tabor Mills c

Table 15
Summary of Receptor Risks and Hazards - Imminent Hazard Evaluation
Former Payne Cutlery Site
New Bedford, Massachusetts

Exposure Point	Scenario/ Receptor	Exposure Media	Exposure Pathway	ELCR	HI	Major contributors to risk/hazard
Former Payne Cutlery Property	Child Trespasser	0-1' Soil	Ingestion	6E-07	8E-02	N/A
			Dermal	3E-07	3E-02	
			Total	9E-07	1E-01	
8 Oneko Lane	Resident	Indoor Air	Inhalation	NA	4E-03	N/A
350 Coffin Avenue	Resident	Indoor Air	Inhalation	NA	2E-02	N/A
357 Coffin Avenue	Resident	Indoor Air	Inhalation	NA	6E-04	N/A
358 Coffin Avenue	Resident	Indoor Air	Inhalation	NA	9E-03	N/A
362 Coffin Avenue	Resident	Indoor Air	Inhalation	NA	9E-03	N/A
364 Coffin Avenue	Resident	Indoor Air	Inhalation	1E-07	1E-02	N/A
Tabor Mills	Resident	Indoor Air - 2013	Inhalation	2E-06	4E-01	N/A

Notes
Bolded values exceed a cancer risk of 1E-05 or a target organ HI of 10.
HI - Hazard Index
ELCR - Excess Lifetime Cancer Risk
(C) - Carcinogenic Risk
(NC) - Noncarcinogenic Risk
N/A - Not Applicable

Table 16
Summary of Receptor Risks and Hazards - Current Exposure Scenarios
Former Payne Cutlery Site
New Bedford, Massachusetts

Exposure Point	Scenario/ Receptor	Exposure Media	Exposure Pathway	ELCR	HI	Major contributors to risk/hazard
Former Payne Cutlery Property	Child Trespasser	0-3' Soil	Ingestion	8E-07	8E-02	N/A
			Dermal	4E-07	3E-02	
			Total	1E-06	1E-01	
	Utility Worker	0-15' Soil	Ingestion	2E-09	1E-01	N/A
			Dermal	1E-09	6E-02	
			Inhalation	3E-09	1E-02	
		Trench Air - Soil	Inhalation	2E-11	1E-02	
		Trench Air - Groundwater	Inhalation	2E-09	8E-01	
		Shallow Groundwater	Dermal	3E-09	4E-01	
			Total	1E-08	1E+00	
Roadway	Utility Worker	0-15' Soil	Ingestion	2E-11	2E-03	N/A
			Dermal	4E-12	9E-04	
			Inhalation	4E-13	8E-05	
		Trench Air - Soil	Inhalation	1E-12	1E-04	
		Trench Air - Groundwater	Inhalation	2E-09	8E-01	
		Shallow Groundwater	Dermal	3E-09	4E-01	
			Total	5E-09	1E+00	
8 Oneko Lane	Resident	Indoor Air	Inhalation	NA	6E-03	N/A
350 Coffin Avenue	Resident	Indoor Air	Inhalation	NA	3E-02	N/A
357 Coffin Avenue	Resident	Indoor Air	Inhalation	NA	6E-04	N/A
358 Coffin Avenue	Resident	Indoor Air	Inhalation	NA	9E-03	N/A
362 Coffin Avenue	Resident	Indoor Air	Ingestion	NA	1E-02	N/A
364 Coffin Avenue	Resident	Indoor Air	Ingestion	9E-07	2E-02	N/A
Tabor Mills	Resident	Indoor Air - 2013	Ingestion	1E-05	1E+00	N/A

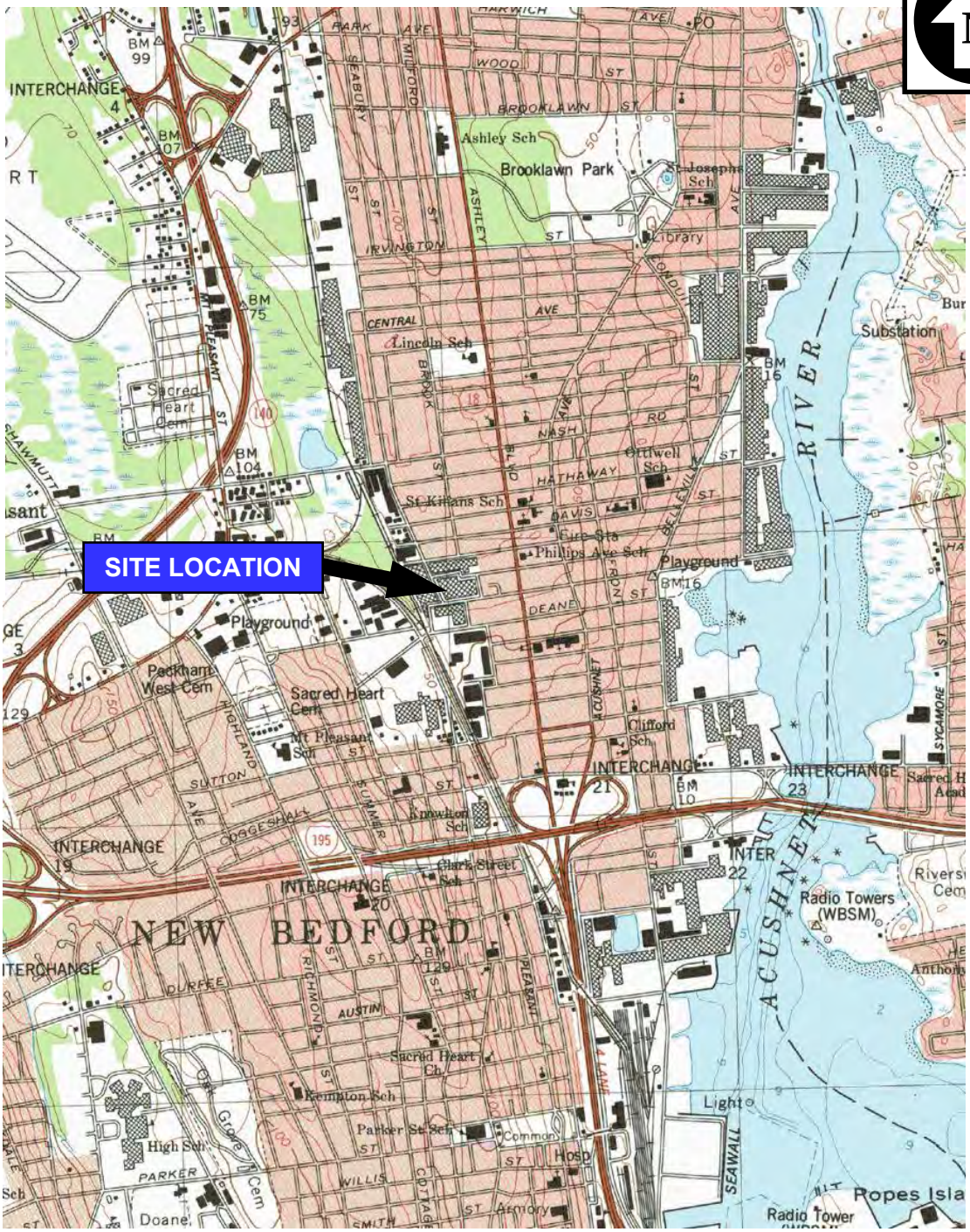
Notes
Bolded values exceed a cancer risk of 1E-05 or a target organ HI of 1.
HI - Hazard Index
ELCR - Excess Lifetime Cancer Risk
(C) - Carcinogenic Risk
(NC) - Noncarcinogenic Risk
N/A - Not Applicable

Table 17
Summary of Receptor Risks and Hazards - Future Exposure Scenarios
Former Payne Cutlery Site
New Bedford, Massachusetts

Exposure Point	Scenario/ Receptor	Exposure Media	Exposure Pathway	ELCR	HI	Major contributors to risk/hazard
Former Payne Cutlery Property	Park Visitor	0-3' Soil	Ingestion	1E-05	5E+00	(C) trichloroethylene, benzo(a)pyrene; (NC) trichloroethylene
			Dermal	6E-06	9E-01	
			Total	**2E-05**	**6E+00**	
	Commercial Worker	0-3' Soil	Ingestion	7E-06	4E-01	N/A
			Dermal	7E-07	3E-02	
			Inhalation	2E-06	2E-02	
			Total	1E-05	4E-01	
	Resident	0-3' Soil	Ingestion	2E-05	8E+00	(C) PCBs, trichloroethylene, benzo(a)pyrene; (NC) PCBs, trichloroethylene, lead, nickel
			Dermal	1E-05	2E+00	
			Produce	9E-05	2E+01	
			Total	**1E-04**	**3E+01**	
	Park Visitor	0-15' Soil	Ingestion	8E-06	2E+00	(NC) trichloroethylene
			Dermal	5E-06	5E-01	
			Total	1E-05	**3E+00**	
	Commercial Worker	0-15' Soil	Ingestion	5E-06	2E-01	N/A
			Dermal	5E-07	2E-02	
			Inhalation	2E-06	1E-02	
			Total	7E-06	3E-01	
	Resident	0-15' Soil	Ingestion	1E-05	4E+00	(C) PCBs, trichloroethylene, benzo(a)pyrene; (NC) PCBs, trichloroethylene, lead, nickel
			Dermal	8E-06	9E-01	
			Produce	6E-05	2E+01	
			Total	**8E-05**	**2E+01**	
	Construction Worker	0-15' Soil	Ingestion	3E-07	7E-01	(C) trichloroethylene
			Dermal	2E-07	3E-01	
			Inhalation	4E-07	6E-02	
		Trench Air - Soil	Inhalation	1E-09	2E-02	
		Trench Air - Groundwater	Inhalation	8E-07	1E+01	
		Shallow Groundwater	Dermal	4E-07	2E+00	
			Total	2E-06	**2E+01**	
	Utility Worker	0-15' Soil	Ingestion	2E-09	1E-01	N/A
			Dermal	1E-09	6E-02	
			Inhalation	3E-09	1E-02	
		Trench Air - Soil	Inhalation	2E-11	1E-02	
		Trench Air - Groundwater	Inhalation	2E-09	8E-01	
		Shallow Groundwater	Dermal	3E-09	4E-01	
			Total	1E-08	1E+00	
Roadway	Utility Worker	0-15' Soil	Ingestion	2E-11	2E-03	N/A
			Dermal	4E-12	9E-04	
			Inhalation	4E-13	8E-05	
		Trench Air - Soil	Inhalation	1E-12	1E-04	
		Trench Air - Groundwater	Inhalation	2E-09	8E-01	
		Shallow Groundwater	Dermal	3E-09	4E-01	
			Total	5E-09	1E+00	
8 Oneko Lane	Resident	Indoor Air	Inhalation	NA	5E-02	N/A
350 Coffin Avenue	Resident	Indoor Air	Inhalation	NA	5E-02	N/A
357 Coffin Avenue	Resident	Indoor Air	Inhalation	3E-06	9E-01	N/A
358 Coffin Avenue	Resident	Indoor Air	Inhalation	NA	4E-02	N/A
362 Coffin Avenue	Resident	Indoor Air	Ingestion	1E-06	9E-02	N/A
364 Coffin Avenue	Resident	Indoor Air	Ingestion	9E-07	3E-02	N/A
Tabor Mills	Resident	Indoor Air - 2012	Ingestion	6E-06	1E+00	N/A

Notes
Bolded values exceed a cancer risk of 1E-05 or a target organ HI of 1
HI - Hazard Index
ELCR - Excess Lifetime Cancer Risk
(C) - Carcinogenic Risk
(NC) - Noncarcinogenic Risk
N/A - Not Applicable

FIGURES



BASE MAP IS A PORTION OF THE FOLLOWING 7.5' X 15' USGS TOPOGRAPHIC QUADRANGLE: NEW BEDFORD NORTH, MA, 1979

0 1000 2000 3000

scale in feet

QUADRANGLE LOCATION

T:\E_CAD\47284\Payne ASTM Phase I\Payne-TOPO.ppt

FORMER PAYNE CUTLERY
295 PHILLIPS AVENUE
NEW BEDFORD, MASSACHUSETTS

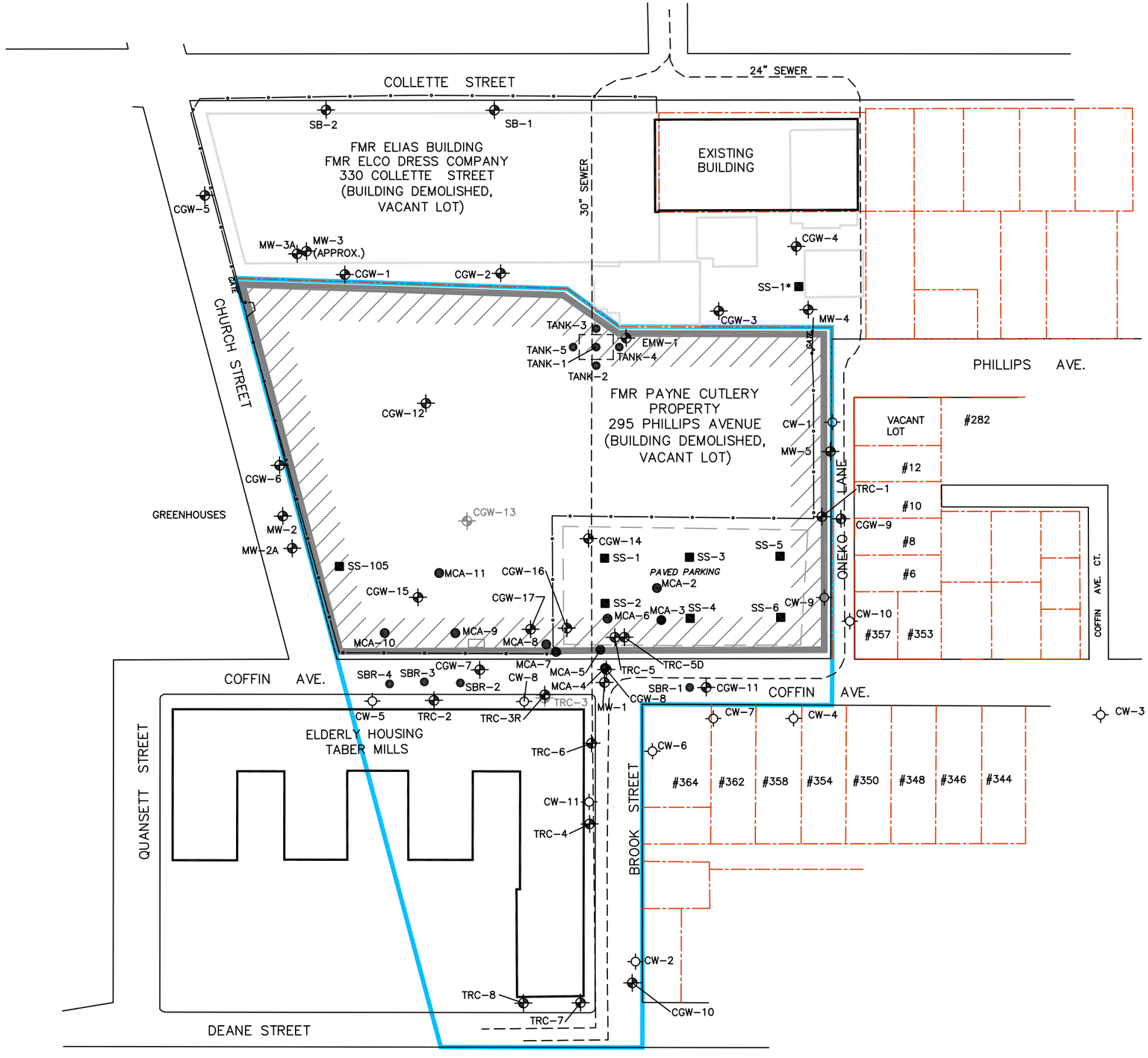
LOCUS MAP

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, Ma. 01854
(978) 970-5600

Drawn: HWB
Checked: DS

SCALE: AS SHOWN
Date 9/06/05

FIGURE 1



LEGEND:

CGW-13	ABANDONED OR DESTROYED MONITORING WELL
TRC-1	GROUNDWATER MONITORING WELLS
MCA-1	SOIL BORING
CW-1	MICROWELL (SOIL GAS/GROUNDWATER SCREENING)
SS-2	SURFACE SOIL SAMPLE
	DELINEATES APPROXIMATE BOUNDARY OF FORMER PAYNE CUTLERY PROPERTY
	APPROXIMATE FORMER BUILDING FOOTPRINT
	APPROXIMATE UST EXCAVATION (2001)
	FENCE
	PROPERTY LINE
	APPROXIMATE DISPOSAL SITE BOUNDARY

NOTE:

SS-1* SURFACE SOIL SAMPLE COLLECTED BY CYGNUS GROUP, INC. IN 2001

APPROXIMATE GRAPHIC SCALE

0' 50' 100' 200'

FORMER PAYNE CUTLERY
295 PHILLIPS AVENUE
NEW BEDFORD, MA.

DISPOSAL SITE PLAN

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
(978) 970-5600

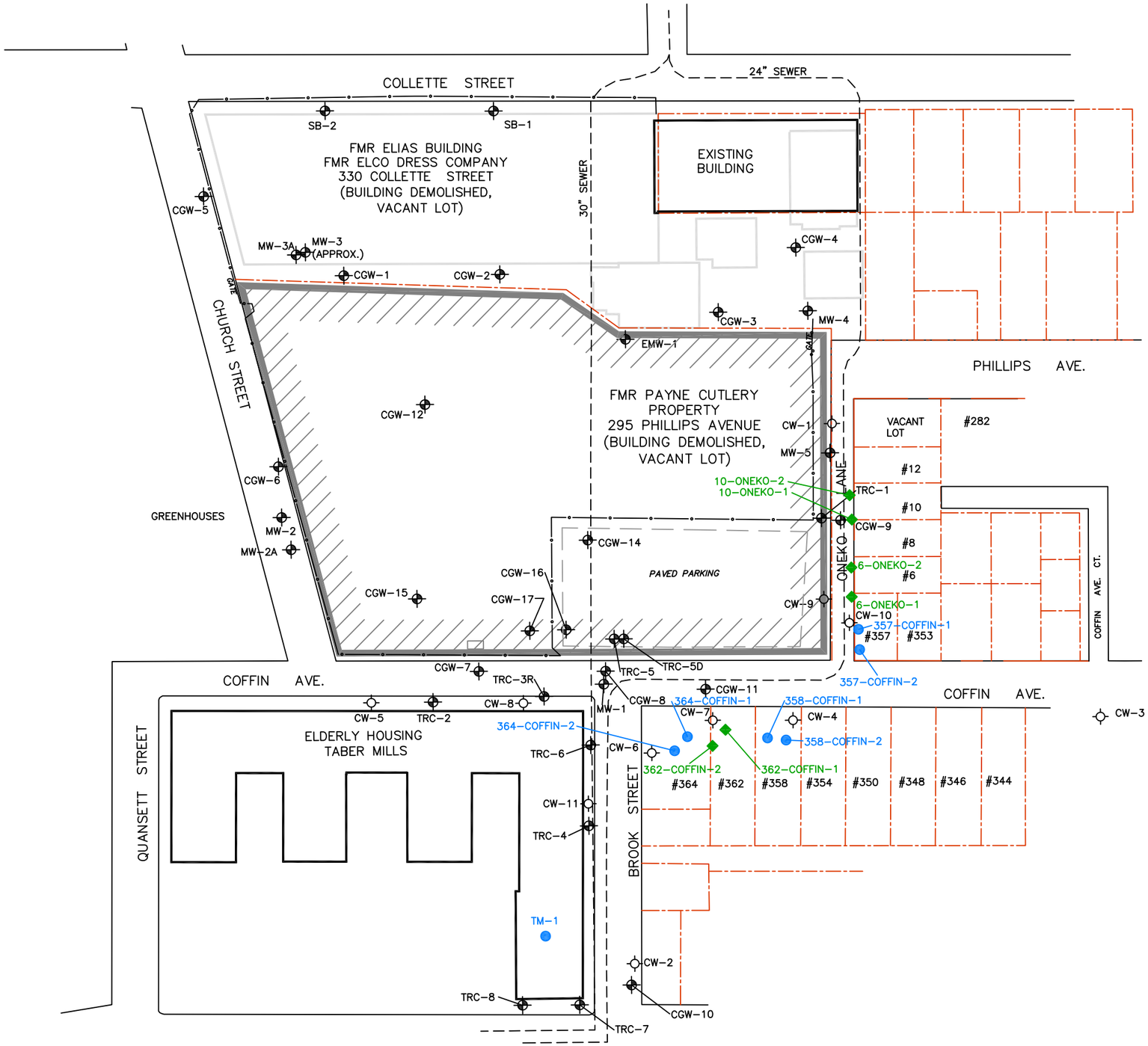
FIGURE 2

DRAWN BY: HWB

CHECKED BY: JBS

DATE: SEPT 2013

FILE: T:\E_CAD\17274A\DISP SITE 2013-09-24.dwg



LEGEND:

TRC-1	EXISTING GROUNDWATER MONITORING WELLS
CW-1	MICROWELL (SOIL GAS/GROUNDWATER SCREENING)
6-ONEKO-2	TRC OUTDOOR SOIL GAS SAMPLE
358-COFFIN-2	TRC INDOOR SOIL GAS SAMPLE
	DELINEATES APPROXIMATE BOUNDARY OF FORMER PAYNE CUTLERY PROPERTY
	APPROXIMATE FORMER BUILDING FOOTPRINT
	FENCE
	PROPERTY LINE

APPROXIMATE GRAPHIC SCALE

0' 50' 100' 200'

FORMER PAYNE CUTLERY
295 PHILLIPS AVENUE
NEW BEDFORD, MA.

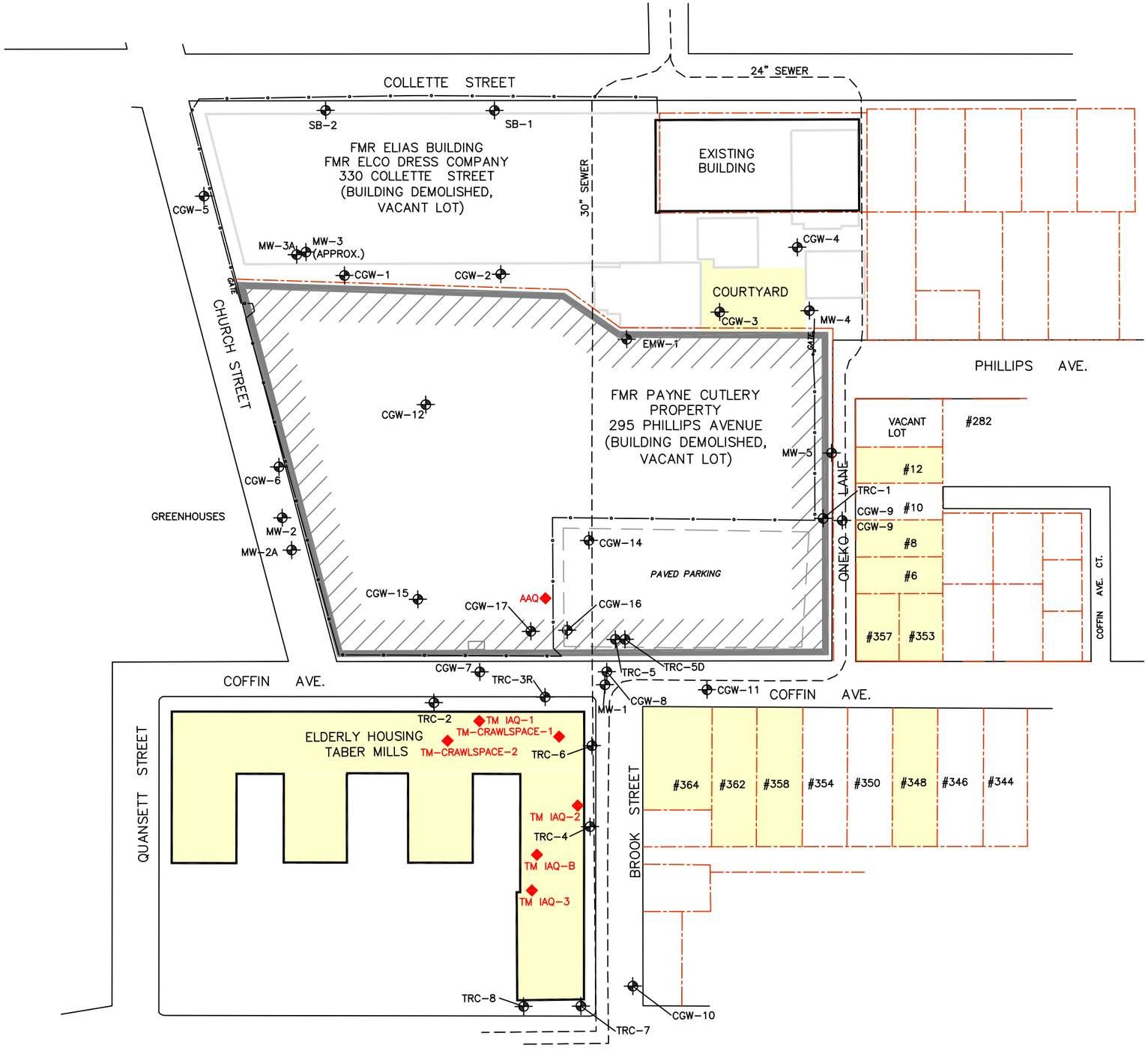
SOIL GAS SAMPLE LOCATIONS

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
(978) 970-5600

FIGURE 3

DRAWN BY: HWB
CHECKED BY: JBS
DATE: AUG 2013

FILE: T:\E_CAD\172744\SOIL GAS LOCS 2013-08-20.dwg



LEGEND:

TRC-1	GROUNDWATER MONITORING WELLS
TM IAQ-B	APPROXIMATE TRC INDOOR AIR SAMPLE LOCATION
	HISTORICAL INDOOR AIR SAMPLING LOCATION
	DELINEATES APPROXIMATE BOUNDARY OF FORMER PAYNE CUTLERY PROPERTY
	APPROXIMATE FORMER BUILDING FOOTPRINT
	FENCE
	PROPERTY LINE

APPROXIMATE GRAPHIC SCALE

0' 50' 100' 200'

FORMER PAYNE CUTLERY
295 PHILLIPS AVENUE
NEW BEDFORD, MA.

INDOOR AIR SAMPLE LOCATIONS

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
(978) 970-5600

FIGURE 4

DRAWN BY: HWB

CHECKED BY: JBS

DATE: SEPT 2013

FILE: T:\E_CAD\17274A\INDOOR AIR SAMPS 2013-09-16.dwg

Roads: Limited Access, Multi-Lane, Major/Minor, Track, Trail
Railroad, Pipline, Powerline
Major Basin, Sub Basin, Perennial Stream, Intermittent Stream, Shoreline, Man made Shore, Dam, Aqueduct
Wetland, Salt Wetland, Submerged Wetland, Open Water, Reservoir, Tidal Flat/Shoal
Potentially Productive Aquifers: Medium, High Yield
Non-Potential Drinking Water Source Area: Medium, High Yield
EPA Sole Source Aquifer, FEMA 100 Yr. Floodplain, DEP Solid Waste Facility
Approved Zone II, IWPA, Surface Water Supply Zone A
Protected Open Space, ACEC
Priority Habitat, Certified Vernal Pool
Boundaries: County and Town
Public Water Supplies: Ground, Surface, Non-Community (NTNC, TNC) Source: MassGIS/EOEA

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
978-970-5600

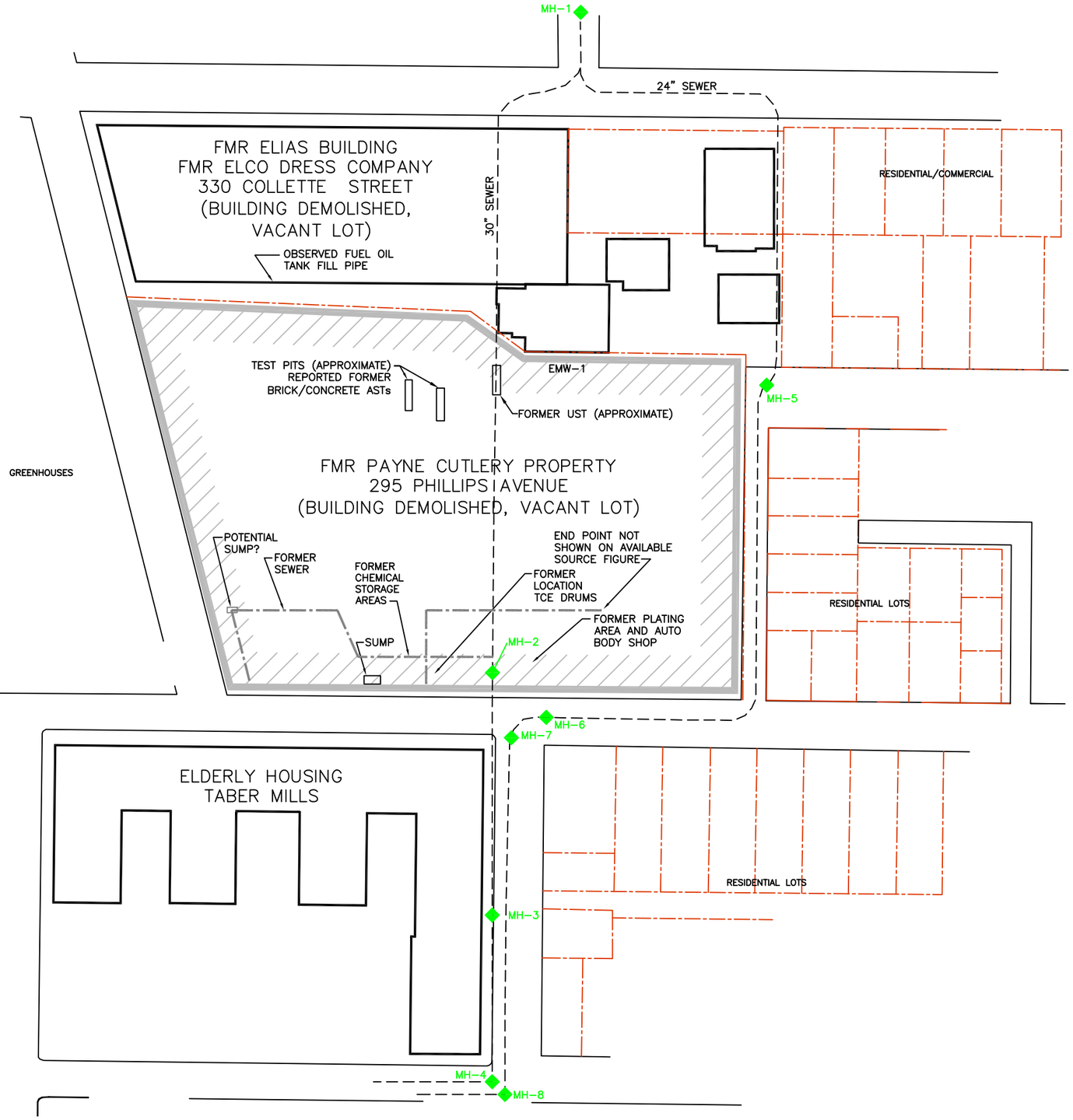
FIGURE 5

NRS SCORING MAP
FORMER PAYNE CUTLERY SITE
295 PHILLIPS AVENUE
NEW BEDFORD, MA

0 500 1,000 1,500
Feet

SEPT 2013

R:\Projects\GIS_2012\172744_Payne_NewBedford_MA\MXD\NRS_Scoring_2013_09_23.mxd



LEGEND:

MH-2 ◆ PRE-INJECTION SEWER SAMPLE LOCATION

APPROX. LOCATION OF SEWER LINE

APPROX. LOCATION OF FORMER SEWER LINE

NOTE:

BASE MAP WAS DIGITIZED FROM A COPY OF AN UNDATED PLAN ENTITLED "SITE PLAN" PREPARED BY CYGNUS GROUP OF SOUTHBOROUGH, MA. FIG 2 ORIGINAL SCALE 1"=50'.

APPROXIMATE GRAPHIC SCALE

0' 50' 100' 200'

FORMER PAYNE CUTLERY
295 PHILLIPS AVENUE
NEW BEDFORD, MA

PRE-INJECTION SEWER SAMPLING LOCATIONS

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
(978) 970-5600

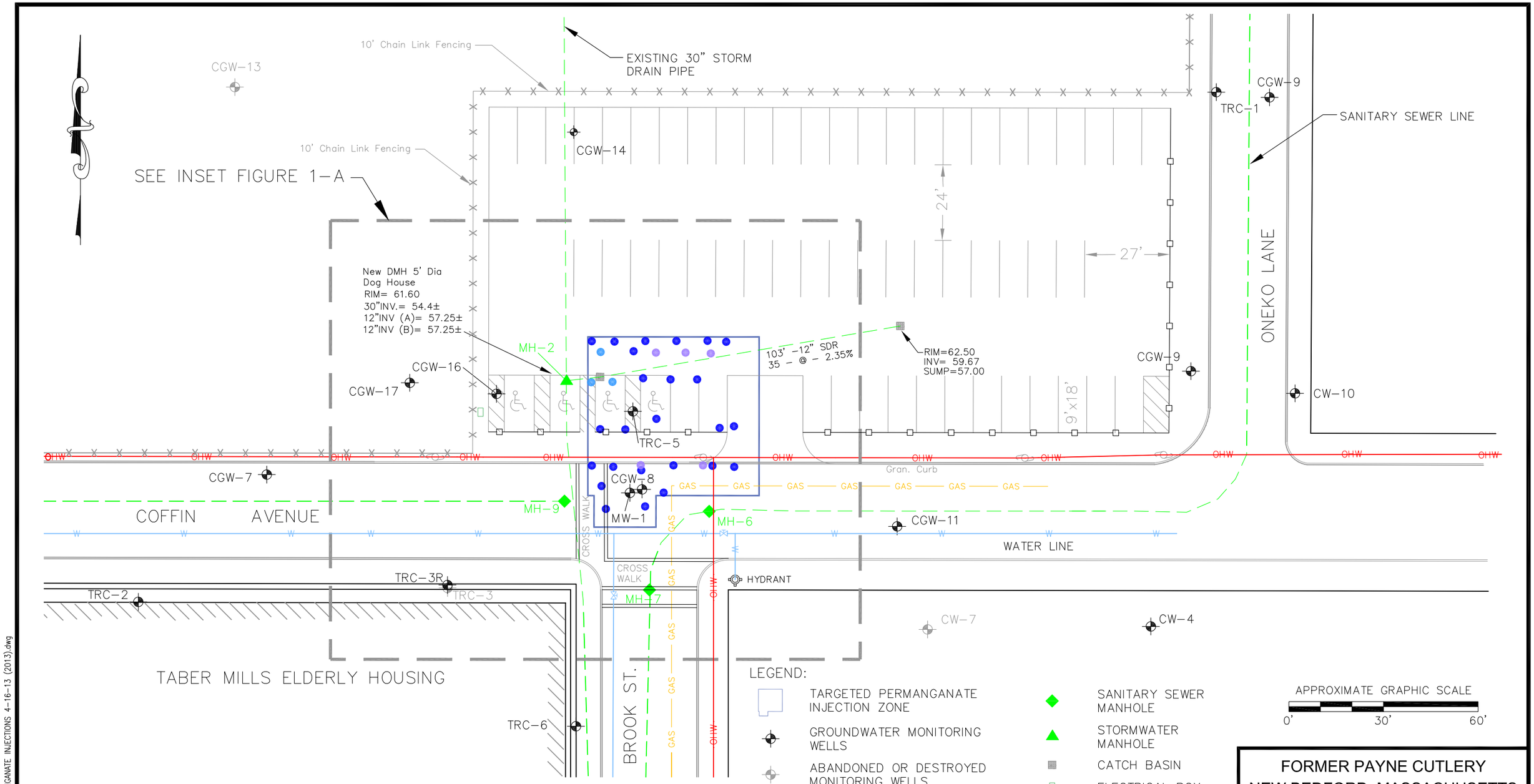
DRAWN BY: HWB

CHECKED BY: JBS

DATE: JUNE 2013

FIGURE 6

FILE: T:\E_CAD\172744\SEWER_SAMP_LOCS 2013 06 17.dwg



LEGEND:

- TARGETED PERMANGANATE INJECTION ZONE
- GROUNDWATER MONITORING WELLS
- ABANDONED OR DESTROYED MONITORING WELLS
- POTASSIUM PERMANGANATE PRE-INJECTION POINT
- PRE-INJECTION POINT (LOCATION NOT DRILLED DUE TO SITE CONDITIONS)
- GEOPROBE REFUSAL (INJECTION POINT ABANDONED OR RELOCATED)
- SANITARY SEWER MANHOLE
- STORMWATER MANHOLE
- CATCH BASIN
- ELECTRICAL BOX
- CHAIN LINK FENCE
- STEEL FENCE

APPROXIMATE GRAPHIC SCALE

0' 30' 60'

NOTES:

1. DRAWING BASED ON "TABER MILLS ELDERLY HOUSING, PARKING LOT AND DRAINAGE DESIGN" PREPARED BY CITY OF NEW BEDFORD DEPARTMENT OF PUBLIC INFRASTRUCTURE, ENGINEERING DIVISION, DATED OCTOBER, 2009, REVISED NOVEMBER 2009.
2. ALL UTILITIES ARE APPROXIMATE.
3. ALL INJECTION POINT LOCATIONS ARE APPROXIMATE.
4. SANITARY SEWER MANHOLE MH-7 AND STORMWATER MANHOLE MH-3 (NOT SHOWN) MONITORED DAILY THROUGHOUT INJECTION ACTIVITIES FOR THE PRESENCE OF POTASSIUM PERMANGANATE.
5. MONITORING WELLS CGW-11, CGW-14, TRC-3R, TRC-4 (NOT SHOWN) AND TRC-6 MONITORED FOR THE PRESENCE OF GROUNDWATER MOUNDING AND POTASSIUM PERMANGANATE.

FORMER PAYNE CUTLERY
NEW BEDFORD, MASSACHUSETTS

POTASSIUM PERMANGANATE PRE-INJECTION LOCATIONS (MARCH 2013)

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
(978) 970-5600

FIGURE 7

DRAWN BY: HWB
CHECKED BY: JBS
DATE: APRIL 2013

FILE: T:\E_CAD\172744\PAYNE PERMANGANATE INJECTIONS 4-16-13 (2013).dwg

TRC #2	3/14/2013
Gallons	232

TRC #1	3/13/2013
Gallons	83

TRC #13	3/13/2013
Gallons	350

TRC #18	3/15/2013
Gallons	375

TRC #17	3/14/2013
Gallons	350

TRC #16	3/15 & 16/2013
Gallons	1073

TRC #23	3/15/2013
Gallons	483

TRC #21	3/13/2013
Gallons	350

TRC #22	3/16/2013
Gallons	330

TRC #27	3/15/2013
Gallons	200

TRC #29	3/13/2013
Gallons	500

TRC #7	3/16/2013
Gallons	377

TRC #3	3/13/2013
Gallons	533

TRC #14	3/16/2013
Gallons	721

TRC #4	3/15/2013
Gallons	325

TRC #5	3/13/2013
Gallons	484

TRC #10	3/15 & 16/2013
Gallons	958

TRC #15	3/14/2013
Gallons	350

TRC #20	3/14 & 15/2013
Gallons	600

TRC #19	3/16/2013
Gallons	472

TRC #24	3/14/2013
Gallons	500

TRC #25	3/15/2013
Gallons	110

TRC #26	3/13/2013
Gallons	0
	(Drill Rod Daylighting)

TRC #28	3/16/2013
Gallons	0
	(Drill Rod Daylighting)

TRC #30	3/14/2013
Gallons	400

CGW-16
CGW-17
MH-2
MH-9
MH-6
MH-7
CGW-8
MW-1
TRC-5
TRC-3R
TRC-3
#1 #2 #3 #4 #5 #6 #7 #8R #9R #10R #10 #11 #12 #13 #14 #15 #16 #17 #18 #19 #20 #21 #22 #23 #23R #24 #25 #25R #26 #27 #28 #29 #30
OHW
W
GAS
COFFIN AVENUE
TABER MILL
HYDRANT

LEGEND:

- TARGETED PERMANGANATE INJECTION ZONE
- CGW-17 — GROUNDWATER MONITORING WELLS
- TRC-3 — ABANDONED OR DESTROYED MONITORING WELL
- #14 — POTASSIUM PERMANGANATE PRE-INJECTION POINT
- #6 — PRE-INJECTION POINT (LOCATION NOT DRILLED DUE TO SITE CONDITIONS)
- #11R — GEOPROBE REFUSAL (INJECTION POINT ABANDONED OR RELOCATED)
- MH-9 — SANITARY SEWER MANHOLE
- MH-2 — STORMWATER MANHOLE
- CATCH BASIN
- ELECTRICAL BOX
- CHAIN LINK FENCE
- STEEL FENCE

INJECTION POINT DATE(S)

TRC #10	3/15 & 16/2013
Gallons	958

GALLONS OF POTASSIUM PERMANGANATE SOLUTION (5-5.5%) APPROXIMATE VOLUME

NOTES:
1. DRAWING BASED ON "TABER MILLS ELDERLY HOUSING, PARKING LOT AND DRAINAGE DESIGN" PREPARED BY CITY OF NEW BEDFORD DEPARTMENT OF PUBLIC INFRASTRUCTURE, ENGINEERING DIVISION, DATED OCTOBER, 2009, REVISED NOVEMBER 2009.
2. ALL UTILITIES ARE APPROXIMATE.
3. ALL INJECTION POINT LOCATIONS ARE APPROXIMATE.

APPROXIMATE GRAPHIC SCALE
0' 15' 30'

FORMER PAYNE CUTLERY
NEW BEDFORD, MASSACHUSETTS

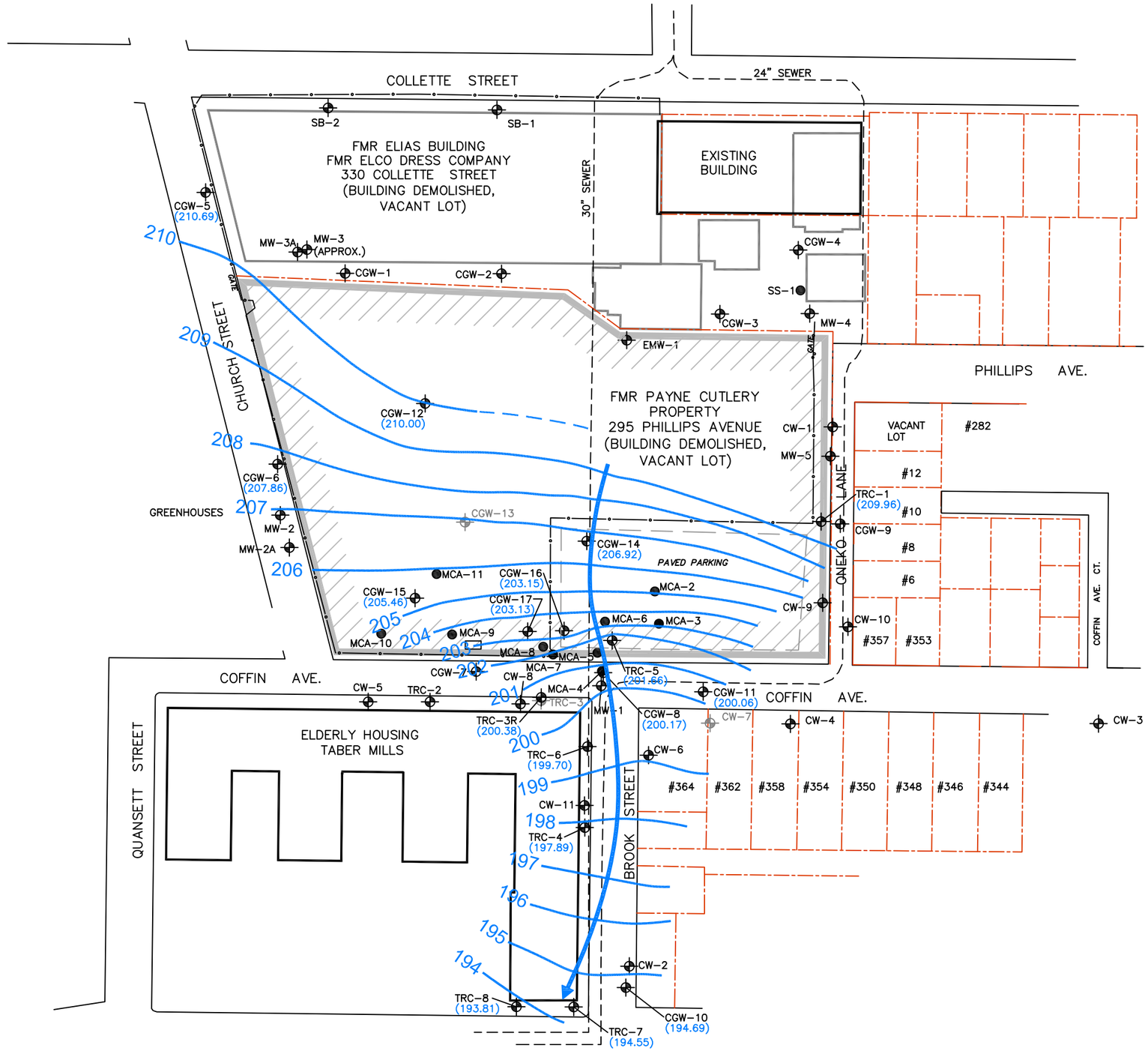
POTASSIUM PERMANGANATE PRE-INJECTION LOCATIONS
INSET AND APPROXIMATE REMEDIAL ADDITIVE VOLUME

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
(978) 970-5600

DRAWN BY: HWB
CHECKED BY: JBS
DATE: APRIL 2013

FIGURE 7A

FILE: T:\E_CAD\172744\PAYNE PERMANGANATE INJECTIONS 4-16-13 (2013).dwg THIS DRAWING REFERENCES BUT IS NOT LINKED TO T:\E_CAD\172744\PAYNE INJECTION VOLUME DATABOXES.xlsx



LEGEND:

CGW-13	ABANDONED OR DESTROYED MONITORING WELL
CW-5 (210.69)	GROUNDWATER MONITORING WELLS (RELATIVE GROUNDWATER ELEVATION 2-25-13)
MCA-1	SOIL BORING
209	GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
	INFERRED GROUNDWATER FLOW DIRECTION
	DELINEATES APPROXIMATE BOUNDARY OF FORMER PAYNE CUTLERY PROPERTY
	FOOTPRINT OF FORMER BUILDING
	FENCE
	PROPERTY LINE

APPROXIMATE GRAPHIC SCALE

0' 50' 100' 200'

FORMER PAYNE CUTLERY
295 PHILLIPS AVENUE
NEW BEDFORD, MA.

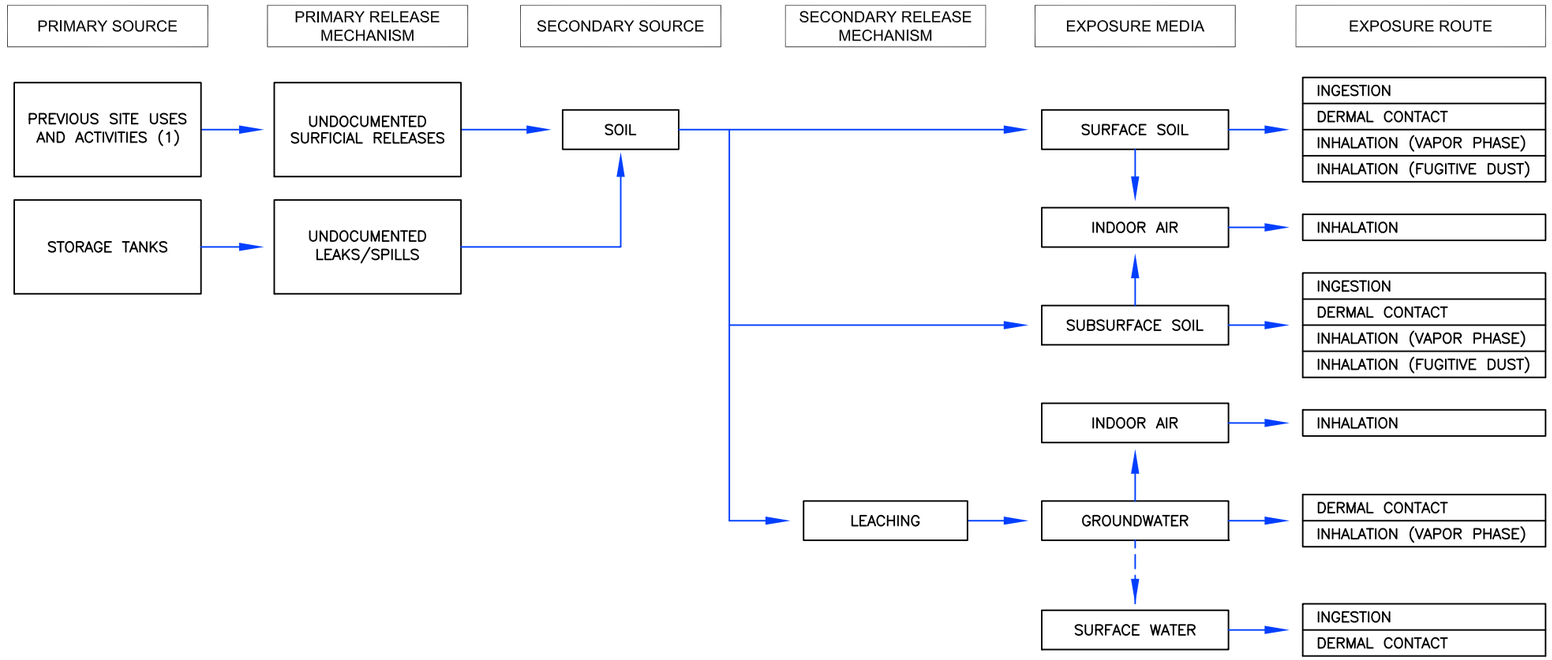
ESTIMATED GROUNDWATER CONTOUR MAP
(FEBRUARY 25, 2013)

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
(978) 970-5600

FIGURE 8

DRAWN BY: HWB
CHECKED BY: JBS
DATE: APR 2013

FILE: T:\E_CAD\172744\GW CONTOURS 2013-02-25 (2013).dwg



POTENTIAL HUMAN RECEPTORS										POTENTIAL ECOLOGICAL RECEPTORS	
CURRENT			FUTURE*							CURRENT/FUTURE	
						WORKER				TERRESTRIAL	AQUATIC
RESIDENT (OFF-PROPERTY)	TRESPASSER	UTILITY WORKER	PARK VISITOR	RESIDENT (ON-PROPERTY)	RESIDENT (OFF-PROPERTY)	COMMERCIAL	UTILITY	CONSTRUCTION	PLANTS	ANIMALS	
	X	X	X	X		X	X	X	X	X	
	X	X	X	X		X	X	X	X	X	
		X					X	X			
		X				X	X	X			
			0	0		0					
		X	X	X		X	X	X			
		X	X	X		X	X	X			
		X					X	X			
		X				X	X	X			
X			0	0	X	0					
		X					X	X			
		X					X	X			
											X
											X

NOTES:

(1) INCLUDES ELECTROPLATING, METAL WORK, CHEMICAL STORAGE, DEGREASING, AND TRENCH DRAIN USAGE

X POTENTIALLY COMPLETE EXPOSURE PATHWAYS IDENTIFIED

CURRENTLY ASSUMED TO BE AN INCOMPLETE PATHWAY

* ASSUMES UNRESTRICTED FUTURE USE

0 FUTURE PATHWAY NOT ASSESSED, TO BE CONTROLLED WITH ACTIVITY AND USE LIMITATION

FORMER PAYNE CUTLERY
245 PHILLIPS AVENUE
NEW BEDFORD, MASSACHUSETTS

SCHEMATIC
CONCEPTUAL SITE MODEL

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
(978) 970-5600

FIGURE
9

DRAWN BY: HWB
CHECKED BY: JBS
DATE:
SEPT 2013

FILE: T:\E_CAD\172744\PAYNE SCHEMATIC SITE MODEL.dwg

Figure 10
Compounds of Potential Concern Selection for Indoor Air
Former Payne Cutlery Site
New Bedford, Massachusetts

GROUNDWATER

Site-Wide
Trichlorofluoromethane (Freon 11)
Acetone
Dichloroethylene, 1,1-
Methylene Chloride
Methyl T-Butyl Ether (MTBE)
Methyl Ethyl Ketone (MEK)
Dichloroethene, cis-1,2-
Chloroform
Trichloroethane, 1,1,1-
Trichloroethylene (TCE)
Methyl Isobutyl Ketone (MIBK)
Toluene
Hexanone (MNBK), 2-
Tetrachloroethylene (PCE)
Chlorobenzene
Ethylbenzene
Xylenes (total)
Propylbenzene, n-
Trimethylbenzene, 1,3,5-
Trimethylbenzene, 1,2,4-
Butylbenzene, sec-
Isopropyltoluene, p- (Cymene)
Butylbenzene, n-
Naphthalene
C5-C8 Aliphatics
C9-C12 Aliphatics
C9-C10 Aromatics

SOIL GAS

Residential Area/Tabor Mills

Site-Wide Detections
Acetone
Methylene Chloride
Methyl Ethyl Ketone (MEK)
Chloroform
1,1,1-Trichloroethane
Benzene
Bromodichloromethane
Trichloroethylene
Toluene
Tetrachloroethylene
Xylenes (total)
Styrene
1,4-Dichlorobenzene
1,2-Dichlorobenzene
1,2,4-Trichlorobenzene
Naphthalene
C5-C8 Aliphatics
C9-C12 Aliphatics
C9-C10 Aromatics

Additional Site-related
Ethylbenzene
Trichlorofluoromethane (Freon 11)
Trimethylbenzene, 1,3,5-
Trimethylbenzene, 1,2,4-

INDOOR AIR

Residential Area/Tabor Mills

Site-Wide Detections
Dichlorodifluoromethane (Freon 12)
Chloromethane
Freon-114
Trichlorofluoromethane (Freon 11)
Chloroethane
Freon-113
Chloroform
Trichloroethane, 1,1,1-
Dichloroethane, 1,2-
Benzene
Carbon Disulfide
Carbon Tetrachloride
Ethanol
Ethyl Acetate
Hexanone (MNBK), 2-
Isopropanol
Methylene Chloride
Methyl Isobutyl Ketone (MIBK)
Tetrahydrofuran
Trichloroethylene (TCE)
Toluene
Tetrachloroethylene (PCE)
Ethylbenzene
Xylenes (total)
Styrene
Trimethylbenzene, 1,3,5-
Trimethylbenzene, 1,2,4-
Dichlorobenzene, 1,4-
Acetone
1,3-Butadiene
Methyl Ethyl Ketone (MEK)
Naphthalene
C5-C8 Aliphatics
C9-C12 Aliphatics
C9-C10 Aromatics

Not Considered Site Related
Dichlorodifluoromethane (Freon 12)
Chloromethane
Freon-114
Chloroethane
Freon-113
1,2-Dichloroethane
1,3-Butadiene
Carbon Tetrachloride

POTENTIAL INDOOR AIR COPCs **

Residential Area
Trichlorofluoromethane (Freon 11)
Trichloroethane, 1,1,1-
Trichloroethylene (TCE)
Toluene
Tetrachloroethylene (PCE)
Ethylbenzene
Styrene
Benzene
Chloroform
Dichlorobenzene, 1,4-
Xylenes (total)
Trimethylbenzene, 1,3,5-
Trimethylbenzene, 1,2,4-

Not Detected/Not Sampled
Acetone
Carbon Disulfide
Ethanol
Ethyl Acetate
Hexanone (MNBK), 2-
Isopropanol
Methylene Chloride
Methyl Isobutyl Ketone (MIBK)
Tetrahydrofuran
Methyl Ethyl Ketone (MEK)
Naphthalene
C5-C8 Aliphatics
C9-C12 Aliphatics
C9-C10 Aromatics

Exceptions
364 Coffin Avenue
Tetrachloroethylene

INDOOR AIR COPCs

Tabor Mills Building
Trichloroethane, 1,1,1-
Benzene
Trichloroethylene (TCE)
Styrene
Tetrachloroethylene
Methyl Ethyl Ketone (MEK)
C9-C10 Aromatics

No Groundwater/Soil Gas Data
Carbon Disulfide
Ethanol
Ethyl Acetate
Hexanone (MNBK), 2-
Isopropanol
Tetrahydrofuran

Indoor/Outdoor Source
Acetone
Chloroform
Dichlorobenzene, 1,4-; (p-DCB)
Ethylbenzene
Methylene Chloride
Methyl Isobutyl Ketone (MIBK)
Naphthalene
Toluene
Trichlorofluoromethane (Freon 11)
Xylenes (total)
C5-C8 Aliphatics
C9-C12 Aliphatics

NOTES:

Only detected compounds shown.

Shaded values indicate exceedance of GW-2 Standard (groundwater)/soil gas screening value (soil gas)/IATV (indoor air).

Additional compounds, not part of the groundwater analytical program or with elevated reporting limits in groundwater, that are considered potentially site-related.

Compounds not detected in site-wide groundwater or soil gas and therefore, not considered site-related.

High probability that an indoor source is present due to significatly higher levels in indoor air than soil gas

Evaluated using an attenuated soil vapor concentration as the indoor air concentrations are due at least partially to a potential indoor source.

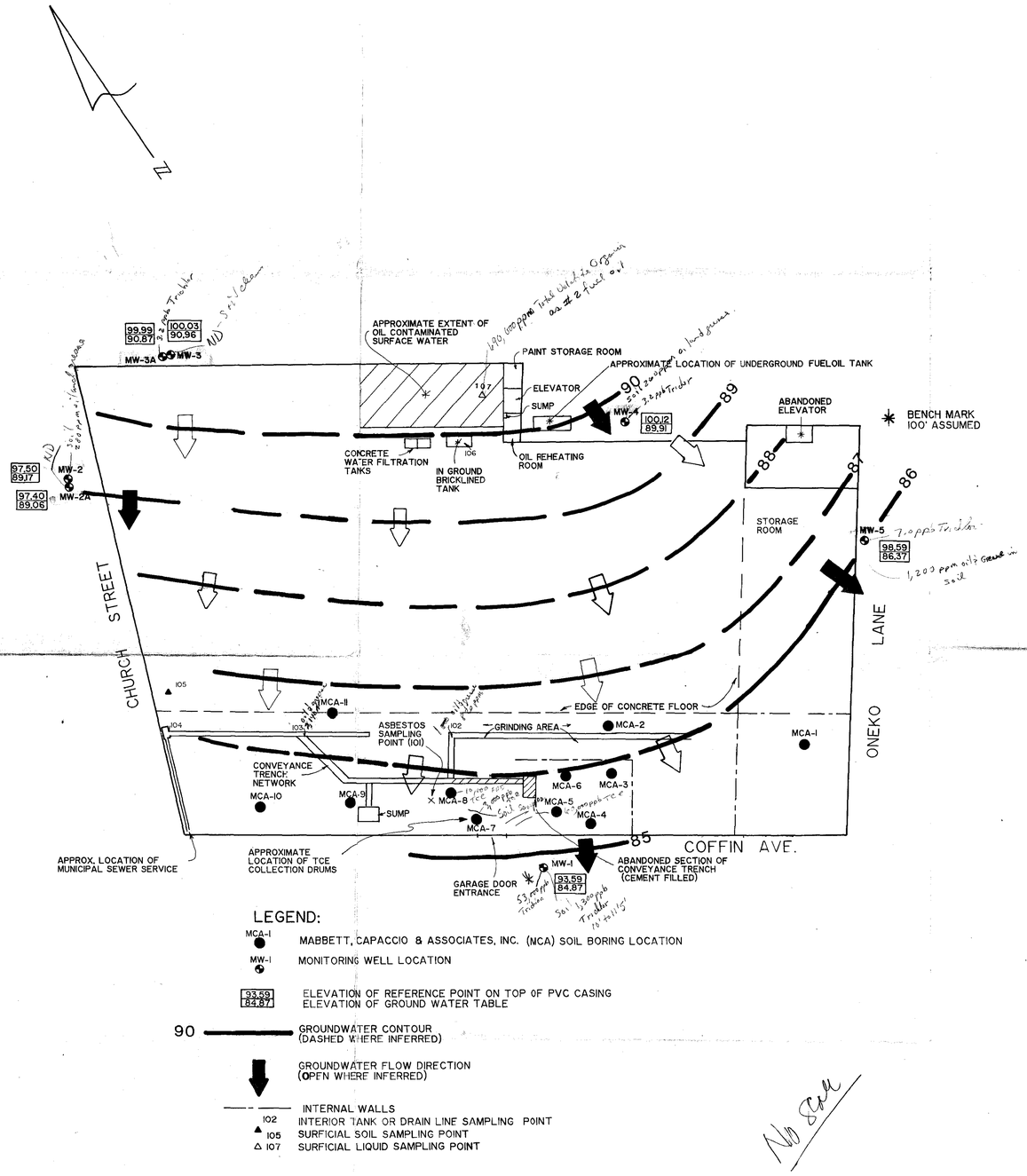
IATV - Indoor Air Threshold Value

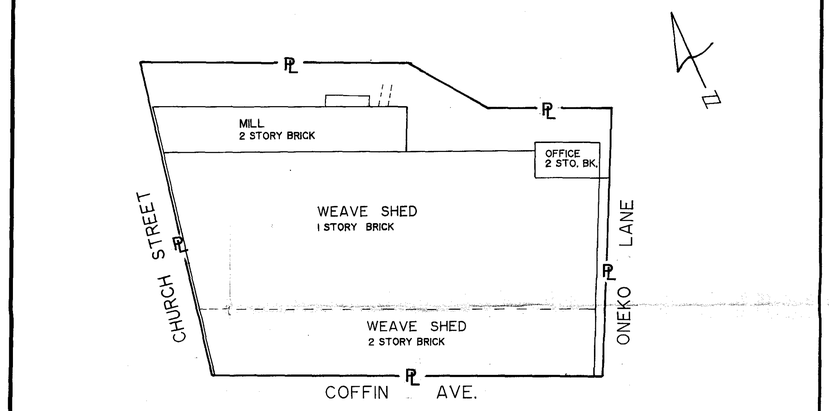
COPC - Compound of Potential Concern

** - Final indoor air COPCs are selected for each building. See Appendix H-1, Table H-1.8 for final selection process.

APPENDIX A

HISTORIC SITE FIGURES





NOT TO SCALE

LEGEND:

- MCA-I — MABBETT, CAPACCIO & ASSOCIATES, INC. (MCA) SOIL BORING LOCATION
- MW-I — MONITORING WELL LOCATION
- 93.59 / 84.87 — ELEVATION OF REFERENCE POINT ON TOP OF PVC CASING / ELEVATION OF GROUND WATER TABLE
- 90 — GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION (OPEN WHERE INFERRED)
- INTERNAL WALLS
- 102 — INTERIOR TANK OR DRAIN LINE SAMPLING POINT
- 105 — SURFICIAL SOIL SAMPLING POINT
- 107 — SURFICIAL LIQUID SAMPLING POINT

NOTES:

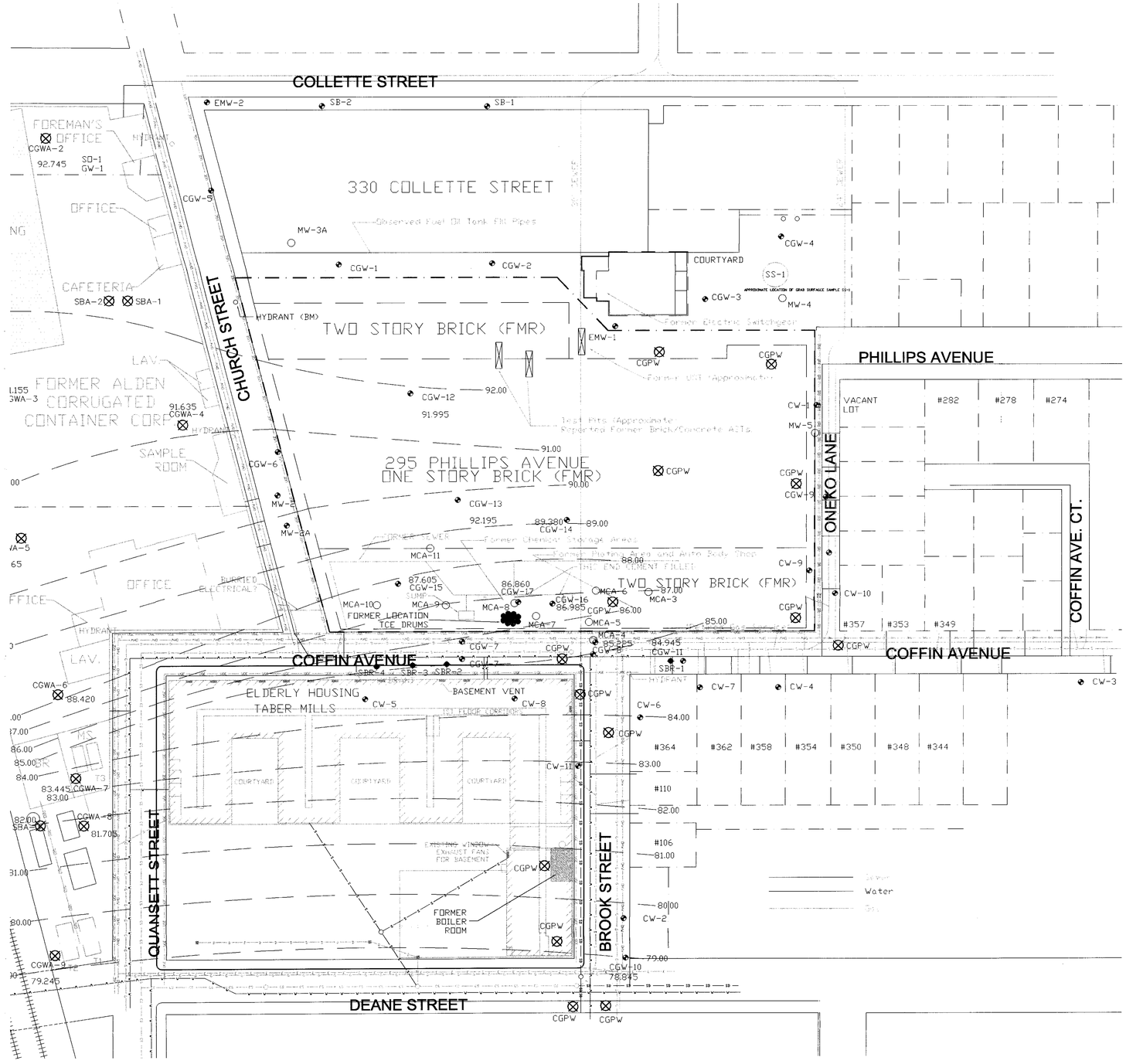
1) SITE PLAN DEPICTS BASEMENT LEVEL SITE FEATURES.
2) ALL LOCATIONS AND DIMENSIONS OF SITE FEATURES AND PROPERTY LINES ARE APPROXIMATE ONLY.
3) GROUNDWATER ELEVATIONS ARE BASED ON AN ASSUMED BENCHMARK, ELEVATION OF 100.0' FEET ABOVE MEAN SEA LEVEL. THE BENCHMARK IS LOCATED AT THE NORTHEAST CORNER OF THE BUILDING.
4) GROUNDWATER CONTOURS ARE BASED UPON MEASUREMENTS TAKEN ON 7/14/87.
5) GROUNDWATER CONTOURS AND FLOW DIRECTION SHOWN ASSUME HOMOGENOUS AND ISOTROPIC AQUIFER CONDITIONS AND HORIZONTAL FLOW.
6) GROUNDWATER CONTOURS ARE INTERPOLATED BETWEEN DATA POINTS AND INFERRED IN OTHER AREAS.
7) WATER LEVEL READINGS WERE MADE IN MONITORING WELLS ON THE DATE INDICATED. FLUCUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO FACTORS NOT ACCOUNTED FOR AT THE TIME MEASUREMENTS WERE MADE.

REV	DATE	DESCRIPTION	BY	APP

GHR ENGINEERING CORPORATION
75 TARKILN HILL ROAD
NEW BEDFORD, MA. 02745
DWN. BY: KLO CHK BY: JSH
DSGN. BY: JRP APPD. BY:
SCALE: 1"=40' APPROX.
DATE: 8/18/87

PROJECT: PAYNE CUTLERY SITE ASSESSMENT
CLIENT: SHAWMUT BANK OF S.E. MASS.
DWG. TITLE: SITE PLAN
PROJECT NO. 3490-001
DWG NO. SP-1

MILAN F. SPILLER CO. INC.



N

LEGEND

- PROPERTY LINE
- MONITORING WELL CGW-2
- 88.23 GROUNDWATER ELEVATION
- 88 GROUNDWATER CONTOUR(6/13/01)
- Sewer
- Water
- Gas
- OVERHEAD ELECTRIC/COMM. WIRES
- UNDERGROUND ELECTIC WIRES
- STORM DRAIN
- BLDG. VENTS
- SOIL BORING REFUSAL
- PROPOSED MW & SB
- #350 STREET NUMBERS FOR RESIDENTIAL PROPERTIES
- MCA-11 MCA SOIL BORING

Cygnus Group, Incorporated
245 Turnpike Road
Southborough, MA 01772

SITE PLAN

FORMER PAYNE CUTTLERY & VICINITY
NEW BEDFORD, MA

SIZE	FSCM NO.	DWG NO.	FIGURE
B		7_21_SITE PLAN_.DWG	2
SCALE 1" = 50'		SHEET 1 OF 1	

APPENDIX B

DEPARTMENT OF HOUSING & COMMUNITY DEVELOPMENT PROFILE

NEW BEDFORD

Bristol County

NARRATIVE
GEOGRAPHY
GOVERNMENT
DEMOGRAPHICS
HOUSING_CHARACTERISTICS
TRANSPORTATION
CULTURE AND RECREATION
MISCELLANEOUS

NARRATIVE

Narrative

The City of New Bedford is seen by its residents as a wonderfully diverse and culturally rich community with a proud past, present and future. The whaling capital of the world in the 18th century, the city has evolved to become the home of many major industries, which manufacture products used throughout the United States and abroad. The city prides itself on its working waterfront and historic district, as well as its expanding retail and tourist trades.

While it is a city of approximately 100,000 people, New Bedford maintains a close-knit community feel. Recently named one of the top ten "Green Cities" in the country, New Bedford residents feel that its parks are breathtaking and its beaches gorgeous. Enhanced with festivals and celebrations throughout the year, New Bedford is a wonderful place to visit. The unbeatable quality of life relished by residents makes New Bedford an even better place to live and raise a family.

(Narrative supplied by community)

GEOGRAPHY

Location

Southeastern Massachusetts, bordered by Dartmouth on the west, Freetown on the north, Acushnet on the east, and Buzzards Bay on the south. New Bedford is 54 miles south of Boston; 33 miles southeast of Providence, Rhode Island; and about 208 miles from New York City.

Total Area: 24.04 sq. miles

Land Area: 20.14 sq. miles

Population: 99,922

Density: 4,961 per sq. mile

Climate
(National Climatic Data Center)

(New Bedford Station)

Normal temperature in January.....30.6°F
Normal temperature in July.....73.5°F
Normal annual precipitation.....47.3"

U.S.G.S. Topographical Plates

New Bedford North, New Bedford South

Regional Planning Agency

Southeastern Regional Planning and Economic Development District

Metropolitan Statistical Area
(1993 Definition)

New Bedford

GOVERNMENT

Municipal Offices

Main Number: (508) 979-1400
Telephone Numbers for Public Information

Form of Government

Mayor-Council

Year Incorporated

As a town: 1787
As a city: 1847

Registered Voters (Secretary of State 1994)

	Number	%
Total Registered	38,025	
Democrats	23,913	62.9 %
Republicans	3,021	7.9 %
Other parties	0	0.0 %
Unenrolled Voters	11,091	29.2 %

Legislators

Senators and Representatives by City and Town

DEMOGRAPHICS

Table DP-1. Profile of General Demographic Characteristics: 2000

Geographic Area: New Bedford city, Massachusetts

[For information on confidentiality protection, nonsampling error, and definitions, see text]

Subject	Number	Percent
Total population	93,768	100.0
SEX AND AGE		
Male	44,173	47.1
Female	49,595	52.9
Under 5 years	6,272	6.7
5 to 9 years	6,695	7.1
10 to 14 years	6,578	7.0
15 to 19 years	6,187	6.6
20 to 24 years	6,491	6.9
25 to 34 years	13,465	14.3
35 to 44 years	13,541	14.4
45 to 54 years	11,191	11.9
55 to 59 years	4,196	4.5
60 to 64 years	3,514	3.7
65 to 74 years	7,205	7.7
75 to 84 years	6,204	6.6
85 years and over	2,299	2.4
Median age (years)	35.9	(X)
18 years and over	70,441	75.1
Male	32,233	34.4
Female	38,208	40.7
21 years and over	66,779	71.2
62 years and over	17,761	18.9
65 years and over	15,648	16.7
Male	5,864	6.3
Female	9,784	10.4
RACE		
One race	88,214	94.1
White	73,950	78.9
Black or African American	4,112	4.4
American Indian and Alaska Native	579	0.6
Asian	614	0.7
Asian Indian	68	0.1
Chinese	187	0.2
Filipino	66	0.1
Japanese	27	-
Korean	71	0.1
Vietnamese	138	0.1
Other Asian [1]	57	0.1
Native Hawaiian and Other Pacific Islander	44	-
Native Hawaiian	7	-
Guamanian or Chamorro	22	-
Samoan	8	-
Other Pacific Islander [2]	7	-
Some other race	8,915	9.5
Two or more races	5,554	5.9
Race alone or in combination with one or more other races: [3]		
White	77,695	82.9
Black or African American	6,382	6.8
American Indian and Alaska Native	1,288	1.4
Asian	850	0.9
Native Hawaiian and Other Pacific Islander	282	0.3
Some other race	13,143	14.0

Subject	Number	Percent
HISPANIC OR LATINO AND RACE		
Total population	93,768	100.0
Hispanic or Latino (of any race)	9,576	10.2
Mexican	322	0.3
Puerto Rican	6,657	7.1
Cuban	59	0.1
Other Hispanic or Latino	2,538	2.7
Not Hispanic or Latino	84,192	89.8
White alone	70,520	75.2
RELATIONSHIP		
Total population	93,768	100.0
In households	91,782	97.9
Householder	38,178	40.7
Spouse	15,099	16.1
Child	28,759	30.7
Own child under 18 years	21,076	22.5
Other relatives	4,579	4.9
Under 18 years	1,635	1.7
Nonrelatives	5,167	5.5
Unmarried partner	2,645	2.8
In group quarters	1,986	2.1
Institutionalized population	1,507	1.6
Noninstitutionalized population	479	0.5
HOUSEHOLD BY TYPE		
Total households	38,178	100.0
Family households (families)	24,083	63.1
With own children under 18 years	11,897	31.2
Married-couple family	15,099	39.5
With own children under 18 years	6,286	16.5
Female householder, no husband present	7,209	18.9
With own children under 18 years	4,701	12.3
Nonfamily households	14,095	36.9
Householder living alone	12,057	31.6
Householder 65 years and over	5,195	13.6
Households with individuals under 18 years	13,036	34.1
Households with individuals 65 years and over	11,060	29.0
Average household size	2.40	(X)
Average family size	3.01	(X)
HOUSING OCCUPANCY		
Total housing units	41,511	100.0
Occupied housing units	38,178	92.0
Vacant housing units	3,333	8.0
For seasonal, recreational, or occasional use	108	0.3
Homeowner vacancy rate (percent)	1.9	(X)
Rental vacancy rate (percent)	6.9	(X)
HOUSING TENURE		
Occupied housing units	38,178	100.0
Owner-occupied housing units	16,711	43.8
Renter-occupied housing units	21,467	56.2
Average household size of owner-occupied units	2.60	(X)
Average household size of renter-occupied units	2.25	(X)

- Represents zero or rounds to zero. (X) Not applicable.

[1] Other Asian alone, or two or more Asian categories.

[2] Other Pacific Islander alone, or two or more Native Hawaiian and Other Pacific Islander categories.

[3] In combination with one or more of the other races listed. The six numbers may add to more than the total population and the six percentages may add to more than 100 percent because individuals may report more than one race.

Source: U.S. Census Bureau, Census 2000.

HOUSING CHARACTERISTICS

Home Sales (Banker & Tradesman)-
Town Stats - Free market Statistics
Subsidized Housing Units (DHCD 1998)
DHCD Subsidized Housing Inventory

Subsidized Housing Units: The number of housing units which count toward the municipality's 10% goal for low- and moderate-income housing. It includes both subsidized affordable units and market rate units in certain eligible subsidized developments.

Public Housing Units (DHCD 1999)

Conventional State	904
Conventional Federal	1,650

Rental Assistance (DHCD 1999)

State (MRVP)	129
Federal (Section 8)	1,603

TRANSPORTATION

TRANSPORTATION AND ACCESS

The New Bedford-Fall River Area is served by the airport and port facilities of New Bedford. In addition, Interstate 195 and State Routes 24 and 140 provide access to the airports, ports, and intermodal facilities of Providence and Boston.

Major Highways

Principal highways are State Route 140 running N-S, and Interstate Route 195 and U.S. Route 6, which link the southern coastal cities in a roughly E-W direction.

Rail

Conrail provides freight service to New Bedford. Contact number: (617) 783-6222

Bus

Bonanza Bus Lines offers commuter service to Boston and service to Providence, RI, New York, and Cape Cod.

Other

The New Bedford Municipal Airport, a Primary Commercial Service (PR) facility located 2 miles NW of the city, has 2 asphalt runways 4,997' and 5,000' long. Instrument approaches available: Precision and non-precision.

CULTURE AND RECREATION

LIBRARIES

Board of Library Commissioners On-line Library Catalog

MUSEUMS

(American Association of Museums)

New Bedford Free Public Library
613 Pleasant Street
(508) 991-6275
New Bedford Whaling Museum
18 Johnny Cake Hill
(508) 997-0046
The Rotch-Jones-Duff House & Garden Museum
396 County Street
(508) 997-1401

RECREATION

Telephone Numbers for Public Information

Recreational Facilities(Recreational sites and activities)
Department of Environmental Management Recreation Section

The UMass Dartmouth Theatre Company

MISCELLANEOUS

HEALTH FACILITIES

(Dept. of Public Health 1992)

Hospitals

St. Luke's Hospital Of New Bedford

Long Term Care

Bedford Village N.H. Inc.
Blaire House LTCF of New Bedford
Hallmark N.H. Of New Bedford
Hathaway Manor Ext. Care Fac.
Kristen Beth Nursing Home
New Bedford Jewish Convalescent Home
Oaks Long Term Care Fac.
Sacred Heart Nursing Home
Sassaquin Nursing & Rehab. Center
Savoy Convalescent Home
Taber Street Nursing Home

Hospices

None

Rest Homes

Havenwood Rest Home
Plainview L.T.C. Facility
Rita's Rest Home
Rol-Ann Rest Home

UTILITIES

Telephone Numbers for Public Utilities

ACKNOWLEDGEMENT

The Department of Housing and Community Development would like to thank the many government agencies noted as having provided information for the community profiles. In addition to these agencies, the Regional Transit Authorities assisted with the transportation component of the profiles. We gratefully acknowledge the assistance of many city and town officials, which enabled us to include information obtainable only at the local level. DHCD would also like to thank the following individuals for providing special help: Leslie A. Kirwan, Deputy Commissioner, Division of Local Services, Department of Revenue; Richard Shibley, Deputy Secretary of State; Bob Beattie of the Department of Public Health; Charles W. Clifford from the Martha's Vineyard Commission; Dennis Coffey of the Executive Office of Transportation and Construction; Donna Fletcher and Christian Jacqz of the Executive Office of Environmental Affairs; James Griffin from the MBTA; Karen Loh from Banker & Tradesman; Todd Maio from the Department of Welfare; Geoffrey Morton from the Election Division of the Secretary of State's Office; Stephen R. Muench of the Massachusetts Aeronautics Commission; Rol Murrow of the Aircraft Owners and Pilots Association; Mary Ann Neary and Emmanuelle Fletcher, reference librarians at the State House Library; Jeff Nellhaus from the Department of Education; and George Sanborn, reference librarian at the State Transportation Library.

NOTE: The COMMUNITY PROFILE draws information from a diversity of sources. The main source of information is listed under each section. In some instances comments submitted by the municipality were incorporated to correct and/or enhance the information obtained from the main source. However, no changes were made to those data bases which must be consistent throughout the state. DHCD has made efforts to ensure the accuracy of all data in the COMMUNITY PROFILES, but cannot take responsibility for any consequences arising from the use of the information contained in this document.

APPENDIX C

EDR REPORT

The EDR Radius Map
with GeoCheck®

Former Payne Cutlery
295 Phillips Avenue
New Bedford, MA 02746

Inquiry Number: 01795606.2r

November 13, 2006

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

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Overview Map	2
Detail Map	3
Map Findings Summary	4
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GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
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Physical Setting Source Map Findings	A-9
Physical Setting Source Records Searched	A-40

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

295 PHILLIPS AVENUE
NEW BEDFORD, MA 02746

COORDINATES

Latitude (North):	41.662400 - 41° 39' 44.6''
Longitude (West):	70.932100 - 70° 55' 55.6''
Universal Tranverse Mercator:	Zone 19
UTM X (Meters):	339137.1
UTM Y (Meters):	4613884.5
Elevation:	78 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	41070-F8 NEW BEDFORD NORTH, MA
Most Recent Revision:	1979

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following government records. For more information on this property see page 6 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
PAYNE CUTLERY CORPORATION 295 PHILLIPS AVE. NEW BEDFORD, MA 02746	ICIS	N/A
PAYNE CUTLERY CORPORATION 295 PHILLIPS AVE. NEW BEDFORD, MA 02746	RCRA-SQG SHWS FINDS Release CERC-NFRAP CONSENT	MAD001025246
A-1 STORAGE 295 PHILLIPS AVE NEW BEDFORD, MA	MA Spills	N/A

EXECUTIVE SUMMARY

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

FEDERAL RECORDS

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL RECOVERY	Federal Superfund Liens
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CORRACTS	Corrective Action Report
RCRA-TSDF	Resource Conservation and Recovery Act Information
RCRA-LQG	Resource Conservation and Recovery Act Information
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
ODI	Open Dump Inventory
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
SSTS	Section 7 Tracking Systems
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
MINES	Mines Master Index File
RAATS	RCRA Administrative Action Tracking System

STATE AND LOCAL RECORDS

SWF/LF	Solid Waste Facility Database/Transfer Stations
AST	Aboveground Storage Tank Database
ENF	Enforcement Action Cases
AIRS	Permitted Facilities Listing
LEAD	Lead Inspection Database

TRIBAL RECORDS

INDIAN RESERV	Indian Reservations
INDIAN LUST	Leaking Underground Storage Tanks on Indian Land
INDIAN UST	Underground Storage Tanks on Indian Land

EDR PROPRIETARY RECORDS

Manufactured Gas Plants	EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

FEDERAL RECORDS

CERCLIS-NFRAP: Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

A review of the CERC-NFRAP list, as provided by EDR, and dated 07/17/2006 has revealed that there is 1 CERC-NFRAP site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
ALDEN CORRUGATED CONTAINER	ONE CHURCH STREET	0 - 1/8 SW	6	16

RCRAInfo: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System(RCRIS). The database includes selective information on sites which generate, transport, store , treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month Large quantity generators generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRA-SQG list, as provided by EDR, and dated 06/13/2006 has revealed that there are 5 RCRA-SQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
RUSSELLS CLEANERS	***295 ASHLEY BLVD***	***1/8 - 1/4 NE***	***8***	***18***

Lower Elevation	Address	Dist / Dir	Map ID	Page
ISLAND TRANSPORTATION CO INC	***1 CHURCH ST***	***0 - 1/8 SW***	***B4***	***13***
TIBBETTS ENGINEERING CORP	***210 DEANE ST***	***1/8 - 1/4 SSW***	***7***	***17***
EXECUTIVE AUTO	***2359 PURCHASE ST***	***1/8 - 1/4 SSW***	***D12***	***26***
7 ELEVEN	***1499 ACUSHNET AVE***	***1/8 - 1/4 E***	***E16***	***30***

EXECUTIVE SUMMARY

US BROWNFIELDS: The EPA's listing of Brownfields properites addressed by Cooperative Agreement Recipients and Brownfields properties addressed by Targeted Brownfields Assessments

A review of the US BROWNFIELDS list, as provided by EDR, and dated 07/10/2006 has revealed that there is 1 US BROWNFIELDS site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
DAWSON BREWERY	29 BROOK STREET	1/4 - 1/2 S	23	46

STATE AND LOCAL RECORDS

SHWS: Contains information on releases of oil and hazardous materials that have been reported to DEP.

A review of the SHWS list, as provided by EDR, and dated 08/01/2006 has revealed that there are 56 SHWS sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CORNER NASH RD	***263 BROOK ST***	***1/4 - 1/2 NNW***	***28***	***61***
Facility Status: Response Action Outcome				
CHRISTIAN TIRE & AUTO CENTER	***413 ASHLEY BLVD***	***1/4 - 1/2 N***	***H38***	***84***
Facility Status: Response Action Outcome				
MCCREARY TIRE & AUTO	***428 ASHLEY BLVD***	***1/4 - 1/2 N***	***41***	***93***
Facility Status: DEP No Further Action				
CHAMBERLAIN MFG	***117 KING STREET***	***1/2 - 1 NNW***	***J47***	***110***
Facility Status: Response Action Outcome Not Required				
CHAMBERLIN MANUFACTURING	***117 KING ST***	***1/2 - 1 NNW***	***J48***	***120***
Facility Status: Response Action Outcome Not Required				
PROPERTY	***452-460 MT PLEASANT ST***	***1/2 - 1 W***	***50***	***125***
Facility Status: Downgradient Property Status				
PO BOX 3096	***480 MT PLEASANT ST***	***1/2 - 1 WNW***	***51***	***127***
PROPERTY	***100 PENNIMAN ST***	***1/2 - 1 S***	***58***	***147***
STAR SEAT COVER INC	***78 HATHAWAY RD***	***1/2 - 1 WSW***	***63***	***157***
Facility Status: DEP No Further Action				
NEW BEDFORD LANDFILL CITY OF	***1103 SHAWMUT AVENUE***	***1/2 - 1 W***	***74***	***183***
NO LOCATION AID	***1136 SHAWMUT AVE***	***1/2 - 1 W***	***N75***	***186***
Facility Status: Response Action Outcome				
SHAWMUT AVE LANDFILL	***HATHAWAY RD***	***1/2 - 1 SW***	***77***	***191***
ROADWAY	***1200 SHAWMUT AVE***	***1/2 - 1 W***	***79***	***195***
Facility Status: Unclassified Waste Site				
AMI LEASING YARD	***1242 SHAWMUT AVE***	***1/2 - 1 W***	***O82***	***201***
Facility Status: Response Action Outcome				
AMI TRUCK LEASE	***1242 SHAWMUT AVE***	***1/2 - 1 W***	***O83***	***202***
Facility Status: Response Action Outcome				
AMI TRUCK LEASING	***1242 SHAWMUT AVE***	***1/2 - 1 W***	***O84***	***204***
Facility Status: Response Action Outcome				
JCT OF BROOKLAWN AVE	***429 CHURCH ST***	***1/2 - 1 NNW***	***86***	***208***
Facility Status: Response Action Outcome				
NEW BEDFORD ROOFING	***169 MT VERNON ST***	***1/2 - 1 SW***	***87***	***210***
Facility Status: Response Action Outcome				

EXECUTIVE SUMMARY

Lower Elevation	Address	Dist / Dir	Map ID	Page
ALDEN CORRUGATED	***1 CHURCH ST***	***0 - 1/8 SW***	***B5***	***13***
Facility Status: Response Action Outcome				
Facility Status: Response Action Outcome				
PROPERTY	***79 BROOK ST***	***1/8 - 1/4 SSE***	***11***	***21***
Facility Status: Response Action Outcome				
Facility Status: Response Action Outcome				
SAINT ANTHONY'S OF PADAUA	***190 ASHLEY BLVD***	***1/8 - 1/4 SE***	***17***	***30***
NO LOCATION AID	***2307 PURCHASE ST***	***1/8 - 1/4 SSW***	***F18***	***33***
Facility Status: Response Action Outcome				
NO LOCATION AID	***2301 PURCHASE ST***	***1/8 - 1/4 SSW***	***F19***	***35***
Facility Status: Response Action Outcome				
Facility Status: Response Action Outcome				
MY BREAD BAKERY	***229 COFFIN AVE***	***1/4 - 1/2 E***	***22***	***44***
Facility Status: Response Action Outcome				
DEBROSS OIL CO INC	***465 N FRONT ST***	***1/4 - 1/2 ENE***	***G26***	***52***
Facility Status: Response Action Outcome				
Not reported	***466 NORTH FRONT ST***	***1/4 - 1/2 ENE***	***G27***	***59***
Not reported	***40 BULLARD ST***	***1/4 - 1/2 ESE***	***29***	***62***
YAHYA GAS CORP DBA STOP & SAVE	***129 ASHLEY BLVD***	***1/4 - 1/2 SSE***	***30***	***64***
DACOSTA & SONS SUNOCO	***397 SAWYER ST***	***1/4 - 1/2 S***	***31***	***72***
Facility Status: Unclassified Waste Site				
NO LOCATION AID	***435 SAWYER ST***	***1/4 - 1/2 SSW***	***33***	***74***
Facility Status: Response Action Outcome				
BOILER ROOM AREA	***1129 COUNTY ST***	***1/4 - 1/2 S***	***34***	***75***
Facility Status: Response Action Outcome				
HI-LO GAS STATION	***116 ASHLEY BLVD***	***1/4 - 1/2 SSE***	***35***	***77***
Facility Status: Downgradient Property Status				
SALVATION ARMY	***1145 ACUSHNET AVE***	***1/4 - 1/2 SE***	***39***	***89***
Facility Status: Response Action Outcome				
Not reported	***14 ADAMS ST***	***1/4 - 1/2 S***	***40***	***90***
Facility Status: Response Action Outcome				
SUBSTATIONS INTERCEPTORS	***HOWARD AVENUE STA***	***1/4 - 1/2 NNE***	***43***	***96***
NO LOCATION AID	***206-378 BELLEVILLE AVE***	***1/2 - 1 SE***	***44***	***98***
Facility Status: Response Action Outcome				
Facility Status: Response Action Outcome				
AMERADA HESS CORP	***1783 ACUSHNET AVE***	***1/2 - 1 NNE***	***I46***	***105***
MERIT STATION	***1793 ACUSHNET AVE***	***1/2 - 1 NNE***	***I49***	***123***
Facility Status: Response Action Outcome Not Required				
NEW BEDFORD HARBOR NPL SITE	***103 SAWYER ST***	***1/2 - 1 ESE***	***52***	***135***
BLDG 19	***19 HATHAWAY ST***	***1/2 - 1 ENE***	***53***	***137***
FAIRHAVEN MILLS	***94 SAWYER ST***	***1/2 - 1 ESE***	***54***	***139***
NO LOCATION AID	***41 COFFIN AVE***	***1/2 - 1 E***	***56***	***143***
Facility Status: Response Action Outcome				
WHALER'S PLACE	***90 RIVERSIDE AVE***	***1/2 - 1 ENE***	***57***	***146***
Facility Status: Unclassified Waste Site				
CLIFTEX CORP	***194 RIVERSIDE AVE***	***1/2 - 1 ENE***	***59***	***148***
TRANSAMERICA SPINNING MILLS	***1 COFFIN AVE***	***1/2 - 1 E***	***60***	***151***
Facility Status: Response Action Outcome				
NO LOCATION AID	***10 MANOMET ST***	***1/2 - 1 ENE***	***61***	***152***
Facility Status: Response Action Outcome				
Facility Status: Response Action Outcome				

EXECUTIVE SUMMARY

Lower Elevation	Address	Dist / Dir	Map ID	Page
FAIRHAVEN MILLS REALTY CORP	***85 COGGESHALL ST***	***1/2 - 1 SE***	***62***	***155***
PROPERTY	***5 HICKS ST***	***1/2 - 1 SSE***	***64***	***158***
Facility Status: Response Action Outcome				
SHELL STATION	***45 COGGESHALL ST***	***1/2 - 1 ESE***	***K65***	***160***
Facility Status: Response Action Outcome				
NO LOCATION AID	***45 COGGESHALL ST***	***1/2 - 1 ESE***	***K66***	***162***
Facility Status: Response Action Outcome				
AEROVOX	***BELLEVILLE AVE***	***1/2 - 1 NE***	***69***	***173***
RISDON CORP	***90 HATCH ST***	***1/2 - 1 NE***	***71***	***177***
Facility Status: Pending No Further Action				
Facility Status: Pending No Further Action				
REVERE COPPER	***100 NORTH FRONT ST***	***1/2 - 1 SSE***	***M73***	***181***
Facility Status: Response Action Outcome Not Required				
JUSTIN CLOTHING CO/NATCO	***61 NORTH FRONT ST***	***1/2 - 1 SSE***	***80***	***196***
Facility Status: Response Action Outcome				
REVERE COPPER PRODUCTS INC	***24 NORTH FRONT ST***	***1/2 - 1 SSE***	***Q92***	***219***
REVERE COPPER PRODUCTS INC	***24 N FRONT ST***	***1/2 - 1 SSE***	***Q94***	***240***
Facility Status: Response Action Outcome Not Required				

LUST: Sites within the Releases Database that have a UST listed as its source.

A review of the LUST list, as provided by EDR, and dated 08/01/2006 has revealed that there are 12 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
WEIGEL & SON	***282 NASH RD***	***1/4 - 1/2 N***	***20***	***38***
Facility Status: Response Action Outcome Not Required				
COATERS INC	***305 NASH RD***	***1/4 - 1/2 NNW***	***21***	***41***
Facility Status: Response Action Outcome				
SUNOCO XTRAMART	***367 ASHLEY BLVD***	***1/4 - 1/2 NNE***	***24***	***46***
Facility Status: Response Action Outcome				
LUZO FOOD SERVICE CORP	***376 NASH RD***	***1/4 - 1/2 NW***	***25***	***49***
Facility Status: Response Action Outcome				
NO LOCATION AID	***413 ASHLEY BLVD***	***1/4 - 1/2 N***	***H37***	***82***
Facility Status: Response Action Outcome Not Required				

Lower Elevation	Address	Dist / Dir	Map ID	Page
PROPERTY	***79 BROOK ST***	***1/8 - 1/4 SSE***	***11***	***21***
Facility Status: Response Action Outcome				
SAINT ANTHONY'S OF PADAUA	***190 ASHLEY BLVD***	***1/8 - 1/4 SE***	***17***	***30***
YAHYA GAS CORP DBA STOP & SAVE	***129 ASHLEY BLVD***	***1/4 - 1/2 SSE***	***30***	***64***
Facility Status: Response Action Outcome Not Required				
HI-LO GAS STATION	***116 ASHLEY BLVD***	***1/4 - 1/2 SSE***	***35***	***77***
Facility Status: Response Action Outcome				
CUMBERLAND FARMS	***1737 ACUSHNET AVE***	***1/4 - 1/2 NNE***	***36***	***81***
Facility Status: Response Action Outcome				
Not reported	***14 ADAMS ST***	***1/4 - 1/2 S***	***40***	***90***
Facility Status: Response Action Outcome				

Lower Elevation	Address	Dist / Dir	Map ID	Page
CLEAN RENTALS INC	***1066 COUNTY ST***	***1/4 - 1/2 S***	***42***	***94***
Facility Status: Response Action Outcome				

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Protection's Summary Listing of all the Tanks Registered in the State of Massachusetts.

A review of the UST list, as provided by EDR, and dated 08/11/2006 has revealed that there are 5 UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
MANUEL CORREIA	62 CHURCH ST	1/8 - 1/4 WNW	C9	18
J & J GARAGE	75 CHURCH ST	1/8 - 1/4 NW	C10	20

Lower Elevation	Address	Dist / Dir	Map ID	Page
GLENN HARTE	2359 PURCHASE ST	1/8 - 1/4 SSW	D13	27
MINIT MAN AUTO WASH	2351 PURCHASE ST	1/8 - 1/4 SSW	D14	28
7-ELEVEN #33287	1499 ACUSHNET AVE	1/8 - 1/4 E	E15	29

LAST: The Leaking Aboveground Storage Tanks database

A review of the LAST list, as provided by EDR, and dated 08/01/2006 has revealed that there are 2 LAST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
COATERS INC	***305 NASH RD***	***1/4 - 1/2 NNW***	***21***	***41***
Facility Status: Response Action Outcome				

Lower Elevation	Address	Dist / Dir	Map ID	Page
MILL BUILDING WAREHOUSE	***419 SAWYER ST***	***1/4 - 1/2 S***	***32***	***73***
Facility Status: Response Action Outcome				

Release: MA Release Tracking Database.

A review of the Release list, as provided by EDR, and dated 08/01/2006 has revealed that there are 80 Release sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
WEIGEL & SON	***282 NASH RD***	***1/4 - 1/2 N***	***20***	***38***
Facility Status: Response Action Outcome Not Required				
COATERS INC	***305 NASH RD***	***1/4 - 1/2 NNW***	***21***	***41***
Facility Status: Response Action Outcome				
Facility Status: Response Action Outcome				
SUNOCO XTRAMART	***367 ASHLEY BLVD***	***1/4 - 1/2 NNE***	***24***	***46***
Facility Status: Response Action Outcome				
LUZO FOOD SERVICE CORP	***376 NASH RD***	***1/4 - 1/2 NW***	***25***	***49***
Facility Status: Response Action Outcome				

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CORNER NASH RD	***263 BROOK ST***	***1/4 - 1/2 NNW***	***28***	***61***
Facility Status: Response Action Outcome				
NO LOCATION AID	***413 ASHLEY BLVD***	***1/4 - 1/2 N***	***H37***	***82***
Facility Status: Response Action Outcome Not Required				
CHRISTIAN TIRE & AUTO CENTER	***413 ASHLEY BLVD***	***1/4 - 1/2 N***	***H38***	***84***
Facility Status: Response Action Outcome				
MCCREARY TIRE & AUTO	***428 ASHLEY BLVD***	***1/4 - 1/2 N***	***41***	***93***
Facility Status: DEP No Further Action				
NO LOCATION AID	***38 ARLINGTON ST***	***1/2 - 1 NNE***	***45***	***103***
Facility Status: Response Action Outcome				
CHAMBERLAIN MFG	***117 KING STREET***	***1/2 - 1 NNW***	***J47***	***110***
Facility Status: Response Action Outcome Not Required				
CHAMBERLIN MANUFACTURING	***117 KING ST***	***1/2 - 1 NNW***	***J48***	***120***
Facility Status: Response Action Outcome Not Required				
PROPERTY	***452-460 MT PLEASANT ST***	***1/2 - 1 W***	***50***	***125***
Facility Status: Downgradient Property Status				
PO BOX 3096	***480 MT PLEASANT ST***	***1/2 - 1 WNW***	***51***	***127***
Facility Status: Response Action Outcome Not Required				
NO LOCATION AID	***268 CHURCH ST***	***1/2 - 1 NNW***	***55***	***141***
Facility Status: Response Action Outcome				
PROPERTY	***100 PENNIMAN ST***	***1/2 - 1 S***	***58***	***147***
STAR SEAT COVER INC	***78 HATHAWAY RD***	***1/2 - 1 WSW***	***63***	***157***
Facility Status: DEP No Further Action				
ADAMS AUTOMOTIVE FMR	***953 SHAWMUT AVE***	***1/2 - 1 WSW***	***L67***	***165***
Facility Status: Response Action Outcome				
ADAMS AUTOMOTIVE INC	***953 SHAWMUT AVE***	***1/2 - 1 WSW***	***L68***	***168***
Facility Status: Response Action Outcome				
RALPH H CHASE JR	***54 MOUNT PLEASANT ST***	***1/2 - 1 SSW***	***70***	***174***
Facility Status: Response Action Outcome				
NEW BEDFORD LANDFILL CITY OF	***1103 SHAWMUT AVENUE***	***1/2 - 1 W***	***74***	***183***
NO LOCATION AID	***1136 SHAWMUT AVE***	***1/2 - 1 W***	***N75***	***186***
Facility Status: Response Action Outcome				
FORMER PENSKE TRUCK LEASING CO	***1136 SHAWMUT AVE***	***1/2 - 1 W***	***N76***	***189***
Facility Status: Response Action Outcome				
SHAWMUT AVE LANDFILL	***HATHAWAY RD***	***1/2 - 1 SW***	***77***	***191***
VERIZON MASSACHUSETTS #535314	***1166 SHAWMUT AVE***	***1/2 - 1 W***	***78***	***193***
Facility Status: Response Action Outcome				
ROADWAY	***1200 SHAWMUT AVE***	***1/2 - 1 W***	***79***	***195***
Facility Status: Unclassified Waste Site				
AMI LEASING YARD	***1242 SHAWMUT AVE***	***1/2 - 1 W***	***O82***	***201***
Facility Status: Response Action Outcome				
AMI TRUCK LEASE	***1242 SHAWMUT AVE***	***1/2 - 1 W***	***O83***	***202***
Facility Status: Response Action Outcome				
AMI TRUCK LEASING	***1242 SHAWMUT AVE***	***1/2 - 1 W***	***O84***	***204***
Facility Status: Response Action Outcome				
PENSKE TRUCK LEASING CO LP	***1242 SHAWMUT AVE***	***1/2 - 1 W***	***O85***	***206***
Facility Status: Response Action Outcome				

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
JCT OF BROOKLAWN AVE	***429 CHURCH ST***	***1/2 - 1 NNW***	***86***	***208***
Facility Status: Response Action Outcome				
NEW BEDFORD ROOFING	***169 MT VERNON ST***	***1/2 - 1 SW***	***87***	***210***
Facility Status: Response Action Outcome				
NEW BEDFORD HIGH SCHOOL	***230 HATHAWAY RD***	***1/2 - 1 WSW***	***88***	***213***
Facility Status: Response Action Outcome				

Lower Elevation	Address	Dist / Dir	Map ID	Page
ALDEN CORRUGATED	***1 CHURCH ST***	***0 - 1/8 SW***	***B5***	***13***
Facility Status: Response Action Outcome				
Facility Status: Response Action Outcome				
PROPERTY	***79 BROOK ST***	***1/8 - 1/4 SSE***	***11***	***21***
Facility Status: Response Action Outcome				
Facility Status: Response Action Outcome				
SAINT ANTHONY'S OF PADAUA	***190 ASHLEY BLVD***	***1/8 - 1/4 SE***	***17***	***30***
NO LOCATION AID	***2307 PURCHASE ST***	***1/8 - 1/4 SSW***	***F18***	***33***
Facility Status: Response Action Outcome				
NO LOCATION AID	***2301 PURCHASE ST***	***1/8 - 1/4 SSW***	***F19***	***35***
Facility Status: Response Action Outcome				
Facility Status: Response Action Outcome				
MY BREAD BAKERY	***229 COFFIN AVE***	***1/4 - 1/2 E***	***22***	***44***
Facility Status: Response Action Outcome				
DEBROSS OIL CO INC	***465 N FRONT ST***	***1/4 - 1/2 ENE***	***G26***	***52***
Facility Status: Response Action Outcome				
Not reported	***466 NORTH FRONT ST***	***1/4 - 1/2 ENE***	***G27***	***59***
Not reported	***40 BULLARD ST***	***1/4 - 1/2 ESE***	***29***	***62***
YAHYA GAS CORP DBA STOP & SAVE	***129 ASHLEY BLVD***	***1/4 - 1/2 SSE***	***30***	***64***
Facility Status: Response Action Outcome Not Required				
DACOSTA & SONS SUNOCO	***397 SAWYER ST***	***1/4 - 1/2 S***	***31***	***72***
Facility Status: Unclassified Waste Site				
MILL BUILDING WAREHOUSE	***419 SAWYER ST***	***1/4 - 1/2 S***	***32***	***73***
Facility Status: Response Action Outcome				
NO LOCATION AID	***435 SAWYER ST***	***1/4 - 1/2 SSW***	***33***	***74***
Facility Status: Response Action Outcome				
BOILER ROOM AREA	***1129 COUNTY ST***	***1/4 - 1/2 S***	***34***	***75***
Facility Status: Response Action Outcome				
HI-LO GAS STATION	***116 ASHLEY BLVD***	***1/4 - 1/2 SSE***	***35***	***77***
Facility Status: Response Action Outcome				
Facility Status: Downgradient Property Status				
CUMBERLAND FARMS	***1737 ACUSHNET AVE***	***1/4 - 1/2 NNE***	***36***	***81***
Facility Status: Response Action Outcome				
SALVATION ARMY	***1145 ACUSHNET AVE***	***1/4 - 1/2 SE***	***39***	***89***
Facility Status: Response Action Outcome				
Not reported	***14 ADAMS ST***	***1/4 - 1/2 S***	***40***	***90***
Facility Status: Response Action Outcome				
CLEAN RENTALS INC	***1066 COUNTY ST***	***1/4 - 1/2 S***	***42***	***94***
Facility Status: Response Action Outcome				

EXECUTIVE SUMMARY

Lower Elevation	Address	Dist / Dir	Map ID	Page
SUBSTATIONS INTERCEPTORS	***HOWARD AVENUE STA***	***1/4 - 1/2 NNE***	***43***	***96***
NO LOCATION AID	***206-378 BELLEVILLE AVE***	***1/2 - 1 SE***	***44***	***98***
Facility Status: Response Action Outcome				
AMERADA HESS CORP	***1783 ACUSHNET AVE***	***1/2 - 1 NNE***	***I46***	***105***
MERIT STATION	***1793 ACUSHNET AVE***	***1/2 - 1 NNE***	***I49***	***123***
Facility Status: Response Action Outcome Not Required				
NEW BEDFORD HARBOR NPL SITE	***103 SAWYER ST***	***1/2 - 1 ESE***	***52***	***135***
BLDG 19	***19 HATHAWAY ST***	***1/2 - 1 ENE***	***53***	***137***
FAIRHAVEN MILLS	***94 SAWYER ST***	***1/2 - 1 ESE***	***54***	***139***
NO LOCATION AID	***41 COFFIN AVE***	***1/2 - 1 E***	***56***	***143***
Facility Status: Response Action Outcome				
Facility Status: Response Action Outcome				
WHALER'S PLACE	***90 RIVERSIDE AVE***	***1/2 - 1 ENE***	***57***	***146***
Facility Status: Unclassified Waste Site				
CLIFTEX CORP	***194 RIVERSIDE AVE***	***1/2 - 1 ENE***	***59***	***148***
TRANSAMERICA SPINNING MILLS	***1 COFFIN AVE***	***1/2 - 1 E***	***60***	***151***
Facility Status: Response Action Outcome				
NO LOCATION AID	***10 MANOMET ST***	***1/2 - 1 ENE***	***61***	***152***
Facility Status: Response Action Outcome				
Facility Status: Response Action Outcome				
FAIRHAVEN MILLS REALTY CORP	***85 COGGESHALL ST***	***1/2 - 1 SE***	***62***	***155***
PROPERTY	***5 HICKS ST***	***1/2 - 1 SSE***	***64***	***158***
Facility Status: Response Action Outcome				
SHELL STATION	***45 COGGESHALL ST***	***1/2 - 1 ESE***	***K65***	***160***
Facility Status: Response Action Outcome				
Facility Status: Response Action Outcome				
NO LOCATION AID	***45 COGGESHALL ST***	***1/2 - 1 ESE***	***K66***	***162***
Facility Status: Response Action Outcome				
AEROVOX	***BELLEVILLE AVE***	***1/2 - 1 NE***	***69***	***173***
RISDON CORP	***90 HATCH ST***	***1/2 - 1 NE***	***71***	***177***
Facility Status: Pending No Further Action				
B&S REALTY	***100 NORTH FRONT ST***	***1/2 - 1 SSE***	***M72***	***179***
Facility Status: Response Action Outcome				
REVERE COPPER	***100 NORTH FRONT ST***	***1/2 - 1 SSE***	***M73***	***181***
Facility Status: Response Action Outcome Not Required				
JUSTIN CLOTHING CO/NATCO	***61 NORTH FRONT ST***	***1/2 - 1 SSE***	***80***	***196***
Facility Status: Response Action Outcome				
FIBRE LEATHER CORP	***686 BELLEVILLE AVE***	***1/2 - 1 NE***	***81***	***199***
Facility Status: Response Action Outcome				
INTERSECTION WITH HAZARD ST	***1707 PURCHASE ST***	***1/2 - 1 S***	***P89***	***214***
Facility Status: Response Action Outcome Not Required				
JOHN T NISSEN BAKING CO	***1707 PURCHASE ST***	***1/2 - 1 S***	***P90***	***216***
Facility Status: Response Action Outcome Not Required				
GIUSTI BAKERY	***1707 PURCHASE ST***	***1/2 - 1 S***	***P91***	***218***
Facility Status: Waiver Completion Statement,Permanent				
REVERE COPPER PRODUCTS INC	***24 NORTH FRONT ST***	***1/2 - 1 SSE***	***Q92***	***219***
REVERE COPPER PRODUCTS INC	***24 N FRONT ST***	***1/2 - 1 SSE***	***Q93***	***232***
Facility Status: Response Action Outcome Not Required				

EXECUTIVE SUMMARY

Lower Elevation	Address	Dist / Dir	Map ID	Page
REVERE COPPER PRODUCTS INC	***24 N FRONT ST***	***1/2 - 1 SSE***	***Q94***	***240***
Facility Status: Response Action Outcome Not Required				
MOES ALIGNMENT	***36 HOWLAND ST***	***1/2 - 1 ESE***	***95***	***242***
Facility Status: Response Action Outcome				

INST CONTROL: Activity and Use Limitations establish limits and conditions on the future use of contaminated property, and therefore allow cleanups to be tailored to these uses.

A review of the INST CONTROL list, as provided by EDR, and dated 08/01/2006 has revealed that there are 5 INST CONTROL sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
LUZO FOOD SERVICE CORP	***376 NASH RD***	***1/4 - 1/2 NW***	***25***	***49***

Lower Elevation	Address	Dist / Dir	Map ID	Page
PROPERTY	***79 BROOK ST***	***1/8 - 1/4 SSE***	***11***	***21***
NO LOCATION AID	***2307 PURCHASE ST***	***1/8 - 1/4 SSW***	***F18***	***33***
HI-LO GAS STATION	***116 ASHLEY BLVD***	***1/4 - 1/2 SSE***	***35***	***77***
CUMBERLAND FARMS	***1737 ACUSHNET AVE***	***1/4 - 1/2 NNE***	***36***	***81***

DRYCLEANERS: A listing of Department of Environmental Protection regulated drycleaning facilities that use perchloroethylene under the Environmental Results Program.

A review of the DRYCLEANERS list, as provided by EDR, and dated 08/29/2006 has revealed that there is 1 DRYCLEANERS site within approximately 0.25 miles of the target property.

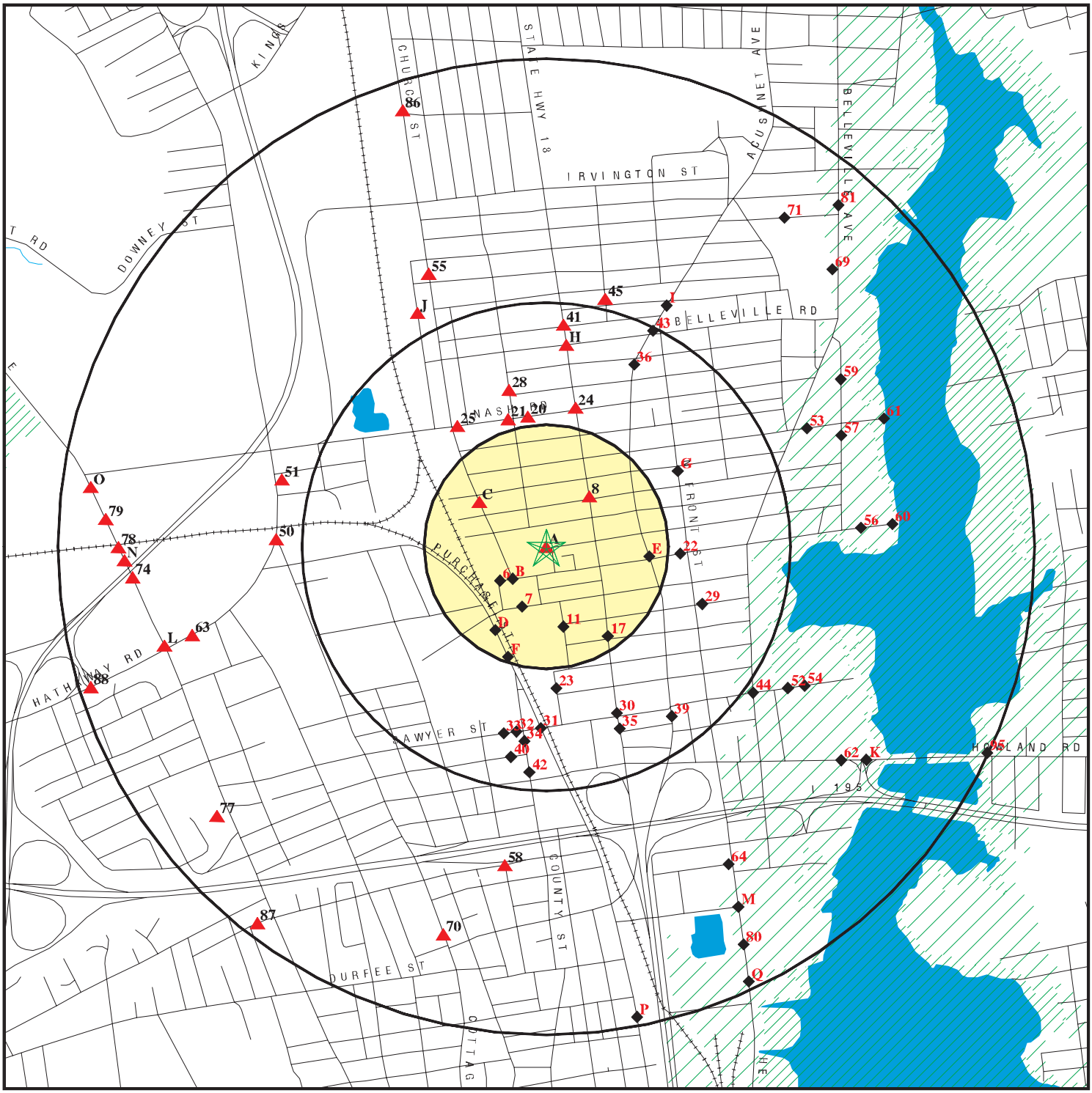
Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
RUSSELLS CLEANERS	***295 ASHLEY BLVD***	***1/8 - 1/4 NE***	***8***	***18***

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
GASOLINE TANKER EAST OF RTE 24	SHWS, Release
POLE #132/35	SHWS, Release
MARSH ISLAND	SHWS, Release, CERC-NFRAP
PROPERTY	SHWS, Release
PROPERTY	SHWS, Release
EXIT 4	SHWS, Release
NEAR INTERSECTION OF RTE. 6	SHWS, Release
ELM STREET	SHWS, Release
NEAR PURCHASE ST EXIT	SHWS, Release
ACUSHNET RIVER	SHWS, Release
BETWEEN EXIT 14 & 15	SHWS, Release
@ COGGESHALL	SHWS, Release
PROPERTY	SHWS, Release
AT ONEIDA ST	SHWS, Release
STEAMSHIP DOCK	SHWS, Release
NO LOCATION AID	SHWS, Release
FINICKY PET FOOD INC	SHWS, Release
DELKEN	SHWS, Release
SULLIVAN S LEDGE	SHWS, Release
SUNSHINE PLAZA	SHWS, Release
BLDG 19	SHWS, Release
CONRAIL PROPERTY	SHWS, Release
SULLIVANS LEDGE	SHWS, Release
MCCOY FIELD	SHWS, Release
LOADING DOCK	SHWS, Release
BUILDING 19	SHWS, Release
MT PLEASANT ST	SHWS, Release
POLE #39/10	SHWS, Release
FISH ISLAND	SHWS, Release, CERC-NFRAP
NO LOCATION AID	SHWS
PURCHASE & MAXFIELD ST	SHWS, Release
HATHAWAY RD	SHWS, Release
SAWYER STREET DRUM	CERC-NFRAP
FRADE DISPOSAL AREA	CERC-NFRAP
NEW BEDFORD-FAIRHAVEN BRIDGE	Release, LAST
PRIVATE A POIRIER POST	Release, LAST
SULLIVANS LEDGE LANDFILL	SWF/LF
OHARA CHEVROLET FMR	LUST, Release
HATHAWAY SERVICE STATION	UST, AST
ALDEN CORRUGATED	US BROWNFIELDS

OVERVIEW MAP - 01795606.2r



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Areas of Critical Environmental Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Former Payne Cutlery	CLIENT: TRC Environmental Consultants
ADDRESS: 295 Phillips Avenue New Bedford MA 02746	CONTACT: David Sullivan
LAT/LONG: 41.6624 / 70.9321	INQUIRY #: 01795606.2r DATE: November 13, 2006 1:40 pm

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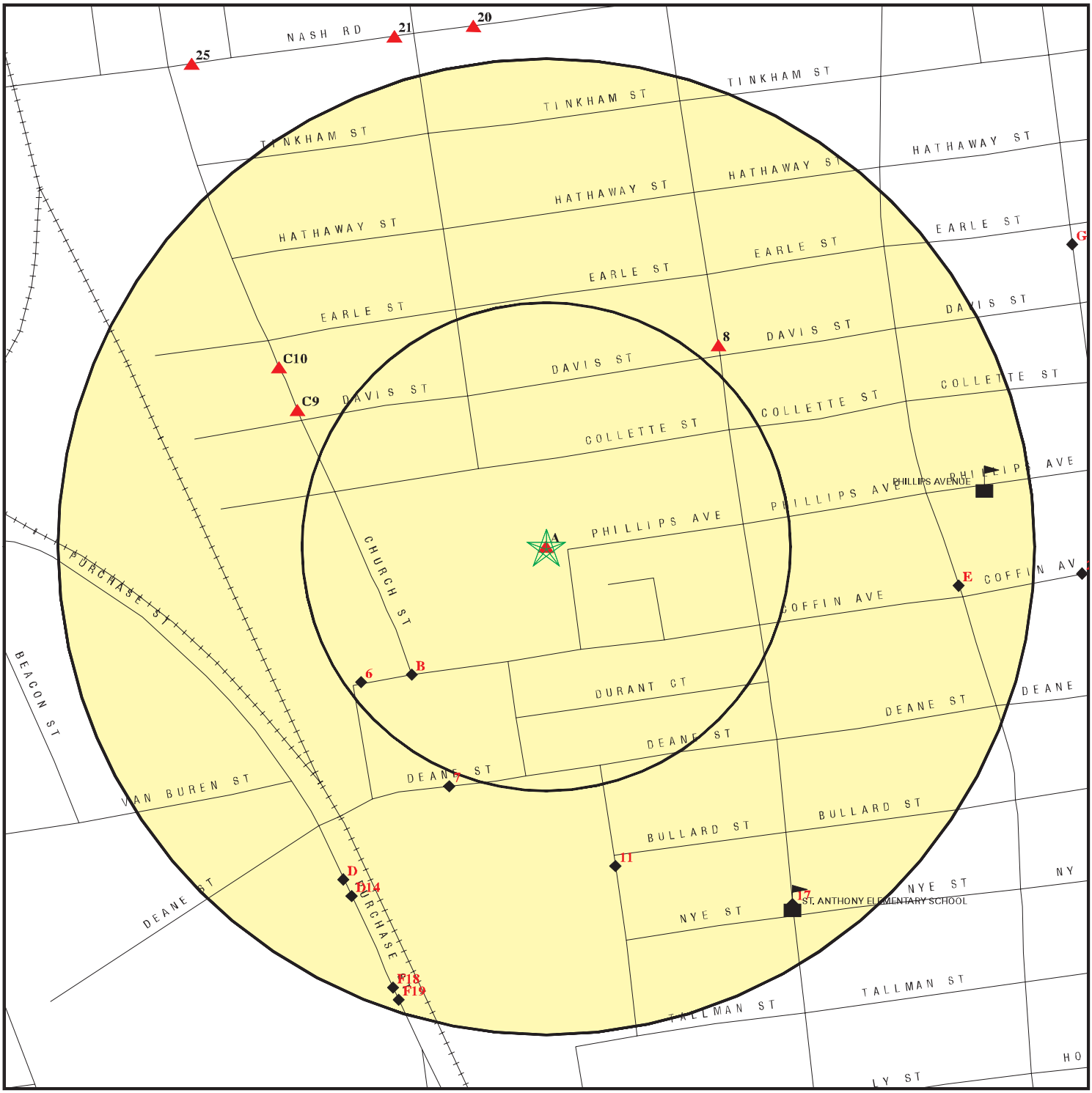
DETAIL MAP - 01795606.2r



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Areas of Critical Environmental Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Former Payne Cutlery	CLIENT: TRC Environmental Consultants
ADDRESS: 295 Phillips Avenue New Bedford MA 02746	CONTACT: David Sullivan
LAT/LONG: 41.6624 / 70.9321	INQUIRY #: 01795606.2r DATE: November 13, 2006 1:41 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL RECORDS								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
NPL RECOVERY		TP	NR	NR	NR	NR	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP	X	0.500	1	0	0	NR	NR	1
CORRACTS		1.000	0	0	0	0	NR	0
RCRA TSD		0.500	0	0	0	NR	NR	0
RCRA Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRA Sm. Quan. Gen.	X	0.250	1	4	NR	NR	NR	5
ERNS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
US BROWNFIELDS		0.500	0	0	1	NR	NR	1
CONSENT	X	1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
ICIS	X	TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
FINDS	X	TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
STATE AND LOCAL RECORDS								
State Haz. Waste	X	1.000	1	4	15	36	NR	56
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	2	10	NR	NR	12
UST		0.250	0	5	NR	NR	NR	5
LAST		0.500	0	0	2	NR	NR	2
AST		0.250	0	0	NR	NR	NR	0
MA Spills	X	TP	NR	NR	NR	NR	NR	0
Release	X	1.000	1	4	23	52	NR	80
INST CONTROL		0.500	0	2	3	NR	NR	5
DRYCLEANERS		0.250	0	1	NR	NR	NR	1
ENF		TP	NR	NR	NR	NR	NR	0
AIRS		TP	NR	NR	NR	NR	NR	0
LEAD		TP	NR	NR	NR	NR	NR	0
TRIBAL RECORDS								
INDIAN RESERV		1.000	0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST		0.500	0	0	0	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
EDR PROPRIETARY RECORDS								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
Target
Property

PAYNE CUTLERY CORPORATION
295 PHILLIPS AVE.
NEW BEDFORD, MA 02746

ICIS

1009285062
N/A

Site 1 of 3 in cluster A

Actual:
78 ft.

ICIS:
EFA Enforcement Action ID: 01-1997-0178
ICIS Facility ID: 15231
EFA Enforcement Action Type: Civil
Action Date: 11/08/1999
Facility County: BRISTOL
Region #: 1

A2
Target
Property

PAYNE CUTLERY CORPORATION
295 PHILLIPS AVE.
NEW BEDFORD, MA 02746

RCRA-SQG
SHWS
FINDS
Release
CERC-NFRAP
CONSENT

1000709686
MAD001025246

Site 2 of 3 in cluster A

Actual:
78 ft.

RCRAInfo:
Contact: EDWARD-L MERSEY
(508) 996-5605

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: Violations exist

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 03/01/1988
Actual Date Achieved Compliance: 07/15/1993

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/23/1988
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 03/01/1986
Actual Date Achieved Compliance: 07/15/1993

Enforcement Action: INITIAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 02/03/1987
Penalty Type: Not reported

There are 2 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Non-Financial Record Review	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19930715
Non-Financial Record Review	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19930715

SHWS:
Facility ID: 4-0015373
Source Type: UNKNOWN
Release Town: NEW BEDFORD
Notification Date: 02/07/01
Category: 72 HR
Associated ID: -
Facility Status: **TIER1D**
Status Date: 02/14/02

PAYNE CUTLERY CORPORATION (Continued) **1000709686**

Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Hazardous Material
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	09/06/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7473
Action Type:	Release
Action Stat:	REPORT
Action Date:	02/07/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7473
Chemical:	ETHENE, TRICHLORO-
Amount:	5
Quantity:	parts per million
Location Type:	INDUSTRIAL
Source Type:	UNKNOWN

Facility ID:	4-0000404
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	04/08/87
Category:	NONE
Associated ID:	-
Facility Status:	**TIER1D**
Status Date:	08/09/95
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	04/08/1987
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	MANUFACT
Source Type:	Not reported

FINDS:

Other Pertinent Environmental Activity Identified at Site

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

PAYNE CUTLERY CORPORATION (Continued) **1000709686**

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and its Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

MA RELEASE:

Facility ID:	4-0000404
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	04/08/87
Category:	NONE
Facility Status:	**TIER1D**
Status Date:	08/09/95
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	04/08/1987
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	MANUFACT
Source Type:	Not reported

Facility ID:	4-0015373
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	02/07/01
Category:	72 HR
Facility Status:	**TIER1D**
Status Date:	02/14/02
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported

PAYNE CUTLERY CORPORATION (Continued) **1000709686**

Oil / Haz Material Type:	Hazardous Material
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	09/06/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7473
Action Type:	Release
Action Stat:	REPORT
Action Date:	02/07/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7473
Chemical:	ETHENE, TRICHLORO-
Amount:	5
Quantity:	parts per million
Location Type:	INDUSTRIAL
Source Type:	UNKNOWN

CERC-NFRAP:

Site ID:	0102652
Federal Facility:	Not a Federal Facility
NPL Status:	Not on the NPL
Non NPL Status:	NFRAP

CERCLIS-NFRAP Site Contact Name(s):

Contact Name:	Nancy Smith
Contact Tel:	(617) 918-1436
Contact Title:	Site Assessment Manager (SAM)

CERCLIS-NFRAP Site Alias Name(s):

Alias Name:	PAYNE CUTLERY CORP.
Alias Address:	295 PHILLIPS AVENUE NEW BEDFORD, MA 02746
Alias Name:	PAYNE CUTLERY
Alias Address:	295 PHILLIPS AVENUE NEW BEDFORD, MA 027461857
Site Description:	OLD, LARGE, THREE ACRE, BRICK FACTORY. NOW USED FOR CHEMICAL STORAGE. INCOMPATABLES TOGETHER.

CERCLIS-NFRAP Assessment History:

Action:	REMOVAL ASSESSMENT
Date Started:	08/20/1992
Date Completed:	08/20/1992
Priority Level:	Not reported
Action:	Notice Letters Issued
Date Started:	Not reported
Date Completed:	09/24/1992
Priority Level:	Not reported
Action:	Notice Letters Issued
Date Started:	Not reported
Date Completed:	09/24/1992
Priority Level:	Not reported

PAYNE CUTLERY CORPORATION (Continued) **1000709686**

Action: Notice Letters Issued
Date Started: Not reported
Date Completed: 09/24/1992
Priority Level: Not reported

Action: Notice Letters Issued
Date Started: Not reported
Date Completed: 09/24/1992
Priority Level: Not reported

Action: Notice Letters Issued
Date Started: Not reported
Date Completed: 09/24/1992
Priority Level: Not reported

Action: Notice Letters Issued
Date Started: Not reported
Date Completed: 10/19/1992
Priority Level: Not reported

Action: UNILATERAL ADMIN ORDER
Date Started: Not reported
Date Completed: 12/21/1992
Priority Level: Not reported

Action: Public Notice Published
Date Started: Not reported
Date Completed: 01/17/1993
Priority Level: Not reported

Action: POTENTIALLY RESPONSIBLE PARTY REMOVAL
Date Started: 12/23/1992
Date Completed: 02/01/1993
Priority Level: Stabilized

Action: REMOVAL
Date Started: 02/01/1993
Date Completed: 03/05/1993
Priority Level: Stabilized

Action: POTENTIALLY RESPONSIBLE PARTY REMOVAL
Date Started: 03/08/1993
Date Completed: 09/09/1993
Priority Level: Cleaned up

Action: DISCOVERY
Date Started: Not reported
Date Completed: 06/14/1994
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: 06/28/1994
Date Completed: 02/19/1995
Priority Level: NFRAP (No Futher Remedial Action Planned

Action: Notice Letters Issued
Date Started: Not reported

PAYNE CUTLERY CORPORATION (Continued) **1000709686**

Date Completed: 07/02/1997
Priority Level: Not reported

Action: NON-NATIONAL PRIORITIES LIST POTENTIALLY RESPONSIBLE PARTY SEARCH
Date Started: 09/14/1992
Date Completed: 07/29/1999
Priority Level: Search Complete, Viable PRPs

Action: Lodged By DOJ
Date Started: Not reported
Date Completed: 08/19/1999
Priority Level: Not reported

Action: CONSENT DECREE
Date Started: Not reported
Date Completed: 11/08/1999
Priority Level: Not reported

Action: SECTION 107 LITIGATION
Date Started: 06/03/1997
Date Completed: 11/08/1999
Priority Level: Not reported

Action: ALTERNATIVE DISPUTE RESOLUTION
Date Started: 04/03/1997
Date Completed: 11/08/1999
Priority Level: Not reported

Action: ARCHIVE SITE
Date Started: Not reported
Date Completed: 08/16/2005
Priority Level: Not reported

CONSENT:
Full-text of a consent decree on this site issued by a United States District Court is available from EDR.

A3 **A-1 STORAGE** **MA Spills** **S101041041**
Target **295 PHILLIPS AVE** **N/A**
Property **NEW BEDFORD, MA**

Site 3 of 3 in cluster A

Actual: 78 ft.

MA Spills:

Facility ID:	0000	Spill ID:	S91-0794
Staff Lead:	BRENNAN, S	Date Entered:	Not reported
Last Entered:	19920107	First Response:	19911217
Spill Date:	19911125	Spill Time:	Not reported
Report Date:	19911217	Report Time:	11:00AM
Case Closed:	YES	Mat Type:	HAZARDOUS
Virgin Waste:	WASTE	Contam Soil:	Not reported
Env Impact:	Not reported	Other Impact:	Not reported
Material:	OTHER MATERIAL -->	Other Material:	HAZARDOUS MATERIALS
Qty Reported:	51-100	Qty Actual:	UNKNOWN
Qty Reported:	DRUMS	Qty Actual:	DRUMS
CAS No:	Not reported	PCB Lev (ppm):	----------
Source:	DRUM	Other Source:	Not reported
Incident:	DUMPING	Other Incdnt:	Not reported

A-1 STORAGE (Continued) **S101041041**

Cleanup Type:	---	Contractor:	NOT USED
Referral:	HW	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	LT MACH/FD		
Notif Tel:	Not reported		
Days/Close:	1		

Facility ID:	0000	Spill ID:	S92-0454
Staff Lead:	KEARNS, R	Date Entered:	Not reported
Last Entered:	19920706	First Response:	19920629
Spill Date:	19920629	Spill Time:	Not reported
Report Date:	19920629	Report Time:	03:45PM
Case Closed:	YES	Mat Type:	BOTH
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	Not reported	Other Impact:	Not reported
Material:	OTHER MATERIAL -->	Other Material:	DRUMS
Qty Reported:	----------	Qty Actual:	----------
Qty Reported:	----------	Qty Actual:	----------
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	----------	Other Source:	Not reported
Incident:	----------	Other Incdnt:	Not reported
Cleanup Type:	---	Contractor:	NOT USED
Referral:	NO	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	DEP CHF NADEAU/FD		
Notif Tel:	Not reported		
Days/Close:	0		

Facility ID:	0000	Spill ID:	S92-0551
Staff Lead:	PINAUD, L	Date Entered:	Not reported
Last Entered:	19920819	First Response:	19920806
Spill Date:	19920803	Spill Time:	09:00AM
Report Date:	19920804	Report Time:	11:00AM
Case Closed:	YES	Mat Type:	BOTH
Virgin Waste:	WASTE	Contam Soil:	Not reported
Env Impact:	Not reported	Other Impact:	Not reported
Material:	OTHER MATERIAL -->	Other Material:	MISCELLANEOUS CHEMICALS
Qty Reported:	UNKNOWN	Qty Actual:	----------
Qty Reported:	DRUMS	Qty Actual:	----------
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	----------	Other Source:	Not reported
Incident:	----------	Other Incdnt:	Not reported
Cleanup Type:	---	Contractor:	NOT USED
Referral:	NO	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	ANONYMOUS		
Notif Tel:	Not reported		
Days/Close:	1		

Facility ID:	0000	Spill ID:	S92-0551
Staff Lead:	PINAUD, L	Date Entered:	Not reported
Last Entered:	19920819	First Response:	19920806
Spill Date:	19920803	Spill Time:	09:00PM
Report Date:	19920804	Report Time:	11:00AM
Case Closed:	YES	Mat Type:	BOTH
Virgin Waste:	WASTE	Contam Soil:	Not reported
Env Impact:	Not reported	Other Impact:	Not reported

A-1 STORAGE (Continued) **S101041041**

Material:	OTHER MATERIAL	-->	Other Material:	MISCELLANEOUS CHEMICALS
Qty Reported:	UNKNOWN		Qty Actual:	----------
Qty Reported:	DRUMS		Qty Actual:	----------
CAS No:	Not reported		PCB Lev (ppm):	----------
Source:	----------		Other Source:	Not reported
Incident:	----------		Other Incdnt:	Not reported
Cleanup Type:	---		Contractor:	NOT USED
Referral:	NO		LUST Elig:	NO
Report Prep:	Not reported		Category:	Not reported
Notifier:	ANONYMOUS			
Notif Tel:	Not reported			
Days/Close:	1			

B4 **ISLAND TRANSPORTATION CO INC** **RCRA-SQG 1000151564**
SW **1 CHURCH ST** **FINDS MAD985270073**
< 1/8 **NEW BEDFORD, MA 02746**
502 ft.

Site 1 of 2 in cluster B

Relative: Lower

Actual: 69 ft.

RCRAInfo:

Owner:	MICHAEL PERETTE
EPA ID:	MAD985270073
Contact:	SHERMAN COBB (508) 993-1720
Classification:	Small Quantity Generator
TSDF Activities:	Not reported

Violation Status: No violations found

FINDS:

Other Pertinent Environmental Activity Identified at Site

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

B5 **ALDEN CORRUGATED** **SHWS S104232385**
SW **1 CHURCH ST** **Release N/A**
< 1/8 **NEW BEDFORD, MA 02740**
502 ft.

Site 2 of 2 in cluster B

Relative: Lower

Actual: 69 ft.

SHWS:

Facility ID:	4-0011155
Source Type:	BLDG
Release Town:	NEW BEDFORD
Notification Date:	02/23/95
Category:	TWO HR
Associated ID:	-
Facility Status:	**Response Action Outcome**

ALDEN CORRUGATED (Continued) **S104232385**

Status Date:	08/28/95
Phase:	Not reported
Response Action Outcome Class:	A1
Oil Or Haz Material:	Oil and Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	08/28/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	6120
Action Type:	Immediate Response
Action Stat:	Written Plan Received
Action Date:	08/16/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6120
Action Type:	RNF
Action Stat:	REPORT
Action Date:	05/23/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	02/23/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	Not reported
Quantity:	Not reported
Chemical:	ASBESTOS
Amount:	Not reported
Quantity:	Not reported
Chemical:	UNKNOWN CHEMICAL OF TYPE - HAZARDOUS MATERIAL
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Location Type:	INDUSTRIAL
Source Type:	BLDG
Facility ID:	4-0014950
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	08/19/99
Category:	120 DY
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	02/26/04
Phase:	Not reported
Response Action Outcome Class:	A2
Oil Or Haz Material:	Oil and Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	02/26/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to

ALDEN CORRUGATED (Continued) **S104232385**

	background.
Activity Use Limitaion:	NONE
LSP Number:	7473
Action Type:	RNF
Action Stat:	REPORT
Action Date:	08/19/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	TOTAL PETROLEUM HYDROCARBONS (TPH)
Amount:	2100
Quantity:	parts per million
Chemical:	LEAD
Amount:	1700
Quantity:	parts per million
Location Type:	Not reported
Source Type:	Not reported

MA RELEASE:

Facility ID:	4-0011155
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	02/23/95
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	08/28/95
Phase:	Not reported
Rspns Actn Outcome Class:	A1
Oil / Haz Material Type:	Oil and Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	08/28/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	6120
Action Type:	Immediate Response
Action Stat:	Written Plan Received
Action Date:	08/16/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6120
Action Type:	RNF
Action Stat:	REPORT
Action Date:	05/23/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	02/23/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	Not reported
Quantity:	Not reported

ALDEN CORRUGATED (Continued) **S104232385**

Chemical:	ASBESTOS
Amount:	Not reported
Quantity:	Not reported
Chemical:	UNKNOWN CHEMICAL OF TYPE - HAZARDOUS MATERIAL
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Location Type:	INDUSTRIAL
Source Type:	BLDG
Facility ID:	4-0014950
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	08/19/99
Category:	120 DY
Facility Status:	**Response Action Outcome**
Status Date:	02/26/04
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Oil and Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	02/26/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	7473
Action Type:	RNF
Action Stat:	REPORT
Action Date:	08/19/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	TOTAL PETROLEUM HYDROCARBONS (TPH)
Amount:	2100
Quantity:	parts per million
Chemical:	LEAD
Amount:	1700
Quantity:	parts per million
Location Type:	Not reported
Source Type:	Not reported

---

6 **ALDEN CORRUGATED CONTAINER** **CERC-NFRAP** **1003862960**
SW **ONE CHURCH STREET** **MA0001058148**
< 1/8 **NEW BEDFORD, MA 02746**
620 ft.

Relative:
Lower

Actual:
68 ft.

CERC-NFRAP:

Site ID:	0102781
Federal Facility:	Not a Federal Facility
NPL Status:	Not on the NPL
Non NPL Status:	Removal Only Site (No Site Assessment Work Needed)

CERCLIS-NFRAP Site Contact Name(s):

Contact Name:	Nancy Smith
Contact Tel:	(617) 918-1436
Contact Title:	Site Assessment Manager (SAM)

ALDEN CORRUGATED CONTAINER (Continued) **1003862960**

Contact Name: JANIS TSANG
Contact Tel: (617) 918-1231
Contact Title: On-Scene Coordinator (OSC)

Site Description: FORMER CORRUGATED BOX MANUFACTURING PLANT.

CERCLIS-NFRAP Assessment History:
Action: Public Notice Published
Date Started: Not reported
Date Completed: 05/04/1995
Priority Level: Not reported

Action: REMOVAL
Date Started: 03/06/1995
Date Completed: 07/06/1995
Priority Level: Cleaned up

Action: NON-NATIONAL PRIORITIES LIST POTENTIALLY RESPONSIBLE PARTY SEARCH
Date Started: 03/06/1995
Date Completed: 10/07/1996
Priority Level: Not reported

Action: ARCHIVE SITE
Date Started: Not reported
Date Completed: 11/07/1996
Priority Level: Not reported

---

7 **TIBBETTS ENGINEERING CORP** **RCRA-SQG** **1004715510**
SSW **210 DEANE ST** **FINDS** **MAD019519867**
1/8-1/4 **NEW BEDFORD, MA 02746**
699 ft.

Relative:
Lower

Actual:
61 ft.

RCRAInfo:
Owner: TIBBETTS ENGINEERING CORP
EPA ID: MAD019519867
Contact: FRED TIBBETTS
(508) 996-5633
Classification: Conditionally Exempt Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site

MA-EPICS

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

8
NE
1/8-1/4
717 ft.

RUSSELLS CLEANERS
295 ASHLEY BLVD
NEW BEDFORD, MA 02745

RCRA-SQG
FINDS
DRYCLEANERS

1004716103
MAD084801190

Relative:
Equal

Actual:
78 ft.

RCRAInfo:
Owner: RUSSELLS CLEANERS
EPA ID: MAD084801190
Contact: MICHAEL WENDLING
(508) 994-6041
Classification: Conditionally Exempt Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site

MA-EPICS

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Drycleaners:
Facility ID: 31331
Class Type Code: ERDCNA

C9
WNW
1/8-1/4
767 ft.

MANUEL CORREIA
62 CHURCH ST
NEW BEDFORD, MA 02746

UST

U000230891
N/A

Site 1 of 2 in cluster C

Relative:
Higher

Actual:
83 ft.

UST:
Facility ID: 3459
Tank ID: 1
Serial Number: Not reported
Aboveground: No
Capacity: 3000
Contents: Gasoline
Tank Status: Removed
Tank Useage: Not reported
Tank Material: Steel
Tank Contents: Not reported
Pipe Material: Steel
Pipe Container: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Owner: MANUEL CORREIA
Owner Address: 62 CHURCH ST
Owner City,St,Zip: NEW BEDFORD, MA 02746

MANUEL CORREIA (Continued) **U000230891**

Telephone: Not reported
Description: Other
Fire Dept. ID: 5201
Financial Responsibility: Normal

Facility ID: 3459
Tank ID: 2
Serial Number: Not reported
Aboveground: No
Capacity: 3000
Contents: Gasoline
Tank Status: Removed
Tank Useage: Not reported
Tank Material: Steel
Tank Contents: Not reported
Pipe Material: Steel
Pipe Container: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Owner: MANUEL CORREIA
Owner Address: 62 CHURCH ST
Owner City,St,Zip: NEW BEDFORD, MA 02746
Telephone: Not reported
Description: Other
Fire Dept. ID: 5201
Financial Responsibility: Normal

Facility ID: 3459
Tank ID: 3
Serial Number: Not reported
Aboveground: No
Capacity: 2000
Contents: Gasoline
Tank Status: Removed
Tank Useage: Not reported
Tank Material: Steel
Tank Contents: Not reported
Pipe Material: Steel
Pipe Container: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Owner: MANUEL CORREIA
Owner Address: 62 CHURCH ST
Owner City,St,Zip: NEW BEDFORD, MA 02746
Telephone: Not reported
Description: Other
Fire Dept. ID: 5201
Financial Responsibility: Normal

Facility ID: 3459
Tank ID: 4
Serial Number: Not reported
Aboveground: No
Capacity: Not reported
Contents: Kerosene
Tank Status: Removed
Tank Useage: Not reported

MANUEL CORREIA (Continued) **U000230891**

Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	MANUEL CORREIA
Owner Address:	62 CHURCH ST
Owner City,St,Zip:	NEW BEDFORD, MA 02746
Telephone:	Not reported
Description:	Other
Fire Dept. ID:	5201
Financial Responsibility:	Normal

Facility ID:	3459
Tank ID:	5
Serial Number:	Not reported
Aboveground:	No
Capacity:	Not reported
Contents:	Kerosene
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	MANUEL CORREIA
Owner Address:	62 CHURCH ST
Owner City,St,Zip:	NEW BEDFORD, MA 02746
Telephone:	Not reported
Description:	Other
Fire Dept. ID:	5201
Financial Responsibility:	Normal

C10 **J & J GARAGE** **UST** **U000230884**
NW **75 CHURCH ST** **N/A**
1/8-1/4 **NEW BEDFORD, MA 02746**
870 ft.

Site 2 of 2 in cluster C

Relative:
Higher

Actual:
84 ft.

UST:

Facility ID:	3394
Tank ID:	1
Serial Number:	Not reported
Aboveground:	No
Capacity:	2000
Contents:	Waste Oil
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Not reported
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	J & J GARAGE

J & J GARAGE (Continued) **U000230884**

Owner Address: 75 CHURCH ST
Owner City,St,Zip: NEW BEDFORD, MA 02746
Telephone: (617) 996-0903
Description: Other
Fire Dept. ID: 5201
Financial Responsibility: Normal

Facility ID: 3394
Tank ID: 2
Serial Number: Not reported
Aboveground: No
Capacity: 1000
Contents: Waste Oil
Tank Status: Removed
Tank Useage: Not reported
Tank Material: Not reported
Tank Contents: Not reported
Pipe Material: Not reported
Pipe Container: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Owner: J & J GARAGE
Owner Address: 75 CHURCH ST
Owner City,St,Zip: NEW BEDFORD, MA 02746
Telephone: (617) 996-0903
Description: Other
Fire Dept. ID: 5201
Financial Responsibility: Normal

---

11 **PROPERTY** **SHWS** **S101037272**
SSE **79 BROOK ST** **LUST** **N/A**
1/8-1/4 **NEW BEDFORD, MA** **Release**
884 ft. **MA Spills**
INST CONTROL

Relative:
Lower

Actual:
48 ft.

SHWS:
Facility ID: 4-0010386
Source Type: ABANDONED
Release Town: NEW BEDFORD
Notification Date: 03/22/94
Category: 72 HR
Associated ID: -
Facility Status: Response Action Outcome
Status Date: 04/03/95
Phase: Not reported
Response Action Outcome Class: A3
Oil Or Haz Material: Oil
Action Type: Response Action Outcome
Action Stat: Action Audited
Action Date: 01/03/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Activity Use Limitaion: NOTICE
LSP Number: Not reported
Action Type: Activity and Use Limitation
Action Stat: Level II - Audit Inspection
Action Date: 09/13/2002
Response Action Outcome: Not reported

PROPERTY (Continued) **S101037272**

Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	04/06/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Action Audited
Action Date:	01/03/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1481
Action Type:	Release
Action Stat:	REPORT
Action Date:	03/22/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #6
Amount:	12
Quantity:	inches
Chemical:	FUEL OIL #6
Amount:	Not reported
Quantity:	Not reported
Location Type:	INDUSTRIAL
Source Type:	ABANDONED
Source Type:	UST
Facility ID:	4-0000989
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	07/15/93
Category:	NONE
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	05/16/00
Phase:	Not reported
Response Action Outcome Class:	A2
Oil Or Haz Material:	Not reported
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/27/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	5156
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	07/15/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release Abatement Measure
Action Stat:	Completion Statement Received
Action Date:	05/16/2000

PROPERTY (Continued) **S101037272**

Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount: Not reported
Quantity: Not reported
Location Type: Not reported
Source Type: Not reported

LUST:
Facility ID: 4-0010386
Source Type: UST
Release Town: NEW BEDFORD
Notification Date: 03/22/94
Category: 72 HR
Associated ID: -
Site Status: **Response Action Outcome**
Status Date: 04/03/95
Phase: Not reported
Rspns Actn Outcome Class: A3
Oil Or Haz Material: Oil
Action Type: Response Action Outcome
Action Stat: Action Audited
Action Date: 01/03/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Activity Use Limitaion: NOTICE
LSP Number: Not reported
Action Type: Activity and Use Limitation
Action Stat: Level II - Audit Inspection
Action Date: 09/13/2002
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: RNF
Action Stat: REPORT
Action Date: 04/06/1994
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: Immediate Response
Action Stat: Action Audited
Action Date: 01/03/2001
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: 1481
Action Type: Release
Action Stat: REPORT
Action Date: 03/22/1994
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: FUEL OIL #6
Amount: 12
Quantity: inches
Chemical: FUEL OIL #6
Amount: Not reported

PROPERTY (Continued) **S101037272**

Quantity:	Not reported
Location Type:	INDUSTRIAL
Source Type:	ABANDONED
Source Type:	UST

MA RELEASE:

Facility ID:	4-0000989
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	07/15/93
Category:	NONE
Facility Status:	**Response Action Outcome**
Status Date:	05/16/00
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Not reported
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/27/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	5156
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	07/15/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release Abatement Measure
Action Stat:	Completion Statement Received
Action Date:	05/16/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

Facility ID:	4-0010386
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	03/22/94
Category:	72 HR
Facility Status:	**Response Action Outcome**
Status Date:	04/03/95
Phase:	Not reported
Rspns Actn Outcome Class:	A3
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Action Audited
Action Date:	01/03/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Activity Use Limitaion:	NOTICE

PROPERTY (Continued) **S101037272**

LSP Number:	Not reported
Action Type:	Activity and Use Limitation
Action Stat:	Level II - Audit Inspection
Action Date:	09/13/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	04/06/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Action Audited
Action Date:	01/03/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1481
Action Type:	Release
Action Stat:	REPORT
Action Date:	03/22/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #6
Amount:	12
Quantity:	inches
Chemical:	FUEL OIL #6
Amount:	Not reported
Quantity:	Not reported
Location Type:	INDUSTRIAL
Source Type:	ABANDONED
Source Type:	UST

MA Spills:

Facility ID:	0000	Spill ID:	S90-0774
Staff Lead:	MORAN, M	Date Entered:	Not reported
Last Entered:	19901022	First Response:	19901015
Spill Date:	Not reported	Spill Time:	Not reported
Report Date:	19901011	Report Time:	02:00PM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	Not reported	Other Impact:	Not reported
Material:	#2 FUEL OIL	Other Material:	Not reported
Qty Reported:	UNKNOWN	Qty Actual:	UNKNOWN
Qty Reported:	----------	Qty Actual:	----------
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	U.S.T.	Other Source:	Not reported
Incident:	LEAK	Other Incdnt:	Not reported
Cleanup Type:	SSC	Contractor:	NOT USED
Referral:	NO	LUST Elig:	---
Report Prep:	Not reported	Category:	Not reported
Notifier:	BOB ATWOOD/RESOURCE CONTR		
Notif Tel:	Not reported		
Days/Close:	1		

PROPERTY (Continued) **S101037272**

Facility ID:	0000	Spill ID:	W93-0012
Staff Lead:	CARPENTER, C	Date Entered:	Not reported
Last Entered:	19930127	First Response:	19930107
Spill Date:	Not reported	Spill Time:	Not reported
Report Date:	19930107	Report Time:	12:00PM
Case Closed:	YES	Mat Type:	UNKNOWN
Virgin Waste:	WASTE	Contam Soil:	Not reported
Env Impact:	Not reported	Other Impact:	Not reported
Material:	OTHER MATERIAL -->	Other Material:	DRUMS & BARRELS
Qty Reported:	UNKNOWN	Qty Actual:	UNKNOWN
Qty Reported:	----------	Qty Actual:	----------
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	DRUM	Other Source:	Not reported
Incident:	OTHER RELEASE >	Other Incdnt:	THREAT ONLY
Cleanup Type:	---	Contractor:	NOT USED
Referral:	SW	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	LARRY, HPD		
Notif Tel:	Not reported		
Days/Close:	0		

INST CONTROL:

Release Tracking Number:	4-0010386
Action Type:	AUL
Action Stat:	SNAUDI
Action Date:	09/13/02
Response Action Outcome:	Not reported
Activity Use Limitation:	Not reported
LSP Number:	Not reported

D12 **EXECUTIVE AUTO** **RCRA-SQG** **1000397685**
SSW **2359 PURCHASE ST** **FINDS** **MAD063895155**
1/8-1/4 **NEW BEDFORD, MA 02746** **CT MANIFEST**
1054 ft.

Site 1 of 3 in cluster D

Relative: Lower

Actual: 63 ft.

RCRAInfo:

Owner:	EXECUTIVE AUTO
EPA ID:	MAD063895155
Contact:	FRED DAYTON (508) 993-2616
Classification:	Small Quantity Generator
TSDF Activities:	Not reported

Violation Status: No violations found

FINDS:

Other Pertinent Environmental Activity Identified at Site

MA-EPICS

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required

EXECUTIVE AUTO (Continued) **1000397685**

under RCRA.

CT MANIFEST:

Year:	1988
Manifest ID:	CTC0163719
TSDF EPA ID:	CTD072138969
TSDF Name:	ENVIRONMENTAL WASTE RESOURCES, INC.
TSDF Address:	130 FREIGHT STREET
TSDF City,St,Zip:	WATERBURY, CT 06702
TSDF Country:	USA
TSDF Telephone:	Not reported
Transport Date:	06/23/88
Transporter EPA ID:	VAD980831580
Transporter Name:	HAZCO INTERNATIONAL, INC.
Transporter Country:	USA
Transporter Phone:	Not reported
Trans 2 Date:	/ /
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
Trans 2 Address:	Not reported
Trans 2 City,St,Zip:	CT
Trans 2 Country:	USA
Trans 2 Phone:	Not reported
Generator EPA ID:	MAD063895155
Gererator Phone:	5089932616
Generator Address:	Not reported
Generator City,State,Zip:	Not reported
Generator Country:	Not reported
Special Handling:	Yes
Discrepancies:	No
Date Shipped:	06/23/88
Date Received:	06/27/88
Last modified date:	04/27/04
Last modified by:	IG
Comments:	Not reported

Click this hyperlink while viewing on your computer to access
1 additional CT MANIFEST: record(s) in the EDR Site Report.

D13 **GLENN HARTE** **UST** **U001004838**
SSW **2359 PURCHASE ST** **N/A**
1/8-1/4 **NEW BEDFORD, MA 02746**
1054 ft.

Site 2 of 3 in cluster D

Relative:
Lower

Actual:
63 ft.

UST:

Facility ID:	3366
Tank ID:	1
Serial Number:	Not reported
Aboveground:	No
Capacity:	2000
Contents:	Waste Oil
Tank Status:	**Removed**
Tank Useage:	Not reported

GLENN HARTE (Continued) **U001004838**

Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	GLENN HARTE
Owner Address:	2359 PURCHASE ST
Owner City,St,Zip:	NEW BEDFORD, MA 02746
Telephone:	(617) 993-2616
Description:	Other
Fire Dept. ID:	5201
Financial Responsibility:	Normal

D14 **MINIT MAN AUTO WASH** **UST** **U001004849**
SSW **2351 PURCHASE ST** **N/A**
1/8-1/4 **NEW BEDFORD, MA 02746**
1081 ft.

Site 3 of 3 in cluster D

Relative:
Lower

Actual:
63 ft.

UST:

Facility ID:	3382
Tank ID:	1
Serial Number:	Not reported
Aboveground:	No
Capacity:	10000
Contents:	Gasoline
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Steel
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	MADELEINE STYKOWSKI
Owner Address:	7 DEAN ST
Owner City,St,Zip:	DARTMOUTH, MA 02747
Telephone:	(617) 994-2535
Description:	Other
Fire Dept. ID:	5201
Financial Responsibility:	Normal

Facility ID:	3382
Tank ID:	2
Serial Number:	Not reported
Aboveground:	No
Capacity:	10000
Contents:	Gasoline
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Steel
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	MADELEINE STYKOWSKI

MINIT MAN AUTO WASH (Continued) **U001004849**

Owner Address: 7 DEAN ST
Owner City,St,Zip: DARTMOUTH, MA 02747
Telephone: (617) 994-2535
Description: Other
Fire Dept. ID: 5201
Financial Responsibility: Normal

E15 **7-ELEVEN #33287** **UST** **U003876664**
East **1499 ACUSHNET AVE** **N/A**
1/8-1/4 **NEW BEDFORD, MA 02740**
1120 ft.

Site 1 of 2 in cluster E

Relative:
Lower

Actual:
60 ft.

UST:
Facility ID: 22152
Tank ID: 1
Serial Number: A-61019
Aboveground: No
Capacity: 15000
Contents: Gasoline
Tank Status: **In Use**
Tank Useage: MV
Tank Material: Reinforced
Tank Contents: 2 Walls
Pipe Material: Flexible
Pipe Container: 2 Walls
Tank Leak Detection: Interstitial Monitoring
Pipe Leak Detection: Product Line Leak Detector
Owner: 7-ELEVEN INC
Owner Address: PO BOX 711
Owner City,St,Zip: DALLAS, TX 75221
Telephone: (847) 608-1136
Description: Gas Station / Conv Store
Fire Dept. ID: 5201
Financial Responsibility: Self Insured, Trust Fundt,

Facility ID: 22152
Tank ID: 2
Serial Number: A-61018
Aboveground: No
Capacity: 10000
Contents: Gasoline
Tank Status: **In Use**
Tank Useage: MV
Tank Material: Reinforced
Tank Contents: 2 Walls
Pipe Material: Flexible
Pipe Container: 2 Walls
Tank Leak Detection: Interstitial Monitoring
Pipe Leak Detection: Product Line Leak Detector
Owner: 7-ELEVEN INC
Owner Address: PO BOX 711
Owner City,St,Zip: DALLAS, TX 75221
Telephone: (847) 608-1136
Description: Gas Station / Conv Store
Fire Dept. ID: 5201
Financial Responsibility: Self Insured, Trust Fundt,

E16
East
1/8-1/4
1120 ft.

Relative:
Lower

Actual:
60 ft.

7 ELEVEN
1499 ACUSHNET AVE
NEW BEDFORD, MA 02742

Site 2 of 2 in cluster E

RCRA-SQG
FINDS

1006808131
MAR000508754

RCRAInfo:
Owner: 7 ELEVEN INC
EPA ID: MAR000508754
Contact: GARRY BLAIR
(757) 490-1711
Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site

MA-EPICS

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

17
SE
1/8-1/4
1174 ft.

Relative:
Lower

Actual:
51 ft.

SAINT ANTHONY'S OF PADAUA
190 ASHLEY BLVD
NEW BEDFORD, MA

SHWS
LUST
Release

S106344110
N/A

SHWS:

Facility ID:	4-0018201
Source Type:	PIPE
Release Town:	NEW BEDFORD
Notification Date:	12/29/03
Category:	TWO HR
Associated ID:	-
Facility Status:	**TIERII**
Status Date:	12/22/04
Phase:	PHASE II
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	RNF
Action Stat:	REPORT
Action Date:	03/01/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	10/19/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported

SAINT ANTHONY'S OF PADAUA (Continued) **S106344110**

LSP Number:	5248
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/29/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5248
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	12/22/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7473
Action Type:	Tier Classification
Action Stat:	Legal Notice Published
Action Date:	12/27/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7473
Action Type:	Release Abatement Measure
Action Stat:	Fee Received
Action Date:	10/19/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7473
Action Type:	Phase II
Action Stat:	Scope of Work Received
Action Date:	12/22/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7473
Chemical:	FUEL OIL #2
Amount:	Not reported
Quantity:	Not reported
Location Type:	SCHOOL
Source Type:	PIPE
Source Type:	UST

LUST:

Facility ID:	4-0018201
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	12/29/03
Category:	TWO HR
Associated ID:	-
Site Status:	**TIERII**
Status Date:	12/22/04
Phase:	PHASE II
Rspns Actn Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	RNF
Action Stat:	REPORT
Action Date:	03/01/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response

SAINT ANTHONY'S OF PADAUA (Continued) **S106344110**

Action Stat:	Completion Statement Received
Action Date:	10/19/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5248
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/29/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5248
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	12/22/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7473
Action Type:	Tier Classification
Action Stat:	Legal Notice Published
Action Date:	12/27/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7473
Action Type:	Release Abatement Measure
Action Stat:	Fee Received
Action Date:	10/19/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7473
Action Type:	Phase II
Action Stat:	Scope of Work Received
Action Date:	12/22/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7473
Chemical:	FUEL OIL #2
Amount:	Not reported
Quantity:	Not reported
Location Type:	SCHOOL
Source Type:	PIPE
Source Type:	UST

MA RELEASE:

Facility ID:	4-0018201
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	12/29/03
Category:	TWO HR
Facility Status:	**TIERII**
Status Date:	12/22/04
Phase:	PHASE II
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	RNF
Action Stat:	REPORT
Action Date:	03/01/2004
Response Action Outcome:	Not reported

SAINT ANTHONY'S OF PADAUA (Continued) **S106344110**

Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	10/19/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5248
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/29/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5248
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	12/22/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7473
Action Type:	Tier Classification
Action Stat:	Legal Notice Published
Action Date:	12/27/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7473
Action Type:	Release Abatement Measure
Action Stat:	Fee Received
Action Date:	10/19/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7473
Action Type:	Phase II
Action Stat:	Scope of Work Received
Action Date:	12/22/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7473
Chemical:	FUEL OIL #2
Amount:	Not reported
Quantity:	Not reported
Location Type:	SCHOOL
Source Type:	PIPE
Source Type:	UST

F18 **NO LOCATION AID** **SHWS** **S106513528**
SSW **2307 PURCHASE ST** **Release** **N/A**
1/8-1/4 **NEW BEDFORD, MA** **INST CONTROL**
1262 ft.

Site 1 of 2 in cluster F

Relative: Lower

Actual: 61 ft.

SHWS:

Facility ID:	4-0018572
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	07/22/04
Category:	120 DY
Associated ID:	-

NO LOCATION AID (Continued) **S106513528**

Facility Status:	**Response Action Outcome**
Status Date:	11/23/04
Phase:	Not reported
Response Action Outcome Class:	B2
Oil Or Haz Material:	Oil and Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	01/05/2005
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Activity Use Limitaion:	NONE
LSP Number:	5156
Action Type:	Activity and Use Limitation
Action Stat:	Level I - Technical Screen Audit
Action Date:	01/04/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5156
Action Type:	RNF
Action Stat:	REPORT
Action Date:	07/22/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	NAPHTHALENE
Amount:	13
Quantity:	parts per million
Chemical:	2-METHYLNAPHTHALENE
Amount:	10
Quantity:	parts per million
Location Type:	Not reported
Source Type:	Not reported

MA RELEASE:

Facility ID:	4-0018572
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	07/22/04
Category:	120 DY
Facility Status:	**Response Action Outcome**
Status Date:	11/23/04
Phase:	Not reported
Rspns Actn Outcome Class:	B2
Oil / Haz Material Type:	Oil and Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	01/05/2005
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Activity Use Limitaion:	NONE
LSP Number:	5156
Action Type:	Activity and Use Limitation
Action Stat:	Level I - Technical Screen Audit
Action Date:	01/04/2005
Response Action Outcome:	Not reported

NO LOCATION AID (Continued) **S106513528**

Activity Use Limitaion:	Not reported
LSP Number:	5156
Action Type:	RNF
Action Stat:	REPORT
Action Date:	07/22/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	NAPHTHALENE
Amount:	13
Quantity:	parts per million
Chemical:	2-METHYLNAPHTHALENE
Amount:	10
Quantity:	parts per million
Location Type:	Not reported
Source Type:	Not reported

INST CONTROL:

Release Tracking Number:	4-0018572
Action Type:	AUL
Action Stat:	TSAUD
Action Date:	01/04/05
Response Action Outcome:	Not reported
Activity Use Limitation:	Not reported
LSP Number:	5156

F19
SSW
1/8-1/4
1289 ft.

Relative:
Lower

Actual:
62 ft.

NO LOCATION AID **SHWS** **S104232381**
2301 PURCHASE ST **Release** **N/A**
NEW BEDFORD, MA

Site 2 of 2 in cluster F

SHWS:

Facility ID:	4-0010910
Source Type:	FUELTANK
Release Town:	NEW BEDFORD
Notification Date:	11/12/94
Category:	TWO HR
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	11/17/95
Phase:	Not reported
Response Action Outcome Class:	A1
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Fee Received
Action Date:	12/08/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	11/17/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported

NO LOCATION AID (Continued) **S104232381**

Action Type:	Release
Action Stat:	REPORT
Action Date:	11/12/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	DIESEL FUEL
Amount:	20
Quantity:	gallons
Location Type:	COMMERCIAL
Location Type:	INDUSTRIAL
Source Type:	FUELTANK
Facility ID:	4-0017775
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	04/14/03
Category:	120 DY
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	04/14/03
Phase:	Not reported
Response Action Outcome Class:	B1
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	06/19/2003
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	5156
Action Type:	RNF
Action Stat:	REPORT
Action Date:	04/14/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	Not reported
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

MA RELEASE:

Facility ID:	4-0010910
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	11/12/94
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	11/17/95
Phase:	Not reported
Rspns Actn Outcome Class:	A1
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Fee Received
Action Date:	12/08/1995

NO LOCATION AID (Continued) **S104232381**

Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	11/17/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	11/12/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	DIESEL FUEL
Amount:	20
Quantity:	gallons
Location Type:	COMMERCIAL
Location Type:	INDUSTRIAL
Source Type:	FUELTANK
Facility ID:	4-0017775
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	04/14/03
Category:	120 DY
Facility Status:	**Response Action Outcome**
Status Date:	04/14/03
Phase:	Not reported
Rspns Actn Outcome Class:	B1
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	06/19/2003
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	5156
Action Type:	RNF
Action Stat:	REPORT
Action Date:	04/14/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	Not reported
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

20
North
1/4-1/2
1422 ft.

WEIGEL & SON
282 NASH RD
NEW BEDFORD, MA 02740

LUST
Release

S100829290
N/A

Relative:
Higher

Actual:
87 ft.

LUST:

Facility ID:	4-0000817
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	07/15/93
Category:	NONE
Associated ID:	-
Site Status:	**TIERII**
Status Date:	08/08/97
Phase:	PHASE II
Rspns Actn Outcome Class:	Not reported
Oil Or Haz Material:	Not reported
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	08/08/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	07/15/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	LNKVTC
Action Date:	07/24/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase II
Action Stat:	Notice of Delay in meeting Response Action Deadline
Action Date:	08/13/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Source Type:	UST

Facility ID:	4-0013204
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	07/18/97
Category:	72 HR
Associated ID:	4-0000817
Site Status:	**Response Action Outcome Not Required**
Status Date:	07/24/98
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome Not Required

WEIGEL & SON (Continued) **S100829290**

Action Stat:	Related to a Tier Classified Site
Action Date:	07/24/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1970
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	04/27/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1970
Action Type:	RNF
Action Stat:	REPORT
Action Date:	07/24/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	07/18/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	LNKVTC
Action Date:	07/24/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	.5
Quantity:	inches
Location Type:	COMMERCIAL
Source Type:	UST

MA RELEASE:

Facility ID:	4-0000817
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	07/15/93
Category:	NONE
Facility Status:	**TIERII**
Status Date:	08/08/97
Phase:	PHASE II
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Not reported
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	08/08/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	07/15/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported

WEIGEL & SON (Continued) **S100829290**

LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	LNKVTC
Action Date:	07/24/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase II
Action Stat:	Notice of Delay in meeting Response Action Deadline
Action Date:	08/13/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Source Type:	UST
Facility ID:	4-0013204
Primary ID:	4-0000817
Official City:	NEW BEDFORD
Notification:	07/18/97
Category:	72 HR
Facility Status:	**Response Action Outcome Not Required**
Status Date:	07/24/98
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	07/24/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1970
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	04/27/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1970
Action Type:	RNF
Action Stat:	REPORT
Action Date:	07/24/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	07/18/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	LNKVTC
Action Date:	07/24/1998
Response Action Outcome:	Not reported

WEIGEL & SON (Continued) **S100829290**

Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	.5
Quantity:	inches
Location Type:	COMMERCIAL
Source Type:	UST

---

21 **COATERS INC** **LUST** **S101045897**
NNW **305 NASH RD** **Release** **N/A**
1/4-1/2 **NEW BEDFORD, MA 02740** **LAST**
1440 ft. **MA Spills**

Relative:
Higher

Actual:
85 ft.

LUST:

Facility ID:	4-0016254
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	05/18/01
Category:	72 HR
Associated ID:	-
Site Status:	**Response Action Outcome**
Status Date:	05/24/02
Phase:	PHASE II
Rspns Actn Outcome Class:	B1
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Fee Received
Action Date:	05/30/2002
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	4075
Action Type:	RNF
Action Stat:	REPORT
Action Date:	07/17/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	05/24/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4075
Action Type:	Immediate Response
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/24/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4075
Action Type:	Release
Action Stat:	REPORT
Action Date:	05/18/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4075
Chemical:	PETROLEUM BASED OIL
Amount:	1200

COATERS INC (Continued) **S101045897**

Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

MA RELEASE:

Facility ID:	4-0012804
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	01/23/97
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	04/04/97
Phase:	Not reported
Rspns Actn Outcome Class:	A1
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	04/04/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	1127
Action Type:	RNF
Action Stat:	REPORT
Action Date:	04/04/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	04/04/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Release
Action Stat:	REPORT
Action Date:	01/23/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #4
Amount:	100
Quantity:	gallons
Location Type:	INDUSTRIAL
Source Type:	AST

Facility ID:	4-0016254
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	05/18/01
Category:	72 HR
Facility Status:	**Response Action Outcome**
Status Date:	05/24/02
Phase:	PHASE II
Rspns Actn Outcome Class:	B1
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome

COATERS INC (Continued) **S101045897**

Action Stat:	Fee Received
Action Date:	05/30/2002
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	4075
Action Type:	RNF
Action Stat:	REPORT
Action Date:	07/17/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	05/24/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4075
Action Type:	Immediate Response
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/24/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4075
Action Type:	Release
Action Stat:	REPORT
Action Date:	05/18/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4075
Chemical:	PETROLEUM BASED OIL
Amount:	1200
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

LAST:

Facility ID:	4-0012804
Source Type:	AST
Release Town:	NEW BEDFORD
Notification Date:	01/23/97
Category:	TWO HR
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	04/04/97
Phase:	Not reported
Rspns Actn Outcome Class:	A1
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	04/04/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	1127
Action Type:	RNF
Action Stat:	REPORT

COATERS INC (Continued) **S101045897**

Action Date:	04/04/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	04/04/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Release
Action Stat:	REPORT
Action Date:	01/23/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #4
Amount:	100
Quantity:	gallons
Location Type:	INDUSTRIAL
Source Type:	AST

MA Spills:

Facility ID:	0000	Spill ID:	S93-0128
Staff Lead:	BRENNAN, S	Date Entered:	19930922
Last Entered:	19930922	First Response:	19930302
Spill Date:	19930219	Spill Time:	11:00AM
Report Date:	19930302	Report Time:	03:29PM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	----------	Other Impact:	Not reported
Material:	#6 FUEL OIL	Other Material:	Not reported
Qty Reported:	51-100	Qty Actual:	51-100
Qty Reported:	GALLONS	Qty Actual:	GALLONS
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	U.S.T.	Other Source:	Not reported
Incident:	OVERFILL	Other Incdnt:	Not reported
Cleanup Type:	---	Contractor:	NOT USED
Referral:	NO	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	PHILIP PATRICK		
Notif Tel:	Not reported		
Days/Close:	0		

---

22 **MY BREAD BAKERY** **SHWS** **S104232371**
East **229 COFFIN AVE** **Release** **N/A**
1/4-1/2 **NEW BEDFORD, MA**
1450 ft.

Relative:
Lower

Actual:
47 ft.

SHWS:

Facility ID:	4-0010412
Source Type:	UNKNOWN
Release Town:	NEW BEDFORD
Notification Date:	04/08/94
Category:	120 DY
Associated ID:	-
Facility Status:	**Response Action Outcome**

MY BREAD BAKERY (Continued) **S104232371**

Status Date:	05/10/94
Phase:	Not reported
Response Action Outcome Class:	B1
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	05/10/1994
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	7706
Action Type:	RNF
Action Stat:	REPORT
Action Date:	05/10/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	04/08/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	IRA Assessment Only
Action Date:	04/08/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7706
Chemical:	GASOLINE
Amount:	883
Quantity:	parts per million
Location Type:	INDUSTRIAL
Location Type:	COMMERCIAL
Source Type:	UNKNOWN

MA RELEASE:

Facility ID:	4-0010412
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	04/08/94
Category:	120 DY
Facility Status:	**Response Action Outcome**
Status Date:	05/10/94
Phase:	Not reported
Rspns Actn Outcome Class:	B1
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	05/10/1994
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	7706
Action Type:	RNF
Action Stat:	REPORT
Action Date:	05/10/1994

MY BREAD BAKERY (Continued) **S104232371**

Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	04/08/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	IRA Assessment Only
Action Date:	04/08/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7706
Chemical:	GASOLINE
Amount:	883
Quantity:	parts per million
Location Type:	INDUSTRIAL
Location Type:	COMMERCIAL
Source Type:	UNKNOWN

---

23 **DAWSON BREWERY** **US BROWNFIELDS** **1008375962**
South **29 BROOK STREET** **N/A**
1/4-1/2 **NEW BEDFORD, MA 02746**
1534 ft.

Relative: **Lower**

Actual: **52 ft.**

US BROWNFIELDS:

Recipient Name:	City of New Bedford
Project Name:	New Bedford, MA (A03)
EPA ID:	Not reported
Region Number:	1
Latitude:	41.778889
Longitude:	-71.166944
Assessment Date:	Not reported
Clean up Date:	Not reported
Entity Type:	Local Government

---

24 **SUNOCO XTRAMART** **LUST** **S103250176**
NNE **367 ASHLEY BLVD** **Release** **N/A**
1/4-1/2 **NEW BEDFORD, MA**
1540 ft.

Relative: **Higher**

Actual: **85 ft.**

LUST:

Facility ID:	4-0013841
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	04/30/98
Category:	72 HR
Associated ID:	-
Site Status:	**Response Action Outcome**
Status Date:	07/03/06
Phase:	PHASE V
Rspns Actn Outcome Class:	A2
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome

SUNOCO XTRAMART (Continued) **S103250176**

Action Stat:	IMRCD
Action Date:	01/28/2004
Response Action Outcome:	A temporary solution, which ensures the elimination of any substantial hazard, has been achieved at the disposal site.
Activity Use Limitaion:	NONE
LSP Number:	7212
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	10/01/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	04/28/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	04/28/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	Phase IV
Action Stat:	Completion Statement Received
Action Date:	07/10/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	10/17/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	Release
Action Stat:	REPORT
Action Date:	04/30/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase V
Action Stat:	IMRCD
Action Date:	07/29/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	07/10/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	RNF
Action Stat:	REPORT
Action Date:	05/21/1998

SUNOCO XTRAMART (Continued) **S103250176**

Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	100
Quantity:	gallons
Location Type:	COMMERCIAL
Source Type:	UST

MA RELEASE:

Facility ID:	4-0013841
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	04/30/98
Category:	72 HR
Facility Status:	**Response Action Outcome**
Status Date:	07/03/06
Phase:	PHASE V
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	IMRCD
Action Date:	01/28/2004
Response Action Outcome:	A temporary solution, which ensures the elimination of any substantial hazard, has been achieved at the disposal site.
Activity Use Limitaion:	NONE
LSP Number:	7212
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	10/01/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	04/28/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	04/28/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	Phase IV
Action Stat:	Completion Statement Received
Action Date:	07/10/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	10/17/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212

SUNOCO XTRAMART (Continued) **S103250176**

Action Type:	Release
Action Stat:	REPORT
Action Date:	04/30/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase V
Action Stat:	IMRCD
Action Date:	07/29/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	07/10/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	RNF
Action Stat:	REPORT
Action Date:	05/21/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	100
Quantity:	gallons
Location Type:	COMMERCIAL
Source Type:	UST

---

25 **LUZO FOOD SERVICE CORP** **LUST** **S101026707**
NW **376 NASH RD** **Release** **N/A**
1/4-1/2 **NEW BEDFORD, MA 02740** **MA Spills**
1620 ft. **INST CONTROL**

Relative:
Higher

Actual:
87 ft.

LUST:

Facility ID:	4-0000846
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	12/05/89
Category:	NONE
Associated ID:	-
Site Status:	**Response Action Outcome**
Status Date:	03/29/06
Phase:	PHASE V
Rspns Actn Outcome Class:	A3
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	03/29/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Activity Use Limitaion:	NOTICE
LSP Number:	8403
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	07/03/1997
Response Action Outcome:	Not reported

LUZO FOOD SERVICE CORP (Continued) **S101026707**

Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase V
Action Stat:	Remedy Operation Status Submittal Received
Action Date:	03/11/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	8403
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	12/05/1989
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Activity and Use Limitation
Action Stat:	Transmittal Received
Action Date:	02/24/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	PEREFF
Action Date:	05/17/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release Abatement Measure
Action Stat:	Status Report Received
Action Date:	04/25/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase IV
Action Stat:	Completion Statement Received
Action Date:	02/07/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	07/30/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Location Type:	INDUSTRIAL
Source Type:	UST

MA RELEASE:

Facility ID:	4-0000846
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	12/05/89
Category:	NONE

LUZO FOOD SERVICE CORP (Continued) **S101026707**

Facility Status:	**Response Action Outcome**
Status Date:	03/29/06
Phase:	PHASE V
Rspns Actn Outcome Class:	A3
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	03/29/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Activity Use Limitaion:	NOTICE
LSP Number:	8403
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	07/03/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase V
Action Stat:	Remedy Operation Status Submittal Received
Action Date:	03/11/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	8403
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	12/05/1989
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Activity and Use Limitation
Action Stat:	Transmittal Received
Action Date:	02/24/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	PEREFF
Action Date:	05/17/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release Abatement Measure
Action Stat:	Status Report Received
Action Date:	04/25/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase IV
Action Stat:	Completion Statement Received
Action Date:	02/07/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	07/30/1998

LUZO FOOD SERVICE CORP (Continued) **S101026707**

Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: PETROLEUM BASED OIL
Amount: Not reported
Quantity: Not reported
Location Type: COMMERCIAL
Location Type: INDUSTRIAL
Source Type: UST

MA Spills:

Facility ID:	4-0846	Spill ID:	S89-0741
Staff Lead:	PINAUD, L	Date Entered:	Not reported
Last Entered:	19900529	First Response:	19891020
Spill Date:	19891020	Spill Time:	Not reported
Report Date:	19891020	Report Time:	11:45AM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	Not reported	Other Impact:	Not reported
Material:	DIESEL FUEL	Other Material:	Not reported
Qty Reported:	UNKNOWN	Qty Actual:	UNKNOWN
Qty Reported:	GALLONS	Qty Actual:	GALLONS
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	U.S.T.	Other Source:	Not reported
Incident:	LEAK	Other Incdnt:	Not reported
Cleanup Type:	---	Contractor:	NOT USED
Referral:	SA	LUST Elig:	---
Report Prep:	Not reported	Category:	Not reported
Notifier:	CARL RIBEIRO/LUZO		
Notif Tel:	Not reported		
Days/Close:	1		

INST CONTROL:
Release Tracking Number: 4-0000846
Action Type: AUL
Action Stat: RECPT
Action Date: 02/24/06
Response Action Outcome: Not reported
Activity Use Limitation: Not reported
LSP Number: Not reported

G26 **DEBROSS OIL CO INC** **SHWS** **U003654389**
ENE **465 N FRONT ST** **Release** **N/A**
1/4-1/2 **NEW BEDFORD, MA 02746** **UST**
1638 ft.

Site 1 of 2 in cluster G

Relative:
Lower

Actual:
54 ft.

SHWS:
Facility ID: 4-0015306
Source Type: PIPE
Release Town: NEW BEDFORD
Notification Date: 02/17/00
Category: TWO HR
Associated ID: -
Facility Status: **Response Action Outcome**
Status Date: 08/21/00
Phase: Not reported

DEBROSS OIL CO INC (Continued) **U003654389**

Response Action Outcome Class:	A1
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	10/14/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	1127
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	08/21/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	RNF
Action Stat:	REPORT
Action Date:	08/21/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	02/17/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #2
Amount:	50
Quantity:	gallons
Location Type:	COMMERCIAL
Source Type:	PIPE
Facility ID:	4-0000775
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	01/15/90
Category:	NONE
Associated ID:	-
Facility Status:	**TIERII**
Status Date:	03/25/97
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	01/15/1990
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase IV
Action Stat:	Completion Statement Received
Action Date:	12/29/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Tier Classification

DEBROSS OIL CO INC (Continued) **U003654389**

Action Stat:	Tier 2 Extension
Action Date:	01/30/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	03/25/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	02/04/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	02/04/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

MA RELEASE:

Facility ID:	4-0000775
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	01/15/90
Category:	NONE
Facility Status:	**TIERII**
Status Date:	03/25/97
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	01/15/1990
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase IV
Action Stat:	Completion Statement Received
Action Date:	12/29/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Tier Classification
Action Stat:	Tier 2 Extension
Action Date:	01/30/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported

DEBROSS OIL CO INC (Continued) **U003654389**

LSP Number:	1127
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	03/25/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	02/04/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	02/04/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported
Facility ID:	4-0015306
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	02/17/00
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	08/21/00
Phase:	Not reported
Rspns Actn Outcome Class:	A1
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	10/14/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	1127
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	08/21/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	RNF
Action Stat:	REPORT
Action Date:	08/21/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	02/17/2000

DEBROSS OIL CO INC (Continued) **U003654389**

Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: FUEL OIL #2
Amount: 50
Quantity: gallons
Location Type: COMMERCIAL
Source Type: PIPE

UST:
Facility ID: 3490
Tank ID: 1
Serial Number: Not reported
Aboveground: No
Capacity: 10000
Contents: Kerosene
Tank Status: Removed
Tank Useage: Not reported
Tank Material: Steel
Tank Contents: Not reported
Pipe Material: Not reported
Pipe Container: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Owner: DEBROSS OIL CO INC
Owner Address: 465 N FRONT ST
Owner City,St,Zip: NEW BEDFORD, MA 02746
Telephone: (617) 999-1226
Description: Other
Fire Dept. ID: 5201
Financial Responsibility: Normal

Facility ID: 3490
Tank ID: 2
Serial Number: Not reported
Aboveground: No
Capacity: 10000
Contents: Kerosene
Tank Status: Removed
Tank Useage: Not reported
Tank Material: Steel
Tank Contents: Not reported
Pipe Material: Not reported
Pipe Container: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Owner: DEBROSS OIL CO INC
Owner Address: 465 N FRONT ST
Owner City,St,Zip: NEW BEDFORD, MA 02746
Telephone: (617) 999-1226
Description: Other
Fire Dept. ID: 5201
Financial Responsibility: Normal

Facility ID: 3490
Tank ID: 3
Serial Number: Not reported

DEBROSS OIL CO INC (Continued) **U003654389**

Aboveground:	No
Capacity:	10000
Contents:	Not reported
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	DEBROSS OIL CO INC
Owner Address:	465 N FRONT ST
Owner City,St,Zip:	NEW BEDFORD, MA 02746
Telephone:	(617) 999-1226
Description:	Other
Fire Dept. ID:	5201
Financial Responsibility:	Normal

Facility ID:	3490
Tank ID:	4
Serial Number:	Not reported
Aboveground:	No
Capacity:	10000
Contents:	Not reported
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	DEBROSS OIL CO INC
Owner Address:	465 N FRONT ST
Owner City,St,Zip:	NEW BEDFORD, MA 02746
Telephone:	(617) 999-1226
Description:	Other
Fire Dept. ID:	5201
Financial Responsibility:	Normal

Facility ID:	3490
Tank ID:	5
Serial Number:	Not reported
Aboveground:	No
Capacity:	20000
Contents:	Not reported
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	DEBROSS OIL CO INC
Owner Address:	465 N FRONT ST

DEBROSS OIL CO INC (Continued) **U003654389**

Owner City,St,Zip: NEW BEDFORD, MA 02746
Telephone: (617) 999-1226
Description: Other
Fire Dept. ID: 5201
Financial Responsibility: Normal

Facility ID: 3490
Tank ID: 6
Serial Number: Not reported
Aboveground: No
Capacity: 20000
Contents: Not reported
Tank Status: Removed
Tank Useage: Not reported
Tank Material: Steel
Tank Contents: Not reported
Pipe Material: Not reported
Pipe Container: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Owner: DEBROSS OIL CO INC
Owner Address: 465 N FRONT ST
Owner City,St,Zip: NEW BEDFORD, MA 02746
Telephone: (617) 999-1226
Description: Other
Fire Dept. ID: 5201
Financial Responsibility: Normal

Facility ID: 3490
Tank ID: 7
Serial Number: Not reported
Aboveground: No
Capacity: 2000
Contents: Diesel
Tank Status: Removed
Tank Useage: Not reported
Tank Material: Steel
Tank Contents: Not reported
Pipe Material: Not reported
Pipe Container: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Owner: DEBROSS OIL CO INC
Owner Address: 465 N FRONT ST
Owner City,St,Zip: NEW BEDFORD, MA 02746
Telephone: (617) 999-1226
Description: Other
Fire Dept. ID: 5201
Financial Responsibility: Normal

Facility ID: 3490
Tank ID: 8
Serial Number: Not reported
Aboveground: No
Capacity: 2000
Contents: Gasoline
Tank Status: Removed

DEBROSS OIL CO INC (Continued) **U003654389**

Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Steel
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	DEBROSS OIL CO INC
Owner Address:	465 N FRONT ST
Owner City,St,Zip:	NEW BEDFORD, MA 02746
Telephone:	(617) 999-1226
Description:	Other
Fire Dept. ID:	5201
Financial Responsibility:	Normal

Facility ID:	3490
Tank ID:	9
Serial Number:	Not reported
Aboveground:	No
Capacity:	260
Contents:	Waste Oil
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	DEBROSS OIL CO INC
Owner Address:	465 N FRONT ST
Owner City,St,Zip:	NEW BEDFORD, MA 02746
Telephone:	(617) 999-1226
Description:	Other
Fire Dept. ID:	5201
Financial Responsibility:	Normal

G27 **SHWS** **S101023032**
ENE **466 NORTH FRONT ST** **Release** **N/A**
1/4-1/2 **NEW BEDFORD, MA** **MA Spills**
1640 ft.

Site 2 of 2 in cluster G

Relative:
Lower

Actual:
54 ft.

SHWS:

Facility ID:	4-0017730
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	03/20/03
Category:	120 DY
Associated ID:	-
Facility Status:	**TIERII**
Status Date:	03/24/04
Phase:	PHASE II
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Phase II
Action Stat:	Scope of Work Received
Action Date:	03/24/2004

(Continued) **S101023032**

Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Phase I
Action Stat:	Level I - Technical Screen Audit
Action Date:	04/01/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Tier Classification
Action Stat:	Level I - Technical Screen Audit
Action Date:	04/01/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	RNF
Action Stat:	REPORT
Action Date:	03/20/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	Not reported
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

MA RELEASE:

Facility ID:	4-0017730
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	03/20/03
Category:	120 DY
Facility Status:	**TIERII**
Status Date:	03/24/04
Phase:	PHASE II
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Phase II
Action Stat:	Scope of Work Received
Action Date:	03/24/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Phase I
Action Stat:	Level I - Technical Screen Audit
Action Date:	04/01/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Tier Classification
Action Stat:	Level I - Technical Screen Audit
Action Date:	04/01/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	RNF

(Continued) **S101023032**

Action Stat:	REPORT
Action Date:	03/20/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	Not reported
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

MA Spills:

Facility ID:	4-0775	Spill ID:	S89-0418
Staff Lead:	OTHER	Date Entered:	19890627
Last Entered:	19931208	First Response:	19890620
Spill Date:	19890620	Spill Time:	Not reported
Report Date:	19890620	Report Time:	03:00PM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	SOIL	Other Impact:	Not reported
Material:	OTHER MATERIAL -->	Other Material:	KEROSSENE
Qty Reported:	UNKNOWN	Qty Actual:	_____
Qty Reported:	_____	Qty Actual:	_____
CAS No:	Not reported	PCB Lev (ppm):	_____
Source:	U.S.T.	Other Source:	Not reported
Incident:	LEAK	Other Incdnt:	Not reported
Cleanup Type:	SSC	Contractor:	NOT USED
Referral:	SA	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	RICH MANDELL		
Notif Tel:	Not reported		
Days/Close:	0		

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28 **CORNER NASH RD** **SHWS** **S105596818**
NNW **263 BROOK ST** **Release** **N/A**
1/4-1/2 **NEW BEDFORD, MA**
1743 ft.

Relative:
Higher

Actual:
85 ft.

SHWS:

Facility ID:	4-0017337
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	09/06/02
Category:	120 DY
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	09/06/02
Phase:	Not reported
Response Action Outcome Class:	B1
Oil Or Haz Material:	Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	01/13/2003
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	5156

CORNER NASH RD (Continued) **S105596818**

Action Type:	RNF
Action Stat:	REPORT
Action Date:	09/06/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	ETHENE, 1,1-DICHLORO-
Amount:	47
Quantity:	parts per billion
Location Type:	Not reported
Source Type:	Not reported

MA RELEASE:

Facility ID:	4-0017337
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	09/06/02
Category:	120 DY
Facility Status:	**Response Action Outcome**
Status Date:	09/06/02
Phase:	Not reported
Rspns Actn Outcome Class:	B1
Oil / Haz Material Type:	Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	01/13/2003
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	5156
Action Type:	RNF
Action Stat:	REPORT
Action Date:	09/06/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	ETHENE, 1,1-DICHLORO-
Amount:	47
Quantity:	parts per billion
Location Type:	Not reported
Source Type:	Not reported

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29 **SHWS** **S104232392**
ESE **40 BULLARD ST** **Release** **N/A**
1/4-1/2 **NEW BEDFORD, MA** **LEAD**
1796 ft.

Relative:
Lower

Actual:
44 ft.

SHWS:

Facility ID:	4-0011580
Source Type:	CRANKCASE
Release Town:	NEW BEDFORD
Notification Date:	08/07/95
Category:	TWO HR
Associated ID:	-
Facility Status:	**TIER1D**
Status Date:	08/14/96
Phase:	Not reported

(Continued) **S104232392**

Response Action Outcome Class: Not reported
Oil Or Haz Material: Oil
Action Type: Release
Action Stat: REPORT
Action Date: 08/07/1995
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: FUEL OIL #2
Amount: Not reported
Quantity: Not reported
Location Type: 6FAMUNIT
Location Type: RESIDNTIAL
Source Type: CRANKCASE
Source Type: VEHICLE

Facility ID: 4-0011580
Source Type: VEHICLE
Release Town: NEW BEDFORD
Notification Date: 08/07/95
Category: TWO HR
Associated ID: -
Facility Status: **TIER1D**
Status Date: 08/14/96
Phase: Not reported
Response Action Outcome Class: Not reported
Oil Or Haz Material: Oil
Action Type: Release
Action Stat: REPORT
Action Date: 08/07/1995
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: FUEL OIL #2
Amount: Not reported
Quantity: Not reported
Location Type: 6FAMUNIT
Location Type: RESIDNTIAL
Source Type: CRANKCASE
Source Type: VEHICLE

MA RELEASE:
Facility ID: 4-0011580
Primary ID: -
Official City: NEW BEDFORD
Notification: 08/07/95
Category: TWO HR
Facility Status: **TIER1D**
Status Date: 08/14/96
Phase: Not reported
Rspns Actn Outcome Class: Not reported
Oil / Haz Material Type: Oil
Action Type: Release
Action Stat: REPORT
Action Date: 08/07/1995
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported

(Continued) **S104232392**

LSP Number:	Not reported
Chemical:	FUEL OIL #2
Amount:	Not reported
Quantity:	Not reported
Location Type:	6FAMUNIT
Location Type:	RESIDNTIAL
Source Type:	CRANKCASE
Source Type:	VEHICLE

LEAD:

Facility Id:	MA000000752391
Unit:	3
Env Case Id:	MA000000114847
Insp Date:	1996-12-24
Inspection Type:	Comprehensive Initial Inspection
Inspection Results:	Violations Found
Inspector Name:	Gerald Huston
Inspector License Number:	2039
Deleading Notif Work Start Date:	Not reported
Compliance Letter Date:	Not reported
Complaince Type:	Not reported
Complaince Inspector Name:	Not reported
Complaince Inspector License #:	Not reported

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30 **YAHYA GAS CORP DBA STOP & SAVE** **SHWS** **U001004893**
SSE **129 ASHLEY BLVD** **LUST** **N/A**
1/4-1/2 **NEW BEDFORD, MA 02740** **Release**
1957 ft. **UST**

Relative:
Lower

Actual:
43 ft.

SHWS:

Facility ID:	4-0001079
Source Type:	PIPE
Release Town:	NEW BEDFORD
Notification Date:	07/16/91
Category:	NONE
Associated ID:	-
Facility Status:	**REMOPS**
Status Date:	07/17/02
Phase:	PHASE V
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Not reported
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	12/07/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	07/16/1991
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase IV
Action Stat:	Completion Statement Received
Action Date:	07/17/2002
Response Action Outcome:	Not reported

YAHYA GAS CORP DBA STOP & SAVE (Continued) **U001004893**

Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Release Abatement Measure
Action Stat:	Modified, Revised, or Updated Plan Received
Action Date:	01/26/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Tier Classification
Action Stat:	LNKVIC
Action Date:	08/22/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	12/07/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	08/08/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase V
Action Stat:	IMRCD
Action Date:	01/23/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	UST

LUST:

Facility ID:	4-0001079
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	07/16/91
Category:	NONE
Associated ID:	-
Site Status:	**REMOPS**
Status Date:	07/17/02
Phase:	PHASE V
Rspns Actn Outcome Class:	Not reported
Oil Or Haz Material:	Not reported
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	12/07/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Release

YAHYA GAS CORP DBA STOP & SAVE (Continued) **U001004893**

Action Stat:	TCTRNS
Action Date:	07/16/1991
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase IV
Action Stat:	Completion Statement Received
Action Date:	07/17/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Release Abatement Measure
Action Stat:	Modified, Revised, or Updated Plan Received
Action Date:	01/26/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Tier Classification
Action Stat:	LNKVIC
Action Date:	08/22/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	12/07/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	08/08/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase V
Action Stat:	IMRCD
Action Date:	01/23/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	UST

Facility ID:	4-0019176
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	06/22/05
Category:	72 HR
Associated ID:	-
Site Status:	**Response Action Outcome Not Required**
Status Date:	08/22/05
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported

YAHYA GAS CORP DBA STOP & SAVE (Continued) **U001004893**

Oil Or Haz Material:	Oil
Action Type:	RNF
Action Stat:	REPORT
Action Date:	08/22/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	LNKVIC
Action Date:	08/22/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	08/22/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7713
Action Type:	Immediate Response
Action Stat:	Level I - Technical Screen Audit
Action Date:	09/15/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7713
Action Type:	Release
Action Stat:	REPORT
Action Date:	06/22/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	400
Quantity:	parts per million
Location Type:	Not reported
Source Type:	UST

MA RELEASE:

Facility ID:	4-0001079
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	07/16/91
Category:	NONE
Facility Status:	**REMOPS**
Status Date:	07/17/02
Phase:	PHASE V
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Not reported
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	12/07/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	07/16/1991

YAHYA GAS CORP DBA STOP & SAVE (Continued) **U001004893**

Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase IV
Action Stat:	Completion Statement Received
Action Date:	07/17/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Release Abatement Measure
Action Stat:	Modified, Revised, or Updated Plan Received
Action Date:	01/26/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Tier Classification
Action Stat:	LNKVIC
Action Date:	08/22/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	12/07/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	08/08/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase V
Action Stat:	IMRCD
Action Date:	01/23/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	UST
Facility ID:	4-0019176
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	06/22/05
Category:	72 HR
Facility Status:	**Response Action Outcome Not Required**
Status Date:	08/22/05
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	RNF
Action Stat:	REPORT

YAHYA GAS CORP DBA STOP & SAVE (Continued) **U001004893**

Action Date:	08/22/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	LNKVIC
Action Date:	08/22/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	08/22/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7713
Action Type:	Immediate Response
Action Stat:	Level I - Technical Screen Audit
Action Date:	09/15/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7713
Action Type:	Release
Action Stat:	REPORT
Action Date:	06/22/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	400
Quantity:	parts per million
Location Type:	Not reported
Source Type:	UST

UST:

Facility ID:	3471
Tank ID:	1
Serial Number:	Not reported
Aboveground:	No
Capacity:	6000
Contents:	Gasoline
Tank Status:	**In Use**
Tank Useage:	MV
Tank Material:	Reinforced
Tank Contents:	1 Wall
Pipe Material:	Reinforced
Pipe Container:	2 Walls
Tank Leak Detection:	Approved In-Tank Monitor
Pipe Leak Detection:	Product Line Leak Detector
Owner:	HATEM ENT LLC
Owner Address:	129 ASHLEY BLVD
Owner City,St,Zip:	NEW BEDFORD, MA 02745
Telephone:	(508) 759-6890
Description:	Gas Station
Fire Dept. ID:	5201
Financial Responsibility:	Commercial, Normal

YAHYA GAS CORP DBA STOP & SAVE (Continued) **U001004893**

Facility ID:	3471
Tank ID:	2
Serial Number:	Not reported
Aboveground:	No
Capacity:	6000
Contents:	Gasoline
Tank Status:	**In Use**
Tank Useage:	MV
Tank Material:	Reinforced
Tank Contents:	1 Wall
Pipe Material:	Reinforced
Pipe Container:	2 Walls
Tank Leak Detection:	Approved In-Tank Monitor
Pipe Leak Detection:	Product Line Leak Detector
Owner:	HATEM ENT LLC
Owner Address:	129 ASHLEY BLVD
Owner City,St,Zip:	NEW BEDFORD, MA 02745
Telephone:	(508) 759-6890
Description:	Gas Station
Fire Dept. ID:	5201
Financial Responsibility:	Commercial, Normal

Facility ID:	3471
Tank ID:	3
Serial Number:	Not reported
Aboveground:	No
Capacity:	6000
Contents:	Gasoline
Tank Status:	**In Use**
Tank Useage:	MV
Tank Material:	Reinforced
Tank Contents:	1 Wall
Pipe Material:	Reinforced
Pipe Container:	2 Walls
Tank Leak Detection:	Approved In-Tank Monitor
Pipe Leak Detection:	Product Line Leak Detector
Owner:	HATEM ENT LLC
Owner Address:	129 ASHLEY BLVD
Owner City,St,Zip:	NEW BEDFORD, MA 02745
Telephone:	(508) 759-6890
Description:	Gas Station
Fire Dept. ID:	5201
Financial Responsibility:	Commercial, Normal

Facility ID:	3471
Tank ID:	4
Serial Number:	Not reported
Aboveground:	No
Capacity:	6000
Contents:	Gasoline
Tank Status:	**In Use**
Tank Useage:	MV
Tank Material:	Reinforced
Tank Contents:	1 Wall
Pipe Material:	Reinforced
Pipe Container:	2 Walls
Tank Leak Detection:	Approved In-Tank Monitor

YAHYA GAS CORP DBA STOP & SAVE (Continued) **U001004893**

Pipe Leak Detection: Product Line Leak Detector
Owner: HATEM ENT LLC
Owner Address: 129 ASHLEY BLVD
Owner City,St,Zip: NEW BEDFORD, MA 02745
Telephone: (508) 759-6890
Description: Gas Station
Fire Dept. ID: 5201
Financial Responsibility: Commercial, Normal

Facility ID: 3471
Tank ID: 5
Serial Number: Not reported
Aboveground: No
Capacity: 15000
Contents: Gasoline
Tank Status: In Use
Tank Useage: MV
Tank Material: Reinforced
Tank Contents: 2 Walls
Pipe Material: Flexible
Pipe Container: 2 Walls
Tank Leak Detection: Interstitial Monitoring
Pipe Leak Detection: Interstitial Space Monitor
Owner: HATEM ENT LLC
Owner Address: 129 ASHLEY BLVD
Owner City,St,Zip: NEW BEDFORD, MA 02745
Telephone: (508) 759-6890
Description: Gas Station
Fire Dept. ID: 5201
Financial Responsibility: Commercial, Normal

Facility ID: 3471
Tank ID: 6
Serial Number: Split
Aboveground: No
Capacity: 8000
Contents: Gasoline/D
Tank Status: In Use
Tank Useage: MV
Tank Material: Reinforced
Tank Contents: 2 Walls
Pipe Material: Flexible
Pipe Container: 2 Walls
Tank Leak Detection: Interstitial Monitoring
Pipe Leak Detection: Interstitial Space Monitor
Owner: HATEM ENT LLC
Owner Address: 129 ASHLEY BLVD
Owner City,St,Zip: NEW BEDFORD, MA 02745
Telephone: (508) 759-6890
Description: Gas Station
Fire Dept. ID: 5201
Financial Responsibility: Commercial, Normal

31
South
1/4-1/2
1962 ft.

DACOSTA & SONS SUNOCO
397 SAWYER ST
NEW BEDFORD, MA

SHWS
Release

S108034332
N/A

Relative:
Lower

Actual:
53 ft.

SHWS:

Facility ID:	4-0019909
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	06/27/06
Category:	120 DY
Associated ID:	-
Facility Status:	**Unclassified Waste Site**
Status Date:	06/27/06
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Not reported
Action Stat:	Not reported
Action Date:	Not reported
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	Not reported
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

MA RELEASE:

Facility ID:	4-0019909
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	06/27/06
Category:	120 DY
Facility Status:	**Unclassified Waste Site**
Status Date:	06/27/06
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Not reported
Action Stat:	Not reported
Action Date:	Not reported
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	Not reported
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

32
South
1/4-1/2
2025 ft.

MILL BUILDING WAREHOUSE
419 SAWYER ST
NEW BEDFORD, MA

Release
LAST

S106132375
N/A

Relative:
Lower

Actual:
62 ft.

MA RELEASE:

Facility ID:	4-0018186
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	12/22/03
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	04/20/04
Phase:	Not reported
Rspns Actn Outcome Class:	A1
Oil / Haz Material Type:	Not reported
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	04/27/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	5156
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	04/20/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5156
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/22/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5156
Action Type:	RNF
Action Stat:	REPORT
Action Date:	03/12/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	20
Quantity:	gallons
Location Type:	COMMERCIAL
Source Type:	AST

LAST:

Facility ID:	4-0018186
Source Type:	AST
Release Town:	NEW BEDFORD
Notification Date:	12/22/03
Category:	TWO HR
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	04/20/04
Phase:	Not reported
Rspns Actn Outcome Class:	A1
Oil Or Haz Material:	Not reported

MILL BUILDING WAREHOUSE (Continued) **S106132375**

Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	04/27/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	5156
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	04/20/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5156
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/22/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5156
Action Type:	RNF
Action Stat:	REPORT
Action Date:	03/12/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	20
Quantity:	gallons
Location Type:	COMMERCIAL
Source Type:	AST

---

33 **NO LOCATION AID** **SHWS** **S102618740**
SSW **435 SAWYER ST** **Release** **N/A**
1/4-1/2 **NEW BEDFORD, MA 02740**
2069 ft.

Relative:
Lower

Actual:
64 ft.

SHWS:

Facility ID:	4-0013123
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	06/18/97
Category:	120 DY
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	06/25/98
Phase:	Not reported
Response Action Outcome Class:	B1
Oil Or Haz Material:	Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	Fee Received
Action Date:	06/30/1998
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	3605
Action Type:	RNF
Action Stat:	REPORT
Action Date:	06/18/1997

NO LOCATION AID (Continued) **S102618740**

Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: 1,1'-BIPHENYL, CHLORO-DERIVS.
Amount: 4.03
Quantity: parts per million
Chemical: LEAD
Amount: 1630
Quantity: parts per million
Location Type: Not reported
Source Type: Not reported

MA RELEASE:
Facility ID: 4-0013123
Primary ID: -
Official City: NEW BEDFORD
Notification: 06/18/97
Category: 120 DY
Facility Status: **Response Action Outcome**
Status Date: 06/25/98
Phase: Not reported
Rspns Actn Outcome Class: B1
Oil / Haz Material Type: Hazardous Material
Action Type: Response Action Outcome
Action Stat: Fee Received
Action Date: 06/30/1998
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion: NONE
LSP Number: 3605
Action Type: RNF
Action Stat: REPORT
Action Date: 06/18/1997
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: 1,1'-BIPHENYL, CHLORO-DERIVS.
Amount: 4.03
Quantity: parts per million
Chemical: LEAD
Amount: 1630
Quantity: parts per million
Location Type: Not reported
Source Type: Not reported

34
South
1/4-1/2
2115 ft.

BOILER ROOM AREA **SHWS** **S105200538**
1129 COUNTY ST **Release** **N/A**
NEW BEDFORD, MA

Relative:
Lower

Actual:
58 ft.

SHWS:
Facility ID: 4-0016367
Source Type: DRUMS
Release Town: NEW BEDFORD
Notification Date: 07/12/01
Category: TWO HR
Associated ID: -

BOILER ROOM AREA (Continued) **S105200538**

Facility Status:	**Response Action Outcome**
Status Date:	11/16/01
Phase:	Not reported
Response Action Outcome Class:	A1
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	01/13/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	5156
Action Type:	RNF
Action Stat:	REPORT
Action Date:	09/10/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	07/12/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	11/16/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5156
Chemical:	FUEL OIL #6
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Source Type:	DRUMS

MA RELEASE:

Facility ID:	4-0016367
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	07/12/01
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	11/16/01
Phase:	Not reported
Rspns Actn Outcome Class:	A1
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	01/13/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	5156
Action Type:	RNF
Action Stat:	REPORT
Action Date:	09/10/2001

BOILER ROOM AREA (Continued) **S105200538**

Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	07/12/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	11/16/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5156
Chemical:	FUEL OIL #6
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Source Type:	DRUMS

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35 **HI-LO GAS STATION** **SHWS** **S102967680**
SSE **116 ASHLEY BLVD** **LUST** **N/A**
1/4-1/2 **NEW BEDFORD, MA 02740** **Release**
2121 ft. **INST CONTROL**

Relative:
Lower

Actual:
40 ft.

SHWS:

Facility ID:	4-0018438
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	07/06/04
Category:	120 DY
Associated ID:	-
Facility Status:	**Downgradient Property Status**
Status Date:	07/07/04
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Downgradient Property Status
Action Stat:	Level I - Technical Screen Audit
Action Date:	10/06/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6997
Action Type:	RNF
Action Stat:	REPORT
Action Date:	07/06/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	Not reported
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

LUST:

HI-LO GAS STATION (Continued) **S102967680**

Facility ID:	4-0013556
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	12/16/97
Category:	72 HR
Associated ID:	-
Site Status:	**Response Action Outcome**
Status Date:	07/07/04
Phase:	PHASE III
Rspns Actn Outcome Class:	A2
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	07/07/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	6997
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	02/23/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5711
Action Type:	Tier Classification
Action Stat:	Legal Notice Published
Action Date:	07/21/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/16/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Activity and Use Limitation
Action Stat:	Level I - Technical Screen Audit
Action Date:	04/26/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6997
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	11/26/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6997
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	07/18/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	RNF
Action Stat:	REPORT
Action Date:	01/21/1998

HI-LO GAS STATION (Continued) **S102967680**

Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	250
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

MA RELEASE:

Facility ID:	4-0013556
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	12/16/97
Category:	72 HR
Facility Status:	**Response Action Outcome**
Status Date:	07/07/04
Phase:	PHASE III
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	07/07/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	6997
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	02/23/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5711
Action Type:	Tier Classification
Action Stat:	Legal Notice Published
Action Date:	07/21/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/16/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Activity and Use Limitation
Action Stat:	Level I - Technical Screen Audit
Action Date:	04/26/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6997
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	11/26/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6997

HI-LO GAS STATION (Continued) **S102967680**

Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	07/18/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	RNF
Action Stat:	REPORT
Action Date:	01/21/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	250
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

Facility ID:	4-0018438
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	07/06/04
Category:	120 DY
Facility Status:	**Downgradient Property Status**
Status Date:	07/07/04
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Downgradient Property Status
Action Stat:	Level I - Technical Screen Audit
Action Date:	10/06/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6997
Action Type:	RNF
Action Stat:	REPORT
Action Date:	07/06/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	Not reported
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

INST CONTROL:

Release Tracking Number:	4-0013556
Action Type:	AUL
Action Stat:	TSAUD
Action Date:	04/26/05
Response Action Outcome:	Not reported
Activity Use Limitation:	Not reported
LSP Number:	6997

36 NNE 1/4-1/2 2189 ft.

CUMBERLAND FARMS
1737 ACUSHNET AVE
NEW BEDFORD, MA 02740

LUST
Release
INST CONTROL

S100831667
N/A

Relative: Lower

Actual: 70 ft.

LUST:

Facility ID:	4-0001298
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	05/21/93
Category:	NONE
Associated ID:	-
Site Status:	**Response Action Outcome**
Status Date:	12/29/94
Phase:	Not reported
Rspns Actn Outcome Class:	A3
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	12/29/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Activity Use Limitaion:	NOTICE
LSP Number:	Not reported
Action Type:	Activity and Use Limitation
Action Stat:	Transmittal Received
Action Date:	11/04/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase II
Action Stat:	Scope of Work Received
Action Date:	02/22/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	05/21/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	FORMER
Location Type:	GASSTATION
Source Type:	UST

MA RELEASE:

Facility ID:	4-0001298
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	05/21/93
Category:	NONE
Facility Status:	**Response Action Outcome**
Status Date:	12/29/94
Phase:	Not reported
Rspns Actn Outcome Class:	A3

CUMBERLAND FARMS (Continued) **S100831667**

Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	12/29/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Activity Use Limitaion:	NOTICE
LSP Number:	Not reported
Action Type:	Activity and Use Limitation
Action Stat:	Transmittal Received
Action Date:	11/04/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase II
Action Stat:	Scope of Work Received
Action Date:	02/22/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	05/21/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	FORMER
Location Type:	GASSTATION
Source Type:	UST

INST CONTROL:

Release Tracking Number:	4-0001298
Action Type:	AUL
Action Stat:	RECPT
Action Date:	11/04/94
Response Action Outcome:	Not reported
Activity Use Limitation:	Not reported
LSP Number:	Not reported

H37 **NO LOCATION AID** **LUST** **S103546626**
North **413 ASHLEY BLVD** **Release** **N/A**
1/4-1/2 **NEW BEDFORD, MA**
2196 ft.

Site 1 of 2 in cluster H

Relative:
Higher

Actual:
91 ft.

LUST:

Facility ID:	4-0014192
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	09/23/98
Category:	72 HR
Associated ID:	4-0000727
Site Status:	**Response Action Outcome Not Required**
Status Date:	07/22/99

NO LOCATION AID (Continued) **S103546626**

Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	07/22/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6176
Action Type:	Release
Action Stat:	REPORT
Action Date:	09/23/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	07/22/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6176
Action Type:	RNF
Action Stat:	REPORT
Action Date:	11/27/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	75
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

MA RELEASE:

Facility ID:	4-0014192
Primary ID:	4-0000727
Official City:	NEW BEDFORD
Notification:	09/23/98
Category:	72 HR
Facility Status:	**Response Action Outcome Not Required**
Status Date:	07/22/99
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	07/22/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6176
Action Type:	Release
Action Stat:	REPORT
Action Date:	09/23/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required

NO LOCATION AID (Continued) **S103546626**

Action Stat:	Related to a Tier Classified Site
Action Date:	07/22/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6176
Action Type:	RNF
Action Stat:	REPORT
Action Date:	11/27/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	75
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

H38 **CHRISTIAN TIRE & AUTO CENTER** **RCRA-SQG** **1000263360**
North **413 ASHLEY BLVD** **SHWS** **MAD981893944**
1/4-1/2 **NEW BEDFORD, MA 02745** **FINDS**
2196 ft. **Release**
Site 2 of 2 in cluster H **UST**

Relative:
Higher

Actual:
91 ft.

RCRAInfo:

Owner:	CHRISTIAN TIRE & AUTO CENTER
EPA ID:	MAD981893944
Contact:	ROLAND-A MANNY (508) 997-2611
Classification:	Small Quantity Generator
TSDF Activities:	Not reported

Violation Status: No violations found

SHWS:

Facility ID:	4-0000727
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	10/15/89
Category:	NONE
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	11/14/05
Phase:	PHASE V
Response Action Outcome Class:	A2
Oil Or Haz Material:	Not reported
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	11/14/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	6105
Action Type:	Phase IV
Action Stat:	Completion Statement Received
Action Date:	12/03/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported

CHRISTIAN TIRE & AUTO CENTER (Continued) **1000263360**

LSP Number:	9119
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	09/28/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	11/03/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	Tier 2 Transfer
Action Date:	06/06/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	9119
Action Type:	Phase V
Action Stat:	Action, Status, or AUL Terminated
Action Date:	11/18/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6105
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	10/15/1989
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

FINDS:

Other Pertinent Environmental Activity Identified at Site

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

MA RELEASE:

Facility ID:	4-0000727
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	10/15/89
Category:	NONE
Facility Status:	**Response Action Outcome**

CHRISTIAN TIRE & AUTO CENTER (Continued) **1000263360**

Status Date:	11/14/05
Phase:	PHASE V
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Not reported
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	11/14/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	6105
Action Type:	Phase IV
Action Stat:	Completion Statement Received
Action Date:	12/03/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	9119
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	09/28/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	11/03/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	Tier 2 Transfer
Action Date:	06/06/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	9119
Action Type:	Phase V
Action Stat:	Action, Status, or AUL Terminated
Action Date:	11/18/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6105
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	10/15/1989
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

UST:

Facility ID:	3460
Tank ID:	1
Serial Number:	Not reported

CHRISTIAN TIRE & AUTO CENTER (Continued) **1000263360**

Aboveground:	No
Capacity:	3000
Contents:	Gasoline
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	ROLAND A MANNY JR
Owner Address:	413 ASHLEY BLVD
Owner City,St,Zip:	NEW BEDFORD, MA 02745
Telephone:	(617) 997-2611
Description:	Other
Fire Dept. ID:	5201
Financial Responsibility:	Normal

Facility ID:	3460
Tank ID:	2
Serial Number:	Not reported
Aboveground:	No
Capacity:	4000
Contents:	Gasoline
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	ROLAND A MANNY JR
Owner Address:	413 ASHLEY BLVD
Owner City,St,Zip:	NEW BEDFORD, MA 02745
Telephone:	(617) 997-2611
Description:	Other
Fire Dept. ID:	5201
Financial Responsibility:	Normal

Facility ID:	3460
Tank ID:	3
Serial Number:	Not reported
Aboveground:	No
Capacity:	4000
Contents:	Gasoline
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Steel
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	ROLAND A MANNY JR
Owner Address:	413 ASHLEY BLVD

CHRISTIAN TIRE & AUTO CENTER (Continued) **1000263360**

Owner City,St,Zip: NEW BEDFORD, MA 02745
Telephone: (617) 997-2611
Description: Other
Fire Dept. ID: 5201
Financial Responsibility: Normal

Facility ID: 3460
Tank ID: 4
Serial Number: Not reported
Aboveground: No
Capacity: 4000
Contents: Gasoline
Tank Status: **Removed**
Tank Useage: Not reported
Tank Material: Steel
Tank Contents: Not reported
Pipe Material: Not reported
Pipe Container: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Owner: ROLAND A MANNY JR
Owner Address: 413 ASHLEY BLVD
Owner City,St,Zip: NEW BEDFORD, MA 02745
Telephone: (617) 997-2611
Description: Other
Fire Dept. ID: 5201
Financial Responsibility: Normal

Facility ID: 3460
Tank ID: 5
Serial Number: Not reported
Aboveground: No
Capacity: 1000
Contents: Waste Oil
Tank Status: **Removed**
Tank Useage: Not reported
Tank Material: Steel
Tank Contents: Not reported
Pipe Material: Not reported
Pipe Container: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Owner: ROLAND A MANNY JR
Owner Address: 413 ASHLEY BLVD
Owner City,St,Zip: NEW BEDFORD, MA 02745
Telephone: (617) 997-2611
Description: Other
Fire Dept. ID: 5201
Financial Responsibility: Normal

39 SE 1/4-1/2 2280 ft.

SALVATION ARMY
1145 ACUSHNET AVE
NEW BEDFORD, MA

SHWS Release

S103546653
N/A

Relative: Lower

Actual: 29 ft.

SHWS:

Facility ID:	4-0014249
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	10/13/98
Category:	TWO HR
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	10/20/99
Phase:	Not reported
Response Action Outcome Class:	A2
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	05/31/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	9092
Action Type:	RNF
Action Stat:	REPORT
Action Date:	11/19/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	08/23/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	9092
Action Type:	Release
Action Stat:	REPORT
Action Date:	10/13/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	1000
Quantity:	gallons
Location Type:	Not reported
Source Type:	Not reported

MA RELEASE:

Facility ID:	4-0014249
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	10/13/98
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	10/20/99
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Oil

SALVATION ARMY (Continued) **S103546653**

Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	05/31/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	9092
Action Type:	RNF
Action Stat:	REPORT
Action Date:	11/19/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	08/23/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	9092
Action Type:	Release
Action Stat:	REPORT
Action Date:	10/13/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	1000
Quantity:	gallons
Location Type:	Not reported
Source Type:	Not reported

40
South
1/4-1/2
2305 ft.

14 ADAMS ST
NEW BEDFORD, MA

SHWS **S104232364**
LUST **N/A**
Release
LEAD

Relative:
Lower

Actual:
59 ft.

SHWS:

Facility ID:	4-0010014
Source Type:	PIPE
Release Town:	NEW BEDFORD
Notification Date:	10/08/93
Category:	TWO HR
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	07/24/97
Phase:	Not reported
Response Action Outcome Class:	A2
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Fee Not Required, Fee Credited
Action Date:	10/21/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	1127
Action Type:	Release
Action Stat:	REPORT
Action Date:	08/26/1994

(Continued) **S104232364**

Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	11/08/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	10/08/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Oral Approval of Plan
Action Date:	10/08/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #2
Amount:	Not reported
Quantity:	Not reported
Chemical:	FUEL OIL #2
Amount:	15
Quantity:	gallons
Location Type:	RESIDNTIAL
Source Type:	PIPE
Source Type:	UST

LUST:

Facility ID:	4-0010014
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	10/08/93
Category:	TWO HR
Associated ID:	-
Site Status:	**Response Action Outcome**
Status Date:	07/24/97
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Fee Not Required, Fee Credited
Action Date:	10/21/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	1127
Action Type:	Release
Action Stat:	REPORT
Action Date:	08/26/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF

(Continued) **S104232364**

Action Stat:	REPORT
Action Date:	11/08/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	10/08/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Oral Approval of Plan
Action Date:	10/08/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #2
Amount:	Not reported
Quantity:	Not reported
Chemical:	FUEL OIL #2
Amount:	15
Quantity:	gallons
Location Type:	RESIDNTIAL
Source Type:	PIPE
Source Type:	UST

MA RELEASE:

Facility ID:	4-0010014
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	10/08/93
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	07/24/97
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Fee Not Required, Fee Credited
Action Date:	10/21/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	1127
Action Type:	Release
Action Stat:	REPORT
Action Date:	08/26/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	11/08/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported

(Continued) **S104232364**

Action Type:	Release
Action Stat:	REPORT
Action Date:	10/08/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Oral Approval of Plan
Action Date:	10/08/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #2
Amount:	Not reported
Quantity:	Not reported
Chemical:	FUEL OIL #2
Amount:	15
Quantity:	gallons
Location Type:	RESIDNTIAL
Source Type:	PIPE
Source Type:	UST

LEAD:

Facility Id:	MA000000756819
Unit:	8B
Env Case Id:	MA000000120301
Insp Date:	1992-07-15
Inspection Type:	Determination
Inspection Results:	Violations Found
Inspector Name:	Ann Gagne
Inspector License Number:	2322
Deleading Notif Work Start Date:	Not reported
Compliance Letter Date:	Not reported
Complaince Type:	Not reported
Complaince Inspector Name:	Not reported
Complaince Inspector License #:	Not reported

41
North
1/4-1/2
2412 ft.

MCCREARY TIRE & AUTO
428 ASHLEY BLVD
NEW BEDFORD, MA 02740

SHWS **S100829279**
Release **N/A**

Relative:
Higher

Actual:
91 ft.

SHWS:

Facility ID:	4-0000748
Source Type:	UNKNOWN
Release Town:	NEW BEDFORD
Notification Date:	07/15/89
Category:	NONE
Associated ID:	-
Facility Status:	**DEP No Further Action**
Status Date:	04/18/96
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	07/15/1989

MCCREARY TIRE & AUTO (Continued) **S100829279**

Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount: Not reported
Quantity: Not reported
Location Type: GASSTATION
Source Type: UNKNOWN

MA RELEASE:
Facility ID: 4-0000748
Primary ID: -
Official City: NEW BEDFORD
Notification: 07/15/89
Category: NONE
Facility Status: **DEP No Further Action**
Status Date: 04/18/96
Phase: Not reported
Rspns Actn Outcome Class: Not reported
Oil / Haz Material Type: Not reported
Action Type: Release
Action Stat: TCTRNS
Action Date: 07/15/1989
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount: Not reported
Quantity: Not reported
Location Type: GASSTATION
Source Type: UNKNOWN

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42 **CLEAN RENTALS INC** **LUST** **1001315154**
South **1066 COUNTY ST** **Release** **N/A**
1/4-1/2 **NEW BEDFORD, MA 27460**
2444 ft.

Relative:
Lower

Actual:
50 ft.

LUST:
Facility ID: 4-0014300
Source Type: UST
Release Town: NEW BEDFORD
Notification Date: 10/29/98
Category: 72 HR
Associated ID: -
Site Status: **Response Action Outcome**
Status Date: 10/29/99
Phase: Not reported
Rspns Actn Outcome Class: A2
Oil Or Haz Material: Oil
Action Type: Response Action Outcome
Action Stat: Level I - Technical Screen Audit
Action Date: 04/21/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion: NONE
LSP Number: 5711
Action Type: Release

CLEAN RENTALS INC (Continued) **1001315154**

Action Stat:	REPORT
Action Date:	10/29/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	12/08/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	05/20/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5711
Action Type:	Release Abatement Measure
Action Stat:	Fee Received
Action Date:	08/25/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5711
Chemical:	GASOLINE
Amount:	200
Quantity:	parts per million
Chemical:	DIESEL FUEL
Amount:	200
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

MA RELEASE:

Facility ID:	4-0014300
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	10/29/98
Category:	72 HR
Facility Status:	**Response Action Outcome**
Status Date:	10/29/99
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	04/21/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	5711
Action Type:	Release
Action Stat:	REPORT
Action Date:	10/29/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF

CLEAN RENTALS INC (Continued) **1001315154**

Action Stat:	REPORT
Action Date:	12/08/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	05/20/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5711
Action Type:	Release Abatement Measure
Action Stat:	Fee Received
Action Date:	08/25/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5711
Chemical:	GASOLINE
Amount:	200
Quantity:	parts per million
Chemical:	DIESEL FUEL
Amount:	200
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

---

43 **SUBSTATIONS INTERCEPTORS** **SHWS** **S100829288**
NNE **HOWARD AVENUE STA** **Release** **N/A**
1/4-1/2 **NEW BEDFORD, MA 02740**
2608 ft.

Relative:
Lower

Actual:
63 ft.

SHWS:

Facility ID:	4-0000127
Source Type:	SEWER
Release Town:	NEW BEDFORD
Notification Date:	12/31/85
Category:	NONE
Associated ID:	-
Facility Status:	**TIERII**
Status Date:	01/24/99
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Not reported
Action Type:	Phase II
Action Stat:	Scope of Work Received
Action Date:	02/03/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	Tier 2 Extension
Action Date:	11/13/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1992
Action Type:	Phase IV
Action Stat:	Written Plan Received
Action Date:	07/28/1999

SUBSTATIONS INTERCEPTORS (Continued) **S100829288**

Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: Release
Action Stat: TCTRNS
Action Date: 12/31/1985
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount: Not reported
Quantity: Not reported
Location Type: Not reported
Source Type: SEWER

MA RELEASE:
Facility ID: 4-0000127
Primary ID: -
Official City: NEW BEDFORD
Notification: 12/31/85
Category: NONE
Facility Status: **TIERII**
Status Date: 01/24/99
Phase: Not reported
Rspns Actn Outcome Class: Not reported
Oil / Haz Material Type: Not reported
Action Type: Phase II
Action Stat: Scope of Work Received
Action Date: 02/03/1994
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: Tier Classification
Action Stat: Tier 2 Extension
Action Date: 11/13/2003
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: 1992
Action Type: Phase IV
Action Stat: Written Plan Received
Action Date: 07/28/1999
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: Release
Action Stat: TCTRNS
Action Date: 12/31/1985
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount: Not reported
Quantity: Not reported
Location Type: Not reported
Source Type: SEWER

44 SE 1/2-1 2737 ft.

NO LOCATION AID
206-378 BELLEVILLE AVE
NEW BEDFORD, MA

SHWS
LUST
Release
LAST

S104232396
N/A

Relative: Lower

Actual: 18 ft.

SHWS:

Facility ID:	4-0011675
Source Type:	DRUMS
Release Town:	NEW BEDFORD
Notification Date:	09/19/95
Category:	TWO HR
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	12/05/01
Phase:	PHASE III
Response Action Outcome Class:	B1
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	10/21/2002
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	7351
Action Type:	Immediate Response
Action Stat:	Oral Approval of Plan
Action Date:	10/12/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	10/10/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7351
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	11/06/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7351
Action Type:	Release
Action Stat:	REPORT
Action Date:	09/19/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #4
Amount:	Not reported
Quantity:	Not reported
Chemical:	FUEL OIL #6
Amount:	Not reported
Quantity:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	INDUSTRIAL
Source Type:	AST

NO LOCATION AID (Continued) **S104232396**

Source Type:	DRUMS
Source Type:	DUMPING
Source Type:	UST
Facility ID:	4-0011675
Source Type:	DUMPING
Release Town:	NEW BEDFORD
Notification Date:	09/19/95
Category:	TWO HR
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	12/05/01
Phase:	PHASE III
Response Action Outcome Class:	B1
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	10/21/2002
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	7351
Action Type:	Immediate Response
Action Stat:	Oral Approval of Plan
Action Date:	10/12/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	10/10/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7351
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	11/06/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7351
Action Type:	Release
Action Stat:	REPORT
Action Date:	09/19/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #4
Amount:	Not reported
Quantity:	Not reported
Chemical:	FUEL OIL #6
Amount:	Not reported
Quantity:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	INDUSTRIAL
Source Type:	AST

NO LOCATION AID (Continued) **S104232396**

Source Type: DRUMS
Source Type: DUMPING
Source Type: UST

LUST:
Facility ID: 4-0011675
Source Type: UST
Release Town: NEW BEDFORD
Notification Date: 09/19/95
Category: TWO HR
Associated ID: -
Site Status: **Response Action Outcome**
Status Date: 12/05/01
Phase: PHASE III
Rspns Actn Outcome Class: B1
Oil Or Haz Material: Oil
Action Type: Response Action Outcome
Action Stat: Level I - Technical Screen Audit
Action Date: 10/21/2002
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion: NONE
LSP Number: 7351
Action Type: Immediate Response
Action Stat: Oral Approval of Plan
Action Date: 10/12/1995
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: Tier Classification
Action Stat: Tier 2 Classification
Action Date: 10/10/2001
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: 7351
Action Type: Phase II
Action Stat: Completion Statement Received
Action Date: 11/06/2001
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: 7351
Action Type: Release
Action Stat: REPORT
Action Date: 09/19/1995
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: FUEL OIL #4
Amount: Not reported
Quantity: Not reported
Chemical: FUEL OIL #6
Amount: Not reported
Quantity: Not reported
Chemical: UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount: Not reported
Quantity: Not reported
Location Type: INDUSTRIAL

NO LOCATION AID (Continued) **S104232396**

Source Type:	AST
Source Type:	DRUMS
Source Type:	DUMPING
Source Type:	UST

MA RELEASE:

Facility ID:	4-0011675
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	09/19/95
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	12/05/01
Phase:	PHASE III
Rspns Actn Outcome Class:	B1
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	10/21/2002
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	7351
Action Type:	Immediate Response
Action Stat:	Oral Approval of Plan
Action Date:	10/12/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	10/10/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7351
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	11/06/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7351
Action Type:	Release
Action Stat:	REPORT
Action Date:	09/19/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #4
Amount:	Not reported
Quantity:	Not reported
Chemical:	FUEL OIL #6
Amount:	Not reported
Quantity:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	INDUSTRIAL

NO LOCATION AID (Continued) **S104232396**

Source Type:	AST
Source Type:	DRUMS
Source Type:	DUMPING
Source Type:	UST

LAST:

Facility ID:	4-0011675
Source Type:	AST
Release Town:	NEW BEDFORD
Notification Date:	09/19/95
Category:	TWO HR
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	12/05/01
Phase:	PHASE III
Rspns Actn Outcome Class:	B1
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	10/21/2002
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	7351
Action Type:	Immediate Response
Action Stat:	Oral Approval of Plan
Action Date:	10/12/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	10/10/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7351
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	11/06/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7351
Action Type:	Release
Action Stat:	REPORT
Action Date:	09/19/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #4
Amount:	Not reported
Quantity:	Not reported
Chemical:	FUEL OIL #6
Amount:	Not reported
Quantity:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported

NO LOCATION AID (Continued) **S104232396**

Location Type:	INDUSTRIAL
Source Type:	AST
Source Type:	DRUMS
Source Type:	DUMPING
Source Type:	UST

45
NNE
1/2-1
2758 ft.

NO LOCATION AID **Release** **S104232384**
38 ARLINGTON ST **LAST** **N/A**
NEW BEDFORD, MA 02745

Relative:
Higher

Actual:
81 ft.

MA RELEASE:

Facility ID:	4-0011108
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	02/07/95
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	07/20/95
Phase:	Not reported
Rspns Actn Outcome Class:	A1
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	07/20/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	07/20/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Release
Action Stat:	REPORT
Action Date:	02/07/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	02/21/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	07/20/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #2
Amount:	70
Quantity:	gallons
Chemical:	FUEL OIL #2
Amount:	35

NO LOCATION AID (Continued) **S104232384**

Quantity:	gallons
Location Type:	Not reported
Source Type:	AST

LAST:

Facility ID:	4-0011108
Source Type:	AST
Release Town:	NEW BEDFORD
Notification Date:	02/07/95
Category:	TWO HR
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	07/20/95
Phase:	Not reported
Rspns Actn Outcome Class:	A1
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	07/20/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	07/20/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Release
Action Stat:	REPORT
Action Date:	02/07/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	02/21/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	07/20/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #2
Amount:	70
Quantity:	gallons
Chemical:	FUEL OIL #2
Amount:	35
Quantity:	gallons
Location Type:	Not reported
Source Type:	AST

I46
NNE
1/2-1
2787 ft.

Relative:
Lower

Actual:
65 ft.

AMERADA HESS CORP
1783 ACUSHNET AVE
NEW BEDFORD, MA 02746

Site 1 of 2 in cluster I

RCRA-SQG
SHWS
FINDS
LUST
Release
NJ MANIFEST
CT MANIFEST

1000263702
MAD982198079

RCRAInfo:

Owner: AMERADA HESS CORP
EPA ID: MAD982198079

Contact: PAUL MARINO
(732) 750-7105

Classification: Conditionally Exempt Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

SHWS:

Facility ID:	4-0011555
Source Type:	PIPE
Release Town:	NEW BEDFORD
Notification Date:	07/28/95
Category:	72 HR
Associated ID:	4-0011555
Facility Status:	**REMOPS**
Status Date:	08/12/04
Phase:	PHASE V
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Tier Classification
Action Stat:	Tier 2 Extension
Action Date:	08/04/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	08/14/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	Phase V
Action Stat:	IMRCD
Action Date:	02/13/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Release
Action Stat:	REPORT
Action Date:	07/28/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	08/02/1996
Response Action Outcome:	Not reported

AMERADA HESS CORP (Continued) **1000263702**

Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	12/01/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	9199
Action Type:	Phase IV
Action Stat:	Completion Statement Received
Action Date:	07/25/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	RNF
Action Stat:	REPORT
Action Date:	08/10/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	06/29/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	9199
Chemical:	FUEL OIL #2
Amount:	100
Quantity:	gallons
Chemical:	UNKNOWN CHEMICAL OF TYPE - OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	PIPE
Source Type:	UST

FINDS:
Other Pertinent Environmental Activity Identified at Site

MA-EPICS

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

LUST:

Facility ID:	4-0011555
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	07/28/95

AMERADA HESS CORP (Continued) **1000263702**

Category:	72 HR
Associated ID:	4-0011555
Site Status:	**REMOPS**
Status Date:	08/12/04
Phase:	PHASE V
Rspns Actn Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Tier Classification
Action Stat:	Tier 2 Extension
Action Date:	08/04/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	08/14/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	Phase V
Action Stat:	IMRCD
Action Date:	02/13/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Release
Action Stat:	REPORT
Action Date:	07/28/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	08/02/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	12/01/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	9199
Action Type:	Phase IV
Action Stat:	Completion Statement Received
Action Date:	07/25/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	RNF
Action Stat:	REPORT
Action Date:	08/10/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase II
Action Stat:	Completion Statement Received

AMERADA HESS CORP (Continued) **1000263702**

Action Date:	06/29/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	9199
Chemical:	FUEL OIL #2
Amount:	100
Quantity:	gallons
Chemical:	UNKNOWN CHEMICAL OF TYPE - OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	PIPE
Source Type:	UST

MA RELEASE:

Facility ID:	4-0011555
Primary ID:	4-0011555
Official City:	NEW BEDFORD
Notification:	07/28/95
Category:	72 HR
Facility Status:	**REMOPS**
Status Date:	08/12/04
Phase:	PHASE V
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Tier Classification
Action Stat:	Tier 2 Extension
Action Date:	08/04/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	08/14/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	Phase V
Action Stat:	IMRCD
Action Date:	02/13/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Release
Action Stat:	REPORT
Action Date:	07/28/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	08/02/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase III
Action Stat:	Completion Statement Received

AMERADA HESS CORP (Continued) **1000263702**

Action Date:	12/01/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	9199
Action Type:	Phase IV
Action Stat:	Completion Statement Received
Action Date:	07/25/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7212
Action Type:	RNF
Action Stat:	REPORT
Action Date:	08/10/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	06/29/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	9199
Chemical:	FUEL OIL #2
Amount:	100
Quantity:	gallons
Chemical:	UNKNOWN CHEMICAL OF TYPE - OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	PIPE
Source Type:	UST

NJ MANIFEST:

Manifest Code:	NJA5084278
EPA ID:	MAD982198079
Date Shipped:	20040106
TSDF EPA ID:	NJD002200046
Transporter EPA ID:	PAD014146179
Transporter 2 EPA ID:	Not reported
Date Trans1 Transported Waste:	040106
Date Trans2 Transported Waste:	000000
Date TSDF Received Waste:	040107
Tranporter 1 Decal:	Not reported
Tranporter 2 Decal:	Not reported
Data Entry Number:	04060422
Reference Manifest Number:	Not reported
Was Load Rejected (Y/N):	No
Reason Load Was Rejected:	Not reported
Waste Code:	D001
Quantity:	1500
Unit:	P
Hand Code:	S01

CT MANIFEST:

AMERADA HESS CORP (Continued) **1000263702**

Year:	2000
Manifest ID:	CTF0847345
TSDF EPA ID:	CTD021816889
TSDF Name:	UNITED OIL RECOVERY INC./UIS DBA ADVANCED LIQ. REC
TSDF Address:	136 GRACEY AVE.
TSDF City,St,Zip:	MERIDEN, CT 06451
TSDF Country:	USA
TSDF Telephone:	Not reported
Transport Date:	04/26/00
Transporter EPA ID:	MAD084814136
Transporter Name:	FRANKLIN ENVIRONMENTAL SERVICE
Transporter Country:	USA
Transporter Phone:	Not reported
Trans 2 Date:	/ /
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
Trans 2 Address:	Not reported
Trans 2 City,St,Zip:	CT
Trans 2 Country:	USA
Trans 2 Phone:	Not reported
Generator EPA ID:	MAD982198079
Gererator Phone:	2155277900
Generator Address:	Not reported
Generator City,State,Zip:	Not reported
Generator Country:	Not reported
Special Handling:	Not reported
Discrepancies:	No
Date Shipped:	04/26/00
Date Received:	04/27/00
Last modified date:	04/27/04
Last modified by:	IG
Comments:	Not reported

Click this hyperlink while viewing on your computer to access
4 additional CT MANIFEST: record(s) in the EDR Site Report.

J47 **CHAMBERLAIN MFG** **PADS** **1000296785**
NNW **117 KING STREET** **RCRA-SQG** **MAD048975742**
1/2-1 **NEW BEDFORD, MA 02745** **SHWS**
2886 ft. **FINDS**
Site 1 of 2 in cluster J **Release**
Relative: **INST CONTROL**
Higher **CT MANIFEST**
NY MANIFEST
Actual: **RI MANIFEST**
96 ft.

CHAMBERLAIN MFG (Continued) **1000296785**

RCRAInfo:
Owner: CHAMBERLAIN MFG
EPA ID: MAD048975742

Contact: PA DANDRIES
(508) 996-5621

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: Violations exist

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 10/25/1990
Actual Date Achieved Compliance: 10/25/1995

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 12/17/1990
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 03/01/1990
Actual Date Achieved Compliance: 10/25/1990

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 03/19/1990
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 09/18/1985
Actual Date Achieved Compliance: 10/17/1985

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/23/1985
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 08/14/1985
Actual Date Achieved Compliance: 03/01/1990

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 09/04/1985
Penalty Type: Not reported

There are 4 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Other Evaluation	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19951025
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19901025
Non-Financial Record Review	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19851017
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19900301

SHWS:
Facility ID: 4-0001127
Source Type: UNKNOWN
Release Town: NEW BEDFORD
Notification Date: 01/15/92
Category: NONE

CHAMBERLAIN MFG (Continued) **1000296785**

Associated ID:	4-0013731
Facility Status:	**TIER1C**
Status Date:	12/18/95
Phase:	PHASE IV
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Not reported
Action Type:	Partial Response Action Outcome
Action Stat:	TSEVAL
Action Date:	04/12/2004
Response Action Outcome:	A temporary solution, which ensures the elimination of any substantial hazard, has been achieved at the disposal site.
Activity Use Limitaion:	NOTICE
LSP Number:	1992
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	12/18/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	01/15/1992
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	04/26/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Activity and Use Limitation
Action Stat:	Transmittal Received
Action Date:	02/03/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	PEREXT
Action Date:	04/23/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1992
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	04/26/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release Abatement Measure
Action Stat:	Completion Statement Received
Action Date:	10/28/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported

CHAMBERLAIN MFG (Continued) **1000296785**

Quantity:	Not reported
Location Type:	Not reported
Source Type:	UNKNOWN
Facility ID:	4-0013731
Source Type:	UNKNOWN
Release Town:	NEW BEDFORD
Notification Date:	03/11/98
Category:	72 HR
Associated ID:	4-0001127
Facility Status:	**Response Action Outcome Not Required**
Status Date:	03/01/99
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	RNF
Action Stat:	REPORT
Action Date:	05/08/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	03/01/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Level I - Technical Screen Audit
Action Date:	01/12/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1992
Action Type:	Release
Action Stat:	REPORT
Action Date:	03/11/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #2
Amount:	.5
Quantity:	inches
Location Type:	INDUSTRIAL
Source Type:	UNKNOWN

FINDS:
Other Pertinent Environmental Activity Identified at Site

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

CHAMBERLAIN MFG (Continued) **1000296785**

MA-EPICS

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

MA RELEASE:

Facility ID:	4-0001127
Primary ID:	4-0013731
Official City:	NEW BEDFORD
Notification:	01/15/92
Category:	NONE
Facility Status:	**TIER1C**
Status Date:	12/18/95
Phase:	PHASE IV
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Not reported
Action Type:	Partial Response Action Outcome
Action Stat:	TSEVAL
Action Date:	04/12/2004
Response Action Outcome:	A temporary solution, which ensures the elimination of any substantial hazard, has been achieved at the disposal site.
Activity Use Limitaion:	NOTICE
LSP Number:	1992
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	12/18/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	01/15/1992
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	04/26/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Activity and Use Limitation
Action Stat:	Transmittal Received
Action Date:	02/03/1999

CHAMBERLAIN MFG (Continued) **1000296785**

Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	PEREXT
Action Date:	04/23/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1992
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	04/26/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release Abatement Measure
Action Stat:	Completion Statement Received
Action Date:	10/28/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	UNKNOWN
Facility ID:	4-0013731
Primary ID:	4-0001127
Official City:	NEW BEDFORD
Notification:	03/11/98
Category:	72 HR
Facility Status:	**Response Action Outcome Not Required**
Status Date:	03/01/99
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	RNF
Action Stat:	REPORT
Action Date:	05/08/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	03/01/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Level I - Technical Screen Audit
Action Date:	01/12/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1992
Action Type:	Release
Action Stat:	REPORT

CHAMBERLAIN MFG (Continued) **1000296785**

Action Date:	03/11/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #2
Amount:	.5
Quantity:	inches
Location Type:	INDUSTRIAL
Source Type:	UNKNOWN

INST CONTROL:

Release Tracking Number:	4-0001127
Action Type:	AUL
Action Stat:	RECPT
Action Date:	02/03/99
Response Action Outcome:	Not reported
Activity Use Limitation:	Not reported
LSP Number:	Not reported

CT MANIFEST:

Year:	1995
Manifest ID:	MAJ030392
TSDF EPA ID:	CTD000604488
TSDF Name:	CLEAN HARBORS OF CONNECTICUT, INC.
TSDF Address:	51 BRODERICK RD
TSDF City,St,Zip:	BRISTOL, CT 06010
TSDF Country:	USA
TSDF Telephone:	Not reported
Transport Date:	10/09/95
Transporter EPA ID:	MAD039322250
Transporter Name:	CLEAN HARBORS ENVIRONMENTAL SERVICES, INC.
Transporter Country:	USA
Transporter Phone:	Not reported
Trans 2 Date:	/ /
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
Trans 2 Address:	Not reported
Trans 2 City,St,Zip:	CT
Trans 2 Country:	USA
Trans 2 Phone:	Not reported
Generator EPA ID:	MAD048975742
Gererator Phone:	6179965621
Generator Address:	Not reported
Generator City,State,Zip:	Not reported
Generator Country:	Not reported
Special Handling:	Not reported
Discrepancies:	No
Date Shipped:	10/09/95
Date Received:	10/10/95
Last modified date:	04/26/04
Last modified by:	IG
Comments:	Not reported

Click this hyperlink while viewing on your computer to access
80 additional CT MANIFEST: record(s) in the EDR Site Report.

CHAMBERLAIN MFG (Continued) **1000296785**

NY MANIFEST:

Document ID:	NYB5771556
Manifest Status:	C
Trans1 State ID:	84879CT
Trans2 State ID:	Not reported
Generator Ship Date:	920511
Trans1 Recv Date:	920511
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	920514
Part A Recv Date:	Not reported
Part B Recv Date:	920526
Generator EPA ID:	MAD048975742
Trans1 EPA ID:	CTD983872748
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	00263
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	004
Container Type:	DM - Metal drums, barrels
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	92
Facility Type:	Generator
EPA ID:	MAD048975742
Facility Name:	CHAMBERLAIN MANUFACTURING CORPORATION
Facility Address:	117 KING STREET
Facility City:	NEW BEDFORD
Facility Zip 4:	Not reported
Country:	Not reported
County:	Not reported
Mailing Name:	CHAMBERLAIN MANUFACTURING CORPORATION
Mailing Contact:	RONALD K MONIZ
Mailing Address:	117 KING STREET
Mailing City:	NEW BEDFORD
Mailing State:	MA
Mailing Zip:	02745
Mailing Zip4:	Not reported
Mailing Country:	Not reported
Mailing Phone:	617-996-5621

Click this hyperlink while viewing on your computer to access
4 additional NY MANIFEST: record(s) in the EDR Site Report.

RI MANIFEST:

Manifest Docket Number:	MAC692834
Waste Description:	MET HYD
Quantity:	2537.00
WT/Vol Units:	G
Item Number:	1
Transporter Name:	FRANKLIN
Transporter EPA ID:	MAD084814136
ID:	296582
GEN Cert Date:	7/10/1990 0:00:00
Transporter Recpt Date:	Not reported
Transporter 2 Recpt Date:	Not reported

CHAMBERLAIN MFG (Continued) **1000296785**

TSDF Recpt Date:	Not reported
EPA ID:	MAD048975742
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	Not reported
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDF Name:	STABLEX
TSDF ID:	RID040098352
Data Source:	Not reported
Date Imported:	Not reported
Transporter 2 Name:	Not reported
Transporter 2 ID:	Not reported
Quantity in LBS.:	0
Fee Reported:	Not reported

Manifest Docket Number:	MAC692958
Waste Description:	MET HYD
Quantity:	2170.00
WT/Vol Units:	G
Item Number:	1
Transporter Name:	FRANKLIN
Transporter EPA ID:	MAD084814136
ID:	296591
GEN Cert Date:	9/5/1990 0:00:00
Transporter Recpt Date:	Not reported
Transporter 2 Recpt Date:	Not reported
TSDF Recpt Date:	Not reported
EPA ID:	MAD048975742
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	F019
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDF Name:	STABLEX
TSDF ID:	RID040098352
Data Source:	Not reported
Date Imported:	Not reported
Transporter 2 Name:	Not reported
Transporter 2 ID:	Not reported
Quantity in LBS.:	0
Fee Reported:	Not reported

Manifest Docket Number:	RIA0007855
Waste Description:	OIL & WATER
Quantity:	1500.00
WT/Vol Units:	G

CHAMBERLAIN MFG (Continued) **1000296785**

Item Number:	1
Transporter Name:	M&W
Transporter EPA ID:	RID093214260
ID:	346128
GEN Cert Date:	3/28/1987 0:00:00
Transporter Recpt Date:	Not reported
Transporter 2 Recpt Date:	Not reported
TSDF Recpt Date:	Not reported
EPA ID:	MAD048975742
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	M001
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDF Name:	NIC
TSDF ID:	RID006807911
Data Source:	Not reported
Date Imported:	Not reported
Transporter 2 Name:	Not reported
Transporter 2 ID:	Not reported
Quantity in LBS.:	0
Fee Reported:	Not reported

Manifest Docket Number:	RIA0007856
Waste Description:	OIL
Quantity:	1500.00
WT/Vol Units:	G
Item Number:	1
Transporter Name:	M&W
Transporter EPA ID:	RID093214260
ID:	346129
GEN Cert Date:	5/2/1987 0:00:00
Transporter Recpt Date:	Not reported
Transporter 2 Recpt Date:	Not reported
TSDF Recpt Date:	Not reported
EPA ID:	MAD048975742
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	M001
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDF Name:	NIC
TSDF ID:	RID006807911
Data Source:	Not reported
Date Imported:	Not reported
Transporter 2 Name:	Not reported
Transporter 2 ID:	Not reported

CHAMBERLAIN MFG (Continued) **1000296785**

Quantity in LBS.:	0
Fee Reported:	Not reported
Manifest Docket Number:	RIA0007857
Waste Description:	OIL
Quantity:	1800.00
WT/Vol Units:	G
Item Number:	1
Transporter Name:	M&W
Transporter EPA ID:	RID093214260
ID:	346130
GEN Cert Date:	6/20/1987 0:00:00
Transporter Recpt Date:	Not reported
Transporter 2 Recpt Date:	Not reported
TSDF Recpt Date:	Not reported
EPA ID:	MAD048975742
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	M001
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDF Name:	NIC
TSDF ID:	RID006807911
Data Source:	Not reported
Date Imported:	Not reported
Transporter 2 Name:	Not reported
Transporter 2 ID:	Not reported
Quantity in LBS.:	0
Fee Reported:	Not reported

Click this hyperlink while viewing on your computer to access
15 additional RI MANIFEST: record(s) in the EDR Site Report.

J48 **CHAMBERLIN MANUFACTURING** **SHWS** **S101022762**
NNW **117 KING ST** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA 02745** **MA Spills**
2886 ft.

Site 2 of 2 in cluster J

Relative:
Higher

Actual:
96 ft.

SHWS:

Facility ID:	4-0011981
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	02/09/96
Category:	120 DY
Associated ID:	4-0001127
Facility Status:	**Response Action Outcome Not Required**
Status Date:	09/13/96
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Hazardous Material
Action Type:	RNF

CHAMBERLIN MANUFACTURING (Continued) **S101022762**

Action Stat:	REPORT
Action Date:	12/27/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	09/13/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	1,4:5,8-DIMETHANONAPHTHLAENE, 1,2,3,4,10,10-HEXACHLORO-1..
Amount:	.076
Quantity:	parts per million
Location Type:	Not reported
Source Type:	Not reported

MA RELEASE:

Facility ID:	4-0011981
Primary ID:	4-0001127
Official City:	NEW BEDFORD
Notification:	02/09/96
Category:	120 DY
Facility Status:	**Response Action Outcome Not Required**
Status Date:	09/13/96
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Hazardous Material
Action Type:	RNF
Action Stat:	REPORT
Action Date:	12/27/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	09/13/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	1,4:5,8-DIMETHANONAPHTHLAENE, 1,2,3,4,10,10-HEXACHLORO-1..
Amount:	.076
Quantity:	parts per million
Location Type:	Not reported
Source Type:	Not reported

MA Spills:

Facility ID:	0000	Spill ID:	S90-0112
Staff Lead:	MORAN, M	Date Entered:	Not reported
Last Entered:	19900312	First Response:	19900215
Spill Date:	19900215	Spill Time:	09:00AM
Report Date:	19900215	Report Time:	12:00PM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	WASTE	Contam Soil:	Not reported
Env Impact:	SOIL	Other Impact:	Not reported
Material:	OTHER MATERIAL -->	Other Material:	OIL

CHAMBERLIN MANUFACTURING (Continued) **S101022762**

Qty Reported:	UNKNOWN	Qty Actual:	UNKNOWN
Qty Reported:	GALLONS	Qty Actual:	GALLONS
CAS No:	Not reported	PCB Lev (ppm):	----------
Source:	OTHER SOURCE >	Other Source:	MALFUNCTION OIL
Incident:	OTHER RELEASE >	Other Incdnt:	WATER SEPARATER
Cleanup Type:	---	Contractor:	NOT USED
Referral:	NO	LUST Elig:	---
Report Prep:	Not reported	Category:	Not reported
Notifier:	MIKE GWOZDZ/WWTP		
Notif Tel:	Not reported		
Days/Close:	2		

Facility ID:	0000	Spill ID:	S90-0702
Staff Lead:	PACKARD, R	Date Entered:	Not reported
Last Entered:	19901001	First Response:	19900924
Spill Date:	Not reported	Spill Time:	Not reported
Report Date:	19900924	Report Time:	09:36AM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	SOIL	Other Impact:	Not reported
Material:	#2 FUEL OIL	Other Material:	Not reported
Qty Reported:	101-250	Qty Actual:	101-250
Qty Reported:	GALLONS	Qty Actual:	GALLONS
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	OTHER SOURCE >	Other Source:	FITTING PUMP
Incident:	LEAK	Other Incdnt:	Not reported
Cleanup Type:	---	Contractor:	NOT USED
Referral:	NO	LUST Elig:	---
Report Prep:	Not reported	Category:	Not reported
Notifier:	M.E. MACHAMER		
Notif Tel:	Not reported		
Days/Close:	1		

Facility ID:	9-9999	Spill ID:	S89-0106
Staff Lead:	KEARNS, R	Date Entered:	19890613
Last Entered:	19890918	First Response:	19890226
Spill Date:	19890226	Spill Time:	12:00PM
Report Date:	19890226	Report Time:	04:00PM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	SOIL	Other Impact:	Not reported
Material:	#2 FUEL OIL	Other Material:	Not reported
Qty Reported:	251-500	Qty Actual:	_____
Qty Reported:	GALLONS	Qty Actual:	_____
CAS No:	Not reported	PCB Lev (ppm):	_____
Source:	PIPE/HOSE/LINE	Other Source:	Not reported
Incident:	RUPTURE	Other Incdnt:	Not reported
Cleanup Type:	SC	Contractor:	NOT USED
Referral:	NO	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	PAUL D'ANORINIS		
Notif Tel:	Not reported		
Days/Close:	0		

I49
NNE
1/2-1
2915 ft.

MERIT STATION
1793 ACUSHNET AVE
NEW BEDFORD, MA

SHWS **S104180041**
LUST **N/A**
Release

Site 2 of 2 in cluster I

Relative:
Lower

Actual:
65 ft.

SHWS:

Facility ID:	4-0015050
Source Type:	PIPE
Release Town:	NEW BEDFORD
Notification Date:	10/12/99
Category:	72 HR
Associated ID:	4-0011555
Facility Status:	**Response Action Outcome Not Required**
Status Date:	02/23/00
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	02/23/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	12/03/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	LNKVIC
Action Date:	02/23/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	02/23/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	10/12/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	.6
Quantity:	inches
Location Type:	COMMERCIAL
Location Type:	RESIDNTIAL
Source Type:	PIPE
Source Type:	UST

LUST:

Facility ID:	4-0015050
Source Type:	UST

MERIT STATION (Continued) **S104180041**

Release Town:	NEW BEDFORD
Notification Date:	10/12/99
Category:	72 HR
Associated ID:	4-0011555
Site Status:	**Response Action Outcome Not Required**
Status Date:	02/23/00
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	02/23/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	12/03/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	LNKVIC
Action Date:	02/23/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	02/23/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	10/12/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	.6
Quantity:	inches
Location Type:	COMMERCIAL
Location Type:	RESIDNTIAL
Source Type:	PIPE
Source Type:	UST

MA RELEASE:

Facility ID:	4-0015050
Primary ID:	4-0011555
Official City:	NEW BEDFORD
Notification:	10/12/99
Category:	72 HR
Facility Status:	**Response Action Outcome Not Required**
Status Date:	02/23/00
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported

MERIT STATION (Continued) **S104180041**

Oil / Haz Material Type:	Oil
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	02/23/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	12/03/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	LNKVIC
Action Date:	02/23/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	02/23/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	10/12/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	.6
Quantity:	inches
Location Type:	COMMERCIAL
Location Type:	RESIDNTIAL
Source Type:	PIPE
Source Type:	UST

---

50 **PROPERTY** **SHWS** **S105039533**
West **452-460 MT PLEASANT ST** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA 02740**
2920 ft.

Relative:
Higher

Actual:
108 ft.

SHWS:

Facility ID:	4-0001114
Source Type:	OFFSITE
Release Town:	NEW BEDFORD
Notification Date:	07/15/93
Category:	NONE
Associated ID:	-
Facility Status:	**Downgradient Property Status**
Status Date:	10/16/98
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Downgradient Property Status
Action Stat:	Fee Not Required, Fee Credited

PROPERTY (Continued) **S105039533**

Action Date:	09/17/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	07/15/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	02/16/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF TYPE - OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	OFFSITE

MA RELEASE:

Facility ID:	4-0001114
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	07/15/93
Category:	NONE
Facility Status:	**Downgradient Property Status**
Status Date:	10/16/98
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Downgradient Property Status
Action Stat:	Fee Not Required, Fee Credited
Action Date:	09/17/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	07/15/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	02/16/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF TYPE - OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	OFFSITE

51
WNW
1/2-1
2949 ft.

PO BOX 3096
480 MT PLEASANT ST
NEW BEDFORD, MA

SHWS
LUST
Release

S104000688
N/A

Relative:
Higher

Actual:
111 ft.

SHWS:

Facility ID:	4-0014727
Source Type:	PIPE
Release Town:	NEW BEDFORD
Notification Date:	05/14/99
Category:	TWO HR
Associated ID:	4-0015344
Facility Status:	**TIERII**
Status Date:	05/22/00
Phase:	PHASE III
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Release
Action Stat:	REPORT
Action Date:	05/14/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	07/08/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5156
Action Type:	Tier Classification
Action Stat:	LNKVTC
Action Date:	06/14/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	12/20/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5156
Action Type:	RNF
Action Stat:	REPORT
Action Date:	05/22/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release Abatement Measure
Action Stat:	Written Plan Received
Action Date:	08/01/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	05/22/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127

PO BOX 3096 (Continued) **S104000688**

Chemical:	GASOLINE
Amount:	500
Quantity:	gallons
Location Type:	COMMERCIAL
Source Type:	PIPE
Facility ID:	4-0010308
Source Type:	UNKNOWN
Release Town:	NEW BEDFORD
Notification Date:	03/03/94
Category:	72 HR
Associated ID:	-
Facility Status:	**REMOPS**
Status Date:	04/11/06
Phase:	PHASE V
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	INVSUB
Action Date:	05/27/2003
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	1127
Action Type:	Partial Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	11/09/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	4078
Action Type:	Tier Classification
Action Stat:	LNKVTC
Action Date:	06/14/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Release
Action Stat:	REPORT
Action Date:	03/03/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	04/11/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Phase V
Action Stat:	Remedy Operation Status Submittal Received
Action Date:	04/11/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Release Abatement Measure
Action Stat:	Written Plan Received

PO BOX 3096 (Continued) **S104000688**

Action Date:	01/28/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	01/28/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Downgradient Property Status
Action Stat:	Action, Status, or AUL Terminated
Action Date:	05/27/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Phase II
Action Stat:	Revised Statement or Transmittal Received
Action Date:	09/30/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Phase IV
Action Stat:	Completion Statement Received
Action Date:	04/11/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Immediate Response
Action Stat:	Modified, Revised, or Updated Plan Received
Action Date:	07/13/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Phase III
Action Stat:	Revised Statement or Transmittal Received
Action Date:	11/30/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Chemical:	GASOLINE
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Source Type:	UNKNOWN

LUST:

Facility ID:	4-0015344
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	03/10/00
Category:	72 HR
Associated ID:	4-0014727
Site Status:	**Response Action Outcome Not Required**
Status Date:	06/14/05
Phase:	PHASE III
Rspns Actn Outcome Class:	Not reported

PO BOX 3096 (Continued) **S104000688**

Oil Or Haz Material:	Oil
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	07/08/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Tier Classification
Action Stat:	LNKVTC
Action Date:	06/14/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	05/22/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Written Approval of Plan
Action Date:	12/20/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5156
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	05/22/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Release Abatement Measure
Action Stat:	Written Plan Received
Action Date:	08/01/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Release
Action Stat:	REPORT
Action Date:	03/10/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	05/22/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Tier Classification
Action Stat:	LNKVTC
Action Date:	06/14/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site

PO BOX 3096 (Continued) **S104000688**

Action Date:	06/14/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	12
Quantity:	inches
Location Type:	COMMERCIAL
Source Type:	UST

MA RELEASE:

Facility ID:	4-0010308
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	03/03/94
Category:	72 HR
Facility Status:	**REMOPS**
Status Date:	04/11/06
Phase:	PHASE V
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	INVSUB
Action Date:	05/27/2003
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	1127
Action Type:	Partial Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	11/09/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	4078
Action Type:	Tier Classification
Action Stat:	LNKVTC
Action Date:	06/14/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Release
Action Stat:	REPORT
Action Date:	03/03/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	04/11/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Phase V
Action Stat:	Remedy Operation Status Submittal Received
Action Date:	04/11/2006
Response Action Outcome:	Not reported

PO BOX 3096 (Continued) **S104000688**

Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Release Abatement Measure
Action Stat:	Written Plan Received
Action Date:	01/28/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	01/28/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Downgradient Property Status
Action Stat:	Action, Status, or AUL Terminated
Action Date:	05/27/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Phase II
Action Stat:	Revised Statement or Transmittal Received
Action Date:	09/30/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Phase IV
Action Stat:	Completion Statement Received
Action Date:	04/11/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Immediate Response
Action Stat:	Modified, Revised, or Updated Plan Received
Action Date:	07/13/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Phase III
Action Stat:	Revised Statement or Transmittal Received
Action Date:	11/30/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Chemical:	GASOLINE
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Source Type:	UNKNOWN
Facility ID:	4-0014727
Primary ID:	4-0015344
Official City:	NEW BEDFORD
Notification:	05/14/99
Category:	TWO HR
Facility Status:	**TIERII**
Status Date:	05/22/00

PO BOX 3096 (Continued) **S104000688**

Phase:	PHASE III
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Release
Action Stat:	REPORT
Action Date:	05/14/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	07/08/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5156
Action Type:	Tier Classification
Action Stat:	LNKVTC
Action Date:	06/14/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	12/20/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5156
Action Type:	RNF
Action Stat:	REPORT
Action Date:	05/22/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release Abatement Measure
Action Stat:	Written Plan Received
Action Date:	08/01/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	05/22/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Chemical:	GASOLINE
Amount:	500
Quantity:	gallons
Location Type:	COMMERCIAL
Source Type:	PIPE
Facility ID:	4-0015344
Primary ID:	4-0014727
Official City:	NEW BEDFORD
Notification:	03/10/00
Category:	72 HR
Facility Status:	**Response Action Outcome Not Required**

PO BOX 3096 (Continued) **S104000688**

Status Date:	06/14/05
Phase:	PHASE III
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	07/08/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Tier Classification
Action Stat:	LNKVTC
Action Date:	06/14/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	05/22/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Written Approval of Plan
Action Date:	12/20/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5156
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	05/22/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Release Abatement Measure
Action Stat:	Written Plan Received
Action Date:	08/01/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Release
Action Stat:	REPORT
Action Date:	03/10/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	05/22/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Action Type:	Tier Classification
Action Stat:	LNKVTC
Action Date:	06/14/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported

PO BOX 3096 (Continued) **S104000688**

LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	06/14/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	12
Quantity:	inches
Location Type:	COMMERCIAL
Source Type:	UST

---

52 **NEW BEDFORD HARBOR NPL SITE** **SHWS** **S104232369**
ESE **103 SAWYER ST** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA**
3028 ft.

Relative:
Lower

Actual:
12 ft.

SHWS:

Facility ID:	4-0010193
Source Type:	PIPE
Release Town:	NEW BEDFORD
Notification Date:	01/11/94
Category:	TWO HR
Associated ID:	-
Facility Status:	**ADQREG**
Status Date:	07/22/94
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	03/09/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	05/10/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Oral Approval of Plan
Action Date:	01/11/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Adequately Regulated
Action Date:	07/22/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	01/11/1994

NEW BEDFORD HARBOR NPL SITE (Continued) **S104232369**

Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	HYDROGEN PEROXIDE (H2O2)
Amount:	600
Quantity:	gallons
Chemical:	HYDROGEN PEROXIDE (H2O2)
Amount:	600
Quantity:	gallons
Location Type:	INDUSTRIAL
Location Type:	RESIDNTIAL
Location Type:	WATERBODY
Source Type:	PIPE

MA RELEASE:

Facility ID:	4-0010193
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	01/11/94
Category:	TWO HR
Facility Status:	**ADQREG**
Status Date:	07/22/94
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	03/09/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	05/10/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Oral Approval of Plan
Action Date:	01/11/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Adequately Regulated
Action Date:	07/22/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	01/11/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	HYDROGEN PEROXIDE (H2O2)

NEW BEDFORD HARBOR NPL SITE (Continued) **S104232369**

Amount:	600
Quantity:	gallons
Chemical:	HYDROGEN PEROXIDE (H2O2)
Amount:	600
Quantity:	gallons
Location Type:	INDUSTRIAL
Location Type:	RESIDNTIAL
Location Type:	WATERBODY
Source Type:	PIPE

---

53 **BLDG 19** **SHWS** **S104232367**
ENE **19 HATHAWAY ST** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA**
3098 ft.

Relative:
Lower

Actual:
22 ft.

SHWS:

Facility ID:	4-0010162
Source Type:	UNKNOWN
Release Town:	NEW BEDFORD
Notification Date:	12/20/93
Category:	72 HR
Associated ID:	-
Facility Status:	**TIERII**
Status Date:	06/30/05
Phase:	PHASE II
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Phase I
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/11/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	2974
Action Type:	Utility-related Abatement Measure
Action Stat:	Completion Statement Received
Action Date:	02/21/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7997
Action Type:	Tier Classification
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/11/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	2974
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/20/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	IRA Assessment Only
Action Date:	02/17/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF TYPE - OIL

BLDG 19 (Continued) **S104232367**

Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Source Type:	UNKNOWN

MA RELEASE:

Facility ID:	4-0010162
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	12/20/93
Category:	72 HR
Facility Status:	**TIERII**
Status Date:	06/30/05
Phase:	PHASE II
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Phase I
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/11/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	2974
Action Type:	Utility-related Abatement Measure
Action Stat:	Completion Statement Received
Action Date:	02/21/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	7997
Action Type:	Tier Classification
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/11/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	2974
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/20/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	IRA Assessment Only
Action Date:	02/17/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF TYPE - OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Source Type:	UNKNOWN

54
ESE
1/2-1
3174 ft.

FAIRHAVEN MILLS
94 SAWYER ST
NEW BEDFORD, MA

SHWS
LUST
Release

S102967711
N/A

Relative:
Lower

Actual:
12 ft.

SHWS:

Facility ID:	4-0013648
Source Type:	DRUMS
Release Town:	NEW BEDFORD
Notification Date:	02/03/98
Category:	TWO HR
Associated ID:	-
Facility Status:	**ADQREG**
Status Date:	02/03/98
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome Not Required
Action Stat:	Adequately Regulated
Action Date:	02/03/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	02/03/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	WASTE OIL
Amount:	110
Quantity:	gallons
Location Type:	COMMERCIAL
Location Type:	INDUSTRIAL
Source Type:	DRUMS

LUST:

Facility ID:	4-0014995
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	09/03/99
Category:	72 HR
Associated ID:	-
Site Status:	**TIER1D**
Status Date:	09/12/00
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Release
Action Stat:	REPORT
Action Date:	09/03/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Written Plan Received
Action Date:	11/09/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported

FAIRHAVEN MILLS (Continued) **S102967711**

LSP Number: 2152
Action Type: RNF
Action Stat: REPORT
Action Date: 11/09/1999
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: FUEL OIL #2
Amount: 460
Quantity: parts per million
Location Type: COMMERCIAL
Source Type: UST

MA RELEASE:
Facility ID: 4-0013648
Primary ID: -
Official City: NEW BEDFORD
Notification: 02/03/98
Category: TWO HR
Facility Status: **ADQREG**
Status Date: 02/03/98
Phase: Not reported
Rspns Actn Outcome Class: Not reported
Oil / Haz Material Type: Oil
Action Type: Response Action Outcome Not Required
Action Stat: Adequately Regulated
Action Date: 02/03/1998
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: Release
Action Stat: REPORT
Action Date: 02/03/1998
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: WASTE OIL
Amount: 110
Quantity: gallons
Location Type: COMMERCIAL
Location Type: INDUSTRIAL
Source Type: DRUMS

Facility ID: 4-0014995
Primary ID: -
Official City: NEW BEDFORD
Notification: 09/03/99
Category: 72 HR
Facility Status: **TIER1D**
Status Date: 09/12/00
Phase: Not reported
Rspns Actn Outcome Class: Not reported
Oil / Haz Material Type: Oil
Action Type: Release
Action Stat: REPORT
Action Date: 09/03/1999
Response Action Outcome: Not reported

FAIRHAVEN MILLS (Continued) **S102967711**

Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Written Plan Received
Action Date:	11/09/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	2152
Action Type:	RNF
Action Stat:	REPORT
Action Date:	11/09/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #2
Amount:	460
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

---

55 **NO LOCATION AID** **LUST** **S103812581**
NNW **268 CHURCH ST** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA**
3214 ft.

Relative:
Higher

Actual:
94 ft.

LUST:

Facility ID:	4-0014431
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	12/31/98
Category:	72 HR
Associated ID:	-
Site Status:	**Response Action Outcome**
Status Date:	05/10/99
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	01/11/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	2062
Action Type:	RNF
Action Stat:	REPORT
Action Date:	01/13/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/31/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Written Plan Received

NO LOCATION AID (Continued) **S103812581**

Action Date:	03/05/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	2062
Chemical:	FUEL OIL #2
Amount:	2100
Quantity:	milligrams per kilogram
Chemical:	FUEL OIL #2
Amount:	2900
Quantity:	milligrams per kilogram
Chemical:	FUEL OIL #2
Amount:	310
Quantity:	milligrams per kilogram
Location Type:	RESIDNTIAL
Source Type:	UST

MA RELEASE:

Facility ID:	4-0014431
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	12/31/98
Category:	72 HR
Facility Status:	**Response Action Outcome**
Status Date:	05/10/99
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	01/11/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	2062
Action Type:	RNF
Action Stat:	REPORT
Action Date:	01/13/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/31/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Written Plan Received
Action Date:	03/05/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	2062
Chemical:	FUEL OIL #2
Amount:	2100
Quantity:	milligrams per kilogram
Chemical:	FUEL OIL #2
Amount:	2900

NO LOCATION AID (Continued) **S103812581**

Quantity: milligrams per kilogram
Chemical: FUEL OIL #2
Amount: 310
Quantity: milligrams per kilogram
Location Type: RESIDNTIAL
Source Type: UST

---

56 East 1/2-1 3408 ft. **NO LOCATION AID** **SHWS** **S102555572**
41 COFFIN AVE **Release** **N/A**
NEW BEDFORD, MA **LAST**

Relative: Lower

Actual: 18 ft.

SHWS:
Facility ID: 4-0012704
Source Type: Not reported
Release Town: NEW BEDFORD
Notification Date: 12/13/96
Category: TWO HR
Associated ID: -
Facility Status: **Response Action Outcome**
Status Date: 03/12/97
Phase: Not reported
Response Action Outcome Class: A2
Oil Or Haz Material: Not reported
Action Type: Release
Action Stat: REPORT
Action Date: 12/13/1996
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: Response Action Outcome
Action Stat: RAO Statement Received
Action Date: 03/12/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion: NONE
LSP Number: 6846
Action Type: Immediate Response
Action Stat: Completion Statement Received
Action Date: 03/12/1997
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: 6846
Chemical: UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount: 35
Quantity: gallons
Location Type: Not reported
Source Type: Not reported

MA RELEASE:
Facility ID: 4-0012704
Primary ID: -
Official City: NEW BEDFORD
Notification: 12/13/96
Category: TWO HR
Facility Status: **Response Action Outcome**
Status Date: 03/12/97

NO LOCATION AID (Continued) **S102555572**

Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/13/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	03/12/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	6846
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	03/12/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	35
Quantity:	gallons
Location Type:	Not reported
Source Type:	Not reported
Facility ID:	4-0018558
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	07/19/04
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	09/17/04
Phase:	Not reported
Rspns Actn Outcome Class:	A1
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	09/17/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	3497
Action Type:	RNF
Action Stat:	REPORT
Action Date:	09/17/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	07/19/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported

NO LOCATION AID (Continued) **S102555572**

Action Type:	Immediate Response
Action Stat:	Oral Approval of Plan
Action Date:	07/19/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #2
Amount:	20
Quantity:	gallons
Location Type:	Not reported
Source Type:	AST

LAST:

Facility ID:	4-0018558
Source Type:	AST
Release Town:	NEW BEDFORD
Notification Date:	07/19/04
Category:	TWO HR
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	09/17/04
Phase:	Not reported
Rspns Actn Outcome Class:	A1
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	09/17/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	3497
Action Type:	RNF
Action Stat:	REPORT
Action Date:	09/17/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	07/19/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Oral Approval of Plan
Action Date:	07/19/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #2
Amount:	20
Quantity:	gallons
Location Type:	Not reported
Source Type:	AST

57
ENE
1/2-1
3408 ft.

WHALER'S PLACE
90 RIVERSIDE AVE
NEW BEDFORD, MA

SHWS
Release

S107678459
N/A

Relative:
Lower

Actual:
17 ft.

SHWS:

Facility ID:	4-0019705
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	04/06/06
Category:	120 DY
Associated ID:	-
Facility Status:	**Unclassified Waste Site**
Status Date:	04/06/06
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Hazardous Material
Action Type:	RNF
Action Stat:	REPORT
Action Date:	04/06/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release Abatement Measure
Action Stat:	Written Plan Received
Action Date:	04/06/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	9719
Chemical:	LEAD
Amount:	3320
Quantity:	parts per million
Chemical:	CHROMIUM
Amount:	347
Quantity:	parts per million
Location Type:	Not reported
Source Type:	Not reported

MA RELEASE:

Facility ID:	4-0019705
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	04/06/06
Category:	120 DY
Facility Status:	**Unclassified Waste Site**
Status Date:	04/06/06
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Hazardous Material
Action Type:	RNF
Action Stat:	REPORT
Action Date:	04/06/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release Abatement Measure
Action Stat:	Written Plan Received
Action Date:	04/06/2006
Response Action Outcome:	Not reported

WHALER'S PLACE (Continued) **S107678459**

Activity Use Limitaion:	Not reported
LSP Number:	9719
Chemical:	LEAD
Amount:	3320
Quantity:	parts per million
Chemical:	CHROMIUM
Amount:	347
Quantity:	parts per million
Location Type:	Not reported
Source Type:	Not reported

---

58 **PROPERTY** **SHWS** **S105039539**
South **100 PENNIMAN ST** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA 02740**
3472 ft.

Relative:
Higher

Actual:
100 ft.

SHWS:

Facility ID:	4-0006052
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	12/13/99
Category:	NONE
Associated ID:	-
Facility Status:	**TIER1D**
Status Date:	03/06/95
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	12/13/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

MA RELEASE:

Facility ID:	4-0006052
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	12/13/99
Category:	NONE
Facility Status:	**TIER1D**
Status Date:	03/06/95
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	12/13/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported

PROPERTY (Continued) **S105039539**

Chemical: UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount: Not reported
Quantity: Not reported
Location Type: Not reported
Source Type: Not reported

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59 **CLIFTEX CORP** **SHWS** **1001315323**
ENE **194 RIVERSIDE AVE** **LUST** **N/A**
1/2-1 **NEW BEDFORD, MA 27400** **Release**
3664 ft.

Relative:
Lower

Actual:
12 ft.

SHWS:
Facility ID: 4-0014111
Source Type: Not reported
Release Town: NEW BEDFORD
Notification Date: 08/06/98
Category: TWO HR
Associated ID: -
Facility Status: **TIER1D**
Status Date: 08/13/99
Phase: Not reported
Response Action Outcome Class: Not reported
Oil Or Haz Material: Hazardous Material
Action Type: Release
Action Stat: REPORT
Action Date: 08/06/1998
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: Immediate Response
Action Stat: Modified, Revised, or Updated Plan Received
Action Date: 11/08/1999
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: 4857
Action Type: RNF
Action Stat: REPORT
Action Date: 11/06/1998
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: ASBESTOS
Amount: 10
Quantity: pounds
Location Type: INDUSTRIAL
Source Type: Not reported

LUST:
Facility ID: 4-0014112
Source Type: UST
Release Town: NEW BEDFORD
Notification Date: 08/06/98
Category: 72 HR
Associated ID: -
Site Status: **TIER1D**
Status Date: 08/13/99
Phase: Not reported

CLIFTEX CORP (Continued) **1001315323**

Rspns Actn Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Release
Action Stat:	LESS
Action Date:	11/16/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4857
Action Type:	Release
Action Stat:	REPORT
Action Date:	08/06/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Level I - Technical Screen Audit
Action Date:	06/29/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	2149
Action Type:	RNF
Action Stat:	REPORT
Action Date:	11/06/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	11/16/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4857
Chemical:	FUEL OIL #6
Amount:	30000
Quantity:	gallons
Location Type:	INDUSTRIAL
Source Type:	UST

MA RELEASE:

Facility ID:	4-0014111
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	08/06/98
Category:	TWO HR
Facility Status:	**TIER1D**
Status Date:	08/13/99
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Hazardous Material
Action Type:	Release
Action Stat:	REPORT
Action Date:	08/06/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Modified, Revised, or Updated Plan Received

CLIFTEX CORP (Continued) **1001315323**

Action Date:	11/08/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4857
Action Type:	RNF
Action Stat:	REPORT
Action Date:	11/06/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	ASBESTOS
Amount:	10
Quantity:	pounds
Location Type:	INDUSTRIAL
Source Type:	Not reported
Facility ID:	4-0014112
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	08/06/98
Category:	72 HR
Facility Status:	**TIER1D**
Status Date:	08/13/99
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Release
Action Stat:	LESS
Action Date:	11/16/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4857
Action Type:	Release
Action Stat:	REPORT
Action Date:	08/06/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Level I - Technical Screen Audit
Action Date:	06/29/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	2149
Action Type:	RNF
Action Stat:	REPORT
Action Date:	11/06/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	11/16/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4857
Chemical:	FUEL OIL #6

CLIFTEX CORP (Continued) **1001315323**

Amount: 30000
Quantity: gallons
Location Type: INDUSTRIAL
Source Type: UST

---

60 **TRANSAMERICA SPINNING MILLS** **SHWS** **S105309528**
East **1 COFFIN AVE** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA**
3752 ft.

Relative:
Lower

Actual:
0 ft.

SHWS:
Facility ID: 4-0016811
Source Type: VEHICLE
Release Town: NEW BEDFORD
Notification Date: 01/01/02
Category: TWO HR
Associated ID: -
Facility Status: **Response Action Outcome**
Status Date: 03/05/02
Phase: Not reported
Response Action Outcome Class: A2
Oil Or Haz Material: Not reported
Action Type: Response Action Outcome
Action Stat: RAO Statement Received
Action Date: 03/05/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion: NONE
LSP Number: 9763
Action Type: Immediate Response
Action Stat: Oral Approval of Plan
Action Date: 01/01/2002
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: Release
Action Stat: REPORT
Action Date: 01/01/2002
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: RNF
Action Stat: REPORT
Action Date: 02/25/2002
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount: 40
Quantity: gallons
Location Type: INDUSTRIAL
Source Type: VEHICLE

MA RELEASE:
Facility ID: 4-0016811
Primary ID: -
Official City: NEW BEDFORD

TRANSAMERICA SPINNING MILLS (Continued) **S105309528**

Notification:	01/01/02
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	03/05/02
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Not reported
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	03/05/2002
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	9763
Action Type:	Immediate Response
Action Stat:	Oral Approval of Plan
Action Date:	01/01/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	01/01/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	02/25/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	40
Quantity:	gallons
Location Type:	INDUSTRIAL
Source Type:	VEHICLE

61
ENE
1/2-1
3905 ft.

NO LOCATION AID
10 MANOMET ST
NEW BEDFORD, MA

SHWS **S104482730**
Release **N/A**

Relative:
Lower

Actual:
0 ft.

SHWS:

Facility ID:	4-0019527
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	12/13/05
Category:	120 DY
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	02/01/06
Phase:	Not reported
Response Action Outcome Class:	A2
Oil Or Haz Material:	Oil and Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	02/07/2006

NO LOCATION AID (Continued) **S104482730**

Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	5156
Action Type:	RNF
Action Stat:	REPORT
Action Date:	12/13/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release Abatement Measure
Action Stat:	Completion Statement Received
Action Date:	02/01/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5156
Chemical:	1,1'-BIPHENYL, CHLORO-DERIVS.
Amount:	290
Quantity:	parts per million
Chemical:	UNKNOWN CHEMICAL OF TYPE - HAZARDOUS MATERIAL
Amount:	Not reported
Quantity:	Not reported
Chemical:	LEAD
Amount:	510
Quantity:	parts per million
Location Type:	Not reported
Source Type:	Not reported
Facility ID:	4-0015213
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	12/30/99
Category:	120 DY
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	12/30/99
Phase:	Not reported
Response Action Outcome Class:	B1
Oil Or Haz Material:	Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/13/2005
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	5156
Action Type:	RNF
Action Stat:	REPORT
Action Date:	12/30/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	LEAD
Amount:	1100
Quantity:	parts per million
Location Type:	Not reported
Source Type:	Not reported

NO LOCATION AID (Continued) **S104482730**

MA RELEASE:

Facility ID:	4-0015213
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	12/30/99
Category:	120 DY
Facility Status:	**Response Action Outcome**
Status Date:	12/30/99
Phase:	Not reported
Rspns Actn Outcome Class:	B1
Oil / Haz Material Type:	Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/13/2005
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	5156
Action Type:	RNF
Action Stat:	REPORT
Action Date:	12/30/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	LEAD
Amount:	1100
Quantity:	parts per million
Location Type:	Not reported
Source Type:	Not reported

Facility ID:	4-0019527
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	12/13/05
Category:	120 DY
Facility Status:	**Response Action Outcome**
Status Date:	02/01/06
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Oil and Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	02/07/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	5156
Action Type:	RNF
Action Stat:	REPORT
Action Date:	12/13/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release Abatement Measure
Action Stat:	Completion Statement Received
Action Date:	02/01/2006
Response Action Outcome:	Not reported

NO LOCATION AID (Continued) **S104482730**

Activity Use Limitaion:	Not reported
LSP Number:	5156
Chemical:	1,1'-BIPHENYL, CHLORO-DERIVS.
Amount:	290
Quantity:	parts per million
Chemical:	UNKNOWN CHEMICAL OF TYPE - HAZARDOUS MATERIAL
Amount:	Not reported
Quantity:	Not reported
Chemical:	LEAD
Amount:	510
Quantity:	parts per million
Location Type:	Not reported
Source Type:	Not reported

---

62 **FAIRHAVEN MILLS REALTY CORP** **SHWS** **U001534525**
SE **85 COGGESHALL ST** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA 02741** **UST**
3937 ft. **AIRS**

Relative:
Lower

Actual:
9 ft.

SHWS:

Facility ID:	4-0000245
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	04/15/88
Category:	NONE
Associated ID:	-
Facility Status:	**TIER1D**
Status Date:	08/09/95
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	04/15/1988
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

MA RELEASE:

Facility ID:	4-0000245
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	04/15/88
Category:	NONE
Facility Status:	**TIER1D**
Status Date:	08/09/95
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	04/15/1988

FAIRHAVEN MILLS REALTY CORP (Continued) **U001534525**

Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount: Not reported
Quantity: Not reported
Location Type: Not reported
Source Type: Not reported

UST:
Facility ID: 3398
Tank ID: 1
Serial Number: Not reported
Aboveground: No
Capacity: 5000
Contents: Gasoline
Tank Status: **Removed**
Tank Useage: Not reported
Tank Material: Steel
Tank Contents: Not reported
Pipe Material: Steel
Pipe Container: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Owner: FAIRHAVEN MILLS REALTY CORP
Owner Address: 85 COGGESHALL ST
Owner City,St,Zip: NEW BEDFORD, MA 02741
Telephone: (617) 999-6445
Description: Other
Fire Dept. ID: 5201
Financial Responsibility: Not reported

Facility ID: 3398
Tank ID: 2
Serial Number: Not reported
Aboveground: No
Capacity: 5000
Contents: Gasoline
Tank Status: **Removed**
Tank Useage: Not reported
Tank Material: Steel
Tank Contents: Not reported
Pipe Material: Steel
Pipe Container: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Owner: FAIRHAVEN MILLS REALTY CORP
Owner Address: 85 COGGESHALL ST
Owner City,St,Zip: NEW BEDFORD, MA 02741
Telephone: (617) 999-6445
Description: Other
Fire Dept. ID: 5201
Financial Responsibility: Not reported

AIRS:
Permit Code: AQ01

FAIRHAVEN MILLS REALTY CORP (Continued) **U001534525**

Permit Name:	Limited Approval
DEP Region:	SE
Application Tracking Number:	129886
Approval Date:	18-Oct-96
FMF Number:	285377
Applicant Name:	JEFFREY COSTA
Applicant Address:	P O BOX 63010
Applicant Addr2:	Not reported
Applicant City,St,Zip:	NEW BEDFORD, MA 027410000
Applicant Telephone:	5089968606
Facility Addr2:	Not reported
Facility Status:	APPROV

63
WSW
1/2-1
3942 ft.

Relative:
Higher

Actual:
114 ft.

STAR SEAT COVER INC **SHWS S100361791**
78 HATHAWAY RD **Release N/A**
NEW BEDFORD, MA 02740

SHWS:

Facility ID:	4-0000384
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	07/15/87
Category:	NONE
Associated ID:	-
Facility Status:	**DEP No Further Action**
Status Date:	08/02/95
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	07/15/1987
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

MA RELEASE:

Facility ID:	4-0000384
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	07/15/87
Category:	NONE
Facility Status:	**DEP No Further Action**
Status Date:	08/02/95
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	07/15/1987
Response Action Outcome:	Not reported

STAR SEAT COVER INC (Continued) **S100361791**

Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount: Not reported
Quantity: Not reported
Location Type: Not reported
Source Type: Not reported

64
SSE
1/2-1
3961 ft.

PROPERTY
5 HICKS ST
NEW BEDFORD, MA 02740

SHWS **S101043535**
Release **N/A**
MA Spills

Relative:
Lower

Actual:
24 ft.

SHWS:
Facility ID: 4-0000491
Source Type: Not reported
Release Town: NEW BEDFORD
Notification Date: 01/15/88
Category: NONE
Associated ID: -
Facility Status: **Response Action Outcome**
Status Date: 02/13/03
Phase: PHASE III
Response Action Outcome Class: A2
Oil Or Haz Material: Not reported
Action Type: Response Action Outcome
Action Stat: RAO Statement Received
Action Date: 02/13/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion: NONE
LSP Number: 1127
Action Type: Release
Action Stat: TCTRNS
Action Date: 01/15/1988
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: Phase II
Action Stat: Completion Statement Received
Action Date: 02/13/2003
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: 1127
Chemical: UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount: Not reported
Quantity: Not reported
Location Type: Not reported
Source Type: Not reported

MA RELEASE:
Facility ID: 4-0000491
Primary ID: -
Official City: NEW BEDFORD
Notification: 01/15/88
Category: NONE
Facility Status: **Response Action Outcome**

PROPERTY (Continued) **S101043535**

Status Date:	02/13/03
Phase:	PHASE III
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Not reported
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	02/13/2003
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	1127
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	01/15/1988
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	02/13/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

MA Spills:

Facility ID:	4-0491	Spill ID:	S92-0528
Staff Lead:	KEARNS, R	Date Entered:	19931209
Last Entered:	19931209	First Response:	19920729
Spill Date:	19920728	Spill Time:	03:00PM
Report Date:	19920729	Report Time:	09:30AM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	SOIL	Other Impact:	Not reported
Material:	GASOLINE	Other Material:	Not reported
Qty Reported:	UNKNOWN	Qty Actual:	UNKNOWN
Qty Reported:	----------	Qty Actual:	----------
CAS No:	Not reported	PCB Lev (ppm):	----------
Source:	U.S.T.	Other Source:	Not reported
Incident:	----------	Other Incdnt:	Not reported
Cleanup Type:	---	Contractor:	NOT USED
Referral:	SA	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	DPT CHF PAUL LEDGER/FD		
Notif Tel:	Not reported		
Days/Close:	0		

K65 **SHELL STATION** **SHWS** **S104847661**
ESE **45 COGGESHALL ST** **LUST** **N/A**
1/2-1 **NEW BEDFORD, MA** **Release**
4159 ft.

Site 1 of 2 in cluster K

Relative:
Lower

Actual:
6 ft.

SHWS:

Facility ID:	4-0015919
Source Type:	OWS
Release Town:	NEW BEDFORD
Notification Date:	12/13/00
Category:	TWO HR
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	12/20/01
Phase:	Not reported
Response Action Outcome Class:	A2
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	06/03/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	3427
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	11/29/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/13/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	WASTE OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Source Type:	OWS

LUST:

Facility ID:	4-0016364
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	07/11/01
Category:	72 HR
Associated ID:	-
Site Status:	**Response Action Outcome**
Status Date:	10/26/01
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	06/01/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to

SHELL STATION (Continued) **S104847661**

	background.
Activity Use Limitaion:	NONE
LSP Number:	3427
Action Type:	Release
Action Stat:	REPORT
Action Date:	07/11/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Immediate Response
Action Stat:	Level I - Technical Screen Audit
Action Date:	09/14/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	RNF
Action Stat:	REPORT
Action Date:	09/11/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	147
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

MA RELEASE:

Facility ID:	4-0015919
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	12/13/00
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	12/20/01
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	06/03/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	3427
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	11/29/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/13/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported

SHELL STATION (Continued) **S104847661**

Chemical:	WASTE OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Source Type:	OWS
Facility ID:	4-0016364
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	07/11/01
Category:	72 HR
Facility Status:	**Response Action Outcome**
Status Date:	10/26/01
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	06/01/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	3427
Action Type:	Release
Action Stat:	REPORT
Action Date:	07/11/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	Immediate Response
Action Stat:	Level I - Technical Screen Audit
Action Date:	09/14/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	3427
Action Type:	RNF
Action Stat:	REPORT
Action Date:	09/11/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	147
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

K66 **NO LOCATION AID** **SHWS** **S105735998**
ESE **45 COGGESHALL ST** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA**
4159 ft.

Site 2 of 2 in cluster K

Relative:
Lower

SHWS:

Facility ID:	4-0017478
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	11/13/02

Actual:
6 ft.

NO LOCATION AID (Continued) **S105735998**

Category:	120 DY
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	02/01/05
Phase:	PHASE II
Response Action Outcome Class:	A2
Oil Or Haz Material:	Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	03/08/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	6105
Action Type:	Phase II
Action Stat:	Scope of Work Received
Action Date:	11/21/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6105
Action Type:	Release Abatement Measure
Action Stat:	Completion Statement Received
Action Date:	12/05/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6105
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	11/21/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6105
Action Type:	RNF
Action Stat:	REPORT
Action Date:	11/13/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	11/21/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6105
Chemical:	ETHENE, 1,1-DICHLORO-
Amount:	1.6
Quantity:	parts per billion
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	3.8
Quantity:	parts per million
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	4.3
Quantity:	parts per million
Chemical:	BENZO[A]PYRENE
Amount:	3.2
Quantity:	parts per million
Chemical:	INDENO(1,2,3-CD)PYRENE

NO LOCATION AID (Continued) **S105735998**

Amount:	1.9
Quantity:	parts per million
Chemical:	ETHENE, TRICHLORO-
Amount:	32.5
Quantity:	parts per million
Location Type:	Not reported
Source Type:	Not reported

MA RELEASE:

Facility ID:	4-0017478
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	11/13/02
Category:	120 DY
Facility Status:	**Response Action Outcome**
Status Date:	02/01/05
Phase:	PHASE II
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	03/08/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	6105
Action Type:	Phase II
Action Stat:	Scope of Work Received
Action Date:	11/21/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6105
Action Type:	Release Abatement Measure
Action Stat:	Completion Statement Received
Action Date:	12/05/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6105
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	11/21/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6105
Action Type:	RNF
Action Stat:	REPORT
Action Date:	11/13/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	11/21/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6105
Chemical:	ETHENE, 1,1-DICHLORO-

NO LOCATION AID (Continued) **S105735998**

Amount:	1.6
Quantity:	parts per billion
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	3.8
Quantity:	parts per million
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	4.3
Quantity:	parts per million
Chemical:	BENZO[A]PYRENE
Amount:	3.2
Quantity:	parts per million
Chemical:	INDENO(1,2,3-CD)PYRENE
Amount:	1.9
Quantity:	parts per million
Chemical:	ETHENE, TRICHLORO-
Amount:	32.5
Quantity:	parts per million
Location Type:	Not reported
Source Type:	Not reported

L67 **ADAMS AUTOMOTIVE FMR** **LUST** **S105200691**
WSW **953 SHAWMUT AVE** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA**
4264 ft.

Site 1 of 2 in cluster L

Relative:
Higher

Actual:
131 ft.

LUST:

Facility ID:	4-0016775
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	12/12/01
Category:	72 HR
Associated ID:	4-0014778
Site Status:	**Response Action Outcome**
Status Date:	08/16/05
Phase:	PHASE V
Rspns Actn Outcome Class:	A2
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	09/12/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	6846
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	08/21/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Phase V
Action Stat:	IMRCD
Action Date:	08/16/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Phase III

ADAMS AUTOMOTIVE FMR (Continued) **S105200691**

Action Stat:	Completion Statement Received
Action Date:	08/02/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	08/16/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/12/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	04/16/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	RNF
Action Stat:	REPORT
Action Date:	01/23/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase IV
Action Stat:	Written Plan Received
Action Date:	08/02/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Chemical:	OIL
Amount:	.7
Quantity:	Not reported
Location Type:	Not reported
Source Type:	UST

MA RELEASE:

Facility ID:	4-0016775
Primary ID:	4-0014778
Official City:	NEW BEDFORD
Notification:	12/12/01
Category:	72 HR
Facility Status:	**Response Action Outcome**
Status Date:	08/16/05
Phase:	PHASE V
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	09/12/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

ADAMS AUTOMOTIVE FMR (Continued) **S105200691**

Activity Use Limitaion:	NONE
LSP Number:	6846
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	08/21/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Phase V
Action Stat:	IMRCD
Action Date:	08/16/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	08/02/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	08/16/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/12/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	04/16/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	RNF
Action Stat:	REPORT
Action Date:	01/23/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase IV
Action Stat:	Written Plan Received
Action Date:	08/02/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Chemical:	OIL
Amount:	.7
Quantity:	Not reported
Location Type:	Not reported
Source Type:	UST

L68
WSW
1/2-1
4264 ft.

Relative:
Higher

Actual:
131 ft.

ADAMS AUTOMOTIVE INC
953 SHAWMUT AVE
NEW BEDFORD, MA 02746

Database(s): LUST, Release, UST
EDR ID Number: U002007818
EPA ID Number: N/A

Site 2 of 2 in cluster L

LUST:

Facility ID:	4-0014778
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	06/04/99
Category:	72 HR
Associated ID:	4-0016775
Site Status:	**Response Action Outcome**
Status Date:	08/16/05
Phase:	PHASE II
Rspns Actn Outcome Class:	A2
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	08/16/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	6846
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	06/05/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6508
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	04/12/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5463
Action Type:	Phase II
Action Stat:	Scope of Work Received
Action Date:	04/09/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6508
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	06/05/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6508
Action Type:	RNF
Action Stat:	REPORT
Action Date:	08/10/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	06/04/1999
Response Action Outcome:	Not reported

ADAMS AUTOMOTIVE INC (Continued) **U002007818**

Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	100
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

MA RELEASE:

Facility ID:	4-0014778
Primary ID:	4-0016775
Official City:	NEW BEDFORD
Notification:	06/04/99
Category:	72 HR
Facility Status:	**Response Action Outcome**
Status Date:	08/16/05
Phase:	PHASE II
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	08/16/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	6846
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	06/05/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6508
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	04/12/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	5463
Action Type:	Phase II
Action Stat:	Scope of Work Received
Action Date:	04/09/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6508
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	06/05/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6508
Action Type:	RNF
Action Stat:	REPORT
Action Date:	08/10/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release

ADAMS AUTOMOTIVE INC (Continued) **U002007818**

Action Stat:	REPORT
Action Date:	06/04/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	100
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

UST:

Facility ID:	3482
Tank ID:	1
Serial Number:	Not reported
Aboveground:	No
Capacity:	5000
Contents:	Gasoline
Tank Status:	**Removed**
Tank Useage:	MV
Tank Material:	Steel
Tank Contents:	1 Wall
Pipe Material:	Steel
Pipe Container:	1 Wall
Tank Leak Detection:	Inventory Record-Keeping
Pipe Leak Detection:	Suction: Check Valve at Tank w/ Line Tightness
Owner:	ADAMS AUTOMOTIVE INC
Owner Address:	953 SHAWMUT AVE
Owner City,St,Zip:	NEW BEDFORD, MA 02746
Telephone:	(508) 994-5236
Description:	Gas Station
Fire Dept. ID:	5201
Financial Responsibility:	CERT OF COMPLIANCE

Facility ID:	3482
Tank ID:	2
Serial Number:	Not reported
Aboveground:	No
Capacity:	10000
Contents:	Gasoline
Tank Status:	**Removed**
Tank Useage:	MV
Tank Material:	Steel
Tank Contents:	1 Wall
Pipe Material:	Steel
Pipe Container:	1 Wall
Tank Leak Detection:	Inventory Record-Keeping
Pipe Leak Detection:	Suction: Check Valve at Tank w/ Line Tightness
Owner:	ADAMS AUTOMOTIVE INC
Owner Address:	953 SHAWMUT AVE
Owner City,St,Zip:	NEW BEDFORD, MA 02746
Telephone:	(508) 994-5236
Description:	Gas Station
Fire Dept. ID:	5201
Financial Responsibility:	CERT OF COMPLIANCE

Facility ID:	3482

ADAMS AUTOMOTIVE INC (Continued) **U002007818**

Tank ID:	3
Serial Number:	Not reported
Aboveground:	No
Capacity:	3000
Contents:	Gasoline
Tank Status:	**Removed**
Tank Useage:	MV
Tank Material:	Steel
Tank Contents:	1 Wall
Pipe Material:	Steel
Pipe Container:	1 Wall
Tank Leak Detection:	Inventory Record-Keeping
Pipe Leak Detection:	Suction: Check Valve at Tank w/ Line Tightness
Owner:	ADAMS AUTOMOTIVE INC
Owner Address:	953 SHAWMUT AVE
Owner City,St,Zip:	NEW BEDFORD, MA 02746
Telephone:	(508) 994-5236
Description:	Gas Station
Fire Dept. ID:	5201
Financial Responsibility:	CERT OF COMPLIANCE

Facility ID:	3482
Tank ID:	4
Serial Number:	Not reported
Aboveground:	No
Capacity:	5000
Contents:	Kerosene
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	1 Wall
Pipe Material:	Steel
Pipe Container:	1 Wall
Tank Leak Detection:	Inventory Record-Keeping
Pipe Leak Detection:	Suction: Check Valve at Tank w/ Line Tightness
Owner:	ADAMS AUTOMOTIVE INC
Owner Address:	953 SHAWMUT AVE
Owner City,St,Zip:	NEW BEDFORD, MA 02746
Telephone:	(508) 994-5236
Description:	Gas Station
Fire Dept. ID:	5201
Financial Responsibility:	CERT OF COMPLIANCE

Facility ID:	3482
Tank ID:	5
Serial Number:	Not reported
Aboveground:	No
Capacity:	6000
Contents:	Diesel
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	1 Wall
Pipe Material:	Steel
Pipe Container:	1 Wall
Tank Leak Detection:	Inventory Record-Keeping
Pipe Leak Detection:	Suction: Check Valve at Tank w/ Line Tightness

ADAMS AUTOMOTIVE INC (Continued) **U002007818**

Owner:	ADAMS AUTOMOTIVE INC
Owner Address:	953 SHAWMUT AVE
Owner City,St,Zip:	NEW BEDFORD, MA 02746
Telephone:	(508) 994-5236
Description:	Gas Station
Fire Dept. ID:	5201
Financial Responsibility:	CERT OF COMPLIANCE

Facility ID:	3482
Tank ID:	6
Serial Number:	Not reported
Aboveground:	No
Capacity:	500
Contents:	Waste Oil
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Not reported
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	ADAMS AUTOMOTIVE INC
Owner Address:	953 SHAWMUT AVE
Owner City,St,Zip:	NEW BEDFORD, MA 02746
Telephone:	(508) 994-5236
Description:	Gas Station
Fire Dept. ID:	5201
Financial Responsibility:	CERT OF COMPLIANCE

Facility ID:	3482
Tank ID:	7
Serial Number:	Not reported
Aboveground:	No
Capacity:	3000
Contents:	Fuel Oil
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Steel
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	ADAMS AUTOMOTIVE INC
Owner Address:	953 SHAWMUT AVE
Owner City,St,Zip:	NEW BEDFORD, MA 02746
Telephone:	(508) 994-5236
Description:	Gas Station
Fire Dept. ID:	5201
Financial Responsibility:	CERT OF COMPLIANCE

69
NE
1/2-1
4310 ft.

AEROVOX
BELLEVILLE AVE
NEW BEDFORD, MA

SHWS
Release

S105125143
N/A

Relative:
Lower

Actual:
21 ft.

SHWS:

Facility ID:	4-0014033
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	07/13/98
Category:	120 DY
Associated ID:	-
Facility Status:	**ADQREG**
Status Date:	07/13/00
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Hazardous Material
Action Type:	Release
Action Stat:	REPORT
Action Date:	07/13/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Adequately Regulated
Action Date:	07/13/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	1,1'-BIPHENYL, CHLORO-DERIVS.
Amount:	Not reported
Quantity:	Not reported
Location Type:	INDUSTRIAL
Source Type:	Not reported

MA RELEASE:

Facility ID:	4-0014033
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	07/13/98
Category:	120 DY
Facility Status:	**ADQREG**
Status Date:	07/13/00
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Hazardous Material
Action Type:	Release
Action Stat:	REPORT
Action Date:	07/13/1998
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Adequately Regulated
Action Date:	07/13/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	1,1'-BIPHENYL, CHLORO-DERIVS.

AEROVOX (Continued) **S105125143**

Amount: Not reported
Quantity: Not reported
Location Type: INDUSTRIAL
Source Type: Not reported

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70 SSW 1/2-1 4335 ft. **RALPH H CHASE JR** **LUST** **U002007814**
54 MOUNT PLEASANT ST **Release** **N/A**
NEW BEDFORD, MA 02740 **UST**
INST CONTROL

Relative: Higher

Actual: 141 ft.

LUST:
Facility ID: 4-0000879
Source Type: UST
Release Town: NEW BEDFORD
Notification Date: 09/12/90
Category: NONE
Associated ID: -
Site Status: **Response Action Outcome**
Status Date: 12/09/94
Phase: Not reported
Rspns Actn Outcome Class: A3
Oil Or Haz Material: Oil
Action Type: Response Action Outcome
Action Stat: Level I - Technical Screen Audit
Action Date: 07/30/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Activity Use Limitaion: NOTICE
LSP Number: 1127
Action Type: Release
Action Stat: TCTRNS
Action Date: 09/12/1990
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: Activity and Use Limitation
Action Stat: Level II - Audit Inspection
Action Date: 11/06/2003
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: 1127
Chemical: PETROLEUM BASED OIL
Amount: Not reported
Quantity: Not reported
Location Type: GASSTATION
Source Type: UST

MA RELEASE:
Facility ID: 4-0000879
Primary ID: -
Official City: NEW BEDFORD
Notification: 09/12/90
Category: NONE
Facility Status: **Response Action Outcome**
Status Date: 12/09/94
Phase: Not reported
Rspns Actn Outcome Class: A3

RALPH H CHASE JR (Continued) **U002007814**

Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/30/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Activity Use Limitaion:	NOTICE
LSP Number:	1127
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	09/12/1990
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Activity and Use Limitation
Action Stat:	Level II - Audit Inspection
Action Date:	11/06/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1127
Chemical:	PETROLEUM BASED OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	GASSTATION
Source Type:	UST

UST:

Facility ID:	3476
Tank ID:	1
Serial Number:	Not reported
Aboveground:	No
Capacity:	3000
Contents:	Gasoline
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	RALPH H CHASE JR
Owner Address:	54 MT PLEASANT
Owner City,St,Zip:	NEW BEDFORD, MA 02740
Telephone:	(617) 992-8239
Description:	Other
Fire Dept. ID:	5201
Financial Responsibility:	Normal

Facility ID:	3476
Tank ID:	2
Serial Number:	Not reported
Aboveground:	No
Capacity:	3000
Contents:	Gasoline
Tank Status:	**Removed**
Tank Useage:	Not reported

RALPH H CHASE JR (Continued) **U002007814**

Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	RALPH H CHASE JR
Owner Address:	54 MT PLEASANT
Owner City,St,Zip:	NEW BEDFORD, MA 02740
Telephone:	(617) 992-8239
Description:	Other
Fire Dept. ID:	5201
Financial Responsibility:	Normal

Facility ID:	3476
Tank ID:	3
Serial Number:	Not reported
Aboveground:	No
Capacity:	4000
Contents:	Gasoline
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	RALPH H CHASE JR
Owner Address:	54 MT PLEASANT
Owner City,St,Zip:	NEW BEDFORD, MA 02740
Telephone:	(617) 992-8239
Description:	Other
Fire Dept. ID:	5201
Financial Responsibility:	Normal

Facility ID:	3476
Tank ID:	4
Serial Number:	Not reported
Aboveground:	No
Capacity:	4000
Contents:	Gasoline
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	RALPH H CHASE JR
Owner Address:	54 MT PLEASANT
Owner City,St,Zip:	NEW BEDFORD, MA 02740
Telephone:	(617) 992-8239
Description:	Other
Fire Dept. ID:	5201
Financial Responsibility:	Normal

RALPH H CHASE JR (Continued) **U002007814**

Facility ID:	3476
Tank ID:	5
Serial Number:	Not reported
Aboveground:	No
Capacity:	250
Contents:	Waste Oil
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	RALPH H CHASE JR
Owner Address:	54 MT PLEASANT
Owner City,St,Zip:	NEW BEDFORD, MA 02740
Telephone:	(617) 992-8239
Description:	Other
Fire Dept. ID:	5201
Financial Responsibility:	Normal

INST CONTROL:

Release Tracking Number:	4-0000879
Action Type:	AUL
Action Stat:	SNAUDI
Action Date:	11/06/03
Response Action Outcome:	Not reported
Activity Use Limitation:	Not reported
LSP Number:	1127

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71 **RISDON CORP** **RCRA-SQG** **1000190912**
NE **90 HATCH ST** **SHWS** **MAD051510022**
1/2-1 **NEW BEDFORD, MA 02745** **FINDS**
4393 ft. **Release**

Relative: Lower

Actual: 34 ft.

RCRAInfo:

Owner:	RISDON CORP
EPA ID:	MAD051510022
Contact:	WILLIAM STOODT (508) 999-6431

Classification: Conditionally Exempt Small Quantity Generator
TSDF Activities: Not reported

Violation Status: Violations exist

Regulation Violated:	Not reported
Area of Violation:	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined:	05/09/1986
Actual Date Achieved Compliance:	08/20/1986
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	05/27/1986
Penalty Type:	Not reported

There are 1 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance

RISDON CORP (Continued) **1000190912**

Compliance Evaluation Inspection GENERATOR-ALL REQUIREMENTS (OVERSIGHT) 19860820

SHWS:

Facility ID:	4-0001329
Source Type:	BOILER
Release Town:	NEW BEDFORD
Notification Date:	07/15/93
Category:	NONE
Associated ID:	-
Facility Status:	**Pending No Further Action**
Status Date:	05/09/94
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Hazardous Material
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	07/15/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	BENZENE, METHYL-
Amount:	Not reported
Quantity:	Not reported
Location Type:	FORMER
Location Type:	TEXT MILL
Source Type:	BOILER
Source Type:	TRANSFORM

Facility ID:	4-0001329
Source Type:	TRANSFORM
Release Town:	NEW BEDFORD
Notification Date:	07/15/93
Category:	NONE
Associated ID:	-
Facility Status:	**Pending No Further Action**
Status Date:	05/09/94
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Hazardous Material
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	07/15/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	BENZENE, METHYL-
Amount:	Not reported
Quantity:	Not reported
Location Type:	FORMER
Location Type:	TEXT MILL
Source Type:	BOILER
Source Type:	TRANSFORM

FINDS:

Other Pertinent Environmental Activity Identified at Site

MA-EPICS

RISDON CORP (Continued) **1000190912**

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

MA RELEASE:

Facility ID:	4-0001329
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	07/15/93
Category:	NONE
Facility Status:	**Pending No Further Action**
Status Date:	05/09/94
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Hazardous Material
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	07/15/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	BENZENE, METHYL-
Amount:	Not reported
Quantity:	Not reported
Location Type:	FORMER
Location Type:	TEXT MILL
Source Type:	BOILER
Source Type:	TRANSFORM

M72 **B&S REALTY** **Release** **S103812629**
SSE **100 NORTH FRONT ST** **LAST** **N/A**
1/2-1 **NEW BEDFORD, MA**
4414 ft.

Site 1 of 2 in cluster M

Relative:
Lower

Actual:
18 ft.

MA RELEASE:

Facility ID:	4-0014546
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	02/19/99
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	03/29/99
Phase:	Not reported
Rspns Actn Outcome Class:	A1
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	01/27/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

B&S REALTY (Continued) **S103812629**

Activity Use Limitaion:	NONE
LSP Number:	4857
Action Type:	RNF
Action Stat:	REPORT
Action Date:	03/29/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	02/19/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	03/29/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4857
Chemical:	FUEL OIL #6
Amount:	20
Quantity:	gallons
Location Type:	ROADWAY
Source Type:	AST

LAST:

Facility ID:	4-0014546
Source Type:	AST
Release Town:	NEW BEDFORD
Notification Date:	02/19/99
Category:	TWO HR
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	03/29/99
Phase:	Not reported
Rspns Actn Outcome Class:	A1
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	01/27/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	4857
Action Type:	RNF
Action Stat:	REPORT
Action Date:	03/29/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	02/19/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported

B&S REALTY (Continued) **S103812629**

Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	03/29/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4857
Chemical:	FUEL OIL #6
Amount:	20
Quantity:	gallons
Location Type:	ROADWAY
Source Type:	AST

M73 **REVERE COPPER** **SHWS** **S104482721**
SSE **100 NORTH FRONT ST** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA**
4414 ft.

Site 2 of 2 in cluster M

Relative: Lower

Actual: 18 ft.

SHWS:

Facility ID:	4-0015193
Source Type:	UNKNOWN
Release Town:	NEW BEDFORD
Notification Date:	12/16/99
Category:	120 DY
Associated ID:	4-0000815
Facility Status:	**Response Action Outcome Not Required**
Status Date:	04/23/02
Phase:	PHASE II
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Hazardous Material
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	12/05/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	04/07/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Tier Classification
Action Stat:	Legal Notice Published
Action Date:	03/27/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/16/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	04/23/2002
Response Action Outcome:	Not reported

REVERE COPPER (Continued) **S104482721**

Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Tier Classification
Action Stat:	Statement or Transmittal Retracted
Action Date:	11/06/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Chemical:	NICKEL
Amount:	47000
Quantity:	parts per billion
Chemical:	ZINC
Amount:	57000
Quantity:	parts per billion
Location Type:	INDUSTRIAL
Source Type:	UNKNOWN

MA RELEASE:

Facility ID:	4-0015193
Primary ID:	4-0000815
Official City:	NEW BEDFORD
Notification:	12/16/99
Category:	120 DY
Facility Status:	**Response Action Outcome Not Required**
Status Date:	04/23/02
Phase:	PHASE II
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Hazardous Material
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	12/05/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	04/07/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Tier Classification
Action Stat:	Legal Notice Published
Action Date:	03/27/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/16/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	04/23/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported

REVERE COPPER (Continued) **S104482721**

LSP Number:	6846
Action Type:	Tier Classification
Action Stat:	Statement or Transmittal Retracted
Action Date:	11/06/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Chemical:	NICKEL
Amount:	47000
Quantity:	parts per billion
Chemical:	ZINC
Amount:	57000
Quantity:	parts per billion
Location Type:	INDUSTRIAL
Source Type:	UNKNOWN

74
West
1/2-1
4482 ft.

Relative:
Higher

Actual:
134 ft.

NEW BEDFORD LANDFILL CITY OF **CERCLIS** **1000104116**
1103 SHAWMUT AVENUE **RCRA-SQG** **MAD980503742**
NEW BEDFORD, MA 02740 **SHWS**
FINDS
Release

CERCLIS:

Site ID:	0100645
Federal Facility:	Not a Federal Facility
NPL Status:	Not on the NPL
Non NPL Status:	Other Cleanup Activity: State-Lead Cleanup

CERCLIS Site Contact Name(s):

Contact Name:	Nancy Smith
Contact Tel:	(617) 918-1436
Contact Title:	Site Assessment Manager (SAM)

Site Description: Not reported

CERCLIS Assessment History:

Action:	DISCOVERY
Date Started:	Not reported
Date Completed:	06/01/1981
Priority Level:	Not reported
Action:	PRELIMINARY ASSESSMENT
Date Started:	Not reported
Date Completed:	03/01/1984
Priority Level:	High
Action:	SITE INSPECTION
Date Started:	Not reported
Date Completed:	10/04/1991
Priority Level:	Low
Action:	SITE REASSESSMENT
Date Started:	Not reported
Date Completed:	08/02/2001
Priority Level:	Low

NEW BEDFORD LANDFILL CITY OF (Continued) **1000104116**

RCRAInfo:
Owner: NEW BEDFORD CITY OF
EPA ID: MAD980503742

Contact: MICHAEL GWOZDZ
(508) 979-1527

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

SHWS:

Facility ID:	4-0000123
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	01/15/87
Category:	NONE
Associated ID:	-
Facility Status:	**TCLASS**
Status Date:	03/21/96
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	01/15/1987
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Imminent Hazard Evaluation Received
Action Date:	04/11/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	Transmittal Received
Action Date:	03/21/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Adequately Regulated
Action Date:	08/02/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

FINDS:
Other Pertinent Environmental Activity Identified at Site

NEW BEDFORD LANDFILL CITY OF (Continued) **1000104116**

CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System) is the Superfund database that is used to support management in all phases of the Superfund program. The system contains information on all aspects of hazardous waste sites, including an inventory of sites, planned and actual site activities, and financial information.

The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

MA RELEASE:

Facility ID:	4-0000123
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	01/15/87
Category:	NONE
Facility Status:	**TCLASS**
Status Date:	03/21/96
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	01/15/1987
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Imminent Hazard Evaluation Received
Action Date:	04/11/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	Transmittal Received
Action Date:	03/21/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Adequately Regulated
Action Date:	08/02/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE

NEW BEDFORD LANDFILL CITY OF (Continued) **1000104116**

Amount: Not reported
Quantity: Not reported
Location Type: Not reported
Source Type: Not reported

N75 **NO LOCATION AID** **SHWS** **S104232374**
West **1136 SHAWMUT AVE** **LUST** **N/A**
1/2-1 **NEW BEDFORD, MA** **Release**
4562 ft. **INST CONTROL**

Site 1 of 2 in cluster N

Relative: Higher

Actual: 123 ft.

SHWS:
Facility ID: 4-0010527
Source Type: PIPE
Release Town: NEW BEDFORD
Notification Date: 06/08/94
Category: 72 HR
Associated ID: -
Facility Status: **Response Action Outcome**
Status Date: 07/25/97
Phase: PHASE II
Response Action Outcome Class: A3
Oil Or Haz Material: Oil
Action Type: Response Action Outcome
Action Stat: Level I - Technical Screen Audit
Action Date: 07/06/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Activity Use Limitaion: NOTICE
LSP Number: 4492
Action Type: Tier Classification
Action Stat: Tier 2 Classification
Action Date: 06/05/1995
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: RNF
Action Stat: REPORT
Action Date: 06/29/1994
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: Phase I
Action Stat: Completion Statement Received
Action Date: 06/05/1995
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: 4141
Action Type: Release
Action Stat: REPORT
Action Date: 06/08/1994
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: Immediate Response
Action Stat: Completion Statement Received
Action Date: 12/16/1994
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S104232374**

Activity Use Limitaion:	Not reported
LSP Number:	4141
Action Type:	Activity and Use Limitation
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/06/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4492
Chemical:	OIL
Amount:	Not reported
Quantity:	Not reported
Chemical:	OIL
Amount:	15
Quantity:	gallons
Location Type:	INDUSTRIAL
Source Type:	PIPE
Source Type:	UST

LUST:

Facility ID:	4-0010527
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	06/08/94
Category:	72 HR
Associated ID:	-
Site Status:	**Response Action Outcome**
Status Date:	07/25/97
Phase:	PHASE II
Rspns Actn Outcome Class:	A3
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/06/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Activity Use Limitaion:	NOTICE
LSP Number:	4492
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	06/05/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	06/29/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	06/05/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4141
Action Type:	Release
Action Stat:	REPORT

NO LOCATION AID (Continued) **S104232374**

Action Date:	06/08/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	12/16/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4141
Action Type:	Activity and Use Limitation
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/06/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4492
Chemical:	OIL
Amount:	Not reported
Quantity:	Not reported
Chemical:	OIL
Amount:	15
Quantity:	gallons
Location Type:	INDUSTRIAL
Source Type:	PIPE
Source Type:	UST

MA RELEASE:

Facility ID:	4-0010527
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	06/08/94
Category:	72 HR
Facility Status:	**Response Action Outcome**
Status Date:	07/25/97
Phase:	PHASE II
Rspns Actn Outcome Class:	A3
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/06/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Activity Use Limitaion:	NOTICE
LSP Number:	4492
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	06/05/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	06/29/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase I

NO LOCATION AID (Continued) **S104232374**

Action Stat:	Completion Statement Received
Action Date:	06/05/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4141
Action Type:	Release
Action Stat:	REPORT
Action Date:	06/08/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	12/16/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4141
Action Type:	Activity and Use Limitation
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/06/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4492
Chemical:	OIL
Amount:	Not reported
Quantity:	Not reported
Chemical:	OIL
Amount:	15
Quantity:	gallons
Location Type:	INDUSTRIAL
Source Type:	PIPE
Source Type:	UST

INST CONTROL:

Release Tracking Number:	4-0010527
Action Type:	AUL
Action Stat:	TSAUD
Action Date:	07/06/01
Response Action Outcome:	Not reported
Activity Use Limitation:	Not reported
LSP Number:	4492

N76
West
1/2-1
4562 ft.

Relative:
Higher

Actual:
123 ft.

FORMER PENSKE TRUCK LEASING CO **LUST** **S105595749**
1136 SHAWMUT AVE **Release** **N/A**
NEW BEDFORD, MA

Site 2 of 2 in cluster N

LUST:

Facility ID:	4-0017305
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	08/23/02
Category:	72 HR
Associated ID:	-
Site Status:	**Response Action Outcome**
Status Date:	08/22/03

FORMER PENSKE TRUCK LEASING CO (Continued) **S105595749**

Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	02/20/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	4003
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	10/23/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4003
Action Type:	RNF
Action Stat:	REPORT
Action Date:	10/23/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	08/23/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4003
Chemical:	DIESEL FUEL
Amount:	353
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

MA RELEASE:

Facility ID:	4-0017305
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	08/23/02
Category:	72 HR
Facility Status:	**Response Action Outcome**
Status Date:	08/22/03
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	02/20/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	4003
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	10/23/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported

FORMER PENSKE TRUCK LEASING CO (Continued) **S105595749**

LSP Number:	4003
Action Type:	RNF
Action Stat:	REPORT
Action Date:	10/23/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	08/23/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4003
Chemical:	DIESEL FUEL
Amount:	353
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

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77 **SHAWMUT AVE LANDFILL** **SHWS** **S104774390**
SW **HATHAWAY RD** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA**
4598 ft.

Relative:
Higher

Actual:
137 ft.

SHWS:

Facility ID:	4-0015665
Source Type:	DRUMS
Release Town:	NEW BEDFORD
Notification Date:	08/14/00
Category:	TWO HR
Associated ID:	-
Facility Status:	**ADQREG**
Status Date:	08/14/00
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Hazardous Material
Action Type:	Response Action Outcome Not Required
Action Stat:	Adequately Regulated
Action Date:	08/14/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	08/14/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	1,1'-BIPHENYL, CHLORO-DERIVS.
Amount:	800000
Quantity:	parts per million
Location Type:	MUNICIPAL
Source Type:	DRUMS
Source Type:	TRANSFORM
Facility ID:	4-0015665
Source Type:	TRANSFORM
Release Town:	NEW BEDFORD

SHAWMUT AVE LANDFILL (Continued) **S104774390**

Notification Date:	08/14/00
Category:	TWO HR
Associated ID:	-
Facility Status:	**ADQREG**
Status Date:	08/14/00
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Hazardous Material
Action Type:	Response Action Outcome Not Required
Action Stat:	Adequately Regulated
Action Date:	08/14/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	08/14/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	1,1'-BIPHENYL, CHLORO-DERIVS.
Amount:	800000
Quantity:	parts per million
Location Type:	MUNICIPAL
Source Type:	DRUMS
Source Type:	TRANSFORM

MA RELEASE:

Facility ID:	4-0015665
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	08/14/00
Category:	TWO HR
Facility Status:	**ADQREG**
Status Date:	08/14/00
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Hazardous Material
Action Type:	Response Action Outcome Not Required
Action Stat:	Adequately Regulated
Action Date:	08/14/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	08/14/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	1,1'-BIPHENYL, CHLORO-DERIVS.
Amount:	800000
Quantity:	parts per million
Location Type:	MUNICIPAL
Source Type:	DRUMS
Source Type:	TRANSFORM

78
West
1/2-1
4624 ft.

VERIZON MASSACHUSETTS #535314
1166 SHAWMUT AVE
NEW BEDFORD, MA 02740

LUST
Release
UST

U001004859
N/A

Relative:
Higher

Actual:
107 ft.

LUST:

Facility ID:	4-0012017
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	04/01/96
Category:	72 HR
Associated ID:	-
Site Status:	**Response Action Outcome**
Status Date:	05/30/96
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	05/30/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	04/01/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	05/30/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4058
Action Type:	RNF
Action Stat:	REPORT
Action Date:	05/13/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	160
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

MA RELEASE:

Facility ID:	4-0012017
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	04/01/96
Category:	72 HR
Facility Status:	**Response Action Outcome**
Status Date:	05/30/96
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Oil

VERIZON MASSACHUSETTS #535314 (Continued) **U001004859**

Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	05/30/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	04/01/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	05/30/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4058
Action Type:	RNF
Action Stat:	REPORT
Action Date:	05/13/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	160
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

UST:

Facility ID:	3397
Tank ID:	1
Serial Number:	Not reported
Aboveground:	No
Capacity:	4000
Contents:	Gasoline
Tank Status:	**Removed**
Tank Useage:	MV
Tank Material:	Steel
Tank Contents:	1 Wall
Pipe Material:	Steel
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	VERIZON MASSACHUSETTS
Owner Address:	125 HIGH ST OLIVER TOWER 2ND
Owner City,St,Zip:	BOSTON, MA 02110
Telephone:	(508) 850-9432
Description:	Gas Station
Fire Dept. ID:	5201
Financial Responsibility:	Self Insured, Normal

Facility ID:	3397
Tank ID:	2
Serial Number:	Not reported

VERIZON MASSACHUSETTS #535314 (Continued) **U001004859**

Aboveground:	No
Capacity:	500
Contents:	Waste Oil
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	VERIZON MASSACHUSETTS
Owner Address:	125 HIGH ST OLIVER TOWER 2ND
Owner City,St,Zip:	BOSTON, MA 02110
Telephone:	(508) 850-9432
Description:	Gas Station
Fire Dept. ID:	5201
Financial Responsibility:	Self Insured, Normal

Facility ID:	3397
Tank ID:	3
Serial Number:	Not reported
Aboveground:	No
Capacity:	4000
Contents:	Gasoline
Tank Status:	**Removed**
Tank Useage:	MV
Tank Material:	Steel
Tank Contents:	1 Wall
Pipe Material:	Steel
Pipe Container:	1 Wall
Tank Leak Detection:	Inventory Record-Keeping
Pipe Leak Detection:	Suction: Check Valve at Tank
Owner:	VERIZON MASSACHUSETTS
Owner Address:	125 HIGH ST OLIVER TOWER 2ND
Owner City,St,Zip:	BOSTON, MA 02110
Telephone:	(508) 850-9432
Description:	Gas Station
Fire Dept. ID:	5201
Financial Responsibility:	Self Insured, Normal

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79 **ROADWAY** **SHWS** **S108034596**
West **1200 SHAWMUT AVE** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA**
4772 ft.

Relative:
Higher

Actual:
97 ft.

SHWS:

Facility ID:	4-0019875
Source Type:	VEHICLE
Release Town:	NEW BEDFORD
Notification Date:	06/22/06
Category:	TWO HR
Associated ID:	-
Facility Status:	**Unclassified Waste Site**
Status Date:	06/22/06
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Oil

ROADWAY (Continued) **S108034596**

Action Type:	Not reported
Action Stat:	Not reported
Action Date:	Not reported
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	Not reported
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

MA RELEASE:

Facility ID:	4-0019875
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	06/22/06
Category:	TWO HR
Facility Status:	**Unclassified Waste Site**
Status Date:	06/22/06
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Not reported
Action Stat:	Not reported
Action Date:	Not reported
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	Not reported
Amount:	Not reported
Quantity:	Not reported
Location Type:	Not reported
Source Type:	Not reported

80
SSE
1/2-1
4801 ft.

JUSTIN CLOTHING CO/NATCO
61 NORTH FRONT ST
NEW BEDFORD, MA 02741

SHWS **S104232390**
Release **N/A**
INST CONTROL

Relative:
Lower

Actual:
16 ft.

SHWS:

Facility ID:	4-0011454
Source Type:	UNKNOWN
Release Town:	NEW BEDFORD
Notification Date:	06/14/95
Category:	TWO HR
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	06/21/96
Phase:	Not reported
Response Action Outcome Class:	A3
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Action Audited
Action Date:	08/03/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

JUSTIN CLOTHING CO/NATCO (Continued) **S104232390**

Activity Use Limitaion:	NOTICE
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	06/14/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	06/28/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Activity and Use Limitation
Action Stat:	Action Audited
Action Date:	08/03/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	10/12/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	8765
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	04/09/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	8765
Chemical:	FUEL OIL #4
Amount:	Not reported
Quantity:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Location Type:	INDUSTRIAL
Source Type:	UNKNOWN

MA RELEASE:

Facility ID:	4-0011454
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	06/14/95
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	06/21/96
Phase:	Not reported
Rspns Actn Outcome Class:	A3
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Action Audited
Action Date:	08/03/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to

JUSTIN CLOTHING CO/NATCO (Continued) **S104232390**

background and an Activity and use Limitation (AUL) has been implemented.

Activity Use Limitaion:	NOTICE
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	06/14/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	06/28/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Activity and Use Limitation
Action Stat:	Action Audited
Action Date:	08/03/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	10/12/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	8765
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	04/09/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	8765
Chemical:	FUEL OIL #4
Amount:	Not reported
Quantity:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Location Type:	INDUSTRIAL
Source Type:	UNKNOWN

INST CONTROL:

Release Tracking Number:	4-0011454
Action Type:	AUL
Action Stat:	ACTAUD
Action Date:	08/03/01
Response Action Outcome:	Not reported
Activity Use Limitation:	Not reported
LSP Number:	Not reported

81 NE 1/2-1 4861 ft.

FIBRE LEATHER CORP
686 BELLEVILLE AVE
NEW BEDFORD, MA

Release **S103812623**
LAST **N/A**
INST CONTROL

Relative: Lower

Actual: 22 ft.

MA RELEASE:

Facility ID:	4-0014529
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	02/12/99
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	02/14/00
Phase:	Not reported
Rspns Actn Outcome Class:	A3
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	11/05/2002
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Activity Use Limitaion:	NOTICE
LSP Number:	4857
Action Type:	RNF
Action Stat:	REPORT
Action Date:	03/02/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Activity and Use Limitation
Action Stat:	Level I - Technical Screen Audit
Action Date:	11/05/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	02/14/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4857
Action Type:	Release
Action Stat:	REPORT
Action Date:	02/12/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #6
Amount:	300
Quantity:	gallons
Location Type:	INDUSTRIAL
Source Type:	AST

LAST:

Facility ID:	4-0014529
Source Type:	AST
Release Town:	NEW BEDFORD
Notification Date:	02/12/99
Category:	TWO HR

FIBRE LEATHER CORP (Continued) **S103812623**

Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	02/14/00
Phase:	Not reported
Rspns Actn Outcome Class:	A3
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	11/05/2002
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Activity Use Limitaion:	NOTICE
LSP Number:	4857
Action Type:	RNF
Action Stat:	REPORT
Action Date:	03/02/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Activity and Use Limitation
Action Stat:	Level I - Technical Screen Audit
Action Date:	11/05/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	02/14/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4857
Action Type:	Release
Action Stat:	REPORT
Action Date:	02/12/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #6
Amount:	300
Quantity:	gallons
Location Type:	INDUSTRIAL
Source Type:	AST

INST CONTROL:

Release Tracking Number:	4-0014529
Action Type:	AUL
Action Stat:	TSAUD
Action Date:	11/05/02
Response Action Outcome:	Not reported
Activity Use Limitation:	Not reported
LSP Number:	Not reported

O82
West
1/2-1
4965 ft.

Relative:
Higher

Actual:
86 ft.

AMI LEASING YARD
1242 SHAWMUT AVE
NEW BEDFORD, MA

Site 1 of 4 in cluster O

SHWS
Release

S104942047
N/A

SHWS:

Facility ID:	4-0016020
Source Type:	VEHICLE
Release Town:	NEW BEDFORD
Notification Date:	02/01/01
Category:	TWO HR
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	06/05/01
Phase:	Not reported
Response Action Outcome Class:	A2
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	04/26/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	1959
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	06/05/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1959
Action Type:	Release
Action Stat:	REPORT
Action Date:	02/01/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	03/21/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	DIESEL FUEL
Amount:	85
Quantity:	gallons
Location Type:	COMMERCIAL
Location Type:	ROADWAY
Source Type:	VEHICLE

MA RELEASE:

Facility ID:	4-0016020
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	02/01/01
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	06/05/01
Phase:	Not reported

AMI LEASING YARD (Continued) **S104942047**

Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	04/26/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	1959
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	06/05/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1959
Action Type:	Release
Action Stat:	REPORT
Action Date:	02/01/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	03/21/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	DIESEL FUEL
Amount:	85
Quantity:	gallons
Location Type:	COMMERCIAL
Location Type:	ROADWAY
Source Type:	VEHICLE

O83 **AMI TRUCK LEASE** **SHWS** **S104232372**
West **1242 SHAWMUT AVE** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA 02746**
4965 ft.

Site 2 of 4 in cluster O

Relative:
Higher

Actual:
86 ft.

SHWS:

Facility ID:	4-0010468
Source Type:	TANKER
Release Town:	NEW BEDFORD
Notification Date:	05/10/94
Category:	TWO HR
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	07/06/94
Phase:	Not reported
Response Action Outcome Class:	A1
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	07/06/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE

AMI TRUCK LEASE (Continued) **S104232372**

LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	07/06/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	05/10/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	07/06/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	DIESEL FUEL
Amount:	10
Quantity:	gallons
Location Type:	COMMERCIAL
Source Type:	TANKER

MA RELEASE:

Facility ID:	4-0010468
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	05/10/94
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	07/06/94
Phase:	Not reported
Rspns Actn Outcome Class:	A1
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	07/06/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	07/06/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	05/10/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT

AMI TRUCK LEASE (Continued) **S104232372**

Action Date:	07/06/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	DIESEL FUEL
Amount:	10
Quantity:	gallons
Location Type:	COMMERCIAL
Source Type:	TANKER

O84 **AMI TRUCK LEASING** **SHWS** **S101048222**
West **1242 SHAWMUT AVE** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA 02740** **MA Spills**
4965 ft.

Site 3 of 4 in cluster O

Relative: Higher

Actual: 86 ft.

SHWS:

Facility ID:	4-0018999
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	03/21/05
Category:	120 DY
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	10/25/05
Phase:	Not reported
Response Action Outcome Class:	B1
Oil Or Haz Material:	Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	Fee Received
Action Date:	10/28/2005
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	3063
Action Type:	RNF
Action Stat:	REPORT
Action Date:	03/21/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	METHANE, BROMO-
Amount:	.0046
Quantity:	parts per billion
Chemical:	BENZ[A]ANTHRACENE
Amount:	.0016
Quantity:	parts per million
Chemical:	BENZO[A]PYRENE
Amount:	.0015
Quantity:	parts per million
Chemical:	BENZ[E]ACEPHENANTHRYLENE
Amount:	.002
Quantity:	parts per million
Location Type:	Not reported
Source Type:	Not reported

MA RELEASE:

AMI TRUCK LEASING (Continued) **S101048222**

Facility ID:	4-0018999
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	03/21/05
Category:	120 DY
Facility Status:	**Response Action Outcome**
Status Date:	10/25/05
Phase:	Not reported
Rspns Actn Outcome Class:	B1
Oil / Haz Material Type:	Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	Fee Received
Action Date:	10/28/2005
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	3063
Action Type:	RNF
Action Stat:	REPORT
Action Date:	03/21/2005
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	METHANE, BROMO-
Amount:	.0046
Quantity:	parts per billion
Chemical:	BENZ[A]ANTHRACENE
Amount:	.0016
Quantity:	parts per million
Chemical:	BENZO[A]PYRENE
Amount:	.0015
Quantity:	parts per million
Chemical:	BENZ[E]ACEPHENANTHRYLENE
Amount:	.002
Quantity:	parts per million
Location Type:	Not reported
Source Type:	Not reported

MA Spills:

Facility ID:	0000	Spill ID:	S93-0616
Staff Lead:	LEARY, J	Date Entered:	Not reported
Last Entered:	19930921	First Response:	19930902
Spill Date:	19930902	Spill Time:	Not reported
Report Date:	19930902	Report Time:	03:15PM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	------	Contam Soil:	Not reported
Env Impact:	SOIL	Other Impact:	Not reported
Material:	DIESEL FUEL	Other Material:	Not reported
Qty Reported:	----------	Qty Actual:	----------
Qty Reported:	----------	Qty Actual:	----------
CAS No:	Not reported	PCB Lev (ppm):	----------
Source:	HOSE	Other Source:	Not reported
Incident:	OTHER RELEASE >	Other Incdnt:	OVERFILL/SPILL
Cleanup Type:	---	Contractor:	NOT USED
Referral:	NO	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	ANONYMOUS		

AMI TRUCK LEASING (Continued) **S101048222**

Notif Tel: Not reported
Days/Close: 0

O85 **PENSKE TRUCK LEASING CO LP** **RCRA-SQG** **1000172796**
West **1242 SHAWMUT AVE** **FINDS** **MAD981204837**
1/2-1 **NEW BEDFORD, MA 02746** **LUST**
4965 ft. **Release**

Site 4 of 4 in cluster O

Relative: Higher

Actual: 86 ft.

RCRAInfo:
Owner: PENSKE TRUCK LEASING CO LP
EPA ID: MAD981204837
Contact: MATTHEW PERAITA
(508) 999-5241
Classification: Conditionally Exempt Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site

MA-EPICS

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

LUST:

Facility ID:	4-0010374
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	04/01/94
Category:	72 HR
Associated ID:	-
Site Status:	**Response Action Outcome**
Status Date:	04/03/95
Phase:	Not reported
Rspns Actn Outcome Class:	A1
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Fee Received
Action Date:	04/05/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	04/01/1994

PENSKE TRUCK LEASING CO LP (Continued) **1000172796**

Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	04/19/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	04/03/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1959
Chemical:	GASOLINE
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Location Type:	INDUSTRIAL
Source Type:	UST

MA RELEASE:

Facility ID:	4-0010374
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	04/01/94
Category:	72 HR
Facility Status:	**Response Action Outcome**
Status Date:	04/03/95
Phase:	Not reported
Rspns Actn Outcome Class:	A1
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Fee Received
Action Date:	04/05/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Activity Use Limitaion:	NONE
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	04/01/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	04/19/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	04/03/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported

PENSKE TRUCK LEASING CO LP (Continued) **1000172796**

LSP Number:	1959
Chemical:	GASOLINE
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Location Type:	INDUSTRIAL
Source Type:	UST

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86 **JCT OF BROOKLAWN AVE** **SHWS** **S103812661**
NNW **429 CHURCH ST** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA 02745** **INST CONTROL**
4971 ft.

Relative:
Higher

Actual:
91 ft.

SHWS:

Facility ID:	4-0014606
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	03/17/99
Category:	120 DY
Associated ID:	-
Facility Status:	**Response Action Outcome**
Status Date:	03/16/00
Phase:	Not reported
Response Action Outcome Class:	A3
Oil Or Haz Material:	Hazardous Material
Action Type:	Response Action Outcome
Action Stat:	Action Audited
Action Date:	10/21/2002
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Activity Use Limitaion:	NOTICE
LSP Number:	9658
Action Type:	Release Abatement Measure
Action Stat:	Fee Received
Action Date:	09/27/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	9658
Action Type:	RNF
Action Stat:	REPORT
Action Date:	03/17/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	03/17/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Activity and Use Limitation
Action Stat:	Action Audited
Action Date:	10/21/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	METHANE, DICHLORO-
Amount:	150

JCT OF BROOKLAWN AVE (Continued) **S103812661**

Quantity: parts per billion
Location Type: Not reported
Source Type: Not reported

MA RELEASE:
Facility ID: 4-0014606
Primary ID: -
Official City: NEW BEDFORD
Notification: 03/17/99
Category: 120 DY
Facility Status: **Response Action Outcome**
Status Date: 03/16/00
Phase: Not reported
Rspns Actn Outcome Class: A3
Oil / Haz Material Type: Hazardous Material
Action Type: Response Action Outcome
Action Stat: Action Audited
Action Date: 10/21/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Activity Use Limitaion: NOTICE
LSP Number: 9658
Action Type: Release Abatement Measure
Action Stat: Fee Received
Action Date: 09/27/1999
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: 9658
Action Type: RNF
Action Stat: REPORT
Action Date: 03/17/1999
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: RNF
Action Stat: REPORT
Action Date: 03/17/1999
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: Activity and Use Limitation
Action Stat: Action Audited
Action Date: 10/21/2002
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Chemical: METHANE, DICHLORO-
Amount: 150
Quantity: parts per billion
Location Type: Not reported
Source Type: Not reported

INST CONTROL:
Release Tracking Number: 4-0014606
Action Type: AUL
Action Stat: ACTAUD

JCT OF BROOKLAWN AVE (Continued) **S103812661**

Action Date: 10/21/02
Response Action Outcome: Not reported
Activity Use Limitation: Not reported
LSP Number: Not reported

87
SW
1/2-1
5128 ft.

NEW BEDFORD ROOFING **SHWS** **U003302540**
169 MT VERNON ST **Release** **N/A**
NEW BEDFORD, MA 02740 **AST**

Relative:
Higher

Actual:
136 ft.

SHWS:
Facility ID: 4-0014524
Source Type: UNKNOWN
Release Town: NEW BEDFORD
Notification Date: 02/11/99
Category: 72 HR
Associated ID: -
Facility Status: **Response Action Outcome**
Status Date: 04/08/02
Phase: PHASE II
Response Action Outcome Class: A2
Oil Or Haz Material: Oil
Action Type: Response Action Outcome
Action Stat: Level I - Technical Screen Audit
Action Date: 05/03/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion: NONE
LSP Number: 5156
Action Type: Tier Classification
Action Stat: Tier 2 Classification
Action Date: 02/10/2000
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: 6846
Action Type: Phase II
Action Stat: Scope of Work Received
Action Date: 02/10/2000
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: 6846
Action Type: Release
Action Stat: REPORT
Action Date: 02/11/1999
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: RNF
Action Stat: REPORT
Action Date: 03/10/1999
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported
LSP Number: Not reported
Action Type: Immediate Response
Action Stat: Completion Statement Received
Action Date: 02/10/2000
Response Action Outcome: Not reported
Activity Use Limitaion: Not reported

NEW BEDFORD ROOFING (Continued) **U003302540**

LSP Number:	6846
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	02/10/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Chemical:	GASOLINE
Amount:	250
Quantity:	parts per million
Chemical:	DIESEL FUEL
Amount:	250
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UNKNOWN

MA RELEASE:

Facility ID:	4-0014524
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	02/11/99
Category:	72 HR
Facility Status:	**Response Action Outcome**
Status Date:	04/08/02
Phase:	PHASE II
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	05/03/2002
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	5156
Action Type:	Tier Classification
Action Stat:	Tier 2 Classification
Action Date:	02/10/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Phase II
Action Stat:	Scope of Work Received
Action Date:	02/10/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Release
Action Stat:	REPORT
Action Date:	02/11/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	03/10/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported

NEW BEDFORD ROOFING (Continued) **U003302540**

LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	02/10/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	02/10/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Chemical:	GASOLINE
Amount:	250
Quantity:	parts per million
Chemical:	DIESEL FUEL
Amount:	250
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UNKNOWN

AST:

Facility ID:	412
Tank ID:	1
Serial Number:	Not reported
Aboveground:	Yes
Capacity:	3000
Contents:	Gasoline
Tank Status:	Removed
Tank Use:	MV
Tank Material:	Cathodic
Tank Construction:	2 Walls
Tank Leak Detection:	Inventory Record-Keeping
Pipe Material:	Steel
Pipe Construction:	1 Wall
Pipe Leak Detection:	Not reported
Owner:	NEW BEDFORD ROOFING
Owner Address:	169 MT VERNON
Owner City,St,Zip:	NEW BEDFORD, MA 02740
Telephone:	(508) 992-5580
Description:	Contractor
Fire Dept. ID:	5201
Financial Resp.:	State Fund, Normal

Facility ID:	412
Tank ID:	2
Serial Number:	Not reported
Aboveground:	Yes
Capacity:	2000
Contents:	Diesel
Tank Status:	Removed
Tank Use:	MV
Tank Material:	Cathodic
Tank Construction:	2 Walls
Tank Leak Detection:	Inventory Record-Keeping
Pipe Material:	Steel

NEW BEDFORD ROOFING (Continued) **U003302540**

Pipe Construction:	1 Wall
Pipe Leak Detection:	Not reported
Owner:	NEW BEDFORD ROOFING
Owner Address:	169 MT VERNON
Owner City,St,Zip:	NEW BEDFORD, MA 02740
Telephone:	(508) 992-5580
Description:	Contractor
Fire Dept. ID:	5201
Financial Resp.:	State Fund, Normal

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88 **NEW BEDFORD HIGH SCHOOL** **LUST** **S103812684**
WSW **230 HATHAWAY RD** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA**
5150 ft.

Relative:
Higher

Actual:
150 ft.

LUST:

Facility ID:	4-0014676
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	04/21/99
Category:	TWO HR
Associated ID:	-
Site Status:	**Response Action Outcome**
Status Date:	04/27/00
Phase:	Not reported
Rspns Actn Outcome Class:	B1
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/20/2004
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	8493
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	04/27/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	8493
Action Type:	Release
Action Stat:	REPORT
Action Date:	04/21/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	06/09/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #4
Amount:	40
Quantity:	gallons
Location Type:	MUNICIPAL
Location Type:	SCHOOL
Source Type:	UST

NEW BEDFORD HIGH SCHOOL (Continued) **S103812684**

MA RELEASE:

Facility ID:	4-0014676
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	04/21/99
Category:	TWO HR
Facility Status:	**Response Action Outcome**
Status Date:	04/27/00
Phase:	Not reported
Rspns Actn Outcome Class:	B1
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome
Action Stat:	Level I - Technical Screen Audit
Action Date:	07/20/2004
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Activity Use Limitaion:	NONE
LSP Number:	8493
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	04/27/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	8493
Action Type:	Release
Action Stat:	REPORT
Action Date:	04/21/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	06/09/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #4
Amount:	40
Quantity:	gallons
Location Type:	MUNICIPAL
Location Type:	SCHOOL
Source Type:	UST

P89 **INTERSECTION WITH HAZARD ST** **LUST** **S104232382**
South **1707 PURCHASE ST** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA**
5179 ft.

Site 1 of 3 in cluster P

Relative:
Lower

Actual:
38 ft.

LUST:

Facility ID:	4-0010987
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	12/12/94
Category:	72 HR
Associated ID:	4-0001168
Site Status:	**Response Action Outcome Not Required**

INTERSECTION WITH HAZARD ST (Continued) **S104232382**

Status Date:	10/04/95
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	10/04/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	01/11/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/12/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	04/18/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #2
Amount:	1300
Quantity:	parts per million
Chemical:	FUEL OIL #6
Amount:	Not reported
Quantity:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	1300
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

MA RELEASE:

Facility ID:	4-0010987
Primary ID:	4-0001168
Official City:	NEW BEDFORD
Notification:	12/12/94
Category:	72 HR
Facility Status:	**Response Action Outcome Not Required**
Status Date:	10/04/95
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	10/04/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported

INTERSECTION WITH HAZARD ST (Continued) **S104232382**

Action Type:	RNF
Action Stat:	REPORT
Action Date:	01/11/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	12/12/1994
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	04/18/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #2
Amount:	1300
Quantity:	parts per million
Chemical:	FUEL OIL #6
Amount:	Not reported
Quantity:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	1300
Quantity:	parts per million
Location Type:	COMMERCIAL
Source Type:	UST

P90 **JOHN T NISSEN BAKING CO** **LUST** **S101038430**
South **1707 PURCHASE ST** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA** **MA Spills**
5179 ft.

Site 2 of 3 in cluster P

Relative: Lower

Actual: 38 ft.

LUST:

Facility ID:	4-0011632
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	08/29/95
Category:	72 HR
Associated ID:	4-0001168
Site Status:	**Response Action Outcome Not Required**
Status Date:	10/04/95
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Immediate Response
Action Stat:	Written Approval of Plan
Action Date:	09/01/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	10/04/1995
Response Action Outcome:	Not reported

JOHN T NISSEN BAKING CO (Continued) **S101038430**

Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	08/29/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	950
Quantity:	parts per million
Location Type:	Not reported
Source Type:	UST

MA RELEASE:

Facility ID:	4-0011632
Primary ID:	4-0001168
Official City:	NEW BEDFORD
Notification:	08/29/95
Category:	72 HR
Facility Status:	**Response Action Outcome Not Required**
Status Date:	10/04/95
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Immediate Response
Action Stat:	Written Approval of Plan
Action Date:	09/01/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	10/04/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	08/29/1995
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	GASOLINE
Amount:	950
Quantity:	parts per million
Location Type:	Not reported
Source Type:	UST

MA Spills:

Facility ID:	0000	Spill ID:	S91-0338
Staff Lead:	MORAN, M	Date Entered:	19920228
Last Entered:	19920228	First Response:	19910620
Spill Date:	Not reported	Spill Time:	Not reported
Report Date:	19910619	Report Time:	Not reported
Case Closed:	YES	Mat Type:	PETROLEUM

JOHN T NISSEN BAKING CO (Continued) **S101038430**

Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	SOIL	Other Impact:	Not reported
Material:	GASOLINE	Other Material:	Not reported
Qty Reported:	UNKNOWN	Qty Actual:	UNKNOWN
Qty Reported:	----------	Qty Actual:	----------
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	U.S.T.	Other Source:	Not reported
Incident:	OTHER RELEASE >	Other Incdnt:	UNKNOWN
Cleanup Type:	SSC	Contractor:	NOT USED
Referral:	NO	LUST Elig:	---
Report Prep:	Not reported	Category:	Not reported
Notifier:	TOM SIMMONS/J B PLUNKETT ENV		
Notif Tel:	Not reported		
Days/Close:	1		

P91 **GIUSTI BAKERY** **LUST** **S100831668**
South **1707 PURCHASE ST** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA 02740**
5179 ft.

Site 3 of 3 in cluster P

Relative:
Lower

Actual:
38 ft.

LUST:

Facility ID:	4-0001168
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	04/15/92
Category:	NONE
Associated ID:	-
Site Status:	**Waiver Completion Statement, Permanent**
Status Date:	04/15/97
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	04/15/1992
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Source Type:	UST

MA RELEASE:

Facility ID:	4-0001168
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	04/15/92
Category:	NONE
Facility Status:	**Waiver Completion Statement, Permanent**
Status Date:	04/15/97
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Release

GIUSTI BAKERY (Continued) **S100831668**

Action Stat:	TCTRNS
Action Date:	04/15/1992
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	COMMERCIAL
Source Type:	UST

Q92 **REVERE COPPER PRODUCTS INC** **SHWS** **1000214634**
SSE **24 NORTH FRONT ST** **FINDS** **MAD001065937**
1/2-1 **NEW BEDFORD, MA 02741** **Release**
5185 ft. **RCRA-LQG**

Site 1 of 3 in cluster Q **RAATS**

Relative: **FTTS**
Lower **NJ MANIFEST**
PA MANIFEST
Actual: **RI MANIFEST**
14 ft. **NY MANIFEST**
CT MANIFEST

SHWS:

Facility ID:	4-0000815
Source Type:	Not reported
Release Town:	NEW BEDFORD
Notification Date:	08/01/96
Category:	NONE
Associated ID:	4-0016215
Facility Status:	**TIER1B**
Status Date:	04/23/02
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	05/14/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Tier Classification
Action Stat:	Legal Notice Published
Action Date:	03/27/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Phase IV
Action Stat:	Modified, Revised, or Updated Plan Received
Action Date:	10/01/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	01/27/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported

REVERE COPPER PRODUCTS INC (Continued) **1000214634**

LSP Number:	6846
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	05/14/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	07/15/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	08/05/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	MANUFACT
Source Type:	Not reported

FINDS:
Other Pertinent Environmental Activity Identified at Site

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and its Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

MA-EPICS

NCDB (National Compliance Data Base) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA). The system tracks inspections in regions and states with

REVERE COPPER PRODUCTS INC (Continued) **1000214634**

cooperative agreements, enforcement actions, and settlements.

The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

PCS (Permit Compliance System) is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

MA RELEASE:

Facility ID:	4-0000815
Primary ID:	4-0016215
Official City:	NEW BEDFORD
Notification:	08/01/96
Category:	NONE
Facility Status:	**TIER1B**
Status Date:	04/23/02
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Phase III
Action Stat:	Completion Statement Received
Action Date:	05/14/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Tier Classification
Action Stat:	Legal Notice Published
Action Date:	03/27/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Phase IV

REVERE COPPER PRODUCTS INC (Continued) **1000214634**

Action Stat:	Modified, Revised, or Updated Plan Received
Action Date:	10/01/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	01/27/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	05/14/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	07/15/1993
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	08/05/1997
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	PETROLEUM BASED OIL
Amount:	Not reported
Quantity:	Not reported
Location Type:	MANUFACT
Source Type:	Not reported

RCRAInfo:

Owner:	REVERE COPPER PRODUCTS
EPA ID:	MAD001065937
Contact:	LEWIS MYDLACK (508) 999-5601
Classification:	Large Quantity Generator
TSDF Activities:	Not reported

BIENNIAL REPORTS:
Last Biennial Reporting Year: 2003

Waste	Quantity (Lbs)	Waste	Quantity (Lbs)
D001	1206.04	D002	11745487.55
D006	13304.01	D008	158.01
D018	1206.04	D027	158.01
D039	1364.05	D040	1364.05

REVERE COPPER PRODUCTS INC (Continued) **1000214634**

Violation Status: Violations exist

Regulation Violated: 341(2)
Area of Violation: CONTAINER MGT=SAT'LITE ACCUMS/CONTAINER
Date Violation Determined: 06/28/2004
Actual Date Achieved Compliance: 10/12/2004

Enforcement Action: INITIAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 12/21/2004
Penalty Type: Final Monetary Penalty

Regulation Violated: 801
Area of Violation: GENERATOR-GENERAL REQUIREMENTS
Date Violation Determined: 06/28/2004
Actual Date Achieved Compliance: 10/12/2004

Enforcement Action: INITIAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 12/21/2004
Penalty Type: Final Monetary Penalty

Regulation Violated: 524(2)(f)
Area of Violation: PREPARDNESS AND PREVENTION
Date Violation Determined: 06/28/2004
Actual Date Achieved Compliance: 10/12/2004

Enforcement Action: INITIAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 12/21/2004
Penalty Type: Final Monetary Penalty

Regulation Violated: 520
Area of Violation: CONTINGENCY PLAN
Date Violation Determined: 06/28/2004
Actual Date Achieved Compliance: 10/12/2004

Enforcement Action: INITIAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 12/21/2004
Penalty Type: Final Monetary Penalty

Regulation Violated: 516
Area of Violation: GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined: 06/28/2004
Actual Date Achieved Compliance: 10/12/2004

Enforcement Action: INITIAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 12/21/2004
Penalty Type: Final Monetary Penalty

Regulation Violated: 520
Area of Violation: CONTINGENCY PLAN
Date Violation Determined: 02/01/2002
Actual Date Achieved Compliance: 10/17/2002

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 03/08/2002
Penalty Type: Not reported

Regulation Violated: 340-1-b
Area of Violation: CONTAINER MGT=SAT'LITE ACCUMS/CONTAINER
Date Violation Determined: 02/01/2002
Actual Date Achieved Compliance: 10/17/2002

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 03/08/2002
Penalty Type: Not reported

REVERE COPPER PRODUCTS INC (Continued) **1000214634**

Regulation Violated: 685-1
Area of Violation: CONTAINER MGT=SAT'LITE ACCUMS/CONTAINER
Date Violation Determined: 02/01/2002
Actual Date Achieved Compliance: 10/17/2002

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 03/08/2002
Penalty Type: Not reported

Regulation Violated: 524-2-f
Area of Violation: PREPARDNESS AND PREVENTION
Date Violation Determined: 02/01/2002
Actual Date Achieved Compliance: 10/17/2002

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 03/08/2002
Penalty Type: Not reported

Regulation Violated: 340-4
Area of Violation: CONTAINER MGT=SAT'LITE ACCUMS/CONTAINER
Date Violation Determined: 02/01/2002
Actual Date Achieved Compliance: 10/17/2002

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 03/08/2002
Penalty Type: Not reported

Regulation Violated: 340-1(f,g)
Area of Violation: PREPARDNESS AND PREVENTION
Date Violation Determined: 02/01/2002
Actual Date Achieved Compliance: 10/17/2002

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 03/08/2002
Penalty Type: Not reported

Regulation Violated: 516-1
Area of Violation: PREPARDNESS AND PREVENTION
Date Violation Determined: 02/01/2002
Actual Date Achieved Compliance: 10/17/2002

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 03/08/2002
Penalty Type: Not reported

Regulation Violated: 340(1)(b)
Area of Violation: CONTAINER MGT=SAT'LITE ACCUMS/CONTAINER
Date Violation Determined: 03/04/1994
Actual Date Achieved Compliance: 08/03/1994

Enforcement Action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 04/08/1994
Penalty Type: Final Monetary Penalty

Regulation Violated: 685(1)
Area of Violation: CONTAINER MGT=SAT'LITE ACCUMS/CONTAINER
Date Violation Determined: 03/04/1994
Actual Date Achieved Compliance: 08/03/1994

Enforcement Action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 04/08/1994
Penalty Type: Final Monetary Penalty

Regulation Violated: 340(1)(g)

REVERE COPPER PRODUCTS INC (Continued) **1000214634**

Area of Violation: CONTAINER MGT=SAT'LITE ACCUMS/CONTAINER
Date Violation Determined: 03/04/1994
Actual Date Achieved Compliance: 08/03/1994

Enforcement Action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 04/08/1994
Penalty Type: Final Monetary Penalty

Regulation Violated: 685(4)
Area of Violation: CONTAINER MGT=SAT'LITE ACCUMS/CONTAINER
Date Violation Determined: 03/04/1994
Actual Date Achieved Compliance: 08/03/1994

Enforcement Action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 04/08/1994
Penalty Type: Final Monetary Penalty

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 05/10/1990
Actual Date Achieved Compliance: 08/02/1990

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/01/1990
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 08/03/1990
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-LAND BAN REQUIREMENTS
Date Violation Determined: 05/10/1990
Actual Date Achieved Compliance: 10/01/1990

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 08/03/1990
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 08/19/1985
Actual Date Achieved Compliance: 11/05/1985

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 08/21/1985
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 06/05/1985
Actual Date Achieved Compliance: 10/03/1985

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/28/1985
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 06/05/1985
Actual Date Achieved Compliance: 10/03/1985

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/28/1985

REVERE COPPER PRODUCTS INC (Continued) **1000214634**

Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 06/05/1985
Actual Date Achieved Compliance: 10/03/1985

Enforcement Action: EPA TO STATE ADMINISTRATIVE REFERRAL
Enforcement Action Date: 07/19/1985
Penalty Type: Not reported

Penalty Summary:

Penalty Description	Penalty Date	Penalty Amount	Lead Agency
Final Monetary Penalty	4/8/1994	1500	STATE

There are 22 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Detailed Multimedia Inspection	CONTAINER MGT=SAT'LITE ACCUMS/CONTAINER	20041012
	GENERATOR-GENERAL REQUIREMENTS	20041012
	CONTINGENCY PLAN	20041012
	PREPARDNESS AND PREVENTION	20041012
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	20041012
Detailed Multimedia Inspection	CONTINGENCY PLAN	20021017
	CONTAINER MGT=SAT'LITE ACCUMS/CONTAINER	20021017
	PREPARDNESS AND PREVENTION	20021017
	CONTAINER MGT=SAT'LITE ACCUMS/CONTAINER	20021017
	PREPARDNESS AND PREVENTION	20021017
	CONTAINER MGT=SAT'LITE ACCUMS/CONTAINER	20021017
	PREPARDNESS AND PREVENTION	20021017
Compliance Schedule Evaluation	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19851105
	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19900802
	GENERATOR-LAND BAN REQUIREMENTS	19901001
Compliance Evaluation Inspection	CONTAINER MGT=SAT'LITE ACCUMS/CONTAINER	19940803
	CONTAINER MGT=SAT'LITE ACCUMS/CONTAINER	19940803
	CONTAINER MGT=SAT'LITE ACCUMS/CONTAINER	19940803
	CONTAINER MGT=SAT'LITE ACCUMS/CONTAINER	19940803
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19900802
	GENERATOR-LAND BAN REQUIREMENTS	19901001
Non-Financial Record Review	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19851105
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19851003
	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19851003
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19851003

FTTS INSP:
Inspection Number: 20020131CT028 2
Region: 01
Inspection Date: Not reported
Inspector: GIOVANELLI
Violation occurred: No
Investigation Type: AHERA, Enforcement, State Conducted
Investigation Reason: Neutral Scheme, State
Legislation Code: TSCA
Facility Function: User

NJ MANIFEST:
Manifest Code: NJA5236855

REVERE COPPER PRODUCTS INC (Continued) **1000214634**

EPA ID: MAD001065937
Date Shipped: 20050308
TSDF EPA ID: NJD980536593
Transporter EPA ID: NJD080631369
Transporter 2 EPA ID: NJD054126164
Date Trans1 Transported Waste: 050308
Date Trans2 Transported Waste: 050318
Date TSDF Received Waste: 050321
Tranporter 1 Decal: Not reported
Tranporter 2 Decal: Not reported
Data Entry Number: 05100521
Reference Manifest Number: Not reported
Was Load Rejected (Y/N): No
Reason Load Was Rejected: Not reported
Waste Code: F003
Quantity: 10
Unit: P
Hand Code: S01

Manifest Code: NJA5007684
EPA ID: MAD001065937
Date Shipped: 20040303
TSDF EPA ID: NJD002200046
Transporter EPA ID: NJ0000027193
Transporter 2 EPA ID: NJ0000027193
Date Trans1 Transported Waste: 040303
Date Trans2 Transported Waste: 040311
Date TSDF Received Waste: 040316
Tranporter 1 Decal: Not reported
Tranporter 2 Decal: Not reported
Data Entry Number: 04020425
Reference Manifest Number: Not reported
Was Load Rejected (Y/N): No
Reason Load Was Rejected: Not reported
Waste Code: D001
Quantity: 2
Unit: P
Hand Code: S01

Waste Code: D001
Quantity: 20
Unit: P
Hand Code: S01

Waste Code: F003
Quantity: 200
Unit: P
Hand Code: S01

PA MANIFEST:
Manifest Number: PAH210335
Manifest Type: T
Generator Epa Id: MAD001065937

REVERE COPPER PRODUCTS INC (Continued) **1000214634**

Generator Date:	03/04/2005
Mailing Address:	24 N FRONT ST
Mailing City,St,Zip:	NEW BEDFORD, MA 02740
Contact Name:	Not reported
Contact Phone:	508-999-5601
TSD Epa Id:	PAD010154045
TSD Date:	03/04/2005
TSD Facility Name:	ENVIRITE OF PENNSYLVANIA INC
TSD Facility Address:	730 VOGELSONG RD
TSD Facility City:	YORK
TSD Facility State:	PA
Page Number:	1.00000
Line Number:	1.00000
Waste Number:	D002
Container Number:	1.00000
Container Type:	TT
Waste Quantity:	3900.00000
Unit:	G
Handling Code:	Not reported
Tsp Epa Id:	MAD084814136
Date Tsp Sig:	03/04/2005

Click this hyperlink while viewing on your computer to access
1 additional PA MANIFEST: record(s) in the EDR Site Report.

RI MANIFEST:

Manifest Docket Number:	MAC235113
Waste Description:	ACID
Quantity:	5027.00
WT/Vol Units:	G
Item Number:	1
Transporter Name:	FREEHOLD
Transporter EPA ID:	NJD054126164
ID:	280451
GEN Cert Date:	11/9/1989 0:00:00
Transporter Recpt Date:	Not reported
Transporter 2 Recpt Date:	Not reported
TSDF Recpt Date:	Not reported
EPA ID:	MAD001065937
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	D002
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDF Name:	ETICAM
TSDF ID:	RID980906986
Data Source:	Not reported
Date Imported:	Not reported
Transporter 2 Name:	Not reported
Transporter 2 ID:	Not reported
Quantity in LBS.:	0
Fee Reported:	Not reported

REVERE COPPER PRODUCTS INC (Continued) **1000214634**

Manifest Docket Number:	MAC685942
Waste Description:	ACID
Quantity:	2900.00
WT/Vol Units:	G
Item Number:	1
Transporter Name:	JET LINE
Transporter EPA ID:	MAD062179890
ID:	296229
GEN Cert Date:	3/5/1990 0:00:00
Transporter Recpt Date:	Not reported
Transporter 2 Recpt Date:	Not reported
TSDF Recpt Date:	Not reported
EPA ID:	MAD001065937
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	D002
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDF Name:	STABLEX
TSDF ID:	RID040098352
Data Source:	Not reported
Date Imported:	Not reported
Transporter 2 Name:	Not reported
Transporter 2 ID:	Not reported
Quantity in LBS.:	0
Fee Reported:	Not reported

Manifest Docket Number:	MAC685943
Waste Description:	METAL PICKLE
Quantity:	5000.00
WT/Vol Units:	G
Item Number:	1
Transporter Name:	JET LINE
Transporter EPA ID:	MAD062179890
ID:	296230
GEN Cert Date:	3/22/1990 0:00:00
Transporter Recpt Date:	Not reported
Transporter 2 Recpt Date:	Not reported
TSDF Recpt Date:	Not reported
EPA ID:	MAD001065937
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	D002
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDF Name:	STABLEX
TSDF ID:	RID040098352

REVERE COPPER PRODUCTS INC (Continued) **1000214634**

Data Source:	Not reported
Date Imported:	Not reported
Transporter 2 Name:	Not reported
Transporter 2 ID:	Not reported
Quantity in LBS.:	0
Fee Reported:	Not reported
Manifest Docket Number:	MAC685944
Waste Description:	CORR LIQ
Quantity:	4000.00
WT/Vol Units:	G
Item Number:	1
Transporter Name:	JET LINE
Transporter EPA ID:	MAD062179890
ID:	296231
GEN Cert Date:	4/4/1990 0:00:00
Transporter Recpt Date:	Not reported
Transporter 2 Recpt Date:	Not reported
TSDF Recpt Date:	Not reported
EPA ID:	MAD001065937
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	D002
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDF Name:	STABLEX
TSDF ID:	RID040098352
Data Source:	Not reported
Date Imported:	Not reported
Transporter 2 Name:	Not reported
Transporter 2 ID:	Not reported
Quantity in LBS.:	0
Fee Reported:	Not reported
Manifest Docket Number:	MAC689942
Waste Description:	ACID
Quantity:	2900.00
WT/Vol Units:	G
Item Number:	1
Transporter Name:	JET LINE
Transporter EPA ID:	MAD062179890
ID:	296458
GEN Cert Date:	3/5/1990 0:00:00
Transporter Recpt Date:	Not reported
Transporter 2 Recpt Date:	Not reported
TSDF Recpt Date:	Not reported
EPA ID:	MAD001065937
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	D002
Waste Code2:	Not reported
Waste Code3:	Not reported

REVERE COPPER PRODUCTS INC (Continued) **1000214634**

Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDF Name:	STABLEX
TSDF ID:	RID040098352
Data Source:	Not reported
Date Imported:	Not reported
Transporter 2 Name:	Not reported
Transporter 2 ID:	Not reported
Quantity in LBS.:	0
Fee Reported:	Not reported

Click this hyperlink while viewing on your computer to access
13 additional RI MANIFEST: record(s) in the EDR Site Report.

NY MANIFEST:

Document ID:	NYA1060056
Manifest Status:	C
Trans1 State ID:	MA27715
Trans2 State ID:	Not reported
Generator Ship Date:	860530
Trans1 Recv Date:	860530
Trans2 Recv Date:	860530
TSD Site Recv Date:	860602
Part A Recv Date:	860606
Part B Recv Date:	860606
Generator EPA ID:	MAD001065937
Trans1 EPA ID:	MAD039322250
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	D006 - CADMIUM 1.0 MG/L TCLP
Quantity:	27000
Units:	P - Pounds
Number of Containers:	054
Container Type:	DM - Metal drums, barrels
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	86
Facility Type:	Generator
EPA ID:	MAD001065937
Facility Name:	REVERE COPPER PRODUCTS INC
Facility Address:	24 NORTH FRONT STREET
Facility City:	NEW BEDFORD
Facility Zip 4:	Not reported
Country:	Not reported
County:	Not reported
Mailing Name:	REVERE COPPER PRODUCTS INC
Mailing Contact:	MYDLACK LEWIS CHIEF ENGIN
Mailing Address:	24 NORTH FRONT STREET
Mailing City:	NEW BEDFORD
Mailing State:	MA
Mailing Zip:	02741
Mailing Zip4:	Not reported
Mailing Country:	Not reported

REVERE COPPER PRODUCTS INC (Continued) **1000214634**

Mailing Phone: 617-999-5601

Click this hyperlink while viewing on your computer to access
22 additional NY MANIFEST: record(s) in the EDR Site Report.

CT MANIFEST:

Year:	1989
Manifest ID:	CTC0120924
TSDF EPA ID:	CTD093616613
TSDF Name:	ENVIRITE CORP
TSDF Address:	OLD WATERBURY ROAD
TSDF City,St,Zip:	THOMASTON, CT 06787
TSDF Country:	USA
TSDF Telephone:	Not reported
Transport Date:	01/18/89
Transporter EPA ID:	CTD093616613
Transporter Name:	ENVIRITE CORP
Transporter Country:	USA
Transporter Phone:	Not reported
Trans 2 Date:	/ /
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
Trans 2 Address:	Not reported
Trans 2 City,St,Zip:	CT
Trans 2 Country:	USA
Trans 2 Phone:	Not reported
Generator EPA ID:	MAD001065937
Gererator Phone:	6179995601
Generator Address:	Not reported
Generator City,State,Zip:	Not reported
Generator Country:	Not reported
Special Handling:	No
Discrepancies:	No
Date Shipped:	01/18/89
Date Received:	01/18/89
Last modified date:	04/27/04
Last modified by:	IG
Comments:	Not reported

Click this hyperlink while viewing on your computer to access
47 additional CT MANIFEST: record(s) in the EDR Site Report.

Q93 **REVERE COPPER PRODUCTS INC** **LUST** **U003287526**
SSE **24 N FRONT ST** **Release** **N/A**
1/2-1 **NEW BEDFORD, MA 02741** **UST**
5185 ft. **LAST**
Site 2 of 3 in cluster Q **AIRS**

Relative:
Lower

LUST:

Facility ID:	4-0014654
Source Type:	UST
Release Town:	NEW BEDFORD
Notification Date:	04/09/99
Category:	72 HR
Associated ID:	4-0000815
Site Status:	**TIER1B**
Status Date:	04/23/02

Actual:
14 ft.

REVERE COPPER PRODUCTS INC (Continued) **U003287526**

Phase:	PHASE III
Rspns Actn Outcome Class:	Not reported
Oil Or Haz Material:	Oil
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	04/07/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Release
Action Stat:	REPORT
Action Date:	04/09/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	12/05/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Tier Classification
Action Stat:	Legal Notice Published
Action Date:	03/27/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	04/23/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Tier Classification
Action Stat:	Statement or Transmittal Retracted
Action Date:	11/06/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	02/04/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	RNF
Action Stat:	REPORT
Action Date:	04/26/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #2
Amount:	11.4
Quantity:	inches
Location Type:	INDUSTRIAL
Source Type:	UST

REVERE COPPER PRODUCTS INC (Continued) **U003287526**

MA RELEASE:

Facility ID:	4-0014654
Primary ID:	4-0000815
Official City:	NEW BEDFORD
Notification:	04/09/99
Category:	72 HR
Facility Status:	**TIER1B**
Status Date:	04/23/02
Phase:	PHASE III
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil
Action Type:	Phase I
Action Stat:	Completion Statement Received
Action Date:	04/07/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Release
Action Stat:	REPORT
Action Date:	04/09/1999
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	12/05/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Action Type:	Tier Classification
Action Stat:	Legal Notice Published
Action Date:	03/27/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	04/23/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Tier Classification
Action Stat:	Statement or Transmittal Retracted
Action Date:	11/06/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Phase II
Action Stat:	Completion Statement Received
Action Date:	02/04/2000
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	RNF
Action Stat:	REPORT
Action Date:	04/26/1999
Response Action Outcome:	Not reported

REVERE COPPER PRODUCTS INC (Continued) **U003287526**

Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	FUEL OIL #2
Amount:	11.4
Quantity:	inches
Location Type:	INDUSTRIAL
Source Type:	UST
Facility ID:	4-0018028
Primary ID:	-
Official City:	NEW BEDFORD
Notification:	09/29/03
Category:	TWO HR
Facility Status:	**Response Action Outcome Not Required**
Status Date:	07/01/04
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Hazardous Material
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	02/10/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1217
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	07/01/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	2152
Action Type:	Tier Classification
Action Stat:	Legal Notice Published
Action Date:	03/27/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	11/25/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	09/29/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	KEROSENE
Amount:	70
Quantity:	gallons
Location Type:	INDUSTRIAL
Source Type:	AST

UST:

Facility ID:	3487
Tank ID:	1

REVERE COPPER PRODUCTS INC (Continued) **U003287526**

Serial Number: Not reported
Aboveground: No
Capacity: 40000
Contents: Not reported
Tank Status: Removed
Tank Useage: Not reported
Tank Material: Not reported
Tank Contents: Concrete
Pipe Material: Not reported
Pipe Container: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Owner: REVERE COPPER PRODUCTS INC
Owner Address: 24 N FRONT ST
Owner City,St,Zip: NEW BEDFORD, MA 02740
Telephone: (508) 999-5601
Description: Industrial
Fire Dept. ID: 5201
Financial Responsibility: Commercial,

Facility ID: 3487
Tank ID: 2
Serial Number: Not reported
Aboveground: No
Capacity: 45000
Contents: Not reported
Tank Status: Removed
Tank Useage: Not reported
Tank Material: Not reported
Tank Contents: Concrete
Pipe Material: Not reported
Pipe Container: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Owner: REVERE COPPER PRODUCTS INC
Owner Address: 24 N FRONT ST
Owner City,St,Zip: NEW BEDFORD, MA 02740
Telephone: (508) 999-5601
Description: Industrial
Fire Dept. ID: 5201
Financial Responsibility: Commercial,

Facility ID: 3487
Tank ID: 3
Serial Number: Not reported
Aboveground: No
Capacity: 16000
Contents: Not reported
Tank Status: Removed
Tank Useage: Not reported
Tank Material: Not reported
Tank Contents: Concrete
Pipe Material: Not reported
Pipe Container: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Owner: REVERE COPPER PRODUCTS INC

REVERE COPPER PRODUCTS INC (Continued) **U003287526**

Owner Address: 24 N FRONT ST
Owner City,St,Zip: NEW BEDFORD, MA 02740
Telephone: (508) 999-5601
Description: Industrial
Fire Dept. ID: 5201
Financial Responsibility: Commercial,

Facility ID: 3487
Tank ID: 4
Serial Number: Not reported
Aboveground: No
Capacity: 16000
Contents: Not reported
Tank Status: **Removed**
Tank Useage: Not reported
Tank Material: Not reported
Tank Contents: Concrete
Pipe Material: Not reported
Pipe Container: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Owner: REVERE COPPER PRODUCTS INC
Owner Address: 24 N FRONT ST
Owner City,St,Zip: NEW BEDFORD, MA 02740
Telephone: (508) 999-5601
Description: Industrial
Fire Dept. ID: 5201
Financial Responsibility: Commercial,

Facility ID: 3487
Tank ID: 5
Serial Number: Not reported
Aboveground: No
Capacity: 2000
Contents: Gasoline
Tank Status: **Removed**
Tank Useage: Not reported
Tank Material: Steel
Tank Contents: Not reported
Pipe Material: Not reported
Pipe Container: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Owner: REVERE COPPER PRODUCTS INC
Owner Address: 24 N FRONT ST
Owner City,St,Zip: NEW BEDFORD, MA 02740
Telephone: (508) 999-5601
Description: Industrial
Fire Dept. ID: 5201
Financial Responsibility: Commercial,

Facility ID: 3487
Tank ID: 6
Serial Number: Not reported
Aboveground: No
Capacity: 1100
Contents: Kerosene

REVERE COPPER PRODUCTS INC (Continued) **U003287526**

Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	REVERE COPPER PRODUCTS INC
Owner Address:	24 N FRONT ST
Owner City,St,Zip:	NEW BEDFORD, MA 02740
Telephone:	(508) 999-5601
Description:	Industrial
Fire Dept. ID:	5201
Financial Responsibility:	Commercial,

Facility ID:	3487
Tank ID:	7
Serial Number:	Not reported
Aboveground:	No
Capacity:	15000
Contents:	Not reported
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Steel
Tank Contents:	Not reported
Pipe Material:	Not reported
Pipe Container:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Owner:	REVERE COPPER PRODUCTS INC
Owner Address:	24 N FRONT ST
Owner City,St,Zip:	NEW BEDFORD, MA 02740
Telephone:	(508) 999-5601
Description:	Industrial
Fire Dept. ID:	5201
Financial Responsibility:	Commercial,

Facility ID:	3487
Tank ID:	8
Serial Number:	Not reported
Aboveground:	No
Capacity:	500
Contents:	Gasoline
Tank Status:	**Removed**
Tank Useage:	Not reported
Tank Material:	Epoxy Coat
Tank Contents:	2 Walls
Pipe Material:	Reinforced
Pipe Container:	Not reported
Tank Leak Detection:	Interstitial Monitoring
Pipe Leak Detection:	Not reported
Owner:	REVERE COPPER PRODUCTS INC
Owner Address:	24 N FRONT ST
Owner City,St,Zip:	NEW BEDFORD, MA 02740
Telephone:	(508) 999-5601
Description:	Industrial

REVERE COPPER PRODUCTS INC (Continued) **U003287526**

Fire Dept. ID: 5201
Financial Responsibility: Commercial,

LAST:

Facility ID:	4-0018028
Source Type:	AST
Release Town:	NEW BEDFORD
Notification Date:	09/29/03
Category:	TWO HR
Associated ID:	-
Facility Status:	**Response Action Outcome Not Required**
Status Date:	07/01/04
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil Or Haz Material:	Hazardous Material
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	02/10/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	1217
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	07/01/2004
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	2152
Action Type:	Tier Classification
Action Stat:	Legal Notice Published
Action Date:	03/27/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	RNF
Action Stat:	REPORT
Action Date:	11/25/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Release
Action Stat:	REPORT
Action Date:	09/29/2003
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	KEROSENE
Amount:	70
Quantity:	gallons
Location Type:	INDUSTRIAL
Source Type:	AST

AIRS:

Permit Code:	AQ09
Permit Name:	Permit Restrictions/Restricted Emission Status
DEP Region:	SE
Application Tracking Number:	204320

REVERE COPPER PRODUCTS INC (Continued) **U003287526**

Approval Date:	20-Apr-00
FMF Number:	130042
Applicant Name:	REVERE COPPER PRODUCTS INC
Applicant Address:	PO BOX 975
Applicant Addr2:	24N FRONT ST
Applicant City,St,Zip:	NEW BEDFORD, MA 027400000
Applicant Telephone:	5089995601
Facility Addr2:	Not reported
Facility Status:	APPROV
Permit Code:	AQ09
Permit Name:	Permit Restrictions/Restricted Emission Status
DEP Region:	SE
Application Tracking Number:	W062982
Approval Date:	21-Nov-05
FMF Number:	130042
Applicant Name:	REVERE COPPER PRODUCTS INC
Applicant Address:	PO BOX 975
Applicant Addr2:	24N FRONT ST
Applicant City,St,Zip:	NEW BEDFORD, MA 027400000
Applicant Telephone:	5089995601
Facility Addr2:	Not reported
Facility Status:	APPROV

Q94 **REVERE COPPER PRODUCTS INC** **SHWS** **1005452577**
SSE **24 N FRONT ST** **Release** **02741RVRCP24**
1/2-1 **NEW BEDFORD, MA 02740** **TRIS**
5185 ft.

Site 3 of 3 in cluster Q

Relative: Lower

Actual: 14 ft.

SHWS:

Facility ID:	4-0016215
Source Type:	UNKNOWN
Release Town:	NEW BEDFORD
Notification Date:	04/23/01
Category:	72 HR
Associated ID:	4-0000815
Facility Status:	**Response Action Outcome Not Required**
Status Date:	04/23/02
Phase:	Not reported
Response Action Outcome Class:	Not reported
Oil Or Haz Material:	Oil and Hazardous Material
Action Type:	RNF
Action Stat:	REPORT
Action Date:	06/22/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	Legal Notice Published
Action Date:	03/27/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	12/05/2002
Response Action Outcome:	Not reported

REVERE COPPER PRODUCTS INC (Continued) **1005452577**

Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Release
Action Stat:	REPORT
Action Date:	04/23/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	04/23/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Chemical:	FUEL OIL #2
Amount:	Not reported
Quantity:	Not reported
Chemical:	KEROSENE
Amount:	Not reported
Quantity:	Not reported
Location Type:	INDUSTRIAL
Source Type:	UNKNOWN

MA RELEASE:

Facility ID:	4-0016215
Primary ID:	4-0000815
Official City:	NEW BEDFORD
Notification:	04/23/01
Category:	72 HR
Facility Status:	**Response Action Outcome Not Required**
Status Date:	04/23/02
Phase:	Not reported
Rspns Actn Outcome Class:	Not reported
Oil / Haz Material Type:	Oil and Hazardous Material
Action Type:	RNF
Action Stat:	REPORT
Action Date:	06/22/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Tier Classification
Action Stat:	Legal Notice Published
Action Date:	03/27/2006
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Status Report Received
Action Date:	12/05/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	6846
Action Type:	Release
Action Stat:	REPORT
Action Date:	04/23/2001
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported

REVERE COPPER PRODUCTS INC (Continued) **1005452577**

LSP Number:	Not reported
Action Type:	Response Action Outcome Not Required
Action Stat:	Related to a Tier Classified Site
Action Date:	04/23/2002
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	4078
Chemical:	FUEL OIL #2
Amount:	Not reported
Quantity:	Not reported
Chemical:	KEROSENE
Amount:	Not reported
Quantity:	Not reported
Location Type:	INDUSTRIAL
Source Type:	UNKNOWN

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95 **MOES ALIGNMENT** **LUST** **S100831025**
ESE **36 HOWLAND ST** **Release** **N/A**
1/2-1 **FAIRHAVEN, MA 02719**
5263 ft.

Relative:
Lower

Actual:
8 ft.

LUST:

Facility ID:	4-0000217
Source Type:	UST
Release Town:	FAIRHAVEN
Notification Date:	01/15/87
Category:	NONE
Associated ID:	-
Site Status:	**Response Action Outcome**
Status Date:	10/24/96
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil Or Haz Material:	Not reported
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	10/24/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	01/15/1987
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	10/24/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	GASSTATION
Source Type:	UST

MOES ALIGNMENT (Continued) **S100831025**

MA RELEASE:

Facility ID:	4-0000217
Primary ID:	-
Official City:	FAIRHAVEN
Notification:	01/15/87
Category:	NONE
Facility Status:	**Response Action Outcome**
Status Date:	10/24/96
Phase:	Not reported
Rspns Actn Outcome Class:	A2
Oil / Haz Material Type:	Not reported
Action Type:	Response Action Outcome
Action Stat:	RAO Statement Received
Action Date:	10/24/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Activity Use Limitaion:	NONE
LSP Number:	Not reported
Action Type:	Release
Action Stat:	TCTRNS
Action Date:	01/15/1987
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Action Type:	Immediate Response
Action Stat:	Completion Statement Received
Action Date:	10/24/1996
Response Action Outcome:	Not reported
Activity Use Limitaion:	Not reported
LSP Number:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Amount:	Not reported
Quantity:	Not reported
Location Type:	GASSTATION
Source Type:	UST

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
FAIRHAVEN	S105309517	GASOLINE TANKER EAST OF RTE 24	RTE 195E / RTE 240	02719	SHWS, Release
FAIRHAVEN	S107678330	POLE #132/35	RTE 6	02719	SHWS, Release
FAIRHAVEN	1003862409	MARSH ISLAND	ADJACENT TO RTE. 195 OVERPASS	02719	SHWS, Release, CERC-NFRAP
FAIRHAVEN	S105811051	PROPERTY	NORTHWEST COR RTE 240 RTE 6	02719	SHWS, Release
NEW BEDFORD	1001491654	SAWYER STREET DRUM	120 TO 132 SAWYER STREET	02746	CERC-NFRAP
NEW BEDFORD	S105039525	PROPERTY	RTE 140	02740	SHWS, Release
NEW BEDFORD	S101037313	EXIT 4	RTE 140 S		SHWS, Release
NEW BEDFORD	S103812452	NEAR INTERSECTION OF RTE. 6	RTE 18		SHWS, Release
NEW BEDFORD	S106954132	ELM STREET	RTE 18 S		SHWS, Release
NEW BEDFORD	S107405565	NEAR PURCHASE ST EXIT	RTE 18		SHWS, Release
NEW BEDFORD	S105735789	ACUSHNET RIVER	RTE 195 E		SHWS, Release
NEW BEDFORD	S106030203	BETWEEN EXIT 14 & 15	RTE 195 W		SHWS, Release
NEW BEDFORD	S105200621	@ COGGESHALL	RTE 195 WEST BOUND		SHWS, Release
NEW BEDFORD	S101395167	SULLIVANS LEDGE LANDFILL	RTE 195/RTE 140/HATHAWAY RD		SWF/LF
NEW BEDFORD	S105811049	PROPERTY	19 / 41 COFFIN AVE	02740	SHWS, Release
NEW BEDFORD	S103812578	NEW BEDFORD-FAIRHAVEN BRIDGE	RTE 6		Release, LAST
NEW BEDFORD	S104942062	AT ONEIDA ST	RTE 6		SHWS, Release
NEW BEDFORD	S104774374	STEAMSHIP DOCK	RTE 6		SHWS, Release
NEW BEDFORD	S105810884	PRIVATE A POIRIER POST	281 APPLETON ST-ASHLEY BLVD		Release, LAST
NEW BEDFORD	S104232368	NO LOCATION AID	ASHLEY BLVD @ TARKILN HILL RD	02745	SHWS, Release
NEW BEDFORD	1009309734	ALDEN CORRUGATED	1 CHURCH STREET		US BROWNFIELDS
NEW BEDFORD	1003862379	FRADE DISPOSAL AREA	CHURCH STREET	02745	CERC-NFRAP
NEW BEDFORD	S107678061	FINICKY PET FOOD INC	16 FRONT ST	02740	SHWS, Release
NEW BEDFORD	S103812485	DELKEN	FRONT ST		SHWS, Release
NEW BEDFORD	U001004885	HATHAWAY SERVICE STATION	36 HATHAWAY RD	02746	UST, AST
NEW BEDFORD	S105200260	SULLIVAN S LEDGE	HATHAWAY RD	02740	SHWS, Release
NEW BEDFORD	S105309582	SUNSHINE PLAZA	137 139 HATHAWAY RD	02746	SHWS, Release
NEW BEDFORD	S106954181	BLDG 19	19 HATHAWAY RD	02746	SHWS, Release
NEW BEDFORD	S104232379	CONRAIL PROPERTY	HATHAWAY RD / MT PLEASANT		SHWS, Release
NEW BEDFORD	S104774351	SULLIVANS LEDGE	HATHAWAY RD		SHWS, Release
NEW BEDFORD	S104774398	MCCOY FIELD	HATHAWAY BLVD		SHWS, Release
NEW BEDFORD	S104482685	LOADING DOCK	KILBURN ST		SHWS, Release
NEW BEDFORD	S105200498	OHARA CHEVROLET FMR	981 101 KINGS HWY	02745	LUST, Release
NEW BEDFORD	S107678016	BUILDING 19	459 MOUNT PLEASANT ST	02746	SHWS, Release
NEW BEDFORD	S103546733	MT PLEASANT ST	MYRTLE ST		SHWS, Release
NEW BEDFORD	S106954183	POLE #39/10	NEAR 104 AUSTIN ST		SHWS, Release
NEW BEDFORD	1003862392	FISH ISLAND	NEW BEDFORD HARBOR (RTE 6)	02740	SHWS, Release, CERC-NFRAP
NEW BEDFORD	S107516949	NO LOCATION AID	800 PLEASANT ST	02740	SHWS
NEW BEDFORD	S102967635	PURCHASE & MAXFIELD ST	PURCHASE ST		SHWS, Release
NEW BEDFORD	S101027032	HATHAWAY RD	SHAWMUT AVE		SHWS, Release

EPA Waste Codes Addendum

Code	Description
D001	IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.
D002	A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.
D006	CADMIUM
D008	LEAD
D018	BENZENE
D027	1,4-DICHLOROBENZENE
D039	TETRACHLOROETHYLENE
D040	TRICHLOROETHYLENE

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 07/05/2006
Date Data Arrived at EDR: 08/02/2006
Date Made Active in Reports: 09/12/2006
Number of Days to Update: 41

Source: EPA
Telephone: N/A
Last EDR Contact: 11/01/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

Date of Government Version: 07/05/2006
Date Data Arrived at EDR: 08/02/2006
Date Made Active in Reports: 09/12/2006
Number of Days to Update: 41

Source: EPA
Telephone: N/A
Last EDR Contact: 11/01/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 07/05/2006
Date Data Arrived at EDR: 08/02/2006
Date Made Active in Reports: 09/12/2006
Number of Days to Update: 41

Source: EPA
Telephone: N/A
Last EDR Contact: 11/01/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NPL RECOVERY: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 06/19/2006
Date Data Arrived at EDR: 06/22/2006
Date Made Active in Reports: 08/23/2006
Number of Days to Update: 62

Source: EPA
Telephone: 703-603-8960
Last EDR Contact: 09/21/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 07/17/2006
Date Data Arrived at EDR: 08/02/2006
Date Made Active in Reports: 09/12/2006
Number of Days to Update: 41

Source: EPA
Telephone: 703-603-8960
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/15/2006
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

RCRA: Resource Conservation and Recovery Act Information

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/13/2006
Date Data Arrived at EDR: 06/28/2006
Date Made Active in Reports: 08/23/2006
Number of Days to Update: 56

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/28/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Quarterly

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 01/12/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 40

Source: National Response Center, United States Coast Guard
Telephone: 202-260-2342
Last EDR Contact: 10/24/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 07/03/2006
Date Data Arrived at EDR: 07/19/2006
Date Made Active in Reports: 08/23/2006
Number of Days to Update: 35

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 10/18/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Annually

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/21/2006
Date Data Arrived at EDR: 03/27/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 703-603-8905
Last EDR Contact: 09/07/2006
Next Scheduled EDR Contact: 10/02/2006
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/21/2006
Date Data Arrived at EDR: 03/27/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 703-603-8905
Last EDR Contact: 09/07/2006
Next Scheduled EDR Contact: 10/02/2006
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/08/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 177

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 11/10/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/10/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 90

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Varies

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 07/10/2006
Date Data Arrived at EDR: 07/13/2006
Date Made Active in Reports: 09/06/2006
Number of Days to Update: 55

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/11/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Semi-Annually

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/14/2004
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 04/25/2005
Number of Days to Update: 69

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 07/10/2006
Date Data Arrived at EDR: 07/21/2006
Date Made Active in Reports: 09/06/2006
Number of Days to Update: 47

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 11/04/2005
Date Data Arrived at EDR: 11/28/2005
Date Made Active in Reports: 01/30/2006
Number of Days to Update: 63

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 07/20/2006
Date Data Arrived at EDR: 07/21/2006
Date Made Active in Reports: 08/22/2006
Number of Days to Update: 32

Source: EPA
Telephone: 202-564-6064
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Quarterly

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 06/22/2006
Date Made Active in Reports: 08/23/2006
Number of Days to Update: 62

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 09/22/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 10/18/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/14/2006
Date Data Arrived at EDR: 07/18/2006
Date Made Active in Reports: 09/06/2006
Number of Days to Update: 50

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

Date of Government Version: 07/14/2006
Date Data Arrived at EDR: 07/18/2006
Date Made Active in Reports: 09/06/2006
Number of Days to Update: 50

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Quarterly

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 05/11/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 11

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 11/07/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 02/13/2006
Date Data Arrived at EDR: 04/21/2006
Date Made Active in Reports: 05/11/2006
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 07/17/2006
Next Scheduled EDR Contact: 10/16/2006
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/07/2006
Date Data Arrived at EDR: 08/09/2006
Date Made Active in Reports: 09/06/2006
Number of Days to Update: 28

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 11/10/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/10/2006
Date Data Arrived at EDR: 07/20/2006
Date Made Active in Reports: 09/06/2006
Number of Days to Update: 48

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Quarterly

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/16/2006
Date Data Arrived at EDR: 06/28/2006
Date Made Active in Reports: 08/23/2006
Number of Days to Update: 56

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/27/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/21/2006
Date Data Arrived at EDR: 07/25/2006
Date Made Active in Reports: 09/06/2006
Number of Days to Update: 43

Source: EPA
Telephone: N/A
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 06/17/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 48

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 10/20/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Biennially

STATE AND LOCAL RECORDS

SHWS: Site Transition List

Contains information on releases of oil and hazardous materials that have been reported to DEP.

Date of Government Version: 08/01/2006
Date Data Arrived at EDR: 08/09/2006
Date Made Active in Reports: 09/12/2006
Number of Days to Update: 34

Source: Department of Environmental Protection
Telephone: 617-292-5990
Last EDR Contact: 11/08/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Quarterly

SWF/LF: Solid Waste Facility Database/Transfer Stations

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 07/01/2006
Date Data Arrived at EDR: 08/02/2006
Date Made Active in Reports: 09/12/2006
Number of Days to Update: 41

Source: Department of Environmental Protection
Telephone: 617-292-5989
Last EDR Contact: 11/01/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST: Site Transition List
Sites within the Releases Database that have a UST listed as its source.

Date of Government Version: 08/01/2006
Date Data Arrived at EDR: 08/09/2006
Date Made Active in Reports: 09/12/2006
Number of Days to Update: 34

Source: Department of Environmental Protection
Telephone: 617-292-5990
Last EDR Contact: 11/08/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Quarterly

UST: Summary Listing of all the Tanks Registered in the State of Massachusetts
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 08/11/2006
Date Data Arrived at EDR: 08/16/2006
Date Made Active in Reports: 09/20/2006
Number of Days to Update: 35

Source: Department of Fire Services, Office of the Public Safety
Telephone: 978-567-3715
Last EDR Contact: 08/16/2006
Next Scheduled EDR Contact: 11/13/2006
Data Release Frequency: Quarterly

LAST: Leaking Aboveground Storage Tank Sites
Sites within the Releases Database that have a AST listed as its source.

Date of Government Version: 08/01/2006
Date Data Arrived at EDR: 08/09/2006
Date Made Active in Reports: 09/12/2006
Number of Days to Update: 34

Source: Department of Environmental Protection
Telephone: 617-292-5500
Last EDR Contact: 11/08/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Quarterly

AST: Aboveground Storage Tank Database
Registered Aboveground Storage Tanks.

Date of Government Version: 08/11/2006
Date Data Arrived at EDR: 08/16/2006
Date Made Active in Reports: 09/18/2006
Number of Days to Update: 33

Source: Department of Public Safety
Telephone: 978-567-3715
Last EDR Contact: 08/16/2006
Next Scheduled EDR Contact: 11/13/2006
Data Release Frequency: Quarterly

MA SPILLS: Historical Spill List
The Spills Database was the release notification tracking system for spills that occurred prior to October 1, 1993. This information should be considered to be primarily of historical interest since all of the listed spills have either been cleaned up or assigned new tracking numbers and moved to the Reportable Releases or Sites Transition List databases.

Date of Government Version: 09/30/1993
Date Data Arrived at EDR: 12/03/2003
Date Made Active in Reports: 12/31/2003
Number of Days to Update: 28

Source: Department of Environmental Protection
Telephone: 617-292-5720
Last EDR Contact: 12/03/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

RELEASE: Reportable Releases
Contains information on all releases of oil and hazardous materials that have been reported to DEP

Date of Government Version: 08/01/2006
Date Data Arrived at EDR: 08/09/2006
Date Made Active in Reports: 09/12/2006
Number of Days to Update: 34

Source: Department of Environmental Protection
Telephone: 617-292-5990
Last EDR Contact: 11/08/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Quarterly

INST CONTROL: Sites With Activity and Use Limitation
Activity and Use Limitations establish limits and conditions on the future use of contaminated property, and therefore allow cleanups to be tailored to these uses.

Date of Government Version: 08/01/2006
Date Data Arrived at EDR: 08/09/2006
Date Made Active in Reports: 09/12/2006
Number of Days to Update: 34
Source: Department of Environmental Protection
Telephone: 617-292-5990
Last EDR Contact: 11/08/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Quarterly

DRYCLEANERS: Regulated Drycleaning Facilities
A listing of Department of Environmental Protection regulated drycleaning facilities that use perchloroethylene under the Environmental Results Program.

Date of Government Version: 08/29/2006
Date Data Arrived at EDR: 08/31/2006
Date Made Active in Reports: 09/12/2006
Number of Days to Update: 12
Source: Department of Environmental Protection
Telephone: 617-292-5633
Last EDR Contact: 11/13/2006
Next Scheduled EDR Contact: 02/12/2007
Data Release Frequency: Varies

ENFORCEMENT: Enforcement Action Cases
A listing of enforcement action cases tracked by Department of Environmental Protection programs, including Solid Waste and Hazardous Waste.

Date of Government Version: 08/01/2004
Date Data Arrived at EDR: 09/01/2004
Date Made Active in Reports: 10/01/2004
Number of Days to Update: 30
Source: Department of Environmental Quality
Telephone: 617-292-5979
Last EDR Contact: 08/28/2006
Next Scheduled EDR Contact: 11/27/2006
Data Release Frequency: Varies

AIRS: Permitted Facilities Listing
A listing of Air Quality permit applications.

Date of Government Version: 08/15/2006
Date Data Arrived at EDR: 08/15/2006
Date Made Active in Reports: 09/12/2006
Number of Days to Update: 28
Source: Department of Environmental Protection
Telephone: 617-292-5789
Last EDR Contact: 11/13/2006
Next Scheduled EDR Contact: 02/12/2007
Data Release Frequency: Varies

LEAD: Lead Inspection Database
The Massachusetts Childhood Lead Poisoning Prevention Program data of lead inspection for the state.

Date of Government Version: 08/16/2005
Date Data Arrived at EDR: 10/20/2005
Date Made Active in Reports: 12/01/2005
Number of Days to Update: 42
Source: Department of Health & Human Services, Childhood Lead Poisoning Prevention Progr
Telephone: 617-624-5757
Last EDR Contact: 10/30/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Varies

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/08/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 177
Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 11/10/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 09/07/2006
Date Data Arrived at EDR: 09/08/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 61

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Minnesota, Mississippi and North Carolina.

Date of Government Version: 08/24/2006
Date Data Arrived at EDR: 09/11/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 58

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Semi-Annually

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 01/04/2005
Date Data Arrived at EDR: 01/21/2005
Date Made Active in Reports: 02/28/2005
Number of Days to Update: 38

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/30/2006
Date Data Arrived at EDR: 09/06/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 63

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 09/11/2006
Date Data Arrived at EDR: 09/11/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 58

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 09/06/2006
Date Data Arrived at EDR: 10/04/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/06/2006
Date Data Arrived at EDR: 10/04/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 35

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

Date of Government Version: 08/24/2006
Date Data Arrived at EDR: 09/11/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 58

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Semi-Annually

INDIAN UST R9: Underground Storage Tanks on Indian Land

Date of Government Version: 09/06/2006
Date Data Arrived at EDR: 10/04/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 35

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

Date of Government Version: 09/11/2006
Date Data Arrived at EDR: 09/11/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 58

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land

Date of Government Version: 12/02/2004
Date Data Arrived at EDR: 12/29/2004
Date Made Active in Reports: 02/04/2005
Number of Days to Update: 37

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

Date of Government Version: 08/30/2006
Date Data Arrived at EDR: 09/06/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 63

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Quarterly

INDIAN UST R6: Underground Storage Tanks on Indian Land

Date of Government Version: 08/28/2006
Date Data Arrived at EDR: 08/29/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 71

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land
A listing of underground storage tank locations on Indian Land.

Date of Government Version: 09/07/2006
Date Data Arrived at EDR: 09/08/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 61

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

Date of Government Version: 09/06/2006
Date Data Arrived at EDR: 10/04/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 35

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/17/2006
Date Made Active in Reports: 04/07/2006
Number of Days to Update: 49

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 09/11/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/01/2006
Date Data Arrived at EDR: 07/06/2006
Date Made Active in Reports: 08/01/2006
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/05/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2006
Date Data Arrived at EDR: 08/30/2006
Date Made Active in Reports: 10/16/2006
Number of Days to Update: 47

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/30/2006
Next Scheduled EDR Contact: 11/27/2006
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 06/06/2006
Number of Days to Update: 81

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 09/11/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 09/30/2005
Date Data Arrived at EDR: 05/09/2006
Date Made Active in Reports: 05/24/2006
Number of Days to Update: 15

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data
Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 06/29/2006
Date Made Active in Reports: 07/31/2006
Number of Days to Update: 32

Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 08/15/2006
Next Scheduled EDR Contact: 11/13/2006
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 05/02/2006
Number of Days to Update: 46

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: (800) 823-6277
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

FORMER PAYNE CUTLERY
295 PHILLIPS AVENUE
NEW BEDFORD, MA 02746

TARGET PROPERTY COORDINATES

Latitude (North):	41.66240 - 41° 39' 44.6''
Longitude (West):	70.9321 - 70° 55' 55.6''
Universal Tranverse Mercator:	Zone 19
UTM X (Meters):	339137.1
UTM Y (Meters):	4613884.5
Elevation:	78 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	41070-F8 NEW BEDFORD NORTH, MA
Most Recent Revision:	1979

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

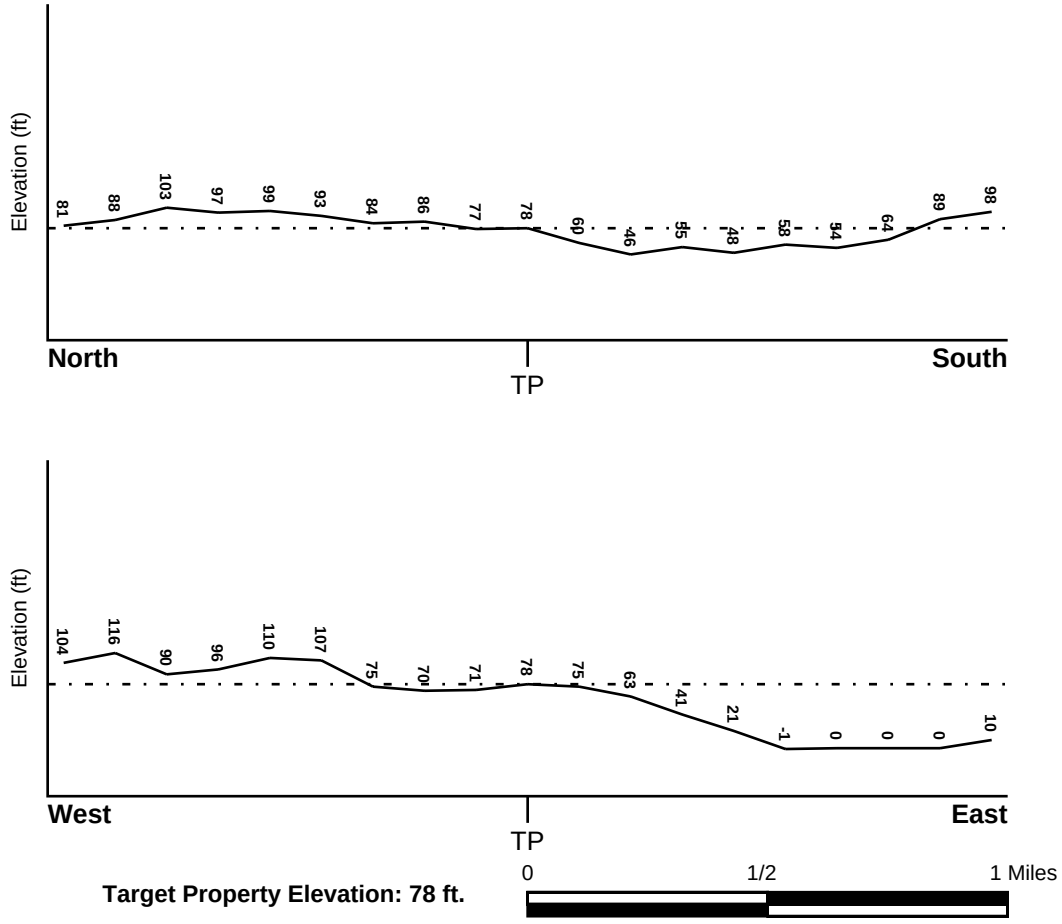
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 78 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
BRISTOL, MA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 2552160009B

Additional Panels in search area: 2500480007B
2552160007B
2500540004C

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NEW BEDFORD NORTH	Not Available

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
4	1/4 - 1/2 Mile SSE	SSE
5	1/4 - 1/2 Mile NNE	SE
45	1/2 - 1 Mile SSE	NE

For additional site information, refer to Physical Setting Source Map Findings.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Precambrian
System:	Precambrian
Series:	Z ganitic rocks
Code:	Zg *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Plutonic and Intrusive Rocks

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name: URBAN LAND

Soil Surface Texture: variable

Hydrologic Group: Not reported

Soil Drainage Class: Not reported

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 10 inches

Depth to Bedrock Max: > 10 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	6 inches	variable	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: fine sandy loam
silt loam
very fine sandy loam

Surficial Soil Types: fine sandy loam
silt loam
very fine sandy loam

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: fine sandy loam
channery - silt loam
gravelly - loamy sand
silt loam
loamy fine sand
stratified
gravelly - sandy loam

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	USGS2053101	1/4 - 1/2 Mile South

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
2	USGS2052989	1/4 - 1/2 Mile East
A3	USGS2053085	1/4 - 1/2 Mile South
6	USGS2053060	1/4 - 1/2 Mile South
7	USGS2053212	1/2 - 1 Mile SSE
8	USGS2052783	1/2 - 1 Mile NNW
B9	USGS2053169	1/2 - 1 Mile South
B10	USGS2053168	1/2 - 1 Mile South
C11	USGS2052892	1/2 - 1 Mile WNW
12	USGS2053167	1/2 - 1 Mile South
D13	USGS2053170	1/2 - 1 Mile South
E14	USGS2053177	1/2 - 1 Mile SSE
C15	USGS2052883	1/2 - 1 Mile WNW
C16	USGS2052884	1/2 - 1 Mile WNW
E17	USGS2053176	1/2 - 1 Mile SSE
C18	USGS2052902	1/2 - 1 Mile WNW
D19	USGS2053158	1/2 - 1 Mile SSW
20	USGS2053039	1/2 - 1 Mile WNW
21	USGS2053204	1/2 - 1 Mile SE
22	USGS2053140	1/2 - 1 Mile SSW
23	USGS2053203	1/2 - 1 Mile SE
24	USGS2053315	1/2 - 1 Mile SSE
25	USGS2053012	1/2 - 1 Mile West
26	USGS2053141	1/2 - 1 Mile SSW
27	USGS2052935	1/2 - 1 Mile ENE
F28	USGS2053065	1/2 - 1 Mile ESE
29	USGS2053142	1/2 - 1 Mile SW
G30	USGS2052998	1/2 - 1 Mile West
31	USGS2053302	1/2 - 1 Mile SSE
G32	USGS2052990	1/2 - 1 Mile West
33	USGS2053211	1/2 - 1 Mile SE
F34	USGS2053064	1/2 - 1 Mile ESE
G35	USGS2052986	1/2 - 1 Mile West
H36	USGS2053063	1/2 - 1 Mile ESE
I37	USGS2053276	1/2 - 1 Mile SSE
I38	USGS2053277	1/2 - 1 Mile SSE
39	USGS2053137	1/2 - 1 Mile SW
H40	USGS2053059	1/2 - 1 Mile ESE
41	USGS2053202	1/2 - 1 Mile SE
42	USGS2053316	1/2 - 1 Mile SW
43	USGS2053062	1/2 - 1 Mile ESE
44	USGS2053210	1/2 - 1 Mile ESE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 01795606.2r

SITE NAME:	Former Payne Cutlery	CLIENT:	TRC Environmental Consultants
ADDRESS:	295 Phillips Avenue New Bedford MA 02746	CONTACT:	David Sullivan
		INQUIRY #:	01795606.2r
LAT/LONG:	41.6624 / 70.9321	DATE:	November 13, 2006 1:42 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A1
South
1/4 - 1/2 Mile
Lower | **FED USGS** | **USGS2053101**

Agency cd:	USGS	Site no:	413931070555701
Site name:	MA-NGX 15		
Latitude:	413931		
Longitude:	0705557	Dec lat:	41.658715
Dec lon:	-70.931983	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	48.00	Altitude method:	M
Altitude accuracy:	10	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	1945
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	14.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

2
East
1/4 - 1/2 Mile
Lower | **FED USGS** | **USGS2052989**

Agency cd:	USGS	Site no:	413944070553801
Site name:	MA-NGW 5		
Latitude:	413944		
Longitude:	0705538	Dec lat:	41.6623261
Dec lon:	-70.92670528	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	40.00	Altitude method:	M
Altitude accuracy:	10	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	1938
Date inventoried:	Not Reported	Mean greenwich time offset:	EST

Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	BEDROCK		
Well depth:	250	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

A3
South
1/4 - 1/2 Mile
Lower

FED USGS **USGS2053085**

Agency cd:	USGS	Site no:	413928070555701
Site name:	MA-NGW 17		
Latitude:	413928		
Longitude:	0705557	Dec lat:	41.65788167
Dec lon:	-70.931983	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	48.00	Altitude method:	M
Altitude accuracy:	10	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	1938
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	BEDROCK		
Well depth:	350	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

4
SSE
1/4 - 1/2 Mile
Lower

Site ID:	4-0001079
Groundwater Flow:	SSE
Shallowest Water Table Depth:	5.87
Deepest Water Table Depth:	6.83
Date:	7/29/1997

AQUIFLOW **5283**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

5
NNE
1/4 - 1/2 Mile
Lower

		Database	EDR ID Number
Site ID:	4-0001298	**AQUIFLOW**	**5282**
Groundwater Flow:	SE		
Shallowest Water Table Depth:	6.5		
Deepest Water Table Depth:	10		
Date:	6/1994		

6
South
1/4 - 1/2 Mile
Lower

FED USGS **USGS2053060**

Agency cd:	USGS	Site no:	413921070555301
Site name:	MA-NGW 42		
Latitude:	413921		
Longitude:	0705553	Dec lat:	41.6559372
Dec lon:	-70.9308719	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	38.00	Altitude method:	M
Altitude accuracy:	10	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	1918
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	200	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1948-05-01	Ground water data end date:	1948-05-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1948-05-01		

Note: The site was flowing, but the head could not be measured without additional equipment.

7
SSE
1/2 - 1 Mile
Lower

FED USGS **USGS2053212**

Agency cd:	USGS	Site no:	413917070555001
Site name:	MA-NGB 28		
Latitude:	413917		
Longitude:	0705550	Dec lat:	41.6548261
Dec lon:	-70.9300386	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	28.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	23.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-09-01	Ground water data end date:	1960-09-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-09-01	6.00	

8
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS2052783**

Agency cd:	USGS	Site no:	414009070561801
Site name:	MA-NGW 7		
Latitude:	414009		
Longitude:	0705618	Dec lat:	41.66927028
Dec lon:	-70.9378167	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	75.00	Altitude method:	M
Altitude accuracy:	10	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	1926
Date inventoried:	Not Reported	Mean greenwich time offset:	EST

Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	BEDROCK		
Well depth:	770	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

B9
South
1/2 - 1 Mile
Lower

FED USGS **USGS2053169**

Agency cd:	USGS	Site no:	413913070555801
Site name:	MA-NGB 25		
Latitude:	413913		
Longitude:	0705558	Dec lat:	41.653715
Dec lon:	-70.9322608	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	59.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	25.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-09-01	Ground water data end date:	1960-09-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-09-01		

Note: The site was dry (no water level recorded).

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

B10
South
1/2 - 1 Mile
Lower

FED USGS **USGS2053168**

Agency cd:	USGS	Site no:	413913070555501
Site name:	MA-NGB 26		
Latitude:	413913		
Longitude:	0705555	Dec lat:	41.653715
Dec lon:	-70.9314275	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	51.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	22.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-09-01	Ground water data end date:	1960-09-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-09-01		

Note: The site was dry (no water level recorded).

C11
WNW
1/2 - 1 Mile
Higher

FED USGS **USGS2052892**

Agency cd:	USGS	Site no:	413958070563501
Site name:	MA-NGR 41		
Latitude:	413958		
Longitude:	0705635	Dec lat:	41.6662147
Dec lon:	-70.94253889	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported

Altitude:	103.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1967
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	33.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1967-07-01	Ground water data end date:	1967-07-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1967-07-01	16.00	

12
South
1/2 - 1 Mile
Lower

FED USGS **USGS2053167**

Agency cd:	USGS	Site no:	413913070555101
Site name:	MA-NGB 27		
Latitude:	413913		
Longitude:	0705551	Dec lat:	41.653715
Dec lon:	-70.93031639	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	41.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	30.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-09-01	Ground water data end date:	1960-09-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-09-01		

Note: The site was dry (no water level recorded).

D13
South
1/2 - 1 Mile
Higher

FED USGS **USGS2053170**

Agency cd:	USGS	Site no:	413913070560401
Site name:	MA-NGB 32		
Latitude:	413913		
Longitude:	0705604	Dec lat:	41.653715
Dec lon:	-70.9339275	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	79.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	24.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-07-01	Ground water data end date:	1960-07-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-07-01	7.00	

E14
SSE
1/2 - 1 Mile
Lower

FED USGS **USGS2053177**

Agency cd:	USGS	Site no:	413914070554501
Site name:	MA-NGB 29		
Latitude:	413914		
Longitude:	0705545	Dec lat:	41.65399278
Dec lon:	-70.9286494	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	28.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	16.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-09-01	Ground water data end date:	1960-09-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-09-01	6.00	

C15
WNW
1/2 - 1 Mile
Higher

FED USGS **USGS2052883**

Agency cd:	USGS	Site no:	413957070563701
Site name:	MA-NGB 6		
Latitude:	413957		
Longitude:	0705637	Dec lat:	41.66593694
Dec lon:	-70.9430944	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	104.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1968
Date inventoried:	Not Reported	Mean greenwich time offset:	EST

Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	38.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1968-07-01	Ground water data end date:	1968-07-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1968-07-01	16.00	

C16
WNW
1/2 - 1 Mile
Higher

FED USGS **USGS2052884**

Agency cd:	USGS	Site no:	413957070563702
Site name:	MA-NGR 30		
Latitude:	413957		
Longitude:	0705637	Dec lat:	41.66593694
Dec lon:	-70.9430944	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	101.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1967
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	33.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1967-07-01	Ground water data end date:	1967-07-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1967-07-01	12.00	

E17
SSE **FED USGS** **USGS2053176**
1/2 - 1 Mile
Lower

Agency cd:	USGS	Site no:	413914070554201
Site name:	MA-NGB 30		
Latitude:	413914		
Longitude:	0705542	Dec lat:	41.65399278
Dec lon:	-70.9278161	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	28.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	16.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-09-01	Ground water data end date:	1960-09-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-09-01		

Note: The site was dry (no water level recorded).

C18
WNW **FED USGS** **USGS2052902**
1/2 - 1 Mile
Higher

Agency cd:	USGS	Site no:	413959070563601
Site name:	MA-NGR 31		
Latitude:	413959		
Longitude:	0705636	Dec lat:	41.6664925
Dec lon:	-70.9428167	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	103.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1967
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	33.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1967-07-01	Ground water data end date:	1967-07-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1967-07-01	6.00	

D19
SSW
1/2 - 1 Mile
Higher

FED USGS **USGS2053158**

Agency cd:	USGS	Site no:	413912070560701
Site name:	MA-NGR 44		
Latitude:	413912		
Longitude:	0705607	Dec lat:	41.6534372
Dec lon:	-70.9347608	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	100.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST

Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	10.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-11-01	Ground water data end date:	1960-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-11-01		

Note: The site was dry (no water level recorded).

20
WNW
1/2 - 1 Mile
Higher

FED USGS **USGS2053039**

Agency cd:	USGS	Site no:	413954070564001
Site name:	MA-NGB 7		
Latitude:	413954		
Longitude:	0705640	Dec lat:	41.6651036
Dec lon:	-70.94392778	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	99.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1968
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	34.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1968-07-01	Ground water data end date:	1968-07-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1968-07-01	10.00	

21
SE
1/2 - 1 Mile
Lower

FED USGS **USGS2053204**

Agency cd:	USGS	Site no:	413916070553101
Site name:	MA-NGB 39		
Latitude:	413916		
Longitude:	0705531	Dec lat:	41.6545483
Dec lon:	-70.9247606	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	15.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	14.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-08-01	Ground water data end date:	1960-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-08-01	10.00	

22
SSW
1/2 - 1 Mile
Higher

FED USGS **USGS2053140**

Agency cd:	USGS	Site no:	413910070561501
Site name:	MA-NGB 13		
Latitude:	413910		
Longitude:	0705615	Dec lat:	41.65288167
Dec lon:	-70.936983	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	142.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	28.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-08-01	Ground water data end date:	1960-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-08-01	16.00	

23
SE
1/2 - 1 Mile
Lower

FED USGS **USGS2053203**

Agency cd:	USGS	Site no:	413916070552601
Site name:	MA-NGB 40		
Latitude:	413916		
Longitude:	0705526	Dec lat:	41.6545483
Dec lon:	-70.9233717	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	7.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST

Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	14.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-08-01	Ground water data end date:	1960-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-08-01	4.00	

24
SSE **FED USGS** **USGS2053315**
1/2 - 1 Mile
Lower

Agency cd:	USGS	Site no:	413908070554501
Site name:	MA-NGB 31		
Latitude:	413908		
Longitude:	0705545	Dec lat:	41.6523261
Dec lon:	-70.9286494	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	23.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	16.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-09-01	Ground water data end date:	1960-09-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-09-01	6.00	

25
West
1/2 - 1 Mile
Higher

FED USGS **USGS2053012**

Agency cd:	USGS	Site no:	413948070564801
Site name:	MA-NGR 29		
Latitude:	413948		
Longitude:	0705648	Dec lat:	41.66343694
Dec lon:	-70.94615	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	74.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1967
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	12.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1967-07-01	Ground water data end date:	1967-07-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1967-07-01	3.00	

26
SSW
1/2 - 1 Mile
Higher

FED USGS **USGS2053141**

Agency cd:	USGS	Site no:	413910070562401
Site name:	MA-NGB 21		
Latitude:	413910		
Longitude:	0705624	Dec lat:	41.65288167
Dec lon:	-70.939483	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	141.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	27.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-03-01	Ground water data end date:	1960-03-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-03-01	13.00	

27
ENE
1/2 - 1 Mile
Lower

FED USGS **USGS2052935**

Agency cd:	USGS	Site no:	414005070551201
Site name:	MA-NGW 8		
Latitude:	414005		
Longitude:	0705512	Dec lat:	41.66815944
Dec lon:	-70.91948278	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	6.00	Altitude method:	M
Altitude accuracy:	10	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	Mean greenwich time offset:	EST

Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	BEDROCK		
Well depth:	700	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

F28
ESE
1/2 - 1 Mile
Lower

FED USGS **USGS2053065**

Agency cd:	USGS	Site no:	413922070551101
Site name:	MA-NGB 1		
Latitude:	413922		
Longitude:	0705511	Dec lat:	41.656215
Dec lon:	-70.919205	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	6.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	1962
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	49.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1962-02-01	Ground water data end date:	1962-02-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1962-02-01	5.00	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

29
SW
1/2 - 1 Mile
Higher | **FED USGS** | **USGS2053142**

Agency cd:	USGS	Site no:	413910070562901
Site name:	MA-NGR 20		
Latitude:	413910		
Longitude:	0705629	Dec lat:	41.65288167
Dec lon:	-70.9408722	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	128.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	16.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-10-01	Ground water data end date:	1960-10-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-10-01	6.00	

G30
West
1/2 - 1 Mile
Higher | **FED USGS** | **USGS2052998**

Agency cd:	USGS	Site no:	413945070565301
Site name:	MA-NGB 10		
Latitude:	413945		
Longitude:	0705653	Dec lat:	41.6626036
Dec lon:	-70.9475392	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported

Altitude:	84.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1968
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	20.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1968-07-01	Ground water data end date:	1968-07-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1968-07-01	9.00	

31
SSE
1/2 - 1 Mile
Lower

FED USGS **USGS2053302**

Agency cd:	USGS	Site no:	413904070554301
Site name:	MA-NGB 14		
Latitude:	413904		
Longitude:	0705543	Dec lat:	41.651215
Dec lon:	-70.92809389	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	20.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	18.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-08-01	Ground water data end date:	1960-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-08-01	6.00	

G32
West
1/2 - 1 Mile
Higher

FED USGS **USGS2052990**

Agency cd:	USGS	Site no:	413944070565401
Site name:	MA-NGR 28		
Latitude:	413944		
Longitude:	0705654	Dec lat:	41.6623258
Dec lon:	-70.9478169	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	87.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1967
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	23.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1967-07-01	Ground water data end date:	1967-07-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1967-07-01	0.00	

33
SE
1/2 - 1 Mile
Lower

FED USGS **USGS2053211**

Agency cd:	USGS	Site no:	413917070551301
Site name:	MA-NGB 11		
Latitude:	413917		
Longitude:	0705513	Dec lat:	41.6548261
Dec lon:	-70.9197606	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	6.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1967
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	37.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

F34
ESE
1/2 - 1 Mile
Lower

FED USGS **USGS2053064**

Agency cd:	USGS	Site no:	413922070550801
Site name:	MA-NGB 2		
Latitude:	413922		
Longitude:	0705508	Dec lat:	41.656215
Dec lon:	-70.9183717	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	1.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Stream channel		
Site type:	Ground-water other than Spring	Date construction:	1962
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	47.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported

Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

G35
West
1/2 - 1 Mile
Higher

FED USGS **USGS2052986**

Agency cd:	USGS	Site no:	413943070565701
Site name:	MA-NGB 5		
Latitude:	413943		
Longitude:	0705657	Dec lat:	41.66204806
Dec lon:	-70.94865028	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	101.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1968
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	21.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1968-07-01	Ground water data end date:	1968-07-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1968-07-01		

Note: The site was dry (no water level recorded).

H36
ESE
1/2 - 1 Mile
Lower

FED USGS **USGS2053063**

Agency cd:	USGS	Site no:	413922070550501
Site name:	MA-NGB 3		
Latitude:	413922		
Longitude:	0705505	Dec lat:	41.656215
Dec lon:	-70.9175383	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	16.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Stream channel		
Site type:	Ground-water other than Spring	Date construction:	1962
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	54.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

I37
SSE **FED USGS** **USGS2053276**
1/2 - 1 Mile
Lower

Agency cd:	USGS	Site no:	413859070554401
Site name:	MA-NGB 15		
Latitude:	413859		
Longitude:	0705544	Dec lat:	41.6498261
Dec lon:	-70.9283717	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	27.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	16.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00

Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-11-01	Ground water data end date:	1960-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-11-01	11.00	

I38
SSE **FED USGS** **USGS2053277**
1/2 - 1 Mile
Lower

Agency cd:	USGS	Site no:	413859070554402
Site name:	MA-NGR 50		
Latitude:	413859		
Longitude:	0705544	Dec lat:	41.6498261
Dec lon:	-70.9283717	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	32.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1963
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	31.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1963-03-01	Ground water data end date:	1963-03-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1963-03-01	12.00	

39
SW **FED USGS** **USGS2053137**
1/2 - 1 Mile
Higher

Agency cd:	USGS	Site no:	413909070563801
Site name:	MA-NGB 20		
Latitude:	413909		
Longitude:	0705638	Dec lat:	41.65260389
Dec lon:	-70.9433722	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	131.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	37.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-02-01	Ground water data end date:	1960-02-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-02-01	16.00	

H40
ESE
1/2 - 1 Mile
Lower

FED USGS **USGS2053059**

Agency cd:	USGS	Site no:	413921070550201
Site name:	MA-FHB 2		
Latitude:	413921		
Longitude:	0705502	Dec lat:	41.6559372
Dec lon:	-70.9167047	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	22.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Stream channel		
Site type:	Ground-water other than Spring	Date construction:	1962
Date inventoried:	Not Reported	Mean greenwich time offset:	EST

Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	51.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

41
SE
1/2 - 1 Mile
Lower

FED USGS **USGS2053202**

Agency cd:	USGS	Site no:	413916070550601
Site name:	MA-NGB 12		
Latitude:	413916		
Longitude:	0705506	Dec lat:	41.6545483
Dec lon:	-70.9178158	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	10.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1968
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	35.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

42
SW
1/2 - 1 Mile
Higher

FED USGS **USGS2053316**

Agency cd:	USGS	Site no:	413908070564301
Site name:	MA-NGR 19		
Latitude:	413908		
Longitude:	0705643	Dec lat:	41.6523261
Dec lon:	-70.9447611	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	120.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Flat surface		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	23.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-10-01	Ground water data end date:	1960-10-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-10-01	0.00	

43
ESE
1/2 - 1 Mile
Lower

FED USGS **USGS2053062**

Agency cd:	USGS	Site no:	413922070545701
Site name:	MA-FHB 3		
Latitude:	413922		
Longitude:	0705457	Dec lat:	41.656215
Dec lon:	-70.9153158	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	3.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Stream channel		
Site type:	Ground-water other than Spring	Date construction:	1962
Date inventoried:	Not Reported	Mean greenwich time offset:	EST

Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	61.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

44
ESE
1/2 - 1 Mile
Lower

FED USGS **USGS2053210**

Agency cd:	USGS	Site no:	413917070545901
Site name:	MA-FHB 5		
Latitude:	413917		
Longitude:	0705459	Dec lat:	41.6548261
Dec lon:	-70.91587139	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	25
State:	25	County:	005
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	13.00	Altitude method:	L
Altitude accuracy:	.1	Altitude datum:	NGVD29
Hydrologic:	Cape Cod. Massachusetts, Rhode Island. Area = 2220 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1967
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	46.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

45
SSE
1/2 - 1 Mile
Lower

Site ID:	4-0001168
Groundwater Flow:	NE
Shallowest Water Table Depth:	2.5
Deepest Water Table Depth:	13.5
Date:	2/1996

AQUIFLOW **5290**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: MA Radon

Radon Test Results

County	% of sites>4 pCi/L	Median
BRISTOL	23	1.8

Federal EPA Radon Zone for BRISTOL County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 02746

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	Not Reported	Not Reported	Not Reported	Not Reported
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	1.500 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Massachusetts Geographic Information System (MassGIS) Datalayers
Source: Executive Office of Environmental Affairs

Public Water Supply Database: The Public Water Supply datalayer contains the locations of public community surface and groundwater supply sources and public non-community supply sources as defined in 310 CMR 22.00.

OTHER STATE DATABASE INFORMATION

Areas of Critical Environmental Concern Datalayer: The Areas of Critical Environmental Concern (ACEC) datalayer shows the location of areas that have been designated ACECs by the Secretary of Environmental Affairs. ACEC designation requires greater environmental review of certain kinds of proposed development under state jurisdiction within the ACEC boundaries. The ACEC Program is administered by the Department of Environmental Management (DEM) on behalf of the Secretary of Environmental Affairs. The Massachusetts Coastal Zone Management (MCZM) Office managed the original Coastal ACEC Program from 1978 to 1993, and continues to play a key role in monitoring coastal ACECs. Procedures for ACEC designation and the general policies governing the effects of designation are contained in the ACEC regulations (301 CMR 12.00). The ACEC datalayer has been compiled by MCZM and DEM and includes both coastal and inland areas.

EPA Designated Sole Source Aquifers Datalayer: The Sole Source Aquifer datalayer was compiled by the Department of Environmental Protection (DEP) Division of Water Supply (DWS). Seven Sole Source Aquifers have been designated by the US Environmental Protection Agency (EPA) for Massachusetts. A Sole Source Aquifer (SSA) is an aquifer designated by US EPA as the sole or principal source of drinking water for a given aquifer service area; that is, an aquifer which is needed to supply 50% or more of the drinking water for that area and for which there are no reasonably available alternative sources should that aquifer become contaminated. The aquifers were defined by a EPA hydrogeologist.

Aquifers Datalayer: MassGIS produced an aquifer datalayer composed of 20 individual panels, generally based on the boundaries of the major drainage basins. Areas of high and medium yield were mapped. This datalayer includes polygon attribute coding to help in the identification of areas in which cleanup of hazardous waste sites must meet drinking water standards, as defined in the Massachusetts Contingency Plan (MCP) (310 CMR 40.00000).

DEP Approved Zone IIs Datalayer: The Department of Environmental Protection (DEP) approved Zone IIs datalayer was compiled by the DEP Division of Water Supply (DWS). The database contains 281 approved Zone IIs statewide. As stated in 310 CMR 22.02, a Zone II is "that area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated (180 days of pumping at safe yield, with no recharge from precipitation.) It is bounded by the groundwater divides which result from pumping the well and by the contact of the aquifer with less permeable materials such as till or bedrock. In some cases, streams or lakes may act as recharge boundaries. In all cases, Zone IIs shall extend up gradient to its point of intersection with prevailing hydrogeologic boundaries (a groundwater flow divide, a contact with till or bedrock, or a recharge boundary)." These data are used in association with the Public Water Supplies datalayer. The following describes certain unique features of this association.

- Any proposed new well which will pump at least 100,000 gallons per day must have a Zone II delineation completed and approved by DEP prior to the well coming on line.
- Additionally, a new source may not be on-line yet, but other, older wells may fall within its Zone II boundary.
- Further, existing wells must have a Zone II delineated as a condition of receiving a water withdrawal permit under the Water Management Act.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

RADON

State Database: MA Radon
Source: Department of Health
Telephone: 413-586-7525
Radon Test Results

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

STREET AND ADDRESS INFORMATION

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"Linking Technology with Tradition"®

Sanborn® Map Report

Ship To: David Sullivan
TRC Environmental
116 John Street
Lowell, MA 01852

Order Date: 11/13/2006 **Completion Date:** 11/13/2006
Inquiry #: 1795606.3s
P.O. #: NA
Site Name: Former Payne Cutlery
Address: 295 Phillips Avenue
City/State: New Bedford, MA 02746
Cross Streets:

Customer Project: 47284-0010
1151165PVC 978-656-3693

Based on client-supplied information, fire insurance maps for the following years were identified

1906 - 1 Map
1924 - 1 Map
1950 - 1 Map
1990 - 1 Map
1992 - 1 Map
1993 - 1 Map
1995 - 1 Map

Limited Permission to Photocopy Total Maps: 7

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USER'S GUIDE

This User's Guide provides guidelines for accessing Sanborn Map® images and for transferring them to your Word Processor.

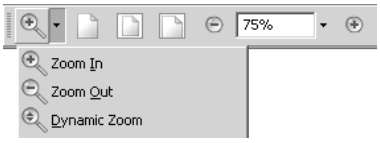
Reading Sanborn Maps

- Sanborn Maps document historical property use by displaying property information through words, abbreviations, and map symbols. The Sanborn Map Key provides information to help interpret the symbols and abbreviations used on Sanborn Maps. The Key is available from EDR's Web Site at: http://www.edrnet.com/reports/samples/key.pdf

Organization of Electronic Sanborn Image File

- Sanborn Map Report, listing years of coverage
- User's Guide
- Oldest Sanborn Map Image
- Most recent Sanborn Map Image

Navigating the Electronic Sanborn Image File

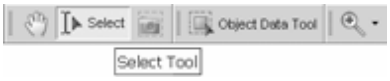


1. Open file on screen.
2. Identify TP (Target Property) on the most recent map.
3. Find TP on older printed images.
4. Using Acrobat® Reader®, zoom to 250% in order to view more clearly. (200-250% is the approximate equivalent scale of hardcopy Sanborn Maps.)
   A. On the menu bar, click "View" and then "Zoom to..."
   B. Or, use the magnifying tool and drag a box around the TP

Printing a Sanborn Map From the Electonic File

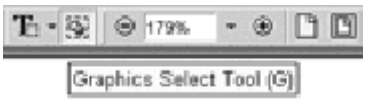
- EDR recommends printing images at 300 dpi (300 dpi prints faster than 600 dpi)
- To print only the TP area, cut and paste from Acrobat to your word processor application.

<u>Acrobat Versions 6 and 7</u>



1. Go to the menu bar
2. Click the "Select Tool"
3. Draw a box around the area selected
4. "Right click" on your mouse
5. Select "Copy Image to Clipboard"
6. Go to Word Processor such as Microsoft Word, paste and print.

<u>Acrobat Version 5</u>



1. Go to the menu bar
2. Click the "Graphics Select Tool"
3. Draw a box around the area selected
4. Go to "Menu"
5. Highlight "Edit"
6. Highlight "Copy"
7. Go to Word Processor such as Microsoft Word, paste and print.

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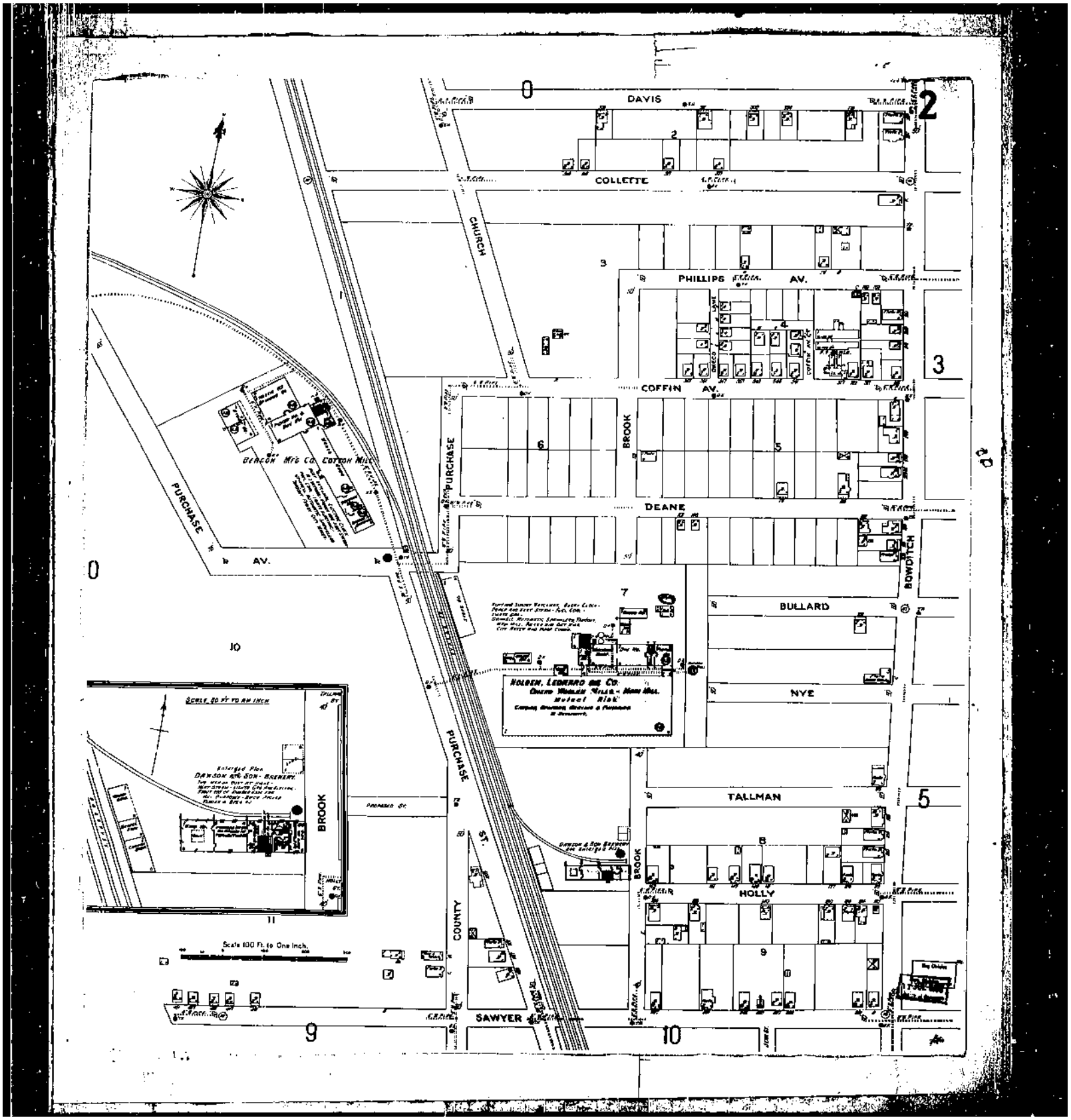

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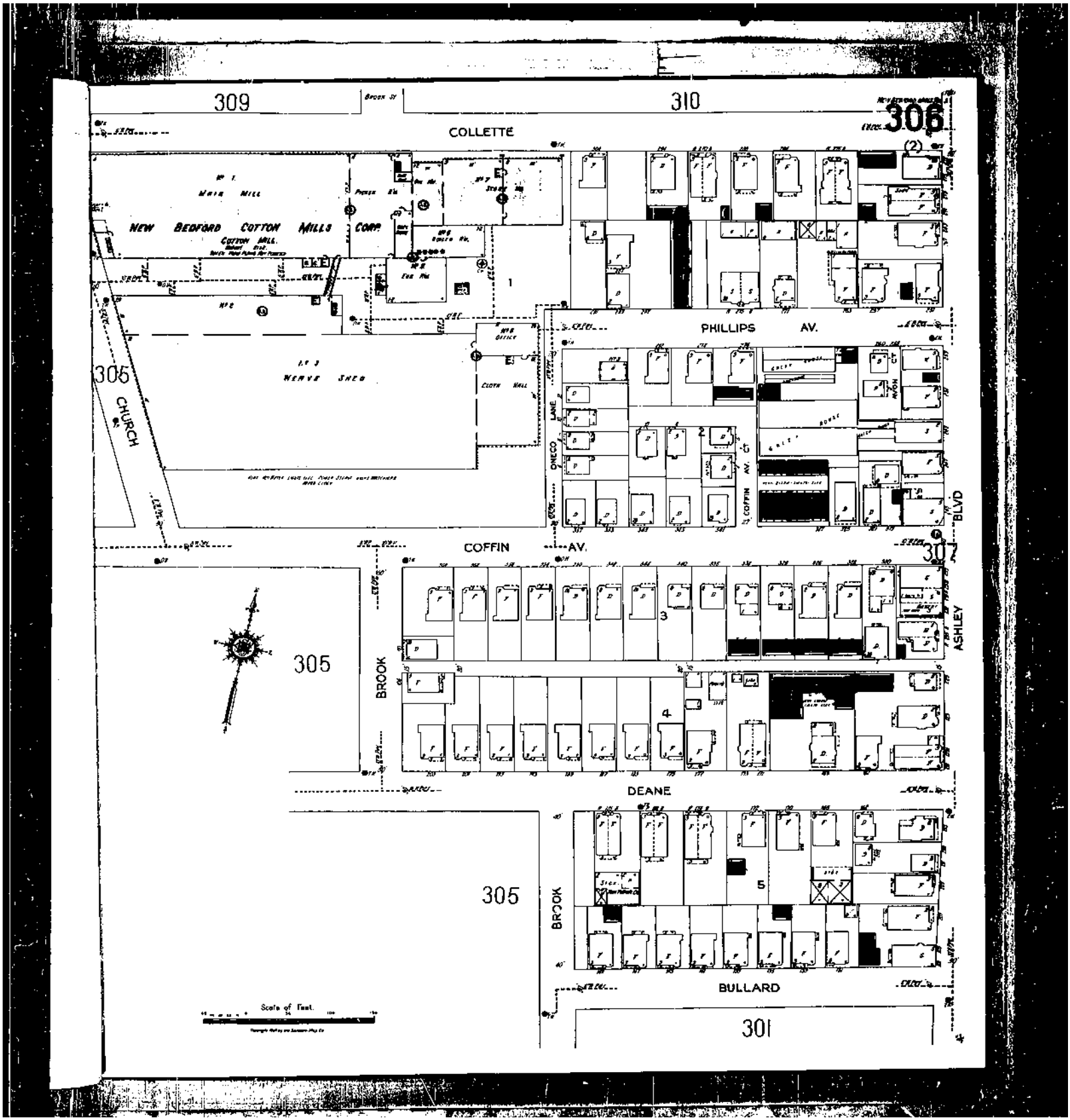

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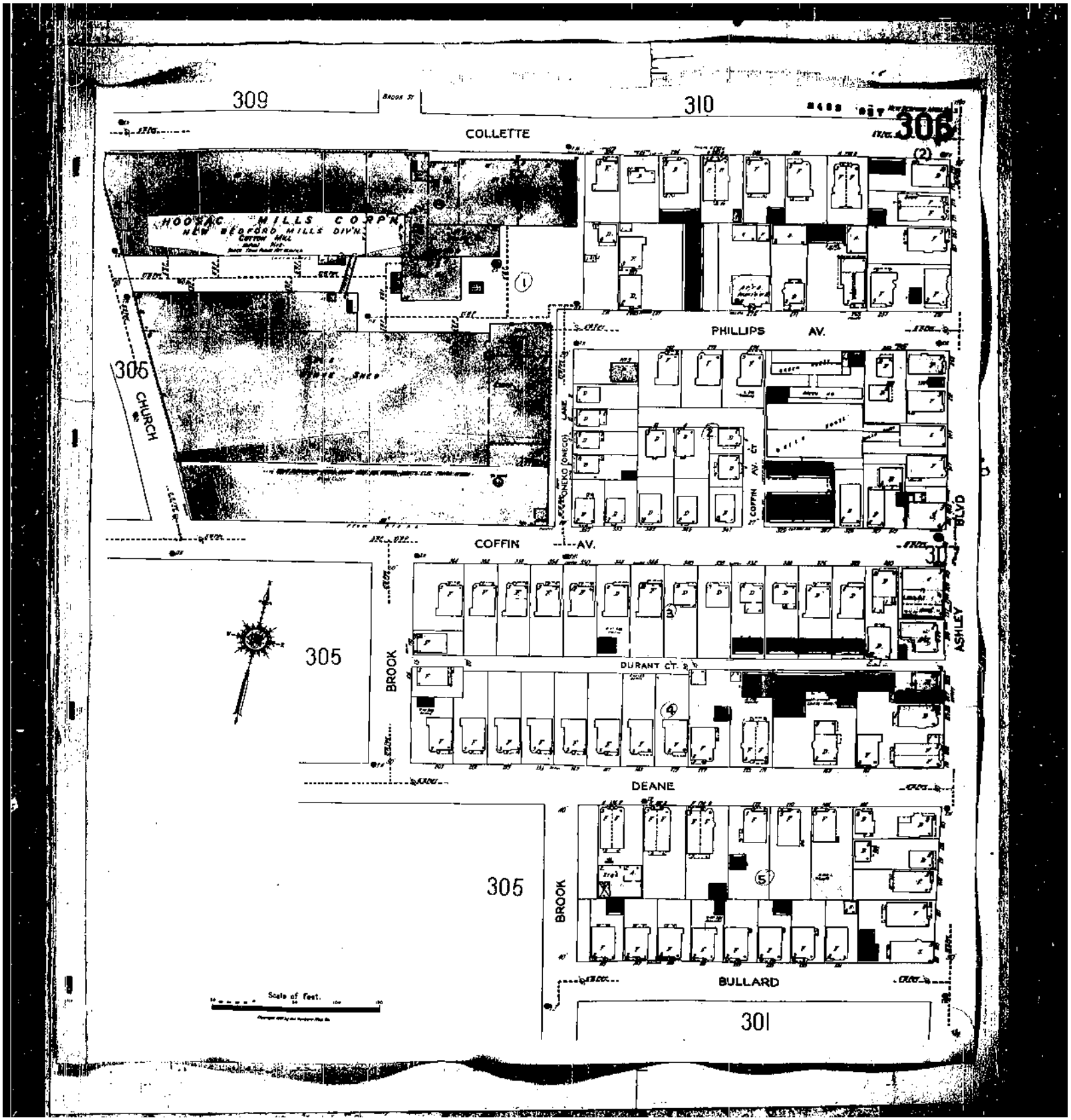

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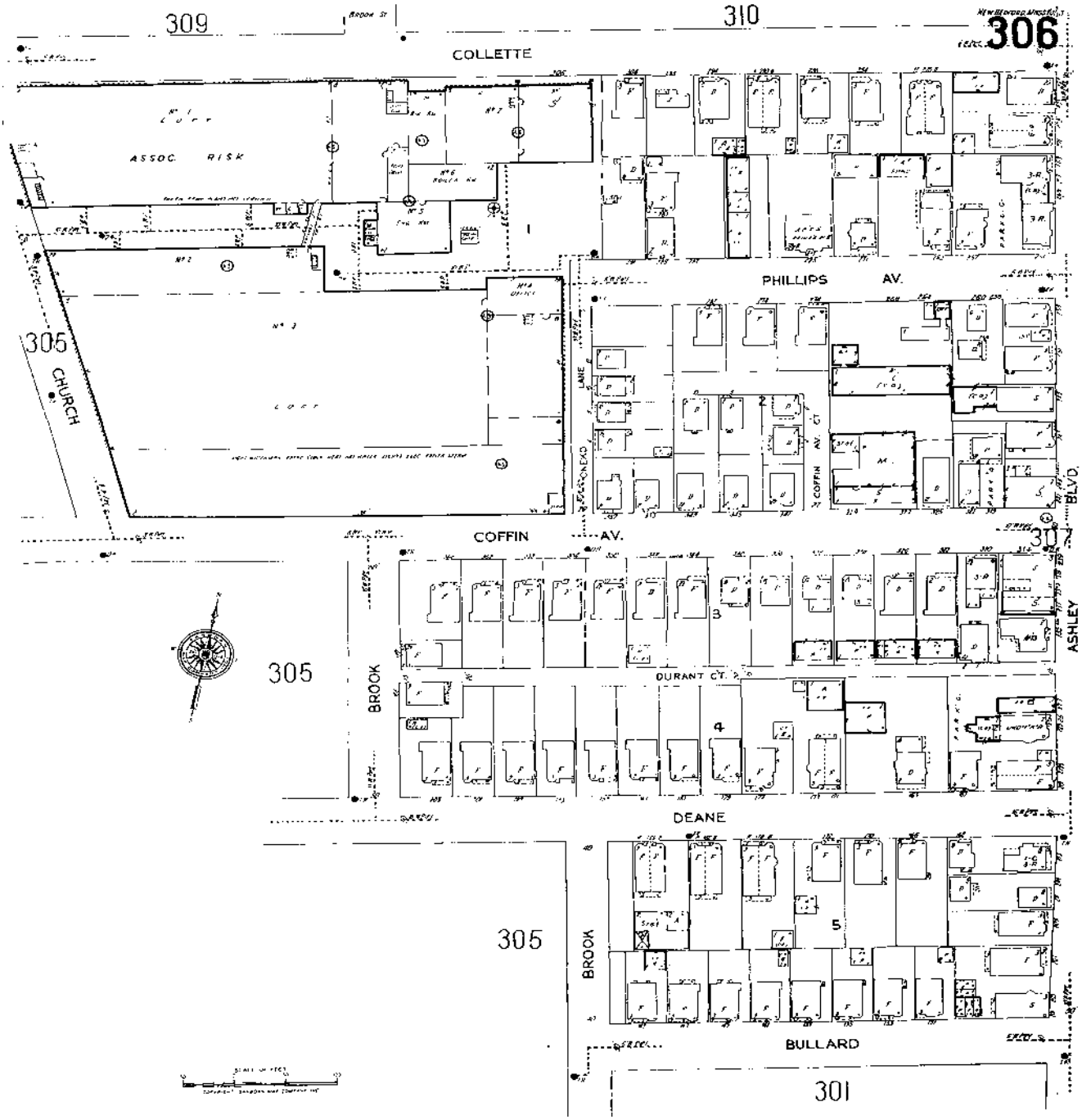

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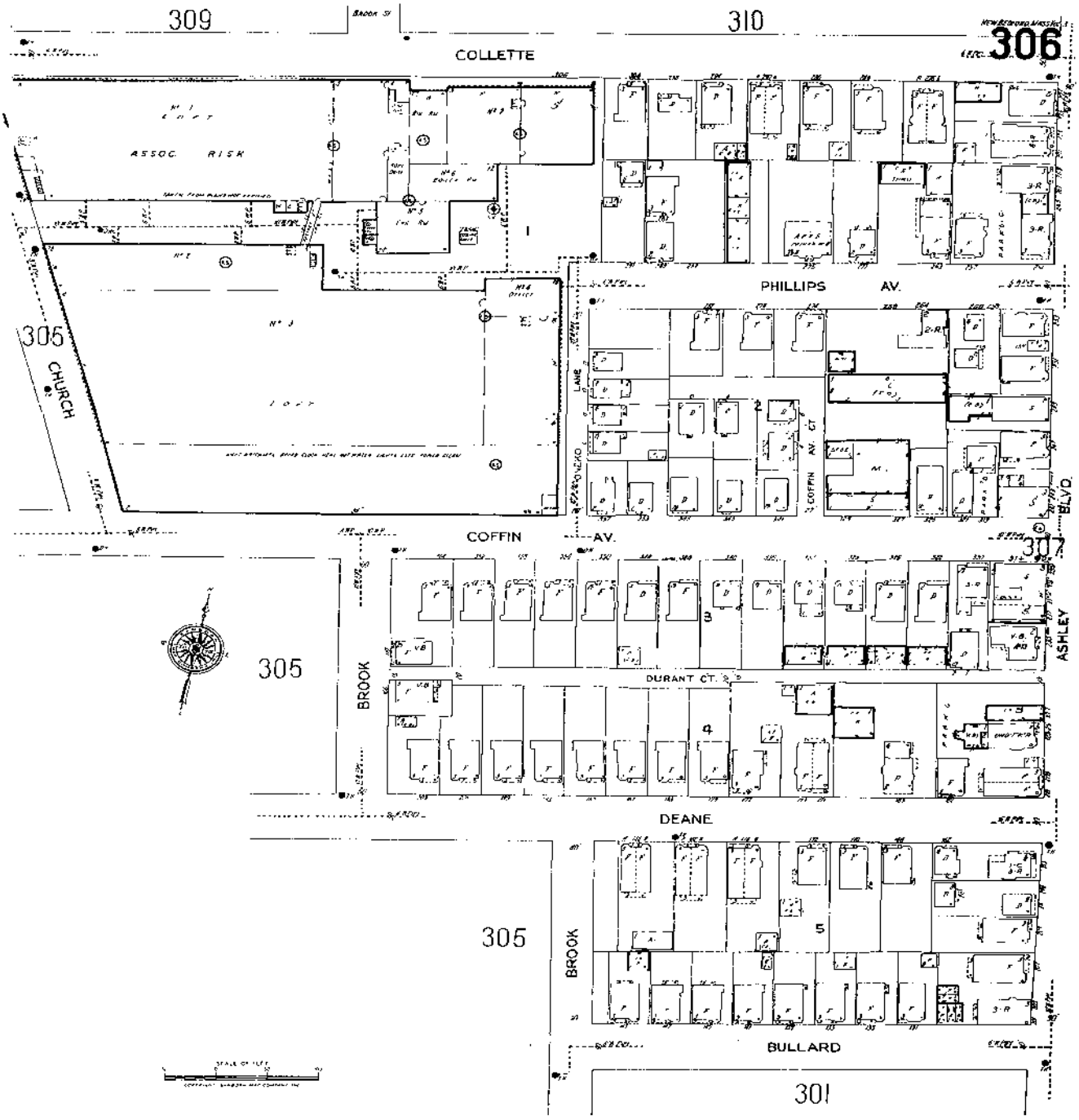

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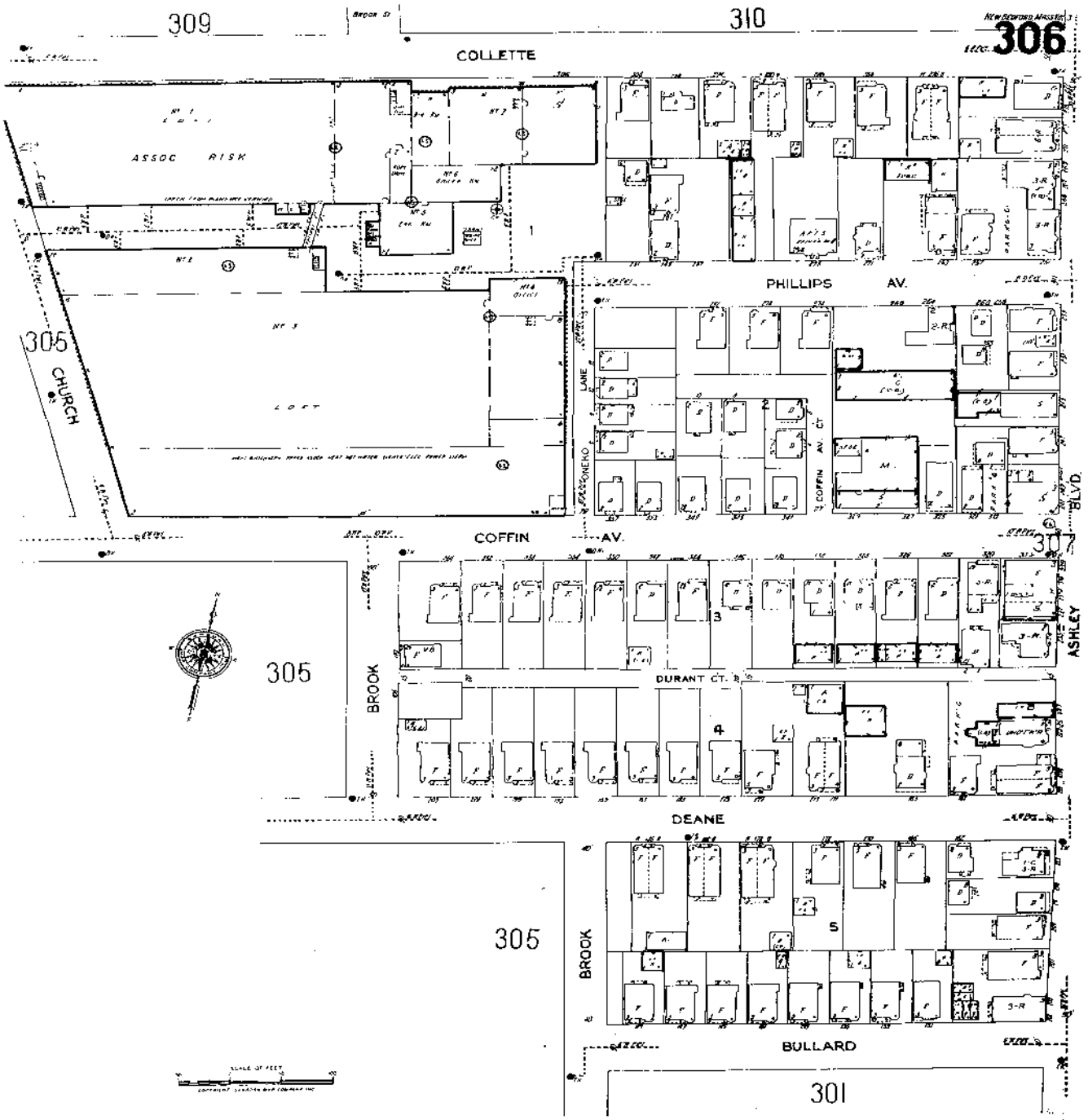

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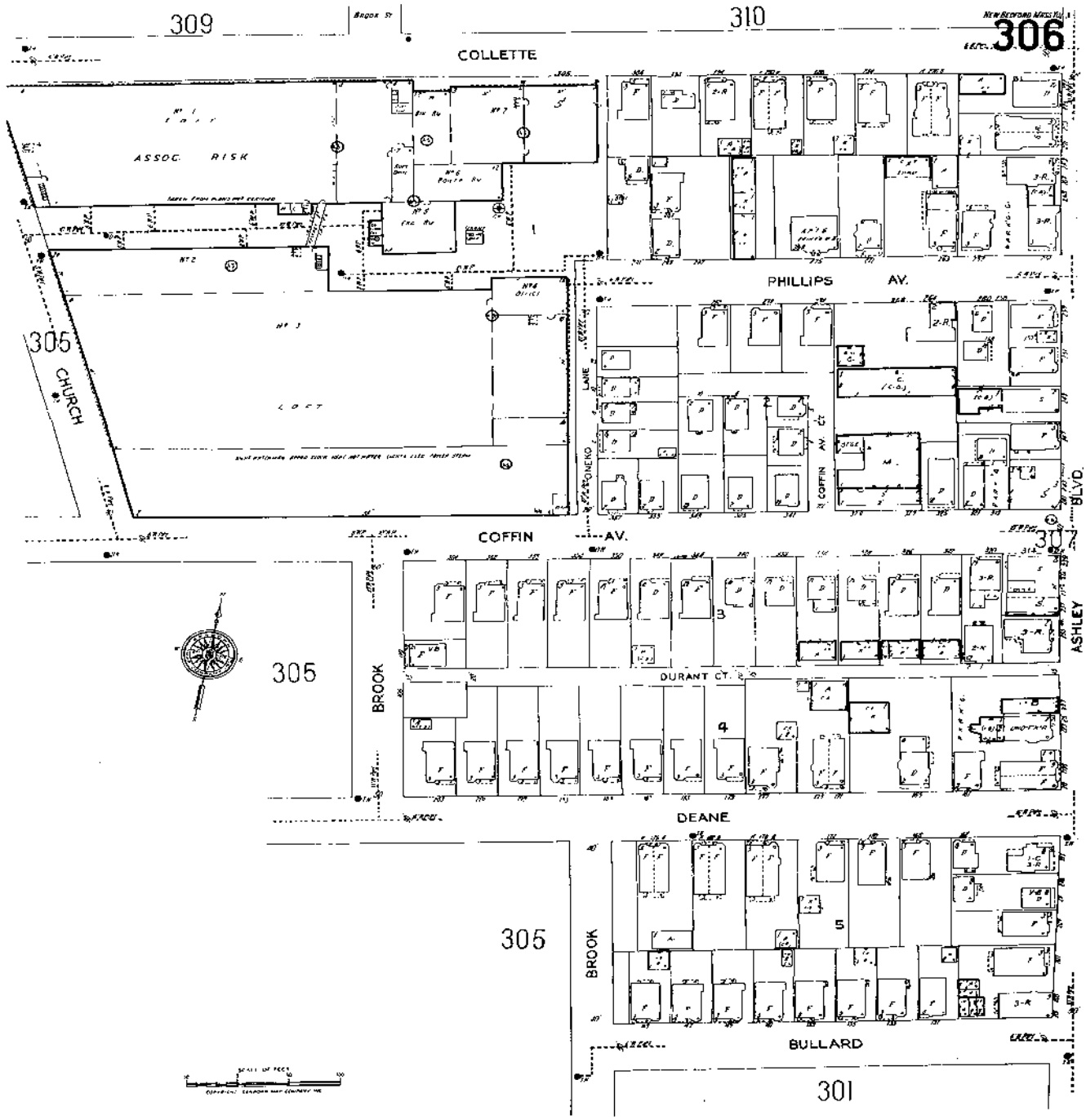

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APPENDIX D

SOIL BORING AND GROUNDWATER MONITORING WELL INSTALLATION LOGS

BORING / MONITORING WELL LOG

PROJECT: Payne Cutlery Assessment
ADDRESS: 295 Phillips Avenue
CLIENT: Shawmut Bank of S.E. MA
GHR FIELD GEOLOGIST: John Paquin
BORING CONTRACTOR: Guild Drilling
FOREMAN: Al Mason

BORING No.: MW-1
LOCATION: Refer to Site Plan
SHEET No.: 1 OF 1
JOB No.: 3490001
DATE (S): 7/3/87

GHR

GROUND ELEV.: *
TOP OF CASING ELEV.: * 93.59

CASING
SIZE: 3 3/8" ID HSA
HAMMER: ---
FALL: ---

SAMPLER
TYPE: 1 3/8" x 18" Split Spoon
HAMMER: 140 lbs.
FALL: 30"

GROUNDWATER LEVEL READINGS
DATE 7/14/87 DEPTH 8.72

DEPTH	CAS. BL./FT.	SAMPLE No.	SAMPLE PEN./REC.	SAMPLE DEPTH	SAMPLE BLOWS/6"	GEN. STRATA DESC.	SAMPLE DESCRIPTION	FIELD TESTING	INSTALLATION LOG	NOTES
		S-1	18"/12"	0.5-2'	20/32/14		BLACKTOP (6")		Curb Box Set in Asphalt	
						FILL	Brn F/M SAND, little C Sand, trace F/M Gravel and VF Sand	45	Bentonite Seal	1.
5		S-2	3"/0"	5-5.25'	100 for 3"	FILL	Tan M SAND, some F Sand, little F/C Gravel	10.2	2" ID PVC Riser	2.
10		S-3	18"/12"	10-11.5'	15/12/15	FILL	Brn M/C SAND, some F/M Gravel, little F Sand, trace Silt	800	2" ID Sch. 40 PVC Well Screen; Backfilled with Ottawa Sand	3.
15		S-4	1"/0"	14.5-14.6'	100 for 1"	ROCK	Granite Rock Chips	---		

Auger Refusal at 14.5'
Split Spoon Sampler Refusal at 14.5'
Relocated Rig 5' East,
Auger Refusal at 14.5'

NOTES:

1. Samples S-1 and S-2 were acquired with a 3" x 18" split spoon sampler to allow for additional soil recovery needed for laboratory analysis.
2. Sample taken from boring MW-1A.
3. Field testing values represent total organic vapor levels (referenced to a benzene standard) measured in the head space of sealed soil sample jars with an HNu Model P1-101 Photoionization detector. Results reported in parts per million.

BORING / MONITORING WELL LOG

PROJECT: Payne Cutlery Assessment
ADDRESS: 295 Phillips Avenue
CLIENT: Shawmut Bank of S.E. MA
GHR FIELD GEOLOGIST: John Paquin
BORING CONTRACTOR: Guild Drilling
FOREMAN: A1 Mason

BORING No.: MW-2
LOCATION: Refer to Site Plan
SHEET No.: 1 OF 1
JOB No.: 3490001
DATE (S): 6/29/87

GHR

GROUND ELEV.: =
TOP OF CASING ELEV.: = 97.50

CASING
SIZE: 3 3/8" ID HSA
HAMMER: ---
FALL: ---

SAMPLER
TYPE: 1 3/8" x 18" Split Spoon
HAMMER: 140 lbs.
FALL: 30"

GROUNDWATER LEVEL READINGS
DATE 7/14/87 DEPTH 8.33

DEPTH	CAS. BL. /FT.	SAMPLE No.	SAMPLE PEN./REC.	SAMPLE DEPTH	SAMPLE BLOWS/6"	GEN. STRATA DESC.	SAMPLE DESCRIPTION	FIELD TESTING	INSTALLATION LOG	NOTES
							BLACKTOP (4")			
		S-1	18"/13"	0.5-2.0'	44/62/73	FILL	Brn F/M SAND, some F/M Gravel, trace C Sand and VF Sand	BDL	Curb Box Set in Asphalt	1.
5		S-2	18"/15"	5-6.5'	25/62/62	FILL	Tan F/M SAND, some F/C Gravel, trace C Sand	BDL	2" ID PVC Riser	2.
10		S-3	9"/8"	10-10.8'	4/100 for 3"	FILL	Brn VC SAND, little M Sand, trace F Sand and Silt	BDL		
15		S-4	18"/18"	15-16.5'	33/28/36	TILL	Grey F SAND and F/M GRAVEL, some M Sand, little C/VC Sand and Silt (13") changing to Grey VF SAND, trace C Sand (5")	BDL	Bentonite Seal	
20		S-5	18"/13"	20-21.5'	77/57/105	TILL	Grey M SAND, little F Gravel and C Sand, trace F Sand and Silt	BDL		
25		S-6	18"/18"	.5-26.5'	27/44/63	TILL	Grey/Brn VF/F SAND, little F/M Gravel, trace M/C Sand and Silt	BDL	2" ID Sch. 40 PVC Well Screen Back-filled with Ottawa Sand	
		S-7	0"/0"	27.5	100 for 0"		Auger refusal at 27.5'			
30							Split spoon refusal at 27.5'			

NOTES:

1. Refer to Note 1, on log MW-1.
2. Refer to Note 3, on log MW-1.

BORING / MONITORING WELL LOG

PROJECT: Payne Cutlery Assessment
ADDRESS: 295 Phillips Avenue
CLIENT: Shawmut Bank of S.E. MA
GHR FIELD GEOLOGIST: John Paquin
BORING CONTRACTOR: Guild Drilling
FOREMAN: Al Mason

BORING No.: MW-2A
LOCATION: Refer to Site Plan
SHEET No.: 1 OF 1
JOB No.: 3490001
DATE (S): 6/30/87

GHR

GROUND ELEV.: *
TOP OF CASING ELEV.: * 97.40

CASING	SAMPLER
SIZE: 3 3/8" ID HSA	TYPE:
HAMMER: ---	HAMMER:
FALL: ---	FALL:

GROUNDWATER LEVEL READINGS
DATE 7/14/87 DEPTH 8.34

DEPTH	CAS. BL. /FT.	SAMPLE No.	SAMPLE PEN./REC.	SAMPLE DEPTH	SAMPLE BLOWS/6"	GEN. STRATA DESC.	SAMPLE DESCRIPTION	FIELD TESTING	INSTALLATION LOG	NOTES
							No Samples Taken Refer to Log MW-2 for Soil Descriptions		Curb Box Set in Asphalt Bento-nite Seal 2" ID PVC Riser 2" ID Sch. 40 PVC Well Screen Back-filled with Ottawa Sand	
5										
10										
15							Bottom of Boring at 15'			

NOTES:

BORING / MONITORING WELL LOG

PROJECT: Payne Cutlery Assessment
ADDRESS: 295 Phillips Avenue
CLIENT: Shawmut Bank of S.E. MA
GHR FIELD GEOLOGIST: John Paquin
BORING CONTRACTOR: Guild Drilling
FOREMAN: Al Mason

BORING No.: MW-3
LOCATION: Refer to Site Plan
SHEET No.: 1 OF 1
JOB No.: 3490001
DATE (S): 6/24/87

GHR

GROUND ELEV.: *
TOP OF CASING ELEV.: * 100.03

CASING
SIZE: 4" HA
HAMMER: 300
FALL: 24"

SAMPLER
TYPE: 13/8" x 18" Split Spoon
HAMMER: 140 lbs.
FALL: 30"

GROUNDWATER LEVEL READINGS
DATE 7/14/87 DEPTH 9.07

DEPTH	CAS. BL. /FT.	SAMPLE No.	SAMPLE PEN./REC.	SAMPLE DEPTH	SAMPLE BLOWS/6"	GEN. STRATA DESC.	SAMPLE DESCRIPTION	FIELD TESTING	INSTALLATION LOG	NOTES
		S-1	18"/18"	0.5-2'	3/6/15	FILL	BLACKTOP (3") Tan M SAND, some F/C Gravel, trace VF/F Sand	BDL	Curb Box Set in Cement	1.
5		S-2	12"/7"	5-6'	53/90	TILL	Grey F SAND, some F/C Gravel, little M Sand, trace C Sand and Silt	BDL	2" ID PVC Riser	2.
10		S-3	18"/18"	10-15'	23/32/35	TILL	Grey VF SAND, some F Sand, little F/C Gravel and Silt, trace C Sand and Clay	BDL		
15		S-4	18"/9"	15-16.5'	47/28/32	TILL	Grey M SAND and F SAND, little F/C Gravel and C Sand, trace Silt	BDL	Bento-nite Seal	
20		S-5	12"/3"	20-21'	53/97	TILL	Grey F/M SAND and M/C GRAVEL little C Sand and Silt	BDL	2" ID Sch.40 PVC Well Screen Back-filled with Ottawa Sand	
25		S-6	18"/9"	25-26.5'	31/46/95	TILL	Tan F/M SAND, little C Sand and F Gravel (3") abrupt change to Brn M SAND, little C Sand, trace VC Sand and F Gravel	BDL		
30							Roller Bit Refusal at 30'			

NOTES:

1. Refer to Note 1, on Log MW-1.
2. Refer to Note 3, on Log MW-1.

BORING / MONITORING WELL LOG

PROJECT: Payne Cutlery Assessment
ADDRESS: 295 Phillips Avenue
CLIENT: Shawmut Bank of S.E. MA
GHR FIELD GEOLOGIST: John Paquin
BORING CONTRACTOR: Guild Drilling
FOREMAN: Al Mason

BORING No.: MW-3A
LOCATION: Refer to Site Plan
SHEET No.: 1 OF 1
JOB No.: 3490001
DATE (S): 6/25/87

GROUND ELEV.: *
TOP OF CASING ELEV.: * 99.99

CASING		SAMPLER	
SIZE:	3 3/8" ID HSA	TYPE:	
HAMMER:	---	HAMMER:	
FALL:	---	FALL:	

GROUNDWATER LEVEL READINGS

DATE	DEPTH
6/26/87	8.63
7/14/87	9.12

DEPTH	CAS. BL. /FT.	SAMPLE No.	SAMPLE PEN./REC.	SAMPLE DEPTH	SAMPLE BLOWS/6"	GEN. STRATA DESC.	SAMPLE DESCRIPTION	FIELD TESTING	INSTALLATION LOG	NOTES
0							No Samples Taken Refer to Log MW-3 for Soil Descriptions		Curb Box Set in Cement 2" ID PVC Riser Bento-nite Seal 2" ID Sch. 40 PVC Well Screen Back-filled with Ottawa Sand	
5										
10										
15										
20							Bottom of Boring at 20'			

NOTES:

BORING / MONITORING WELL LOG

PROJECT Payne Cutlery Assessment
ADDRESS 295 Phillips Avenue
CLIENT Shawmut Bank of S.E. MA
GHR FIELD GEOLOGIST John Paquin
BORING CONTRACTOR Guild Drilling
FOREMAN Al Mason

BORING No. MW-4
LOCATION Refer to Site Plan
SHEET No. 1 OF 1
JOB No. 3490001
DATE (S) 6/25/87

GROUND ELEV. *
TOP OF CASING ELEV. * 100.12

CASING		SAMPLER	
SIZE:	3 3/8" ID HSA	TYPE:	1 3/8" x 18" Split Spoon
HAMMER:	---	HAMMER:	140 lbs.
FALL:	---	FALL:	30"

GROUNDWATER LEVEL READINGS

DATE	DEPTH
6/26/87	9.95
7/14/87	10.21

DEPTH	CAS. BL./FT.	SAMPLE No.	SAMPLE PEN./REC.	SAMPLE DEPTH	SAMPLE BLOWS/6"	GEN. STRATA DESC.	SAMPLE DESCRIPTION	FIELD TESTING	INSTALLATION LOG	NOTES
		S-1	18"/18"	0-1.5'	6/9/15	FILL	Brn F SAND and M SAND, some F/C Gravel, trace C/VC Sand and Glass Pieces (8") grading to Tan F/M SAND, some F/M Gravel, trace VF Sand (10")	BDL	Curb Box Set in Cement	1.
							Occasional Cobbles and Boulders		Bentonite Seal	2.
5		S-2	18"/18"	5-6.5'	16/60/42	FILL	Dk Brn M SAND, little F Sand, trace F Gravel and Silt (3") abrupt change to Lt Brn M SAND, some VC Gravel, little C/VC Sand, trace F Sand	BDL	2" ID PVC Riser	
10		S-3	18"/9"	10-11.5'	17/63/37	TILL	Grey-Brn M SAND, little F/C Gravel, trace C Sand, trace VF/F Sand and Silt	BDL	2" ID Sch. 40 PVC Well Screen	
15		S-4	3"/3"	15-15.25'	120 for 3"	Till / ROCK	Grey F/M SAND, little F/M Gravel and C Sand, trave Silt and Clay (2") Grey Silt and weathered Rock (1")	BDL	Backfilled with Ottawa Sand	
20							Split Spoon & Auger Refusal at 15'3"			
							Relocated Rig 5' West			
25							Auger Refusal at 18.5'			
30										

NOTES:

1. Refer to Note 1, on Log MW-1.
2. Refer to Note 3, on Log MW-1.

BORING / MONITORING WELL LOG

PROJECT: Payne Cutlery Assessment
ADDRESS: 295 Phillips Avenue
CLIENT: Shawmut Bank of S.E. MA
GHR FIELD GEOLOGIST: John Paquin
BORING CONTRACTOR: Guild Drilling
FOREMAN: Al Mason

BORING No.: MW-5
LOCATION: Refer to Site Plan
SHEET No.: 1 OF 1
JOB No.: 3490001
DATE (S): 6/26/87

GHR

GROUND ELEV.: ▪
TOP OF CASING ELEV.: ▪ 98.59

CASING
SIZE: 3 3/8" ID HSA
HAMMER: ---
FALL: ---

SAMPLER
TYPE: 1 3/8" x 18" Split Spoon
HAMMER: 140 lbs.
FALL: 30"

GROUNDWATER LEVEL READINGS
DATE 7/14/87 DEPTH 12.22

DEPTH	CAS. BL. /FT.	SAMPLE No.	SAMPLE PEN./REC.	SAMPLE DEPTH	SAMPLE BLOWS/6"	GEN. STRATA DESC.	SAMPLE DESCRIPTION	FIELD TESTING	INSTALLATION LOG	NOTES
		S-1	18"/18"	0-1.5'	5/12/12		Dk Brn F/M SAND, little F/C Gravel, trace C Sand and VF Sand (7") abrupt change to Brn M SAND, little C Gravel and C/VC Sand, trace F Sand	BDL	Curb Box Set in Cement Bento-nite Seal	1.
5		S-2	18"/18"	5-6.5'	45/47/61	TILL	Tan F/VF SAND, some F/C Gravel, little VC Sand, trac M Sand	BDL	2" ID PVC Riser	2.
							Occasional Cobbles and Boulders		2" ID Sch.40 PVC Well Screen	
10		S-3	10"/6"	10-10.9'	14/120 for 4"	TILL	Tan F SAND, little M/F Gravel and M/C Sand, trace VC Sand and fractured Rock	BDL	Back-filled with Ottawa Sand	
15		S-4	0/0	15	100 for 0"		Auger Refusal at 15' Split Spoon Sampler Refusal at 15' Relocated Rig 5' South, Auger refusal at 14'			
20										
25										
30										

NOTES:

1. Refer to Note 1, on Log MW-1.
2. Refer to Note 3, on Log MW-1.

CYGNUS GROUP INCORPORATED

BORING LOG

Project:	**New Bedford Brownfields**	**Boring No.:**	**CGW-10**
Location:	**Former Payne Cutlery Factory**	**Page:**	**1 of 1**
Drilling Contractor:	**Soil Exploration**	**Date Started:**	**4/10/01**
Inspected by:	**Ron Bucchino**	**Dated Finished:**	**4/10/01**

Well Depth: 15′	**Length of Riser:** 5′	**Length of Screen:** 10′	**Screen I.D.:** 2″	**Riser I.D.:** 2″

	Casing	Sampler	Bit
Type	Hollow Stem Auger	Split Spoon	Bullet
Size I.D.	4-1/4″	2″	
Hammer WT.		140	
Hammer Fall		30″	

Groundwater Ohservations		
Depth	**Date**	**Stahilization Time**
Approx. . 7 ′		

Depth (ft.)	Sample ID	Blows/ 6"	Sample Interval	Adv./ Rec.	PID (PPMV)	Strata Change	Field Classification **Surface:** Asphalt
0							
	S-1	4-5-7-8	1-3″	14/12	0		Light brown fine to coarse sand, 80%, Fine to coarse gravel, 15 %, Cobble 5%
5	S-2	6-20-25-35	5′-7′	24/12″	0		Light brown fine to coarse sand, 80%, Fine gravel, 15 %
10	S-3	30-15-14-40	10-12″	18″/18″	0		Light brown fine to coarse sand, 90%, with fine to medium gravel 10%
15	S-4	NA	TFAF @ 15′		0		Light gray/ brown fine to coarse sand, 90%, Fine gravel, 10 % (Refusal at 15 feet)
20							

REMARKS:

1. NA = Not applicable
2. Refusal at 15 feet)
3. Sample S-3 sent for analysis
4. TFAF = Taken from augur flight

CYGNUS GROUP INCORPORATED — BORING LOG

Project:	New Bedford Brownfields	**Boring No.:**	CGW-11
Location:	Former Payne Cutlery Factory	**Page:**	1 of 1
Drilling Contractor:	Soil Exploration	**Date Started:**	4/10/01
Inspected by:	Ron Buccbino	**Dated Finisbed:**	4/10/01

Well Depth:	Length of Riser:	Length of Screen:	Screen I.D.:	Riser I.D.:
14′	4′	10′	2″	2″

	Casing	Sampler	Bit
Type	Hollow Stem Auger	Split Spoon	Bullet
Size I.D.	4-1/4″	2″	
Hammer WT.		140	
Hammer Fall		30″	

Groundwater Observations		
Depth	Date	Stabilization Time
Approx. . 8.5′		

Depth (ft.)	Sample ID	Blows/ 6"	Sample Interval	Adv./ Rec.	PID (PPMV)	Strata Change	Field Classification
0							Surface: Asphalt
	S-1	TFAF	1-3″	NA	0		Light brown fine to coarse sand, 80%, Fine to coarse gravel, 20 %
5	S-2	23-40-18-10	5′-7′	24/18″	0		Light gray/ brown fine to coarse sand, 85%, Fine to coarse gravel, 15 %
10	S-3	6-8-10-11	10-12″	24″/12″	0		Light brown fine to coarse sand, 90%, with fine to medium gravel 10%
14	S-4	NA	TFAF @ 14		0		Light gray/ brown fine to coarse sand, 90%, Fine to coarse gravel, 10 % (Refusal at 14 feet)
20							

REMARKS:

1. NA = Not applicable
2. Refusal at 14 feet)
3. Sample S-3 sent for analysis
4. TFAF = Taken from augur flight

CYGNUS GROUP INCORPORATED — BORING LOG

Project:	New Bedford Brownfields	**Boring No.:**	SBR-1
Location:	Former Payne Cutlery Factory	**Page:**	1 of 1
Drilling Contractor:	Soil Exploration	**Date Started:**	4/10/01
Inspected by:	Ron Bucchino	**Dated Finished:**	4/10/01

Well Depth: '	Length of Riser: '	Length of Screen: '	Screen I.D.:	Riser I.D.:

	Casing	Sampler	Bit
Type	Hollow Stem Auger	Split Spoon	Bullet
Size I.D.	4-1/4"	2"	
Hammer WT.		140	
Hammer Fall		30"	

Groundwater Observations		
Depth	Date	Stabilization Time
Approx. .'		

Depth (ft.)	Sample ID	Blows/ 6"	Sample Interval	Adv./ Rec.	PID (PPMV)	Strata Change	Field Classification Surface: Asphalt
0							
	S-1	NA	3''	TFAF"	0		Light brown fine to coarse sand 80%, with fine to coarse gravel 20%
5	S-2	15-20-51-R	5'-7	18"/6"	0		Light brown fine to coarse sand 80%, with fine to coarse gravel 20% (Refusal at 7 feet)

REMARKS:

1. NA = Not available
2. Refusal at 7 feet
3. No sample obtained for analysis
4. TFAF = Taken from augur flight
5. SBR-1 = Soil Boring Refusal #1

CYGNUS GROUP INCORPORATED — BORING LOG

Project:	New Bedford Brownfields	**Boring No.:**	SBR-2
Location:	Former Payne Cutlery Factory	**Page:**	1 of 1
Drilling Contractor:	Soil Exploration	**Date Started:**	4/10/01
Inspected by:	Ron Bucchino	**Dated Finished:**	4/10/01

Well Depth: '	Length of Riser: '	Length of Screen: '	Screen t.D.:	Riser J.D.:

	Casing	Sampler	Bit
Type	Hollow Stem Auger	Split Spoon	Bullet
Size I.D.	4-1/4"	2"	
Hammer WT.		140	
Hammer Fall		30"	

Groundwater Ohservations		
Depth	Date	Stahilization Time
Approx. .'		

Depth (ft.)	Sample tD	Blows/ 6"	Sample tnterval	Adv./ Rec.	PID (PPMV)	Strata Change	Field Classification
0							Surface: Asphalt
	S-1	NA	3'-5'	TFAF"	0		Light brown fine to coarse sand 80%, with fine to coarse gravel 20%
5	S-2	100–R	5'-7'	0"/0"	0		Light brown fine to coarse sand 80%, with fine to coarse gravel 20% (Refusal at 7 feet)
				TFAF			

REMARKS:

1. NA = Not available
2. Refusal at 7 feet
3. No sample obtained for analysis
4. TFAF = Taken from augur flight
5. SBR-1 = Soil Boring Refusal #1

CYGNUS GROUP INCORPORATED — BORING LOG

Project:	New Bedford Brownfields	**Boring No.:**	SBR-3
Location:	Former Payne Cutlery Factory	**Page:**	1 of 1
Drilling Contractor:	Soil Exploration	**Date Started:**	4/10/01
Inspected by:	Ron Bucchino	**Dated Finished:**	4/10/01

Well Depth: '	Length of Riser: '	Length of Screen: '	Screen I.D.:	Riser I.D.:

	Casing	Sampler	Bit
Type	Hollow Stem Auger	Split Spoon	Bullet
Size I.D.	4-1/4"	2"	
Hammer WT.		140	
Hammer Fall		30"	

Groundwater Observations		
Depth	Date	Stabilization Time
Approx. '		

Depth (ft.)	Sample ID	Blows/ 6"	Sample Interval	Adv./ Rec.	PID (PPMV)	Strata Change	Field Classification Surface: Asphalt
0							
	S-1	NA	3'-5'	TFAF	0		Light brown fine to coarse sand 80%, with fine to coarse gravel 20%
5	S-2	100-R	5'-6'	0"/0"	0		Light brown fine to coarse sand 80%, with fine to coarse gravel 20% (Refusal at 6 feet)
				TFAF			

REMARKS:

1. NA = Not available
2. Refusal at 6 feet
3. No sample obtained for analysis
4. TFAF = Taken from augur flight
5. SBR-1 = Soil Boring Refusal #1
6.

CYGNUS GROUP INCORPORATED — BORING LOG

Project:	New Bedford Brownfields	**Boring No.:**	SBR-4
Location:	Former Payne Cutlery Factory	**Page:**	1 of 1
Drilling Contractor:	Soil Exploration	**Date Started:**	4/10/01
Inspected by:	Ron Bucchino	**Dated Finished:**	4/10/01

Well Depth: '	Length of Riser: '	Length of Screen: '	Screen I.D.:	Riser I.D.:

	Casing	Sampler	Bit
Type	Hollow Stem Auger	Split Spoon	Bullet
Size I.D.	4-1/4"	2"	
Hammer WT.		140	
Hammer Fall		30"	

Groundwater Observations		
Depth	Date	Stabilization Time
Approx. .'		

Depth (ft.)	Sample ID	Blows/ 6"	Sample Interval	Adv./ Rec.	PID (PPMV)	Strata Change	Field Classification Surface: Asphalt
0							
	S-1	NA	3'-5'	TFAF	0		Light brown fine to coarse sand 80%, with fine to coarse gravel 20%
5	S-2	100-R	5'	0"/0"	0		Light brown fine to coarse sand 80%, with fine to coarse gravel 20% (Refusal at 5 feet)
				TFAF			

REMARKS:

1. NA = Not available
2. Refusal at 7 feet
3. No sample obtained for analysis
4. TFAF = Taken from augur flight
5. SBR-1 = Soil Boring Refusal #1

CYGNUS GROUP INCORPORATED

BORING LOG

Project:	New Bedford Brownfields	**Boring No.:**	CGW-12
Location:	Former Payne Cutlery Factory	**Page:**	1 of 1
Drilling Contractor:	Soil Exploration	**Date Started:**	5/29/01
Inspected by:	William Cook	**Dated Finished:**	5/29/01

Well Depth: 14′	Length of Riser: 6.5′	Length of Screen: 10′	Screen I.D.: 2″	Riser I.D.: 2″

	Casing	Sampler	Bit
Type	Hollow Stem Auger	Split Spoon	
Size I.D.	4-1/2″	2″	
Hammer WT.		140 lb.	
Hammer Fall		30″	

Groundwater Observations		
Depth	Date	Stabilization Time
8′	5/29/01	NA

Depth (ft.)	Sample ID	Blows/ 6"	Sample Interval	Adv./ Rec.	PID (PPMV)	Strata Change	Field Classification
0	S-1	5,8,12,18	0-2′	24″/18″	4.7		Fill: Sandy gravel w/ trash, Fine to medium sand and fine to coarse gravel, 60 %, Brown/Black. Trash composed of orange brick fragments, gray cement fragments, asphalt fragments, slag, coal, steel, wood and glass.
5	S-2	13,25,19,25	5′-7′	24″/18″	0.0		Fine sand and Silt 80% some fine gravel, 20%, Gray to Brown.
10	S-3	12,14,26,20	10′-12′	24″/18″	0.0		Fine to coarse gravel,90%, Little fine to coarse sand 10% Gray/Brown.
15	S-4	15,23,21,24	15′-17′	24″/24″	0.0		Fine sand 95% little fine gravel 5%, Trace Silt Gray/Brown.

REMARKS:
1) Monitoring well completed to 15 feet below grade with 2.5 feet of riser above grade for 2.5 foot tall stick-up with locking top.
2) Surface of site is sandy gravel w/ trash, Fine to coarse sand and fine to coarse gravel, Orange/ Brown. Trash is composed of orange brick fragments, gray cement fragments, asphalt fragments, slag, coal, steel, and glass.
3) NA = Not applicable
4) Concrete footing encountered at approximately 3 feet below grade

CYGNUS GROUP INCORPORATED

BORING LOG

Project:	New Bedford Brownfields	**Boring No.:**	CGW-13
Location:	Former Payne Cutlery Factory	**Page:**	1 of 1
Drilling Contractor:	Soil Exploration	**Date Started:**	5/29/01
Inspected by:	William Cook	**Dated Finished:**	5/29/01

Well Depth:	Length of Riser:	Length of Screen:	Screen I.D.:	Riser I.D.:
12′	4.5′	10′	2″	2″

	Casing	Sampler	Bit
Type	Hollow Stem Auger	Split Spoon	
Size I.D.	4-1/2″	2″	
Hammer WT.		140 lb.	
Hammer Fall		30″	

Groundwater Observations		
Depth	Date	Stabilization Time
9′	5/29/01	NA

Depth (ft.)	Sample ID	Blows/ 6"	Sample Interval	Adv./ Rec.	PID (PPMV)	Strata Change	Field Classification
0	S-1	3,1,3,9	0-2′	24″/12″	0.4		Fill: Sandy gravel w/ trash, Fine to medium sand and fine to coarse gravel, 60 %, Brown. Trash composed of orange brick fragments, gray cement fragments, asphalt fragments, slag, coal, wood and glass.
5	S-2	7,8,18,15	5′-7′	24″/14″	0.0		Fine sand and Silt 90% some fine gravel, 10%, Brown
5.5							Fine sand and Silt 90% some fine gravel, 10%, Gray
10	S-3	10,14,15,17	10′-12′	24″/16″	0.0		Fine sand and Silt 90% some fine gravel, 10%, Gray
15	S-4	11,16,19,21	15′-17′	24″/16″	0.0		Fine sand and Silt 90% some fine to medium gravel, 10%, Gray

REMARKS: 1) Monitoring well completed to 15 feet below grade with 2.5 feet of riser above grade for 2.5 foot tall stick-up with locking top.

2) Surface of site is sandy gravel w/ trash, Fine to coarse sand and fine to coarse gravel, Orange/ Brown. Trash is composed of orange brick fragments, gray cement fragments, asphalt fragments, slag, coal, steel, and glass.

3) NA – Not applicable

CYGNUS GROUP INCORPORATED — BORING LOG

Project:	New Bedford Brownfields	**Boring No.:**	CGW-14
Location:	Former Payne Cutlery Factory	**Page:**	1 of 1
Drilling Contractor:	Soil Exploration	**Date Started:**	5/29/01
Inspected by:	William Cook	**Dated Finished:**	5/30/01

Well Depth: 15′	Length of Riser: 7.5′	Length of Screen: 10′	Screen I.D.: 2″	Riser I.D.: 2″

	Casing	Sampler	Bit
Type	Hollow Stem Auger	Split Spoon	
Size I.D.	4-1/2″	2″	
Hammer WT.		140 lb.	
Hammer Fall		30″	

Groundwater Observations		
Depth	Date	Stabilization Time
10′	5/30/01	NA

Depth (ft.)	Sample ID	Blows/ 6"	Sample Interval	Adv./ Rec.	PID (PPMV)	Strata Change	Field Classification
0	S-1	1,5,5,6	0-2′	24″/14″	1.0		Fill: Sandy gravel w/ trash, Fine to medium sand and fine to coarse gravel, 60 %, Brown to Black. Trash composed of orange brick fragments and wood
5	S-2	9,16,20,20	5′-7′	24″/12″	0.3		Course sand 95% Trace fine gravel, 5%, Brown
5.5							Fine sand 95% some medium gravel, 5%, Gray
10	S-3	16,25,15,19	10′-12′	24″/14″	0.0		Fine sand 50% and medium gravel, 50%, Gray
15	S-4	75/5″	15′-17′	24″/16″	2.0		Course sand 100% , Brown

REMARKS:
1) Monitoring well completed to 15 feet below grade with 2.5 feet of riser above grade for 2.5 foot tall stick-up with locking top.
2) Surface of site is sandy gravel w/ trash, Fine to coarse sand and fine to coarse gravel, Orange/ Brown. Trash is composed of orange brick fragments, gray cement fragments, asphalt fragments, slag, coal, steel, and glass.
3) NA = Not applicable
4) Difficult drilling approximately 4 to 5 feet below grade.

CYGNUS GROUP INCORPORATED — BORING LOG

Project:	New Bedford Brownfields	**Boring No.:**	CGW-15
Location:	Former Payne Cutlery Factory	**Page:**	1 of 1
Drilling Contractor:	Soil Exploration	**Date Started:**	5/30/01
Inspected by:	William Cook	**Dated Finished:**	5/30/01

Well Depth:	Length of Riser:	Length of Screen:	Screen I.D.:	Riser I.D.:
14′	6.5′	10′	2″	2″

	Casing	Sampler	Bit
Type	Hollow Stem Auger	Split Spoon	
Size I.D.	4-1/2″	2″	
Hammer WT.		140 lb.	
Hammer Fall		30″	

Groundwater Observations		
Depth	**Date**	**Stabilization Time**
7.5′	5/30/01	NA

Depth (ft.)	Sample ID	Blows/ 6"	Sample Interval	Adv./ Rec.	PID (PPMV)	Strata Change	Field Classification
0	S-1	4,7,10,14	0-2′	24″/18″	24		Fill: Sandy gravel w/ trash, Fine to medium sand and fine to coarse gravel, 60 %, Brown to Black. Trash composed of orange brick fragments and wood gray cement fragments, asphalt fragments, slag, coal
5	S-2	24,23,35,21	5′-7′	24″/9″	0.8		
5.5							Course sand 90% with fine to medium gravel, 10%, Orange/Gray
~~10~~	~~S-3~~	~~9,43,59,56~~	~~10′-12′~~	~~24″/20″~~	~~0.1~~		
10.75							Fine sand 95% with trace fine to medium gravel, 5%, Gray
15	S-4	20,48,31,30	15′-17′	24″/20″	0.0		

REMARKS:
1) Monitoring well completed to 15 feet below grade with 2.5 feet of riser above grade for 2.5 foot tall stick-up with locking top.
2) Surface of site is sandy gravel w/ trash, Fine to coarse sand and fine to coarse gravel, Orange/ Brown. Trash is composed of orange brick fragments, gray cement fragments, asphalt fragments, slag, coal, steel, and glass.
3) NA = Not applicable
4) Difficult drilling approximately 4 to 5 feet below grade.

CYGNUS GROUP INCORPORATED — BORING LOG

Project:	New Bedford Brownfields	**Boring No.:**	CGW-16
Location:	Former Payne Cutlery Factory	**Page:**	1 of 1
Drilling Contractor:	Soil Exploration	**Date Started:**	5/30/01
Inspected by:	William Cook	**Dated Finished:**	5/30/01

Well Depth:	Length of Riser:	Length of Screen:	Screen I.D.:	Riser I.D.:
15′	7.5′	10′	2″	2″

	Casing	Sampler	Bit
Type	Hollow Stem Auger	Split Spoon	
Size I.D.	4-1/2″	2″	
Hammer WT.		140 lb.	
Hammer Fall		30″	

Groundwater Observations		
Depth	Date	Stabilization Time
NA	NA	NA

Depth (ft.)	Sample ID	Blows/ 6"	Sample Interval	Adv./ Rec.	PID (PPMV)	Strata Change	Field Classification
0	S-1	5,4,3,2	0-2′	24″/4″	3.1		Fill: Sandy gravel w/ trash, Fine to medium sand and fine to coarse gravel, 60 %, Black. Trash composed of orange brick fragments and wood, blue slate, gray cement fragments
5	S-2	23,52,78,32	5′-7′	24″/16	6.4		
6							
7	S-3	18,13,16,20	7′-9′	24/12	2.4		Fine sand 80% with fine to medium gravel, 20%, Orange/Gray
10	S-4	15,14,11,16	10′-12′	24″/20″	0.2		Fine sand 100% Gray with orange mottle
	S-5	14,23,30,45	12′-14	24,22	0.1		Fine sand 100% Gray with orange mottle
15	S-6	21,65,R	15′-17′	24/12	0.0		Fine sand 100% Gray with orange mottle

REMARKS: 1) Monitoring well completed to 15 feet below grade with 2.5 feet of riser above grade for 2.5 foot tall stick-up with locking top.

2) Surface of site is sandy gravel w/ trash, Fine to coarse sand and fine to coarse gravel, Orange/ Brown. Trash is composed of orange brick fragments, gray cement fragments, asphalt fragments, slag, coal, steel, and glass.

3) NA = Not applicable

CYGNUS GROUP INCORPORATED

BORING LOG

Project:	New Bedford Brownfields	**Boring No.:**	CGW-17
Location:	Former Payne Cutlery Factory	**Page:**	1 of 1
Drilling Contractor:	Soil Exploration	**Date Started:**	5/30/01
Inspected by:	William Cook	**Dated Finished:**	5/31/01

Well Depth:	Length of Riser:	Length of Screen:	Screen I.D.:	Riser I.D.:
20′	7.5′	15′	2″	2″

	Casing	Sampler	Bit
Type	Hollow Stem Auger	Split Spoon	
Size I.D.	4-1/2″	2″	
Hammer WT.		140 lb.	
Hammer Fall		30″	

Groundwater Observations		
Depth	Date	Stabilization Time
NA	NA	NA

Deptb (ft.)	Sample ID	Blows/ 6"	Sample Interval	Adv./ Rec.	PID (PPMV)	Strata Change	Field Classification
0							
5	S-1	NA	TFAF	NA	NA	NA	No description recorded
10	S-2	NA	TFAF	NA	NA	NA	No description recorded
15	S-3	NA	TFAF	NA	NA	NA	No description recorded
20	S-4	NA	TFAF	NA	NA	NA	No description recorded

REMARKS:
1) Monitoring well completed to 20 feet below grade with 2.5 feet of riser above grade for 2.5 foot tall stick-up with locking top.
2) Surface of site is sandy gravel w/ trash, Fine to coarse sand and fine to coarse gravel, Orange/ Brown. Trash is composed of orange brick fragments, gray cement fragments, asphalt fragments, slag, coal, steel, and glass.
3) NA = Not applicable
4) TFAF = Taken from auger flight

TRC Sample Log Sheet

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Payne Cutlery	172744	04/02/10 0840	
Contractor Personnel: N/A		TRC Personnel: J. Grundy	

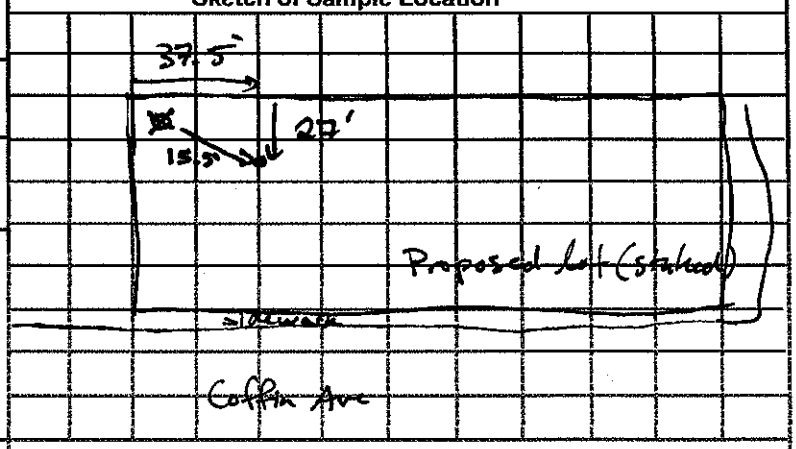
Sample No.: SS-1

Depth/Interval Sampled: 0-1'

Sample Type: (Grab) Composite Both (circle)

Media: (Surface Soil) Subsurface Soil Other (circle); Sediment Surface Water Ground Water

Sketch of Sample Location



Field Screening Information: 0.0 ppm (open hole reading)

Type of Meter: Thermo 580B PID

Other Field Measurements::

Observations: Brown, loose m-c sand with some gravel and trace glass & brick fragments. Taken from just under surface. (Dug with spoon)

SAMPLE COLLECTION EQUIPMENT:

Hand Auger		Trowel	
Core Sampler		Shelby Tube	
Spatula/Spoon	X	Dredge Sampler	
Bowl (stainless)		Kemmerer	
Split-spoon (2" or 3")		Extended Arm	
Encore®		Bailer	
Tube Auger		Backhoe	
Direct		Van Doren Bottle	
Ponar Grab			
Bucket Auger			
Peristaltic Pump			
MacroCore(4 ft or 5 ft)			
Other	X Disposable Syringe		

DECONTAMINATION PROECDURE:

DECON. FLUID	USED	DESCRIPTION
Tap water	X	
Alconox	X	
Tap Water		
HNO_3 (1 or 10%)		
Tap Water		
Methanol		
Hexane		
Acetone		
Air Dry		
DI Water		
Air Dry		
None		

ANALYTICAL PARAMETERS	Filtered (circle)	Preservation Method	Volume/Container	Time of Collection	Sample ID
X VOCs	YES (NO)	DI MeOH (Ice)	2 40mL VOA 1 40mL VOA	0840	SS-1
X PAHs	YES (NO)	None (Ice)	8 oz Amber	0840	SS-1
X total nickel	YES (NO)	None (Ice)	8 oz Amber	0840	SS-1
X total chromium	YES (NO)	None (Ice)	8 oz Amber	0840	SS-1
	YES NO		4,8 (one 8 oz total)		
	YES NO				

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I:2005-555

Signed: James D. Grundy

TRC

Sample Log Sheet

Project:	Project No.:	Date/Time:	Sheet
Payne Cutlery	172744	04/02/10 0920	1 of 1

Contractor Personnel: N/A

TRC Personnel: J. Grundy

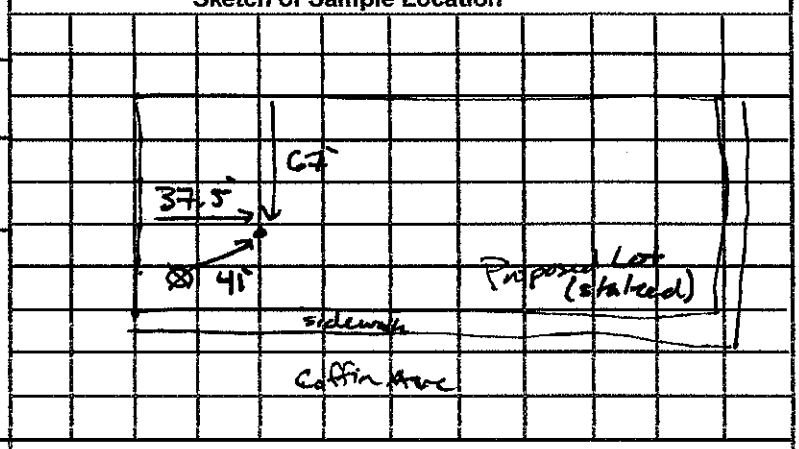
Sample No.: SS-2

Depth/Interval Sampled: 0-1'

Sample Type: (circle) Grab Composite Both

Media: (circle) Surface Soil, Subsurface Soil, Other, Sediment, Surface Water, Ground Water

Sketch of Sample Location



Field Screening Information: 4.6 ppm (open hole reading)

Type of Meter: Thermo 580B PID

Other Field Measurements::

Observations:
Tan m-c sand with some rocks, some brick, some organic matter & trace glass. (dead grass)
Taken immediately north of excavation area, taken from under organic matter. (Dug with spoon).

SAMPLE COLLECTION EQUIPMENT:

Hand Auger	☐	Trowel	☐
Core Sampler	☐	Shelby Tube	☐
Spatula/Spoon	☒	Dredge Sampler	☐
Bowl (stainless)	☐	Kemmerer	☐
Split-spoon (2" or 3")	☐	Extended Arm	☐
Encore®	☐	Bailer	☐
Tube Auger	☐	Backhoe	☐
Direct	☐	Van Doren Bottle	☐
Ponar Grab	☐		
Bucket Auger	☐		
Peristaltic Pump	☐		
MacroCore(4 ft or 5 ft)	☐		
Other	☒	Disposable syringe ~~Grab~~ 5 to 4/2	

DECONTAMINATION PROECDURE:

DECON. FLUID	USED	DESCRIPTION
Tap water	☒	
Alconox	☒	
Tap Water	☐	
HNO_3 (1 or 10%)	☐	
Tap Water	☐	
Methanol	☐	
Hexane	☐	
Acetone	☐	
Air Dry	☐	
DI Water	☐	
Air Dry	☐	
None	☐	

ANALYTICAL PARAMETERS	Filtered (circle)	Preservation Method	Volume/Container	Time of Collection	Sample ID
☒ VOCs	YES NO	2 DI 1 MeOH (Ice)	2 40mL VOA 1 40mL VOA	0920	SS-2
☒ PAHs	YES NO	None (Ice)	8oz Amber	0920	SS-2
☒ Total Nickel	YES NO	None (Ice)	8oz Amber	0920	SS-2
☒ Total Chromium	YES NO	None (Ice)	8oz Amber	0920	SS-2
☐	YES NO		(one 8oz total for SS-2)		
☐	YES NO				

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Rev: 25 January 2002

Signed: James S. Grundy

TRC Sample Log Sheet

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Payne Cutlery	172744	04/02/10 0955	

Contractor Personnel: N/A

TRC Personnel: J. Grundy

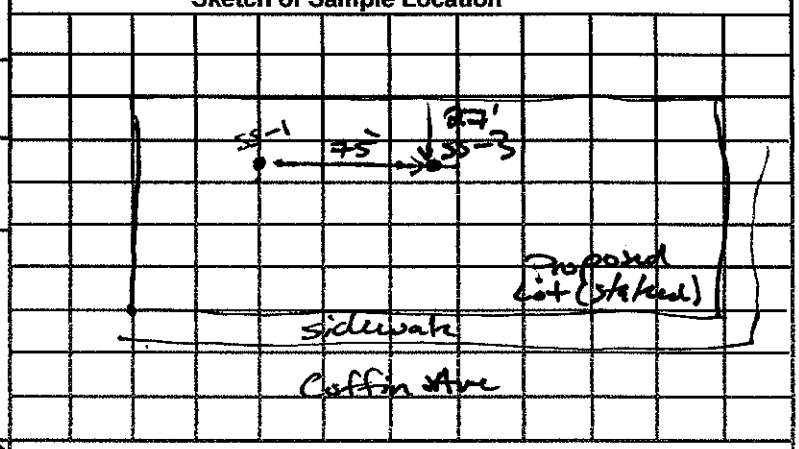
Sample No.: SS-3

Depth/Interval Sampled: 0-1

Sample Type: (Grab) Composite Both (circle)

Media: (Surface Soil) Subsurface Soil Other; Sediment Surface Water Ground Water (circle)

Sketch of Sample Location



Field Screening Information: 0.6 ppm (open hole reading)

Type of Meter: Thermo 580 B PID

Other Field Measurements::

Observations: Brown fine with some gravel, bark fragments, + organic matter. Trace slag. Taken from just under surface (dug with spoon)

SAMPLE COLLECTION EQUIPMENT:

Hand Auger		Trowel	
Core Sampler		Shelby Tube	
Spatula/Spoon	X	Dredge Sampler	
Bowl (stainless)		Kemmerer	
Split-spoon (2" or 3")		Extended Arm	
Encore®		Bailer	
Tube Auger		Backhoe	
Direct		Van Doren Bottle	
Ponar Grab			
Bucket Auger			
Peristaltic Pump			
MacroCore(4 ft or 5 ft)			
Other	X Disposable syringe		

DECONTAMINATION PROECDURE:

DECON. FLUID	USED	DESCRIPTION
Tap water	X	
Alconox	X	
Tap Water		
HNO_3 (1 or 10%)		
Tap Water		
Methanol		
Hexane		
Acetone		
Air Dry		
DI Water		
Air Dry		
None		

ANALYTICAL PARAMETERS	Filtered (circle)	Preservation Method	Volume/Container	Time of Collection	Sample ID
X VOCs	YES (NO)	2 DI 1 MeOH (Ice)	2 40 mL VOA 1 40 mL VOA	0955	SS-3
X PAHs	YES (NO)	None (Ice)	8 oz Amber	0955	SS-3
X Total Nickel	YES (NO)	None (Ice)	8 oz Amber	0955	SS-3
X Total Chromium	YES (NO)	None (Ice)	8 oz Amber	0955	SS-3
	YES NO		(one 8 oz amber total for SS-3)		
	YES NO				

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Rev. 25 January 2007

Signed: James A. Grundy

TRC Sample Log Sheet

Project:	Project No.:	Date/Time:	Sheet 1 of 2
Payne Cutlery	172744	04/02/10 1020	
Contractor Personnel:		**TRC Personnel:**	
N/A		J. Grundy	

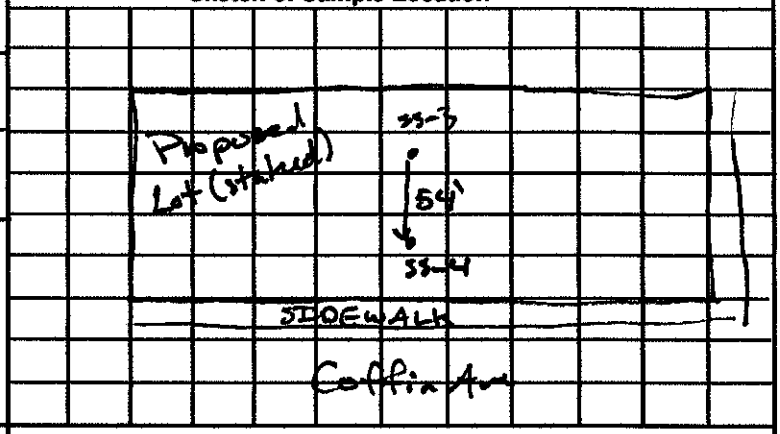
Sample No.: SS-4

Depth/Interval Sampled: 0-1'

Sample Type: (Grab) Composite Both (circle)

Media: (Surface Soil) Subsurface Soil Other Sediment Surface Water Ground Water (circle)

Sketch of Sample Location



Field Screening Information: 0.3 ppm (open hole reading)

Type of Meter: Thermo 580 B PID

Other Field Measurements::

Observations:
Brown f->m sand with trace clay (tan). Note this point is within the excavation area for the pipe & consists of disturbed material.
Taken from just under surface (Dug with spoon).

Took MS/MSD from SS-4 & also collected a field Dup here (SS-DUP) labelled with a time of 1120

SAMPLE COLLECTION EQUIPMENT:

Hand Auger		Trowel	
Core Sampler		Shelby Tube	
Spatula/Spoon	X	Dredge Sampler	
Bowl (stainless)		Kemmerer	
Split-spoon (2" or 3")		Extended Arm	
Encore®		Bailer	
Tube Auger		Backhoe	
Direct		Van Doren Bottle	
Ponar Grab			
Bucket Auger			
Peristaltic Pump			
MacroCore(4 ft or 5 ft)			
Other	X Disposable syringe		

DECONTAMINATION PROECDURE:

DECON. FLUID	USED	DESCRIPTION
Tap water	X	
Alconox	X	
Tap Water		
HNO_3 (1 or 10%)		
Tap Water		
Methanol		
Hexane		
Acetone		
Air Dry		
DI Water		
Air Dry		
None		

ANALYTICAL PARAMETERS	Filtered (circle)	Preservation Method	Volume/Container	Time of Collection	Sample ID
☒ VOCs	YES (NO)	DI MeOH (Ice)	2 40mL VOA 1 40mL VOA x3	1020	SS-4 (and MS/MSD)
☒ PAHs	YES (NO)	None (Ice)	8 oz Amber x3	1020	SS-4 (and MS/MSD)
☒ Total Nickel	YES (NO)	None (Ice)	8 oz Amber x3	1020	SS-4 (and MS/MSD)
☒ Total Chromium	YES (NO)	None (Ice)	8 oz Amber x3	1020	SS-4 (and MS/MSD)
☒ VOCs	YES (NO)	DI MeOH (Ice)	2 40mL VOA 1 40mL VOA	1120	SS-DUP
☒ PAHs	YES (NO)	None (Ice)	8 oz Amber	1120	SS-DUP

Note: There were 3, 8 oz Ambers total for SS-6

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Signed: James D. Grundy

TRC
Sample Log Sheet

Project:	Project No.:	Date/Time:	Sheet 2 of 2
Payne Cutlery	172744	04/02/10 1020	
Contractor Personnel:		**TRC Personnel:**	
N/A		J. Grundy	

Sample No.: SS-4

Depth/Interval Sampled: 0-1'

Sample Type: (Grab) Composite Both (circle)

Media: (circle) (Surface Soil) Subsurface Soil Other / Sediment Surface Water Ground Water

Sketch of Sample Location

See Page 1

Field Screening Information: 0.0 ppm

Type of Meter: Thermo 580 B PID

Other Field Measurements::

Observations: See pg 1.

SAMPLE COLLECTION EQUIPMENT:

Hand Auger	☐	Trowel	☐
Core Sampler	☐	Shelby Tube	☐
Spatula/Spoon	☒	Dredge Sampler	☐
Bowl (stainless)	☐	Kemmerer	☐
Split-spoon (2" or 3")	☐	Extended Arm	☐
Encore®	☐	Bailer	☐
Tube Auger	☐	Backhoe	☐
Direct	☐	Van Doren Bottle	☐
Ponar Grab	☐		
Bucket Auger	☐		
Peristaltic Pump	☐		
MacroCore(4 ft or 5 ft)	☐		
Other	☒ Disposable syringe		

DECONTAMINATION PROECDURE:

DECON. FLUID	USED	DESCRIPTION
Tap water	☒	
Alconox	☒	
Tap Water	☐	
HNO_3 (1 or 10%)	☐	
Tap Water	☐	
Methanol	☐	
Hexane	☐	
Acetone	☐	
Air Dry	☐	
DI Water	☐	
Air Dry	☐	
None	☐	

ANALYTICAL PARAMETERS	Filtered (circle)	Preservation Method	Volume/Container	Time of Collection	Sample ID
☒ Total Nickel	YES (NO)	None (Ice)	8 oz Amber	1120	SS-DUP
☒ Total Chromium	YES (NO)	None (Ice)	8 oz Amber	1120	SS-DUP
☐	YES NO		(One 8 Amber total for SS-DUP)		
☐	YES NO				
☐	YES NO				
☐	YES NO				

L2005-533

Rev: 25 January 2002

Signed: James A. Grundy

TRC Sample Log Sheet

Project:	Project No.:	Date/Time:	Sheet
Payne Cutlery	172744	04/02/10 1100	1 of 1

Contractor Personnel: N/A

TRC Personnel: J. Grundy

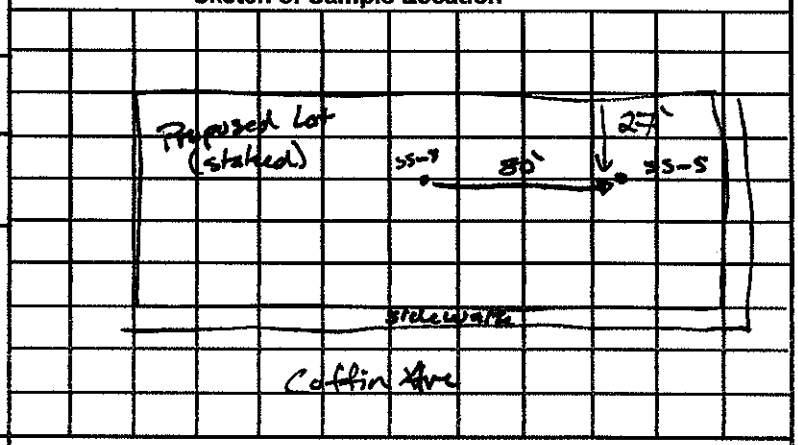
Sample No.: SS-5

Depth/Interval Sampled: 0-1'

Sample Type: (Grab) Composite Both (circle)

Media: (circle) (Surface Soil) Subsurface Soil Other; Sediment Surface Water Ground Water

Sketch of Sample Location



Field Screening Information: 0.0 ppm (open hole reading)

Type of Meter: Thermo 580B PID

Other Field Measurements::

Observations:
Brown fine sand and ~2" gravel/concrete. Taken from just below surface (Dug with spoon). ~2" gravel was spread over a large area & was probably debris from building demo.

SAMPLE COLLECTION EQUIPMENT:

Hand Auger		Trowel	
Core Sampler		Shelby Tube	
Spatula/Spoon	X	Dredge Sampler	
Bowl (stainless)		Kemmerer	
Split-spoon (2" or 3")		Extended Arm	
Encore®		Bailer	
Tube Auger		Backhoe	
Direct		Van Doren Bottle	
Ponar Grab			
Bucket Auger			
Peristaltic Pump			
MacroCore(4 ft or 5 ft)			
Other	X Disposable syringe		

DECONTAMINATION PROECDURE:

DECON. FLUID	USED	DESCRIPTION
Tap water	X	
Alconox	X	
Tap Water		
HNO_3 (1 or 10%)		
Tap Water		
Methanol		
Hexane		
Acetone		
Air Dry		
DI Water		
Air Dry		
None		

ANALYTICAL PARAMETERS	Filtered (circle)	Preservation Method	Volume/Container	Time of Collection	Sample ID
X VOCs	YES (NO)	DI MeOH (Ice)	2 40mL VOA 1 40mL VOA	1100	SS-5
X PAHs	YES (NO)	None (Ice)	8 oz Amber	1100	SS-5
X Total Nickel	YES (NO)	None (Ice)	8 oz Amber	1100	SS-5
X Total & Chromium	YES (NO)	None (Ice)	8 oz Amber	1100	SS-5
	YES NO		(one 8 oz total for SS-5)		
	YES NO				

L2005-533

Rev: 25 January 2002

Signed: James D. Grundy

TRC Sample Log Sheet

Project:	Project No.:	Date/Time:	Sheet
Payne Cutlery	172744	336 04/02/10 1110	1 of 1

Contractor Personnel:	TRC Personnel:
N/A	J. Grundy

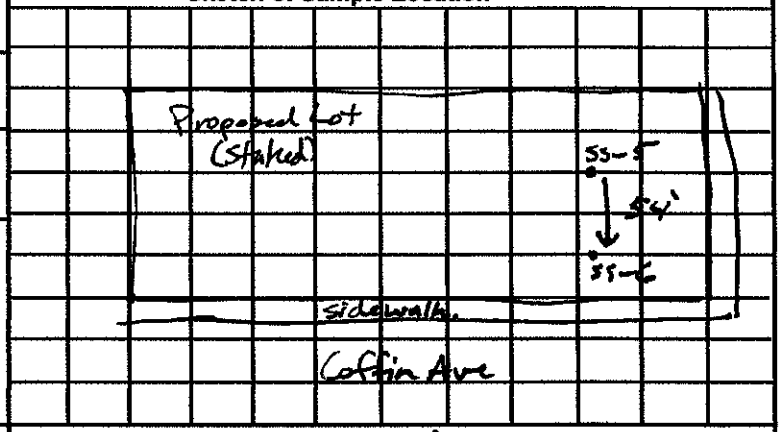
Sample No.: SS-6

Depth/Interval Sampled: 0-1'

Sample Type: (Grab) Composite Both (circle)

Media: (Surface Soil) Subsurface Soil Other; Sediment Surface Water Ground Water (circle)

Sketch of Sample Location



Field Screening Information: 0.0 ppm (open hole reading)

Type of Meter: Thermo 580 B PID

Other Field Measurements::

Observations: Brown fine sand, with some rocks (~3"), (loose) topsoil-like. Numerous worms present.

Taken from just under surface (dug with spoon).

SAMPLE COLLECTION EQUIPMENT:

Hand Auger		Trowel	
Core Sampler		Shelby Tube	
Spatula/Spoon	X	Dredge Sampler	
Bowl (stainless)		Kemmerer	
Split-spoon (2" or 3")		Extended Arm	
Encore®		Bailer	
Tube Auger		Backhoe	
Direct		Van Doren Bottle	
Ponar Grab			
Bucket Auger			
Peristaltic Pump			
MacroCore(4 ft or 5 ft)			
Other	X Disposable syringe		

DECONTAMINATION PROECDURE:

DECON. FLUID	USED	DESCRIPTION
Tap water	X	
Alconox	X	
Tap Water		
HNO_3 (1 or 10%)		
Tap Water		
Methanol		
Hexane		
Acetone		
Air Dry		
DI Water		
Air Dry		
None		

ANALYTICAL PARAMETERS	Filtered (circle)	Preservation Method	Volume/Container	Time of Collection	Sample ID
☒ VOCs	YES (NO)	DI MeOH (Ice)	2 40 mL VOA 1 40 mL VOA	1110	SS-6
☒ PAHs	YES (NO)	None (Ice)	8 oz Amber	1110	SS-6
☒ Total Nickel	YES (NO)	None (Ice)	8 oz Amber	1110	SS-6
☒ Total Chromium	YES (NO)	None (Ice)	8 oz Amber	1110	SS-6
☐	YES NO		(one 8 oz Amber total for SS-6)		
☐	YES NO				

Rev. 25 January 2002

L2005-533

Signed: James D. Grundy

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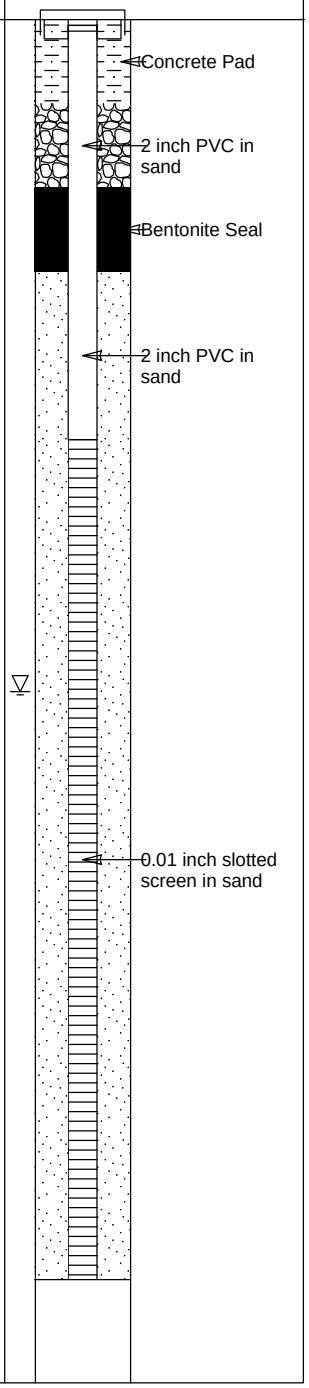
BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 172744
BORING/WELL NUMBER TRC-1
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN New England Geotech/Steve Perry
DATE DRILLED 3/23/2012
LOCATION West side of Oneko Lane
SAMPLING METHOD 60" Macrocore
DRILLING METHOD Geoprobe - direct push
NOTES No soil samples collected

SCREEN TYPE/SLOT 10 slot PVC screen
FILTER PACK TYPE Sand
SEAL TYPE Bentonite
DEPTH TO WATER (Approximate Feet) 8
TOTAL DEPTH (Feet) 16
GROUND ELEVATION (Feet) NA
REFERENCE ELEVATION (Feet) NA

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME
					Vactored to 5 feet to clear boring for utilities		
5		60/43	S-1		6" Dark brown fine to medium SAND wiith brick and coal fragments		
6					37" Tan Fine to medium SAND with some gravel, moist-wet	0.4/0.5	
9						0.4/0.5	
10		60/43	S-2		25" Brown fine to medium SAND, loose and dry		
11						0.4/0.5	
13					18" Tan fine to coarse SAND and gravel, saturatued, very dense		
14						0.4/0.6	
15					End of Boring at 15 feet		

WELL DIAGRAM



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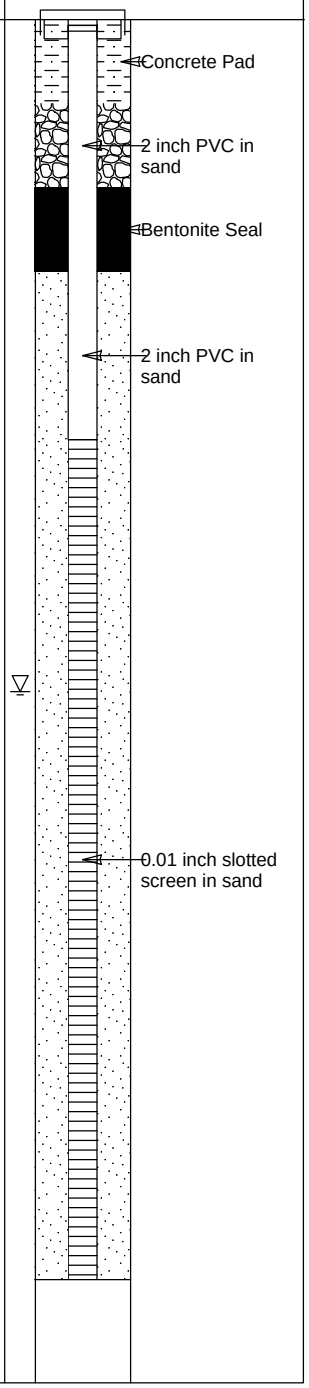
BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 172744
BORING/WELL NUMBER TRC-2
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN New England Geotech/Steve Perry
DATE DRILLED 3/23/2012
LOCATION North-central side of Taber Mill
SAMPLING METHOD 60" Macrocore
DRILLING METHOD Geoprobe - direct push
NOTES No soil samples collected

SCREEN TYPE/SLOT 10 slot PVC screen
FILTER PACK TYPE Sand
SEAL TYPE Bentonite
DEPTH TO WATER (Approximate Feet) 8
TOTAL DEPTH (Feet) 16
GROUND ELEVATION (Feet) NA
REFERENCE ELEVATION (Feet) NA

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME
					Vactored to 5 feet to clear boring for utilities		
5		60/50	S-1		20" Tan fine to medium SAND, pea-sized gravel, moderately loose	0.5/0.5	
7					30" Tan fine to medium SAND, pea-sized gravel, very dense (TILL), moist to wet at 8'	0.4/0.8	
10		60/47	S-2		20" Brown fine to medium SAND, some gravel, saturated	0.4/1.5	
12					2" Crushed gray to pink GRANITE		
13					25" Tan fine SAND, some silt and medium sand, dense	0.4/5.4	
15					End of Boring at 15 feet		



BORING/WELL CONSTRUCTION LOG

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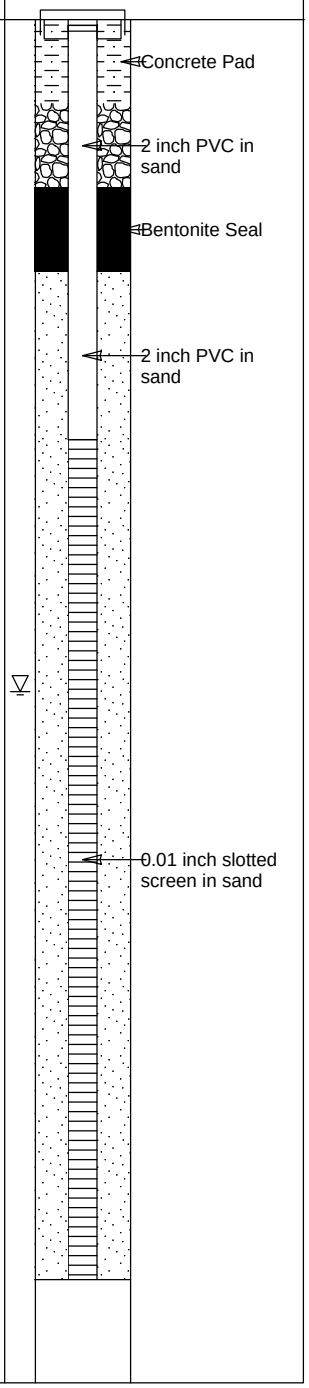
CLIENT/PROJECT NUMBER 172744
BORING/WELL NUMBER TRC-3
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN New England Geotech/Steve Perry
DATE DRILLED 3/23/2012
LOCATION Northeast side of Taber Mill
SAMPLING METHOD 60" Macrocore
DRILLING METHOD Geoprobe - direct push
NOTES No soil samples collected

SCREEN TYPE/SLOT 10 slot PVC screen
FILTER PACK TYPE Sand
SEAL TYPE Bentonite
DEPTH TO WATER (Approximate Feet) 8
TOTAL DEPTH (Feet) 16
GROUND ELEVATION (Feet) NA
REFERENCE ELEVATION (Feet) NA

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME
					Vactored to 5 feet to clear boring for utilities		
5		60/50	S-1		10" Dark brown fine to medium SAND		
6					40" Tan fine to medium SAND and gravel, very dense (TILL), moist to wet	0.5/0.4	
9						0.5/5.0	
10		60/25	S-2		25" Tan fine to coarse SAND, some pea-sized gravel, some medium gravel, much looser than the interval above, saturated		
11						0.5/42.7	
14						0.8/21.9	
15					End of Boring at 15 feet		

WELL DIAGRAM



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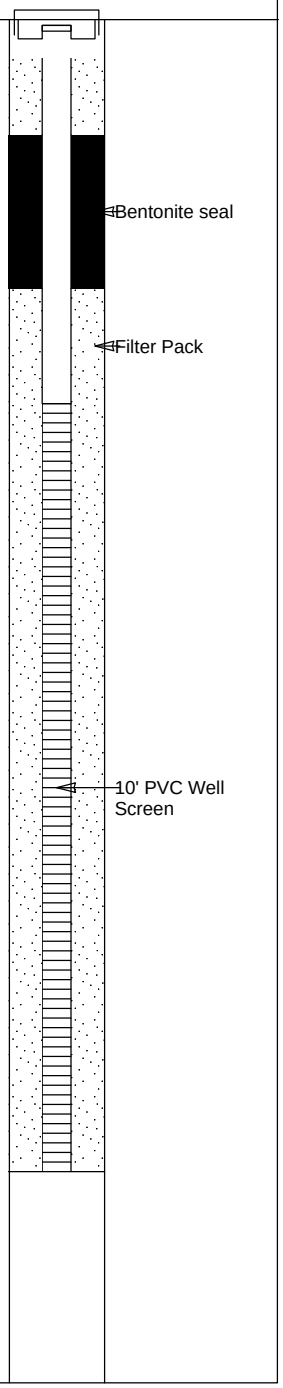
BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 172744
BORING/WELL NUMBER TRC-3R
TRC GEOLOGIST Jason Fiero
DRILLING CONTRACTOR/FOREMAN GeoSearch/
DATE DRILLED 2/11/2013
LOCATION Replacement well for TRC-3 North of Taber Mills Facility
SAMPLING METHOD Not sampled
DRILLING METHOD Vactor and Hollow-Stem Auger (CME-75)
NOTES

SCREEN TYPE/SLOT 10' 2" PVC (10-Slot)
FILTER PACK TYPE Silica Sand
SEAL TYPE 2' Bentonite
DEPTH TO WATER (Approximate Feet) 7.5'
TOTAL DEPTH (Feet) 15
GROUND ELEVATION (Feet)
REFERENCE ELEVATION (Feet) 207.43

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
0					Vactored to 6' to clear for subsurface utilities			
6					No samples Collected Augered to 15'			
15					End of boring 15'			



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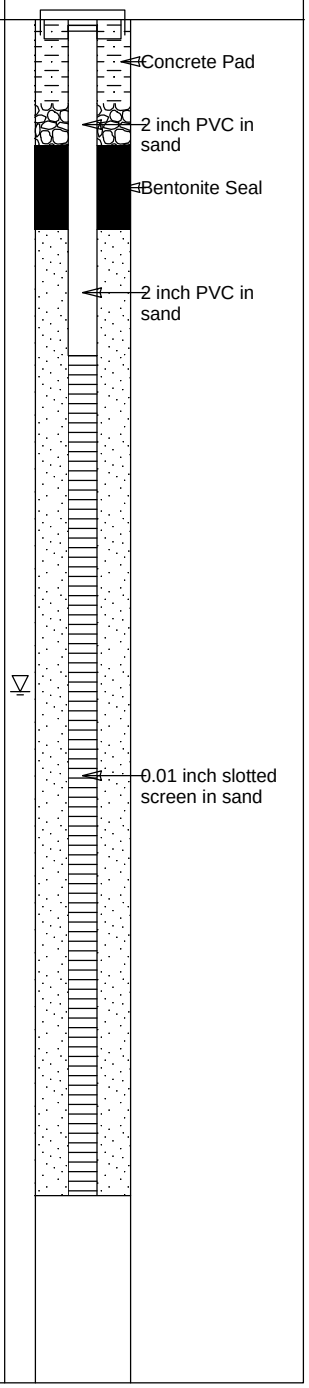
BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 172744
BORING/WELL NUMBER TRC-4
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN New England Geotech/Steve Perry
DATE DRILLED 3/23/2012
LOCATION East side of Taber Mill
SAMPLING METHOD 60" Macrocore
DRILLING METHOD Geoprobe - direct push
NOTES No soil samples collected

SCREEN TYPE/SLOT 10 slot PVC screen
FILTER PACK TYPE Sand
SEAL TYPE Bentonite
DEPTH TO WATER (Approximate Feet) 8
TOTAL DEPTH (Feet) 16
GROUND ELEVATION (Feet) NA
REFERENCE ELEVATION (Feet) NA

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME
					Vactored to 4 feet to clear boring for utilities (material is tan fine to medium SAND and some gravel and cobbles to 3 feet. Material from 3 to 4 feet is the same but denser)		
4		60/50	S-1		15" Tan fine to medium SAND and trave to some gravel, very dense (TILL)		
5						0.5/0.4	
					3" Crushed gray to pink GRANITE		
6					32" Tan fine to medium SAND, some pea-sized gravel, less dense than above. The sleeve is wet at 6 feet below ground surface.		
8						0.4/0.5	
9					The hole was collapsing so the driller was not able to get another sleeve of soil from 9 to 14 feet.		
14					End of Boring at 14 feet		



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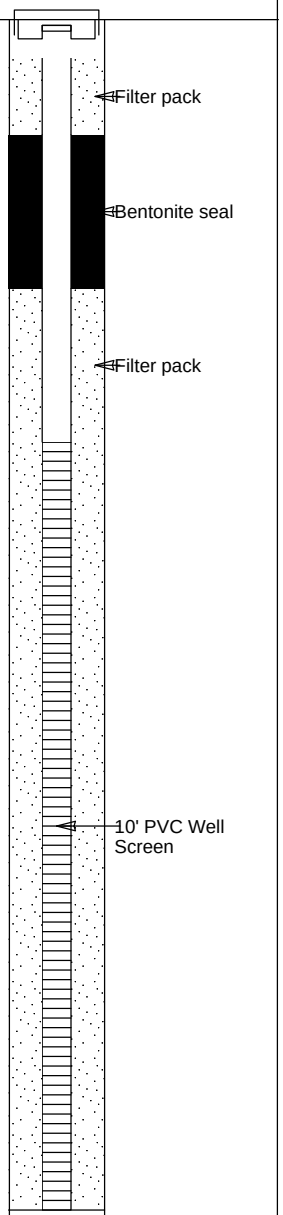
BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 172744
BORING/WELL NUMBER TRC-5
TRC GEOLOGIST Jason Fiero
DRILLING CONTRACTOR/FOREMAN GeoSearch/
DATE DRILLED 2/11/13
LOCATION Taber Mills Parking Lot north of Coffin Ave.
SAMPLING METHOD Stainless Steel Split Spoon
DRILLING METHOD Vactor and Hollow-Stem Auger (CME-75)
NOTES Sampled for VOCs, TOC & PNOD

SCREEN TYPE/SLOT 10' 2" PVC (10-Slot)
FILTER PACK TYPE Silica Sand
SEAL TYPE 2' Bentonite
DEPTH TO WATER (Approximate Feet) 6'
TOTAL DEPTH (Feet) 15.5
GROUND ELEVATION (Feet)
REFERENCE ELEVATION (Feet) 207.88

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME
0					Vactored to 5' to clear for subsurface utilities		
5	9 16 24 30	18	S-1		18" Tan to brown fine to coarse sand with some silt and some to little subangular medium gravel, dry to moist, chlorinated-solvent odor	73 ppm	
7	30 30 58 28	20	S-2		20" Grey-brown to red-orange brown mottled silt with some fine to coarse sand and subangular medium to coarse gravel, very dense, moist to wet, heavy chlorinated-solvent odor.	571 ppm	TRC-5 (7-9')
9	9 13 18 6	18	S-3		18" Grey-brown silt, fine sand, and some to little medium to coarse sand and medium subangular gravel, saturated. Coarse sand and gravel seam at 10-10.5'	521 ppm	
11	18 18 18 18	24	S-4		24" Grey and orange-brown silt and fine sand, dense, moderately well-sorted with some to little coarse to medium sand and fine to medium sub-angular to subrounded gravel seams, saturated, low odor	18-23 ppm	TRC-5 (11-13)
13	6 7 2 11	14	S-5		14" Tan fine sand with some silt, saturated, chlorinated solvent odor	301-740 ppm	
15	50 50	6	S-6		6" Weathered bedrock End of boring at 15.5'	545 ppm	TRC-5 (15-15.5)



Wannalancit Mills
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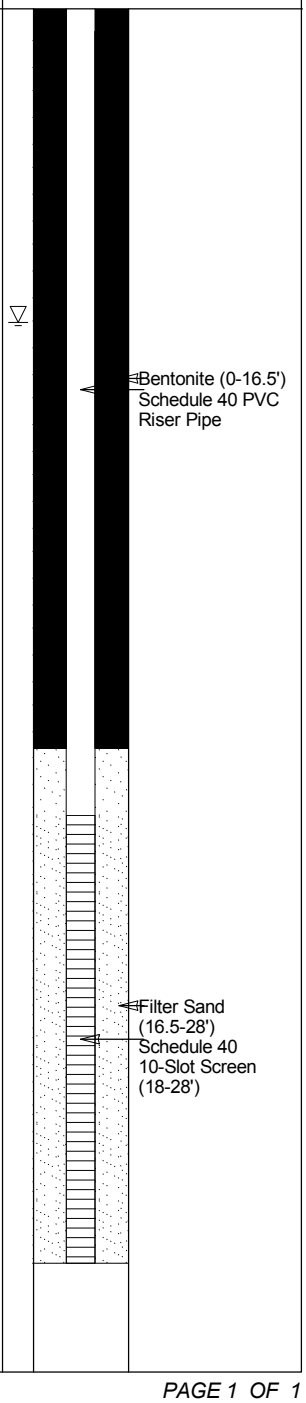
BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 172744
BORING/WELL NUMBER TRC-5D
TRC GEOLOGIST J.Robinson
DRILLING CONTRACTOR/FOREMAN Geosearch/M.DeAmies & J.Keenan
DATE DRILLED 8/5/2013 & 8/6/2013
LOCATION 10 feet East of TRC-5
SAMPLING METHOD HQ Core Barrel
DRILLING METHOD 6" Augers/5" Temp Casing/3" HQ Core/4 to 6" Roller Bit
NOTES Augers (0-12.83'), Roller Bit (12.83-15.5'), Core (15.5-28')

SCREEN TYPE/SLOT Sch. 40 PVC (10-slot (18-28')
FILTER PACK TYPE Filter Sand (16.5-28')
SEAL TYPE Benotnite Grout (0-16.5')
DEPTH TO WATER (Approximate Feet) 7
TOTAL DEPTH (Feet) 28
GROUND ELEVATION (Feet) NA
REFERENCE ELEVATION (Feet) NA

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	Sample Type/#	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME
0					3" ASPHALT.		
1					Dark brown fine to coarse SAND, trace fill (coal, brick), dry.		
2					-No evidence of potassium permanganate in soils.	Soil - HS 44.2	
3							
4							
5					Tan/brown fine to medium SAND, some silt, little gravel, trace fill (coal, brick), moist-wet.		
6							
7					-GW at approximately 7 feet.		
8					-No evidence of potassium permanganate in soils.		
9						Soil - HS 40.0	
10					Tan/brown SILTY SAND, saturated.		
11					-No evidence of potassium permanganate in soils.		
12						Soil - HS 28.0	
13					Pink to gray SCHIST, heavily weathered, heavily fractured.		
14					-Potential potassium permanganate staining (pink).		No Analytical Samples Collected
15							
16					Gray BIOTITE SCHIST, heavily fractured (rubbled), heavily weathered (iron staining).		
17		RQD:36% (15.5-20.5)			Gray BIOTITE SCHIST, decreased fracture abundance and weathering (iron staining). Fractures up to ~85-degrees to core axis.	Water - HS 0.7	
18							
19					Pink changing to gray BIOTITE SCHIST. Competency increasing with depth. Fractures (natural and mechanical) generally parallel to foliation. Fractures nearly vertical to core axis at ~18.3 and 20.5'. Some moderate to heavy weathering (iron staining).		
20							
21					Gray BIOTITE SCHIST. Fractures generally parallel to foliation (~45-degrees to core axis). Moderate to heavily weathered fracture at 23.5'		
22		RQD:72% (20.5-25.5)				Water - 0.5	
23							
24							
25							
26		RQD:95% (25.5-28)			Gray BIOTITE SCHIST. Fractures (both natural and mechanical) generally parallel to foliation. Minor weathering (iron staining) of natural fractures.		
27						Water - 0.0	
28					End of boring at 28 feet.		



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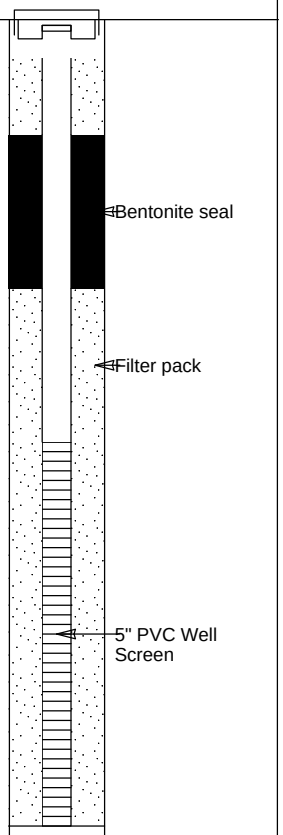
BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 172744
BORING/WELL NUMBER TRC-6
TRC GEOLOGIST Jason Fiero
DRILLING CONTRACTOR/FOREMAN GeoSearch/
DATE DRILLED 2/11/2013
LOCATION Along eastern side of Taber Mills facility
SAMPLING METHOD Stainless Steel Split Spoon
DRILLING METHOD Vactor and Hollow-Stem Auger (CME-75)
NOTES

SCREEN TYPE/SLOT 5' 2" PVC (10-Slot)
FILTER PACK TYPE Silica Sand
SEAL TYPE 2' Bentonite
DEPTH TO WATER (Approximate Feet) 7'
TOTAL DEPTH (Feet) 10.5
GROUND ELEVATION (Feet)
REFERENCE ELEVATION (Feet) 206.17

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME
					Vactored to 8' to clear for subsurface utilities		
3		NA	S-1		Brown fine to coarse sand, some medium gravel		
8	9 14 50	14	S-1		10" Tan fine to coarse sand, some silt, and fine to medium gravel, subangular to subrounded, saturated	8.9 ppm	
9					4" Fragments of grey weathered bedrock		
					15" Weathered bedrock	1.5 ppm	
					End of Boring at 10.5', HSA refusal		

WELL DIAGRAM



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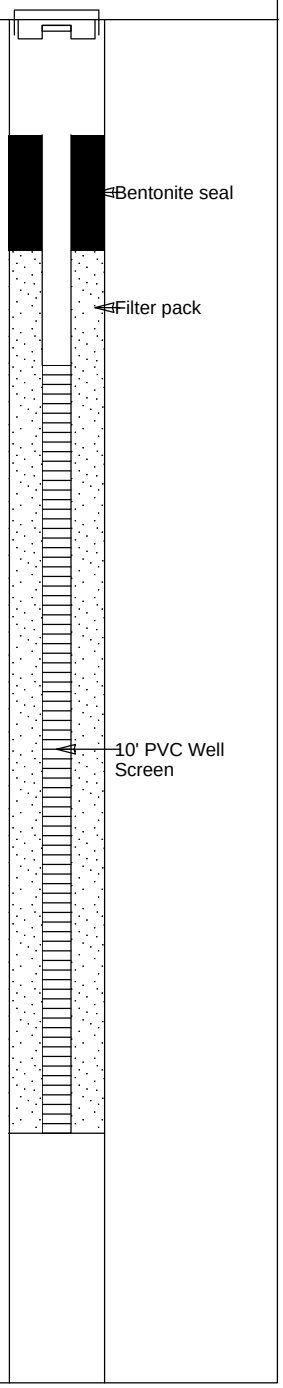
BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 172744
BORING/WELL NUMBER TRC-7
TRC GEOLOGIST Jason Fiero
DRILLING CONTRACTOR/FOREMAN GeoSearch/
DATE DRILLED 2/12/2013
LOCATION Off Southeast Corner of Taber Mills Facility
SAMPLING METHOD 60" Macrocore
DRILLING METHOD Geoprobe (6610 DT)
NOTES

SCREEN TYPE/SLOT 10' 2" PVC (10-Slot)
FILTER PACK TYPE Silica Sand
SEAL TYPE 2' Bentonite
DEPTH TO WATER (Approximate Feet) 5.75'
TOTAL DEPTH (Feet) 15
GROUND ELEVATION (Feet)
REFERENCE ELEVATION (Feet) 199.84

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME
0					Vactored to 5' to clear for subsurface utilities		
5		22	S-1		22" Brown to light grey fine to coarse silty sand with some subangular fine to coarse gravel	0.0 ppm	
10		60	S-2		60" Brown-orange mottled fine sand and silt with some little medium to coarse sand and little to trace fine to medium subangular to subrounded gravel, saturated	0.0 ppm	
15							



BORING/WELL CONSTRUCTION LOG

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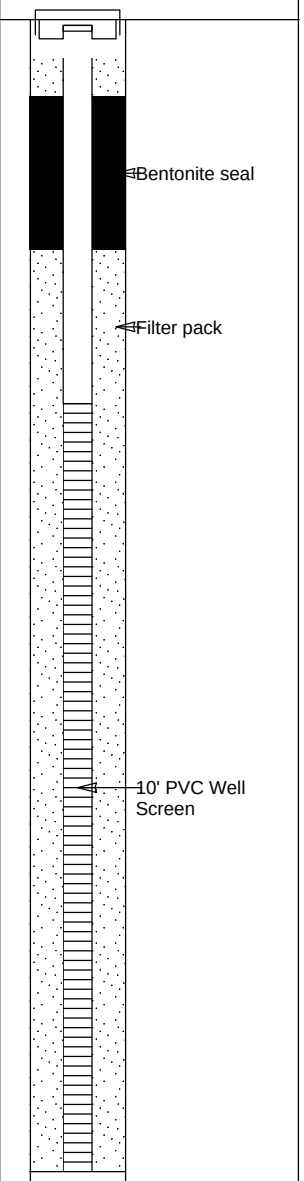
CLIENT/PROJECT NUMBER 172744
BORING/WELL NUMBER TRC-8
TRC GEOLOGIST Jason Fiero
DRILLING CONTRACTOR/FOREMAN GeoSearch/
DATE DRILLED 2/12/2013
LOCATION Off Southeast Corner of Taber Mills Facility
SAMPLING METHOD 60" Macrocore
DRILLING METHOD Geoprobe (6610 DT)
NOTES Sampled for VOCs

SCREEN TYPE/SLOT 10' 2" PVC (10-Slot)
FILTER PACK TYPE Silica Sand
SEAL TYPE 2' Bentonite
DEPTH TO WATER (Approximate Feet) 7'
TOTAL DEPTH (Feet) 17
GROUND ELEVATION (Feet)
REFERENCE ELEVATION (Feet) 200.29

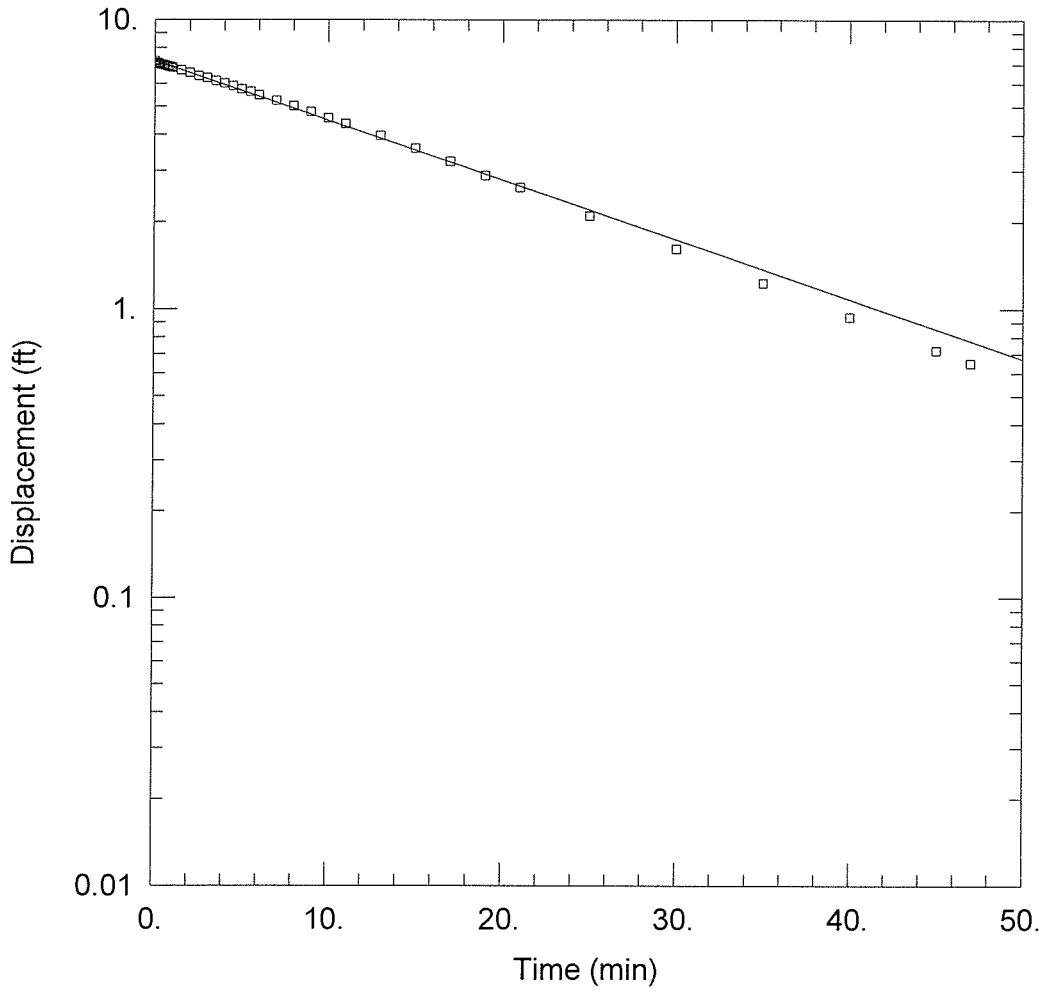
DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME
0					Vactored to 5' to clear for subsurface utilities		
5		28	S-1		28" Tan-grey brown silt with some fine sand, some to little medium to coarse sand and angular to subangular gravel, dry to wet	2.2 ppm 0 ppm 0 ppm	
10		60	S-2		Grey-brown fine to coarse silty sand, little to some subangular medium gravel, saturated	1.5-2.2 ppm	
12					Tan-orange brown mottled fine sand and silt with some medium to coarse sand and subangular to angular gravel, saturated	12.6 ppm	
14					Dark brown to red-brown fine sand, little to trace medium to coarse sand and medium subangular gravel	61 ppm	TRC-8 (13.5-15)
15		24	S-3		Orange-brown fine sand	44 ppm	
16					Tan silt and weather bedrock	32 ppm	
17					End of Boring at 17', macrocore refusal		

WELL DIAGRAM



APPENDIX E

BULK HYDRAULIC CONDUCTIVITY CALCULATION



RISING HEAD SLUG TEST - TRC-5

Data Set: S:\ENV RMD Projects\Payne Cutlery\RH TRC-5br.aqt
Date: 08/09/13 Time: 11:35:40

PROJECT INFORMATION

Company: TRC Environmental Corporation
Client: Payne Cutlery
Test Location: New Bedford, MA
Test Well: TRC-5
Test Date: July 2013

AQUIFER DATA

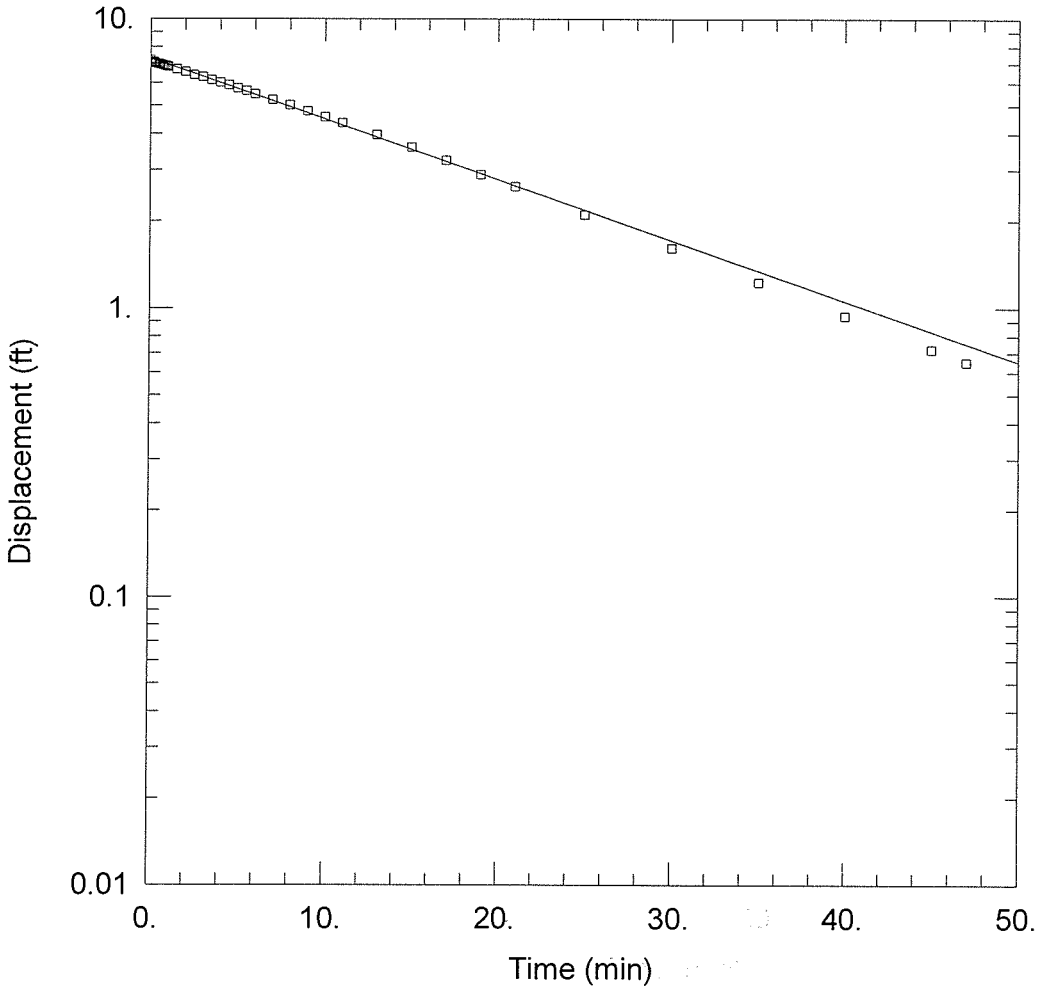
Saturated Thickness: 8. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (TRC-5)

Initial Displacement: 7.2 ft
Wellbore Radius: 0.3 ft
Screen Length: 8. ft
Gravel Pack Porosity: 0.3
Casing Radius: 0.083 ft
Well Skin Radius: 0.3 ft
Total Well Penetration Depth: 8. ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 2.56E-05 cm/sec
y0 = 7.194 ft



RISING HEAD SLUG TEST - TRC-5

Data Set: S:\ENV RMD Projects\Payne Cutlery\RH TRC-5hv.aqt
Date: 08/09/13 Time: 11:35:55

PROJECT INFORMATION

Company: TRC Environmental Corporation
Client: Payne Cutlery
Test Location: New Bedford, MA
Test Well: TRC-5
Test Date: July 2013

AQUIFER DATA

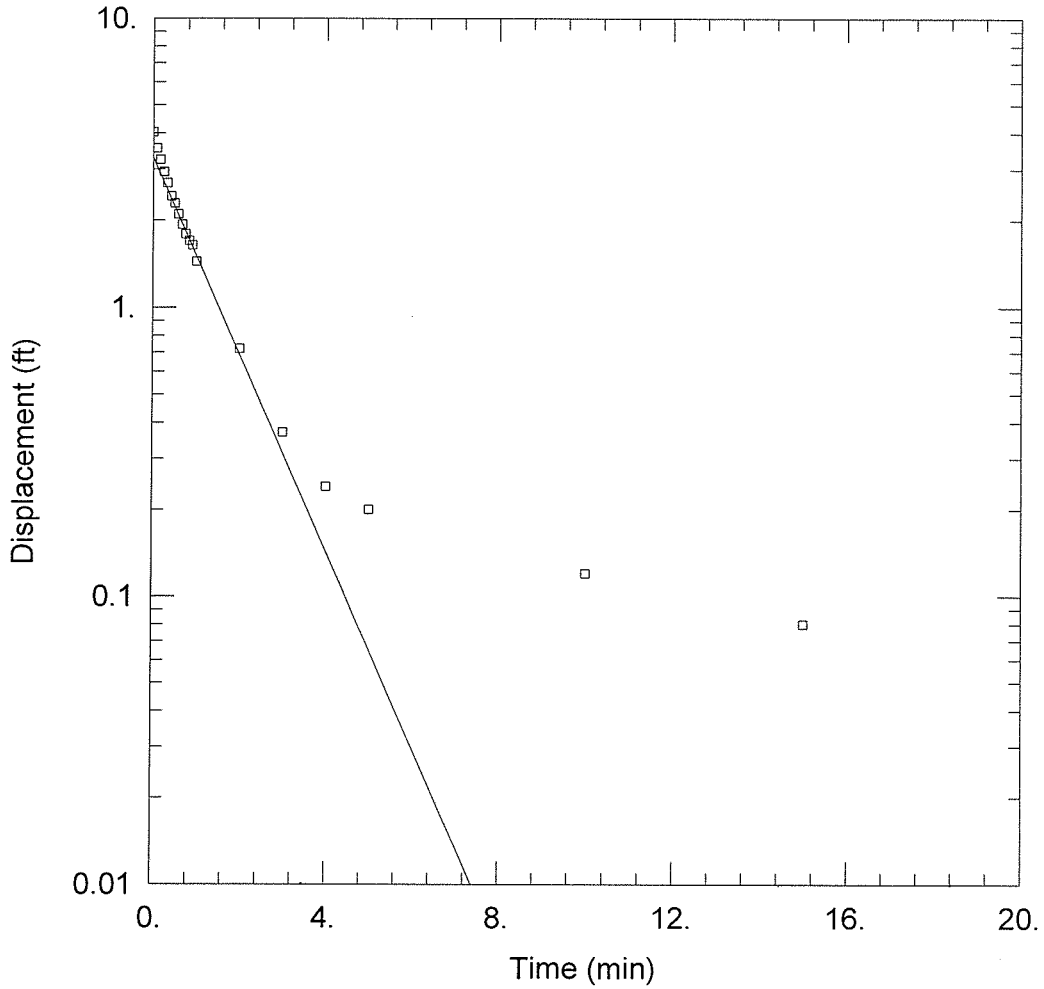
Saturated Thickness: 8. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (TRC-5)

Initial Displacement: 7.2 ft
Wellbore Radius: 0.3 ft
Screen Length: 8. ft
Gravel Pack Porosity: 0.3
Casing Radius: 0.083 ft
Well Skin Radius: 0.3 ft
Total Well Penetration Depth: 8. ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 3.471E-05 cm/sec
y0 = 7.286 ft



RH SLUG TEST TRC-5D BOUWER AND RICE METHOD TEST 1

Data Set: S:\ENV RMD Projects\Payne Cutlery\TRC5dtest1rhbr.aqt
Date: 08/09/13 Time: 12:24:41

PROJECT INFORMATION

Company: TRC Environmental Corporation
Client: Payne Cutlery
Test Location: New Bedford, MA
Test Well: TRC-5D
Test Date: July 2013

AQUIFER DATA

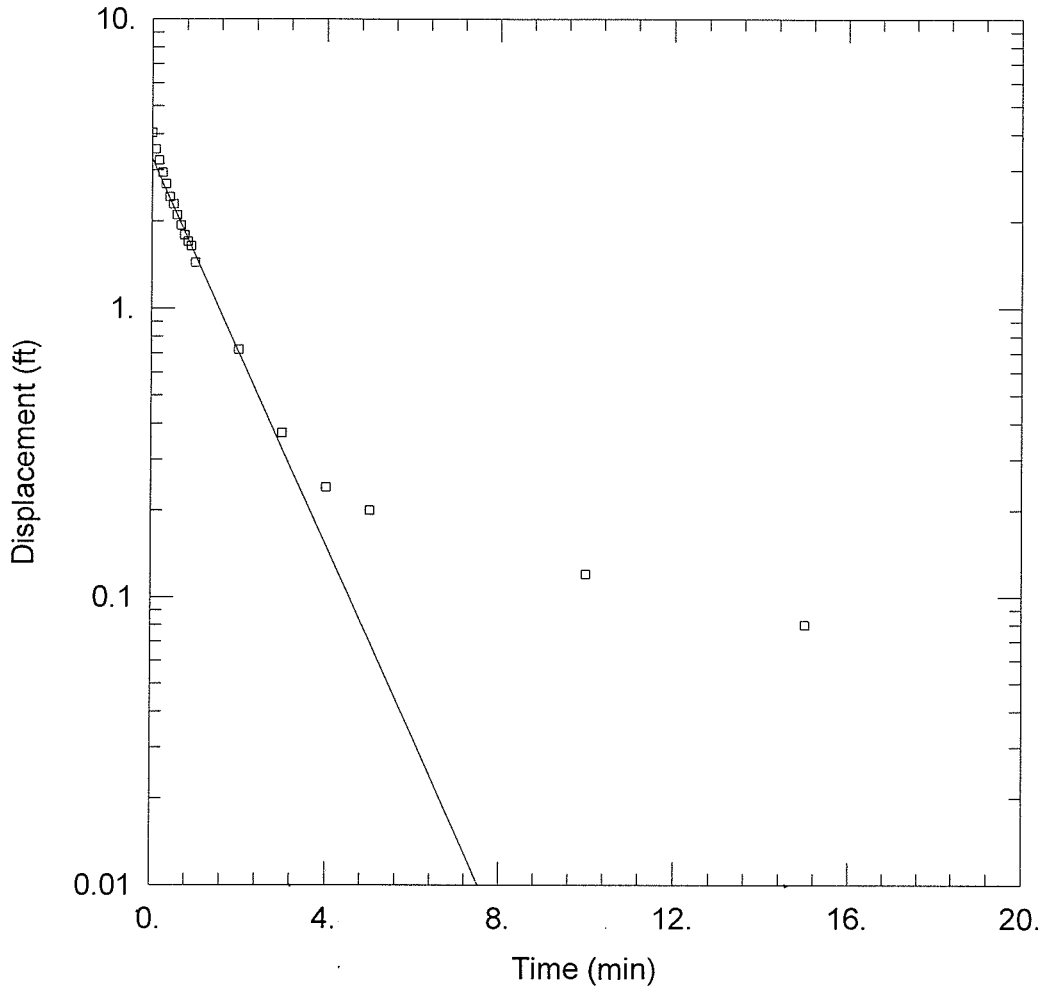
Saturated Thickness: 11.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (TRC-5D)

Initial Displacement: 4.04 ft
Wellbore Radius: 0.17 ft
Screen Length: 11.5 ft
Gravel Pack Porosity: 0.3
Casing Radius: 0.083 ft
Well Skin Radius: 0.17 ft
Total Well Penetration Depth: 11.5 ft

SOLUTION

Aquifer Model: Confined
K = 0.0003854 cm/sec
Solution Method: Bouwer-Rice
y0 = 3.288 ft



RH SLUG TEST TRC-5D HVORSLEV METHOD TEST 1

Data Set: S:\ENV RMD Projects\Payne Cutlery\TRC5dtest1rhHV.aqt
Date: 08/09/13 Time: 12:28:21

PROJECT INFORMATION

Company: TRC Environmental Corporation
Client: Payne Cutlery
Test Location: New Bedford, MA
Test Well: TRC-5D
Test Date: July 2013

AQUIFER DATA

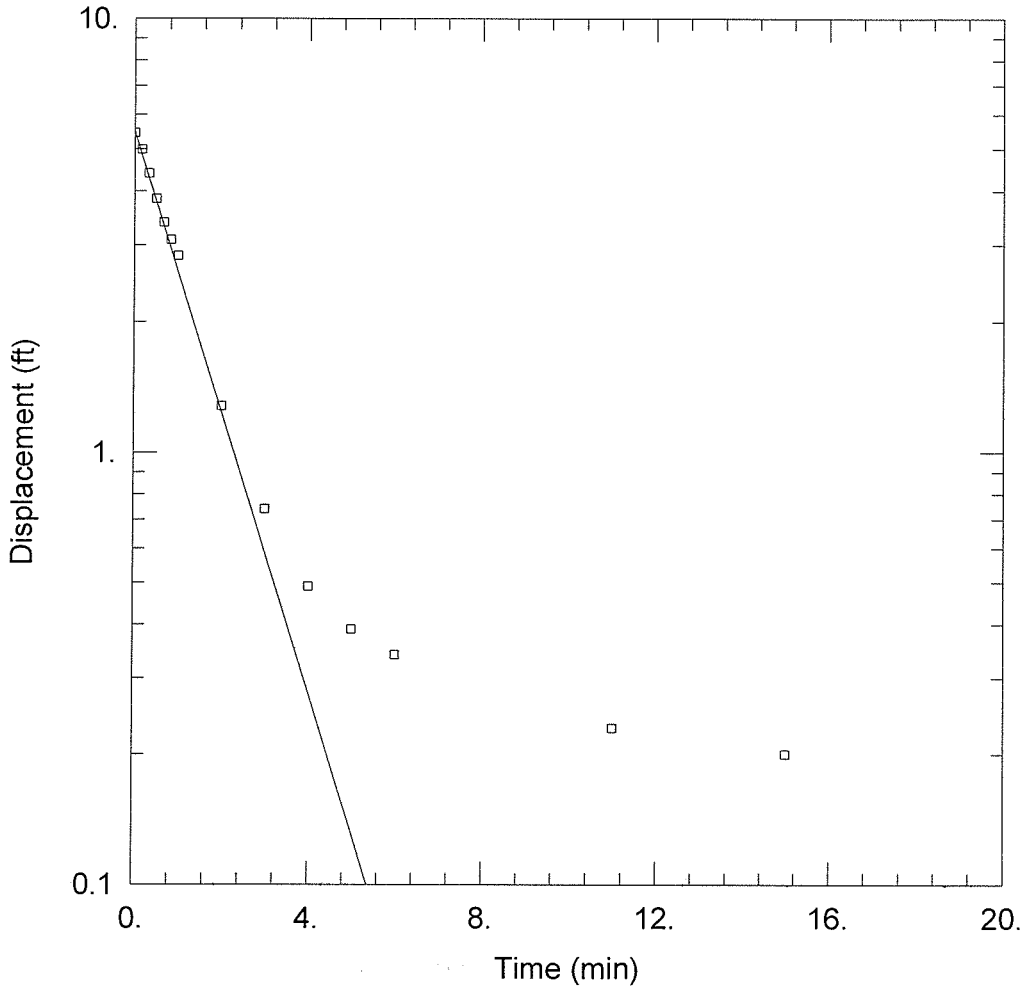
Saturated Thickness: 11.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (TRC-5D)

Initial Displacement: 4.04 ft
Wellbore Radius: 0.17 ft
Screen Length: 11.5 ft
Gravel Pack Porosity: 0.3
Casing Radius: 0.083 ft
Well Skin Radius: 0.17 ft
Total Well Penetration Depth: 11.5 ft

SOLUTION

Aquifer Model: Confined
K = 0.0004938 cm/sec
Solution Method:
y0 = 3.293 ft



RH SLUG TEST TRC-5D BOUWER AND RICE METHOD TEST 2

Data Set: S:\ENV RMD Projects\Payne Cutlery\trc5dtest2br.aqt
Date: 08/09/13 Time: 12:47:34

PROJECT INFORMATION

Company: TRC Environmental Corporation
Client: Payne Cutlery
Test Location: New Bedford, MA
Test Well: TRC-5D
Test Date: July 2013

AQUIFER DATA

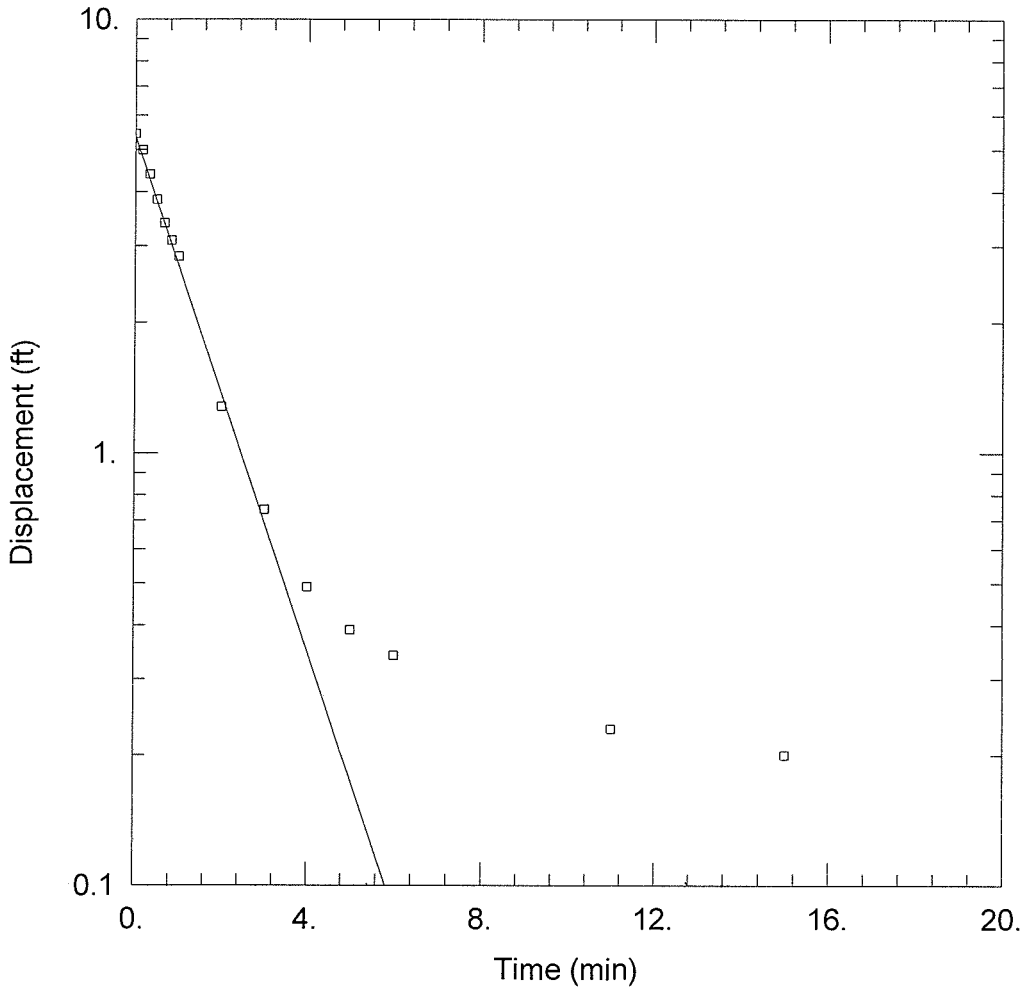
Saturated Thickness: 11.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (TRC-5D)

Initial Displacement: 5.44 ft
Wellbore Radius: 0.17 ft
Screen Length: 11.5 ft
Gravel Pack Porosity: 0.3
Casing Radius: 0.083 ft
Well Skin Radius: 0.17 ft
Total Well Penetration Depth: 11.5 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 0.0003664 cm/sec
y0 = 5.479 ft



RH SLUG TEST TRC-5D HVORSLEV METHOD TEST 2

Data Set: S:\ENV RMD Projects\Payne Cutlery\trc5dtest2br.aqt
Date: 08/09/13 Time: 12:44:04

PROJECT INFORMATION

Company: TRC Environmental Corporation
Client: Payne Cutlery
Test Location: New Bedford, MA
Test Well: TRC-5D
Test Date: July 2013

AQUIFER DATA

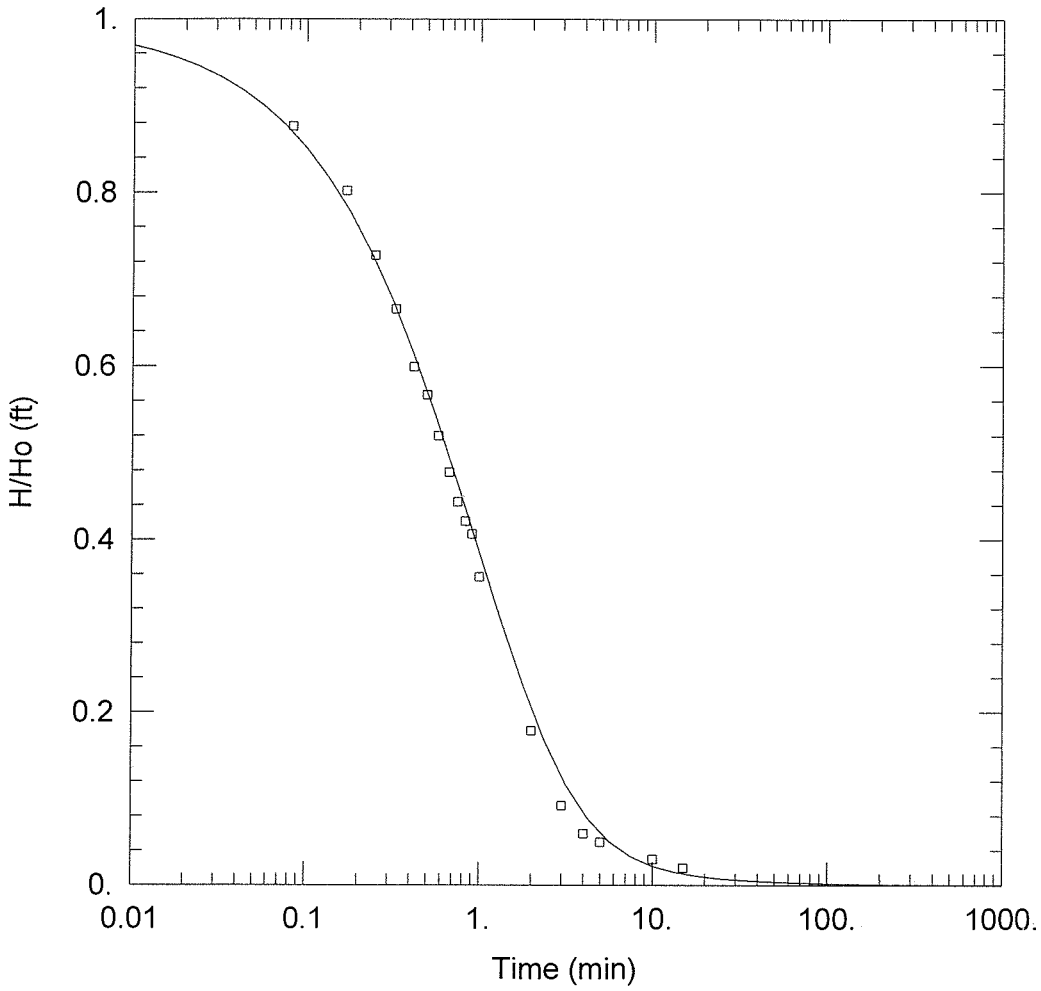
Saturated Thickness: 11.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (TRC-5D)

Initial Displacement: 5.44 ft
Wellbore Radius: 0.17 ft
Screen Length: 11.5 ft
Gravel Pack Porosity: 0.3
Casing Radius: 0.083 ft
Well Skin Radius: 0.17 ft
Total Well Penetration Depth: 11.5 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Hvorslev
K = 0.000438 cm/sec
y0 = 5.349 ft



RH SLUG TEST TRC-5D KGS METHOD TEST 1

Data Set: S:\ENV RMD Projects\Payne Cutlery\TRC5dtest1rhkgs.aqt
Date: 08/09/13 Time: 12:23:41

PROJECT INFORMATION

Company: TRC Environmental Corporation
Client: Payne Cutlery
Test Location: New Bedford, MA
Test Well: TRC-5D
Test Date: July 2013

AQUIFER DATA

Saturated Thickness: 11.5 ft

WELL DATA (TRC-5D)

Initial Displacement: 4.04 ft
Wellbore Radius: 0.17 ft
Screen Length: 11.5 ft
Gravel Pack Porosity: 0.3

Casing Radius: 0.083 ft
Well Skin Radius: 0.17 ft
Total Well Penetration Depth: 11.5 ft

SOLUTION

Aquifer Model: Confined
Solution Method: KGS Model

Kr = 0.0004745 cm/sec
Kz/Kr = 1.

Ss = 8.696E-05 ft^{-1}

APPENDIX F

DATA USABILITY ASSESSMENT REPORTS

Data Usability Assessment

Former Payne Cutlery Site
New Bedford, MA
Prepared: May 2, 2012

A. Overall Summary

The data associated with groundwater samples collected on April 4, 5 and 11, 2012 and soil gas samples collected on April 4 and 5, 2012 were reviewed. In general, data are usable for MCP decisions based on a review of accuracy, precision, and sensitivity of the data. Although there were select quality control (QC) nonconformances, the data are valid as reported and may be used for decision-making purposes with the following cautions or limitations.

- Potential high bias exists for C_5-C_8 aliphatics in sample CGW-8 due to the presence of trichloroethene which elutes in this hydrocarbon range. This result is most likely a false positive result due to the elevated concentration of trichloroethene present in this sample. Therefore, this result should not be attributed to petroleum hydrocarbons or used for decision-making purposes at this location.

- Caution should be used with the vinyl chloride results in samples TRC-1, CGW-11, CGW-14, CGW-15, and CGW-16 due to low recoveries in the LCS and LCS Duplicate analyses. The nondetect results for vinyl chloride in these samples are equivalent to one of the project action levels (Method 1 GW-2 standard) and therefore the decision-making process may be affected by the low bias. Caution should be used with these results as the actual results could be above the quantitation limits and thus above the project action level.

- Caution should be used with the vinyl chloride results in samples CGW-10, CGW-11 and CGW-17 due to variability in the LCS and LCS Duplicate analyses. The nondetect results for vinyl chloride in these samples are equivalent to one of the project action levels (Method 1 GW-2 standard) and therefore the decision-making process may be affected by the variability. Caution should be used with these results as the actual results could be above the quantitation limits and thus above the project action level.

Groundwater Samples Included in the Data Usability Assessment: TRC-1, TRC-2, TRC-3, TRC-4, CGW-8, CGW-10, CGW-11, CGW-14, CGW-15, CGW-16, CGW-17

Soil Gas Samples Included in the Data Usability Assessment: 357-Coffin-1, 357-Coffin-2, 358-Coffin-1, 358-Coffin-2, 362-Coffin-1, 362-Coffin-2, 364-Coffin-1, 364-Coffin-2, 6-Oneka-1, 6-Oneka-2, 10-Oneka-1, 10-Oneka-2

Field Duplicates: 6-Oneka-1 (VOCs, APH), CGW-8 (VOCs, VPH, EPH)

Groundwater Analyses Performed: VOCs, VPH, EPH
Soil Gas Analyses Performed: VOCs, APH

B. Sensitivity Evaluation

With the exception of 1,2-dibromoethane, sensitivity was acceptable for all analyses of soil gas samples (i.e., quantitation limits [QLs] for all nondetect results were below the applicable Residential Sub-slab Soil Gas Screening Values from the December 2011 MassDEP Interim Final Vapor Intrusion Guidance). Since 1,2-dibromoethane is not a contaminant of concern at this site based on site history, this sensitivity issue does not have a significant impact on the data usability or decision-making process.

Sensitivity was acceptable for the VPH and EPH analyses of groundwater samples (i.e., QLs for all nondetect results were below the applicable Method 1 GW-2 and GW-3 groundwater standards). Sensitivity was not acceptable for select VOCs (i.e., nondetect results exhibited QLs above the applicable Method 1 GW-2 and/or GW-3 standards). The following table summarizes the affected samples and compounds.

Compound Affected	**Affected Samples**	**Method 1 Standard (ug/L)**	**Quantitation Limit Range (ug/L)**
Bromodichloromethane	CGW-8, TRC-3, TRC-4	GW-2: 6	20-500
Bromomethane	CGW-8, TRC-2, TRC-3, TRC-4	GW-2: 7 GW-3: 800	10-2500
Carbon tetrachloride	CGW-8, TRC-3, TRC-4	GW-2: 2	20-500
Chlorobenzene and 1,4-dichlorobenzene	CGW-8	GW-2: 200	500
Chlorodibromomethane	CGW-8	GW-2: 20	250
Chloroform	CGW-8	GW-2: 50	1000
1,2-Dibromoethane	CGW-8, TRC-3, TRC-4	GW-2: 2	10-250
1,2-Dichloroethane	CGW-8, TRC-3, TRC-4	GW-2: 5	20-500
1,1-Dichloroethylene	CGW-8	GW-2: 80	500
Styrene	CGW-8	GW-2: 100	500
Trans-1,2-Dichloroethylene	CGW-8	GW-2: 90	500
1,2-Dichloropropane	CGW-8, TRC-3, TRC-4	GW-2: 3	20-500
Cis & trans-1,3-Dichloropropene	CGW-8	GW-2: 10	200
1,4-Dioxane	CGW-8	GW-2: 6000	50,000
Hexachlorobutadiene	CGW-8, TRC-3, TRC-4	GW-2: 1	10-250
Naphthalene	CGW-8	GW-2: 1000	2500
1,1,1,2-Tetrachloroethane	CGW-8, TRC-3, TRC-4	GW-2: 10	20-500
1,1,2,2-Tetrachloroethane	CGW-8, TRC-3, TRC-4	GW-2: 9	10-250
Vinyl chloride	CGW-8, TRC-2, TRC-3, TRC-4	GW-2: 2	4-1000

In general, the decision-making process was not adversely affected by the sensitivity issues noted above as other detected VOCs exceeded the project action levels in each affected sample.

C. Evaluation of Accuracy and Precision: Groundwater

There were no biases or uncertainty associated with the EPH analyses of groundwater samples. Biases associated with the VOC and VPH analyses of the groundwater samples are discussed below.

C-1. Low-Biased Results: Groundwater Samples

Potential low bias exists for vinyl chloride in samples TRC-1, CGW-11, CGW-14, CGW-15, and CGW-16 due to low recoveries in the LCS and/or LCS Duplicate analyses. The nondetect results for vinyl chloride in these samples should be used with caution due to this low bias. The QLs for the nondetect results are equivalent to one of the project action levels and therefore the potential low bias could affect the decision-making process as the results could be above this project action level if the low bias did not exist.

In general, the overall data usability and decision-making process were not affected by the remaining QC nonconformances, as shown in the table below.

Samples Affected	Analytes Affected	Reason for Low Bias	Reason Data Usability or Decision-making Process Not Affected
TRC-1, TRC-2, TRC-3, TRC-4, CGW-8, CGW-14, CGW-15, CGW-16	Bromomethane, chloromethane, dichlorodifluoromethane	Low recoveries in LCS and/or LCS Duplicate	Affected analytes not contaminants of concern based on site history and/or a project action level does not exist for these analytes.
TRC-2, TRC-3, TRC-4, CGW-8	Vinyl chloride	Low recoveries in LCS and/or LCS Duplicate	Vinyl chloride not detected in affected samples at quantitation limits above the project action levels. Issue addressed under Sensitivity Evaluation; no further effect on data usability due to low bias.
CGW-10, CGW-17	Bromomethane, chloromethane, dichlorodifluoromethane	Low recoveries in LCS and/or LCS Duplicate	Affected analytes not contaminants of concern based on site history and/or a project action level does not exist for these analytes.
CGW-11	Chloromethane, dichlorodifluoromethane, naphthalene, acetone, bromomethane, chloroethane	Low recoveries in LCS and/or LCS Duplicate	Nondetect results for acetone and naphthalene significantly below project action levels in sample CGW-11. Remaining affected analytes not contaminants of concern based on site history and/or a project action level does not exist for these analytes.

C-2. High-Biased Results: Groundwater Samples

Potential high bias exists for C_5-C_8 aliphatics in sample CGW-8 due to the presence of trichloroethene which elutes in this hydrocarbon range. This result is most likely a false positive result due to the elevated concentration of trichloroethene present in this sample. Therefore, this result should not be attributed to petroleum hydrocarbons or used for decision-making purposes at this location.

In general, the overall data usability and decision-making process were not affected by the remaining QC nonconformances, as shown in the table below.

Samples Affected	Analytes Affected	Reason for High Bias	Reason Data Usability or Decision-making Process Not Affected
CGW-10, CGW-17	Acetone, 1,2-dichloroethane, 1,1-dichloroethene, trichlorofluoromethane	High recoveries in LCS and/or LCS Duplicate	Affected VOCs not detected in affected samples.
TRC-2, TRC-4, CGW-11	C_5-C_8 Aliphatics	False positive	Results for C_5-C_8 aliphatics below

Samples Affected	Analytes Affected	Reason for High Bias	Reason Data Usability or Decision-making Process Not Affected
		result due to co-elution of trichloroethene in this range.	project action levels in affected samples.

C-3. Potential Uncertainty: Groundwater Samples

Potential uncertainty exists for vinyl chloride in samples CGW-10, CGW-11 and CGW-17 due to variability in the LCS and LCS Duplicate analyses. The nondetect results for vinyl chloride in these samples should be used with caution due to this uncertainty. The QLs for the nondetect results are equivalent to one of the project action levels and therefore the potential uncertainty could affect the decision-making process as the results could be above this project action level if the uncertainty did not exist.

In general, the overall data usability and decision-making process were not affected by the remaining QC nonconformances, as shown in the table below.

Samples Affected	Analytes Affected	Reason for Uncertainty	Reason Data Usability or Decision-making Process Not Affected
TRC-1, TRC-2, TRC-3, TRC-4	1,4-Dioxane, 2-hexanone, tetrahydrofuran	LCS/LCS Duplicate variability	Nondetect results for 1,4-dioxane significantly below project action levels in affected samples. Remaining affected analytes not contaminants of concern based on site history and a project action level does not exist for these analytes.
CGW-10, CGW-17	Bromomethane, chloromethane, dichlorodifluoromethane, methylene chloride	LCS/LCS Duplicate variability	Nondetect results for methylene chloride significantly below project action levels in affected samples. Remaining affected analytes not contaminants of concern based on site history and/or a project action level does not exist for these analytes.
CGW-11	Chloroethane, carbon disulfide, 1,1-dichloroethene, diethyl ether	LCS/LCS Duplicate variability	Nondetect result for 1,1-dichloroethene significantly below project action levels in sample CGW-11. Remaining affected analytes not contaminants of concern based on site history and a project action level does not exist for these analytes.

D. Evaluation of Accuracy and Precision: Soil Gas Samples

There were no biases or uncertainty associated with the APH analyses of soil gas samples. Biases associated with the VOC analyses of the soil gas samples are discussed below.

D-1. High-Biased Results: Soil Gas Samples

Potential high bias exists for the acetone result in sample 10-Oneka-2 due to co-elution with a non-target peak. Since the concentration of acetone was below the project action level, there was no adverse impact on the usability of the data or the decision-making process as a result of this high bias.

Data Usability Assessment

Former Payne Cutlery Site
New Bedford, MA
Prepared: July 24, 2012

A. Overall Summary

The data associated with soil gas and indoor air samples collected on June 28 and 29, 2012 were reviewed. In general, data are usable for MCP decisions based on a review of accuracy, precision, and sensitivity of the data. Although there were select quality control (QC) nonconformances, the data are valid as reported and may be used for decision-making purposes no cautions or limitations.

Soil Gas Samples Included in the Data Usability Assessment: 357-Coffin-1, 357-Coffin-2, 358-Coffin-1, 358-Coffin-2, 362-Coffin-1, 362-Coffin-2, 364-Coffin-1, 364-Coffin-2, 6-Oneko-1, 6-Oneko-2, 10-Oneko-1, 10-Oneko-2, TM-1
Indoor Air Samples Included in the Data Usability Assessment: TM IAQ-1, TM IAQ-B, TM-Crawlspace-1, TM-Crawlspace-2, AAQ

Field Duplicates: 6 Oneko-1 (VOCs, APH), TM IAQ-B (VOCs, APH)

Soil Gas Analyses Performed: VOCs, APH
Indoor Air Analyses Performed: VOCs, APH

B. Sensitivity Evaluation

With the exception of 1,2-dibromoethane in all soil gas samples and 1,1,2,2-tetrachloroethane in samples 357-Coffin-2 and 6-Oneko-1, sensitivity was acceptable for all analyses of soil gas samples (i.e., quantitation limits [QLs] for all nondetect results were below the applicable Residential Sub-slab Soil Gas Screening Values from the December 2011 MassDEP Interim Final Vapor Intrusion Guidance). Since 1,2-dibromoethane and 1,1,2,2-tetrachloroethane are not contaminants of concern at this site based on site history, these sensitivity issues do not have a significant impact on the data usability or decision-making process.

With the exception of 1,2-dibromoethane, dibromochloromethane and 1,1,2,2-tetrachloroethane, sensitivity was acceptable for all analyses of indoor air samples (i.e., QLs for all nondetect results were below the applicable Indoor Air Threshold Values from the December 2011 MassDEP Interim Final Vapor Intrusion Guidance). Since these compounds are not contaminants of concern at this site based on site history, these sensitivity issues do not have a significant impact on the data usability or decision-making process.

C. Evaluation of Accuracy and Precision

There were no biases or uncertainty associated with the VOC analyses of soil gas and indoor air samples.

Potential uncertainty exists for the C_5-C_8 aliphatic results in sample 6-Oneko-1 due to field duplicate variability. Data usability and the decision-making process were not adversely affected since the detected results for this hydrocarbon range were significantly below the project action level in both the original and field duplicate samples.

Although the flow controllers for soil gas sample 10-Oneko-2 and indoor air sample TM IAQ-1 showed variability between the initial and final calibration readings, data quality was not adversely affected due to the following reasons:

- The final flow controller calibration reading for sample 10-Oneko-2 showed a decreased flow rate from 200 mL/min to 22 mL/min. The final vacuum for sample 10-Oneko-2 was acceptable indicating that the canister was filled to the acceptable volume and most likely, the flow controller was impacted after sample collection. If this sample had been affected by the significant decrease in flow rate, it would not have been filled to the proper vacuum.
- The final flow controller calibration reading for sample TM IAQ-1 showed an increased flow rate from 20 mL/min to 37 mL/min. The final vacuum for sample TM IAQ-1 was acceptable and a small vacuum was still present in the canister. Therefore, the flow controller was most likely impacted after sample collection. If this sample had been affected by the significant increase in flow rate, the canister would have been filled and there would be no remaining vacuum in the canister.

Former Payne Cutlery
295 Phillips Avenue
New Bedford, MA
Data Usability Assessment
Prepared: 03/11/13

A. Overall Summary

The data associated with soil samples collected on February 11 and 12, 2013, groundwater samples collected on February 25 and 26, 2013, and storm sewer and sanitary sewer samples collected on February 26, 2013 were reviewed. In general, the data are usable for MCP decisions based on a review of accuracy, precision, and sensitivity of the data. Although there were select quality control (QC) nonconformances, the data are valid as reported and may be used for decision-making purposes with the following cautions.

- The original result for trichloroethene in sample TRC-5/15-15.5 exceeds the project action levels but the result in the field duplicate sample falls below the project action level. In order to remain conservative, the result for trichloroethene from the original sample should be used at this location.
- Caution should be used with the vinyl chloride results in samples TRC-4 & TRC-6 (February 25 and 26, 2013) due to low recoveries in the LCS Duplicate analyses. The nondetect results for vinyl chloride in these samples are equivalent to the project action levels and therefore the decision-making process may be affected by the low bias. Caution should be used with these results as the actual results could be above the quantitation limits and thus above the project action levels.

Soil Samples Included in the Data Usability Assessment: TRC-5/7-9, TRC-5/15-15.5, TRC-5-1/7-11 Comp, TRC-5-2/13-15.5 Comp, TRC-8/13.5-15

Groundwater Samples Included in the Data Usability Assessment:
Baseline Groundwater Sampling (February 25 and 26, 2013): CGW-8, TRC-4, TRC-5, TRC-6, TRC-7, TRC-8

Storm Sewer & Sanitary Sewer Samples Included in the Data Usability Assessment: MH-1-S, MH-2, MH-3, MH-4, MH-5, MH-6, MH-7, MH-8,

Field Duplicates: TRC-5/15-15.5 (VOCs), TRC-5/February 26, 2013 (VOCs), MH-6 (VOCs)

MS/DUPs: TRC-5-1/7-11 Comp (TOC)

Soil Analyses Performed: VOCs or total organic carbon (TOC)
Groundwater Analyses Performed: VOCs
Storm Sewer & Sanitary Sewer Analyses Performed: VOCs

B. Sensitivity Evaluation

<u>Soil</u>

Sensitivity was not acceptable for select VOCs in soil (i.e., nondetect results exhibited quantitation limits [QLs] above the applicable Method 1 S-1/GW-2, S-2/GW-2, and S-3/GW-2 standards). The following table summarizes the affected samples and compounds.

Compound Affected	Affected Samples	Criteria Exceeded (mg/kg)	Quantitation Limit Range (mg/kg)
1,2-Dichloropropane	TRC-5/7-9, TRC-5/15-15.5	0.1	0.23 – 0.33
Dibromochloromethane	TRC-5/7-9, TRC-5/15-15.5	0.03	0.066 – 0.095
1,1,2,2-Tetrachloroethane	TRC-5/7-9, TRC-5/15-15.5	0.02	0.066 – 0.095
1,2-Dibromoethane	TRC-5/7-9, TRC-5/15-15.5	0.1	0.26 – 0.38
1,4-Dioxane	TRC-5/7-9, TRC-5/15-15.5	6	6.6 – 9.5

The decision-making process was not adversely affected by the sensitivity issues listed above as the affected compounds are not contaminants of concern based on site history.

Groundwater

Sensitivity was not acceptable for select VOCs (i.e., nondetect results exhibited QLs above the applicable Method 1 GW-2 but below the Method 1 GW-3 standards). The following table summarizes the affected samples and compounds.

Compound Affected	Affected Samples	Method 1 GW-2 (ug/L)	Quantitation Limit (ug/L)
Bromodichloromethane	CGW-8, TRC-5 (2/26/13)	6	100
Bromomethane	TRC-5 (2/26/13)	7	500
Carbon tetrachloride	CGW-8, TRC-5 (2/26/13)	2	100
Chlorodibromomethane	CGW-8, TRC-5 (2/26/13)	20	50
Chloroform	CGW-8, TRC-5 (2/26/13)	50	200
1,2-Dibromoethane	CGW-8, TRC-5 (2/26/13)	2	50
1,2-Dichloroethane	CGW-8, TRC-5 (2/26/13)	5	100
1,1-Dichloroethene	CGW-8, TRC-5 (2/26/13)	80	100
Trans-1,2-Dichloroethene	CGW-8, TRC-5 (2/26/13)	90	100
1,2-Dichloropropane	CGW-8, TRC-5 (2/26/13)	3	100
Cis & trans-1,3-Dichloropropene	CGW-8, TRC-5 (2/26/13)	10	40
Hexachlorobutadiene	CGW-8, TRC-5 (2/26/13)	1	50
1,1,1,2-Tetrachloroethane	CGW-8, TRC-5 (2/26/13)	10	100
1,1,2,2-Tetrachloroethane	CGW-8, TRC-5 (2/26/13)	9	50
Vinyl chloride	CGW-8, TRC-5 (2/26/13)	2	200

In general, the decision-making process was not adversely affected by the sensitivity issues noted above for samples CGW-8 and TRC-5 as other detected VOCs exceeded the project action levels in these samples.

C. Evaluation of Accuracy and Precision: Soil

There were no biases or uncertainty associated with the TOC analyses of soil samples. Biases or uncertainty associated with the VOC analyses are discussed below.

C-1. Potential Uncertainty: Soil

Potential uncertainty exists for 1,2-dibromo-3-chloropropane in all soil samples due to LCS/LCS Duplicate variability. The overall data usability and decision-making process were not affected by this QC nonconformance since a project action level does not exist for this compound.

Potential uncertainty exists for trichloroethene in sample TRC-5/15-15.5 due to field duplicate variability. The original sample result is above the project action level and the field duplicate sample result is below the project action level. In order to remain conservative, the result from the original sample should be used for decision-making purposes.

D. Evaluation of Accuracy and Precision: Groundwater

Biases or uncertainty associated with the VOC analyses of the groundwater samples are discussed below.

D-1. Low-Biased Results: Groundwater

Potential low bias exists for vinyl chloride in samples TRC-4 & TRC-6 (February 25 and 26, 2013) due to low recoveries in the LCS Duplicate analyses. The nondetect results for vinyl chloride in these samples should be used with caution due to this low bias. The quantitation limits for the nondetect results are equivalent to the project action levels and therefore the potential low bias could affect the decision-making process as the results could be above this quantitation limit if the low bias did not exist. In general, the overall data usability and decision-making process were not affected by the remaining QC nonconformances, as shown in the table below.

Samples Affected	Compounds Affected	Reason for Low Bias	Reason Data Usability or Decision-making Process Not Affected
All groundwater samples (February 25 and 26, 2013)	Bromomethane, dichlorodifluoromethane	Low recoveries in LCS and LCS Duplicate	No project action levels exist for the affected VOCs; not expected to be contaminants of concern based on site history.
TRC-4, TRC-6 (February 25 and 26, 2013)	Chloromethane	Low recoveries in LCS Duplicate	No project action levels exist for chloromethane; not expected to be a contaminant of concern based on site history.
TRC-8 (February 25, 2013)	Chloromethane	Low recovery in LCS Duplicate	No project action levels exist for chloromethane; not expected to be a contaminant of concern based on site history.

D-2. High-Biased Results: Groundwater

Potential high bias exists for 4-methyl-2-pentanone in samples TRC-4 & TRC-6 (February 25 and 26, 2013) due to high recovery in the LCS Duplicate. In general, the overall data usability and decision-making process were not affected since this compound was not detected in the associated samples.

D-3. Potential Uncertainty: Groundwater

Potential uncertainty exists for bromomethane in samples TRC-5, CGW-8, TRC-7, and TRC-8 from February 25 and 26, 2013 due to LCS/LCS Duplicate variability. In general, the overall data usability and decision-making process were not affected since a project action level does not exist for bromomethane and this compound is not expected to be a contaminant of concern based on site history.

Potential uncertainty exists for 2-butanone, chloromethane and vinyl chloride in samples TRC-4 & TRC-6 (February 25 and 26, 2013) due to LCS/LCS Duplicate variability. In general, the overall data usability and decision-making process were not affected by the uncertainty. A project action level does not exist for chloromethane and this compound is not expected to be a contaminant of concern based on site history. Results for 2-butanone in the affected groundwater samples were significantly below the project action levels. The potential effect on the usability of the data for vinyl chloride is described above in Section D-1.

E. Evaluation of Accuracy and Precision: Storm Sewer & Sanitary Sewer

Biases or uncertainty associated with the VOC analyses of the storm sewer and sanitary sewer samples are discussed below.

E-1. Low-Biased Results: Storm Sewer & Sanitary Sewer

Potential low bias exists for select results due to various QC nonconformances. In general, the overall data usability and decision-making process were not affected by these QC nonconformances, as shown in the table below.

Samples Affected	Compounds Affected	Reason for Low Bias	Reason Data Usability or Decision-making Process Not Affected
All storm sewer & sanitary sewer samples	Bromomethane, dichlorodifluoromethane	Low recoveries in LCS and LCS Duplicate	No project action levels exist for the affected VOCs; not expected to be contaminants of concern based on site history.
MH-1-S, MH-2, MH-3, MH-4, MH-5, MH-6, MH-7, MH-8	Chloromethane, vinyl chloride	Low recoveries in LCS Duplicate	Results used to determine presence or absence of VOCs.

E-2. High-Biased Results: Storm Sewer & Sanitary Sewer

Potential high bias exists for 4-methyl-2-pentanone in samples MH-1-S, MH-2, MH-3, MH-4, MH-5, MH-6, MH-7, and MH-8 due to high recovery in the LCS Duplicate. In general, the overall data usability and decision-making process were not affected since this compound was not detected in the associated samples.

E-3. Potential Uncertainty: Storm Sewer & Sanitary Sewer

Potential uncertainty exists for 2-butanone, chloromethane and vinyl chloride in samples MH-1-S, MH-2, MH-3, MH-4, MH-5, MH-6, MH-7, and MH-8 due to LCS/LCS Duplicate variability. In general, the overall data usability and decision-making process were not affected by the uncertainty. Results of storm sewer and sanitary sewer samples are being used to confirm the presence or absence of VOCs only.

Former Payne Cutlery
295 Phillips Avenue
New Bedford, MA
Data Usability Assessment
Prepared: 8/23/13

A. Overall Summary

The data associated with groundwater samples collected on August 14 and 15, 2013 were reviewed. In general, the data are usable for MCP decisions based on a review of accuracy, precision, and sensitivity of the data. Although there were select quality control (QC) nonconformances, the data are valid as reported and may be used for decision-making purposes with the following caution.

- Caution should be used with the vinyl chloride results in samples CGW-14, TRC-6 and TRC-8 due to low recoveries in the LCS and LCS Duplicate analyses. The nondetect results for vinyl chloride in these samples are equivalent to the project action level and therefore the decision-making process may be affected by the low bias. Caution should be used with these results as the actual results could be above the quantitation limits and thus above the project action levels.

Groundwater Samples Included in the Data Usability Assessment: CGW-8, CGW-14, TRC-4, TRC-5, TRC-5D, TRC-6, TRC-7, TRC-8

Field Duplicates: TRC-4 (VOCs)

Groundwater Analyses Performed: VOCs

Associated Data Package Numbers: Con-test Analytical: 13H0617

B. Sensitivity Evaluation

Sensitivity was not acceptable for select VOCs (i.e., nondetect results exhibited QLs above the applicable Method 1 GW-2 but below the Method 1 GW-3 standards) in samples CGW-8, TRC-4, TRC-5, and TRC-5D. In general, the decision-making process was not adversely affected by these sensitivity issues as other detected VOCs exceeded the project action levels in these samples.

C. Evaluation of Accuracy and Precision: Groundwater

Biases or uncertainty associated with the VOC analyses of the groundwater samples are discussed below.

C-1. Low-Biased Results: Groundwater

Potential low bias exists for vinyl chloride in samples CGW-14, TRC-6 and TRC-8 due to low recoveries in the LCS and LCS Duplicate analyses. The nondetect results for vinyl chloride in these samples should be used with caution due to this low bias. The quantitation limits for the nondetect results are equivalent to the project action levels and therefore the potential low bias could affect the decision-making process as the results could be above this quantitation limit if the low bias did not exist. In general, the overall data usability and decision-making process were not affected by the remaining QC nonconformances, as shown in the table below.

Samples Affected	Compounds Affected	Reason for Low Bias	Reason Data Usability or Decision-making Process Not Affected
All groundwater samples	Bromomethane, chloromethane,	Low recoveries in LCS and LCS	No project action levels exist for chloromethane and

Samples Affected	Compounds Affected	Reason for Low Bias	Reason Data Usability or Decision-making Process Not Affected
	dichlorodifluoromethane	Duplicate	dichlorodifluoromethane; none of affected VOCs expected to be contaminants of concern based on site history.
CGW-8, TRC-4, TRC-5, TRC-5D, TRC-7	Vinyl chloride	Low recoveries in LCS and LCS Duplicate	Other contaminants detected in the affected samples above the project action levels.

C-2. Potential Uncertainty

Potential uncertainty exists for chloromethane in all groundwater samples due to LCS/LCS Duplicate variability. In general, the overall data usability and decision-making process were not affected since a project action level does not exist for chloromethane and this compound is not expected to be a contaminant of concern based on site history.

Former Payne Cutlery
295 Phillips Avenue
New Bedford, MA
Data Usability Assessment
Prepared: 9/19/13

A. Overall Summary

The data associated with indoor air samples collected on September 5, 2013 were reviewed. In general, the data are usable for MCP decisions based on a review of accuracy, precision, and sensitivity of the data. Although there were select quality control (QC) nonconformances, the data are valid as reported and may be used for decision-making purposes with no cautions or limitations.

Indoor Air Samples Included in the Data Usability Assessment: IAQ-1, IAQ-2, IAQ-3, AAQ
Field Duplicates: IAQ-1 (VOCs, APH)
Indoor Air Analyses Performed: VOCs and APH

Associated Data Package Numbers: Con-test Analytical: 13I0148

B. Sensitivity Evaluation

With the exception of bromodichloromethane, 1,2-dibromoethane, dibromochloromethane, 1,2-dichloroethane, 1,2-dichloropropane, hexachlorobutadiene, 1,1,2-trichloroethane and 1,1,2,2-tetrachloroethane, sensitivity was acceptable for all analyses of indoor air samples (i.e., QLs for all nondetect results were below the applicable Indoor Air Threshold Values from the December 2011 MassDEP Interim Final Vapor Intrusion Guidance with February 22 and March 7, 2013 updates). Since these compounds are not contaminants of concern at this site based on site history, these sensitivity issues do not have a significant impact on the data usability or decision-making process.

C. Evaluation of Accuracy and Precision

Biases or uncertainty associated with the VOC and APH analyses of the indoor air samples are discussed below.

C-1. Low-Biased Results

Potential low bias exists for vinyl acetate in all samples due to low recovery in the LCS analysis. Since there is no project action level for vinyl acetate, the overall data usability and decision-making process were not adversely affected.

C-2. Potential High Bias

Potential high bias exists for isopropanol and methyl tert butyl ether (APH) in all samples due to high recoveries in the LCS analyses. In general, the overall data usability and decision-making process were not adversely affected since a project action level does not exist for isopropanol and methyl tert butyl ether was not detected in any of the indoor air samples.

Potential high bias exists for heptane in all indoor air samples due to laboratory method blank contamination. In general, the overall data usability and decision-making process were not adversely affected since the detected results were significantly below the project action level in all samples.

APPENDIX G

LABORATORY DATA REPORTS (SUMBITTED VIA BWSC FORM-125)

APPENDIX H

METHOD 3 RISK CHARACTERIZATION SUPPLEMENTAL BACKUP INFORMATION

APPENDIX H-1

SOIL, GROUNDWATER AND INDOOR AIR DATA

Appendix H-1; Table H-1.1.
Summary of Analytical Results for Soil Samples
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						SS-105	CGW-01	CGW-02	CGW-03	CGW-04	CGW-05	CGW-06	CGW-07	CGW-08
		Sample ID:						#105	CGW-1/S-3	CGW-2/S-3	CGW-3/S-3	CGW-4/S-3	CGW-5/S-3	CGW-6/S-3	CGW-7/S-3	CGW-8/S-3
		Sample Depth (ft.):						Surface	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12
		Sample Date:						07/09/1987	02/24/2000	02/24/2000	02/24/2000	02/24/2000	02/25/2000	02/25/2000	02/25/2000	02/25/2000
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3				combo					combo
VOCs																
	Chloromethane	NS	NS	NS	NS	NS	NS	R3	0.081 U	0.055 U	0.086 U	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Bromomethane	0.5	30	0.5	30	0.5	30	R3	0.081 U	0.055 U	0.086 U	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NS	NS	NS	R3	0.081 U	0.055 U	0.086 U	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Acetone	50	400	50	400	50	400	NA	0.20 U	0.14 U	0.215 U	0.20 U	0.16 U	0.21 U	0.16 U	0.17 U
	Carbon Disulfide	NS	NS	NS	NS	NS	NS	NA	0.081 U	0.055 U	0.086 U	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Methylene Chloride	20	200	20	900	20	900	R3	0.20 U	**0.036 J**	0.215 U	0.20 U	0.16 U	**0.15 J**	0.16 U	0.17 U
	Dichloroethene, trans-1,2-	1	500	1	1,000	1	3,000	NA	0.081 U	0.055 U	0.086 U	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Methyl Ethyl Ketone (MEK)	50	400	50	400	50	400	NA	0.081 U	0.055 U	0.086 U	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Dichloroethene, cis-1,2-	0.4	100	0.4	500	0.4	500	NA	0.081 U	0.055 U	0.086 U	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Chloroform	0.3	400	0.3	800	0.3	800	R3	0.081 U	0.055 U	0.086 U	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Trichloroethane, 1,1,1-	500	500	600	1,000	600	3,000	R3	0.081 U	0.055 U	0.086 U	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Trichloroethylene (TCE)	2	90	2	700	2	2,000	R3	0.081 U	0.055 U	0.086 U	0.078 U	0.066 U	0.085 U	**0.17**	**4.3**
	Methyl Isobutyl Ketone (MIBK)	50	400	50	400	50	400	NA	0.081 U	0.055 U	0.086 U	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Toluene	500	500	1000	1000	2000	3000	R3	0.081 U	0.055 U	0.086 U	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Hexanone (MNBK), 2-	NS	NS	NS	NS	NS	NS	NA	0.081 U	0.055 U	0.086 U	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Tetrachloroethylene (PCE)	10	30	10	200	10	1,000	R3	0.081 U	0.055 U	0.086 U	0.078 U	0.066 U	0.085 U	0.062 U	**0.0385 J**
	Xylenes (total)	300	500	300	1,000	300	3,000	NA	0.16 U	0.11 U	0.17 U	0.16 U	0.13 U	0.17 U	0.12 U	0.135 U
	Styrene	4	30	4	200	4	1,000	NA	0.081 U	0.055 U	0.086 U	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Propylbenzene, n-	100(1)	100(1)	500(1)	500(1)	500(1)	500(1)	NA	0.081 U	0.055 U	**0.16**	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Trimethylbenzene, 1,2,4-	100(1)	100(1)	500(1)	500(1)	500(1)	500(1)	NA	0.081 U	0.055 U	**0.094 J**	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Butylbenzene, sec-	100(1)	100(1)	500(1)	500(1)	500(1)	500(1)	NA	0.081 U	0.055 U	**0.36**	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Isopropyltoluene, p- (Cymene)	100(1)	100(1)	500(1)	500(1)	500(1)	500(1)	NA	0.081 U	0.055 U	**0.55**	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Butylbenzene, n-	100(1)	100(1)	500(1)	500(1)	500(1)	500(1)	NA	0.081 U	0.055 U	**1.01**	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
VPH																
(mg/kg)	C5-C8 Aliphatics	100	100	500	500	500	500	NA	13 U	10 U	80.5 U	17 U	12 U	12 U	15 U	10.5 U
	C9-C12 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	3.6 U	2.9 U	**70**	5.0 U	3.4 U	3.4 U	4.2 U	3 U
	C9-C10 Aromatics	100	100	500	500	500	500	NA	7.2 U	5.9 U	**110**	10 U	6.8 U	6.7 U	8.3 U	6.05 U
	Methyl T-Butyl Ether (MTBE)	100	100	100	500	100	500	NA	0.081 U	0.055 U	0.086 U	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
EPH																
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	3.3 U	3.2 U	**895**	3.3 U	3.2 U	3.1 U	3.2 U	3.1 U
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	5,000	5,000	NA	4.4 U	4.3 U	**145**	4.4 U	4.3 U	4.2 U	4.2 U	4.2 U
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	9.4 U	9.1 U	**360**	9.3 U	9.1 U	8.9 U	9.0 U	8.9 U
	Naphthalene	40	500	40	1000	40	3,000	NA	0.081 U	0.055 U	**0.85**	0.078 U	0.066 U	0.085 U	0.062 U	0.0675 U
	Methylnaphthalene, 2-	80	300	80	500	80	500	NA	0.55 U	0.54 U	**4.2**	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U
	Acenaphthylene	600	10	600	10	600	10	NA	0.55 U	0.54 U	**2.35**	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U
	Acenaphthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	0.55 U	0.54 U	**2.05**	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U
	Fluorene	1,000	1,000	3,000	3,000	5,000	5,000	NA	0.55 U	0.54 U	**3.9**	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U
	Phenanthrene	500	500	1,000	1,000	3,000	3,000	NA	0.55 U	0.54 U	**3.1**	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U
	Anthracene	1,000	1,000	3,000	3,000	5,000	5,000	NA	0.55 U	0.54 U	**0.715**	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U
	Fluoranthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	0.55 U	0.54 U	0.53 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U
	Pyrene	1,000	1,000	3,000	3,000	5,000	5,000	NA	0.55 U	0.54 U	0.53 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U
	Benzo(a)anthracene	7	7	40	40	300	300	NA	0.55 U	0.54 U	0.53 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U
	Chrysene	70	70	400	400	3,000	3,000	NA	0.55 U	0.54 U	0.53 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U
	Benzo(b)fluoranthene	7	7	40	40	300	300	NA	0.55 U	0.54 U	0.53 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U
	Benzo(k)fluoranthene	70	70	400	400	3,000	3,000	NA	0.55 U	0.54 U	0.53 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U
	Benzo(a)pyrene	2	2	4	4	30	30	NA	0.55 U	0.54 U	0.53 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U
	Indeno(1,2,3-cd)pyrene	7	7	40	40	300	300	NA	0.55 U	0.54 U	0.53 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	30	30	NA	0.55 U	0.54 U	0.53 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	5,000	5,000	NA	0.55 U	0.54 U	0.53 U	0.54 U	0.54 U	0.52 U	0.53 U	0.52 U

Appendix H-1; Table H-1.1.
Summary of Analytical Results for Soil Samples
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:	**SS-105**	**CGW-01**	**CGW-02**	**CGW-03**	**CGW-04**	**CGW-05**	**CGW-06**	**CGW-07**	**CGW-08**
		Sample ID:	#105	CGW-1/S-3	CGW-2/S-3	CGW-3/S-3	CGW-4/S-3	CGW-5/S-3	CGW-6/S-3	CGW-7/S-3	CGW-8/S-3
		Sample Depth (ft.):	Surface	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12	10 - 12
		Sample Date:	07/09/1987	02/24/2000	02/24/2000	02/24/2000	02/24/2000	02/25/2000	02/25/2000	02/25/2000	02/25/2000
		S-1/GW-2 / S-1/GW-3 / S-2/GW-2 / S-2/GW-3 / S-3/GW-2 / S-3/GW-3				combo					combo
PCBs											
(mg/kg)	Total PCBs	2 / 2 / 3 / 3 / 3 / 3	NA	NA	NA	0.0535 U	NA	NA	NA	NA	NA
TPH											
(mg/kg)	TPH	1,000 / 1,000 / 3,000 / 3,000 / 5,000 / 5,000	**842**	NA	NA	NA	NA	NA	NA	NA	NA
Metals, total											
(mg/kg)	Arsenic	20 / 20 / 20 / 20 / 20 / 20	NA	**0.18**	**0.19**	**0.385**	**0.51**	**0.22**	**0.16**	**0.53**	**0.105 J**
	Barium	1,000 / 1,000 / 3,000 / 3,000 / 5,000 / 5,000	NA	**11**	**14**	**18.5**	**45**	**9.2**	**8.2**	**24**	**8.2**
	Cadmium	2 / 2 / 30 / 30 / 30 / 30	NA	0.35 U	0.30 U	0.425 U	**0.52**	0.25 U	0.30 U	0.30 U	0.3 U
	Chromium	30 / 30 / 200 / 200 / 200 / 200	NA	**2.4**	**2.4**	**3.6**	**28**	**1.5**	**1.8**	**4.6**	**4.15**
	Copper	NS / NS / NS / NS / NS / NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300 / 300 / 300 / 300 / 300 / 300	NA	7.0 U	6.1 U	8.55 U	**8.2**	5.0 U	5.9 U	6.0 U	6 U
	Mercury	20 / 20 / 30 / 30 / 30 / 30	NA	0.015 U	0.014 U	0.013 U	0.013 U	0.011 U	0.012 U	0.011 U	0.01 U
	Nickel	20 / 20 / 700 / 700 / 700 / 700	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	2,500 / 2,500 / 3,000 / 3,000 / 5,000 / 5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA

Currently paved
Beyond horizontal or vertical extent of contamination
Greater than 15' bgs
In roadway

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
B - Compound detected in associated method blank
E - Estimated value due to interference.
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
N/A - Not applicable.
ND - Not detected.
NS - No MassDEP standards exist for this analyte.
U - Compound was not detected at specified quantitation limit.
Values in **Bold** indicate the compound was detected.
Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.
VOCs - Volatile Organic Compounds.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.
PCBs - Polychlorinated Biphenyls.
TPH - Total Petroleum Hydrocarbons.
TCLP - Toxicity Characteristic Leaching Procedure.
(1) - MassDEP Method 1 standards for C9-C10 aromatics used.
R1 - Rejected data point due to 0% recovery in associated LCS.
R2 - Rejected data point due to gross holding time exceedance.
R3 - Rejected data point due to lack of field preservation.
orange shading - Significant low bias due to 0% recovery in associated LCS.
green shading - Significant low bias due to gross holding time exceedance.
blue shading - Significant low bias due to lack of field preservation.

Appendix H-1; Table H-1.1.
Summary of Analytical Results for Soil Samples
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						CGW-09	CGW-10	CGW-11	CGW-12		CGW-13		CGW-14		CGW-15	
								CGW-9/S-3	CGW-10/S-3	CGW-11/S-3	CGW-12/S-1	CGW-12/S-2	CGW-13/S-1	CGW-13/S-2	CGW-14/S-1	CGW-14/S-4	CGW-15/S-1	CGW-15/S-2
								10 - 12	10 - 12	10 - 12	0 - 2	5 - 7	0 - 2	5 - 7	0 - 2	15 - 17	0 - 2	5 - 7
								02/25/2000	04/10/2001	04/10/2001	05/29/2001	05/29/2001	05/29/2001	05/29/2001	05/29/2001	05/30/2001	05/30/2001	05/30/2001
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3											
VOCs																		
	Chloromethane	NS	NS	NS	NS	NS	NS	0.071 U	0.0010 U	0.0014 U	0.0014 U	**0.038 JB**	0.0014 U	**0.026 JB**	0.0013 U	R2	1.2 U	R2
	Bromomethane	0.5	30	0.5	30	0.5	30	0.071 U	0.0010 U	0.0014 U	0.0014 U	R2	0.0014 U	R2	**0.0007 J**	R2	**0.68 JB**	R2
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NS	NS	NS	0.071 U	0.0010 U	0.0014 U	**0.0022**	R2	**0.0022**	R2	**0.0053**	R2	1.2 U	R2
	Acetone	50	400	50	400	50	400	0.18 U	**0.0047**	**0.0079**	**0.041 B**	**0.12 J**	**0.13 B**	**0.097 J**	**0.20 B**	**0.082 J**	**1.0 J**	**0.089 J**
	Carbon Disulfide	NS	NS	NS	NS	NS	NS	0.071 U	0.0010 U	0.0014 U	**0.0010 J**	R2	**0.0026 J**	R2	**0.0009 J**	R2	1.2 U	R2
	Methylene Chloride	20	200	20	900	20	900	0.18 U	**0.00130 JB**	**0.0016 JB**	**0.0025 JB**	**0.34 B**	**0.0024 JB**	**0.25 B**	**0.0042 B**	**0.37 B**	**1.5 JB**	**0.37 B**
	Dichloroethene, trans-1,2-	1	500	1	1,000	1	3,000	0.071 U	0.0010 U	0.0014 U	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2
	Methyl Ethyl Ketone (MEK)	50	400	50	400	50	400	0.071 U	0.0010 U	0.0014 U	**0.0029**	**0.32**	**0.042**	**0.29**	**0.015**	**0.34**	1.2 U	**0.35**
	Dichloroethene, cis-1,2-	0.4	100	0.4	500	0.4	500	0.071 U	0.0010 U	0.0014 U	0.0014 U	R2	**0.0016**	R2	0.0013 U	R2	**3.0**	**0.034 J**
	Chloroform	0.3	400	0.3	800	0.3	800	0.071 U	0.0010 U	0.0014 U	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2
	Trichloroethane, 1,1,1-	500	500	600	1,000	600	3,000	0.071 U	0.0010 U	0.0014 U	0.0014 U	R2	0.0014 U	R2	0.0013 U	R2	1.2 U	R2
	Trichloroethylene (TCE)	2	90	2	700	2	2,000	**0.78**	0.0010 U	**0.010**	**0.0045**	R2	**0.029**	R2	**0.098**	R2	**71**	**1.4**
	Methyl Isobutyl Ketone (MIBK)	50	400	50	400	50	400	0.071 U	0.0010 U	0.0014 U	0.0014 U	R2	**0.0010 J**	R2	0.0013 U	R2	1.2 U	R2
	Toluene	500	500	1000	1000	2000	3000	**0.089**	0.0010 U	0.0014 U	**0.0015**	R2	**0.0074**	R2	**0.0093**	R2	1.2 U	R2
	Hexanone (MNBK), 2-	NS	NS	NS	NS	NS	NS	0.071 U	0.0010 U	0.0014 U	0.0014 U	R2	**0.0031**	R2	0.0013 U	R2	1.2 U	R2
	Tetrachloroethylene (PCE)	10	30	10	200	10	1,000	0.071 U	0.0010 U	0.0014 U	0.0014 U	R2	0.0014 U	R2	**0.0025**	R2	**0.62 J**	R2
	Xylenes (total)	300	500	300	1,000	300	3,000	0.14 U	0.0021 U	0.0027 U	0.0029 U	R2	0.0029 U	R2	0.0026 U	R2	2.4 U	R2
	Styrene	4	30	4	200	4	1,000	0.071 U	0.0010 U	0.0014 U	0.0014 U	R2	**0.0008 J**	R2	0.0013 U	R2	1.2 U	R2
	Propylbenzene, n-	100(1)	100(1)	500(1)	500(1)	500(1)	500(1)	0.071 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trimethylbenzene, 1,2,4-	100(1)	100(1)	500(1)	500(1)	500(1)	500(1)	0.071 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Butylbenzene, sec-	100(1)	100(1)	500(1)	500(1)	500(1)	500(1)	0.071 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Isopropyltoluene, p- (Cymene)	100(1)	100(1)	500(1)	500(1)	500(1)	500(1)	0.071 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Butylbenzene, n-	100(1)	100(1)	500(1)	500(1)	500(1)	500(1)	0.071 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VPH																		
(mg/kg)	C5-C8 Aliphatics	100	100	500	500	500	500	16 U	NA	NA	NA	10 U	NA	8.5 U	NA	10 U	NA	11 U
	C9-C12 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	4.4 U	NA	NA	NA	3.0 U	NA	2.4 U	NA	3.0 U	NA	3.1 U
	C9-C10 Aromatics	100	100	500	500	500	500	8.9 U	NA	NA	NA	5.9 U	NA	4.9 U	NA	5.9 U	NA	6.1 U
	Methyl T-Butyl Ether (MTBE)	100	100	100	500	100	500	0.071 U	0.0010 U	0.0014 U	0.0014 U	0.15 U	0.0014 U	0.12 U	0.0013 U	0.15 U	1.2 U	0.15 U
EPH																		
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	3.2 U	NA	NA	**5.4**	3.2 U	**9.5**	3.2 U	3.3 U	3.3 U	3.3 U	3.3 U
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	5,000	5,000	4.3 U	NA	NA	**150**	4.3 U	**1,500**	**210**	**150**	4.4 U	**140**	4.4 U
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	5,000	5,000	9.2 U	NA	NA	**200**	**13**	**500**	**90**	**59**	9.4 U	**33**	9.4 U
	Naphthalene	40	500	40	1000	40	3,000	0.071 U	NA	NA	**0.57 J**	NA	**0.31 J**	NA	NA	0.55 U	0.55 U	0.55 U
	Methylnaphthalene, 2-	80	300	80	500	80	500	0.54 U	NA	NA	**0.59**	R1	R1	R1	R1	0.55 U	0.55 U	0.55 U
	Acenaphthylene	600	10	600	10	600	10	0.54 U	NA	NA	0.53 U	0.53 U	0.61 U	**1.3**	0.54 U	0.55 U	0.55 U	0.55 U
	Acenaphthene	1,000	1,000	3,000	3,000	5,000	5,000	0.54 U	NA	NA	**2.9**	0.53 U	**0.36 J**	0.53 U	0.54 U	0.55 U	0.55 U	0.55 U
	Fluorene	1,000	1,000	3,000	3,000	5,000	5,000	0.54 U	NA	NA	**3.2**	0.53 U	**0.30 J**	0.53 U	0.54 U	0.55 U	0.55 U	0.55 U
	Phenanthrene	500	500	1,000	1,000	3,000	3,000	0.54 U	NA	NA	**24**	0.53 U	**13**	0.53 U	**1.7**	0.55 U	**1.2**	0.55 U
	Anthracene	1,000	1,000	3,000	3,000	5,000	5,000	0.54 U	NA	NA	**6.5**	0.53 U	**1.6**	0.53 U	**0.34 J**	0.55 U	**0.32 J**	0.55 U
	Fluoranthene	1,000	1,000	3,000	3,000	5,000	5,000	0.54 U	NA	NA	**29**	0.53 U	**19**	0.53 U	**3.2**	0.55 U	**2.3**	0.55 U
	Pyrene	1,000	1,000	3,000	3,000	5,000	5,000	0.54 U	NA	NA	**24**	0.53 U	**18**	0.53 U	**2.9**	0.55 U	**2.4**	0.55 U
	Benzo(a)anthracene	7	7	40	40	300	300	0.54 U	NA	NA	**12**	0.53 U	**8.7**	0.53 U	**1.8**	0.55 U	**1.5**	0.55 U
	Chrysene	70	70	400	400	3,000	3,000	0.54 U	NA	NA	**11**	0.53 U	**8.2**	0.53 U	**1.4**	0.55 U	**1.1 J**	0.55 U
	Benzo(b)fluoranthene	7	7	40	40	300	300	0.54 U	NA	NA	**12**	**0.73**	**9.0**	0.53 U	**1.5**	0.55 U	**1.3**	0.55 U
	Benzo(k)fluoranthene	70	70	400	400	3,000	3,000	0.54 U	NA	NA	**5.9**	0.53 U	**4.2**	0.53 U	**0.90 J**	0.55 U	**0.76**	0.55 U
	Benzo(a)pyrene	2	2	4	4	30	30	0.54 U	NA	NA	**9.3**	**0.64**	**6.0**	0.53 U	**1.2**	0.55 U	**1.1**	0.55 U
	Indeno(1,2,3-cd)pyrene	7	7	40	40	300	300	0.54 U	NA	NA	**7.7**	**0.89**	**4.9**	0.53 U	**1.0**	0.55 U	**0.96**	0.55 U
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	30	30	0.54 U	NA	NA	**7.7**	**0.89**	**4.9**	0.53 U	**1.0**	0.55 U	**0.96**	0.55 U
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	5,000	5,000	0.54 U	NA	NA	**5.4**	0.53 U	**3.3**	0.53 U	**0.72**	0.55 U	**0.80**	0.55 U

Appendix H-1; Table H-1.1.
Summary of Analytical Results for Soil Samples
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						CGW-09	CGW-10	CGW-11	CGW-12		CGW-13		CGW-14		CGW-15	
								Sample ID:	CGW-9/S-3	CGW-10/S-3	CGW-11/S-3	CGW-12/S-1	CGW-12/S-2	CGW-13/S-1	CGW-13/S-2	CGW-14/S-1	CGW-14/S-4	CGW-15/S-1	CGW-15/S-2
								Sample Depth (ft.):	10 - 12	10 - 12	10 - 12	0 - 2	5 - 7	0 - 2	5 - 7	0 - 2	15 - 17	0 - 2	5 - 7
								Sample Date:	02/25/2000	04/10/2001	04/10/2001	05/29/2001	05/29/2001	05/29/2001	05/29/2001	05/29/2001	05/30/2001	05/30/2001	05/30/2001
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3											
PCBs																		
(mg/kg)	Total PCBs	2	2	3	3	3	3	NA	NA	NA	0.027 U	0.028 U	**0.268**	0.027 U	**0.043**	0.028 U	0.027 U	0.028 U
TPH																		
(mg/kg)	TPH	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals, total																		
(mg/kg)	Arsenic	20	20	20	20	20	20	**0.34**	NA	NA	16 U	15 U	19 U	15 U	17 U	17 U	19 U	16 U
	Barium	1,000	1,000	3,000	3,000	5,000	5,000	**18**	NA	NA	**71**	**14**	**950**	**12**	**270**	**19**	**70**	**35**
	Cadmium	2	2	30	30	30	30	0.34 U	NA	NA	0.82 U	0.76 U	9.4 U	0.75 U	**1.8**	0.83 U	0.95 U	0.81 U
	Chromium	30	30	200	200	200	200	**17**	NA	NA	**10**	**2.7**	**120**	**3.0**	**34**	**7.5**	**14**	**4.4**
	Copper	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	300	6.9 U	NA	NA	**18**	15 U	**110**	15 U	**96**	17 U	**21**	16 U
	Mercury	20	20	30	30	30	30	0.012 U	NA	NA	**0.022**	0.0098 U	**0.093**	0.010 U	**0.12**	0.011 U	**0.024**	0.011 U
	Nickel	20	20	700	700	700	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	2,500	2,500	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Currently paved
Beyond horizontal or vertical
Greater than 15' bgs
In roadway

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
B - Compound detected in associated method blank
E - Estimated value due to interference.
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
N/A - Not applicable.
ND - Not detected.
NS - No MassDEP standards exist for this analyte.
U - Compound was not detected at specified quantitation limit.
Values in **Bold** indicate the compound was detected.
Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.
VOCs - Volatile Organic Compounds.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.
PCBs - Polychlorinated Biphenyls.
TPH - Total Petroleum Hydrocarbons.
TCLP - Toxicity Characteristic Leaching Procedure.
(1) - MassDEP Method 1 standards for C9-C10 aromatics used.
R1 - Rejected data point due to 0% recovery in associated LCS.
R2 - Rejected data point due to gross holding time exceedance.
R3 - Rejected data point due to lack of field preservation.
orange shading - Significant low bias due to 0% recovery in associated LCS.
green shading - Significant low bias due to gross holding time exceedance.
blue shading - Significant low bias due to lack of field preservation.

Appendix H-1; Table H-1.1.
Summary of Analytical Results for Soil Samples
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						CGW-16		CGW-17				MW-01	
		Sample ID:						CGW-16/S-1	CGW-16/S-2	CGW-17/S-1	CGW-17/S-2	CGW-17/S-3	CGW-17/S-4	MW-1	MW-1
		Sample Depth (ft.):						0 - 2	5 - 7	5.0	10	15	20	0.5 - 2	10 - 11.5
		Sample Date:						05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	07/03/1987	07/03/1987
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3								
VOCs															
	Chloromethane	NS	NS	NS	NS	NS	NS	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U
	Bromomethane	0.5	30	0.5	30	0.5	30	**1.5 JB**	NA	R2	R2	R2	R2	0.015 U	0.015 U
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NS	NS	NS	1.9 U	NA	R2	R2	R2	R2	0.015 U	0.015 U
	Acetone	50	400	50	400	50	400	**2.7 J**	NA	**0.093 J**	**0.11 J**	**0.10 J**	**0.063 J**	NA	NA
	Carbon Disulfide	NS	NS	NS	NS	NS	NS	1.9 U	NA	R2	R2	R2	R2	NA	NA
	Methylene Chloride	20	200	20	900	20	900	**2.3 JB**	NA	**0.33 B**	**0.35 B**	**0.30 B**	**0.18 B**	0.015 U	0.015 U
	Dichloroethene, trans-1,2-	1	500	1	1,000	1	3,000	1.9 U	NA	R2	**0.051 J**	**0.10**	**0.035 J**	NA	NA
	Methyl Ethyl Ketone (MEK)	50	400	50	400	50	400	1.9 U	NA	**0.43**	**0.53**	**0.46**	**0.26**	NA	NA
	Dichloroethene, cis-1,2-	0.4	100	0.4	500	0.4	500	1.9 U	NA	**0.68**	**5.4**	**7.2 E**	**3.9**	NA	NA
	Chloroform	0.3	400	0.3	800	0.3	800	1.9 U	NA	**0.043 J**	R2	R2	R2	0.015 U	0.015 U
	Trichloroethane, 1,1,1-	500	500	600	1,000	600	3,000	1.9 U	NA	**0.039 J**	R2	R2	R2	0.015 U	0.015 U
	Trichloroethylene (TCE)	2	90	2	700	2	2,000	**530**	NA	**57 E**	**33 E**	**41 E**	**19 E**	**0.016**	**1.3**
	Methyl Isobutyl Ketone (MIBK)	50	400	50	400	50	400	1.9 U	NA	R2	R2	R2	R2	NA	NA
	Toluene	500	500	1000	1000	2000	3000	1.9 U	NA	**0.033**	R2	R2	R2	NA	NA
	Hexanone (MNBK), 2-	NS	NS	NS	NS	NS	NS	1.9 U	NA	R2	R2	R2	R2	NA	NA
	Tetrachloroethylene (PCE)	10	30	10	200	10	1,000	**4.3**	NA	**4.8**	**1.1**	**1.9**	**0.54**	0.015 U	0.015 U
	Xylenes (total)	300	500	300	1,000	300	3,000	3.8 U	NA	**0.076 J**	R2	R2	R2	NA	NA
	Styrene	4	30	4	200	4	1,000	1.9 U	NA	R2	R2	R2	R2	NA	NA
	Propylbenzene, n-	100(1)	100(1)	500(1)	500(1)	500(1)	500(1)	NA	NA	NA	NA	NA	NA	NA	NA
	Trimethylbenzene, 1,2,4-	100(1)	100(1)	500(1)	500(1)	500(1)	500(1)	NA	NA	NA	NA	NA	NA	NA	NA
	Butylbenzene, sec-	100(1)	100(1)	500(1)	500(1)	500(1)	500(1)	NA	NA	NA	NA	NA	NA	NA	NA
	Isopropyltoluene, p- (Cymene)	100(1)	100(1)	500(1)	500(1)	500(1)	500(1)	NA	NA	NA	NA	NA	NA	NA	NA
	Butylbenzene, n-	100(1)	100(1)	500(1)	500(1)	500(1)	500(1)	NA	NA	NA	NA	NA	NA	NA	NA
VPH															
(mg/kg)	C5-C8 Aliphatics	100	100	500	500	500	500	NA	NA	**58**	**21**	**35**	**17**	NA	NA
	C9-C12 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	3.3 U	3.4 U	3.2 U	2.2 U	NA	NA
	C9-C10 Aromatics	100	100	500	500	500	500	NA	NA	6.6 U	6.8 U	6.4 U	4.3 U	NA	NA
	Methyl T-Butyl Ether (MTBE)	100	100	100	500	100	500	1.9 U	NA	0.16 U	**0.26**	**0.34**	**0.23**	NA	NA
EPH															
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	3.3 U	3.1 U	NA	NA	NA	NA	NA	NA
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	5,000	5,000	**38**	4.2 U	NA	NA	NA	NA	NA	NA
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	5,000	5,000	**25**	8.9 U	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1000	40	3,000	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA
	Methylnaphthalene, 2-	80	300	80	500	80	500	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA
	Acenaphthylene	600	10	600	10	600	10	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA
	Acenaphthene	1,000	1,000	3,000	3,000	5,000	5,000	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	5,000	5,000	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA
	Phenanthrene	500	500	1,000	1,000	3,000	3,000	**0.49 J**	0.52 U	NA	NA	NA	NA	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	5,000	5,000	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	5,000	5,000	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	5,000	5,000	**0.62**	0.52 U	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	7	7	40	40	300	300	**0.66**	0.52 U	NA	NA	NA	NA	NA	NA
	Chrysene	70	70	400	400	3,000	3,000	**0.41 J**	0.52 U	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	300	300	**0.31 J**	0.52 U	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	3,000	3,000	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	2	2	4	4	30	30	**0.25 J**	0.52 U	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	300	300	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	30	30	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	5,000	5,000	0.55 U	0.52 U	NA	NA	NA	NA	NA	NA

Appendix H-1; Table H-1.1.
Summary of Analytical Results for Soil Samples
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						CGW-16		CGW-17				MW-01	
		Sample ID:						CGW-16/S-1	CGW-16/S-2	CGW-17/S-1	CGW-17/S-2	CGW-17/S-3	CGW-17/S-4	MW-1	MW-1
		Sample Depth (ft.):						0 - 2	5 - 7	5.0	10	15	20	0.5 - 2	10 - 11.5
		Sample Date:						05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	05/30/2001	07/03/1987	07/03/1987
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3								
PCBs															
(mg/kg)	Total PCBs	2	2	3	3	3	3	**0.034**	0.026 U	NA	NA	NA	NA	0.050 U	NA
TPH															
(mg/kg)	TPH	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	**430**	NA
Metals, total															
(mg/kg)	Arsenic	20	20	20	20	20	20	22 U	18 U	NA	NA	NA	NA	NA	NA
	Barium	1,000	1,000	3,000	3,000	5,000	5,000	**60**	**9.3**	NA	NA	NA	NA	NA	NA
	Cadmium	2	2	30	30	30	30	1.1 U	0.90 U	NA	NA	NA	NA	NA	NA
	Chromium	30	30	200	200	200	200	**78**	**4.0**	NA	NA	NA	NA	NA	NA
	Copper	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	300	**25**	18 U	NA	NA	NA	NA	NA	NA
	Mercury	20	20	30	30	30	30	**0.042**	0.010 U	NA	NA	NA	NA	NA	NA
	Nickel	20	20	700	700	700	700	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	2,500	2,500	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA

Currently paved
Beyond horizontal or vertical
Greater than 15' bgs
In roadway

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
B - Compound detected in associated method blank
E - Estimated value due to interference.
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
N/A - Not applicable.
ND - Not detected.
NS - No MassDEP standards exist for this analyte.
U - Compound was not detected at specified quantitation limit.
Values in **Bold** indicate the compound was detected.
Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.
VOCs - Volatile Organic Compounds.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.
PCBs - Polychlorinated Biphenyls.
TPH - Total Petroleum Hydrocarbons.
TCLP - Toxicity Characteristic Leaching Procedure.
(1) - MassDEP Method 1 standards for C9-C10 aromatics used.
R1 - Rejected data point due to 0% recovery in associated LCS.
R2 - Rejected data point due to gross holding time exceedance.
R3 - Rejected data point due to lack of field preservation.
orange shading - Significant low bias due to 0% recovery in associated LCS.
green shading - Significant low bias due to gross holding time exceedance.
blue shading - Significant low bias due to lack of field preservation.

Appendix H-1; Table H-1.1.
Summary of Analytical Results for Soil Samples
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						MW-02			MW-03			MW-03A	MW-04		
								MW-2	MW-2	MW-2	MW-3	MW-3	MW-3	MW-3A	MW-4	MW-4	MW-4
								0.5 - 2	5 - 6.5	10 - 10.8	5 - 6	10 - 12	15 - 16.5	0 - 1.5	0 - 1.5	5 - 6.5	10 - 11.5
		Sample ID:	Sample Depth (ft.):	Sample Date:				06/29/1987	06/29/1987	06/29/1987	06/24/1987	06/29/1987	06/29/1987	06/25/1987	06/25/1987	06/25/1987	06/25/1987
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3										
VOCs																	
	Chloromethane	NS	NS	NS	NS	NS	NS	NA	NA	R3	R3	NA	NA	NA	NA	R3	NA
	Bromomethane	0.5	30	0.5	30	0.5	30	NA	NA	R3	R3	NA	NA	NA	NA	R3	NA
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NS	NS	NS	NA	NA	R3	R3	NA	NA	NA	NA	R3	NA
	Acetone	50	400	50	400	50	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Carbon Disulfide	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methylene Chloride	20	200	20	900	20	900	NA	NA	R3	R3	NA	NA	NA	NA	R3	NA
	Dichloroethene, trans-1,2-	1	500	1	1,000	1	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl Ethyl Ketone (MEK)	50	400	50	400	50	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloroethene, cis-1,2-	0.4	100	0.4	500	0.4	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chloroform	0.3	400	0.3	800	0.3	800	NA	NA	R3	R3	NA	NA	NA	NA	R3	NA
	Trichloroethane, 1,1,1-	500	500	600	1,000	600	3,000	NA	NA	R3	R3	NA	NA	NA	NA	R3	NA
	Trichloroethylene (TCE)	2	90	2	700	2	2,000	NA	NA	R3	R3	NA	NA	NA	NA	R3	NA
	Methyl Isobutyl Ketone (MIBK)	50	400	50	400	50	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Toluene	500	500	1000	1000	2000	3000	NA	NA	R3	R3	NA	NA	NA	NA	R3	NA
	Hexanone (MNBK), 2-	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tetrachloroethylene (PCE)	10	30	10	200	10	1,000	NA	NA	R3	R3	NA	NA	NA	NA	R3	NA
	Xylenes (total)	300	500	300	1,000	300	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Styrene	4	30	4	200	4	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Propylbenzene, n-	100[(1)]	100[(1)]	500[(1)]	500[(1)]	500[(1)]	500[(1)]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Trimethylbenzene, 1,2,4-	100[(1)]	100[(1)]	500[(1)]	500[(1)]	500[(1)]	500[(1)]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Butylbenzene, sec-	100[(1)]	100[(1)]	500[(1)]	500[(1)]	500[(1)]	500[(1)]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Isopropyltoluene, p- (Cymene)	100[(1)]	100[(1)]	500[(1)]	500[(1)]	500[(1)]	500[(1)]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Butylbenzene, n-	100[(1)]	100[(1)]	500[(1)]	500[(1)]	500[(1)]	500[(1)]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VPH																	
(mg/kg)	C5-C8 Aliphatics	100	100	500	500	500	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C12 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C10 Aromatics	100	100	500	500	500	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl T-Butyl Ether (MTBE)	100	100	100	500	100	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPH																	
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1000	40	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methylnaphthalene, 2-	80	300	80	500	80	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	600	10	600	10	600	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	500	500	1,000	1,000	3,000	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	7	7	40	40	300	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chrysene	70	70	400	400	3,000	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	300	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	3,000	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	2	2	4	4	30	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	300	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	30	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Appendix H-1; Table H-1.1.
Summary of Analytical Results for Soil Samples
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						MW-02			MW-03			MW-03A	MW-04		
								MW-2	MW-2	MW-2	MW-3	MW-3	MW-3	MW-3A	MW-4	MW-4	MW-4
								0.5 - 2	5 - 6.5	10 - 10.8	5 - 6	10 - 12	15 - 16.5	0 - 1.5	0 - 1.5	5 - 6.5	10 - 11.5
		Sample Depth (ft.):															
		Sample Date:						06/29/1987	06/29/1987	06/29/1987	06/24/1987	06/29/1987	06/29/1987	06/25/1987	06/25/1987	06/25/1987	06/25/1987
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3										
PCBs																	
(mg/kg)	Total PCBs	2	2	3	3	3	3	0.050 U	NA	NA	NA	NA	NA	0.050 U	0.050 U	NA	NA
TPH																	
(mg/kg)	TPH	1,000	1,000	3,000	3,000	5,000	5,000	**280.04**	**0.04**	**0.070**	**0.02**	**0.02**	**0.02**	25 U	**260.01**	**0.03**	**0.02**
Metals, total																	
(mg/kg)	Arsenic	20	20	20	20	20	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	2	2	30	30	30	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	30	30	200	200	200	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Copper	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	20	20	30	30	30	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	20	20	700	700	700	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	2,500	2,500	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Currently paved
Beyond horizontal or vertical
Greater than 15' bgs
In roadway

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
B - Compound detected in associated method blank
E - Estimated value due to interference.
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
N/A - Not applicable.
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NS - No MassDEP standards exist for this analyte.
U - Compound was not detected at specified quantitation limit.
Values in **Bold** indicate the compound was detected.
Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.
VOCs - Volatile Organic Compounds.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.
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TPH - Total Petroleum Hydrocarbons.
TCLP - Toxicity Characteristic Leaching Procedure.
(1) - MassDEP Method 1 standards for C9-C10 aromatics used.
R1 - Rejected data point due to 0% recovery in associated LCS.
R2 - Rejected data point due to gross holding time exceedance.
R3 - Rejected data point due to lack of field preservation.
orange shading - Significant low bias due to 0% recovery in associated LCS.
green shading - Significant low bias due to gross holding time exceedance.
blue shading - Significant low bias due to lack of field preservation.

Appendix H-1; Table H-1.1.
Summary of Analytical Results for Soil Samples
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:	S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3	**MW-05**		**MCA-2**	**MCA-3**		**MCA-4**	**MCA-5**	**MCA-6**	**MCA-8**	**MCA-9**	**MCA-10**	**MCA-11**	**SB-01**	
		Sample ID:							MW-5	MW-5	S-2-B	S-3-A	S-3-B	S-4-B	S-5-B	S-6-B	S-8-A	S-9-A	S-10-B	S-11-B	SB-1	
		Sample Depth (ft.):							0 - 1.5	10 - 10.9	1.5 - 2	0 - 0.6	1 - 1.5	1.5 - 2	1.5 - 2	1.5 - 2	0 - 1.5	0 - 0.5	1 - 1.5	1.5 - 2	7 - 11	
		Sample Date:							06/26/1987	06/26/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	03/06/2000	
VOCs																						
	Chloromethane		NS	NS	NS	NS	NS	NS	R3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Bromomethane		0.5	30	0.5	30	0.5	30	R3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Trichlorofluoromethane (Freon 11)		NS	NS	NS	NS	NS	NS	R3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Acetone		50	400	50	400	50	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.013**	
	Carbon Disulfide		NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Methylene Chloride		20	200	20	900	20	900	R3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0010**	**J**
	Dichloroethene, trans-1,2-		1	500	1	1,000	1	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Methyl Ethyl Ketone (MEK)		50	400	50	400	50	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Dichloroethene, cis-1,2-		0.4	100	0.4	500	0.4	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Chloroform		0.3	400	0.3	800	0.3	800	R3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Trichloroethane, 1,1,1-		500	500	600	1,000	600	3,000	R3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Trichloroethylene (TCE)		2	90	2	700	2	2,000	R3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Methyl Isobutyl Ketone (MIBK)		50	400	50	400	50	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Toluene		500	500	1000	1000	2000	3000	R3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Hexanone (MNBK), 2-		NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Tetrachloroethylene (PCE)		10	30	10	200	10	1,000	R3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Xylenes (total)		300	500	300	1,000	300	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.003	U
	Styrene		4	30	4	200	4	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Propylbenzene, n-		100[(1)]	100[(1)]	500[(1)]	500[(1)]	500[(1)]	500[(1)]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Trimethylbenzene, 1,2,4-		100[(1)]	100[(1)]	500[(1)]	500[(1)]	500[(1)]	500[(1)]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Butylbenzene, sec-		100[(1)]	100[(1)]	500[(1)]	500[(1)]	500[(1)]	500[(1)]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Isopropyltoluene, p- (Cymene)		100[(1)]	100[(1)]	500[(1)]	500[(1)]	500[(1)]	500[(1)]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Butylbenzene, n-		100[(1)]	100[(1)]	500[(1)]	500[(1)]	500[(1)]	500[(1)]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
VPH																						
(mg/kg)	C5-C8 Aliphatics		100	100	500	500	500	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17	U
	C9-C12 Aliphatics		1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.9	U
	C9-C10 Aromatics		100	100	500	500	500	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.8	U
	Methyl T-Butyl Ether (MTBE)		100	100	100	500	100	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
EPH																						
(mg/kg)	C9-C18 Aliphatics		1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.2	U
	C19-C36 Aliphatics		3,000	3,000	5,000	5,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.3	U
	C11-C22 Aromatics		1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.1	U
	Naphthalene		40	500	40	1000	40	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0020	U
	Methylnaphthalene, 2-		80	300	80	500	80	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53	U
	Acenaphthylene		600	10	600	10	600	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53	U
	Acenaphthene		1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53	U
	Fluorene		1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53	U
	Phenanthrene		500	500	1,000	1,000	3,000	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53	U
	Anthracene		1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53	U
	Fluoranthene		1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53	U
	Pyrene		1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53	U
	Benzo(a)anthracene		7	7	40	40	300	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53	U
	Chrysene		70	70	400	400	3,000	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53	U
	Benzo(b)fluoranthene		7	7	40	40	300	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53	U
	Benzo(k)fluoranthene		70	70	400	400	3,000	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53	U
	Benzo(a)pyrene		2	2	4	4	30	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53	U
	Indeno(1,2,3-cd)pyrene		7	7	40	40	300	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53	U
	Dibenzo(a,h)anthracene		0.7	0.7	4	4	30	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53	U
	Benzo(g,h,i)perylene		1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53	U

Appendix H-1; Table H-1.1.
Summary of Analytical Results for Soil Samples
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						MW-05		MCA-2	MCA-3		MCA-4	MCA-5	MCA-6	MCA-8	MCA-9	MCA-10	MCA-11	SB-01
		Sample ID:						MW-5	MW-5	S-2-B	S-3-A	S-3-B	S-4-B	S-5-B	S-6-B	S-8-A	S-9-A	S-10-B	S-11-B	SB-1
		Sample Depth (ft.):						0 - 1.5	10 - 10.9	1.5 - 2	0 - 0.6	1 - 1.5	1.5 - 2	1.5 - 2	1.5 - 2	0 - 1.5	0 - 0.5	1 - 1.5	1.5 - 2	7 - 11
		Sample Date:						06/26/1987	06/26/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	03/06/2000
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3													
PCBs																				
(mg/kg)	Total PCBs	2	2	3	3	3	3	**1.44**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH																				
(mg/kg)	TPH	1,000	1,000	3,000	3,000	5,000	5,000	**1,200**	**0.010**	**140**	**84**	**56**	**87**	**110**	**26**	**380**	**220**	**30**	**420**	NA
Metals, total																				
(mg/kg)	Arsenic	20	20	20	20	20	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.28**
	Barium	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**15**
	Cadmium	2	2	30	30	30	30	NA	NA	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.27 U
	Chromium	30	30	200	200	200	200	NA	NA	2.0 U	**350**	**120**	**130**	**92**	**15**	**310**	**74**	**13**	**45**	**1.8**
	Copper	NS	NS	NS	NS	NS	NS	NA	NA	**4.3**	**32**	**20**	**5.7**	**37**	**7.9**	**30**	**19**	**3.7**	**11**	NA
	Lead	300	300	300	300	300	300	NA	NA	**12**	**81**	**62**	**44**	**260**	**12**	**42**	**150**	**85**	**63**	5.4 U
	Mercury	20	20	30	30	30	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.011 U
	Nickel	20	20	700	700	700	700	NA	NA	2.0 U	**1,600**	**620**	**870**	**49**	**220**	**280**	**29**	**15**	**58**	NA
	Zinc	2,500	2,500	3,000	3,000	5,000	5,000	NA	NA	**12**	**60**	**31**	**17**	**52**	**10**	**55**	**43**	**15**	**96**	NA

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
B - Compound detected in associated method blank
E - Estimated value due to interference.
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
N/A - Not applicable.
ND - Not detected.
NS - No MassDEP standards exist for this analyte.
U - Compound was not detected at specified quantitation limit.
Values in **Bold** indicate the compound was detected.
Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.
VOCs - Volatile Organic Compounds.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.
PCBs - Polychlorinated Biphenyls.
TPH - Total Petroleum Hydrocarbons.
TCLP - Toxicity Characteristic Leaching Procedure.
(1) - MassDEP Method 1 standards for C9-C10 aromatics used.
R1 - Rejected data point due to 0% recovery in associated LCS.
R2 - Rejected data point due to gross holding time exceedance.
R3 - Rejected data point due to lack of field preservation.
orange shading - Significant low bias due to 0% recovery in associated LCS.
green shading - Significant low bias due to gross holding time exceedance.
blue shading - Significant low bias due to lack of field preservation.

Currently paved
Beyond horizontal or vertical
Greater than 15' bgs
In roadway

Appendix H-1; Table H-1.1.
Summary of Analytical Results for Soil Samples
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						SB-02	SS-01	SS-01_Cygnus	SS-02	SS-03	SS-04	SS-05	SS-06	TRC-05				TRC-08
		Sample ID:						SB-2	SS-1	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	TRC-5 7-9	TRC-5-1 7-11 COMP	TRC-5-2 13-15.5 COMP	TRC-5 15-15.5	TRC-8 13.5-15
		Sample Depth (ft.):						7 - 11	0 - 0.5	0 - 1	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	7 - 9	7 - 11	13 - 15.5	15 - 15.5	13.5 - 15
		Sample Date:						03/06/2000	04/02/2010	02/24/2000	04/02/2010	04/02/2010	04/02/2010 combo	04/02/2010	04/02/2010	02/11/2013	02/11/2013	02/11/2013	02/11/2013 combo	02/12/2013
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3													
VOCs																				
	Chloromethane	NS	NS	NS	NS	NS	NS	0.0010 U	0.0089 U	0.085 U	0.0091 U	0.0096 U	0.0054 U	0.0067 U	0.0054 U	0.26 U	NA	NA	0.36 U	0.0026 U
	Bromomethane	0.5	30	0.5	30	0.5	30	0.0010 U	0.0089 U	0.085 U	0.0091 U	0.0096 U	0.0054 U	0.0067 U	0.0054 U	0.13 U	NA	NA	0.18 U	0.0013 U
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NS	NS	NS	0.0010 U	0.0089 U	0.085 U	0.0091 U	0.0096 U	0.0054 U	0.0067 U	0.0054 U	0.26 U	NA	NA	0.36 U	0.0026 U
	Acetone	50	400	50	400	50	400	**0.020**	0.089 U	**0.17 J**	0.091 U	0.096 U	0.054 U	0.067 U	0.054 U	2.4 U	NA	NA	3.25 U	0.024 U
	Carbon Disulfide	NS	NS	NS	NS	NS	NS	0.0010 U	0.0053 U	0.085 U	0.0055 U	0.0058 U	0.00325 U	0.004 U	0.0032 U	0.26 U	NA	NA	0.36 U	0.0026 U
	Methylene Chloride	20	200	20	900	20	900	**0.0010 J**	0.018 U	0.21 U	0.018 U	0.019 U	0.0108 U	0.013 U	0.011 U	0.66 U	NA	NA	0.905 U	0.0065 U
	Dichloroethene, trans-1,2-	1	500	1	1,000	1	3,000	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U	0.099 U	NA	NA	0.135 U	0.00098 U
	Methyl Ethyl Ketone (MEK)	50	400	50	400	50	400	0.0010 U	0.036 U	0.085 U	0.037 U	0.039 U	0.0215 U	0.027 U	0.022 U	0.66 U	NA	NA	0.905 U	0.0065 U
	Dichloroethene, cis-1,2-	0.4	100	0.4	500	0.4	500	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U	**0.30**	NA	NA	0.0905 U	**0.0056**
	Chloroform	0.3	400	0.3	800	0.3	800	0.0010 U	0.0036 U	0.085 U	0.0037 U	0.0039 U	0.00215 U	0.0027 U	0.0022 U	0.099 U	NA	NA	0.135 U	0.00098 U
	Trichloroethane, 1,1,1-	500	500	600	1,000	600	3,000	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U	0.066 U	NA	NA	0.0905 U	0.00065 U
	Trichloroethylene (TCE)	2	90	2	700	2	2,000	0.0010 U	0.0018 U	0.085 U	**0.029**	0.0019 U	**0.052**	0.0013 U	0.0011 U	**2.6**	NA	NA	**4.9**	**0.26**
	Methyl Isobutyl Ketone (MIBK)	50	400	50	400	50	400	0.0010 U	0.018 U	0.085 U	0.018 U	0.019 U	0.0108 U	0.013 U	0.011 U	0.66 U	NA	NA	0.905 U	0.0065 U
	Toluene	500	500	1000	1000	2000	3000	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U	0.099 U	NA	NA	0.135 U	0.00098 U
	Hexanone (MNBK), 2-	NS	NS	NS	NS	NS	NS	0.0010 U	0.018 U	0.085 U	0.018 U	0.019 U	0.0108 U	0.013 U	0.011 U	0.66 U	NA	NA	0.905 U	0.0065 U
	Tetrachloroethylene (PCE)	10	30	10	200	10	1,000	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	**0.002**	0.0013 U	0.0011 U	0.066 U	NA	NA	**0.0865 J**	**0.0067**
	Xylenes (total)	300	500	300	1,000	300	3,000	0.003 U	0.0036 U	0.17 U	0.0037 U	0.0039 U	0.00215 U	0.0027 U	0.0022 U	0.13 U	NA	NA	0.18 U	0.0013 U
	Styrene	4	30	4	200	4	1,000	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U	0.13 U	NA	NA	0.18 U	0.0013 U
	Propylbenzene, n-	100[1]	100[1]	500[1]	500[1]	500[1]	500[1]	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U	0.066 U	NA	NA	0.0905 U	0.00065 U
	Trimethylbenzene, 1,2,4-	100[1]	100[1]	500[1]	500[1]	500[1]	500[1]	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U	0.26 U	NA	NA	0.36 U	0.0026 U
	Butylbenzene, sec-	100[1]	100[1]	500[1]	500[1]	500[1]	500[1]	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U	0.066 U	NA	NA	0.0905 U	0.00065 U
	Isopropyltoluene, p- (Cymene)	100[1]	100[1]	500[1]	500[1]	500[1]	500[1]	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U	0.066 U	NA	NA	0.0905 U	0.00065 U
	Butylbenzene, n-	100[1]	100[1]	500[1]	500[1]	500[1]	500[1]	0.0010 U	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U	0.066 U	NA	NA	0.0905 U	0.00065 U
VPH																				
(mg/kg)	C5-C8 Aliphatics	100	100	500	500	500	500	13 U	NA	13 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C12 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	3.6 U	NA	3.8 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C10 Aromatics	100	100	500	500	500	500	7.2 U	NA	7.6 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl T-Butyl Ether (MTBE)	100	100	100	500	100	500	0.0010 U	0.0036 U	0.085 U	0.0037 U	0.0039 U	0.00215 U	0.0027 U	0.0022 U	0.13 U	NA	NA	0.18 U	0.0013 U
EPH																				
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	3.2 U	NA	**7.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	5,000	5,000	4.2 U	NA	**150**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	5,000	5,000	9.0 U	NA	**65**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1000	40	3,000	0.0010 U	0.0036 U	0.085 U	0.0037 U	**0.67**	0.00215 U	**0.36**	0.0022 U	0.26 U	NA	NA	0.36 U	0.0026 U
	Methylnaphthalene, 2-	80	300	80	500	80	500	0.53 U	0.45 U	0.57 U	0.90 U	0.41 U	0.195 U	**0.23**	0.20 U	NA	NA	NA	NA	NA
	Acenaphthylene	600	10	600	10	600	10	0.53 U	0.45 U	0.57 U	0.90 U	0.41 U	0.195 U	0.22 U	0.20 U	NA	NA	NA	NA	NA
	Acenaphthene	1,000	1,000	3,000	3,000	5,000	5,000	0.53 U	**1.2**	0.57 U	0.90 U	**1.0**	0.195 U	**0.63**	0.20 U	NA	NA	NA	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	5,000	5,000	0.53 U	**0.95**	0.57 U	0.90 U	**0.87**	0.195 U	**0.62**	0.20 U	NA	NA	NA	NA	NA
	Phenanthrene	500	500	1,000	1,000	3,000	3,000	0.53 U	**14**	**1.6**	**8.2**	**14**	0.195 U	**6.3**	**0.31**	NA	NA	NA	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	5,000	5,000	0.53 U	**3.1**	0.57 U	**1.7**	**2.4**	0.195 U	**1.3**	0.20 U	NA	NA	NA	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	5,000	5,000	0.53 U	**21**	**2.5**	**12**	**19**	**0.15 J**	**6.3**	**0.39**	NA	NA	NA	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	5,000	5,000	0.53 U	**24**	**2.6**	**11**	**16**	**0.145 J**	**6.5**	**0.47**	NA	NA	NA	NA	NA
	Benzo(a)anthracene	7	7	40	40	300	300	0.53 U	**12**	**1.3**	**5.9**	**8.6**	0.195 U	**3.5**	**0.27**	NA	NA	NA	NA	NA
	Chrysene	70	70	400	400	3,000	3,000	0.53 U	**12**	**1.7**	**6.0**	**8.7**	0.195 U	**3.6**	**0.33**	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	300	300	0.53 U	**13**	**1.7**	**6.0**	**9.7**	0.195 U	**4.0**	**0.34**	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	3,000	3,000	0.53 U	**6.8**	**0.94**	**2.3**	**3.7**	0.195 U	**1.5**	0.20 U	NA	NA	NA	NA	NA
	Benzo(a)pyrene	2	2	4	4	30	30	0.53 U	**10**	**1.3**	**4.9**	**7.1**	0.195 U	**3.1**	**0.26**	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	300	300	0.53 U	**6.9**	**1.4**	**5.2**	**4.8**	0.195 U	**1.5**	0.20 U	NA	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	30	30	0.53 U	**1.4**	**1.4**	**1.3**	**0.98**	0.195 U	**0.33**	0.20 U	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	5,000	5,000	0.53 U	**5.0**	**1.0**	**4.7**	**3.4**	0.195 U	**1.2**	0.20 U	NA	NA	NA	NA	NA

Appendix H-1; Table H-1.1.
Summary of Analytical Results for Soil Samples
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:	SB-02	SS-01	SS-01_Cygnus	SS-02	SS-03	SS-04	SS-05	SS-06	TRC-05				TRC-08
		Sample ID:	SB-2	SS-1	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	TRC-5 7-9	TRC-5-1 7-11 COMP	TRC-5-2 13-15.5 COMP	TRC-5 15-15.5	TRC-8 13.5-15
		Sample Depth (ft.):	7 - 11	0 - 0.5	0 - 1	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	7 - 9	7 - 11	13 - 15.5	15 - 15.5	13.5 - 15
		Sample Date:	03/06/2000	04/02/2010	02/24/2000	04/02/2010	04/02/2010	04/02/2010 combo	04/02/2010	04/02/2010	02/11/2013	02/11/2013	02/11/2013	02/11/2013 combo	02/12/2013
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3								
PCBs															
(mg/kg)	Total PCBs	2	2	3	3	3	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH															
(mg/kg)	TPH	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals, total															
(mg/kg)	Arsenic	20	20	20	20	20	20	**0.42**	NA	**2.6**	NA	NA	NA	NA	NA	NA	NA
	Barium	1,000	1,000	3,000	3,000	5,000	5,000	**14**	NA	**57**	NA	NA	NA	NA	NA	NA	NA
	Cadmium	2	2	30	30	30	30	0.28 U	NA	**1.2**	NA	NA	NA	NA	NA	NA	NA
	Chromium	30	30	200	200	200	200	**2.4**	**37**	**16**	**49**	**27**	**105**	**78**	**13**	NA	NA	NA	NA	NA	NA
	Copper	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	300	5.7 U	NA	**56**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mercury	20	20	30	30	30	30	0.010 U	NA	**0.028**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	20	20	700	700	700	700	NA	**43**	NA	**82**	**44**	**115**	**250**	**21**	NA	NA	NA	NA	NA	NA
	Zinc	2,500	2,500	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Currently paved
Beyond horizontal or vertical
Greater than 15' bgs
In roadway

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
B - Compound detected in associated method blank
E - Estimated value due to interference.
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
N/A - Not applicable.
ND - Not detected.
NS - No MassDEP standards exist for this analyte.
U - Compound was not detected at specified quantitation limit.
Values in **Bold** indicate the compound was detected.
Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.
VOCs - Volatile Organic Compounds.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.
PCBs - Polychlorinated Biphenyls.
TPH - Total Petroleum Hydrocarbons.
TCLP - Toxicity Characteristic Leaching Procedure.
(1) - MassDEP Method 1 standards for C9-C10 aromatics used.
R1 - Rejected data point due to 0% recovery in associated LCS.
R2 - Rejected data point due to gross holding time exceedance.
R3 - Rejected data point due to lack of field preservation.
orange shading - Significant low bias due to 0% recovery in associated LCS.
green shading - Significant low bias due to gross holding time exceedance.
blue shading - Significant low bias due to lack of field preservation.

Appendix H-1; Table H-1.2
Risk Assessment Data Set for Soil Analytical Results -- 0 to 1 Foot Depth Interval
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						SS-105	CGW-12	CGW-13	CGW-15	MW-04	MW-05	MCA-8	MCA-9	SS-01_Cygnus
		Sample ID:						#105	CGW-12/S-1	CGW-13/S-1	CGW-15/S-1	MW-4	MW-5	S-8-A	S-9-A	SS-1
		Sample Depth (ft.):						Surface	0 - 2	0 - 2	0 - 2	0 - 1.5	0 - 1.5	0 - 1.5	0 - 0.5	0 - 1
		Sample Date:						07/09/1987	05/29/2001	05/29/2001	05/30/2001	06/25/1987	06/26/1987	02/25/1987	02/25/1987	02/24/2000
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3									
VOCs																
(mg/kg)	Bromomethane	0.5	30	0.5	30	0.5	30	R3	0.0014 U	0.0014 U	**0.68 JB**	NA	R3	NA	NA	0.085 U
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NS	NS	NS	R3	**0.0022**	**0.0022**	1.2 U	NA	R3	NA	NA	0.085 U
	Acetone	50	400	50	400	50	400	NA	**0.041 B**	**0.13 B**	**1.0 J**	NA	NA	NA	NA	**0.17 J**
	Carbon Disulfide	NS	NS	NS	NS	NS	NS	NA	**0.0010 J**	**0.0026 J**	1.2 U	NA	NA	NA	NA	0.085 U
	Methylene Chloride	20	200	20	900	20	900	R3	**0.0025 JB**	**0.0024 JB**	**1.5 JB**	NA	R3	NA	NA	0.21 U
	Methyl Ethyl Ketone (MEK)	50	400	50	400	50	400	NA	**0.0029**	**0.042**	1.2 U	NA	NA	NA	NA	0.085 U
	Dichloroethene, cis-1,2-	0.4	100	0.4	500	0.4	500	NA	0.0014 U	**0.0016**	**3.0**	NA	NA	NA	NA	0.085 U
	Trichloroethylene (TCE)	2	90	2	700	2	2,000	R3	**0.0045**	**0.029**	**71**	NA	R3	NA	NA	0.085 U
	Methyl Isobutyl Ketone (MIBK)	50	400	50	400	50	400	NA	0.0014 U	**0.0010 J**	1.2 U	NA	NA	NA	NA	0.085 U
	Toluene	500	500	1000	1000	2000	3000	R3	**0.0015**	**0.0074**	1.2 U	NA	R3	NA	NA	0.085 U
	Hexanone (MNBK), 2-	NS	NS	NS	NS	NS	NS	NA	0.0014 U	**0.0031**	1.2 U	NA	NA	NA	NA	0.085 U
	Tetrachloroethylene (PCE)	10	30	10	200	10	1,000	R3	0.0014 U	0.0014 U	**0.62 J**	NA	R3	NA	NA	0.085 U
	Styrene	4	30	4	200	4	1,000	NA	0.0014 U	**0.0008 J**	1.2 U	NA	NA	NA	NA	0.085 U
EPH																
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	**5.4**	**9.5**	3.3 U	NA	NA	NA	NA	**7.3**
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	5,000	5,000	NA	**150**	**1,500**	**140**	NA	NA	NA	NA	**150**
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	**200**	**500**	**33**	NA	NA	NA	NA	**65**
	Naphthalene	40	500	40	1000	40	3,000	NA	**0.57 J**	**0.31 J**	0.55 U	NA	NA	NA	NA	0.085 U
	Methylnaphthalene, 2-	80	300	80	500	80	500	NA	**0.59**	R1	0.55 U	NA	NA	NA	NA	0.57 U
	Acenaphthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**2.9**	**0.36 J**	0.55 U	NA	NA	NA	NA	0.57 U
	Fluorene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**3.2**	**0.30 J**	0.55 U	NA	NA	NA	NA	0.57 U
	Phenanthrene	500	500	1,000	1,000	3,000	3,000	NA	**24**	**13**	**1.2**	NA	NA	NA	NA	**1.6**
	Anthracene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**6.5**	**1.6**	**0.32 J**	NA	NA	NA	NA	0.57 U
	Fluoranthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**29**	**19**	**2.3**	NA	NA	NA	NA	**2.5**
	Pyrene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**24**	**18**	**2.4**	NA	NA	NA	NA	**2.6**
	Benzo(a)anthracene	7	7	40	40	300	300	NA	**12**	**8.7**	**1.5**	NA	NA	NA	NA	**1.3**
	Chrysene	70	70	400	400	3,000	3,000	NA	**11**	**8.2**	**1.1 J**	NA	NA	NA	NA	**1.7**
	Benzo(b)fluoranthene	7	7	40	40	300	300	NA	**12**	**9.0**	**1.3**	NA	NA	NA	NA	**1.7**
	Benzo(k)fluoranthene	70	70	400	400	3,000	3,000	NA	**5.9**	**4.2**	**0.76**	NA	NA	NA	NA	**0.94**
	Benzo(a)pyrene	2	2	4	4	30	30	NA	**9.3**	**6.0**	**1.1**	NA	NA	NA	NA	**1.3**
	Indeno(1,2,3-cd)pyrene	7	7	40	40	300	300	NA	**7.7**	**4.9**	**0.96**	NA	NA	NA	NA	**1.4**
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	30	30	NA	**7.7**	**4.9**	**0.96**	NA	NA	NA	NA	**1.4**
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**5.4**	**3.3**	**0.80**	NA	NA	NA	NA	**1.0**

Appendix H-1; Table H-1.2
Risk Assessment Data Set for Soil Analytical Results -- 0 to 1 Foot Depth Interval
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						**SS-105**	**CGW-12**	**CGW-13**	**CGW-15**	**MW-04**	**MW-05**	**MCA-8**	**MCA-9**	**SS-01_Cygnus**
		Sample ID:						#105	CGW-12/S-1	CGW-13/S-1	CGW-15/S-1	MW-4	MW-5	S-8-A	S-9-A	SS-1
		Sample Depth (ft.):						Surface	0 - 2	0 - 2	0 - 2	0 - 1.5	0 - 1.5	0 - 1.5	0 - 0.5	0 - 1
		Sample Date:						07/09/1987	05/29/2001	05/29/2001	05/30/2001	06/25/1987	06/26/1987	02/25/1987	02/25/1987	02/24/2000
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3									
PCBs (mg/kg)	Total PCBs	2	2	3	3	3	3	NA	0.027 U	**0.268**	0.027 U	0.050 U	**1.44**	NA	NA	NA
TPH (mg/kg)	TPH	1,000	1,000	3,000	3,000	5,000	5,000	**842**	NA	NA	NA	**260.01**	**1,200**	**380**	**220**	NA
Metals, total																
(mg/kg)	Arsenic	20	20	20	20	20	20	NA	16 U	19 U	19 U	NA	NA	NA	NA	**2.6**
	Barium	1,000	1,000	3,000	3,000	5,000	5,000	NA	**71**	**950**	**70**	NA	NA	NA	NA	**57**
	Cadmium	2	2	30	30	30	30	NA	0.82 U	9.4 U	0.95 U	NA	NA	2.0 U	2.0 U	**1.2**
	Chromium	30	30	200	200	200	200	NA	**10**	**120**	**14**	NA	NA	**310**	**74**	**16**
	Copper	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	**30**	**19**	NA
	Lead	300	300	300	300	300	300	NA	**18**	**110**	**21**	NA	NA	**42**	**150**	**56**
	Mercury	20	20	30	30	30	30	NA	**0.022**	**0.093**	**0.024**	NA	NA	NA	NA	**0.028**
	Nickel	20	20	700	700	700	700	NA	NA	NA	NA	NA	NA	**280**	**29**	NA
	Zinc	2,500	2,500	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	**55**	**43**	NA

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

B - Compound detected in associated method blank

E - Estimated value due to interference.

J - Estimated value.

NA - Sample not analyzed for the listed analyte.

N/A - Not applicable.

ND - Not detected.

NS - No MassDEP standards exist for this analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.

VOCs - Volatile Organic Compounds.

EPH - Extractable Petroleum Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

(1) - MassDEP Method 1 standards for C9-C10 aromatics used.

R1 - Rejected data point due to 0% recovery in associated LCS.

R2 - Rejected data point due to gross holding time exceedance.

R3 - Rejected data point due to lack of field preservation.

orange shading - Significant low bias due to 0% recovery in associated LCS.

green shading - Significant low bias due to gross holding time exceedance.

blue shading - Significant low bias due to lack of field preservation.

Appendix H-1; Table H-1.3
Risk Assessment Data Set for Soil Analytical Results -- 0 to 3 Foot Depth Interval (Unpaved)
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						**SS-105**	**CGW-12**	**CGW-13**	**CGW-15**	**MW-04**	**MW-05**	**MCA-8**	**MCA-9**	**MCA-10**	**MCA-11**	**SS-01_Cygnus**
		Sample ID:						#105	CGW-12/S-1	CGW-13/S-1	CGW-15/S-1	MW-4	MW-5	S-8-A	S-9-A	S-10-B	S-11-B	SS-1
		Sample Depth (ft.):						Surface	0 - 2	0 - 2	0 - 2	0 - 1.5	0 - 1.5	0 - 1.5	0 - 0.5	1 - 1.5	1.5 - 2	0 - 1
		Sample Date:						07/09/1987	05/29/2001	05/29/2001	05/30/2001	06/25/1987	06/26/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/24/2000
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3											
VOCs																		
(mg/kg)	Bromomethane	0.5	30	0.5	30	0.5	30	R3	0.0014 U	0.0014 U	**0.68 JB**	NA	R3	NA	NA	NA	NA	0.085 U
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NS	NS	NS	R3	**0.0022**	**0.0022**	1.2 U	NA	R3	NA	NA	NA	NA	0.085 U
	Acetone	50	400	50	400	50	400	NA	**0.041 B**	**0.13 B**	**1.0 J**	NA	NA	NA	NA	NA	NA	**0.17 J**
	Carbon Disulfide	NS	NS	NS	NS	NS	NS	NA	**0.0010 J**	**0.0026 J**	1.2 U	NA	NA	NA	NA	NA	NA	0.085 U
	Methylene Chloride	20	200	20	900	20	900	R3	**0.0025 JB**	**0.0024 JB**	**1.5 JB**	NA	R3	NA	NA	NA	NA	0.21 U
	Methyl Ethyl Ketone (MEK)	50	400	50	400	50	400	NA	**0.0029**	**0.042**	1.2 U	NA	NA	NA	NA	NA	NA	0.085 U
	Dichloroethene, cis-1,2-	0.4	100	0.4	500	0.4	500	NA	0.0014 U	**0.0016**	**3.0**	NA	NA	NA	NA	NA	NA	0.085 U
	Trichloroethylene (TCE)	2	90	2	700	2	2,000	R3	**0.0045**	**0.029**	**71**	NA	R3	NA	NA	NA	NA	0.085 U
	Methyl Isobutyl Ketone (MIBK)	50	400	50	400	50	400	NA	0.0014 U	**0.0010 J**	1.2 U	NA	NA	NA	NA	NA	NA	0.085 U
	Toluene	500	500	1000	1000	2000	3000	R3	**0.0015**	**0.0074**	1.2 U	NA	R3	NA	NA	NA	NA	0.085 U
	Hexanone (MNBK), 2-	NS	NS	NS	NS	NS	NS	NA	0.0014 U	**0.0031**	1.2 U	NA	NA	NA	NA	NA	NA	0.085 U
	Tetrachloroethylene (PCE)	10	30	10	200	10	1,000	R3	0.0014 U	0.0014 U	**0.62 J**	NA	R3	NA	NA	NA	NA	0.085 U
	Styrene	4	30	4	200	4	1,000	NA	0.0014 U	**0.0008 J**	1.2 U	NA	NA	NA	NA	NA	NA	0.085 U
EPH																		
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	**5.4**	**9.5**	3.3 U	NA	NA	NA	NA	NA	NA	**7.3**
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	5,000	5,000	NA	**150**	**1,500**	**140**	NA	NA	NA	NA	NA	NA	**150**
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	**200**	**500**	**33**	NA	NA	NA	NA	NA	NA	**65**
	Naphthalene	40	500	40	1000	40	3,000	NA	**0.57 J**	**0.31 J**	0.55 U	NA	NA	NA	NA	NA	NA	0.085 U
	Methylnaphthalene, 2-	80	300	80	500	80	500	NA	**0.59**	R1	0.55 U	NA	NA	NA	NA	NA	NA	0.57 U
	Acenaphthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**2.9**	**0.36 J**	0.55 U	NA	NA	NA	NA	NA	NA	0.57 U
	Fluorene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**3.2**	**0.30 J**	0.55 U	NA	NA	NA	NA	NA	NA	0.57 U
	Phenanthrene	500	500	1,000	1,000	3,000	3,000	NA	**24**	**13**	**1.2**	NA	NA	NA	NA	NA	NA	**1.6**
	Anthracene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**6.5**	**1.6**	**0.32 J**	NA	NA	NA	NA	NA	NA	0.57 U
	Fluoranthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**29**	**19**	**2.3**	NA	NA	NA	NA	NA	NA	**2.5**
	Pyrene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**24**	**18**	**2.4**	NA	NA	NA	NA	NA	NA	**2.6**
	Benzo(a)anthracene	7	7	40	40	300	300	NA	**12**	**8.7**	**1.5**	NA	NA	NA	NA	NA	NA	**1.3**
	Chrysene	70	70	400	400	3,000	3,000	NA	**11**	**8.2**	**1.1 J**	NA	NA	NA	NA	NA	NA	**1.7**
	Benzo(b)fluoranthene	7	7	40	40	300	300	NA	**12**	**9.0**	**1.3**	NA	NA	NA	NA	NA	NA	**1.7**
	Benzo(k)fluoranthene	70	70	400	400	3,000	3,000	NA	**5.9**	**4.2**	**0.76**	NA	NA	NA	NA	NA	NA	**0.94**
	Benzo(a)pyrene	2	2	4	4	30	30	NA	**9.3**	**6.0**	**1.1**	NA	NA	NA	NA	NA	NA	**1.3**
	Indeno(1,2,3-cd)pyrene	7	7	40	40	300	300	NA	**7.7**	**4.9**	**0.96**	NA	NA	NA	NA	NA	NA	**1.4**
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	30	30	NA	**7.7**	**4.9**	**0.96**	NA	NA	NA	NA	NA	NA	**1.4**
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**5.4**	**3.3**	**0.80**	NA	NA	NA	NA	NA	NA	**1.0**

Appendix H-1; Table H-1.3
Risk Assessment Data Set for Soil Analytical Results -- 0 to 3 Foot Depth Interval (Unpaved)
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						**SS-105**	**CGW-12**	**CGW-13**	**CGW-15**	**MW-04**	**MW-05**	**MCA-8**	**MCA-9**	**MCA-10**	**MCA-11**	**SS-01_Cygnus**
								#105	CGW-12/S-1	CGW-13/S-1	CGW-15/S-1	MW-4	MW-5	S-8-A	S-9-A	S-10-B	S-11-B	SS-1
		Sample ID:																
		Sample Depth (ft.):						Surface	0 - 2	0 - 2	0 - 2	0 - 1.5	0 - 1.5	0 - 1.5	0 - 0.5	1 - 1.5	1.5 - 2	0 - 1
		Sample Date:						07/09/1987	05/29/2001	05/29/2001	05/30/2001	06/25/1987	06/26/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/24/2000
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3											
PCBs																		
(mg/kg)	Total PCBs	2	2	3	3	3	3	NA	0.027 U	**0.268**	0.027 U	0.050 U	**1.44**	NA	NA	NA	NA	NA
TPH																		
(mg/kg)	TPH	1,000	1,000	3,000	3,000	5,000	5,000	**842**	NA	NA	NA	**260.01**	**1,200**	**380**	**220**	**30**	**420**	NA
Metals, total																		
(mg/kg)	Arsenic	20	20	20	20	20	20	NA	16 U	19 U	19 U	NA	NA	NA	NA	NA	NA	**2.6**
	Barium	1,000	1,000	3,000	3,000	5,000	5,000	NA	**71**	**950**	**70**	NA	NA	NA	NA	NA	NA	**57**
	Cadmium	2	2	30	30	30	30	NA	0.82 U	9.4 U	0.95 U	NA	NA	2.0 U	2.0 U	2.0 U	2.0 U	**1.2**
	Chromium	30	30	200	200	200	200	NA	**10**	**120**	**14**	NA	NA	**310**	**74**	**13**	**45**	**16**
	Copper	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	**30**	**19**	**3.7**	**11**	NA
	Lead	300	300	300	300	300	300	NA	**18**	**110**	**21**	NA	NA	**42**	**150**	**85**	**63**	**56**
	Mercury	20	20	30	30	30	30	NA	**0.022**	**0.093**	**0.024**	NA	NA	NA	NA	NA	NA	**0.028**
	Nickel	20	20	700	700	700	700	NA	NA	NA	NA	NA	NA	**280**	**29**	**15**	**58**	NA
	Zinc	2,500	2,500	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	**55**	**43**	**15**	**96**	NA

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

B - Compound detected in associated method blank

E - Estimated value due to interference.

J - Estimated value.

NA - Sample not analyzed for the listed analyte.

N/A - Not applicable.

ND - Not detected.

NS - No MassDEP standards exist for this analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.

VOCs - Volatile Organic Compounds.

EPH - Extractable Petroleum Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

(1) - MassDEP Method 1 standards for C9-C10 aromatics used.

R1 - Rejected data point due to 0% recovery in associated LCS.

R2 - Rejected data point due to gross holding time exceedance.

R3 - Rejected data point due to lack of field preservation.

orange shading - Significant low bias due to 0% recovery in associated LCS.

green shading - Significant low bias due to gross holding time exceedance.

blue shading - Significant low bias due to lack of field preservation.

Appendix H-1; Table H-1.4.
Risk Assessment Data Set for Soil Analytical Results -- 0 to 3 Foot Depth Interval (Paved and Unpaved)
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						SS-105	CGW-12	CGW-13	CGW-14	CGW-15	CGW-16	MW-04	MW-05	MCA-2	MCA-3		MCA-4
		Sample ID:						#105	CGW-12/S-1	CGW-13/S-1	CGW-14/S-1	CGW-15/S-1	CGW-16/S-1	MW-4	MW-5	S-2-B	S-3-A	S-3-B	S-4-B
		Sample Depth (ft.):						Surface	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 1.5	0 - 1.5	1.5 - 2	0 - 0.6	1 - 1.5	1.5 - 2
		Sample Date:						07/09/1987	05/29/2001	05/29/2001	05/29/2001	05/30/2001	05/30/2001	06/25/1987	06/26/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3												
VOCs																			
(mg/kg)	Bromomethane	0.5	30	0.5	30	0.5	30	R3	0.0014 U	0.0014 U	**0.0007 J**	**0.68 JB**	**1.5 JB**	NA	R3	NA	NA	NA	NA
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NS	NS	NS	R3	**0.0022**	**0.0022**	**0.0053**	1.2 U	1.9 U	NA	R3	NA	NA	NA	NA
	Acetone	50	400	50	400	50	400	NA	**0.041 B**	**0.13 B**	**0.20 B**	**1.0 J**	**2.7 J**	NA	NA	NA	NA	NA	NA
	Carbon Disulfide	NS	NS	NS	NS	NS	NS	NA	**0.0010 J**	**0.0026 J**	**0.0009 J**	1.2 U	1.9 U	NA	NA	NA	NA	NA	NA
	Methylene Chloride	20	200	20	900	20	900	R3	**0.0025 JB**	**0.0024 JB**	**0.0042 B**	**1.5 JB**	**2.3 JB**	NA	R3	NA	NA	NA	NA
	Methyl Ethyl Ketone (MEK)	50	400	50	400	50	400	NA	**0.0029**	**0.042**	**0.015**	1.2 U	1.9 U	NA	NA	NA	NA	NA	NA
	Dichloroethene, cis-1,2-	0.4	100	0.4	500	0.4	500	NA	0.0014 U	**0.0016**	0.0013 U	**3.0**	1.9 U	NA	NA	NA	NA	NA	NA
	Trichloroethylene (TCE)	2	90	2	700	2	2,000	R3	**0.0045**	**0.029**	**0.098**	**71**	**530**	NA	R3	NA	NA	NA	NA
	Methyl Isobutyl Ketone (MIBK)	50	400	50	400	50	400	NA	0.0014 U	**0.0010 J**	0.0013 U	1.2 U	1.9 U	NA	NA	NA	NA	NA	NA
	Toluene	500	500	1000	1000	2000	3000	R3	**0.0015**	**0.0074**	**0.0093**	1.2 U	1.9 U	NA	R3	NA	NA	NA	NA
	Hexanone (MNBK), 2-	NS	NS	NS	NS	NS	NS	NA	0.0014 U	**0.0031**	0.0013 U	1.2 U	1.9 U	NA	NA	NA	NA	NA	NA
	Tetrachloroethylene (PCE)	10	30	10	200	10	1,000	R3	0.0014 U	0.0014 U	**0.0025**	**0.62 J**	**4.3**	NA	R3	NA	NA	NA	NA
	Styrene	4	30	4	200	4	1,000	NA	0.0014 U	**0.0008 J**	0.0013 U	1.2 U	1.9 U	NA	NA	NA	NA	NA	NA
EPH																			
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	**5.4**	**9.5**	3.3 U	3.3 U	3.3 U	NA	NA	NA	NA	NA	NA
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	5,000	5,000	NA	**150**	**1,500**	**150**	**140**	**38**	NA	NA	NA	NA	NA	NA
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	**200**	**500**	**59**	**33**	**25**	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1000	40	3,000	NA	**0.57 J**	**0.31 J**	NA	0.55 U	0.55 U	NA	NA	NA	NA	NA	NA
	Methylnaphthalene, 2-	80	300	80	500	80	500	NA	**0.59**	R1	R1	0.55 U	0.55 U	NA	NA	NA	NA	NA	NA
	Acenaphthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**2.9**	**0.36 J**	0.54 U	0.55 U	0.55 U	NA	NA	NA	NA	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**3.2**	**0.30 J**	0.54 U	0.55 U	0.55 U	NA	NA	NA	NA	NA	NA
	Phenanthrene	500	500	1,000	1,000	3,000	3,000	NA	**24**	**13**	**1.7**	**1.2**	**0.49 J**	NA	NA	NA	NA	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**6.5**	**1.6**	**0.34 J**	**0.32 J**	0.55 U	NA	NA	NA	NA	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**29**	**19**	**3.2**	**2.3**	0.55 U	NA	NA	NA	NA	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**24**	**18**	**2.9**	**2.4**	**0.62**	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	7	7	40	40	300	300	NA	**12**	**8.7**	**1.8**	**1.5**	**0.66**	NA	NA	NA	NA	NA	NA
	Chrysene	70	70	400	400	3,000	3,000	NA	**11**	**8.2**	**1.4**	**1.1 J**	**0.41 J**	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	300	300	NA	**12**	**9.0**	**1.5**	**1.3**	**0.31 J**	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	3,000	3,000	NA	**5.9**	**4.2**	**0.90 J**	**0.76**	0.55 U	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	2	2	4	4	30	30	NA	**9.3**	**6.0**	**1.2**	**1.1**	**0.25 J**	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	300	300	NA	**7.7**	**4.9**	**1.0**	**0.96**	0.55 U	NA	NA	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	30	30	NA	**7.7**	**4.9**	**1.0**	**0.96**	0.55 U	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**5.4**	**3.3**	**0.72**	**0.80**	0.55 U	NA	NA	NA	NA	NA	NA

Appendix H-1; Table H-1.4.
Risk Assessment Data Set for Soil Analytical Results -- 0 to 3 Foot Depth Interval (Paved and Unpaved)
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						SS-105	CGW-12	CGW-13	CGW-14	CGW-15	CGW-16	MW-04	MW-05	MCA-2	MCA-3		MCA-4
		Sample ID:						#105	CGW-12/S-1	CGW-13/S-1	CGW-14/S-1	CGW-15/S-1	CGW-16/S-1	MW-4	MW-5	S-2-B	S-3-A	S-3-B	S-4-B
		Sample Depth (ft.):						Surface	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 1.5	0 - 1.5	1.5 - 2	0 - 0.6	1 - 1.5	1.5 - 2
		Sample Date:						07/09/1987	05/29/2001	05/29/2001	05/29/2001	05/30/2001	05/30/2001	06/25/1987	06/26/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3												
PCBs (mg/kg)	Total PCBs	2	2	3	3	3	3	NA	0.027 U	**0.268**	**0.043**	0.027 U	**0.034**	0.050 U	**1.44**	NA	NA	NA	NA
TPH (mg/kg)	TPH	1,000	1,000	3,000	3,000	5,000	5,000	**842**	NA	NA	NA	NA	NA	**260.01**	**1,200**	**140**	**84**	**56**	**87**
Metals, total																			
(mg/kg)	Arsenic	20	20	20	20	20	20	NA	16 U	19 U	17 U	19 U	22 U	NA	NA	NA	NA	NA	NA
	Barium	1,000	1,000	3,000	3,000	5,000	5,000	NA	**71**	**950**	**270**	**70**	**60**	NA	NA	NA	NA	NA	NA
	Cadmium	2	2	30	30	30	30	NA	0.82 U	9.4 U	**1.8**	0.95 U	1.1 U	NA	NA	2.0 U	2.0 U	2.0 U	2.0 U
	Chromium	30	30	200	200	200	200	NA	**10**	**120**	**34**	**14**	**78**	NA	NA	2.0 U	**350**	**120**	**130**
	Copper	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	**4.3**	**32**	**20**	**5.7**
	Lead	300	300	300	300	300	300	NA	**18**	**110**	**96**	**21**	**25**	NA	NA	**12**	**81**	**62**	**44**
	Mercury	20	20	30	30	30	30	NA	**0.022**	**0.093**	**0.12**	**0.024**	**0.042**	NA	NA	NA	NA	NA	NA
	Nickel	20	20	700	700	700	700	NA	NA	NA	NA	NA	NA	NA	NA	2.0 U	**1,600**	**620**	**870**
	Zinc	2,500	2,500	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	**12**	**60**	**31**	**17**

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

B - Compound detected in associated method blank

E - Estimated value due to interference.

J - Estimated value.

NA - Sample not analyzed for the listed analyte.

N/A - Not applicable.

ND - Not detected.

NS - No MassDEP standards exist for this analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.

VOCs - Volatile Organic Compounds.

EPH - Extractable Petroleum Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

(1) - MassDEP Method 1 standards for C9-C10 aromatics used.

R1 - Rejected data point due to 0% recovery in associated LCS.

R2 - Rejected data point due to gross holding time exceedance.

R3 - Rejected data point due to lack of field preservation.

orange shading - Significant low bias due to 0% recovery in associated LCS.

green shading - Significant low bias due to gross holding time exceedance.

blue shading - Significant low bias due to lack of field preservation.

Appendix H-1; Table H-1.4.
Risk Assessment Data Set for Soil Analytical Results -- 0 to 3 Foot Depth Interval (Paved and Unpaved)
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						MCA-5	MCA-6	MCA-8	MCA-9	MCA-10	MCA-11	SS-01	SS-01_Cygnus	SS-02	SS-03	SS-04	SS-05	SS-06
		Sample ID:						S-5-B	S-6-B	S-8-A	S-9-A	S-10-B	S-11-B	SS-1	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6
		Sample Depth (ft.):						1.5 - 2	1.5 - 2	0 - 1.5	0 - 0.5	1 - 1.5	1.5 - 2	0 - 0.5	0 - 1	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
		Sample Date:						02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	04/02/2010	02/24/2000	04/02/2010	04/02/2010	04/02/2010 combo	04/02/2010	04/02/2010
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3													
VOCs																				
(mg/kg)	Bromomethane	0.5	30	0.5	30	0.5	30	NA	NA	NA	NA	NA	NA	0.0089 U	0.085 U	0.0091 U	0.0096 U	0.0054 U	0.0067 U	0.0054 U
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	0.0089 U	0.085 U	0.0091 U	0.0096 U	0.0054 U	0.0067 U	0.0054 U
	Acetone	50	400	50	400	50	400	NA	NA	NA	NA	NA	NA	0.089 U	**0.17 J**	0.091 U	0.096 U	0.054 U	0.067 U	0.054 U
	Carbon Disulfide	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	0.0053 U	0.085 U	0.0055 U	0.0058 U	0.00325 U	0.004 U	0.0032 U
	Methylene Chloride	20	200	20	900	20	900	NA	NA	NA	NA	NA	NA	0.018 U	0.21 U	0.018 U	0.019 U	0.0108 U	0.013 U	0.011 U
	Methyl Ethyl Ketone (MEK)	50	400	50	400	50	400	NA	NA	NA	NA	NA	NA	0.036 U	0.085 U	0.037 U	0.039 U	0.0215 U	0.027 U	0.022 U
	Dichloroethene, cis-1,2-	0.4	100	0.4	500	0.4	500	NA	NA	NA	NA	NA	NA	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U
	Trichloroethylene (TCE)	2	90	2	700	2	2,000	NA	NA	NA	NA	NA	NA	0.0018 U	0.085 U	**0.029**	0.0019 U	**0.052**	0.0013 U	0.0011 U
	Methyl Isobutyl Ketone (MIBK)	50	400	50	400	50	400	NA	NA	NA	NA	NA	NA	0.018 U	0.085 U	0.018 U	0.019 U	0.0108 U	0.013 U	0.011 U
	Toluene	500	500	1000	1000	2000	3000	NA	NA	NA	NA	NA	NA	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U
	Hexanone (MNBK), 2-	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	0.018 U	0.085 U	0.018 U	0.019 U	0.0108 U	0.013 U	0.011 U
	Tetrachloroethylene (PCE)	10	30	10	200	10	1,000	NA	NA	NA	NA	NA	NA	0.0018 U	0.085 U	0.0018 U	0.0019 U	**0.002**	0.0013 U	0.0011 U
	Styrene	4	30	4	200	4	1,000	NA	NA	NA	NA	NA	NA	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U
EPH																				
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	**7.3**	NA	NA	NA	NA	NA
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	**150**	NA	NA	NA	NA	NA
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	**65**	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1000	40	3,000	NA	NA	NA	NA	NA	NA	0.0036 U	0.085 U	0.0037 U	**0.67**	0.00215 U	**0.36**	0.0022 U
	Methylnaphthalene, 2-	80	300	80	500	80	500	NA	NA	NA	NA	NA	NA	0.45 U	0.57 U	0.90 U	0.41 U	0.195 U	**0.23**	0.20 U
	Acenaphthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	**1.2**	0.57 U	0.90 U	**1.0**	0.195 U	**0.63**	0.20 U
	Fluorene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	**0.95**	0.57 U	0.90 U	**0.87**	0.195 U	**0.62**	0.20 U
	Phenanthrene	500	500	1,000	1,000	3,000	3,000	NA	NA	NA	NA	NA	NA	**14**	**1.6**	**8.2**	**14**	0.195 U	**6.3**	**0.31**
	Anthracene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	**3.1**	0.57 U	**1.7**	**2.4**	0.195 U	**1.3**	0.20 U
	Fluoranthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	**21**	**2.5**	**12**	**19**	**0.15 J**	**6.3**	**0.39**
	Pyrene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	**24**	**2.6**	**11**	**16**	**0.145 J**	**6.5**	**0.47**
	Benzo(a)anthracene	7	7	40	40	300	300	NA	NA	NA	NA	NA	NA	**12**	**1.3**	**5.9**	**8.6**	0.195 U	**3.5**	**0.27**
	Chrysene	70	70	400	400	3,000	3,000	NA	NA	NA	NA	NA	NA	**12**	**1.7**	**6.0**	**8.7**	0.195 U	**3.6**	**0.33**
	Benzo(b)fluoranthene	7	7	40	40	300	300	NA	NA	NA	NA	NA	NA	**13**	**1.7**	**6.0**	**9.7**	0.195 U	**4.0**	**0.34**
	Benzo(k)fluoranthene	70	70	400	400	3,000	3,000	NA	NA	NA	NA	NA	NA	**6.8**	**0.94**	**2.3**	**3.7**	0.195 U	**1.5**	0.20 U
	Benzo(a)pyrene	2	2	4	4	30	30	NA	NA	NA	NA	NA	NA	**10**	**1.3**	**4.9**	**7.1**	0.195 U	**3.1**	**0.26**
	Indeno(1,2,3-cd)pyrene	7	7	40	40	300	300	NA	NA	NA	NA	NA	NA	**6.9**	**1.4**	**5.2**	**4.8**	0.195 U	**1.5**	0.20 U
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	30	30	NA	NA	NA	NA	NA	NA	**1.4**	**1.4**	**1.3**	**0.98**	0.195 U	**0.33**	0.20 U
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	**5.0**	**1.0**	**4.7**	**3.4**	0.195 U	**1.2**	0.20 U

Appendix H-1; Table H-1.4.
Risk Assessment Data Set for Soil Analytical Results -- 0 to 3 Foot Depth Interval (Paved and Unpaved)
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte							Sample Location:	MCA-5	MCA-6	MCA-8	MCA-9	MCA-10	MCA-11	SS-01	SS-01_Cygnus	SS-02	SS-03	SS-04	SS-05	SS-06
								Sample ID:	S-5-B	S-6-B	S-8-A	S-9-A	S-10-B	S-11-B	SS-1	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6
								Sample Depth (ft.):	1.5 - 2	1.5 - 2	0 - 1.5	0 - 0.5	1 - 1.5	1.5 - 2	0 - 0.5	0 - 1	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
								Sample Date:	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	04/02/2010	02/24/2000	04/02/2010	04/02/2010	04/02/2010 combo	04/02/2010	04/02/2010
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3														
PCBs (mg/kg)	Total PCBs	2	2	3	3	3	3		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH (mg/kg)	TPH	1,000	1,000	3,000	3,000	5,000	5,000		**110**	**26**	**380**	**220**	**30**	**420**	NA	NA	NA	NA	NA	NA	NA
Metals, total																					
(mg/kg)	Arsenic	20	20	20	20	20	20		NA	NA	NA	NA	NA	NA	NA	**2.6**	NA	NA	NA	NA	NA
	Barium	1,000	1,000	3,000	3,000	5,000	5,000		NA	NA	NA	NA	NA	NA	NA	**57**	NA	NA	NA	NA	NA
	Cadmium	2	2	30	30	30	30		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NA	**1.2**	NA	NA	NA	NA	NA
	Chromium	30	30	200	200	200	200		**92**	**15**	**310**	**74**	**13**	**45**	**37**	**16**	**49**	**27**	**105**	**78**	**13**
	Copper	NS	NS	NS	NS	NS	NS		**37**	**7.9**	**30**	**19**	**3.7**	**11**	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	300		**260**	**12**	**42**	**150**	**85**	**63**	NA	**56**	NA	NA	NA	NA	NA
	Mercury	20	20	30	30	30	30		NA	NA	NA	NA	NA	NA	NA	**0.028**	NA	NA	NA	NA	NA
	Nickel	20	20	700	700	700	700		**49**	**220**	**280**	**29**	**15**	**58**	**43**	NA	**82**	**44**	**115**	**250**	**21**
	Zinc	2,500	2,500	3,000	3,000	5,000	5,000		**52**	**10**	**55**	**43**	**15**	**96**	NA	NA	NA	NA	NA	NA	NA

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

B - Compound detected in associated method blank

E - Estimated value due to interference.

J - Estimated value.

NA - Sample not analyzed for the listed analyte.

N/A - Not applicable.

ND - Not detected.

NS - No MassDEP standards exist for this analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.

VOCs - Volatile Organic Compounds.

EPH - Extractable Petroleum Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

(1) - MassDEP Method 1 standards for C9-C10 aromatics used.

R1 - Rejected data point due to 0% recovery in associated LCS.

R2 - Rejected data point due to gross holding time exceedance.

R3 - Rejected data point due to lack of field preservation.

orange shading - Significant low bias due to 0% recovery in associated LCS.

green shading - Significant low bias due to gross holding time exceedance.

blue shading - Significant low bias due to lack of field preservation.

Appendix H-1; Table H-1.5.
Risk Assessment Data Set fpr Soil Analytical Results -- 0 to 15 Foot Depth Interval
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						SS-105	CGW-03	CGW-12		CGW-13		CGW-14	CGW-15		CGW-16
		Sample ID:						#105	CGW-3/S-3	CGW-12/S-1	CGW-12/S-2	CGW-13/S-1	CGW-13/S-2	CGW-14/S-1	CGW-15/S-1	CGW-15/S-2	CGW-16/S-1
		Sample Depth (ft.):						Surface	10 - 12	0 - 2	5 - 7	0 - 2	5 - 7	0 - 2	0 - 2	5 - 7	0 - 2
		Sample Date:						07/09/1987	02/24/2000	05/29/2001	05/29/2001	05/29/2001	05/29/2001	05/29/2001	05/30/2001	05/30/2001	05/30/2001
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3		combo								
VOCs																	
	Chloromethane	NS	NS	NS	NS	NS	NS	R3	0.086 U	0.0014 U	**0.038 JB**	0.0014 U	**0.026 JB**	0.0013 U	1.2 U	R2	1.9 U
	Bromomethane	0.5	30	0.5	30	0.5	30	R3	0.086 U	0.0014 U	R2	0.0014 U	R2	**0.0007 J**	**0.68 JB**	R2	**1.5 JB**
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NS	NS	NS	R3	0.086 U	**0.0022**	R2	**0.0022**	R2	**0.0053**	1.2 U	R2	1.9 U
	Acetone	50	400	50	400	50	400	NA	0.215 U	**0.041 B**	**0.12 J**	**0.13 B**	**0.097 J**	**0.20 B**	**1.0 J**	**0.089 J**	**2.7 J**
	Carbon Disulfide	NS	NS	NS	NS	NS	NS	NA	0.086 U	**0.0010 J**	R2	**0.0026 J**	R2	**0.0009 J**	1.2 U	R2	1.9 U
	Methylene Chloride	20	200	20	900	20	900	R3	0.215 U	**0.0025 JB**	**0.34 B**	**0.0024 JB**	**0.25 B**	**0.0042 B**	**1.5 JB**	**0.37 B**	**2.3 JB**
	Dichloroethene, trans-1,2-	1	500	1	1,000	1	3,000	NA	0.086 U	0.0014 U	R2	0.0014 U	R2	0.0013 U	1.2 U	R2	1.9 U
	Methyl Ethyl Ketone (MEK)	50	400	50	400	50	400	NA	0.086 U	**0.0029**	**0.32**	**0.042**	**0.29**	**0.015**	1.2 U	**0.35**	1.9 U
	Dichloroethene, cis-1,2-	0.4	100	0.4	500	0.4	500	NA	0.086 U	0.0014 U	R2	**0.0016**	R2	0.0013 U	**3.0**	**0.034 J**	1.9 U
	Chloroform	0.3	400	0.3	800	0.3	800	R3	0.086 U	0.0014 U	R2	0.0014 U	R2	0.0013 U	1.2 U	R2	1.9 U
	Trichloroethane, 1,1,1-	500	500	600	1,000	600	3,000	R3	0.086 U	0.0014 U	R2	0.0014 U	R2	0.0013 U	1.2 U	R2	1.9 U
	Trichloroethylene (TCE)	2	90	2	700	2	2,000	R3	0.086 U	**0.0045**	R2	**0.029**	R2	**0.098**	**71**	**1.4**	**530**
	Methyl Isobutyl Ketone (MIBK)	50	400	50	400	50	400	NA	0.086 U	0.0014 U	R2	**0.0010 J**	R2	0.0013 U	1.2 U	R2	1.9 U
	Toluene	500	500	1000	1000	2000	3000	R3	0.086 U	**0.0015**	R2	**0.0074**	R2	**0.0093**	1.2 U	R2	1.9 U
	Hexanone (MNBK), 2-	NS	NS	NS	NS	NS	NS	NA	0.086 U	0.0014 U	R2	**0.0031**	R2	0.0013 U	1.2 U	R2	1.9 U
	Tetrachloroethylene (PCE)	10	30	10	200	10	1,000	R3	0.086 U	0.0014 U	R2	0.0014 U	R2	**0.0025**	**0.62 J**	R2	**4.3**
	Xylenes (total)	300	500	300	1,000	300	3,000	NA	0.17 U	0.0029 U	R2	0.0029 U	R2	0.0026 U	2.4 U	R2	3.8 U
	Styrene	4	30	4	200	4	1,000	NA	0.086 U	0.0014 U	R2	**0.0008 J**	R2	0.0013 U	1.2 U	R2	1.9 U
VPH																	
(mg/kg)	C5-C8 Aliphatics	100	100	500	500	500	500	NA	80.5 U	NA	10 U	NA	8.5 U	NA	NA	11 U	NA
	C9-C12 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	**70**	NA	3.0 U	NA	2.4 U	NA	NA	3.1 U	NA
	C9-C10 Aromatics	100	100	500	500	500	500	NA	**110**	NA	5.9 U	NA	4.9 U	NA	NA	6.1 U	NA
	Methyl T-Butyl Ether (MTBE)	100	100	100	500	100	500	NA	0.086 U	0.0014 U	0.15 U	0.0014 U	0.12 U	0.0013 U	1.2 U	0.15 U	1.9 U
EPH																	
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	**895**	**5.4**	3.2 U	**9.5**	3.2 U	3.3 U	3.3 U	3.3 U	3.3 U
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	5,000	5,000	NA	**145**	**150**	4.3 U	**1,500**	**210**	**150**	**140**	4.4 U	**38**
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	**360**	**200**	**13**	**500**	**90**	**59**	**33**	9.4 U	**25**
	Naphthalene	40	500	40	1000	40	3,000	NA	**0.85**	**0.57 J**	NA	**0.31 J**	NA	NA	0.55 U	0.55 U	0.55 U
	Methylnaphthalene, 2-	80	300	80	500	80	500	NA	**4.2**	**0.59**	R1	R1	R1	R1	0.55 U	0.55 U	0.55 U
	Acenaphthylene	600	10	600	10	600	10	NA	**2.35**	0.53 U	0.53 U	0.61 U	**1.3**	0.54 U	0.55 U	0.55 U	0.55 U
	Acenaphthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**2.05**	**2.9**	0.53 U	**0.36 J**	0.53 U	0.54 U	0.55 U	0.55 U	0.55 U
	Fluorene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**3.9**	**3.2**	0.53 U	**0.30 J**	0.53 U	0.54 U	0.55 U	0.55 U	0.55 U
	Phenanthrene	500	500	1,000	1,000	3,000	3,000	NA	**3.1**	**24**	0.53 U	**13**	0.53 U	**1.7**	**1.2**	0.55 U	**0.49 J**
	Anthracene	1,000	1,000	3,000	3,000	5,000	5,000	NA	**0.715**	**6.5**	0.53 U	**1.6**	0.53 U	**0.34 J**	**0.32 J**	0.55 U	0.55 U
	Fluoranthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	0.53 U	**29**	0.53 U	**19**	0.53 U	**3.2**	**2.3**	0.55 U	0.55 U
	Pyrene	1,000	1,000	3,000	3,000	5,000	5,000	NA	0.53 U	**24**	0.53 U	**18**	0.53 U	**2.9**	**2.4**	0.55 U	**0.62**
	Benzo(a)anthracene	7	7	40	40	300	300	NA	0.53 U	**12**	0.53 U	**8.7**	0.53 U	**1.8**	**1.5**	0.55 U	**0.66**
	Chrysene	70	70	400	400	3,000	3,000	NA	0.53 U	**11**	0.53 U	**8.2**	0.53 U	**1.4**	**1.1 J**	0.55 U	**0.41 J**
	Benzo(b)fluoranthene	7	7	40	40	300	300	NA	0.53 U	**12**	**0.73**	**9.0**	0.53 U	**1.5**	**1.3**	0.55 U	**0.31 J**
	Benzo(k)fluoranthene	70	70	400	400	3,000	3,000	NA	0.53 U	**5.9**	0.53 U	**4.2**	0.53 U	**0.90 J**	**0.76**	0.55 U	0.55 U
	Benzo(a)pyrene	2	2	4	4	30	30	NA	0.53 U	**9.3**	**0.64**	**6.0**	0.53 U	**1.2**	**1.1**	0.55 U	**0.25 J**
	Indeno(1,2,3-cd)pyrene	7	7	40	40	300	300	NA	0.53 U	**7.7**	**0.89**	**4.9**	0.53 U	**1.0**	**0.96**	0.55 U	0.55 U
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	30	30	NA	0.53 U	**7.7**	**0.89**	**4.9**	0.53 U	**1.0**	**0.96**	0.55 U	0.55 U
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	5,000	5,000	NA	0.53 U	**5.4**	0.53 U	**3.3**	0.53 U	**0.72**	**0.80**	0.55 U	0.55 U

Appendix H-1; Table H-1.5.
Risk Assessment Data Set fpr Soil Analytical Results -- 0 to 15 Foot Depth Interval
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						SS-105	CGW-03	CGW-12		CGW-13		CGW-14	CGW-15		CGW-16
		Sample ID:						#105	CGW-3/S-3	CGW-12/S-1	CGW-12/S-2	CGW-13/S-1	CGW-13/S-2	CGW-14/S-1	CGW-15/S-1	CGW-15/S-2	CGW-16/S-1
		Sample Depth (ft.):						Surface	10 - 12	0 - 2	5 - 7	0 - 2	5 - 7	0 - 2	0 - 2	5 - 7	0 - 2
		Sample Date:						07/09/1987	02/24/2000	05/29/2001	05/29/2001	05/29/2001	05/29/2001	05/29/2001	05/30/2001	05/30/2001	05/30/2001
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3		combo								
PCBs																	
(mg/kg)	Total PCBs	2	2	3	3	3	3	NA	0.0535 U	0.027 U	0.028 U	**0.268**	0.027 U	**0.043**	0.027 U	0.028 U	**0.034**
TPH																	
(mg/kg)	TPH	1,000	1,000	3,000	3,000	5,000	5,000	**842**	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals, total																	
(mg/kg)	Arsenic	20	20	20	20	20	20	NA	**0.385**	16 U	15 U	19 U	15 U	17 U	19 U	16 U	22 U
	Barium	1,000	1,000	3,000	3,000	5,000	5,000	NA	**18.5**	**71**	**14**	**950**	**12**	**270**	**70**	**35**	**60**
	Cadmium	2	2	30	30	30	30	NA	0.425 U	0.82 U	0.76 U	9.4 U	0.75 U	**1.8**	0.95 U	0.81 U	1.1 U
	Chromium	30	30	200	200	200	200	NA	**3.6**	**10**	**2.7**	**120**	**3.0**	**34**	**14**	**4.4**	**78**
	Copper	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	300	NA	8.55 U	**18**	15 U	**110**	15 U	**96**	**21**	16 U	**25**
	Mercury	20	20	30	30	30	30	NA	0.013 U	**0.022**	0.0098 U	**0.093**	0.010 U	**0.12**	**0.024**	0.011 U	**0.042**
	Nickel	20	20	700	700	700	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	2,500	2,500	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
B - Compound detected in associated method blank
E - Estimated value due to interference.
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
N/A - Not applicable.
ND - Not detected.
NS - No MassDEP standards exist for this analyte.
U - Compound was not detected at specified quantitation limit.
Values in **Bold** indicate the compound was detected.
Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.
VOCs - Volatile Organic Compounds.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.
PCBs - Polychlorinated Biphenyls.
TPH - Total Petroleum Hydrocarbons.
TCLP - Toxicity Characteristic Leaching Procedure.
(1) - MassDEP Method 1 standards for C9-C10 aromatics used.
R1 - Rejected data point due to 0% recovery in associated LCS.
R2 - Rejected data point due to gross holding time exceedance.
R3 - Rejected data point due to lack of field preservation.
orange shading - Significant low bias due to 0% recovery in associated LCS.
green shading - Significant low bias due to gross holding time exceedance.
blue shading - Significant low bias due to lack of field preservation.

Appendix H-1; Table H-1.5.
Risk Assessment Data Set fpr Soil Analytical Results -- 0 to 15 Foot Depth Interval
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						CGW-17			MW-04	MW-05	MCA-2	MCA-3			MCA-4	MCA-5	MCA-6	MCA-8
		Sample ID:						CGW-17/S-1	CGW-17/S-2	CGW-17/S-3	MW-4	MW-5	S-2-B	S-3-A	S-3-B	S-4-B	S-5-B	S-6-B	S-8-A
		Sample Depth (ft.):						5.0	10	15	0 - 1.5	0 - 1.5	1.5 - 2	0 - 0.6	1 - 1.5	1.5 - 2	1.5 - 2	1.5 - 2	0 - 1.5
		Sample Date:						05/30/2001	05/30/2001	05/30/2001	06/25/1987	06/26/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3												
VOCs																			
	Chloromethane	NS	NS	NS	NS	NS	NS	R2	R2	R2	NA	R3	NA	NA	NA	NA	NA	NA	NA
	Bromomethane	0.5	30	0.5	30	0.5	30	R2	R2	R2	NA	R3	NA	NA	NA	NA	NA	NA	NA
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NS	NS	NS	R2	R2	R2	NA	R3	NA	NA	NA	NA	NA	NA	NA
	Acetone	50	400	50	400	50	400	**0.093 J**	**0.11 J**	**0.10 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Carbon Disulfide	NS	NS	NS	NS	NS	NS	R2	R2	R2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methylene Chloride	20	200	20	900	20	900	**0.33 B**	**0.35 B**	**0.30 B**	NA	R3	NA	NA	NA	NA	NA	NA	NA
	Dichloroethene, trans-1,2-	1	500	1	1,000	1	3,000	R2	**0.051 J**	**0.10**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl Ethyl Ketone (MEK)	50	400	50	400	50	400	**0.43**	**0.53**	**0.46**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dichloroethene, cis-1,2-	0.4	100	0.4	500	0.4	500	**0.68**	**5.4**	**7.2 E**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chloroform	0.3	400	0.3	800	0.3	800	**0.043 J**	R2	R2	NA	R3	NA	NA	NA	NA	NA	NA	NA
	Trichloroethane, 1,1,1-	500	500	600	1,000	600	3,000	**0.039 J**	R2	R2	NA	R3	NA	NA	NA	NA	NA	NA	NA
	Trichloroethylene (TCE)	2	90	2	700	2	2,000	**57 E**	**33 E**	**41 E**	NA	R3	NA	NA	NA	NA	NA	NA	NA
	Methyl Isobutyl Ketone (MIBK)	50	400	50	400	50	400	R2	R2	R2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Toluene	500	500	1000	1000	2000	3000	**0.033**	R2	R2	NA	R3	NA	NA	NA	NA	NA	NA	NA
	Hexanone (MNBK), 2-	NS	NS	NS	NS	NS	NS	R2	R2	R2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tetrachloroethylene (PCE)	10	30	10	200	10	1,000	**4.8**	**1.1**	**1.9**	NA	R3	NA	NA	NA	NA	NA	NA	NA
	Xylenes (total)	300	500	300	1,000	300	3,000	**0.076 J**	R2	R2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Styrene	4	30	4	200	4	1,000	R2	R2	R2	NA	NA	NA	NA	NA	NA	NA	NA	NA
VPH																			
(mg/kg)	C5-C8 Aliphatics	100	100	500	500	500	500	**58**	**21**	**35**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C12 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	3.3 U	3.4 U	3.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C9-C10 Aromatics	100	100	500	500	500	500	6.6 U	6.8 U	6.4 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methyl T-Butyl Ether (MTBE)	100	100	100	500	100	500	0.16 U	**0.26**	**0.34**	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPH																			
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1000	40	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methylnaphthalene, 2-	80	300	80	500	80	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthylene	600	10	600	10	600	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Acenaphthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluorene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	500	500	1,000	1,000	3,000	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Anthracene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pyrene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)anthracene	7	7	40	40	300	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Chrysene	70	70	400	400	3,000	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(b)fluoranthene	7	7	40	40	300	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(k)fluoranthene	70	70	400	400	3,000	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(a)pyrene	2	2	4	4	30	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	300	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	30	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Appendix H-1; Table H-1.5.
Risk Assessment Data Set fpr Soil Analytical Results -- 0 to 15 Foot Depth Interval
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						CGW-17			MW-04	MW-05	MCA-2	MCA-3		MCA-4	MCA-5	MCA-6	MCA-8
		Sample ID:						CGW-17/S-1	CGW-17/S-2	CGW-17/S-3	MW-4	MW-5	S-2-B	S-3-A	S-3-B	S-4-B	S-5-B	S-6-B	S-8-A
		Sample Depth (ft.):						5.0	10	15	0 - 1.5	0 - 1.5	1.5 - 2	0 - 0.6	1 - 1.5	1.5 - 2	1.5 - 2	1.5 - 2	0 - 1.5
		Sample Date:						05/30/2001	05/30/2001	05/30/2001	06/25/1987	06/26/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987	02/25/1987
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3												
PCBs																			
(mg/kg)	Total PCBs	2	2	3	3	3	3	NA	NA	NA	0.050 U	**1.44**	NA	NA	NA	NA	NA	NA	NA
TPH																			
(mg/kg)	TPH	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	**260.01**	**1,200**	**140**	**84**	**56**	**87**	**110**	**26**	**380**
Metals, total																			
(mg/kg)	Arsenic	20	20	20	20	20	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	2	2	30	30	30	30	NA	NA	NA	NA	NA	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Chromium	30	30	200	200	200	200	NA	NA	NA	NA	NA	2.0 U	**350**	**120**	**130**	**92**	**15**	**310**
	Copper	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	**4.3**	**32**	**20**	**5.7**	**37**	**7.9**	**30**
	Lead	300	300	300	300	300	300	NA	NA	NA	NA	NA	**12**	**81**	**62**	**44**	**260**	**12**	**42**
	Mercury	20	20	30	30	30	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	20	20	700	700	700	700	NA	NA	NA	NA	NA	2.0 U	**1,600**	**620**	**870**	**49**	**220**	**280**
	Zinc	2,500	2,500	3,000	3,000	5,000	5,000	NA	NA	NA	NA	NA	**12**	**60**	**31**	**17**	**52**	**10**	**55**

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
B - Compound detected in associated method blank
E - Estimated value due to interference.
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
N/A - Not applicable.
ND - Not detected.
NS - No MassDEP standards exist for this analyte.
U - Compound was not detected at specified quantitation limit.
Values in **Bold** indicate the compound was detected.
Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.
VOCs - Volatile Organic Compounds.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.
PCBs - Polychlorinated Biphenyls.
TPH - Total Petroleum Hydrocarbons.
TCLP - Toxicity Characteristic Leaching Procedure.
(1) - MassDEP Method 1 standards for C9-C10 aromatics used.
R1 - Rejected data point due to 0% recovery in associated LCS.
R2 - Rejected data point due to gross holding time exceedance.
R3 - Rejected data point due to lack of field preservation.
orange shading - Significant low bias due to 0% recovery in associated LCS.
green shading - Significant low bias due to gross holding time exceedance.
blue shading - Significant low bias due to lack of field preservation.

Appendix H-1; Table H-1.5.
Risk Assessment Data Set fpr Soil Analytical Results -- 0 to 15 Foot Depth Interval
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						MCA-9	MCA-10	MCA-11	SS-01	SS-01_Cygnus	SS-02	SS-03	SS-04	SS-05	SS-06	TRC-08
		Sample ID:						S-9-A	S-10-B	S-11-B	SS-1	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	TRC-8 13.5-15
		Sample Depth (ft.):						0 - 0.5	1 - 1.5	1.5 - 2	0 - 0.5	0 - 1	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	13.5 - 15
		Sample Date:						02/25/1987	02/25/1987	02/25/1987	04/02/2010	02/24/2000	04/02/2010	04/02/2010	04/02/2010 combo	04/02/2010	04/02/2010	02/12/2013
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3											
VOCs																		
	Chloromethane	NS	NS	NS	NS	NS	NS	NA	NA	NA	0.0089 U	0.085 U	0.0091 U	0.0096 U	0.0054 U	0.0067 U	0.0054 U	0.0026 U
	Bromomethane	0.5	30	0.5	30	0.5	30	NA	NA	NA	0.0089 U	0.085 U	0.0091 U	0.0096 U	0.0054 U	0.0067 U	0.0054 U	0.0013 U
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NS	NS	NS	NA	NA	NA	0.0089 U	0.085 U	0.0091 U	0.0096 U	0.0054 U	0.0067 U	0.0054 U	0.0026 U
	Acetone	50	400	50	400	50	400	NA	NA	NA	0.089 U	**0.17 J**	0.091 U	0.096 U	0.054 U	0.067 U	0.054 U	0.024 U
	Carbon Disulfide	NS	NS	NS	NS	NS	NS	NA	NA	NA	0.0053 U	0.085 U	0.0055 U	0.0058 U	0.00325 U	0.004 U	0.0032 U	0.0026 U
	Methylene Chloride	20	200	20	900	20	900	NA	NA	NA	0.018 U	0.21 U	0.018 U	0.019 U	0.0108 U	0.013 U	0.011 U	0.0065 U
	Dichloroethene, trans-1,2-	1	500	1	1,000	1	3,000	NA	NA	NA	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U	0.00098 U
	Methyl Ethyl Ketone (MEK)	50	400	50	400	50	400	NA	NA	NA	0.036 U	0.085 U	0.037 U	0.039 U	0.0215 U	0.027 U	0.022 U	0.0065 U
	Dichloroethene, cis-1,2-	0.4	100	0.4	500	0.4	500	NA	NA	NA	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U	**0.0056**
	Chloroform	0.3	400	0.3	800	0.3	800	NA	NA	NA	0.0036 U	0.085 U	0.0037 U	0.0039 U	0.00215 U	0.0027 U	0.0022 U	0.00098 U
	Trichloroethane, 1,1,1-	500	500	600	1,000	600	3,000	NA	NA	NA	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U	0.00065 U
	Trichloroethylene (TCE)	2	90	2	700	2	2,000	NA	NA	NA	0.0018 U	0.085 U	**0.029**	0.0019 U	**0.052**	0.0013 U	0.0011 U	**0.26**
	Methyl Isobutyl Ketone (MIBK)	50	400	50	400	50	400	NA	NA	NA	0.018 U	0.085 U	0.018 U	0.019 U	0.0108 U	0.013 U	0.011 U	0.0065 U
	Toluene	500	500	1000	1000	2000	3000	NA	NA	NA	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U	0.00098 U
	Hexanone (MNBK), 2-	NS	NS	NS	NS	NS	NS	NA	NA	NA	0.018 U	0.085 U	0.018 U	0.019 U	0.0108 U	0.013 U	0.011 U	0.0065 U
	Tetrachloroethylene (PCE)	10	30	10	200	10	1,000	NA	NA	NA	0.0018 U	0.085 U	0.0018 U	0.0019 U	**0.002**	0.0013 U	0.0011 U	**0.0067**
	Xylenes (total)	300	500	300	1,000	300	3,000	NA	NA	NA	0.0036 U	0.17 U	0.0037 U	0.0039 U	0.00215 U	0.0027 U	0.0022 U	0.0013 U
	Styrene	4	30	4	200	4	1,000	NA	NA	NA	0.0018 U	0.085 U	0.0018 U	0.0019 U	0.00108 U	0.0013 U	0.0011 U	0.0013 U
VPH																		
(mg/kg)	C5-C8 Aliphatics	100	100	500	500	500	500	NA	NA	NA	NA	13 U	NA	NA	NA	NA	NA	NA
	C9-C12 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	3.8 U	NA	NA	NA	NA	NA	NA
	C9-C10 Aromatics	100	100	500	500	500	500	NA	NA	NA	NA	7.6 U	NA	NA	NA	NA	NA	NA
	Methyl T-Butyl Ether (MTBE)	100	100	100	500	100	500	NA	NA	NA	0.0036 U	0.085 U	0.0037 U	0.0039 U	0.00215 U	0.0027 U	0.0022 U	0.0013 U
EPH																		
(mg/kg)	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	**7.3**	NA	NA	NA	NA	NA	NA
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	5,000	5,000	NA	NA	NA	NA	**150**	NA	NA	NA	NA	NA	NA
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	**65**	NA	NA	NA	NA	NA	NA
	Naphthalene	40	500	40	1000	40	3,000	NA	NA	NA	0.0036 U	0.085 U	0.0037 U	**0.67**	0.00215 U	**0.36**	0.0022 U	0.0026 U
	Methylnaphthalene, 2-	80	300	80	500	80	500	NA	NA	NA	0.45 U	0.57 U	0.90 U	0.41 U	0.195 U	**0.23**	0.20 U	NA
	Acenaphthylene	600	10	600	10	600	10	NA	NA	NA	0.45 U	0.57 U	0.90 U	0.41 U	0.195 U	0.22 U	0.20 U	NA
	Acenaphthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	**1.2**	0.57 U	0.90 U	**1.0**	0.195 U	**0.63**	0.20 U	NA
	Fluorene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	**0.95**	0.57 U	0.90 U	**0.87**	0.195 U	**0.62**	0.20 U	NA
	Phenanthrene	500	500	1,000	1,000	3,000	3,000	NA	NA	NA	**14**	**1.6**	**8.2**	**14**	0.195 U	**6.3**	**0.31**	NA
	Anthracene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	**3.1**	0.57 U	**1.7**	**2.4**	0.195 U	**1.3**	0.20 U	NA
	Fluoranthene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	**21**	**2.5**	**12**	**19**	**0.15 J**	**6.3**	**0.39**	NA
	Pyrene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	**24**	**2.6**	**11**	**16**	**0.145 J**	**6.5**	**0.47**	NA
	Benzo(a)anthracene	7	7	40	40	300	300	NA	NA	NA	**12**	**1.3**	**5.9**	**8.6**	0.195 U	**3.5**	**0.27**	NA
	Chrysene	70	70	400	400	3,000	3,000	NA	NA	NA	**12**	**1.7**	**6.0**	**8.7**	0.195 U	**3.6**	**0.33**	NA
	Benzo(b)fluoranthene	7	7	40	40	300	300	NA	NA	NA	**13**	**1.7**	**6.0**	**9.7**	0.195 U	**4.0**	**0.34**	NA
	Benzo(k)fluoranthene	70	70	400	400	3,000	3,000	NA	NA	NA	**6.8**	**0.94**	**2.3**	**3.7**	0.195 U	**1.5**	0.20 U	NA
	Benzo(a)pyrene	2	2	4	4	30	30	NA	NA	NA	**10**	**1.3**	**4.9**	**7.1**	0.195 U	**3.1**	**0.26**	NA
	Indeno(1,2,3-cd)pyrene	7	7	40	40	300	300	NA	NA	NA	**6.9**	**1.4**	**5.2**	**4.8**	0.195 U	**1.5**	0.20 U	NA
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	30	30	NA	NA	NA	**1.4**	**1.4**	**1.3**	**0.98**	0.195 U	**0.33**	0.20 U	NA
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	**5.0**	**1.0**	**4.7**	**3.4**	0.195 U	**1.2**	0.20 U	NA

Appendix H-1; Table H-1.5.
Risk Assessment Data Set fpr Soil Analytical Results -- 0 to 15 Foot Depth Interval
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						**MCA-9**	**MCA-10**	**MCA-11**	**SS-01**	**SS-01_Cygnus**	**SS-02**	**SS-03**	**SS-04**	**SS-05**	**SS-06**	**TRC-08**
		Sample ID:						S-9-A	S-10-B	S-11-B	SS-1	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	TRC-8 13.5-15
		Sample Depth (ft.):						0 - 0.5	1 - 1.5	1.5 - 2	0 - 0.5	0 - 1	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	13.5 - 15
		Sample Date:						02/25/1987	02/25/1987	02/25/1987	04/02/2010	02/24/2000	04/02/2010	04/02/2010	04/02/2010 combo	04/02/2010	04/02/2010	02/12/2013
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3											
PCBs																		
(mg/kg)	Total PCBs	2	2	3	3	3	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH																		
(mg/kg)	TPH	1,000	1,000	3,000	3,000	5,000	5,000	**220**	**30**	**420**	NA	NA	NA	NA	NA	NA	NA	NA
Metals, total																		
(mg/kg)	Arsenic	20	20	20	20	20	20	NA	NA	NA	NA	**2.6**	NA	NA	NA	NA	NA	NA
	Barium	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	NA	**57**	NA	NA	NA	NA	NA	NA
	Cadmium	2	2	30	30	30	30	2.0 U	2.0 U	2.0 U	NA	**1.2**	NA	NA	NA	NA	NA	NA
	Chromium	30	30	200	200	200	200	**74**	**13**	**45**	**37**	**16**	**49**	**27**	**105**	**78**	**13**	NA
	Copper	NS	NS	NS	NS	NS	NS	**19**	**3.7**	**11**	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	300	300	300	300	300	300	**150**	**85**	**63**	NA	**56**	NA	NA	NA	NA	NA	NA
	Mercury	20	20	30	30	30	30	NA	NA	NA	NA	**0.028**	NA	NA	NA	NA	NA	NA
	Nickel	20	20	700	700	700	700	**29**	**15**	**58**	**43**	NA	**82**	**44**	**115**	**250**	**21**	NA
	Zinc	2,500	2,500	3,000	3,000	5,000	5,000	**43**	**15**	**96**	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
B - Compound detected in associated method blank
E - Estimated value due to interference.
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
N/A - Not applicable.
ND - Not detected.
NS - No MassDEP standards exist for this analyte.
U - Compound was not detected at specified quantitation limit.
Values in **Bold** indicate the compound was detected.
Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.
VOCs - Volatile Organic Compounds.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.
PCBs - Polychlorinated Biphenyls.
TPH - Total Petroleum Hydrocarbons.
TCLP - Toxicity Characteristic Leaching Procedure.
(1) - MassDEP Method 1 standards for C9-C10 aromatics used.
R1 - Rejected data point due to 0% recovery in associated LCS.
R2 - Rejected data point due to gross holding time exceedance.
R3 - Rejected data point due to lack of field preservation.
orange shading - Significant low bias due to 0% recovery in associated LCS.
green shading - Significant low bias due to gross holding time exceedance.
blue shading - Significant low bias due to lack of field preservation.

Appendix H-1; Table H-1.6.
Risk Assessment Data Set for Soil Analytical Results -- Roadway
Former Payne Cutlery Site
New Bedford, Massachusetts

	Analyte	Sample Location:						CGW-07	CGW-08	CGW-09	MW-01		MW-02	TRC-05
		Sample ID:						CGW-7/S-3	CGW-8/S-3	CGW-9/S-3	MW-1	MW-1	MW-2	TRC-5 7-9
		Sample Depth (ft.):						10 - 12	10 - 12	10 - 12	0.5 - 2	10 - 11.5	0.5 - 2	7 - 9
		Sample Date:						02/25/2000	02/25/2000 combo	02/25/2000	07/03/1987	07/03/1987	06/29/1987	02/11/2013
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-3/GW-2	S-3/GW-3							
VOCs														
(mg/kg)	Dichloroethene, cis-1,2-	0.4	100	0.4	500	0.4	500	0.062 U	0.0675 U	0.071 U	NA	NA	NA	**0.30**
	Trichloroethylene (TCE)	2	90	2	700	2	2,000	**0.17**	**4.3**	**0.78**	**0.016**	**1.3**	NA	**2.6**
	Toluene	500	500	1000	1000	2000	3000	0.062 U	0.0675 U	**0.089**	NA	NA	NA	0.099 U
	Tetrachloroethylene (PCE)	10	30	10	200	10	1,000	0.062 U	**0.0385 J**	0.071 U	0.015 U	0.015 U	NA	0.066 U
TPH														
(mg/kg)	TPH	1,000	1,000	3,000	3,000	5,000	5,000	NA	NA	NA	**430**	NA	**280.04**	NA
Metals, total														
(mg/kg)	Arsenic	20	20	20	20	20	20	**0.53**	**0.105 J**	**0.34**	NA	NA	NA	NA
	Barium	1,000	1,000	3,000	3,000	5,000	5,000	**24**	**8.2**	**18**	NA	NA	NA	NA
	Chromium	30	30	200	200	200	200	**4.6**	**4.15**	**17**	NA	NA	NA	NA

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

B - Compound detected in associated method blank

E - Estimated value due to interference.

J - Estimated value.

NA - Sample not analyzed for the listed analyte.

N/A - Not applicable.

ND - Not detected.

NS - No MassDEP standards exist for this analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.

VOCs - Volatile Organic Compounds.

VPH - Volatile Petroleum Hydrocarbons.

EPH - Extractable Petroleum Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

TPH - Total Petroleum Hydrocarbons.

TCLP - Toxicity Characteristic Leaching Procedure.

(1) - MassDEP Method 1 standards for C9-C10 aromatics used.

R1 - Rejected data point due to 0% recovery in associated LCS.

R2 - Rejected data point due to gross holding time exceedance.

R3 - Rejected data point due to lack of field preservation.

orange shading - Significant low bias due to 0% recovery in associated LCS.

green shading - Significant low bias due to gross holding time exceedance.

blue shading - Significant low bias due to lack of field preservation.

Appendix H-1; Table H-1.7.
Risk Assessment Data Set for Shallow Goundwater Analytical Results
Former Payne Cutlery Site
New Bedford, Massachusetts

Analysis	Analyte	Sample Location:		**CGW-02**	**CGW-03**	**CGW-04**	**CGW-05**	**CGW-06**	**CGW-07**	**CGW-08**				**CGW-09**	**CGW-10**	**CGW-11**	**CGW-12**	**CGW-13**
		Sample ID:		CGW-2	CGW-3	CGW-4	CGW-5	CGW-6	CGW-7	CGW-8	CGW-8	CGW-8	CGW-8	CGW-9	CGW-10	CGW-11	CGW-12	CGW-13
		Sample Date:		03/02/2000	03/02/2000	03/02/2000	03/02/2000	03/02/2000	03/02/2000	03/02/2000	04/05/2012 combo	02/26/2013	8/15/2013	03/02/2000	04/05/2012	04/11/2012	06/15/2001	06/15/2001
		GW-2	GW-3															
VOCs																		
(ug/L)	Acetone	50,000	50,000	NU	NU	NU	NU	NU	NU	NU	NU	NU	1,000 U	NU	10 U	50 U	NU	NU
	Methyl Ethyl Ketone (MEK)	50,000	50,000	NU	NU	NU	NU	NU	NU	NU	NU	NU	1,000 U	NU	10 U	10 U	NU	NU
	Butylbenzene, n-	7,000(1)	50,000(1)	NU	NU	NU	NU	NU	NU	NU	NU	NU	100 U	NU	1.0 U	1.0 U	NU	NU
	Butylbenzene, sec-	7,000(1)	50,000(1)	NU	NU	NU	NU	NU	NU	NU	NU	NU	100 U	NU	1.0 U	1.0 U	NU	NU
	Chlorobenzene	200	1,000	NU	NU	NU	NU	NU	NU	NU	NU	NU	100 U	NU	1.0 U	1.0 U	NU	NU
	Chloroform	50	20,000	NU	NU	NU	NU	NU	NU	NU	NU	NU	200 U	NU	2.0 U	2.0 U	NU	NU
	Dichloroethylene, 1,1-	80	30,000	NU	NU	NU	NU	NU	NU	NU	NU	NU	100 U	NU	1.0 U	**1.5**	NU	NU
	Dichloroethene, cis-1,2-	100	50,000	NU	NU	NU	NU	NU	NU	NU	NU	NU	**3,800**	NU	1.0 U	**160**	NU	NU
	Hexanone (MNBK), 2-	NS	NS	NU	NU	NU	NU	NU	NU	NU	NU	NU	1,000 U	NU	10 U	10 U	NU	NU
	Methylene Chloride	10,000	50,000	NU	NU	NU	NU	NU	NU	NU	NU	NU	500 U	NU	5.0 U	5.0 U	NU	NU
	Methyl Isobutyl Ketone (MIBK)	50,000	50,000	NU	NU	NU	NU	NU	NU	NU	NU	NU	1,000 U	NU	10 U	10 U	NU	NU
	Propylbenzene, n-	7,000(1)	50,000(1)	NU	NU	NU	NU	NU	NU	NU	NU	NU	100 U	NU	1.0 U	1.0 U	NU	NU
	Tetrachloroethylene (PCE)	50	30,000	NU	NU	NU	NU	NU	NU	NU	NU	NU	**260**	NU	1.0 U	**2.5**	NU	NU
	Trichloroethane, 1,1,1-	4,000	20,000	NU	NU	NU	NU	NU	NU	NU	NU	NU	100 U	NU	1.0 U	1.0 U	NU	NU
	Trichloroethylene (TCE)	30	5,000	NU	NU	NU	NU	NU	NU	NU	NU	NU	**18,000**	NU	1.0 U	**1,500**	NU	NU
	Trichlorofluoromethane (Freon 11)	NS	NS	NU	NU	NU	NU	NU	NU	NU	NU	NU	200 U	NU	2.0 U	2.0 U	NU	NU
	Trimethylbenzene, 1,2,4-	7,000(1)	50,000(1)	NU	NU	NU	NU	NU	NU	NU	NU	NU	100 U	NU	1.0 U	1.0 U	NU	NU
	Trimethylbenzene, 1,3,5-	7,000(1)	50,000(1)	NU	NU	NU	NU	NU	NU	NU	NU	NU	100 U	NU	1.0 U	1.0 U	NU	NU
	Vinyl Chloride	2	50,000	NU	NU	NU	NU	NU	NU	NU	NU	NU	200 U	NU	2.0 U	2.0 U	NU	NU
	Isopropyltoluene, p- (Cymene)	7,000(1)	50,000(1)	NU	NU	NU	NU	NU	NU	NU	NU	NU	100 U	NU	1.0 U	1.0 U	NU	NU
VPH																		
(ug/L)	C5-C8 Aliphatics	3,000	50,000	NU	NU	NU	NU	NU	NU	NU	**14,500**	NU	NA	NU	100 U	**1,200**	NU	NU
	C9-C12 Aliphatics	5,000	50,000	NU	NU	NU	NU	NU	NU	NU	1,000 U	NU	NA	NU	100 U	100 U	NU	NU
	C9-C10 Aromatics	7,000	50,000	NU	NU	NU	NU	NU	NU	NU	1,000 U	NU	NA	NU	100 U	100 U	NU	NU
	Methyl T-Butyl Ether (MTBE)	50,000	50,000	NU	NU	NU	NU	NU	NU	NU	NU	NU	100 U	NU	1.0 U	1.0 U	NU	NU
	Toluene	50,000	40,000	NU	NU	NU	NU	NU	NU	NU	NU	NU	100 U	NU	1.0 U	1.0 U	NU	NU
	Ethylbenzene	20,000	5,000	NU	NU	NU	NU	NU	NU	NU	NU	NU	100 U	NU	1.0 U	1.0 U	NU	NU
	Xylenes (total)	9,000	5,000	NU	NU	NU	NU	NU	NU	NU	NU	NU	200 U	NU	2.0 U	2.0 U	NU	NU
	Naphthalene	1,000	20,000	NU	NU	NU	NU	NU	NU	NU	NU	NU	200 U	NU	5.0 U	2.0 U	NU	NU
EPH																		
(ug/L)	C9-C18 Aliphatics	5,000	50,000	NU	NU	NU	NU	NU	NU	NU	100 U	NA	NA	NU	NA	100 U	NU	NU
	C19-C36 Aliphatics	NS	50,000	NU	NU	NU	NU	NU	NU	NU	100 U	NA	NA	NU	NA	100 U	NU	NU
	C11-C22 Aromatics	50,000	5,000	NU	NU	NU	NU	NU	NU	NU	100 U	NA	NA	NU	NA	100 U	NU	NU
	Methylnaphthalene, 2-	2,000	20,000	NU	NU	NU	NU	NU	NU	NU	2 U	NA	NA	NU	NA	2.0 U	NU	NU
	Acenaphthylene	10,000	40	NU	NU	NU	NU	NU	NU	NU	2 U	NA	NA	NU	NA	2.0 U	NU	NU
	Acenaphthene	NS	6,000	NU	NU	NU	NU	NU	NU	NU	2 U	NA	NA	NU	NA	2.0 U	NU	NU
	Fluorene	NS	40	NU	NU	NU	NU	NU	NU	NU	2 U	NA	NA	NU	NA	2.0 U	NU	NU
	Benzo(k)fluoranthene	NS	100	NU	NU	NU	NU	NU	NU	NU	2 U	NA	NA	NU	NA	2.0 U	NU	NU
	Benzo(a)pyrene	NS	500	NU	NU	NU	NU	NU	NU	NU	2 U	NA	NA	NU	NA	2.0 U	NU	NU
Metals, dissolved																		
(ug/L)	Antimony	NS	8,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	NS	50,000	**24**	**87**	**42**	**27**	**33**	20 U	**47**	NA	NA	NA	**36**	NA	NA	**46**	**120**
	Cadmium	NS	4	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	NA	5.0 U	NA	NA	0.5 U	0.5 U
	Chromium	NS	300	10 U	10 U	10 U	10 U	10 U	**160**	10 U	NA	NA	NA	10 U	NA	NA	5.0 U	**14**
	Copper	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	NS	10	100 U	100 U	100 U	100 U	100 U	100 U	100 U	NA	NA	NA	100 U	NA	NA	**0.5**	**2.3**
	Nickel	NS	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	NS	100	200 U	200 U	200 U	200 U	200 U	200 U	200 U	NA	NA	NA	200 U	NA	NA	10 U	10 U
	Silver	NS	7	7.0 U	7.0 U	7.0 U	7.0 U	7.0 U	7.0 U	7.0 U	NA	NA	NA	7.0 U	NA	NA	0.5 U	0.5 U
	Thallium	NS	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

ug/L - micrograms per liter.

B - Compound detected in associated method blank

J - Estimated value.

NA - Sample not analyzed for the listed analyte.

NS - No MassDEP standards exist for this analyte.

NU - Not used due to availablility of more recent and representative data.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.

VOCs - Volatile Organic Compounds.

VPH - Volatile Petroleum Hydrocarbons.

EPH - Extractable Petroleum Hydrocarbons.

(1) - MassDEP Method 1 standards for C9-C10 aromatics used.

R - Rejected data point due to <10% recovery of the surrogate.

Appendix H-1; Table H-1.7.
Risk Assessment Data Set for Shallow Goundwater Analytical Results
Former Payne Cutlery Site
New Bedford, Massachusetts

Analysis	Analyte	Sample Location:		**CGW-14**		**CGW-15**		**CGW-16**	**CGW-16**	**CGW-17**		**EMW-01**	**MW-01**	**MW-02**	**MW-02A**	**MW-03**	**MW-03A**	**MW-04**
		Sample ID:		CGW-14	CGW-14	CGW-15	CGW-15	CGW-16	CGW-16	CGW-17	CGW-17	EMW-1	MW-1	MW-2	MW-2A	MW-3	MW-3A	MW-4
		Sample Date:		06/15/2001	04/05/2012	06/15/2001	04/05/2012	06/15/2001	04/05/2012	06/15/2001	04/05/2012	03/02/2000	07/14/1987	07/14/1987	07/14/1987	07/14/1987	07/14/1987	07/14/1987
		GW-2	GW-3		combined					combo								
VOCs																		
(ug/L)	Acetone	50,000	50,000	NU	**17.5**	NU	10 U	NU	10 U	NU	10 U	NU	NU	NU	NU	NU	NU	NU
	Methyl Ethyl Ketone (MEK)	50,000	50,000	NU	10 U	NU	10 U	NU	10 U	NU	10 U	NU	NU	NU	NU	NU	NU	NU
	Butylbenzene, n-	7,000(1)	50,000(1)	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	NU	NU	NU	NU	NU	NU
	Butylbenzene, sec-	7,000(1)	50,000(1)	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	NU	NU	NU	NU	NU	NU
	Chlorobenzene	200	1,000	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	NU	NU	NU	NU	NU	NU
	Chloroform	50	20,000	NU	2.0 U	NU	2.0 U	NU	2.0 U	NU	2.0 U	NU	NU	NU	NU	NU	NU	NU
	Dichloroethylene, 1,1-	80	30,000	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	NU	NU	NU	NU	NU	NU
	Dichloroethene, cis-1,2-	100	50,000	NU	1.0 U	NU	1.0 U	NU	**6.3**	NU	**1.1**	NU	NU	NU	NU	NU	NU	NU
	Hexanone (MNBK), 2-	NS	NS	NU	10 U	NU	10 U	NU	10 U	NU	10 U	NU	NU	NU	NU	NU	NU	NU
	Methylene Chloride	10,000	50,000	NU	5.0 U	NU	5.0 U	NU	5.0 U	NU	5.0 U	NU	NU	NU	NU	NU	NU	NU
	Methyl Isobutyl Ketone (MIBK)	50,000	50,000	NU	10 U	NU	10 U	NU	10 U	NU	10 U	NU	NU	NU	NU	NU	NU	NU
	Propylbenzene, n-	7,000(1)	50,000(1)	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	NU	NU	NU	NU	NU	NU
	Tetrachloroethylene (PCE)	50	30,000	NU	1.0 U	NU	1.0 U	NU	**1.9**	NU	1.0 U	NU	NU	NU	NU	NU	NU	NU
	Trichloroethane, 1,1,1-	4,000	20,000	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	NU	NU	NU	NU	NU	NU
	Trichloroethylene (TCE)	30	5,000	NU	**0.9 J**	NU	**3.5**	NU	**20**	NU	**11**	NU	NU	NU	NU	NU	NU	NU
	Trichlorofluoromethane (Freon 11)	NS	NS	NU	2.0 U	NU	2.0 U	NU	2.0 U	NU	2.0 U	NU	NU	NU	NU	NU	NU	NU
	Trimethylbenzene, 1,2,4-	7,000(1)	50,000(1)	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	NU	NU	NU	NU	NU	NU
	Trimethylbenzene, 1,3,5-	7,000(1)	50,000(1)	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	NU	NU	NU	NU	NU	NU
	Vinyl Chloride	2	50,000	NU	2.0 U	NU	2.0 U	NU	2.0 U	NU	2.0 U	NU	NU	NU	NU	NU	NU	NU
	Isopropyltoluene, p- (Cymene)	7,000(1)	50,000(1)	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	NU	NU	NU	NU	NU	NU
VPH																		
(ug/L)	C5-C8 Aliphatics	3,000	50,000	NU	NA	NU	NA	NU	NA	NU	100 U	NU	NU	NU	NU	NU	NU	NU
	C9-C12 Aliphatics	5,000	50,000	NU	NA	NU	NA	NU	NA	NU	100 U	NU	NU	NU	NU	NU	NU	NU
	C9-C10 Aromatics	7,000	50,000	NU	NA	NU	NA	NU	NA	NU	100 U	NU	NU	NU	NU	NU	NU	NU
	Methyl T-Butyl Ether (MTBE)	50,000	50,000	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	NU	NU	NU	NU	NU	NU
	Toluene	50,000	40,000	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	NU	NU	NU	NU	NU	NU
	Ethylbenzene	20,000	5,000	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	1.0 U	NU	NU	NU	NU	NU	NU	NU
	Xylenes (total)	9,000	5,000	NU	2.0 U	NU	2.0 U	NU	2.0 U	NU	2.0 U	NU	NU	NU	NU	NU	NU	NU
	Naphthalene	1,000	20,000	NU	3.5 U	NU	5.0 U	NU	5.0 U	NU	5.0 U	NU	NU	NU	NU	NU	NU	NU
EPH																		
(ug/L)	C9-C18 Aliphatics	5,000	50,000	NU	NA	NU	NA	NU	NA	NU	NA	NU	NU	NU	NU	NU	NU	NU
	C19-C36 Aliphatics	NS	50,000	NU	NA	NU	NA	NU	NA	NU	NA	NU	NU	NU	NU	NU	NU	NU
	C11-C22 Aromatics	50,000	5,000	NU	NA	NU	NA	NU	NA	NU	NA	NU	NU	NU	NU	NU	NU	NU
	Methylnaphthalene, 2-	2,000	20,000	NU	NA	NU	NA	NU	NA	NU	NA	NU	NU	NU	NU	NU	NU	NU
	Acenaphthylene	10,000	40	NU	NA	NU	NA	NU	NA	NU	NA	NU	NU	NU	NU	NU	NU	NU
	Acenaphthene	NS	6,000	NU	NA	NU	NA	NU	NA	NU	NA	NU	NU	NU	NU	NU	NU	NU
	Fluorene	NS	40	NU	NA	NU	NA	NU	NA	NU	NA	NU	NU	NU	NU	NU	NU	NU
	Benzo(k)fluoranthene	NS	100	NU	NA	NU	NA	NU	NA	NU	NA	NU	NU	NU	NU	NU	NU	NU
	Benzo(a)pyrene	NS	500	NU	NA	NU	NA	NU	NA	NU	NA	NU	NU	NU	NU	NU	NU	NU
Metals, dissolved																		
(ug/L)	Antimony	NS	8,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	**510**	**410**	**460**	**470**	**360**	**370**
	Barium	NS	50,000	**64**	NA	**34**	NA	**22**	NA	**7.9**	NA	**30**	100 U	100 U	**240**	**130**	**120**	**100**
	Cadmium	NS	4	**1.8**	NA	0.5 U	NA	0.5 U	NA	0.5 U	NA	5.0 U	**2.0**	1.0 U	1.0 U	**8.0**	1.0 U	1.0 U
	Chromium	NS	300	5.0 U	NA	5.0 U	NA	5.0 U	NA	5 U	NA	10 U	20 U	20 U	20 U	20 U	20 U	20 U
	Copper	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	**20**	20 U	20 U	20 U	20 U	20 U
	Lead	NS	10	0.5 U	NA	0.5 U	NA	0.5 U	NA	0.5 U	NA	100 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Nickel	NS	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	**6,290**	40 U	40 U	40 U	40 U	40 U
	Selenium	NS	100	10 U	NA	10 U	NA	10 U	NA	10 U	NA	200 U	**5.0**	2.0 U	2.0 U	2.0 U	**2.0**	2.0 U
	Silver	NS	7	0.5 U	NA	0.5 U	NA	0.5 U	NA	0.5 U	NA	7.0 U	**10**	10 U	10 U	10 U	10 U	10 U
	Thallium	NS	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	**150**	100 U	100 U	100 U	100 U

Notes:

ug/L - micrograms per liter.

B - Compound detected in associated method blank

J - Estimated value.

NA - Sample not analyzed for the listed analyte.

NS - No MassDEP standards exist for this analyte.

NU - Not used due to availablility of more recent and representative data.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.

VOCs - Volatile Organic Compounds.

VPH - Volatile Petroleum Hydrocarbons.

EPH - Extractable Petroleum Hydrocarbons.

(1) - MassDEP Method 1 standards for C9-C10 aromatics used.

R - Rejected data point due to <10% recovery of the surrogate.

Appendix H-1; Table H-1.7.
Risk Assessment Data Set for Shallow Goundwater Analytical Results
Former Payne Cutlery Site
New Bedford, Massachusetts

Analysis	Analyte	Sample Location:		**MW-05**	**SB-01**	**TRC-01**	**TRC-02**	**TRC-03**	**TRC-04**	**TRC-05**	**TRC-06**	**TRC-07**	**TRC-08**
		Sample ID:		MW-5	SB-1	TRC-1	TRC-2	TRC-3	TRC-4	TRC-5	TRC-6	TRC-7	TRC-8
		Sample Date:		07/14/1987	03/07/2000	04/04/2012	04/04/2012	04/04/2012	04/04/2012 combined	8/15/2013	02/26/2013 combined	02/25/2013 combined	02/25/2013 combined
		GW-2	GW-3										
VOCs													
(ug/L)	Acetone	50,000	50,000	NU	NU	10 U	20 U	200 U	95 U	500 U	10 U	10 U	10 U
	Methyl Ethyl Ketone (MEK)	50,000	50,000	NU	NU	10 U	20 U	200 U	95 U	500 U	10 U	10 U	10 U
	Butylbenzene, n-	7,000(1)	50,000(1)	NU	NU	1.0 U	2.0 U	20 U	9.5 U	50 U	1.0 U	1.0 U	1.0 U
	Butylbenzene, sec-	7,000(1)	50,000(1)	NU	NU	1.0 U	2.0 U	20 U	9.5 U	50 U	1.0 U	1.0 U	1.0 U
	Chlorobenzene	200	1,000	NU	NU	1.0 U	2.0 U	20 U	9.5 U	50 U	1.0 U	1.0 U	1.0 U
	Chloroform	50	20,000	NU	NU	2.0 U	4.0 U	40 U	19 U	100 U	2.0 U	2.0 U	2.0 U
	Dichloroethylene, 1,1-	80	30,000	NU	NU	1.0 U	2.0 U	20 U	9.5 U	50 U	1.0 U	1.0 U	1.0 U
	Dichloroethene, cis-1,2-	100	50,000	NU	NU	1.0 U	**56**	**61**	**47.3333**	**540**	**5.2 J**	**4.35**	**7.35**
	Hexanone (MNBK), 2-	NS	NS	NU	NU	10 U	20 U	200 U	95 U	500 U	10 U	10 U	10 U
	Methylene Chloride	10,000	50,000	NU	NU	5.0 U	10 U	100 U	47.5 U	250 U	5.0 U	5.0 U	5.0 U
	Methyl Isobutyl Ketone (MIBK)	50,000	50,000	NU	NU	10 U	20 U	200 U	95 U	500 U	10 U	10 U	10 U
	Propylbenzene, n-	7,000(1)	50,000(1)	NU	NU	1.0 U	2.0 U	20 U	9.5 U	50 U	1.0 U	1.0 U	1.0 U
	Tetrachloroethylene (PCE)	50	30,000	NU	NU	1.0 U	**18**	**68**	**10.3167**	**130**	1.0 U	**0.95 J**	**9.75 J**
	Trichloroethane, 1,1,1-	4,000	20,000	NU	NU	1.0 U	2.0 U	20 U	9.5 U	50 U	1.0 U	1.0 U	**0.95 J**
	Trichloroethylene (TCE)	30	5,000	NU	NU	**15**	**240**	**1,100**	**857**	**2,700**	**15.5**	**50.5**	**323.25**
	Trichlorofluoromethane (Freon 11)	NS	NS	NU	NU	2.0 U	4.0 U	40 U	19 U	100 U	2.0 U	2.0 U	2.0 U
	Trimethylbenzene, 1,2,4-	7,000(1)	50,000(1)	NU	NU	1.0 U	2.0 U	20 U	9.5 U	50 U	1.0 U	1.0 U	1.0 U
	Trimethylbenzene, 1,3,5-	7,000(1)	50,000(1)	NU	NU	1.0 U	2.0 U	20 U	9.5 U	50 U	1.0 U	1.0 U	1.0 U
	Vinyl Chloride	2	50,000	NU	NU	2.0 U	4.0 U	40 U	**10.8333 J**	100 U	2.0 U	2.0 U	2.0 U
	Isopropyltoluene, p- (Cymene)	7,000(1)	50,000(1)	NU	NU	1.0 U	2.0 U	20 U	9.5 U	50 U	1.0 U	1.0 U	1.0 U
VPH													
(ug/L)	C5-C8 Aliphatics	3,000	50,000	NU	NU	100 U	**130**	NA	**800**	NA	NA	NA	NA
	C9-C12 Aliphatics	5,000	50,000	NU	NU	100 U	100 U	NA	100 U	NA	NA	NA	NA
	C9-C10 Aromatics	7,000	50,000	NU	NU	100 U	100 U	NA	100 U	NA	NA	NA	NA
	Methyl T-Butyl Ether (MTBE)	50,000	50,000	NU	NU	1.0 U	1.0 U	20 U	3.16667 U	50 U	1.0 U	1.0 U	1.0 U
	Toluene	50,000	40,000	NU	NU	1.0 U	1.0 U	20 U	3.16667 U	50 U	1.0 U	1.0 U	1.0 U
	Ethylbenzene	20,000	5,000	NU	NU	1.0 U	1.0 U	20 U	3.16667 U	50 U	1.0 U	1.0 U	1.0 U
	Xylenes (total)	9,000	5,000	NU	NU	2.0 U	2.0 U	40 U	6.33333 U	100 U	2.0 U	2.0 U	2.0 U
	Naphthalene	1,000	20,000	NU	NU	2.0 U	2.0 U	100 U	6.33333 U	100 U	2.0 U	2.0 U	2.0 U
EPH													
(ug/L)	C9-C18 Aliphatics	5,000	50,000	NU	NU	100 U	100 U	NA	100 U	NA	NA	NA	NA
	C19-C36 Aliphatics	NS	50,000	NU	NU	100 U	100 U	NA	100 U	NA	NA	NA	NA
	C11-C22 Aromatics	50,000	5,000	NU	NU	100 U	100 U	NA	100 U	NA	NA	NA	NA
	Methylnaphthalene, 2-	2,000	20,000	NU	NU	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA
	Acenaphthylene	10,000	40	NU	NU	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA
	Acenaphthene	NS	6,000	NU	NU	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA
	Fluorene	NS	40	NU	NU	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA
	Benzo(k)fluoranthene	NS	100	NU	NU	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA
	Benzo(a)pyrene	NS	500	NU	NU	2.0 U	2.0 U	NA	2.0 U	NA	NA	NA	NA
Metals, dissolved													
(ug/L)	Antimony	NS	8,000	200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Barium	NS	50,000	100 U	**28**	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	NS	4	1.0 U	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	NS	300	20 U	10 U	NA	NA	NA	NA	NA	NA	NA	NA
	Copper	NS	NS	**20**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lead	NS	10	2.0 U	100 U	NA	NA	NA	NA	NA	NA	NA	NA
	Nickel	NS	200	40 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	NS	100	2.0 U	200 U	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	NS	7	10 U	7.0 U	NA	NA	NA	NA	NA	NA	NA	NA
	Thallium	NS	3,000	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
ug/L - micrograms per liter.
B - Compound detected in associated method blank
J - Estimated value.
NA - Sample not analyzed for the listed analyte.
NS - No MassDEP standards exist for this analyte.
NU - Not used due to availablility of more recent and representative data.
U - Compound was not detected at specified quantitation limit.
Values in **Bold** indicate the compound was detected.
Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.
VOCs - Volatile Organic Compounds.
VPH - Volatile Petroleum Hydrocarbons.
EPH - Extractable Petroleum Hydrocarbons.
(1) - MassDEP Method 1 standards for C9-C10 aromatics used.
R - Rejected data point due to <10% recovery of the surrogate.

Appendix H-1; Table H-1.8.
Summary of Analytical Results for Indoor Air Samples -- Oneko Lane/Coffin Avenue Residences
Former Payne Cutlery Site
New Bedford, Massachusetts

Analysis	Analyte	Sample Location:	6_Oneko_Lane				8_Oneko_Lane			
		Sample ID:	6O-1	6O-2			8 ONEK 1ST	8 ONEKO B		
		Location:	Basement	1st Floor			Basement	1st Floor		
		Sample Date:	03/27/2000	03/27/2000			03/29/2000	03/29/2000		
		IATV*	combo		COPC (Y/N)?	Rationale			COPC (Y/N)?	Rationale
TO-15										
	Trichlorofluoromethane (Freon 11)	NS	**2.295**	**2.56**	**N**	**2, 3**	**20**	1.48 U	**Y**	**1**
	Chloroform	1.9	2.38 U	2.38 U	**N**	**3, 4**	2.38 U	2.38 U	**N**	**3, 4**
	Trichloroethane, 1,1,1-	3	2.18 U	2.18 U	**N**	**3, 4**	**22.8**	**5.55**	**Y**	**1**
	Benzene	2.3	**2.51 J**	**4.38**	**N**	**2**	**12.8**	**3.8**	**N**	**5**
	Trichloroethylene (TCE)	0.4	1.82 U	1.82 U	**N**	**3, 4**	1.82 U	1.82 U	**N**	**3, 4**
	Toluene	54	**6.95**	**35**	**N**	**2**	**43.7**	**13.1**	**Y**	**1**
	Tetrachloroethylene (PCE)	1.4	2.85 U	2.85 U	**N**	**3, 4**	2.85 U	2.85 U	**N**	**3, 4**
	Ethylbenzene	7.4	2.34 U	**2.6**	**N**	**2, 3**	**8.63**	**2.38**	**Y**	**1**
	Xylenes (total)	20	**6.63**	**11.87**	**N**	**2**	**34.58**	**15.18**	**N**	**5**
	Styrene	1.4	2.04 U	2.04 U	**N**	**3, 4**	2.04 U	2.04 U	**N**	**3, 4**
	Trimethylbenzene, 1,3,5-	10(1)	3.14 U	3.14 U	**N**	**3, 4**	**6.33**	**18.8**	**N**	**2**
	Trimethylbenzene, 1,2,4-	10(1)	**5.155**	**9.72**	**N**	**2**	**20.7**	**72.1**	**N**	**2**
	Dichlorobenzene, 1,4-; (p-DCB)	0.5	4.87 U	4.87 U	**N**	**3, 4**	**65.5**	4.87 U	**N**	**5**

Notes:

ug/m3 - micrograms per cubic meter.

J - Estimated value.

NS - No MassDEP standards exist for this analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed the IATV.

APH - Air-Phase Petroleum Hydrocarbons.

TO - Toxic organics.

IATV - MassDEP, Indoor Air Threshold Values (IATV), Vapor Intrusion Guidance - Interim Final, December 2011 with updated screening values from February 22 and March 7, 2013.

(1) - IATV for C9-C10 aromatics used.

COPC - Compound of Potential Concern

Rationale:

1 - Basement concentration greater than or equal to upper floor concentration. Selected as a COPC.

2 - Basement concentration less than upper floor concentration. Not selected as a COPC.

3 - Indoor air concentration consistent with ambient air concentration. Not selected as a COPC.

4 - Not detected above laboratory reporting limit. Not selected as a COPC.

5 - High probability that an indoor source is present due to significatly higher levels in indoor air than soil vapor (e.g., not detected in soil vapor). Not selected as a COPC.

6 - High probability that an indoor source is present due to significatly higher levels in indoor air than soil gas. Selected as a COPC. However, maximum soil vapor concentration attenuated by a factor of 70 used as indoor air concentration.

Appendix H-1; Table H-1.8.
Summary of Analytical Results for Indoor Air Samples -- Oneko Lane/Coffin Avenue Residences
Former Payne Cutlery Site
New Bedford, Massachusetts

Analysis	Analyte	Sample Location:	12_Oneko_Lane				348_Coffin_Avenue									
		Sample ID:	12O-1		12O-2		348 COFFIN ST. 1ST		348 COFFIN ST. A		348B		348L			
		Location:	Basement		1st Floor		1st Floor		Basement		Basement		1st Floor			
		Sample Date:	03/27/2000		03/27/2000		03/29/2000		03/29/2000 combo		03/28/2001		03/28/2001			
		IATV*													COPC (Y/N)?	Rationale
TO-15																
	Trichlorofluoromethane (Freon 11)	NS	**2.32**		**3.83**		**9.37**		**2.785**	**J**	3.15	U	**3.54**		**N**	**2**
	Chloroform	1.9	2.38	U	2.38	U	**36.3**		2.38	U	2.38	U	2.38	U	**N**	**2**
	Trichloroethane, 1,1,1-	3	2.18	U	2.18	U	**128**		**5.82**		2.18	U	2.18	U	**N**	**2**
	Benzene	2.3	2.88	U	**6.65**		**4.63**		**2.94**		2.88	U	2.88	U	**N**	**2**
	Trichloroethylene (TCE)	0.4	1.82	U	1.82	U	1.82	U	1.82	U	1.82	U	1.82	U	**N**	**3, 4**
	Toluene	54	**5.69**		**19.5**		**19.5**		**7.38**		3.58	U	**7.83**		**N**	**2**
	Tetrachloroethylene (PCE)	1.4	2.85	U	2.85	U	2.85	U	2.85	U	2.85	U	2.85	U	**N**	**3, 4**
	Ethylbenzene	7.4	2.34	U	**2.69**		2.34	U	2.34	U	2.34	U	2.34	U	**N**	**3, 4**
	Xylenes (total)	20	**8.16**		**8.15**		**9.45**		**5.85**		1.99	U	1.99	U	**N**	**2**
	Styrene	1.4	2.04	U	2.04	U	2.04	U	2.04	U	2.04	U	2.04	U	**N**	**3, 4**
	Trimethylbenzene, 1,3,5-	10[(1)]	3.14	U	3.14	U	3.14	U	**2.48**	**J**	3.14	U	3.14	U	**N**	**3**
	Trimethylbenzene, 1,2,4-	10[(1)]	**5.55**		**7.95**		**9.57**		**10.05**		4.17	U	4.17	U	**N**	**5**
	Dichlorobenzene, 1,4-; (p-DCB)	0.5	4.87	U	4.87	U	**31**		**4.2225**	**J**	4.87	U	4.87	U	**N**	**2**

Notes:

ug/m3 - micrograms per cubic meter.

J - Estimated value.

NS - No MassDEP standards exist for this analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed the IATV.

APH - Air-Phase Petroleum Hydrocarbons.

TO - Toxic organics.

IATV - MassDEP, Indoor Air Threshold Values (IATV), Vapor Intrusion Guidance - Interim Final, December 2011 with updated screening values from February 22 and March 7, 2013.

(1) - IATV for C9-C10 aromatics used.

COPC - Compound of Potential Concern

Rationale:

1 - Basement concentration greater than or equal to upper floor concentration. Selected as a COPC.

2 - Basement concentration less than upper floor concentration. Not selected as a COPC.

3 - Indoor air concentration consistent with ambient air concentration. Not selected as a COPC.

4 - Not detected above laboratory reporting limit. Not selected as a COPC.

5 - High probability that an indoor source is present due to significatly higher levels in indoor air tha

6 - High probability that an indoor source is present due to significatly higher levels in indoor air tha

Appendix H-1; Table H-1.8.
Summary of Analytical Results for Indoor Air Samples -- Oneko Lane/Coffin Avenue Residences
Former Payne Cutlery Site
New Bedford, Massachusetts

Analysis	Analyte	Sample Location:	350_Coffin_Avenue										353_Coffin_Avenue					
		Sample ID:	350F		350V		350C-1		350C-2				353C-1		353C-2			
		Location:	Finished Basement		Unfinished Basement		Basement		1st Floor				Basement		1st Floor			
		Sample Date:	04/03/2001		04/03/2001		03/27/2000		03/27/2000				03/27/2000		03/27/2000			
		IATV*									COPC (Y/N)?	Rationale					COPC (Y/N)?	Rationale
TO-15																		
	Trichlorofluoromethane (Freon 11)	NS	**8.38**		**6.13**		**3.91**		**7.78**		**Y**	**1**	**3.19**		**4.27**		**N**	**2**
	Chloroform	1.9	2.38	U	2.38	U	2.38	U	2.38	U	**N**	**3, 4**	2.38	U	2.38	U	**N**	**3, 4**
	Trichloroethane, 1,1,1-	3	**4.57**		2.18	U	**10.5**		**14**		**N**	**2**	2.18	U	**3.64**		**N**	**2**
	Benzene	2.3	**3.87**		**3**		**5.75**		**5.69**		**N**	**5**	**4.25**		**5.24**		**N**	**2**
	Trichloroethylene (TCE)	0.4	**6.27**		**3.43**		**5.46**		**2.73**		**N**	**5**	1.82	U	1.82	U	**N**	**3, 4**
	Toluene	54	**15.8**		**11.8**		**44.4**		**44.4**		**Y**	**1**	**5.5**		**14.7**		**N**	**2**
	Tetrachloroethylene (PCE)	1.4	2.85	U	2.85	U	**3.67**		**8.15**		**N**	**2**	2.85	U	**4.01**		**N**	**2**
	Ethylbenzene	7.4	2.34	U	2.34	U	**24.3**		**4.94**		**Y**	**1**	2.34	U	**4.03**		**N**	**2**
	Xylenes (total)	20	**14.84**		**13.61**		**191.9**		**32.9**		**N**	**5**	**6.98**		**17.71**		**N**	**2**
	Styrene	1.4	2.04	U	2.04	U	**2.13**		**2.76**		**N**	**2**	2.04	U	2.04	U	**N**	**3, 4**
	Trimethylbenzene, 1,3,5-	10(1)	3.14	U	3.14	U	**62.8**		**9.32**		**N**	**5**	3.14	U	3.14	U	**N**	**3, 4**
	Trimethylbenzene, 1,2,4-	10(1)	**5.94**		**5.01**		**233**		**34.4**		**N**	**5**	**5.35**		**5.94**		**N**	**2**
	Dichlorobenzene, 1,4-; (p-DCB)	0.5	4.87	U	4.87	U	4.87	U	4.87	U	**N**	**3, 4**	**8.36**		**9.98**		**N**	**2**

Notes:

ug/m3 - micrograms per cubic meter.

J - Estimated value.

NS - No MassDEP standards exist for this analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed the IATV.

APH - Air-Phase Petroleum Hydrocarbons.

TO - Toxic organics.

IATV - MassDEP, Indoor Air Threshold Values (IATV), Vapor Intrusion Guidance - Interim Final, December 2011 with updated screening values from February 22 and March 7, 2013.

(1) - IATV for C9-C10 aromatics used.

COPC - Compound of Potential Concern

Rationale:

1 - Basement concentration greater than or equal to upper floor concentration. Selected as a COPC.

2 - Basement concentration less than upper floor concentration. Not selected as a COPC.

3 - Indoor air concentration consistent with ambient air concentration. Not selected as a COPC.

4 - Not detected above laboratory reporting limit. Not selected as a COPC.

5 - High probability that an indoor source is present due to significatly higher levels in indoor air tha

6 - High probability that an indoor source is present due to significatly higher levels in indoor air tha

Appendix H-1; Table H-1.8.
Summary of Analytical Results for Indoor Air Samples -- Oneko Lane/Coffin Avenue Residences
Former Payne Cutlery Site
New Bedford, Massachusetts

Analysis	Analyte	Sample Location:	357_Coffin_Avenue										358_Coffin_Avenue					
		Sample ID:	357B		357L		357C-1		357C-2				92529		92530			
		Location:	Basement		1st Floor		Basement		1st Floor				1st Floor		Basement			
		Sample Date:	04/03/2001		04/03/2001		03/27/2000		03/27/2000				03/29/2000		03/27/2000			
		IATV*									COPC (Y/N)?	Rationale					COPC (Y/N)?	Rationale
TO-15																		
	Trichlorofluoromethane (Freon 11)	NS	3.15	U	3.15	U	**2.64**		**2.8**		**N**	**2**	**4.01**		**4.06**		**Y**	**1**
	Chloroform	1.9	2.38	U	2.38	U	2.38	U	2.38	U	**N**	**3, 4**	2.38	U	2.38	U	**N**	**3, 4**
	Trichloroethane, 1,1,1-	3	**4.19**		2.18	U	**7.78**		**3.05**		**Y**	**1**	**4.79**		**6.69**		**Y**	**1**
	Benzene	2.3	2.88	U	**4.54**		**11**		**19.1**		**N**	**2**	**5.46**		**12.7**		**N**	**5**
	Trichloroethylene (TCE)	0.4	1.82	U	1.82	U	**1.88**		1.82	U	**Y**	**1**	1.82	U	1.82	U	**N**	**3, 4**
	Toluene	54	**7.08**		**18.2**		**33.7**		**56.5**		**N**	**2**	**13.8**		**75.3**		**Y**	**1**
	Tetrachloroethylene (PCE)	1.4	2.85	U	**9.78**		**6.99**		**21.9**		**N**	**2**	**7.2**		2.85	U	**N**	**2**
	Ethylbenzene	7.4	2.34	U	2.34	U	**12.6**		**12.9**		**N**	**2**	2.34	U	**14.9**		**Y**	**1**
	Xylenes (total)	20	**14.61**		**14.37**		**86.5**		**73.1**		**N**	**5**	**10.49**		**93**		**N**	**5**
	Styrene	1.4	2.04	U	2.04	U	2.04	U	**5.4**		**N**	**2**	2.04	U	2.04	U	**N**	**3, 4**
	Trimethylbenzene, 1,3,5-	10(1)	**5.64**		3.14	U	**35.6**		**18.1**		**N**	**5**	3.14	U	**15.7**		**N**	**5**
	Trimethylbenzene, 1,2,4-	10(1)	**11.6**		**6.72**		**114**		**57.9**		**N**	**5**	**8.34**		**61.3**		**N**	**5**
	Dichlorobenzene, 1,4-; (p-DCB)	0.5	4.87	U	4.87	U	4.87	U	4.87	U	**N**	**3, 4**	4.87	U	4.87	U	**N**	**3, 4**

Notes:

ug/m3 - micrograms per cubic meter.

J - Estimated value.

NS - No MassDEP standards exist for this analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed the IATV.

APH - Air-Phase Petroleum Hydrocarbons.

TO - Toxic organics.

IATV - MassDEP, Indoor Air Threshold Values (IATV), Vapor Intrusion Guidance - Interim Final, December 2011 with updated screening values from February 22 and March 7, 2013.

(1) - IATV for C9-C10 aromatics used.

COPC - Compound of Potential Concern

Rationale:

1 - Basement concentration greater than or equal to upper floor concentration. Selected as a COPC.

2 - Basement concentration less than upper floor concentration. Not selected as a COPC.

3 - Indoor air concentration consistent with ambient air concentration. Not selected as a COPC.

4 - Not detected above laboratory reporting limit. Not selected as a COPC.

5 - High probability that an indoor source is present due to significatly higher levels in indoor air tha

6 - High probability that an indoor source is present due to significatly higher levels in indoor air tha

Appendix H-1; Table H-1.8.
Summary of Analytical Results for Indoor Air Samples -- Oneko Lane/Coffin Avenue Residences
Former Payne Cutlery Site
New Bedford, Massachusetts

Analysis	Analyte	Sample Location:	362_Coffin_Avenue										364_Coffin_Avenue						295_Phillips_Ave	
		Sample ID:	362B		362C-1		362C-2		362L				364C-1		364C-2				295P-1A	
		Location:	Basement		Basement		1st Floor		1st Floor				Basement		1st Floor				Courtyard Ambient	
		Sample Date:	03/28/2001		03/27/2000		03/27/2000		03/28/2001				03/27/2000		03/27/2000				Outdoor Air	
		IATV*									COPC (Y/N)?	Rationale					COPC (Y/N)?	Rationale	03/27/2000	
TO-15																				
	Trichlorofluoromethane (Freon 11)	NS	3.15	U	**3.35**		**3.62**		3.15	U	N	2	**5.83**		**117**		N	2	**3.35**	
	Chloroform	1.9	2.38	U	**26.8**		**18.2**		2.38	U	N	5	2.38	U	2.38	U	N	3, 4	2.38	U
	Trichloroethane, 1,1,1-	3	**16.6**		**86.5**		**12.3**		2.18	U	Y	1	2.18	U	**5.49**		N	2	2.18	U
	Benzene	2.3	**6.77**		**39**		**44.1**		**5.46**		N	5	**14.4**		**13**		N	5	2.88	U
	Trichloroethylene (TCE)	0.4	1.82	U	1.82	U	1.82	U	1.82	U	N	3, 4	1.82	U	1.82	U	N	3, 4	1.82	U
	Toluene	54	**30.4**		**168**		**32.2**		**8.29**		Y	1	**62.5**		**42.9**		Y	1	3.58	U
	Tetrachloroethylene (PCE)	1.4	2.85	U	**3.94**		2.85	U	2.85	U	N	5	**37.8**		**7.74**		Y	1, 6	2.85	U
	Ethylbenzene	7.4	**4.64**		**32.8**		**2.9**		2.34	U	Y	1	**12.1**		**6.29**		Y	1	2.34	U
	Xylenes (total)	20	**32.05**		**205.9**		**12.7**		1.65	U	N	5	**75.2**		**37.7**		N	5	**3.55**	
	Styrene	1.4	2.04	U	**5.32**		2.04	U	2.04	U	Y	1	2.04	U	2.04	U	N	3, 4	2.04	U
	Trimethylbenzene, 1,3,5-	10(1)	3.14	U	**32.8**		**3.24**		3.14	U	N	5	3.14	U	**6.33**		N	2	3.14	U
	Trimethylbenzene, 1,2,4-	10(1)	**7.17**		**135**		**10.3**		4.17	U	N	5	**46**		**24.6**		N	5	**6.28**	
	Dichlorobenzene, 1,4-; (p-DCB)	0.5	4.87	U	4.87	U	4.87	U	4.87	U	N	3, 4	4.87	U	**8.36**		N	2	4.87	U

Notes:

ug/m3 - micrograms per cubic meter.

J - Estimated value.

NS - No MassDEP standards exist for this analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed the IATV.

APH - Air-Phase Petroleum Hydrocarbons.

TO - Toxic organics.

IATV - MassDEP, Indoor Air Threshold Values (IATV), Vapor Intrusion Guidance - Interim Final, December 2011 with updated screening values from February 22 and March 7, 2013.

(1) - IATV for C9-C10 aromatics used.

COPC - Compound of Potential Concern

Rationale:

1 - Basement concentration greater than or equal to upper floor concentration. Selected as a COPC.

2 - Basement concentration less than upper floor concentration. Not selected as a COPC.

3 - Indoor air concentration consistent with ambient air concentration. Not selected as a COPC.

4 - Not detected above laboratory reporting limit. Not selected as a COPC.

5 - High probability that an indoor source is present due to significatly higher levels in indoor air tha

6 - High probability that an indoor source is present due to significatly higher levels in indoor air tha

Appendix H-1; Table H-1.9.
Summary of Analytical Results for Indoor Air Samples -- Tabor Mills Builidng
Former Payne Cutlery
New Bedford, Massachusetts

Analysis	Analyte	Sample Location:	Tabor Mills									
		Sample ID:	TM IAQ-1	TM IAQ-B	TM-CRAWLSPACE-1 Dirt Floor	TM-CRAWLSPACE-2 Dirt Floor	IAQ-1	IAQ-2	IAQ-3			AAQ	AAQ
		Location:	1st Floor	Basement	Crawlspace	Crawlspace	1st Floor	1st Floor	1st Floor			Parking Lot	Parking Lot
		Sample Date:	06/29/2012	06/29/2012 combo	06/29/2012	06/29/2012	9/5/2013 combo	9/5/2013	9/5/2013			06/29/2012	9/5/2013
		Residential IATV*								COPC (Y/N)?	Rationale		
APH													
(ug/m3)	C5-C8 Aliphatics	58	**130**	**87**	**48**	**55**	**310**	**170**	**190**	**N**	**2**	**24**	6.0 U
	C9-C10 Aromatics	10	10 U	**13.5**	10 U	10 U	6.6 U	6.6 U	**7.2**	**Y**	**1**	10 U	6.6 U
	C9-C12 Aliphatics	68	**68**	**40**	**16**	**23**	**84.5**	**70**	**55**	**N**	**2**	14 U	9.3 U
TO-15													
(ug/m3)	Acetone	91	**64.4**	**34.1**	**26.8**	**25.2**	**61.5**	**46**	**58**	**N**	**2**	**15.1**	**20**
	Benzene	2.3	**0.891**	**0.84**	**0.789**	**0.939**	**2.6**	**1.9**	**1.8**	**Y**	**1**	0.639 U	**1.4**
	Methyl Ethyl Ketone (MEK); 2-Butanone	12	**3.18**	**9.58**	**4.48**	**2.41**	**3.28 J**	**4.1**	4.1 U	**Y**	**1**	**2.06**	4.1 U
	Carbon Disulfide	NS	NA	NA	NA	NA	1.1 U	**4.3**	1.1 U	**Y**	**5**	NA	1.1 U
	Chloroform	1.9	0.977 U	0.977 U	0.977 U	0.977 U	**0.995**	**0.95**	**1.1**	**N**	**2**	0.977 U	0.17 U
	Dichlorobenzene, 1,4-; (p-DCB)	0.5	0.12 U	**0.123**	0.12 U	0.12 U	0.21 U	**0.77**	**0.72**	**N**	**2**	0.12 U	0.21 U
	Ethanol	NS	NA	NA	NA	NA	**3,400**	**410**	**1,000**	**Y**	**5**	NA	**15**
	Ethyl Acetate	NS	NA	NA	NA	NA	**8.95**	**4.1**	**17**	**Y**	**5**	NA	0.13 U
	Ethylbenzene	7.4	0.869 U	**1.19**	0.869 U	0.869 U	**1.5**	**0.79**	**1.2**	**N**	**2**	0.869 U	**0.21**
	2-Hexanone (MBK)	NS	NA	NA	NA	NA	**0.85**	**0.76**	**0.68**	**Y**	**5**	NA	**0.39**
	Isopropanol	NS	NA	NA	NA	NA	**190**	**45**	**84**	**Y**	**5**	NA	3.4 U
	Methylene Chloride	11	4.86 U	4.86 U	4.86 U	4.86 U	**2.1**	**1.9**	**4.1**	**N**	**2, 3**	4.86 U	**3.4**
	Methyl Isobutyl Ketone (MIBK)	2.2	0.82 U	0.82 U	0.82 U	0.82 U	**0.21 J**	**0.35**	**0.41**	**N**	**2**	0.82 U	**0.18**
	Naphthalene	0.6	**0.383 J**	**0.768 J**	0.262 U	0.262 U	**1.4**	**4.1**	**4.4**	**N**	**2, 3**	1.05 U	**110**
	Styrene	1.4	0.852 U	0.852 U	0.852 U	0.852 U	**0.89**	**0.90**	**0.68**	**Y**	**1**	0.852 U	0.15 U
	Tetrachloroethylene (PCE)	1.4	1.36 U	1.36 U	1.36 U	1.36 U	0.24 U	**0.31**	**0.27**	**Y**	**1**	1.36 U	0.24 U
	Tetrahydrofuran	NS	NA	NA	NA	NA	**0.14 J**	**0.19**	0.10 U	**Y**	**5**	NA	0.10 U
	Toluene	54	**3.3**	**9.75**	**3.6**	**4.5**	**11**	**3.8**	**3.8**	**N**	**2**	**2.3**	**1.4**
	Trichloroethane, 1,1,1-	3	1.09 U	**1.205**	1.09 U	1.09 U	0.19 U	**0.19**	0.19 U	**Y**	**1**	1.09 U	0.19 U
	Trichloroethylene (TCE)	0.4	**0.274**	**1.5**	**0.338**	**0.677**	0.19 U	**0.20**	**0.23**	**Y**	**1**	**0.64**	**0.29**
	Trichlorofluoromethane (Freon 11)	NS	NA	NA	NA	NA	**1.6**	**1.6**	**1.7**	**N**	**3**	NA	**1.5**
	Xylenes (total)	20	1.74 U	**5.6**	**3.379**	**3.7**	**4.85**	**2.73**	**3.7**	**N**	**2**	1.74 U	**0.75**

Notes:

ug/m3 - micrograms per cubic meter.

J - Estimated value.

NA - Sample not analyzed for the listed analyte.

NS - No MassDEP standards exist for this analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed the IATV.

APH - Air-Phase Petroleum Hydrocarbons.

TO - Toxic organics.

IATV - MassDEP, Indoor Air Threshold Values (IATV), Vapor Intrusion Guidance - Interim Final, December 2011 with updated screening values from February 22 and March 7, 2013.

(1) - IATV for C9-C10 aromatics used.

COPC - Compound of Potential Concern

Rationale:

1 - Basement, crawl space and/or soil gas concentration greater than or equal to upper floor concentration. Selected as a COPC.

2 - Basement, crawl space and/or soil gas concentration less than upper floor concentration. Not selected as a COPC.

3 - Indoor air concentration consistent with ambient air concentration. Not selected as a COPC.

4 - Not detected above laboratory reporting limit. Not selected as a COPC.

5 - Not included in analytical list for groundwater and/or soil gas. Selected as a COPC.

APPENDIX H-2

PROUCL OUTPUT

Appendix H-2 - Soil Upper Confidence Limits

General UCL Statistics for Full Data Sets

User Selected Options	
From File	Sheet 1.wst
Full Precision	OFF
Confidence Coefficient	95%
mber of Bootstrap Operations	2000

Trichloroethylene (TCE)_Roadway

General Statistics

Number of Valid Observations	6	Number of Distinct Observations	6
Number of Missing Values	1		

Raw Statistics		**Log-transformed Statistics**	
Minimum	0.016	Minimum of Log Data	-4.135
Maximum	4.3	Maximum of Log Data	1.459
Mean	1.528	Mean of log Data	-0.58
Geometric Mean	0.56	SD of log Data	2.068
Median	1.04		
SD	1.648		
Std. Error of Mean	0.673		
Coefficient of Variation	1.079		
Skewness	1.083		

Warning: A sample size of 'n' = 6 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!

If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 6 Values in this data

Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.893	Shapiro Wilk Test Statistic	0.908
Shapiro Wilk Critical Value	0.788	Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	2.883	95% H-UCL	7450
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	10.27
95% Adjusted-CLT UCL (Chen-1995)	2.952	97.5% Chebyshev (MVUE) UCL	13.66
95% Modified-t UCL (Johnson-1978)	2.933	99% Chebyshev (MVUE) UCL	20.3
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.418	**Data appear Normal at 5% Significance Level**	
Theta Star	3.655		
MLE of Mean	1.528		
MLE of Standard Deviation	2.363		
nu star	5.015		
Approximate Chi Square Value (.05)	1.159	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0122	95% CLT UCL	2.634
Adjusted Chi Square Value	0.624	95% Jackknife UCL	2.883
		95% Standard Bootstrap UCL	2.551
Anderson-Darling Test Statistic	0.189	95% Bootstrap-t UCL	4.648
Anderson-Darling 5% Critical Value	0.729	95% Hall's Bootstrap UCL	9.536
Kolmogorov-Smirnov Test Statistic	0.155	95% Percentile Bootstrap UCL	2.56
Kolmogorov-Smirnov 5% Critical Value	0.346	95% BCA Bootstrap UCL	2.733
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	4.46
		97.5% Chebyshev(Mean, Sd) UCL	5.729
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	8.221
95% Approximate Gamma UCL (Use when n >= 40)	6.609		
95% Adjusted Gamma UCL (Use when n < 40)	12.28		
Potential UCL to Use		Use 95% Student's-t UCL	2.883

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, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

78											
79											
80	**Dichloroethene, cis-1,2-_0-15**										
81											
82	**General Statistics**										
83	Number of Valid Observations				18	Number of Distinct Observations					16
84	Number of Missing Values				15						
85											
86	**Raw Statistics**					**Log-transformed Statistics**					
87	Minimum				0.00054	Minimum of Log Data					-7.524
88	Maximum				7.2	Maximum of Log Data					1.974
89	Mean				0.965	Mean of log Data					-4.164
90	Geometric Mean				0.0156	SD of log Data					3.564
91	Median				0.0036						
92	SD				2.095						
93	Std. Error of Mean				0.494						
94	Coefficient of Variation				2.172						
95	Skewness				2.352						
96											
97	**Relevant UCL Statistics**										
98	**Normal Distribution Test**					**Lognormal Distribution Test**					
99	Shapiro Wilk Test Statistic				0.54	Shapiro Wilk Test Statistic					0.824
100	Shapiro Wilk Critical Value				0.897	Shapiro Wilk Critical Value					0.897
101	**Data not Normal at 5% Significance Level**					**Data not Lognormal at 5% Significance Level**					
102											
103	**Assuming Normal Distribution**					**Assuming Lognormal Distribution**					
104	95% Student's-t UCL				1.824	95% H-UCL					4731
105	**95% UCLs (Adjusted for Skewness)**					95% Chebyshev (MVUE) UCL					9.706
106	95% Adjusted-CLT UCL (Chen-1995)				2.069	97.5% Chebyshev (MVUE) UCL					13.04
107	95% Modified-t UCL (Johnson-1978)				1.869	99% Chebyshev (MVUE) UCL					19.6
108											
109	**Gamma Distribution Test**					**Data Distribution**					
110	k star (bias corrected)				0.188	**Data do not follow a Discernable Distribution (0.05)**					
111	Theta Star				5.133						
112	MLE of Mean				0.965						
113	MLE of Standard Deviation				2.225						
114	nu star				6.765						
115	Approximate Chi Square Value (.05)				2.043	**Nonparametric Statistics**					
116	Adjusted Level of Significance				0.0357	95% CLT UCL					1.777
117	Adjusted Chi Square Value				1.803	95% Jackknife UCL					1.824
118						95% Standard Bootstrap UCL					1.755
119	Anderson-Darling Test Statistic				1.746	95% Bootstrap-t UCL					3.151
120	Anderson-Darling 5% Critical Value				0.892	95% Hall's Bootstrap UCL					2.111
121	Kolmogorov-Smirnov Test Statistic				0.27	95% Percentile Bootstrap UCL					1.841
122	Kolmogorov-Smirnov 5% Critical Value				0.226	95% BCA Bootstrap UCL					2.174
123	**Data not Gamma Distributed at 5% Significance Level**					95% Chebyshev(Mean, Sd) UCL					3.117
124						97.5% Chebyshev(Mean, Sd) UCL					4.049
125	**Assuming Gamma Distribution**					99% Chebyshev(Mean, Sd) UCL					5.878
126	95% Approximate Gamma UCL (Use when n >= 40)				3.195						
127	95% Adjusted Gamma UCL (Use when n < 40)				3.619						
128											
129	**Potential UCL to Use**					Use 95% Hall's Bootstrap UCL					2.111
130	**In Case Bootstrap t and/or Hall's Bootstrap yields an unreasonably large UCL value, use 97.5% or 99% Chebyshev (Mean, Sd) UCL**										
131											
132	**Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.**										
133	**These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)**										
134	**and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.**										

	A	B	C	D	E	F	G	H	I	J	K	L
135												
136												
137	**Trichloroethylene (TCE)_0-15**											
138												
139	**General Statistics**											
140	Number of Valid Observations					18	Number of Distinct Observations					17
141	Number of Missing Values					15						
142												
143	**Raw Statistics**						**Log-transformed Statistics**					
144	Minimum					0.00055	Minimum of Log Data					-7.506
145	Maximum					530	Maximum of Log Data					6.273
146	Mean					40.78	Mean of log Data					-1.784
147	Geometric Mean					0.168	SD of log Data					4.476
148	Median					0.0475						
149	SD					124.2						
150	Std. Error of Mean					29.26						
151	Coefficient of Variation					3.045						
152	Skewness					4.02						
153												
154	**Relevant UCL Statistics**											
155	**Normal Distribution Test**						**Lognormal Distribution Test**					
156	Shapiro Wilk Test Statistic					0.368	Shapiro Wilk Test Statistic					0.909
157	Shapiro Wilk Critical Value					0.897	Shapiro Wilk Critical Value					0.897
158	**Data not Normal at 5% Significance Level**						**Data appear Lognormal at 5% Significance Level**					
159												
160	**Assuming Normal Distribution**						**Assuming Lognormal Distribution**					
161	95% Student's-t UCL					91.68	95% H-UCL					67734673
162	**95% UCLs (Adjusted for Skewness)**						95% Chebyshev (MVUE) UCL					1043
163	95% Adjusted-CLT UCL (Chen-1995)					118.5	97.5% Chebyshev (MVUE) UCL					1407
164	95% Modified-t UCL (Johnson-1978)					96.3	99% Chebyshev (MVUE) UCL					2122
165												
166	**Gamma Distribution Test**						**Data Distribution**					
167	k star (bias corrected)					0.155	**Data appear Lognormal at 5% Significance Level**					
168	Theta Star					263.6						
169	MLE of Mean					40.78						
170	MLE of Standard Deviation					103.7						
171	nu star					5.569						
172	Approximate Chi Square Value (.05)					1.424	**Nonparametric Statistics**					
173	Adjusted Level of Significance					0.0357	95% CLT UCL					88.91
174	Adjusted Chi Square Value					1.234	95% Jackknife UCL					91.68
175							95% Standard Bootstrap UCL					86.33
176	Anderson-Darling Test Statistic					1.406	95% Bootstrap-t UCL					313.3
177	Anderson-Darling 5% Critical Value					0.907	95% Hall's Bootstrap UCL					254.9
178	Kolmogorov-Smirnov Test Statistic					0.27	95% Percentile Bootstrap UCL					96.97
179	Kolmogorov-Smirnov 5% Critical Value					0.228	95% BCA Bootstrap UCL					127.7
180	**Data not Gamma Distributed at 5% Significance Level**						95% Chebyshev(Mean, Sd) UCL					168.3
181							97.5% Chebyshev(Mean, Sd) UCL					223.5
182	**Assuming Gamma Distribution**						99% Chebyshev(Mean, Sd) UCL					331.9
183	95% Approximate Gamma UCL (Use when n >= 40)					159.5						
184	95% Adjusted Gamma UCL (Use when n < 40)					184						
185												
186	**Potential UCL to Use**						Use 95% Hall's Bootstrap UCL					254.9
187	**In Case Bootstrap t and/or Hall's Bootstrap yields an unreasonably large UCL value, use 97.5% or 99% Chebyshev (Mean, Sd) UCL**											
188												
189	**Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.**											
190	**These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)**											
191	**and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.**											

Benzo(a)anthracene_0-15

General Statistics			
Number of Valid Observations	16	Number of Distinct Observations	13
Number of Missing Values	16		

Raw Statistics		Log-transformed Statistics	
Minimum	0.0975	Minimum of Log Data	-2.328
Maximum	12	Maximum of Log Data	2.485
Mean	3.587	Mean of log Data	0.265
Geometric Mean	1.303	SD of log Data	1.635
Median	1.4		
SD	4.373		
Std. Error of Mean	1.093		
Coefficient of Variation	1.219		
Skewness	1.08		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.767	Shapiro Wilk Test Statistic	0.9
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	5.504	95% H-UCL	24.55
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	12.95
95% Adjusted-CLT UCL (Chen-1995)	5.701	97.5% Chebyshev (MVUE) UCL	16.73
95% Modified-t UCL (Johnson-1978)	5.553	99% Chebyshev (MVUE) UCL	24.15

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.536	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	6.687		
MLE of Mean	3.587		
MLE of Standard Deviation	4.898		
nu star	17.17		
Approximate Chi Square Value (.05)	8.792	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0335	95% CLT UCL	5.385
Adjusted Chi Square Value	8.116	95% Jackknife UCL	5.504
		95% Standard Bootstrap UCL	5.342
Anderson-Darling Test Statistic	0.767	95% Bootstrap-t UCL	5.835
Anderson-Darling 5% Critical Value	0.787	95% Hall's Bootstrap UCL	5.51
Kolmogorov-Smirnov Test Statistic	0.205	95% Percentile Bootstrap UCL	5.355
Kolmogorov-Smirnov 5% Critical Value	0.225	95% BCA Bootstrap UCL	5.539
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	8.352
		97.5% Chebyshev(Mean, Sd) UCL	10.41
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	14.46
95% Approximate Gamma UCL (Use when n >= 40)	7.005		
95% Adjusted Gamma UCL (Use when n < 40)	7.588		
Potential UCL to Use		Use 95% Approximate Gamma UCL	7.005

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, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

248											
249											
250	**Benzo(b)fluoranthene_0-15**										
251											
252	**General Statistics**										
253	Number of Valid Observations				16	Number of Distinct Observations					15
254	Number of Missing Values				16						
255											
256	**Raw Statistics**					**Log-transformed Statistics**					
257	Minimum				0.0975	Minimum of Log Data					-2.328
258	Maximum				13	Maximum of Log Data					2.565
259	Mean				3.78	Mean of log Data					0.316
260	Geometric Mean				1.372	SD of log Data					1.634
261	Median				1.4						
262	SD				4.613						
263	Std. Error of Mean				1.153						
264	Coefficient of Variation				1.22						
265	Skewness				1.065						
266											
267	**Relevant UCL Statistics**										
268	**Normal Distribution Test**					**Lognormal Distribution Test**					
269	Shapiro Wilk Test Statistic				0.773	Shapiro Wilk Test Statistic					0.912
270	Shapiro Wilk Critical Value				0.887	Shapiro Wilk Critical Value					0.887
271	**Data not Normal at 5% Significance Level**					**Data appear Lognormal at 5% Significance Level**					
272											
273	**Assuming Normal Distribution**					**Assuming Lognormal Distribution**					
274	95% Student's-t UCL				5.802	95% H-UCL					25.73
275	**95% UCLs (Adjusted for Skewness)**					95% Chebyshev (MVUE) UCL					13.6
276	95% Adjusted-CLT UCL (Chen-1995)				6.005	97.5% Chebyshev (MVUE) UCL					17.56
277	95% Modified-t UCL (Johnson-1978)				5.853	99% Chebyshev (MVUE) UCL					25.35
278											
279	**Gamma Distribution Test**					**Data Distribution**					
280	k star (bias corrected)				0.536	**Data appear Gamma Distributed at 5% Significance Level**					
281	Theta Star				7.054						
282	MLE of Mean				3.78						
283	MLE of Standard Deviation				5.164						
284	nu star				17.15						
285	Approximate Chi Square Value (.05)				8.778	**Nonparametric Statistics**					
286	Adjusted Level of Significance				0.0335	95% CLT UCL					5.677
287	Adjusted Chi Square Value				8.103	95% Jackknife UCL					5.802
288						95% Standard Bootstrap UCL					5.611
289	Anderson-Darling Test Statistic				0.728	95% Bootstrap-t UCL					6.44
290	Anderson-Darling 5% Critical Value				0.787	95% Hall's Bootstrap UCL					5.597
291	Kolmogorov-Smirnov Test Statistic				0.188	95% Percentile Bootstrap UCL					5.774
292	Kolmogorov-Smirnov 5% Critical Value				0.225	95% BCA Bootstrap UCL					5.941
293	**Data appear Gamma Distributed at 5% Significance Level**					95% Chebyshev(Mean, Sd) UCL					8.808
294						97.5% Chebyshev(Mean, Sd) UCL					10.98
295	**Assuming Gamma Distribution**					99% Chebyshev(Mean, Sd) UCL					15.26
296	95% Approximate Gamma UCL (Use when n >= 40)				7.385						
297	95% Adjusted Gamma UCL (Use when n < 40)				8						
298											
299	**Potential UCL to Use**					Use 95% Approximate Gamma UCL					7.385
300											
301	**Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.**										
302	**These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)**										
303	**and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.**										

304											
305											
306	**Benzo(a)pyrene_0-15**										
307											
308	**General Statistics**										
309	Number of Valid Observations				16	Number of Distinct Observations					15
310	Number of Missing Values				16						
311											
312	**Raw Statistics**					**Log-transformed Statistics**					
313	Minimum				0.0975	Minimum of Log Data					-2.328
314	Maximum				10	Maximum of Log Data					2.303
315	Mean				2.878	Mean of log Data					0.131
316	Geometric Mean				1.14	SD of log Data					1.539
317	Median				1.15						
318	SD				3.455						
319	Std. Error of Mean				0.864						
320	Coefficient of Variation				1.2						
321	Skewness				1.115						
322											
323	**Relevant UCL Statistics**										
324	**Normal Distribution Test**					**Lognormal Distribution Test**					
325	Shapiro Wilk Test Statistic				0.78	Shapiro Wilk Test Statistic					0.908
326	Shapiro Wilk Critical Value				0.887	Shapiro Wilk Critical Value					0.887
327	**Data not Normal at 5% Significance Level**					**Data appear Lognormal at 5% Significance Level**					
328											
329	**Assuming Normal Distribution**					**Assuming Lognormal Distribution**					
330	95% Student's-t UCL				4.393	95% H-UCL					15.65
331	**95% UCLs (Adjusted for Skewness)**					95% Chebyshev (MVUE) UCL					9.543
332	95% Adjusted-CLT UCL (Chen-1995)				4.556	97.5% Chebyshev (MVUE) UCL					12.27
333	95% Modified-t UCL (Johnson-1978)				4.433	99% Chebyshev (MVUE) UCL					17.62
334											
335	**Gamma Distribution Test**					**Data Distribution**					
336	k star (bias corrected)				0.576	**Data appear Gamma Distributed at 5% Significance Level**					
337	Theta Star				4.995						
338	MLE of Mean				2.878						
339	MLE of Standard Deviation				3.792						
340	nu star				18.44						
341	Approximate Chi Square Value (.05)				9.71	**Nonparametric Statistics**					
342	Adjusted Level of Significance				0.0335	95% CLT UCL					4.299
343	Adjusted Chi Square Value				8.996	95% Jackknife UCL					4.393
344						95% Standard Bootstrap UCL					4.256
345	Anderson-Darling Test Statistic				0.75	95% Bootstrap-t UCL					4.756
346	Anderson-Darling 5% Critical Value				0.783	95% Hall's Bootstrap UCL					4.444
347	Kolmogorov-Smirnov Test Statistic				0.2	95% Percentile Bootstrap UCL					4.337
348	Kolmogorov-Smirnov 5% Critical Value				0.225	95% BCA Bootstrap UCL					4.533
349	**Data appear Gamma Distributed at 5% Significance Level**					95% Chebyshev(Mean, Sd) UCL					6.643
350						97.5% Chebyshev(Mean, Sd) UCL					8.273
351	**Assuming Gamma Distribution**					99% Chebyshev(Mean, Sd) UCL					11.47
352	95% Approximate Gamma UCL (Use when n >= 40)				5.466						
353	95% Adjusted Gamma UCL (Use when n < 40)				5.901						
354											
355	**Potential UCL to Use**					Use 95% Approximate Gamma UCL					5.466
356											
357	**Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.**										
358	**These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)**										
359	**and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.**										

Dibenzo(a,h)anthracene_0-15

General Statistics			
Number of Valid Observations	16	Number of Distinct Observations	13
Number of Missing Values	16		

Raw Statistics		Log-transformed Statistics	
Minimum	0.0975	Minimum of Log Data	-2.328
Maximum	7.7	Maximum of Log Data	2.041
Mean	1.384	Mean of log Data	-0.412
Geometric Mean	0.662	SD of log Data	1.241
Median	0.925		
SD	2.039		
Std. Error of Mean	0.51		
Coefficient of Variation	1.474		
Skewness	2.554		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.614	Shapiro Wilk Test Statistic	0.937
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	2.277	95% H-UCL	3.855
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.351
95% Adjusted-CLT UCL (Chen-1995)	2.57	97.5% Chebyshev (MVUE) UCL	4.227
95% Modified-t UCL (Johnson-1978)	2.332	99% Chebyshev (MVUE) UCL	5.948
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.696	**Data appear Lognormal at 5% Significance Level**	
Theta Star	1.988		
MLE of Mean	1.384		
MLE of Standard Deviation	1.659		
nu star	22.27		
Approximate Chi Square Value (.05)	12.54	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0335	95% CLT UCL	2.222
Adjusted Chi Square Value	11.71	95% Jackknife UCL	2.277
		95% Standard Bootstrap UCL	2.194
Anderson-Darling Test Statistic	0.824	95% Bootstrap-t UCL	4.615
Anderson-Darling 5% Critical Value	0.772	95% Hall's Bootstrap UCL	6.937
Kolmogorov-Smirnov Test Statistic	0.225	95% Percentile Bootstrap UCL	2.302
Kolmogorov-Smirnov 5% Critical Value	0.223	95% BCA Bootstrap UCL	2.657
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.606
		97.5% Chebyshev(Mean, Sd) UCL	4.567
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	6.456
95% Approximate Gamma UCL (Use when n >= 40)	2.457		
95% Adjusted Gamma UCL (Use when n < 40)	2.63		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	3.606

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, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Chromium_0-15

General Statistics

Number of Valid Observations	26	Number of Distinct Observations	23
Number of Missing Values	6		

Raw Statistics		**Log-transformed Statistics**	
Minimum	1	Minimum of Log Data	0
Maximum	350	Maximum of Log Data	5.858
Mean	67.1	Mean of log Data	3.337
Geometric Mean	28.14	SD of log Data	1.526
Median	35.5		
SD	87.91		
Std. Error of Mean	17.24		
Coefficient of Variation	1.31		
Skewness	2.245		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.708	Shapiro Wilk Test Statistic	0.963
Shapiro Wilk Critical Value	0.92	Shapiro Wilk Critical Value	0.92
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	96.55	95% H-UCL	243.7
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	216.9
95% Adjusted-CLT UCL (Chen-1995)	103.6	97.5% Chebyshev (MVUE) UCL	275
95% Modified-t UCL (Johnson-1978)	97.82	99% Chebyshev (MVUE) UCL	389.1
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.641	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	104.6		
MLE of Mean	67.1		
MLE of Standard Deviation	83.79		
nu star	33.35		
Approximate Chi Square Value (.05)	21.15	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0398	95% CLT UCL	95.46
Adjusted Chi Square Value	20.5	95% Jackknife UCL	96.55
		95% Standard Bootstrap UCL	94.85
Anderson-Darling Test Statistic	0.33	95% Bootstrap-t UCL	118
Anderson-Darling 5% Critical Value	0.789	95% Hall's Bootstrap UCL	244.9
Kolmogorov-Smirnov Test Statistic	0.128	95% Percentile Bootstrap UCL	97.26
Kolmogorov-Smirnov 5% Critical Value	0.179	95% BCA Bootstrap UCL	103.1
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	142.3
		97.5% Chebyshev(Mean, Sd) UCL	174.8
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	238.6
95% Approximate Gamma UCL (Use when n >= 40)	105.8		
95% Adjusted Gamma UCL (Use when n < 40)	109.1		
Potential UCL to Use		Use 95% Approximate Gamma UCL	105.8

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, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Nickel_0-15

General Statistics			
Number of Valid Observations	16	Number of Distinct Observations	16
Number of Missing Values	16		

Raw Statistics		Log-transformed Statistics	
Minimum	1	Minimum of Log Data	0
Maximum	1600	Maximum of Log Data	7.378
Mean	268.6	Mean of log Data	4.431
Geometric Mean	84.01	SD of log Data	1.803
Median	70		
SD	429.5		
Std. Error of Mean	107.4		
Coefficient of Variation	1.599		
Skewness	2.407		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.65	Shapiro Wilk Test Statistic	0.958
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	456.8	95% H-UCL	2875
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1134
95% Adjusted-CLT UCL (Chen-1995)	514.2	97.5% Chebyshev (MVUE) UCL	1476
95% Modified-t UCL (Johnson-1978)	467.6	99% Chebyshev (MVUE) UCL	2147

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.481	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	558.9		
MLE of Mean	268.6		
MLE of Standard Deviation	387.4		
nu star	15.38		
Approximate Chi Square Value (.05)	7.524	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0335	95% CLT UCL	445.2
Adjusted Chi Square Value	6.906	95% Jackknife UCL	456.8
		95% Standard Bootstrap UCL	438.5
Anderson-Darling Test Statistic	0.467	95% Bootstrap-t UCL	677.2
Anderson-Darling 5% Critical Value	0.793	95% Hall's Bootstrap UCL	1071
Kolmogorov-Smirnov Test Statistic	0.161	95% Percentile Bootstrap UCL	457.2
Kolmogorov-Smirnov 5% Critical Value	0.227	95% BCA Bootstrap UCL	534.1
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	736.6
		97.5% Chebyshev(Mean, Sd) UCL	939.2
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1337
95% Approximate Gamma UCL (Use when n >= 40)	548.8		
95% Adjusted Gamma UCL (Use when n < 40)	597.9		
Potential UCL to Use		Use 95% Approximate Gamma UCL	548.8

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, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

528											
529											
530	**Trichloroethylene (TCE)_0-3_Future**										
531											
532					**General Statistics**						
533				Number of Valid Observations	12			Number of Distinct Observations	11		
534				Number of Missing Values	13						
535											
536				**Raw Statistics**				**Log-transformed Statistics**			
537				Minimum	0.00055			Minimum of Log Data	-7.506		
538				Maximum	530			Maximum of Log Data	6.273		
539				Mean	50.1			Mean of log Data	-3.267		
540				Geometric Mean	0.0381			SD of log Data	4.427		
541				Median	0.029						
542				SD	152.5						
543				Std. Error of Mean	44.02						
544				Coefficient of Variation	3.044						
545				Skewness	3.361						
546											
547					**Relevant UCL Statistics**						
548				**Normal Distribution Test**				**Lognormal Distribution Test**			
549				Shapiro Wilk Test Statistic	0.385			Shapiro Wilk Test Statistic	0.826		
550				Shapiro Wilk Critical Value	0.859			Shapiro Wilk Critical Value	0.859		
551				**Data not Normal at 5% Significance Level**				**Data not Lognormal at 5% Significance Level**			
552											
553				**Assuming Normal Distribution**				**Assuming Lognormal Distribution**			
554				95% Student's-t UCL	129.2			95% H-UCL	790200000		
555				**95% UCLs (Adjusted for Skewness)**				95% Chebyshev (MVUE) UCL	104.8		
556				95% Adjusted-CLT UCL (Chen-1995)	168.2			97.5% Chebyshev (MVUE) UCL	141.5		
557				95% Modified-t UCL (Johnson-1978)	136.3			99% Chebyshev (MVUE) UCL	213.5		
558											
559				**Gamma Distribution Test**				**Data Distribution**			
560				k star (bias corrected)	0.139			**Data do not follow a Discernable Distribution (0.05)**			
561				Theta Star	360						
562				MLE of Mean	50.1						
563				MLE of Standard Deviation	134.3						
564				nu star	3.341						
565				Approximate Chi Square Value (.05)	0.48			**Nonparametric Statistics**			
566				Adjusted Level of Significance	0.029			95% CLT UCL	122.5		
567				Adjusted Chi Square Value	0.349			95% Jackknife UCL	129.2		
568								95% Standard Bootstrap UCL	119.2		
569				Anderson-Darling Test Statistic	1.959			95% Bootstrap-t UCL	267222		
570				Anderson-Darling 5% Critical Value	0.895			95% Hall's Bootstrap UCL	113318		
571				Kolmogorov-Smirnov Test Statistic	0.421			95% Percentile Bootstrap UCL	138.4		
572				Kolmogorov-Smirnov 5% Critical Value	0.275			95% BCA Bootstrap UCL	182.6		
573				**Data not Gamma Distributed at 5% Significance Level**				95% Chebyshev(Mean, Sd) UCL	242		
574								97.5% Chebyshev(Mean, Sd) UCL	325		
575				**Assuming Gamma Distribution**				99% Chebyshev(Mean, Sd) UCL	488.1		
576				95% Approximate Gamma UCL (Use when n >= 40)	348.6						
577				95% Adjusted Gamma UCL (Use when n < 40)	479.6						
578											
579				**Potential UCL to Use**				Use 95% Hall's Bootstrap UCL	113318		
580						**Recommended UCL exceeds the maximum observation**						
581						**In Case Bootstrap t and/or Hall's Bootstrap yields an unreasonably large UCL value, use 97.5% or 99% Chebyshev (Mean, Sd) UCL**						
582											
583						**Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.**						
584						**These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)**						
585						**and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.**						

586											
587											
588	**Benzo(a)anthracene_0-3_Future**										
589											
590	**General Statistics**										
591	Number of Valid Observations				12	Number of Distinct Observations					11
592	Number of Missing Values				13						
593											
594	**Raw Statistics**					**Log-transformed Statistics**					
595	Minimum				0.0975	Minimum of Log Data					-2.328
596	Maximum				12	Maximum of Log Data					2.485
597	Mean				4.694	Mean of log Data					0.793
598	Geometric Mean				2.21	SD of log Data					1.559
599	Median				2.65						
600	SD				4.553						
601	Std. Error of Mean				1.314						
602	Coefficient of Variation				0.97						
603	Skewness				0.646						
604											
605	**Relevant UCL Statistics**										
606	**Normal Distribution Test**					**Lognormal Distribution Test**					
607	Shapiro Wilk Test Statistic				0.85	Shapiro Wilk Test Statistic					0.916
608	Shapiro Wilk Critical Value				0.859	Shapiro Wilk Critical Value					0.859
609	**Data not Normal at 5% Significance Level**					**Data appear Lognormal at 5% Significance Level**					
610											
611	**Assuming Normal Distribution**					**Assuming Lognormal Distribution**					
612	95% Student's-t UCL				7.054	95% H-UCL					49.17
613	**95% UCLs (Adjusted for Skewness)**					95% Chebyshev (MVUE) UCL					19.55
614	95% Adjusted-CLT UCL (Chen-1995)				7.118	97.5% Chebyshev (MVUE) UCL					25.33
615	95% Modified-t UCL (Johnson-1978)				7.095	99% Chebyshev (MVUE) UCL					36.67
616											
617	**Gamma Distribution Test**					**Data Distribution**					
618	k star (bias corrected)				0.647	**Data appear Gamma Distributed at 5% Significance Level**					
619	Theta Star				7.249						
620	MLE of Mean				4.694						
621	MLE of Standard Deviation				5.833						
622	nu star				15.54						
623	Approximate Chi Square Value (.05)				7.638	**Nonparametric Statistics**					
624	Adjusted Level of Significance				0.029	95% CLT UCL					6.856
625	Adjusted Chi Square Value				6.809	95% Jackknife UCL					7.054
626						95% Standard Bootstrap UCL					6.813
627	Anderson-Darling Test Statistic				0.325	95% Bootstrap-t UCL					7.516
628	Anderson-Darling 5% Critical Value				0.764	95% Hall's Bootstrap UCL					6.7
629	Kolmogorov-Smirnov Test Statistic				0.165	95% Percentile Bootstrap UCL					6.816
630	Kolmogorov-Smirnov 5% Critical Value				0.254	95% BCA Bootstrap UCL					7.033
631	**Data appear Gamma Distributed at 5% Significance Level**					95% Chebyshev(Mean, Sd) UCL					10.42
632						97.5% Chebyshev(Mean, Sd) UCL					12.9
633	**Assuming Gamma Distribution**					99% Chebyshev(Mean, Sd) UCL					17.77
634	95% Approximate Gamma UCL (Use when n >= 40)				9.549						
635	95% Adjusted Gamma UCL (Use when n < 40)				10.71						
636											
637	**Potential UCL to Use**					Use 95% Approximate Gamma UCL					9.549
638											
639	**Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.**										
640	**These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)**										
641	**and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.**										

642											
643											
644	**Benzo(b)fluoranthene_0-3_Future**										
645											
646	**General Statistics**										
647	Number of Valid Observations				12	Number of Distinct Observations					12
648	Number of Missing Values				13						
649											
650	**Raw Statistics**					**Log-transformed Statistics**					
651	Minimum				0.0975	Minimum of Log Data					-2.328
652	Maximum				13	Maximum of Log Data					2.565
653	Mean				4.912	Mean of log Data					0.776
654	Geometric Mean				2.174	SD of log Data					1.627
655	Median				2.85						
656	SD				4.839						
657	Std. Error of Mean				1.397						
658	Coefficient of Variation				0.985						
659	Skewness				0.615						
660											
661	**Relevant UCL Statistics**										
662	**Normal Distribution Test**					**Lognormal Distribution Test**					
663	Shapiro Wilk Test Statistic				0.857	Shapiro Wilk Test Statistic					0.908
664	Shapiro Wilk Critical Value				0.859	Shapiro Wilk Critical Value					0.859
665	**Data not Normal at 5% Significance Level**					**Data appear Lognormal at 5% Significance Level**					
666											
667	**Assuming Normal Distribution**					**Assuming Lognormal Distribution**					
668	95% Student's-t UCL				7.421	95% H-UCL					62.82
669	**95% UCLs (Adjusted for Skewness)**					95% Chebyshev (MVUE) UCL					21.59
670	95% Adjusted-CLT UCL (Chen-1995)				7.475	97.5% Chebyshev (MVUE) UCL					28.05
671	95% Modified-t UCL (Johnson-1978)				7.462	99% Chebyshev (MVUE) UCL					40.74
672											
673	**Gamma Distribution Test**					**Data Distribution**					
674	k star (bias corrected)				0.608	**Data appear Gamma Distributed at 5% Significance Level**					
675	Theta Star				8.084						
676	MLE of Mean				4.912						
677	MLE of Standard Deviation				6.302						
678	nu star				14.58						
679	Approximate Chi Square Value (.05)				6.973	**Nonparametric Statistics**					
680	Adjusted Level of Significance				0.029	95% CLT UCL					7.21
681	Adjusted Chi Square Value				6.187	95% Jackknife UCL					7.421
682						95% Standard Bootstrap UCL					7.101
683	Anderson-Darling Test Statistic				0.379	95% Bootstrap-t UCL					7.73
684	Anderson-Darling 5% Critical Value				0.767	95% Hall's Bootstrap UCL					7.079
685	Kolmogorov-Smirnov Test Statistic				0.163	95% Percentile Bootstrap UCL					7.151
686	Kolmogorov-Smirnov 5% Critical Value				0.255	95% BCA Bootstrap UCL					7.501
687	**Data appear Gamma Distributed at 5% Significance Level**					95% Chebyshev(Mean, Sd) UCL					11
688						97.5% Chebyshev(Mean, Sd) UCL					13.64
689	**Assuming Gamma Distribution**					99% Chebyshev(Mean, Sd) UCL					18.81
690	95% Approximate Gamma UCL (Use when n >= 40)				10.27						
691	95% Adjusted Gamma UCL (Use when n < 40)				11.58						
692											
693	**Potential UCL to Use**					Use 95% Approximate Gamma UCL					10.27
694											
695	**Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.**										
696	**These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)**										
697	**and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.**										

	A	B	C	D	E	F	G	H	I	J	K	L
698												
699												
700	**Benzo(a)pyrene_0-3_Future**											
701												
702	**General Statistics**											
703	Number of Valid Observations					12	Number of Distinct Observations					12
704	Number of Missing Values					13						
705												
706	**Raw Statistics**						**Log-transformed Statistics**					
707	Minimum					0.0975	Minimum of Log Data					-2.328
708	Maximum					10	Maximum of Log Data					2.303
709	Mean					3.717	Mean of log Data					0.54
710	Geometric Mean					1.717	SD of log Data					1.564
711	Median					2.2						
712	SD					3.633						
713	Std. Error of Mean					1.049						
714	Coefficient of Variation					0.977						
715	Skewness					0.672						
716												
717	**Relevant UCL Statistics**											
718	**Normal Distribution Test**						**Lognormal Distribution Test**					
719	Shapiro Wilk Test Statistic					0.865	Shapiro Wilk Test Statistic					0.907
720	Shapiro Wilk Critical Value					0.859	Shapiro Wilk Critical Value					0.859
721	**Data appear Normal at 5% Significance Level**						**Data appear Lognormal at 5% Significance Level**					
722												
723	**Assuming Normal Distribution**						**Assuming Lognormal Distribution**					
724	95% Student's-t UCL					5.601	95% H-UCL					38.94
725	**95% UCLs (Adjusted for Skewness)**						95% Chebyshev (MVUE) UCL					15.32
726	95% Adjusted-CLT UCL (Chen-1995)					5.66	97.5% Chebyshev (MVUE) UCL					19.85
727	95% Modified-t UCL (Johnson-1978)					5.635	99% Chebyshev (MVUE) UCL					28.75
728												
729	**Gamma Distribution Test**						**Data Distribution**					
730	k star (bias corrected)					0.634	**Data appear Normal at 5% Significance Level**					
731	Theta Star					5.86						
732	MLE of Mean					3.717						
733	MLE of Standard Deviation					4.667						
734	nu star					15.23						
735	Approximate Chi Square Value (.05)					7.418	**Nonparametric Statistics**					
736	Adjusted Level of Significance					0.029	95% CLT UCL					5.442
737	Adjusted Chi Square Value					6.603	95% Jackknife UCL					5.601
738							95% Standard Bootstrap UCL					5.363
739	Anderson-Darling Test Statistic					0.374	95% Bootstrap-t UCL					5.935
740	Anderson-Darling 5% Critical Value					0.765	95% Hall's Bootstrap UCL					5.43
741	Kolmogorov-Smirnov Test Statistic					0.153	95% Percentile Bootstrap UCL					5.467
742	Kolmogorov-Smirnov 5% Critical Value					0.255	95% BCA Bootstrap UCL					5.58
743	**Data appear Gamma Distributed at 5% Significance Level**						95% Chebyshev(Mean, Sd) UCL					8.289
744							97.5% Chebyshev(Mean, Sd) UCL					10.27
745	**Assuming Gamma Distribution**						99% Chebyshev(Mean, Sd) UCL					14.15
746	95% Approximate Gamma UCL (Use when n >= 40)					7.629						
747	95% Adjusted Gamma UCL (Use when n < 40)					8.571						
748												
749	**Potential UCL to Use**						Use 95% Student's-t UCL					5.601
750												
751	**Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.**											
752	**These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)**											
753	**and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.**											

754											
755											
756	**Dibenzo(a,h)anthracene_0-3_Future**										
757											
758	**General Statistics**										
759	Number of Valid Observations				12	Number of Distinct Observations					11
760	Number of Missing Values				13						
761											
762	**Raw Statistics**					**Log-transformed Statistics**					
763	Minimum				0.0975	Minimum of Log Data					-2.328
764	Maximum				7.7	Maximum of Log Data					2.041
765	Mean				1.704	Mean of log Data					-0.21
766	Geometric Mean				0.81	SD of log Data					1.351
767	Median				0.99						
768	SD				2.28						
769	Std. Error of Mean				0.658						
770	Coefficient of Variation				1.338						
771	Skewness				2.147						
772											
773	**Relevant UCL Statistics**										
774	**Normal Distribution Test**					**Lognormal Distribution Test**					
775	Shapiro Wilk Test Statistic				0.678	Shapiro Wilk Test Statistic					0.932
776	Shapiro Wilk Critical Value				0.859	Shapiro Wilk Critical Value					0.859
777	**Data not Normal at 5% Significance Level**					**Data appear Lognormal at 5% Significance Level**					
778											
779	**Assuming Normal Distribution**					**Assuming Lognormal Distribution**					
780	95% Student's-t UCL				2.885	95% H-UCL					8.708
781	**95% UCLs (Adjusted for Skewness)**					95% Chebyshev (MVUE) UCL					5.094
782	95% Adjusted-CLT UCL (Chen-1995)				3.222	97.5% Chebyshev (MVUE) UCL					6.526
783	95% Modified-t UCL (Johnson-1978)				2.953	99% Chebyshev (MVUE) UCL					9.339
784											
785	**Gamma Distribution Test**					**Data Distribution**					
786	k star (bias corrected)				0.655	**Data appear Gamma Distributed at 5% Significance Level**					
787	Theta Star				2.602						
788	MLE of Mean				1.704						
789	MLE of Standard Deviation				2.105						
790	nu star				15.71						
791	Approximate Chi Square Value (.05)				7.759	**Nonparametric Statistics**					
792	Adjusted Level of Significance				0.029	95% CLT UCL					2.786
793	Adjusted Chi Square Value				6.922	95% Jackknife UCL					2.885
794						95% Standard Bootstrap UCL					2.722
795	Anderson-Darling Test Statistic				0.532	95% Bootstrap-t UCL					5.841
796	Anderson-Darling 5% Critical Value				0.764	95% Hall's Bootstrap UCL					9.685
797	Kolmogorov-Smirnov Test Statistic				0.249	95% Percentile Bootstrap UCL					2.846
798	Kolmogorov-Smirnov 5% Critical Value				0.254	95% BCA Bootstrap UCL					3.265
799	**Data appear Gamma Distributed at 5% Significance Level**					95% Chebyshev(Mean, Sd) UCL					4.572
800						97.5% Chebyshev(Mean, Sd) UCL					5.813
801	**Assuming Gamma Distribution**					99% Chebyshev(Mean, Sd) UCL					8.252
802	95% Approximate Gamma UCL (Use when n >= 40)				3.45						
803	95% Adjusted Gamma UCL (Use when n < 40)				3.867						
804											
805	**Potential UCL to Use**					Use 95% Approximate Gamma UCL					3.45
806											
807	**Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.**										
808	**These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)**										
809	**and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.**										

Chromium_0-3_Future

General Statistics

Number of Valid Observations	22	Number of Distinct Observations	19
Number of Missing Values	3		

Raw Statistics		Log-transformed Statistics	
Minimum	1	Minimum of Log Data	0
Maximum	350	Maximum of Log Data	5.858
Mean	78.68	Mean of log Data	3.723
Geometric Mean	41.4	SD of log Data	1.323
Median	47		
SD	91.03		
Std. Error of Mean	19.41		
Coefficient of Variation	1.157		
Skewness	2.093		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.731	Shapiro Wilk Test Statistic	0.937
Shapiro Wilk Critical Value	0.911	Shapiro Wilk Critical Value	0.911
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	112.1	95% H-UCL	240.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	228.2
95% Adjusted-CLT UCL (Chen-1995)	119.9	97.5% Chebyshev (MVUE) UCL	286.8
95% Modified-t UCL (Johnson-1978)	113.5	99% Chebyshev (MVUE) UCL	401.8

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.816	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	96.46		
MLE of Mean	78.68		
MLE of Standard Deviation	87.12		
nu star	35.89		
Approximate Chi Square Value (.05)	23.18	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0386	95% CLT UCL	110.6
Adjusted Chi Square Value	22.42	95% Jackknife UCL	112.1
		95% Standard Bootstrap UCL	110.1
Anderson-Darling Test Statistic	0.36	95% Bootstrap-t UCL	139.1
Anderson-Darling 5% Critical Value	0.775	95% Hall's Bootstrap UCL	284.5
Kolmogorov-Smirnov Test Statistic	0.113	95% Percentile Bootstrap UCL	112.7
Kolmogorov-Smirnov 5% Critical Value	0.191	95% BCA Bootstrap UCL	120.6
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	163.3
		97.5% Chebyshev(Mean, Sd) UCL	199.9
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	271.8
95% Approximate Gamma UCL (Use when n >= 40)	121.8		
95% Adjusted Gamma UCL (Use when n < 40)	126		
Potential UCL to Use		Use 95% Approximate Gamma UCL	121.8

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, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Nickel_0-3_Future

General Statistics

Number of Valid Observations	16	Number of Distinct Observations	16
Number of Missing Values	9		

Raw Statistics		**Log-transformed Statistics**	
Minimum	1	Minimum of Log Data	0
Maximum	1600	Maximum of Log Data	7.378
Mean	268.6	Mean of log Data	4.431
Geometric Mean	84.01	SD of log Data	1.803
Median	70		
SD	429.5		
Std. Error of Mean	107.4		
Coefficient of Variation	1.599		
Skewness	2.407		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.65	Shapiro Wilk Test Statistic	0.958
Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	456.8	95% H-UCL	2875
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1134
95% Adjusted-CLT UCL (Chen-1995)	514.2	97.5% Chebyshev (MVUE) UCL	1476
95% Modified-t UCL (Johnson-1978)	467.6	99% Chebyshev (MVUE) UCL	2147
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.481	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	558.9		
MLE of Mean	268.6		
MLE of Standard Deviation	387.4		
nu star	15.38		
Approximate Chi Square Value (.05)	7.524	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0335	95% CLT UCL	445.2
Adjusted Chi Square Value	6.906	95% Jackknife UCL	456.8
		95% Standard Bootstrap UCL	438.1
Anderson-Darling Test Statistic	0.467	95% Bootstrap-t UCL	689
Anderson-Darling 5% Critical Value	0.793	95% Hall's Bootstrap UCL	956.6
Kolmogorov-Smirnov Test Statistic	0.161	95% Percentile Bootstrap UCL	453.4
Kolmogorov-Smirnov 5% Critical Value	0.227	95% BCA Bootstrap UCL	499.8
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	736.6
		97.5% Chebyshev(Mean, Sd) UCL	939.2
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1337
95% Approximate Gamma UCL (Use when n >= 40)	548.8		
95% Adjusted Gamma UCL (Use when n < 40)	597.9		
Potential UCL to Use		Use 95% Approximate Gamma UCL	548.8

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, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Appendix H-2 - Groundwater Upper Confidence Limits

General UCL Statistics for Full Data Sets

User Selected Options	
From File	Sheet 1.wst
Full Precision	OFF
Confidence Coefficient	95%
mber of Bootstrap Operations	2000

Dichloroethene, cis-1,2-

General Statistics

Number of Valid Observations	15	Number of Distinct Observations	12

Raw Statistics		**Log-transformed Statistics**	
Minimum	0.5	Minimum of Log Data	-0.693
Maximum	3800	Maximum of Log Data	8.243
Mean	312.7	Mean of log Data	2.392
Geometric Mean	10.94	SD of log Data	2.798
Median	6.3		
SD	974.7		
Std. Error of Mean	251.7		
Coefficient of Variation	3.117		
Skewness	3.747		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.363	Shapiro Wilk Test Statistic	0.914
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	756	95% H-UCL	54869
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1064
95% Adjusted-CLT UCL (Chen-1995)	986.8	97.5% Chebyshev (MVUE) UCL	1420
95% Modified-t UCL (Johnson-1978)	796.5	99% Chebyshev (MVUE) UCL	2119
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.218	**Data appear Lognormal at 5% Significance Level**	
Theta Star	1436		
MLE of Mean	312.7		
MLE of Standard Deviation	670		
nu star	6.534		
Approximate Chi Square Value (.05)	1.919	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0324	95% CLT UCL	726.6
Adjusted Chi Square Value	1.627	95% Jackknife UCL	756
		95% Standard Bootstrap UCL	716.1
Anderson-Darling Test Statistic	1.383	95% Bootstrap-t UCL	6893
Anderson-Darling 5% Critical Value	0.87	95% Hall's Bootstrap UCL	5192
Kolmogorov-Smirnov Test Statistic	0.253	95% Percentile Bootstrap UCL	789.5
Kolmogorov-Smirnov 5% Critical Value	0.244	95% BCA Bootstrap UCL	1092
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	1410
		97.5% Chebyshev(Mean, Sd) UCL	1884
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	2817
95% Approximate Gamma UCL (Use when n >= 40)	1065		
95% Adjusted Gamma UCL (Use when n < 40)	1256		
Potential UCL to Use		Use 99% Chebyshev (Mean, Sd) UCL	2817

ote: 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, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Trichloroethylene (TCE)

General Statistics

Number of Valid Observations	15	Number of Distinct Observations	15

Raw Statistics		**Log-transformed Statistics**	
Minimum	0.5	Minimum of Log Data	-0.693
Maximum	18000	Maximum of Log Data	9.798
Mean	1656	Mean of log Data	4.35
Geometric Mean	77.46	SD of log Data	3.084
Median	50.5		
SD	4587		
Std. Error of Mean	1184		
Coefficient of Variation	2.77		
Skewness	3.695		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.403	Shapiro Wilk Test Statistic	0.967
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	3742	95% H-UCL	2332921
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	13938
95% Adjusted-CLT UCL (Chen-1995)	4811	97.5% Chebyshev (MVUE) UCL	18668
95% Modified-t UCL (Johnson-1978)	3930	99% Chebyshev (MVUE) UCL	27960

Gamma Distribution Test		**Data Distribution**
k star (bias corrected)	0.232	**Data appear Gamma Distributed at 5% Significance Level**
Theta Star	7139	
MLE of Mean	1656	
MLE of Standard Deviation	3438	
nu star	6.958	
Approximate Chi Square Value (.05)	2.148	**Nonparametric Statistics**
Adjusted Level of Significance	0.0324	95% CLT UCL 3604
Adjusted Chi Square Value	1.834	95% Jackknife UCL 3742
		95% Standard Bootstrap UCL 3525
Anderson-Darling Test Statistic	0.686	95% Bootstrap-t UCL 14928
Anderson-Darling 5% Critical Value	0.863	95% Hall's Bootstrap UCL 11108
Kolmogorov-Smirnov Test Statistic	0.189	95% Percentile Bootstrap UCL 3969
Kolmogorov-Smirnov 5% Critical Value	0.243	95% BCA Bootstrap UCL 5432
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 6818
		97.5% Chebyshev(Mean, Sd) UCL 9052
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL 13439
95% Approximate Gamma UCL (Use when n >= 40)	5365	
95% Adjusted Gamma UCL (Use when n < 40)	6281	
Potential UCL to Use		Use 95% Adjusted Gamma UCL 6281

ote: 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, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

APPENDIX H-3

TRENCH AIR MODELING

APPENDIX H-3; TABLE 1
SOIL TO OUTDOOR AIR
Former Payne Cutlery Site, New Bedford, Massachusetts

	Soil EPC C_R	Soil Temp. T_S	Soil Temp. T'_S	Henry's Law Constant at ref. temp. H_R	Henry's Law Reference Temp. T_R	Normal Boiling Point T_B	Enthalpy of vaporization at T_S $\Delta H_{v,B}$	Critical Temp. T_C	constant n	Enthalpy of vaporization at T_S $\Delta H_{v,TS}$	Gas Constant R_c	Henry's Law Constant at T_S H_{TS}	Gas Constant R	Henry's Law Constant H'_{TS}
Units:	µg/kg	°C	K	atm-m^3/mol	K	K	cal/mol	K	unitless	cal/mol	cal/mol-K	atm-m^3/mol	m^3-atm/mol-K	unitless
Formula:	**Input**	(10 for screening)	(T_S + 273.15)	lookup	(lookup+273.15)	lookup	lookup	lookup	(Note 7)	(Note 8)		(Note 9)		H_{TS} / (R * T'_S)
Analyte														
Former Payne Cutlery Property (0-15' soil)														
Chloromethane	**3.80E+01**	1.00E+01	2.83E+02	8.80E-03	2.98E+02	2.49E+02	5.11E+03	4.16E+02	3.27E-01	4.75E+03	1.99E+00	5.76E-03	8.21E-05	2.48E-01
Bromomethane	**1.64E+02**	1.00E+01	2.83E+02	1.97E-01	2.98E+02	2.77E+02	5.71E+03	4.67E+02	3.22E-01	5.65E+03	1.99E+00	1.19E-01	8.21E-05	5.12E+00
Trichlorofluoromethane	**5.30E+00**	1.00E+01	2.83E+02	9.68E-02	2.98E+02	2.97E+02	6.00E+03	4.71E+02	3.50E-01	6.16E+03	1.99E+00	5.58E-02	8.21E-05	2.40E+00
Acetone	**2.60E+02**	1.00E+01	2.83E+02	3.88E-05	2.98E+02	3.29E+02	6.96E+03	5.08E+02	3.63E-01	7.56E+03	1.99E+00	1.97E-05	8.21E-05	8.50E-04
Carbon disulfide	**2.60E+00**	1.00E+01	2.83E+02	3.02E-02	2.98E+02	3.19E+02	6.39E+03	5.52E+02	3.12E-01	6.68E+03	1.99E+00	1.66E-02	8.21E-05	7.16E-01
Methylene Chloride	**3.01E+02**	1.00E+01	2.83E+02	2.19E-03	2.98E+02	3.13E+02	6.71E+03	5.10E+02	3.38E-01	7.03E+03	1.99E+00	1.17E-03	8.21E-05	5.03E-02
trans-1,2-Dichloroethene	**1.00E+02**	1.00E+01	2.83E+02	9.38E-03	2.98E+02	3.21E+02	6.72E+03	5.17E+02	3.44E-01	7.14E+03	1.99E+00	4.96E-03	8.21E-05	2.13E-01
2-Butanone	**2.09E+02**	1.00E+01	2.83E+02	2.74E-05	2.98E+02	3.53E+02	7.64E+03	5.36E+02	3.71E-01	8.61E+03	1.99E+00	1.27E-05	8.21E-05	5.46E-04
cis-1,2-Dichloroethene	**2.11E+02**	1.00E+01	2.83E+02	4.08E-03	2.98E+02	3.34E+02	7.19E+03	5.44E+02	3.38E-01	7.73E+03	1.99E+00	2.04E-03	8.21E-05	8.79E-02
Chloroform	**4.30E+01**	1.00E+01	2.83E+02	3.67E-03	2.98E+02	3.34E+02	6.99E+03	5.36E+02	3.45E-01	7.55E+03	1.99E+00	1.87E-03	8.21E-05	8.04E-02
1,1,1-Trichloroethane	**3.90E+01**	1.00E+01	2.83E+02	1.72E-02	2.98E+02	3.47E+02	7.14E+03	5.45E+02	3.55E-01	7.88E+03	1.99E+00	8.50E-03	8.21E-05	3.66E-01
Trichloroethene	**2.55E+05**	1.00E+01	2.83E+02	1.03E-02	2.98E+02	3.60E+02	7.51E+03	5.44E+02	3.74E-01	8.56E+03	1.99E+00	4.79E-03	8.21E-05	2.06E-01
4-Methyl-2-pentanone	**1.00E+00**	1.00E+01	2.83E+02	1.38E-04	2.98E+02	3.89E+02	8.64E+03	5.72E+02	3.88E-01	1.03E+04	1.99E+00	5.49E-05	8.21E-05	2.36E-03
Toluene	**3.30E+01**	1.00E+01	2.83E+02	6.64E-03	2.98E+02	3.84E+02	7.93E+03	5.92E+02	3.64E-01	9.15E+03	1.99E+00	2.93E-03	8.21E-05	1.26E-01
2-Hexanone	**3.10E+00**	1.00E+01	2.83E+02	9.32E-05	2.98E+02	3.89E+02	8.64E+03	5.72E+02	3.88E-01	1.03E+04	1.99E+00	3.71E-05	8.21E-05	1.59E-03
Tetrachloroethene	**7.54E+02**	1.00E+01	2.83E+02	1.84E-02	2.98E+02	3.94E+02	8.29E+03	6.20E+02	3.55E-01	9.55E+03	1.99E+00	7.83E-03	8.21E-05	3.37E-01
Xylene (total)	**7.60E+01**	1.00E+01	2.83E+02	6.73E-03	2.98E+02	4.12E+02	8.53E+03	6.16E+02	3.78E-01	1.02E+04	1.99E+00	2.69E-03	8.21E-05	1.16E-01
Styrene	**8.00E-01**	1.00E+01	2.83E+02	2.75E-03	2.98E+02	4.18E+02	8.74E+03	6.36E+02	3.71E-01	1.05E+04	1.99E+00	1.08E-03	8.21E-05	4.65E-02
C5-C8 Aliphatics	**2.19E+04**	1.00E+01	2.83E+02	1.30E+00	2.98E+02	NA	NA	NA	NA	NA	1.99E+00	1.30E+00	8.21E-05	5.58E+01
C9-C12 Aliphatics	**1.01E+04**	1.00E+01	2.83E+02	1.56E+00	2.98E+02	NA	NA	NA	NA	NA	1.99E+00	1.56E+00	8.21E-05	6.71E+01
C9-C10 Aromatics	**1.65E+04**	1.00E+01	2.83E+02	7.92E-03	2.98E+02	NA	NA	NA	NA	NA	1.99E+00	7.92E-03	8.21E-05	3.41E-01
Methyl tert-butyl ether	**1.27E+02**	1.00E+01	2.83E+02	5.91E-04	2.98E+02	3.28E+02	7.18E+03	4.97E+02	3.73E-01	7.85E+03	1.99E+00	2.93E-04	8.21E-05	1.26E-02
Naphthalene	**2.60E+02**	1.00E+01	2.83E+02	4.83E-04	2.98E+02	4.91E+02	1.04E+04	7.48E+02	3.70E-01	1.29E+04	1.99E+00	1.52E-04	8.21E-05	6.55E-03
2-Methylnaphthalene	**6.01E+02**	1.00E+01	2.83E+02	4.99E-04	2.98E+02	5.14E+02	1.08E+04	7.61E+02	3.84E-01	1.40E+04	1.99E+00	1.43E-04	8.21E-05	6.17E-03
Roadway (0-15' soil)														
cis-1,2-Dichloroethene	**1.00E+02**	1.00E+01	2.83E+02	4.08E-03	2.98E+02	3.34E+02	7.19E+03	5.44E+02	3.38E-01	7.73E+03	1.99E+00	2.04E-03	8.21E-05	8.79E-02
Trichloroethene	**4.30E+03**	1.00E+01	2.83E+02	1.03E-02	2.98E+02	3.60E+02	7.51E+03	5.44E+02	3.74E-01	8.56E+03	1.99E+00	4.79E-03	8.21E-05	2.06E-01
Toluene	**5.08E+01**	1.00E+01	2.83E+02	6.64E-03	2.98E+02	3.84E+02	7.93E+03	5.92E+02	3.64E-01	9.15E+03	1.99E+00	2.93E-03	8.21E-05	1.26E-01
Tetrachloroethene	**2.55E+01**	1.00E+01	2.83E+02	1.84E-02	2.98E+02	3.94E+02	8.29E+03	6.20E+02	3.55E-01	9.55E+03	1.99E+00	7.83E-03	8.21E-05	3.37E-01

APPENDIX H-3; TABLE 1 (continued)
SOIL TO OUTDOOR AIR
Former Payne Cutlery Site, New Bedford, Massachusetts

	Conversion Factor µg/kg to g/g	SCS soil type in vadose zone	Vadose zone soil dry bulk density	Vadose zone soil water-filled porosity	Organic carbon partition coefficient	Vadose zone organic carbon fraction	Soil-water partition coefficient	Vadose zone soil total porosity	Vadose zone soil air-filled porosity	Conversion Factor g/cm^3 to $\mu g/m^3$	Source Vapor Conc.
	Conv01	ST_v	ρ_b	$\theta_{w,v}$	K_{oc}	$f_{oc,v}$	K_d	n_v	$\theta_{a,v}$	Conv03	C_{source}
Units:	µg/kg / g/g	unitless	g/cm^3	cm^3/cm^3	cm^3/g	unitless	cm^3/g	cm^3/cm^3	cm^3/cm^3	g/cm^3 / $\mu g/m^3$	$\mu g/m^3$
Formula:		(Note 11)	lookup	lookup	lookup	(0.002 for screening)	$K_{oc} * f_{oc}$	lookup	$n_v - \theta_{w,v}$		(Note 21)
Former Payne Cutlery Property (0-15' soil)											
Chloromethane	1.00E-09	SCL	1.63E+00	1.46E-01	2.12E+00	2.00E-03	4.24E-03	3.84E-01	2.38E-01	1.00E+12	7.24E+04
Bromomethane	1.00E-09	SCL	1.63E+00	1.46E-01	5.89E+00	2.00E-03	1.18E-02	3.84E-01	2.38E-01	1.00E+12	9.87E+05
Trichlorofluoromethane	1.00E-09	SCL	1.63E+00	1.46E-01	4.97E+02	2.00E-03	9.93E-01	3.84E-01	2.38E-01	1.00E+12	8.88E+03
Acetone	1.00E-09	SCL	1.63E+00	1.46E-01	5.75E-01	2.00E-03	1.15E-03	3.84E-01	2.38E-01	1.00E+12	2.43E+03
Carbon disulfide	1.00E-09	SCL	1.63E+00	1.46E-01	4.57E+01	2.00E-03	9.14E-02	3.84E-01	2.38E-01	1.00E+12	6.52E+03
Methylene Chloride	1.00E-09	SCL	1.63E+00	1.46E-01	1.00E+01	2.00E-03	2.00E-02	3.84E-01	2.38E-01	1.00E+12	1.29E+05
trans-1,2-Dichloroethene	1.00E-09	SCL	1.63E+00	1.46E-01	3.80E+01	2.00E-03	7.60E-02	3.84E-01	2.38E-01	1.00E+12	1.08E+05
2-Butanone	1.00E-09	SCL	1.63E+00	1.46E-01	3.55E+00	2.00E-03	7.10E-03	3.84E-01	2.38E-01	1.00E+12	1.18E+03
cis-1,2-Dichloroethene	1.00E-09	SCL	1.63E+00	1.46E-01	3.55E+01	2.00E-03	7.10E-02	3.84E-01	2.38E-01	1.00E+12	1.07E+05
Chloroform	1.00E-09	SCL	1.63E+00	1.46E-01	5.25E+01	2.00E-03	1.05E-01	3.84E-01	2.38E-01	1.00E+12	1.68E+04
1,1,1-Trichloroethane	1.00E-09	SCL	1.63E+00	1.46E-01	1.35E+02	2.00E-03	2.70E-01	3.84E-01	2.38E-01	1.00E+12	3.45E+04
Trichloroethene	1.00E-09	SCL	1.63E+00	1.46E-01	9.43E+01	2.00E-03	1.89E-01	3.84E-01	2.38E-01	1.00E+12	1.71E+08
4-Methyl-2-pentanone	1.00E-09	SCL	1.63E+00	1.46E-01	9.55E+00	2.00E-03	1.91E-02	3.84E-01	2.38E-01	1.00E+12	2.17E+01
Toluene	1.00E-09	SCL	1.63E+00	1.46E-01	1.40E+02	2.00E-03	2.80E-01	3.84E-01	2.38E-01	1.00E+12	1.07E+04
2-Hexanone	1.00E-09	SCL	1.63E+00	1.46E-01	1.50E+01	2.00E-03	3.00E-02	3.84E-01	2.38E-01	1.00E+12	4.13E+01
Tetrachloroethene	1.00E-09	SCL	1.63E+00	1.46E-01	2.65E+02	2.00E-03	5.30E-01	3.84E-01	2.38E-01	1.00E+12	3.80E+05
Xylene (total)	1.00E-09	SCL	1.63E+00	1.46E-01	2.49E+02	2.00E-03	4.99E-01	3.84E-01	2.38E-01	1.00E+12	1.45E+04
Styrene	1.00E-09	SCL	1.63E+00	1.46E-01	9.12E+02	2.00E-03	1.82E+00	3.84E-01	2.38E-01	1.00E+12	1.94E+01
C5-C8 Aliphatics	1.00E-09	SCL	1.63E+00	1.46E-01	2.27E+03	2.00E-03	4.53E+00	3.84E-01	2.38E-01	1.00E+12	9.59E+07
C9-C12 Aliphatics	1.00E-09	SCL	1.63E+00	1.46E-01	1.50E+05	2.00E-03	3.00E+02	3.84E-01	2.38E-01	1.00E+12	2.20E+06
C9-C10 Aromatics	1.00E-09	SCL	1.63E+00	1.46E-01	1.78E+03	2.00E-03	3.56E+00	3.84E-01	2.38E-01	1.00E+12	1.52E+06
Methyl tert-butyl ether	1.00E-09	SCL	1.63E+00	1.46E-01	6.92E+00	2.00E-03	1.38E-02	3.84E-01	2.38E-01	1.00E+12	1.52E+04
Naphthalene	1.00E-09	SCL	1.63E+00	1.46E-01	1.19E+03	2.00E-03	2.38E+00	3.84E-01	2.38E-01	1.00E+12	6.88E+02
2-Methylnaphthalene	1.00E-09	SCL	1.63E+00	1.46E-01	2.50E+03	2.00E-03	5.00E+00	3.84E-01	2.38E-01	1.00E+12	7.28E+02
Roadway (0-15' soil)											
cis-1,2-Dichloroethene	1.00E-09	SCL	1.63E+00	1.46E-01	3.55E+01	2.00E-03	7.10E-02	3.84E-01	2.38E-01	1.00E+12	5.07E+04
Trichloroethene	1.00E-09	SCL	1.63E+00	1.46E-01	9.43E+01	2.00E-03	1.89E-01	3.84E-01	2.38E-01	1.00E+12	2.88E+06
Toluene	1.00E-09	SCL	1.63E+00	1.46E-01	1.40E+02	2.00E-03	2.80E-01	3.84E-01	2.38E-01	1.00E+12	1.65E+04
Tetrachloroethene	1.00E-09	SCL	1.63E+00	1.46E-01	2.65E+02	2.00E-03	5.30E-01	3.84E-01	2.38E-01	1.00E+12	1.29E+04

APPENDIX H-3; TABLE 1 (continued)
SOIL TO OUTDOOR AIR
Former Payne Cutlery Site, New Bedford, Massachusetts

	Depth below grade to bottom of trench	Depth below grade to contamination	Source Trench Separation	Diffusivity in air	Diffusivity in water	Vadose zone Effective Diffusion Coeff.	Total Overall Effective Diffusion Coeff.	Area of Trench Below Grade	Trench Ventilation Rate	Pressure Diff. between soil & enclosed space	Vadose zone soil saturated hydraulic conductivity	Conversion Factor hr to s
	L_F	L_t	L_T	D_a	D_w	D_v^{eff}	D_T^{eff}	A_B	Q_{trench}	ΔP	$K_{s,v}$	Conv02
Units:	cm	cm	cm	cm^2/s	cm^2/s	cm^2/s	cm^2/s	cm^2	cm^3/s	$g/cm\text{-}s^2$	cm/hr	s/hr
Formula:	(120 (4') for screening)	(400 for screening)	$L_t - L_F$	lookup	lookup	(Note 13)	(Note 4)	(Note 2)	(Note 22)	(40 for screening)	lookup	
Former Payne Cutlery Property (0-15' soil)												
Chloromethane	1.20E+02	4.00E+02	2.80E+02	1.26E-01	6.50E-06	7.17E-03	7.17E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
Bromomethane	1.20E+02	4.00E+02	2.80E+02	7.28E-02	1.21E-05	4.14E-03	4.14E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
Trichlorofluoromethane	1.20E+02	4.00E+02	2.80E+02	8.70E-02	9.70E-06	4.95E-03	4.95E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
Acetone	1.20E+02	4.00E+02	2.80E+02	1.24E-01	1.14E-05	7.21E-03	7.21E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
Carbon disulfide	1.20E+02	4.00E+02	2.80E+02	1.04E-01	1.00E-05	5.92E-03	5.92E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
Methylene Chloride	1.20E+02	4.00E+02	2.80E+02	1.01E-01	1.17E-05	5.75E-03	5.75E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
trans-1,2-Dichloroethene	1.20E+02	4.00E+02	2.80E+02	7.07E-02	1.19E-05	4.03E-03	4.03E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
2-Butanone	1.20E+02	4.00E+02	2.80E+02	8.08E-02	9.80E-06	4.80E-03	4.80E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
cis-1,2-Dichloroethene	1.20E+02	4.00E+02	2.80E+02	7.36E-02	1.13E-05	4.19E-03	4.19E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
Chloroform	1.20E+02	4.00E+02	2.80E+02	1.04E-01	1.00E-05	5.92E-03	5.92E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
1,1,1-Trichloroethane	1.20E+02	4.00E+02	2.80E+02	7.80E-02	8.80E-06	4.44E-03	4.44E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
Trichloroethene	1.20E+02	4.00E+02	2.80E+02	7.90E-02	9.10E-06	4.50E-03	4.50E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
4-Methyl-2-pentanone	1.20E+02	4.00E+02	2.80E+02	7.50E-02	7.80E-06	4.31E-03	4.31E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
Toluene	1.20E+02	4.00E+02	2.80E+02	8.70E-02	8.60E-06	4.95E-03	4.95E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
2-Hexanone	1.20E+02	4.00E+02	2.80E+02	7.04E-02	8.44E-06	4.06E-03	4.06E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
Tetrachloroethene	1.20E+02	4.00E+02	2.80E+02	7.20E-02	8.20E-06	4.10E-03	4.10E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
Xylene (total)	1.20E+02	4.00E+02	2.80E+02	7.69E-02	8.44E-06	4.38E-03	4.38E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
Styrene	1.20E+02	4.00E+02	2.80E+02	7.10E-02	8.00E-06	4.04E-03	4.04E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
C5-C8 Aliphatics	1.20E+02	4.00E+02	2.80E+02	8.00E-02	5.00E-06	4.55E-03	4.55E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
C9-C12 Aliphatics	1.20E+02	4.00E+02	2.80E+02	7.00E-02	5.00E-06	3.99E-03	3.99E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
C9-C10 Aromatics	1.20E+02	4.00E+02	2.80E+02	7.00E-02	5.00E-06	3.99E-03	3.99E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
Methyl tert-butyl ether	1.20E+02	4.00E+02	2.80E+02	2.37E-03	8.63E-06	1.43E-04	1.43E-04	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
Naphthalene	1.20E+02	4.00E+02	2.80E+02	5.90E-02	7.50E-06	3.37E-03	3.37E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
2-Methylnaphthalene	1.20E+02	4.00E+02	2.80E+02	6.29E-02	7.20E-06	3.59E-03	3.59E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
Roadway (0-15' soil)												
cis-1,2-Dichloroethene	1.20E+02	4.00E+02	2.80E+02	7.36E-02	1.13E-05	4.19E-03	4.19E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
Trichloroethene	1.20E+02	4.00E+02	2.80E+02	7.90E-02	9.10E-06	4.50E-03	4.50E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
Toluene	1.20E+02	4.00E+02	2.80E+02	8.70E-02	8.60E-06	4.95E-03	4.95E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03
Tetrachloroethene	1.20E+02	4.00E+02	2.80E+02	7.20E-02	8.20E-06	4.10E-03	4.10E-03	3.29E+05	1.70E+05	4.00E+01	5.50E-01	3.60E+03

APPENDIX H-3; TABLE 1 (continued)
SOIL TO OUTDOOR AIR
Former Payne Cutlery Site, New Bedford, Massachusetts

	Viscosity of water at 10^oC	Viscosity of water at system temp.	Density of water	Acceleration due to gravity	Vadose zone soil intrinsic permeability	Vadose zone residual soil water content	Vadose zone effective total fluid saturation	Vadose zone van Genuchten shape parameter	Vadose zone soil relative air permeability	Vadose zone soil effective vapor permeability	Thickness of soil between soilgas & trench
	μ_{w-10}	μ_w	ρ_w	g	$k_{i,v}$	$\theta_{r,v}$	S_{te}	M_v	k_{rg}	k_v	L_{soil}
Units:	g/cm-s	g/cm-s	g/cm^3	cm/s^2	cm^2	cm^3/cm^3	unitless	unitless	unitless	cm^2	cm
Formula:		(Note 16)	(0.999 for screening)		(Note 17)	lookup	(Note 18)	lookup	(Note 19)	(Note 20)	(1 for screening)
Former Payne Cutlery Property (0-15' soil)											
Chloromethane	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
Bromomethane	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
Trichlorofluoromethane	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
Acetone	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
Carbon disulfide	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
Methylene Chloride	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
trans-1,2-Dichloroethene	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
2-Butanone	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
cis-1,2-Dichloroethene	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
Chloroform	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
1,1,1-Trichloroethane	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
Trichloroethene	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
4-Methyl-2-pentanone	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
Toluene	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
2-Hexanone	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
Tetrachloroethene	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
Xylene (total)	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
Styrene	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
C5-C8 Aliphatics	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
C9-C12 Aliphatics	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
C9-C10 Aromatics	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
Methyl tert-butyl ether	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
Naphthalene	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
2-Methylnaphthalene	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
Roadway (0-15' soil)											
cis-1,2-Dichloroethene	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
Trichloroethene	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
Toluene	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00
Tetrachloroethene	1.31E-02	1.31E-02	9.99E-01	9.81E+02	2.04E-09	6.30E-02	2.59E-01	2.48E-01	8.59E-01	1.75E-09	1.00E+00

APPENDIX H-3; TABLE 1 (continued)
SOIL TO OUTDOOR AIR
Former Payne Cutlery Site, New Bedford, Massachusetts

	Vapor viscosity at avg. soil temp.	Avg. Vapor Flow Rate Into trench	Infinite Source Attenuation Coeff.	Infinite Source Trench Conc.
	μ_{TS}	Q_{soil}	α	C_{trench}
Units:	g/cm-s	cm^3/s	unitless	$\mu g/m^3$
Formula:	$0.00018*(T'_S/298.15)^{0.5}$	(Note 5)	(Note 6)	$C_{source} * \alpha$
Former Payne Cutlery Property (0-15' soil)				
Chloromethane	1.75E-04	3.99E-04	2.35E-09	1.70E-04
Bromomethane	1.75E-04	3.99E-04	2.35E-09	2.32E-03
Trichlorofluoromethane	1.75E-04	3.99E-04	2.35E-09	2.09E-05
Acetone	1.75E-04	3.99E-04	2.35E-09	5.71E-06
Carbon disulfide	1.75E-04	3.99E-04	2.35E-09	1.53E-05
Methylene Chloride	1.75E-04	3.99E-04	2.35E-09	3.04E-04
trans-1,2-Dichloroethene	1.75E-04	3.99E-04	2.35E-09	2.55E-04
2-Butanone	1.75E-04	3.99E-04	2.35E-09	2.76E-06
cis-1,2-Dichloroethene	1.75E-04	3.99E-04	2.35E-09	2.52E-04
Chloroform	1.75E-04	3.99E-04	2.35E-09	3.94E-05
1,1,1-Trichloroethane	1.75E-04	3.99E-04	2.35E-09	8.12E-05
Trichloroethene	1.75E-04	3.99E-04	2.35E-09	4.01E-01
4-Methyl-2-pentanone	1.75E-04	3.99E-04	2.35E-09	5.09E-08
Toluene	1.75E-04	3.99E-04	2.35E-09	2.52E-05
2-Hexanone	1.75E-04	3.99E-04	2.35E-09	9.70E-08
Tetrachloroethene	1.75E-04	3.99E-04	2.35E-09	8.93E-04
Xylene (total)	1.75E-04	3.99E-04	2.35E-09	3.42E-05
Styrene	1.75E-04	3.99E-04	2.35E-09	4.55E-08
C5-C8 Aliphatics	1.75E-04	3.99E-04	2.35E-09	2.25E-01
C9-C12 Aliphatics	1.75E-04	3.99E-04	2.35E-09	5.16E-03
C9-C10 Aromatics	1.75E-04	3.99E-04	2.35E-09	3.58E-03
Methyl tert-butyl ether	1.75E-04	3.99E-04	2.34E-09	3.56E-05
Naphthalene	1.75E-04	3.99E-04	2.35E-09	1.62E-06
2-Methylnaphthalene	1.75E-04	3.99E-04	2.35E-09	1.71E-06
Roadway (0-15' soil)				
cis-1,2-Dichloroethene	1.75E-04	3.99E-04	2.35E-09	1.19E-04
Trichloroethene	1.75E-04	3.99E-04	2.35E-09	6.76E-03
Toluene	1.75E-04	3.99E-04	2.35E-09	3.88E-05
Tetrachloroethene	1.75E-04	3.99E-04	2.35E-09	3.02E-05

APPENDIX H-3; TABLE 1 (continued)
SOIL TO OUTDOOR AIR
Former Payne Cutlery Site, New Bedford, Massachusetts

Notes:

Reference: *User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings* , USEPA, June 19, 2003.

(1) Purposely left blank

(2) For screening, assume a trench 4 ft deep, 3 ft wide, and 30 ft long.

(3) Purposely left blank

(4) $D_T^{eff} = L_T / (L_T / D_v^{eff})$

(5) $Q_{soil} = \Delta P * k_v * L_{soil}) / \mu_{TS}$; not from above reference

(6) $\alpha = [D_T^{eff} * A_B / (Q_{trench} * L_T)] / [(D_T^{eff} * A_B / (Q_{soil} * L_T)) + 1]$; assumes no resistance (Peclet number is infinite)

(7) A function of the ratio T_B/T_C:

T_B/T_C	n
<0.57	0.30
0.57-0.71	$0.74(T_B/T_C)-0.116$
>0.71	0.41

If values are not available for calculation, result is NA.

(8) $\Delta H_{v,TS} = \Delta H_{v,B} * [(1-T_S/T_C)/(1-T_B/T_C)]^n$; if values are not available for calculation, result is NA.

(9) $H_{TS} = EXP[-\Delta H_{v,TS}/R_c * (1/T_S - 1/T_R)] * H_R$; if values are not available for calculation, result assumed to be H_R

(10) Purposely left blank

(11) Refer to 12 SCS soil types - if no site-specific information is available, use SCL for screening.

(12) Purposely left blank

(13) $D_v^{eff} = D_a * (\theta_{a,v}^{3.33} / n_v^2) + (D_w / H'_{TS}) (\theta_{w,v}^{3.33} / n_v^2)$

(14) Purposely left blank

(15) Purposely left blank

(16) $\mu_w = \mu_{w-10} * (T'_S / 283.15)^{0.5}$

(17) $k_{i,v} = K_{s,v} * 1/Conv02 * \mu_w / (\rho_w * g)$

(18) $S_{te} = (\theta_{w,v} - \theta_{r,v}) / (n_v - \theta_{r,v})$

(19) $k_{rg} = (1 - S_{te})^{0.5} * (1 - S_{te}^{1/Mv})^{2Mv}$

(20) $k_v = k_{i,v} * k_{rg}$; note that the model is very sensitive to this parameter and if site-specific values are available, they should be used.

(21) $C_{source} = H'_{TS} * C_R * Conv01 * \rho_b / (\theta_{w,v} + K_d * \rho_b + H'_{TS} * \theta_{a,v}) * Conv02$

(22) For screening, assume a trench 4 ft deep, 3 ft wide, 30 ft long and an air exchange rate of 60/hr. The air exchange rate is based on the assumption that the wind speed in the trench is a small fraction of the ground wind speed and that it could take up to 1 minute for a contaminant to be cleared from the trench air space.

Appendix H-3; Table 2 Exposure-point concentrations (inhalation) for construction/utility workers in a trench: Groundwater less than 15 feet deep Former Payne Cutlery Site New Bedford, Massachusetts	CAS No.	Molecular Weight MWi g/mol	Henry's Law Constant Hi atm-m3/mol	Gas-Phase Mass Transfer Coefficient KiG cm/s	Liquid-Phase Mass Transfer Coefficient KiL cm/s	Overall Mass Transfer Coefficient Ki cm/s	Concentration of Contaminant in Groundwater Cgw ug/L	Volatilization Factor VF L/m3	Concentration of Contaminant in Trench Ctrench ug/m3	Concentration of Contaminant in Trench Ctrench mg/m3
Acetone	67-64-1	58.08	3.88E-05	5.36E-01	1.41E-03	5.47E-04	1.75E+01	2.25E-02	3.93E-01	3.93E-04
1,1-Dichloroethene	75-35-4	96.94	2.61E-02	4.52E-01	1.10E-03	1.09E-03	1.50E+00	4.48E-02	6.72E-02	6.72E-05
cis-1,2-Dichloroethene	156-59-2	96.94	4.08E-03	4.52E-01	1.10E-03	1.08E-03	2.82E+02	4.43E-02	1.25E+01	1.25E-02
Tetrachloroethene	127-18-4	165.83	1.84E-02	3.77E-01	8.37E-04	8.35E-04	3.36E+01	3.42E-02	1.15E+00	1.15E-03
1,1,1-Trichloroethane	71-55-6	133.40	1.72E-02	4.06E-01	9.34E-04	9.31E-04	9.50E-01	3.82E-02	3.63E-02	3.63E-05
Trichloroethene	79-01-6	131.39	1.03E-02	4.08E-01	9.41E-04	9.36E-04	6.28E+03	3.84E-02	2.41E+02	2.41E-01
Vinyl Chloride (commercial, construction)	75-01-4	62.50	2.70E-02	5.23E-01	1.36E-03	1.36E-03	1.08E+01	5.58E-02	6.04E-01	6.04E-04
C5-C8 Aliphatics		93	1.3	4.58E-01	1.12E-03	1.12E-03	2.40E+03	4.59E-02	1.10E+01	1.10E-02

For Mass-Transfer Coefficients			For Emission Flux and Concentration in Trench			Trench dimensions		
Kg,H2O	0.833	cm/s	CF1	1.00E-03	L/cm3	Length	**31.5**	ft
MWH2O	18		CF2	1.00E+04	cm2/m2		9.60	m
Kg,O2	0.002	cm/s	CF3	3600	s/hr	Width	**31.5**	ft
MWO2	32		F	**1**			9.60	m
T	**51.6**	F	ACH	360	hr-1	Depth	**8**	ft
T	284	K					2.44	m
R	8.20E-05	atm-m3/mol-K				Width/Depth	3.94	

APPENDIX H-4

SOIL RISK CALCULATIONS

Table 1
Commercial Worker
Incidential Ingestion of Soil
Former Payne Cutlery Site - 0-3' Soil
New Bedford, Massachusetts

		EPC	Exposure Estimates				Toxicity Values		Risk Estimates	
Constituent		Soil Concentration (mg/kg)	RAF Ingestion Cancer (--)	LADD Cancer (mg/kg-d)	RAF Ingestion Noncancer (--)	ADD Noncancer (mg/kg-d)	Cancer Slope Factor (Oral) (mg/kg-d)-1	Chronic Noncancer Reference Dose (Oral) (mg/kg-d)	Cancer Risk (- -)	Hazard Quotient (- -)
VOCs										
74-83-9	Bromomethane	1.9E-01	NC	NA	1	6.3E-08	NA	1.4E-03	NA	4.5E-05
75-69-4	Trichlorofluoromethane (Freon 11)	5.3E-03	NC	NA	1	1.8E-09	NA	3.0E-01	NA	6.0E-09
67-64-1	Acetone	3.7E-01	NC	NA	1	1.3E-07	NA	9.0E-01	NA	1.4E-07
75-15-0	Carbon Disulfide	2.6E-03	1	3.4E-10	1	8.8E-10	NA	1.0E-01	NA	8.8E-09
75-09-2	Methylene Chloride	3.3E-01	1	4.3E-08	1	1.1E-07	2.0E-03	6.0E-03	9E-11	1.9E-05
78-93-3	Methyl Ethyl Ketone (MEK)	4.2E-02	NC	NA	1	1.4E-08	NA	6.0E-01	NA	2.4E-08
156-59-2	Dichloroethene, cis-1,2-	3.3E-01	NC	NA	1	1.1E-07	NA	2.0E-03	NA	5.6E-05
79-01-6	Trichloroethylene (TCE)	5.3E+02	1	6.9E-05	1	1.8E-04	5.0E-02	5.0E-04	3E-06	3.6E-01
108-10-1	Methyl Isobutyl Ketone (MIBK)	1.0E-03	NC	NA	1	3.4E-10	NA	8.0E-02	NA	4.2E-09
108-88-3	Toluene	9.3E-03	NC	NA	1	3.1E-09	NA	8.0E-02	NA	3.9E-08
591-78-6	Hexanone (MNBK), 2-	3.1E-03	NC	NA	NC	NA	NA	NA	NA	NA
127-18-4	Tetrachloroethylene (PCE)	4.1E-01	1	5.4E-08	1	1.4E-07	6.0E-02	6.0E-03	3E-09	2.3E-05
100-42-5	Styrene	8.0E-04	1	1.0E-10	1	2.7E-10	3.0E-02	2.0E-01	3E-12	1.3E-09
EPH										
C9-C18	C9-C18 Aliphatics	4.5E+00	NC	NA	1	1.5E-06	NA	1.0E-01	NA	1.5E-05
C19-C36	C19-C36 Aliphatics	3.5E+02	NC	NA	1	1.2E-04	NA	2.0E+00	NA	6.0E-05
C11-C22	C11-C22 Aromatics	1.5E+02	NC	NA	0.3	1.5E-05	NA	3.0E-02	NA	5.0E-04
91-20-3	Naphthalene	2.3E-01	NC	NA	0.3	2.3E-08	NA	2.0E-02	NA	1.2E-06
91-57-6	Methylnaphthalene, 2-	2.7E-01	NC	NA	0.3	2.8E-08	NA	4.0E-03	NA	6.9E-06
83-32-9	Acenaphthene	6.5E-01	NC	NA	0.3	6.6E-08	NA	6.0E-02	NA	1.1E-06
86-73-7	Fluorene	6.4E-01	NC	NA	0.3	6.5E-08	NA	4.0E-02	NA	1.6E-06
85-01-8	Phenanthrene	7.1E+00	NC	NA	0.3	7.1E-07	NA	3.0E-02	NA	2.4E-05
120-12-7	Anthracene	1.5E+00	NC	NA	0.3	1.5E-07	NA	3.0E-01	NA	5.1E-07
206-44-0	Fluoranthene	9.6E+00	NC	NA	0.3	9.7E-07	NA	4.0E-02	NA	2.4E-05
129-00-0	Pyrene	9.1E+00	NC	NA	0.3	9.1E-07	NA	3.0E-02	NA	3.0E-05
56-55-3	Benzo(a)anthracene	9.5E+00	0.3	3.7E-07	0.3	9.6E-07	7.3E-01	3.0E-02	3E-07	3.2E-05
218-01-9	Chrysene	4.5E+00	0.3	1.8E-07	0.3	4.6E-07	7.3E-02	3.0E-02	1E-08	1.5E-05
205-99-2	Benzo(b)fluoranthene	1.0E+01	0.3	4.0E-07	0.3	1.0E-06	7.3E-01	3.0E-02	3E-07	3.5E-05
207-08-9	Benzo(k)fluoranthene	2.3E+00	0.3	8.9E-08	0.3	2.3E-07	7.3E-02	3.0E-02	7E-09	7.7E-06
50-32-8	Benzo(a)pyrene	5.6E+00	0.3	2.2E-07	0.3	5.7E-07	7.3E+00	3.0E-02	2E-06	1.9E-05
193-39-5	Indeno(1,2,3-cd)pyrene	2.9E+00	0.3	1.1E-07	0.3	2.9E-07	7.3E-01	3.0E-02	8E-08	9.8E-06
53-70-3	Dibenzo(a,h)anthracene	3.5E+00	0.3	1.3E-07	0.3	3.5E-07	7.3E+00	3.0E-02	1E-06	1.2E-05
191-24-2	Benzo(g,h,i)perylene	2.2E+00	NC	NA	0.3	2.2E-07	NA	3.0E-02	NA	7.3E-06
TPH/PCBs										
1336-36-3	Polychlorinated Biphenyls	2.6E-01	1	3.4E-08	1	8.8E-08	2.0E+00	2.0E-05	7E-08	4.4E-03
C11-C22	C11-C22 Aromatics (TPH)	3.0E+02	NC	NA	0.3	3.0E-05	NA	3.0E-02	NA	1.0E-03
Metals										
7440-39-3	Barium	2.5E+02	NC	NA	1	8.3E-05	NA	2.0E-01	NA	4.1E-04
18540-29-9	Chromium (VI)	1.2E+02	NC	NA	1	4.1E-05	NA	3.0E-03	NA	1.4E-02
7439-92-1	Lead	7.1E+01	NC	NA	0.5	1.2E-05	NA	7.5E-04	NA	1.6E-02
7440-02-0	Nickel	5.5E+02	NC	NA	1	1.8E-04	NA	2.0E-02	NA	9.2E-03

	Cancer Risk	Hazard Index
TOTAL:	7E-06	4E-01

NA = Not Applicable
NC = No Criteria

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Where:

LADDcancer = [Soil Concentration x UC x RAF x IR x EF x ED x EP] / [BW x APcancer]
ADDnon-cancer = [Soil Concentration x UC x RAF x IR x EF x ED x EP] / [BW x APnon-cancer]
Cancer Risk = LADDcancer x Slope Factor
Hazard Quotient = ADDnon-cancer / Reference Dose

Unit Conversion (CF) =	1.0E-06	kg/mg
Relative Absorption Factor (RAF) =	CS	(unitless) [1]
Ingestion Rate (IR) =	50	mg/d [1]
Exposure Duration (ED) =	1	day/event [2]
Exposure Frequency (EF) =	0.411	events/days (5 days per week for 30 weeks) [2]
Exposure Period (EP) =	27	year [1]
Body Weight (BW) =	61	kg [1]
Averaging Period Cancer (AP_{cancer}) =	70	years [1]
Averaging Period Noncancer ($AP_{noncancer}$) =	27	years [1]

[1] MADEP, 2008
[2] Best professional judgement

Table 2
Commercial Worker
Dermal Contact with Soil
Former Payne Cutlery Site - 0-3' Soil
New Bedford, Massachusetts

		EPC	Exposure Estimates				Toxicity Values		Risk Estimates	
Constituent		Soil Concentration (mg/kg)	RAF Dermal Cancer (--)	LADD Cancer (mg/kg-d)	RAF Dermal Noncancer (--)	ADD Noncancer (mg/kg-d)	Cancer Slope Factor (Oral) (mg/kg-d)-1	Chronic Noncancer Reference Dose (Oral) (mg/kg-d)	Cancer Risk (--)	Hazard Quotient (--)
VOCs										
74-83-9	Bromomethane	1.9E-01	NA	NA	0.03	3.9E-09	NA	1.4E-03	NA	2.8E-06
75-69-4	Trichlorofluoromethane (Freon 11)	5.3E-03	NA	NA	0.03	1.1E-10	NA	3.0E-01	NA	3.7E-10
67-64-1	Acetone	3.7E-01	NA	NA	0.03	7.8E-09	NA	9.0E-01	NA	8.7E-09
75-15-0	Carbon Disulfide	2.6E-03	1	7.0E-10	0.03	5.5E-11	NA	1.0E-01	NA	5.5E-10
75-09-2	Methylene Chloride	3.3E-01	0.03	2.7E-09	0.03	7.0E-09	2.0E-03	6.0E-03	5E-12	1.2E-06
78-93-3	Methyl Ethyl Ketone (MEK)	4.2E-02	NA	NA	0.03	8.9E-10	NA	6.0E-01	NA	1.5E-09
156-59-2	Dichloroethene, cis-1,2-	3.3E-01	NA	NA	0.03	7.0E-09	NA	2.0E-03	NA	3.5E-06
79-01-6	Trichloroethylene (TCE)	5.3E+02	0.03	4.3E-06	0.03	1.1E-05	5.0E-02	5.0E-04	2E-07	2.2E-02
108-10-1	Methyl Isobutyl Ketone (MIBK)	1.0E-03	NA	NA	0.03	2.1E-11	NA	8.0E-02	NA	2.6E-10
108-88-3	Toluene	9.3E-03	NA	NA	0.03	2.0E-10	NA	8.0E-02	NA	2.5E-09
591-78-6	Hexanone (MNBK), 2-	3.1E-03	NA	NA	NA	NA	NA	NA	NA	NA
127-18-4	Tetrachloroethylene (PCE)	4.1E-01	0.03	3.4E-09	0.03	8.7E-09	6.0E-02	6.0E-03	2E-10	1.5E-06
100-42-5	Styrene	8.0E-04	0.03	6.5E-12	0.03	1.7E-11	3.0E-02	2.0E-01	2E-13	8.4E-11
EPH										
C9-C18	C9-C18 Aliphatics	4.5E+00	NA	NA	0.2	6.4E-07	NA	1.0E-01	NA	6.4E-06
C19-C36	C19-C36 Aliphatics	3.5E+02	NA	NA	0.2	5.0E-05	NA	2.0E+00	NA	2.5E-05
C11-C22	C11-C22 Aromatics	1.5E+02	NA	NA	0.1	1.0E-05	NA	3.0E-02	NA	3.4E-04
91-20-3	Naphthalene	2.3E-01	NA	NA	0.1	1.6E-08	NA	2.0E-02	NA	8.0E-07
91-57-6	Methylnaphthalene, 2-	2.7E-01	NA	NA	0.1	1.9E-08	NA	4.0E-03	NA	4.8E-06
83-32-9	Acenaphthene	6.5E-01	NA	NA	0.1	4.6E-08	NA	6.0E-02	NA	7.7E-07
86-73-7	Fluorene	6.4E-01	NA	NA	0.1	4.5E-08	NA	4.0E-02	NA	1.1E-06
85-01-8	Phenanthrene	7.1E+00	NA	NA	0.1	5.0E-07	NA	3.0E-02	NA	1.7E-05
120-12-7	Anthracene	1.5E+00	NA	NA	0.1	1.1E-07	NA	3.0E-01	NA	3.5E-07
206-44-0	Fluoranthene	9.6E+00	NA	NA	0.1	6.7E-07	NA	4.0E-02	NA	1.7E-05
129-00-0	Pyrene	9.1E+00	NA	NA	0.1	6.4E-07	NA	3.0E-02	NA	2.1E-05
56-55-3	Benzo(a)anthracene	9.5E+00	0.02	5.2E-08	0.02	1.3E-07	7.3E-01	3.0E-02	4E-08	4.5E-06
218-01-9	Chrysene	4.5E+00	0.02	2.5E-08	0.02	6.4E-08	7.3E-02	3.0E-02	2E-09	2.1E-06
205-99-2	Benzo(b)fluoranthene	1.0E+01	0.02	5.6E-08	0.02	1.4E-07	7.3E-01	3.0E-02	4E-08	4.8E-06
207-08-9	Benzo(k)fluoranthene	2.3E+00	0.02	1.2E-08	0.02	3.2E-08	7.3E-02	3.0E-02	9E-10	1.1E-06
50-32-8	Benzo(a)pyrene	5.6E+00	0.02	3.0E-08	0.02	7.9E-08	7.3E+00	3.0E-02	2E-07	2.6E-06
193-39-5	Indeno(1,2,3-cd)pyrene	2.9E+00	0.02	1.6E-08	0.02	4.1E-08	7.3E-01	3.0E-02	1E-08	1.4E-06
53-70-3	Dibenzo(a,h)anthracene	3.5E+00	0.02	1.9E-08	0.02	4.8E-08	7.3E+00	3.0E-02	1E-07	1.6E-06
191-24-2	Benzo(g,h,i)perylene	2.2E+00	NA	NA	0.1	1.5E-07	NA	3.0E-02	NA	5.1E-06
TPH/PCBs										
1336-36-3	Polychlorinated Biphenyls	2.6E-01	0.1	7.1E-09	0.1	1.8E-08	2.0E+00	2.0E-05	1E-08	9.2E-04
C11-C22	C11-C22 Aromatics (TPH)	3.0E+02	NA	NA	0.1	2.1E-05	NA	3.0E-02	NA	6.9E-04
Metals										
7440-39-3	Barium	2.5E+02	NA	NA	0.1	1.7E-05	NA	2.0E-01	NA	8.7E-05
18540-29-9	Chromium (VI)	1.2E+02	NA	NA	0.1	8.6E-06	NA	3.0E-03	NA	2.9E-03
7439-92-1	Lead	7.1E+01	NA	NA	0.006	3.0E-07	NA	7.5E-04	NA	4.0E-04
7440-02-0	Nickel	5.5E+02	NA	NA	0.2	7.7E-05	NA	2.0E-02	NA	3.9E-03

	Cancer Risk	Hazard Index
TOTAL:	7E-07	3E-02

NA = Not Applicable
NA = Not Applicable
Where:
LADDcancer = Soil Concentration x UC x SA x SAF x RAF x EF x ED x EP / (BW x APcancer)
ADDnon-cancer = Soil Concentration x UC x SA x SAF x RAF x EF x ED x EP / (BW x APnon-cancer)
Cancer Risk = LADDcancer x Slope Factor
Hazard Quotient = ADDnon-cancer / Reference Dose

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Unit Conversion (UC1) =	1E-06	kg/mg
Skin Surface Area (SA) =	3477	cm^2/d [1]
Soil Adherence Factor (SAF) =	0.03	mg/cm2 [1]
Relative Absorption Factor (RAF) =	CS	(unitless) [1]
Exposure Duration (ED) =	1	day/event [2]
Exposure Frequency (EF) =	0.411	events/days (5 days per week for 30 weeks) [2]
Exposure Period (EP) =	27	yrs [1]
Body Weight (BW) =	61	kg [1]
Averaging Period Cancer (AP_{cancer}) =	70	years [1]
Averaging Period Noncancer ($AP_{noncancer}$) =	27	yrs [1]

[1] MADEP, 2008
[2] Best Professional Judgement

Table 3
Commercial Worker
Inhalation of Fugitive Dusts - Exposure Via the Lungs
Former Payne Cutlery Site - 0-3' Soil
New Bedford, Massachusetts

			Exposure Estimates		Toxicity Values		Risk Estimates	
	Constituent	Soil Concentration (mg/kg)	$LADE_{Inh}$ Cancer (ug/m^3)	ADE_{Inh} Noncancer (ug/m^3)	Unit Risk Factor (Inh) $(ug/m^3)^{-1}$	Chronic Noncancer Reference Conc. (Inh) (ug/m^3)	Cancer Risk (- -)	Hazard Quotient (- -)
VOCs								
74-83-9	Bromomethane	1.9E-01	2.1E-07	5.5E-07	NA	5.0E+00	NA	1.1E-07
75-69-4	Trichlorofluoromethane (Freon 11)	5.3E-03	5.9E-09	1.5E-08	NA	7.0E+02	NA	2.2E-11
67-64-1	Acetone	3.7E-01	4.2E-07	1.1E-06	NA	8.0E+02	NA	1.4E-09
75-15-0	Carbon Disulfide	2.6E-03	2.9E-09	7.6E-09	NA	7.0E+02	NA	1.1E-11
75-09-2	Methylene Chloride	3.3E-01	3.7E-07	9.6E-07	1.0E-08	6.0E+02	4E-15	1.6E-09
78-93-3	Methyl Ethyl Ketone (MEK)	4.2E-02	4.7E-08	1.2E-07	NA	5.0E+03	NA	2.4E-11
156-59-2	Dichloroethene, cis-1,2-	3.3E-01	3.7E-07	9.7E-07	NA	6.0E+00	NA	1.6E-07
79-01-6	Trichloroethylene (TCE)	5.3E+02	5.9E-04	1.5E-03	4.0E-06	2.0E+00	2E-09	7.7E-04
108-10-1	Methyl Isobutyl Ketone (MIBK)	1.0E-03	1.1E-09	2.9E-09	NA	3.0E+03	NA	9.7E-13
108-88-3	Toluene	9.3E-03	1.0E-08	2.7E-08	NA	5.0E+03	NA	5.4E-12
591-78-6	Hexanone (MNBK), 2-	3.1E-03	3.5E-09	9.0E-09	NA	NA	NA	NA
127-18-4	Tetrachloroethylene (PCE)	4.1E-01	4.7E-07	1.2E-06	1.0E-05	4.0E+01	5E-12	3.0E-08
100-42-5	Styrene	8.0E-04	9.0E-10	2.3E-09	5.7E-07	1.0E+03	5E-16	2.3E-12
EPH								
C9-C18	C9-C18 Aliphatics	4.5E+00	5.1E-06	1.3E-05	NA	2.0E+02	NA	6.6E-08
C19-C36	C19-C36 Aliphatics	3.5E+02	4.0E-04	1.0E-03	NA	NA	NA	NA
C11-C22	C11-C22 Aromatics	1.5E+02	1.7E-04	4.3E-04	NA	5.0E+01	NA	8.6E-06
91-20-3	Naphthalene	2.3E-01	2.6E-07	6.6E-07	NA	3.0E+00	NA	2.2E-07
91-57-6	Methylnaphthalene, 2-	2.7E-01	3.1E-07	8.0E-07	NA	5.0E+01	NA	1.6E-08
83-32-9	Acenaphthene	6.5E-01	7.3E-07	1.9E-06	NA	5.0E+01	NA	3.8E-08
86-73-7	Fluorene	6.4E-01	7.2E-07	1.9E-06	NA	5.0E+01	NA	3.7E-08
85-01-8	Phenanthrene	7.1E+00	7.9E-06	2.1E-05	NA	5.0E+01	NA	4.1E-07
120-12-7	Anthracene	1.5E+00	1.7E-06	4.4E-06	NA	5.0E+01	NA	8.7E-08
206-44-0	Fluoranthene	9.6E+00	1.1E-05	2.8E-05	NA	5.0E+01	NA	5.6E-07
129-00-0	Pyrene	9.1E+00	1.0E-05	2.6E-05	NA	5.0E+01	NA	5.3E-07
56-55-3	Benzo(a)anthracene	9.5E+00	1.1E-05	2.8E-05	2.1E-04	5.0E+01	2E-09	5.6E-07
218-01-9	Chrysene	4.5E+00	5.1E-06	1.3E-05	2.1E-05	5.0E+01	1E-10	2.6E-07
205-99-2	Benzo(b)fluoranthene	1.0E+01	1.2E-05	3.0E-05	2.1E-04	5.0E+01	2E-09	6.0E-07
207-08-9	Benzo(k)fluoranthene	2.3E+00	2.6E-06	6.7E-06	2.1E-05	5.0E+01	5E-11	1.3E-07
50-32-8	Benzo(a)pyrene	5.6E+00	6.3E-06	1.6E-05	2.1E-03	5.0E+01	1E-08	3.3E-07
193-39-5	Indeno(1,2,3-cd)pyrene	2.9E+00	3.3E-06	8.4E-06	2.1E-04	5.0E+01	7E-10	1.7E-07
53-70-3	Dibenzo(a,h)anthracene	3.5E+00	3.9E-06	1.0E-05	2.1E-03	5.0E+01	8E-09	2.0E-07
191-24-2	Benzo(g,h,i)perylene	2.2E+00	2.4E-06	6.3E-06	NA	5.0E+01	NA	1.3E-07
TPH/PCBs								
1336-36-3	Polychlorinated Biphenyls	2.6E-01	2.9E-07	7.6E-07	1.0E-04	2.0E-02	3E-11	3.8E-05
C11-C22	C11-C22 Aromatics (TPH)	3.0E+02	3.3E-04	8.6E-04	NA	5.0E+01	NA	1.7E-05
Metals								
7440-39-3	Barium	2.5E+02	2.8E-04	7.2E-04	NA	5.0E-01	NA	1.4E-03
18540-29-9	Chromium (VI)	1.2E+02	1.4E-04	3.5E-04	1.2E-02	1.0E-01	2E-06	3.5E-03
7439-92-1	Lead	7.1E+01	8.0E-05	2.1E-04	NA	1.0E+00	NA	2.1E-04
7440-02-0	Nickel	5.5E+02	6.2E-04	1.6E-03	4.8E-04	1.0E+00	3E-07	1.6E-03

NC = Not carcinogenic
NA = Not Applicable

	Cancer Risk	Hazard Index
TOTAL:	2E-06	8E-03

Where:

LADEcancer = (OHM x 0.5 X PM10 x IR x RAF x EF x ED x EP x UC1 / (APcancer x BW)) x (BW assumed/IR assumed)
ADEnon-cancer = (OHM x 0.5 X PM10 x IR x RAF x EF x ED x EP x UC1 / APnon-cancer x BW) x (BW assumed/IR assumed)
Cancer Risk = LADEcancer x Cancer Slope Factor
Hazard Quotient = ADEnon-cancer / Reference Dose

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Respirable Dust (PM_{10}) =	60	ug/m3 [1]
Relative Absorption Factor (RAF) =	1	unitless
Inhalation Rate (IR) =	60	l/min [1]
Exposure Frequency (EF) =	0.411	events/days (5 days per week for 30 weeks) [2]
Exposure Duration (ED) =	4	hours/event [2]
Exposure Period (EP) =	9855	days [1]
Body Weight (BW) =	61	kg [1]
Averaging Period Cancer (AP_{cancer}) =	25550	days [1]
Averaging Period Noncancer ($AP_{noncancer}$) =	9855	days [1]
Inhalation Rate assumed (IR assumed) =	20	m3/day [1]
Unit Conversion (UC) =	6.00E-11	(60 min/hour; 1x 10-9 kg/ug; 0.001 m3/l)

[1] MADEP, 2008
[2] Best professional judgement

Table 4
Commercial Worker
Inhalation of Fugitive Dusts - Exposure Via the GI Tract
Former Payne Cutlery Site - 0-3' Soil
New Bedford, Massachusetts

				Exposure Estimates			Toxicity Values		Risk Estimates	
Constituent		Soil Concentration (mg/kg)	RAF Cancer Ing (--)	$LADD_{GI-Inh}$ Cancer (mg/kg-day)	RAF Noncancer Ing (--)	ADD_{GI-Inh} Noncancer (mg/kg-day)	Cancer Slope Factor (Oral) $(mg/kg\text{-}day)^{-1}$	Chronic Noncancer Reference Dose (Oral) (mg/kg-day)	Cancer Risk (- -)	Hazard Quotient (- -)
VOCs										
74-83-9	Bromomethane	1.9E-01	NC	NA	1.00E+00	1.64E-09	NA	1.4E-03	NA	1.2E-06
75-69-4	Trichlorofluoromethane (Freon 11)	5.3E-03	NC	NA	1.00E+00	4.63E-11	NA	3.0E-01	NA	1.5E-10
67-64-1	Acetone	3.7E-01	NC	NA	1.00E+00	3.25E-09	NA	9.0E-01	NA	3.6E-09
75-15-0	Carbon Disulfide	2.6E-03	1.0E+00	8.76E-12	1.00E+00	2.27E-11	NA	1.0E-01	NA	2.3E-10
75-09-2	Methylene Chloride	3.3E-01	1.0E+00	1.11E-09	1.00E+00	2.88E-09	2.0E-03	6.0E-03	2E-12	4.8E-07
78-93-3	Methyl Ethyl Ketone (MEK)	4.2E-02	NC	NA	1.00E+00	3.67E-10	NA	6.0E-01	NA	6.1E-10
156-59-2	Dichloroethene, cis-1,2-	3.3E-01	NC	NA	1.00E+00	2.91E-09	NA	2.0E-03	NA	1.5E-06
79-01-6	Trichloroethylene (TCE)	5.3E+02	1.0E+00	1.78E-06	1.00E+00	4.63E-06	5.0E-02	5.0E-04	9E-08	9.3E-03
108-10-1	Methyl Isobutyl Ketone (MIBK)	1.0E-03	NC	NA	1.00E+00	8.73E-12	NA	8.0E-02	NA	1.1E-10
108-88-3	Toluene	9.3E-03	NC	NA	1.00E+00	8.12E-11	NA	8.0E-02	NA	1.0E-09
591-78-6	Hexanone (MNBK), 2-	3.1E-03	NC	NA	NC	NA	NA	NA	NA	NA
127-18-4	Tetrachloroethylene (PCE)	4.1E-01	1.0E+00	1.40E-09	1.00E+00	3.62E-09	6.0E-02	6.0E-03	8E-11	6.0E-07
100-42-5	Styrene	8.0E-04	1.0E+00	2.69E-12	1.00E+00	6.98E-12	3.0E-02	2.0E-01	8E-14	3.5E-11
EPH										
C9-C18	C9-C18 Aliphatics	4.5E+00	NC	NA	1.00E+00	3.95E-08	NA	1.0E-01	NA	4.0E-07
C19-C36	C19-C36 Aliphatics	3.5E+02	NC	NA	1.00E+00	3.10E-06	NA	2.0E+00	NA	1.5E-06
C11-C22	C11-C22 Aromatics	1.5E+02	NC	NA	3.00E-01	3.85E-07	NA	3.0E-02	NA	1.3E-05
91-20-3	Naphthalene	2.3E-01	NC	NA	3.00E-01	5.97E-10	NA	2.0E-02	NA	3.0E-08
91-57-6	Methylnaphthalene, 2-	2.7E-01	NC	NA	3.00E-01	7.16E-10	NA	4.0E-03	NA	1.8E-07
83-32-9	Acenaphthene	6.5E-01	NC	NA	3.00E-01	1.71E-09	NA	6.0E-02	NA	2.9E-08
86-73-7	Fluorene	6.4E-01	NC	NA	3.00E-01	1.68E-09	NA	4.0E-02	NA	4.2E-08
85-01-8	Phenanthrene	7.1E+00	NC	NA	3.00E-01	1.85E-08	NA	3.0E-02	NA	6.2E-07
120-12-7	Anthracene	1.5E+00	NC	NA	3.00E-01	3.93E-09	NA	3.0E-01	NA	1.3E-08
206-44-0	Fluoranthene	9.6E+00	NC	NA	3.00E-01	2.51E-08	NA	4.0E-02	NA	6.3E-07
129-00-0	Pyrene	9.1E+00	NC	NA	3.00E-01	2.37E-08	NA	3.0E-02	NA	7.9E-07
56-55-3	Benzo(a)anthracene	9.5E+00	3.0E-01	9.65E-09	3.00E-01	2.50E-08	7.3E-01	3.0E-02	7E-09	8.3E-07
218-01-9	Chrysene	4.5E+00	3.0E-01	4.59E-09	3.00E-01	1.19E-08	7.3E-02	3.0E-02	3E-10	4.0E-07
205-99-2	Benzo(b)fluoranthene	1.0E+01	3.0E-01	1.04E-08	3.00E-01	2.69E-08	7.3E-01	3.0E-02	8E-09	9.0E-07
207-08-9	Benzo(k)fluoranthene	2.3E+00	3.0E-01	2.31E-09	3.00E-01	6.00E-09	7.3E-02	3.0E-02	2E-10	2.0E-07
50-32-8	Benzo(a)pyrene	5.6E+00	3.0E-01	5.66E-09	3.00E-01	1.47E-08	7.3E+00	3.0E-02	4E-08	4.9E-07
193-39-5	Indeno(1,2,3-cd)pyrene	2.9E+00	3.0E-01	2.93E-09	3.00E-01	7.60E-09	7.3E-01	3.0E-02	2E-09	2.5E-07
53-70-3	Dibenzo(a,h)anthracene	3.5E+00	3.0E-01	3.49E-09	3.00E-01	9.04E-09	7.3E+00	3.0E-02	3E-08	3.0E-07
191-24-2	Benzo(g,h,i)perylene	2.2E+00	NC	NA	3.00E-01	5.67E-09	NA	3.0E-02	NA	1.9E-07
TPH/PCBs										
1336-36-3	Polychlorinated Biphenyls	2.6E-01	1.0E+00	8.84E-10	1.00E+00	2.29E-09	2.0E+00	2.0E-05	2E-09	1.1E-04
C11-C22	C11-C22 Aromatics (TPH)	3.0E+02	NC	NA	3.00E-01	7.77E-07	NA	3.0E-02	NA	2.6E-05
Metals										
7440-39-3	Barium	2.5E+02	NC	NA	1.00E+00	2.15E-06	NA	2.0E-01	NA	1.1E-05
18540-29-9	Chromium (VI)	1.2E+02	NC	NA	1.00E+00	1.06E-06	NA	3.0E-03	NA	3.5E-04
7439-92-1	Lead	7.1E+01	NC	NA	5.00E-01	3.10E-07	NA	7.5E-04	NA	4.1E-04
7440-02-0	Nickel	5.5E+02	NC	NA	1.00E+00	4.79E-06	NA	2.0E-02	NA	2.4E-04

NC = Not carcinogenic
NA = Not Applicable

	Cancer Risk	Hazard Index
TOTAL:	2E-07	1E-02

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Where:

LADDcancer = (OHM x 1.5 X PM10 x IR x RAF x EF x ED x EP x UC1 / (APcancer x BW))
ADDEnon-cancer = (OHM x 1.5 X PM10 x IR x RAF x EF x ED x EP x UC1 / APnon-cancer x BW)
Cancer Risk = LADEcancer x Cancer Slope Factor
Hazard Quotient = ADEnon-cancer / Reference Dose

Respirable Dust (PM_{10}) =	60	ug/m3 [1]
Inhalation Rate (IR) =	60	l/min [1]
Exposure Frequency (EF) =	0.411	events/days (5 days per week for 30 weeks) [2]
Exposure Duration (ED) =	4	hours/event [2]
Exposure Period (EP) =	9855	days [1]
Body Weight (BW) =	61	kg [1]
Averaging Period Cancer (AP_{cancer}) =	25550	days [1]
Averaging Period Noncancer ($AP_{noncancer}$) =	9855	days [1]
Unit Conversion (UC1)=	6.00E-11	(60 min/hour; 1x 10-9 kg/ug; 0.001 m3/l)

[1] MADEP, 2008
[2] Best professional judgement

Table 5
Commercial Worker
Incidential Ingestion of Soil
Former Payne Cutlery Site - 0-15' Soil
New Bedford, Massachusetts

		EPC	Exposure Estimates				Toxicity Values		Risk Estimates	
Constituent		Soil Concentration (mg/kg)	RAF Ingestion Cancer (--)	LADD Cancer (mg/kg-d)	RAF Ingestion Noncancer (--)	ADD Noncancer (mg/kg-d)	Cancer Slope Factor (Oral) (mg/kg-d)-1	Chronic Noncancer Reference Dose (Oral) (mg/kg-d)	Cancer Risk (- -)	Hazard Quotient (- -)
VOCs										
74-87-3	Chloromethane	3.8E-02	NC	NA	1	1.3E-08	NA	4.0E-01	NA	3.2E-08
74-83-9	Bromomethane	1.6E-01	NC	NA	1	5.5E-08	NA	1.4E-03	NA	3.9E-05
75-69-4	Trichlorofluoromethane (Freon 11)	5.3E-03	NC	NA	1	1.8E-09	NA	3.0E-01	NA	6.0E-09
67-64-1	Acetone	2.6E-01	NC	NA	1	8.7E-08	NA	9.0E-01	NA	9.7E-08
75-15-0	Carbon Disulfide	2.6E-03	1	3.4E-10	1	8.8E-10	NA	1.0E-01	NA	8.8E-09
75-09-2	Methylene Chloride	3.0E-01	1	3.9E-08	1	1.0E-07	2.0E-03	6.0E-03	8E-11	1.7E-05
156-60-5	Dichloroethene, trans-1,2-	1.0E-01	NC	NA	1	3.4E-08	NA	2.0E-02	NA	1.7E-06
78-93-3	Methyl Ethyl Ketone (MEK)	2.1E-01	NC	NA	1	7.0E-08	NA	6.0E-01	NA	1.2E-07
156-59-2	Dichloroethene, cis-1,2-	2.1E+00	NC	NA	1	7.1E-07	NA	2.0E-03	NA	3.6E-04
67-66-3	Chloroform	4.3E-02	NC	NA	1	1.4E-08	NA	1.0E-02	NA	1.4E-06
71-55-6	Trichloroethane, 1,1,1-	3.9E-02	NC	NA	1	1.3E-08	NA	2.0E+00	NA	6.6E-09
79-01-6	Trichloroethylene (TCE)	2.5E+02	1	3.3E-05	1	8.6E-05	5.0E-02	5.0E-04	2E-06	1.7E-01
108-10-1	Methyl Isobutyl Ketone (MIBK)	1.0E-03	NC	NA	1	3.4E-10	NA	8.0E-02	NA	4.2E-09
108-88-3	Toluene	3.3E-02	NC	NA	1	1.1E-08	NA	8.0E-02	NA	1.4E-07
591-78-6	Hexanone (MNBK), 2-	3.1E-03	NC	NA	NC	NA	NA	NA	NA	NA
127-18-4	Tetrachloroethylene (PCE)	7.5E-01	1	9.8E-08	1	2.5E-07	6.0E-02	6.0E-03	6E-09	4.2E-05
1330-20-7	Xylenes (total)	7.6E-02	NC	NA	1	2.6E-08	NA	2.0E-01	NA	1.3E-07
100-42-5	Styrene	8.0E-04	1	1.0E-10	1	2.7E-10	3.0E-02	2.0E-01	3E-12	1.3E-09
VPH										
C5-C8	C5-C8 Aliphatics	2.2E+01	NC	NA	1	7.4E-06	NA	4.0E-02	NA	1.8E-04
C9-C12	C9-C12 Aliphatics	1.0E+01	NC	NA	1	3.4E-06	NA	1.0E-01	NA	3.4E-05
C9-C10	C9-C10 Aromatics	1.7E+01	NC	NA	1	5.6E-06	NA	3.0E-02	NA	1.9E-04
1634-04-4	Methyl T-Butyl Ether (MTBE)	1.3E-01	NC	NA	1	4.3E-08	NA	1.0E-01	NA	4.3E-07
EPH										
C9-C18	C9-C18 Aliphatics	9.3E+01	NC	NA	1	3.1E-05	NA	1.0E-01	NA	3.1E-04
C19-C36	C19-C36 Aliphatics	2.5E+02	NC	NA	1	8.4E-05	NA	2.0E+00	NA	4.2E-05
C11-C22	C11-C22 Aromatics	1.3E+02	NC	NA	0.3	1.4E-05	NA	3.0E-02	NA	4.5E-04
91-20-3	Naphthalene	2.6E-01	NC	NA	0.3	2.6E-08	NA	2.0E-02	NA	1.3E-06
91-57-6	Methylnaphthalene, 2-	6.0E-01	NC	NA	0.3	6.1E-08	NA	4.0E-03	NA	1.5E-05
208-96-8	Acenaphthylene	4.4E-01	NC	NA	0.3	4.5E-08	NA	3.0E-02	NA	1.5E-06
83-32-9	Acenaphthene	6.7E-01	NC	NA	0.3	6.8E-08	NA	6.0E-02	NA	1.1E-06
86-73-7	Fluorene	7.7E-01	NC	NA	0.3	7.8E-08	NA	4.0E-02	NA	2.0E-06
85-01-8	Phenanthrene	5.6E+00	NC	NA	0.3	5.6E-07	NA	3.0E-02	NA	1.9E-05
120-12-7	Anthracene	1.2E+00	NC	NA	0.3	1.2E-07	NA	3.0E-01	NA	4.1E-07
206-44-0	Fluoranthene	7.3E+00	NC	NA	0.3	7.3E-07	NA	4.0E-02	NA	1.8E-05
129-00-0	Pyrene	6.9E+00	NC	NA	0.3	6.9E-07	NA	3.0E-02	NA	2.3E-05
56-55-3	Benzo(a)anthracene	7.0E+00	0.3	2.7E-07	0.3	7.1E-07	7.3E-01	3.0E-02	2E-07	2.4E-05
218-01-9	Chrysene	3.5E+00	0.3	1.4E-07	0.3	3.5E-07	7.3E-02	3.0E-02	1E-08	1.2E-05
205-99-2	Benzo(b)fluoranthene	7.4E+00	0.3	2.9E-07	0.3	7.5E-07	7.3E-01	3.0E-02	2E-07	2.5E-05
207-08-9	Benzo(k)fluoranthene	1.8E+00	0.3	7.0E-08	0.3	1.8E-07	7.3E-02	3.0E-02	5E-09	6.0E-06
50-32-8	Benzo(a)pyrene	5.5E+00	0.3	2.1E-07	0.3	5.5E-07	7.3E+00	3.0E-02	2E-06	1.8E-05
193-39-5	Indeno(1,2,3-cd)pyrene	2.3E+00	0.3	8.9E-08	0.3	2.3E-07	7.3E-01	3.0E-02	6E-08	7.7E-06
53-70-3	Dibenzo(a,h)anthracene	3.6E+00	0.3	1.4E-07	0.3	3.6E-07	7.3E+00	3.0E-02	1E-06	1.2E-05
191-24-2	Benzo(g,h,i)perylene	1.7E+00	NC	NA	0.3	1.7E-07	NA	3.0E-02	NA	5.7E-06
TPH/PCBs										
1336-36-3	Polychlorinated Biphenyls	1.7E-01	1	2.3E-08	1	5.8E-08	2.0E+00	2.0E-05	5E-08	2.9E-03
C11-C22	C11-C22 Aromatics (TPH)	3.0E+02	NC	NA	0.3	3.0E-05	NA	3.0E-02	NA	1.0E-03
Metals										
7440-39-3	Barium	1.6E+02	NC	NA	1	5.2E-05	NA	2.0E-01	NA	2.6E-04
18540-29-9	Chromium (VI)	1.1E+02	NC	NA	1	3.6E-05	NA	3.0E-03	NA	1.2E-02
7439-92-1	Lead	5.8E+01	NC	NA	0.5	9.8E-06	NA	7.5E-04	NA	1.3E-02
7440-02-0	Nickel	5.5E+02	NC	NA	1	1.8E-04	NA	2.0E-02	NA	9.2E-03

	Cancer Risk	Hazard Index
TOTAL:	5E-06	2E-01

NA = Not Applicable
NC = No Criteria

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Where:

LADDcancer = [Soil Concentration x UC x RAF x IR x EF x ED x EP] / [BW x APcancer]
ADDnon-cancer = [Soil Concentration x UC x RAF x IR x EF x ED x EP] / [BW x APnon-cancer]
Cancer Risk = LADDcancer x Slope Factor
Hazard Quotient = ADDnon-cancer / Reference Dose

Unit Conversion (CF) =	1.0E-06	kg/mg
Relative Absorption Factor (RAF) =	CS	(unitless) [1]
Ingestion Rate (IR) =	50	mg/d [1]
Exposure Duration (ED) =	1	day/event [2]
Exposure Frequency (EF) =	0.411	events/days (5 days per week for 30 weeks) [2]
Exposure Period (EP) =	27	year [1]
Body Weight (BW) =	61	kg [1]
Averaging Period Cancer (AP_{cancer}) =	70	years [1]
Averaging Period Noncancer ($AP_{noncancer}$) =	27	years [1]

[1] MADEP, 2008
[2] Best professional judgement

Table 6
Commercial Worker
Dermal Contact with Soil
Former Payne Cutlery Site - 0-15' Soil
New Bedford, Massachusetts

		EPC	Exposure Estimates				Toxicity Values		Risk Estimates	
Constituent		Soil Concentration (mg/kg)	RAF Dermal Cancer (--)	LADD Cancer (mg/kg-d)	RAF Dermal Noncancer (--)	ADD Noncancer (mg/kg-d)	Cancer Slope Factor (Oral) (mg/kg-d)-1	Chronic Noncancer Reference Dose (Oral) (mg/kg-d)	Cancer Risk (--)	Hazard Quotient (--)
VOCs										
74-87-3	Chloromethane	3.8E-02	NA	NA	0.1	2.7E-09	NA	4.0E-01	NA	6.7E-09
74-83-9	Bromomethane	1.6E-01	NA	NA	0.03	3.4E-09	NA	1.4E-03	NA	2.5E-06
75-69-4	Trichlorofluoromethane (Freon 11)	5.3E-03	NA	NA	0.03	1.1E-10	NA	3.0E-01	NA	3.7E-10
67-64-1	Acetone	2.6E-01	NA	NA	0.03	5.5E-09	NA	9.0E-01	NA	6.1E-09
75-15-0	Carbon Disulfide	2.6E-03	1	7.0E-10	0.03	5.5E-11	NA	1.0E-01	NA	5.5E-10
75-09-2	Methylene Chloride	3.0E-01	0.03	2.4E-09	0.03	6.3E-09	2.0E-03	6.0E-03	5E-12	1.1E-06
156-60-5	Dichloroethene, trans-1,2-	1.0E-01	NA	NA	0.03	2.1E-09	NA	2.0E-02	NA	1.1E-07
78-93-3	Methyl Ethyl Ketone (MEK)	2.1E-01	NA	NA	0.03	4.4E-09	NA	6.0E-01	NA	7.3E-09
156-59-2	Dichloroethene, cis-1,2-	2.1E+00	NA	NA	0.03	4.5E-08	NA	2.0E-03	NA	2.2E-05
67-66-3	Chloroform	4.3E-02	NA	NA	0.03	9.1E-10	NA	1.0E-02	NA	9.1E-08
71-55-6	Trichloroethane, 1,1,1-	3.9E-02	NA	NA	0.03	8.2E-10	NA	2.0E+00	NA	4.1E-10
79-01-6	Trichloroethylene (TCE)	2.5E+02	0.03	2.1E-06	0.03	5.4E-06	5.0E-02	5.0E-04	1E-07	1.1E-02
108-10-1	Methyl Isobutyl Ketone (MIBK)	1.0E-03	NA	NA	0.03	2.1E-11	NA	8.0E-02	NA	2.6E-10
108-88-3	Toluene	3.3E-02	NA	NA	0.03	7.0E-10	NA	8.0E-02	NA	8.7E-09
591-78-6	Hexanone (MNBK), 2-	3.1E-03	NA	NA	NA	NA	NA	NA	NA	NA
127-18-4	Tetrachloroethylene (PCE)	7.5E-01	0.03	6.1E-09	0.03	1.6E-08	6.0E-02	6.0E-03	4E-10	2.7E-06
1330-20-7	Xylenes (total)	7.6E-02	NA	NA	0.03	1.6E-09	NA	2.0E-01	NA	8.0E-09
100-42-5	Styrene	8.0E-04	0.03	6.5E-12	0.03	1.7E-11	3.0E-02	2.0E-01	2E-13	8.4E-11
VPH										
C5-C8	C5-C8 Aliphatics	2.2E+01	NA	NA	0.2	3.1E-06	NA	4.0E-02	NA	7.7E-05
C9-C12	C9-C12 Aliphatics	1.0E+01	NA	NA	0.2	1.4E-06	NA	1.0E-01	NA	1.4E-05
C9-C10	C9-C10 Aromatics	1.7E+01	NA	NA	0.2	2.3E-06	NA	3.0E-02	NA	7.7E-05
1634-04-4	Methyl T-Butyl Ether (MTBE)	1.3E-01	NA	NA	0.03	2.7E-09	NA	1.0E-01	NA	2.7E-08
EPH										
C9-C18	C9-C18 Aliphatics	9.3E+01	NA	NA	0.2	1.3E-05	NA	1.0E-01	NA	1.3E-04
C19-C36	C19-C36 Aliphatics	2.5E+02	NA	NA	0.2	3.5E-05	NA	2.0E+00	NA	1.7E-05
C11-C22	C11-C22 Aromatics	1.3E+02	NA	NA	0.1	9.5E-06	NA	3.0E-02	NA	3.2E-04
91-20-3	Naphthalene	2.6E-01	NA	NA	0.1	1.8E-08	NA	2.0E-02	NA	9.1E-07
91-57-6	Methylnaphthalene, 2-	6.0E-01	NA	NA	0.1	4.2E-08	NA	4.0E-03	NA	1.1E-05
208-96-8	Acenaphthylene	4.4E-01	NA	NA	0.1	3.1E-08	NA	3.0E-02	NA	1.0E-06
83-32-9	Acenaphthene	6.7E-01	NA	NA	0.1	4.7E-08	NA	6.0E-02	NA	7.8E-07
86-73-7	Fluorene	7.7E-01	NA	NA	0.1	5.4E-08	NA	4.0E-02	NA	1.4E-06
85-01-8	Phenanthrene	5.6E+00	NA	NA	0.1	3.9E-07	NA	3.0E-02	NA	1.3E-05
120-12-7	Anthracene	1.2E+00	NA	NA	0.1	8.6E-08	NA	3.0E-01	NA	2.9E-07
206-44-0	Fluoranthene	7.3E+00	NA	NA	0.1	5.1E-07	NA	4.0E-02	NA	1.3E-05
129-00-0	Pyrene	6.9E+00	NA	NA	0.1	4.8E-07	NA	3.0E-02	NA	1.6E-05
56-55-3	Benzo(a)anthracene	7.0E+00	0.02	3.8E-08	0.02	9.8E-08	7.3E-01	3.0E-02	3E-08	3.3E-06
218-01-9	Chrysene	3.5E+00	0.02	1.9E-08	0.02	4.9E-08	7.3E-02	3.0E-02	1E-09	1.6E-06
205-99-2	Benzo(b)fluoranthene	7.4E+00	0.02	4.0E-08	0.02	1.0E-07	7.3E-01	3.0E-02	3E-08	3.5E-06
207-08-9	Benzo(k)fluoranthene	1.8E+00	0.02	9.7E-09	0.02	2.5E-08	7.3E-02	3.0E-02	7E-10	8.4E-07
50-32-8	Benzo(a)pyrene	5.5E+00	0.02	3.0E-08	0.02	7.7E-08	7.3E+00	3.0E-02	2E-07	2.6E-06
193-39-5	Indeno(1,2,3-cd)pyrene	2.3E+00	0.02	1.2E-08	0.02	3.2E-08	7.3E-01	3.0E-02	9E-09	1.1E-06
53-70-3	Dibenzo(a,h)anthracene	3.6E+00	0.02	2.0E-08	0.02	5.1E-08	7.3E+00	3.0E-02	1E-07	1.7E-06
191-24-2	Benzo(g,h,i)perylene	1.7E+00	NA	NA	0.1	1.2E-07	NA	3.0E-02	NA	4.0E-06
TPH/PCBs										
1336-36-3	Polychlorinated Biphenyls	1.7E-01	0.1	4.7E-09	0.1	1.2E-08	2.0E+00	2.0E-05	9E-09	6.1E-04
C11-C22	C11-C22 Aromatics (TPH)	3.0E+02	NA	NA	0.1	2.1E-05	NA	3.0E-02	NA	6.9E-04
Metals										
7440-39-3	Barium	1.6E+02	NA	NA	0.1	1.1E-05	NA	2.0E-01	NA	5.5E-05
18540-29-9	Chromium (VI)	1.1E+02	NA	NA	0.1	7.4E-06	NA	3.0E-03	NA	2.5E-03
7439-92-1	Lead	5.8E+01	NA	NA	0.006	2.5E-07	NA	7.5E-04	NA	3.3E-04
7440-02-0	Nickel	5.5E+02	NA	NA	0.2	7.7E-05	NA	2.0E-02	NA	3.9E-03

	Cancer Risk	Hazard Index
TOTAL:	5E-07	2E-02

NA = Not Applicable
NA = Not Applicable
Where:
LADDcancer = Soil Concentration x UC x SA x SAF x RAF x EF x ED x EP / (BW x APcancer)
ADDnon-cancer = Soil Concentration x UC x SA x SAF x RAF x EF x ED x EP / (BW x APnon-cancer)
Cancer Risk = LADDcancer x Slope Factor
Hazard Quotient = ADDnon-cancer / Reference Dose

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Unit Conversion (UC1) =	1E-06	kg/mg
Skin Surface Area (SA) =	3477	cm^2/d [1]
Soil Adherence Factor (SAF) =	0.03	mg/cm2 [1]
Relative Absorption Factor (RAF) =	CS	(unitless) [1]
Exposure Duration (ED) =	1	day/event [2]
Exposure Frequency (EF) =	0.411	events/days (5 days per week for 30 weeks) [2]
Exposure Period (EP) =	27	yrs [1]
Body Weight (BW) =	61	kg [1]
Averaging Period Cancer (AP_{cancer}) =	70	years [1]
Averaging Period Noncancer ($AP_{noncancer}$) =	27	yrs [1]

[1] MADEP, 2008
[2] Best Professional Judgement

Table 7
Commercial Worker
Inhalation of Fugitive Dusts - Exposure Via the Lungs
Former Payne Cutlery Site - 0-15' Soil
New Bedford, Massachusetts

			Exposure Estimates		Toxicity Values		Risk Estimates	
	Constituent	Soil Concentration (mg/kg)	$LADE_{Inh}$ Cancer (ug/m^3)	ADE_{Inh} Noncancer (ug/m^3)	Unit Risk Factor (Inh) $(ug/m^3)^{-1}$	Chronic Noncancer Reference Conc. (Inh) (ug/m^3)	Cancer Risk (- -)	Hazard Quotient (- -)
VOCs								
74-87-3	Chloromethane	3.8E-02	4.3E-08	1.1E-07	NA	9.0E+01	NA	1.2E-09
74-83-9	Bromomethane	1.6E-01	1.8E-07	4.8E-07	NA	5.0E+00	NA	9.5E-08
75-69-4	Trichlorofluoromethane (Freon 11)	5.3E-03	5.9E-09	1.5E-08	NA	7.0E+02	NA	2.2E-11
67-64-1	Acetone	2.6E-01	2.9E-07	7.6E-07	NA	8.0E+02	NA	9.4E-10
75-15-0	Carbon Disulfide	2.6E-03	2.9E-09	7.6E-09	NA	7.0E+02	NA	1.1E-11
75-09-2	Methylene Chloride	3.0E-01	3.4E-07	8.7E-07	1.0E-08	6.0E+02	3E-15	1.5E-09
156-60-5	Dichloroethene, trans-1,2-	1.0E-01	1.1E-07	2.9E-07	NA	6.0E+01	NA	4.9E-09
78-93-3	Methyl Ethyl Ketone (MEK)	2.1E-01	2.3E-07	6.1E-07	NA	5.0E+03	NA	1.2E-10
156-59-2	Dichloroethene, cis-1,2-	2.1E+00	2.4E-06	6.1E-06	NA	6.0E+00	NA	1.0E-06
67-66-3	Chloroform	4.3E-02	4.8E-08	1.3E-07	2.3E-05	6.6E+02	1E-12	1.9E-10
71-55-6	Trichloroethane, 1,1,1-	3.9E-02	4.4E-08	1.1E-07	NA	5.0E+03	NA	2.3E-11
79-01-6	Trichloroethylene (TCE)	2.5E+02	2.9E-04	7.4E-04	4.0E-06	2.0E+00	1E-09	3.7E-04
108-10-1	Methyl Isobutyl Ketone (MIBK)	1.0E-03	1.1E-09	2.9E-09	NA	3.0E+03	NA	9.7E-13
108-88-3	Toluene	3.3E-02	3.7E-08	9.6E-08	NA	5.0E+03	NA	1.9E-11
591-78-6	Hexanone (MNBK), 2-	3.1E-03	3.5E-09	9.0E-09	NA	NA	NA	NA
127-18-4	Tetrachloroethylene (PCE)	7.5E-01	8.5E-07	2.2E-06	1.0E-05	4.0E+01	8E-12	5.5E-08
1330-20-7	Xylenes (total)	7.6E-02	8.5E-08	2.2E-07	NA	1.0E+02	NA	2.2E-09
100-42-5	Styrene	8.0E-04	9.0E-10	2.3E-09	5.7E-07	1.0E+03	5E-16	2.3E-12
VPH								
C5-C8	C5-C8 Aliphatics	2.2E+01	2.5E-05	6.4E-05	NA	2.0E+02	NA	3.2E-07
C9-C12	C9-C12 Aliphatics	1.0E+01	1.1E-05	3.0E-05	NA	2.0E+02	NA	1.5E-07
C9-C10	C9-C10 Aromatics	1.7E+01	1.9E-05	4.8E-05	NA	5.0E+01	NA	9.6E-07
1634-04-4	Methyl T-Butyl Ether (MTBE)	1.3E-01	1.4E-07	3.7E-07	NA	3.0E+03	NA	1.2E-10
EPH								
C9-C18	C9-C18 Aliphatics	9.3E+01	1.0E-04	2.7E-04	NA	2.0E+02	NA	1.3E-06
C19-C36	C19-C36 Aliphatics	2.5E+02	2.8E-04	7.2E-04	NA	NA	NA	NA
C11-C22	C11-C22 Aromatics	1.3E+02	1.5E-04	3.9E-04	NA	5.0E+01	NA	7.9E-06
91-20-3	Naphthalene	2.6E-01	2.9E-07	7.6E-07	NA	3.0E+00	NA	2.5E-07
91-57-6	Methylnaphthalene, 2-	6.0E-01	6.7E-07	1.7E-06	NA	5.0E+01	NA	3.5E-08
208-96-8	Acenaphthylene	4.4E-01	4.9E-07	1.3E-06	NA	5.0E+01	NA	2.6E-08
83-32-9	Acenaphthene	6.7E-01	7.5E-07	1.9E-06	NA	5.0E+01	NA	3.9E-08
86-73-7	Fluorene	7.7E-01	8.7E-07	2.3E-06	NA	5.0E+01	NA	4.5E-08
85-01-8	Phenanthrene	5.6E+00	6.2E-06	1.6E-05	NA	5.0E+01	NA	3.2E-07
120-12-7	Anthracene	1.2E+00	1.4E-06	3.6E-06	NA	5.0E+01	NA	7.1E-08
206-44-0	Fluoranthene	7.3E+00	8.2E-06	2.1E-05	NA	5.0E+01	NA	4.2E-07
129-00-0	Pyrene	6.9E+00	7.7E-06	2.0E-05	NA	5.0E+01	NA	4.0E-07
56-55-3	Benzo(a)anthracene	7.0E+00	7.9E-06	2.0E-05	2.1E-04	5.0E+01	2E-09	4.1E-07
218-01-9	Chrysene	3.5E+00	3.9E-06	1.0E-05	2.1E-05	5.0E+01	8E-11	2.0E-07
205-99-2	Benzo(b)fluoranthene	7.4E+00	8.3E-06	2.1E-05	2.1E-04	5.0E+01	2E-09	4.3E-07
207-08-9	Benzo(k)fluoranthene	1.8E+00	2.0E-06	5.2E-06	2.1E-05	5.0E+01	4E-11	1.0E-07
50-32-8	Benzo(a)pyrene	5.5E+00	6.1E-06	1.6E-05	2.1E-03	5.0E+01	1E-08	3.2E-07
193-39-5	Indeno(1,2,3-cd)pyrene	2.3E+00	2.6E-06	6.6E-06	2.1E-04	5.0E+01	5E-10	1.3E-07
53-70-3	Dibenzo(a,h)anthracene	3.6E+00	4.0E-06	1.0E-05	2.1E-03	5.0E+01	9E-09	2.1E-07
191-24-2	Benzo(g,h,i)perylene	1.7E+00	1.9E-06	4.9E-06	NA	5.0E+01	NA	9.8E-08
TPH/PCBs								
1336-36-3	Polychlorinated Biphenyls	1.7E-01	1.9E-07	5.0E-07	1.0E-04	2.0E-02	2E-11	2.5E-05
C11-C22	C11-C22 Aromatics (TPH)	3.0E+02	3.3E-04	8.6E-04	NA	5.0E+01	NA	1.7E-05
Metals								
7440-39-3	Barium	1.6E+02	1.7E-04	4.5E-04	NA	5.0E-01	NA	9.1E-04
18540-29-9	Chromium (VI)	1.1E+02	1.2E-04	3.1E-04	1.2E-02	1.0E-01	1E-06	3.1E-03
7439-92-1	Lead	5.8E+01	6.5E-05	1.7E-04	NA	1.0E+00	NA	1.7E-04
7440-02-0	Nickel	5.5E+02	6.2E-04	1.6E-03	4.8E-04	1.0E+00	3E-07	1.6E-03

NC = Not carcinogenic
NA = Not Applicable

Where:

LADEcancer = (OHM x 0.5 X PM10 x IR x RAF x EF x ED x EP x UC1 / (APcancer x BW)) x (BW assumed/IR assumed)
ADEnon-cancer = (OHM x 0.5 X PM10 x IR x RAF x EF x ED x EP x UC1 / APnon-cancer x BW) x (BW assumed/IR assumed)
Cancer Risk = LADEcancer x Cancer Slope Factor
Hazard Quotient = ADEnon-cancer / Reference Dose

	Cancer Risk	Hazard Index
TOTAL:	2E-06	6E-03

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Respirable Dust (PM_{10}) =	60	ug/m3 [1]
Relative Absorption Factor (RAF) =	1	unitless
Inhalation Rate (IR) =	60	l/min [1]
Exposure Frequency (EF) =	0.411	events/days (5 days per week for 30 weeks) [2]
Exposure Duration (ED) =	4	hours/event [2]
Exposure Period (EP) =	9855	days [1]
Body Weight (BW) =	61	kg [1]
Averaging Period Cancer (AP_{cancer}) =	25550	days [1]
Averaging Period Noncancer ($AP_{noncancer}$) =	9855	days [1]
Inhalation Rate assumed (IR assumed) =	20	m3/day [1]
Unit Conversion (UC) =	6.00E-11	(60 min/hour; 1x 10-9 kg/ug; 0.001 m3/l)

[1] MADEP, 2008
[2] Best professional judgement

Table 8
Commercial Worker
Inhalation of Fugitive Dusts - Exposure Via the GI Tract
Former Payne Cutlery Site - 0-15' Soil
New Bedford, Massachusetts

				Exposure Estimates			Toxicity Values		Risk Estimates	
Constituent		Soil Concentration (mg/kg)	RAF Cancer Ing (--)	$LADD_{GI-Inh}$ Cancer (mg/kg-day)	RAF Noncancer Ing (--)	ADD_{GI-Inh} Noncancer (mg/kg-day)	Cancer Slope Factor (Oral) $(mg/kg\text{-}day)^{-1}$	Chronic Noncancer Reference Dose (Oral) (mg/kg-day)	Cancer Risk (- -)	Hazard Quotient (- -)
VOCs										
74-87-3	Chloromethane	3.8E-02	NC	NA	1.00E+00	3.32E-10	NA	4.0E-01	NA	8.3E-10
74-83-9	Bromomethane	1.6E-01	NC	NA	1.00E+00	1.43E-09	NA	1.4E-03	NA	1.0E-06
75-69-4	Trichlorofluoromethane (Freon 11)	5.3E-03	NC	NA	1.00E+00	4.63E-11	NA	3.0E-01	NA	1.5E-10
67-64-1	Acetone	2.6E-01	NC	NA	1.00E+00	2.27E-09	NA	9.0E-01	NA	2.5E-09
75-15-0	Carbon Disulfide	2.6E-03	1.0E+00	8.76E-12	1.00E+00	2.27E-11	NA	1.0E-01	NA	2.3E-10
75-09-2	Methylene Chloride	3.0E-01	1.0E+00	1.01E-09	1.00E+00	2.62E-09	2.0E-03	6.0E-03	2E-12	4.4E-07
156-60-5	Dichloroethene, trans-1,2-	1.0E-01	NC	NA	1.00E+00	8.73E-10	NA	2.0E-02	NA	4.4E-08
78-93-3	Methyl Ethyl Ketone (MEK)	2.1E-01	NC	NA	1.00E+00	1.82E-09	NA	6.0E-01	NA	3.0E-09
156-59-2	Dichloroethene, cis-1,2-	2.1E+00	NC	NA	1.00E+00	1.84E-08	NA	2.0E-03	NA	9.2E-06
67-66-3	Chloroform	4.3E-02	NC	NA	1.00E+00	3.75E-10	NA	1.0E-02	NA	3.8E-08
71-55-6	Trichloroethane, 1,1,1-	3.9E-02	NC	NA	1.00E+00	3.41E-10	NA	2.0E+00	NA	1.7E-10
79-01-6	Trichloroethylene (TCE)	2.5E+02	1.0E+00	8.58E-07	1.00E+00	2.23E-06	5.0E-02	5.0E-04	4E-08	4.5E-03
108-10-1	Methyl Isobutyl Ketone (MIBK)	1.0E-03	NC	NA	1.00E+00	8.73E-12	NA	8.0E-02	NA	1.1E-10
108-88-3	Toluene	3.3E-02	NC	NA	1.00E+00	2.88E-10	NA	8.0E-02	NA	3.6E-09
591-78-6	Hexanone (MNBK), 2-	3.1E-03	NC	NA	NC	NA	NA	NA	NA	NA
127-18-4	Tetrachloroethylene (PCE)	7.5E-01	1.0E+00	2.54E-09	1.00E+00	6.59E-09	6.0E-02	6.0E-03	2E-10	1.1E-06
1330-20-7	Xylenes (total)	7.6E-02	NC	NA	1.00E+00	6.64E-10	NA	2.0E-01	NA	3.3E-09
100-42-5	Styrene	8.0E-04	1.0E+00	2.69E-12	1.00E+00	6.98E-12	3.0E-02	2.0E-01	8E-14	3.5E-11
VPH										
C5-C8	C5-C8 Aliphatics	2.2E+01	NC	NA	1.00E+00	1.92E-07	NA	4.0E-02	NA	4.8E-06
C9-C12	C9-C12 Aliphatics	1.0E+01	NC	NA	1.00E+00	8.85E-08	NA	1.0E-01	NA	8.9E-07
C9-C10	C9-C10 Aromatics	1.7E+01	NC	NA	1.00E+00	1.44E-07	NA	3.0E-02	NA	4.8E-06
1634-04-4	Methyl T-Butyl Ether (MTBE)	1.3E-01	NC	NA	1.00E+00	1.11E-09	NA	1.0E-01	NA	1.1E-08
EPH										
C9-C18	C9-C18 Aliphatics	9.3E+01	NC	NA	1.00E+00	8.09E-07	NA	1.0E-01	NA	8.1E-06
C19-C36	C19-C36 Aliphatics	2.5E+02	NC	NA	1.00E+00	2.17E-06	NA	2.0E+00	NA	1.1E-06
C11-C22	C11-C22 Aromatics	1.3E+02	NC	NA	3.00E-01	3.54E-07	NA	3.0E-02	NA	1.2E-05
91-20-3	Naphthalene	2.6E-01	NC	NA	3.00E-01	6.80E-10	NA	2.0E-02	NA	3.4E-08
91-57-6	Methylnaphthalene, 2-	6.0E-01	NC	NA	3.00E-01	1.57E-09	NA	4.0E-03	NA	3.9E-07
208-96-8	Acenaphthylene	4.4E-01	NC	NA	3.00E-01	1.15E-09	NA	3.0E-02	NA	3.8E-08
83-32-9	Acenaphthene	6.7E-01	NC	NA	3.00E-01	1.75E-09	NA	6.0E-02	NA	2.9E-08
86-73-7	Fluorene	7.7E-01	NC	NA	3.00E-01	2.03E-09	NA	4.0E-02	NA	5.1E-08
85-01-8	Phenanthrene	5.6E+00	NC	NA	3.00E-01	1.45E-08	NA	3.0E-02	NA	4.8E-07
120-12-7	Anthracene	1.2E+00	NC	NA	3.00E-01	3.20E-09	NA	3.0E-01	NA	1.1E-08
206-44-0	Fluoranthene	7.3E+00	NC	NA	3.00E-01	1.90E-08	NA	4.0E-02	NA	4.8E-07
129-00-0	Pyrene	6.9E+00	NC	NA	3.00E-01	1.80E-08	NA	3.0E-02	NA	6.0E-07
56-55-3	Benzo(a)anthracene	7.0E+00	3.0E-01	7.08E-09	3.00E-01	1.83E-08	7.3E-01	3.0E-02	5E-09	6.1E-07
218-01-9	Chrysene	3.5E+00	3.0E-01	3.51E-09	3.00E-01	9.10E-09	7.3E-02	3.0E-02	3E-10	3.0E-07
205-99-2	Benzo(b)fluoranthene	7.4E+00	3.0E-01	7.46E-09	3.00E-01	1.93E-08	7.3E-01	3.0E-02	5E-09	6.4E-07
207-08-9	Benzo(k)fluoranthene	1.8E+00	3.0E-01	1.80E-09	3.00E-01	4.67E-09	7.3E-02	3.0E-02	1E-10	1.6E-07
50-32-8	Benzo(a)pyrene	5.5E+00	3.0E-01	5.52E-09	3.00E-01	1.43E-08	7.3E+00	3.0E-02	4E-08	4.8E-07
193-39-5	Indeno(1,2,3-cd)pyrene	2.3E+00	3.0E-01	2.31E-09	3.00E-01	5.98E-09	7.3E-01	3.0E-02	2E-09	2.0E-07
53-70-3	Dibenzo(a,h)anthracene	3.6E+00	3.0E-01	3.64E-09	3.00E-01	9.45E-09	7.3E+00	3.0E-02	3E-08	3.1E-07
191-24-2	Benzo(g,h,i)perylene	1.7E+00	NC	NA	3.00E-01	4.43E-09	NA	3.0E-02	NA	1.5E-07
TPH/PCBs										
1336-36-3	Polychlorinated Biphenyls	1.7E-01	1.0E+00	5.83E-10	1.00E+00	1.51E-09	2.0E+00	2.0E-05	1E-09	7.6E-05
C11-C22	C11-C22 Aromatics (TPH)	3.0E+02	NC	NA	3.00E-01	7.77E-07	NA	3.0E-02	NA	2.6E-05
Metals										
7440-39-3	Barium	1.6E+02	NC	NA	1.00E+00	1.36E-06	NA	2.0E-01	NA	6.8E-06
18540-29-9	Chromium (VI)	1.1E+02	NC	NA	1.00E+00	9.24E-07	NA	3.0E-03	NA	3.1E-04
7439-92-1	Lead	5.8E+01	NC	NA	5.00E-01	2.54E-07	NA	7.5E-04	NA	3.4E-04
7440-02-0	Nickel	5.5E+02	NC	NA	1.00E+00	4.79E-06	NA	2.0E-02	NA	2.4E-04

NC = Not carcinogenic
NA = Not Applicable

	Cancer Risk	Hazard Index
TOTAL:	1E-07	5E-03

Where:

LADDcancer = (OHM x 1.5 X PM10 x IR x RAF x EF x ED x EP x UC1 / (APcancer x BW))
ADDEnon-cancer = (OHM x 1.5 X PM10 x IR x RAF x EF x ED x EP x UC1 / APnon-cancer x BW)
Cancer Risk = LADEcancer x Cancer Slope Factor
Hazard Quotient = ADEnon-cancer / Reference Dose

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Respirable Dust (PM_{10}) =	60	ug/m3 [1]
Inhalation Rate (IR) =	60	l/min [1]
Exposure Frequency (EF) =	0.411	events/days (5 days per week for 30 weeks) [2]
Exposure Duration (ED) =	4	hours/event [2]
Exposure Period (EP) =	9855	days [1]
Body Weight (BW) =	61	kg [1]
Averaging Period Cancer (AP_{cancer}) =	25550	days [1]
Averaging Period Noncancer ($AP_{noncancer}$) =	9855	days [1]
Unit Conversion (UC1)=	6.00E-11	(60 min/hour; 1x 10-9 kg/ug; 0.001 m3/l)

[1] MADEP, 2008
[2] Best professional judgement

Trespasser - Soil: Table TSIH-1 (0-1' Soil)
Exposure Point Concentration (EPC)
Based on Trespasser Ages 11-16 (Cancer) and 11-12 (Non-Cancer)

ShortForm Version 10-12
Vlookup Version v1012

ELCR (all chemicals) = 9E-07
HI (all chemicals) = 1E-01

****Do not insert or delete any rows****
Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material		EPC (mg/kg)	$ELCR_{ingestion}$	$ELCR_{dermal}$	$ELCR_{total}$	Subchronic HQ_{ing}	Subchronic HQ_{derm}	HQ_{total}	
Bromomethane		6.8E-01				4.8E-05	1.0E-05	5.8E-05	
zzTrichlorofluoromethane		2.2E-03				2.6E-09	5.4E-10	3.1E-09	
ACETONE		3.4E-01				4.4E-08	9.2E-09	5.3E-08	
zzCarbon disulfide		2.6E-03				9.2E-09	1.9E-09	1.1E-08	
DICHLOROMETHANE		4.0E-01	9.8E-12	2.3E-12	1.2E-11	2.4E-05	4.9E-06	2.9E-05	
METHYL ETHYL KETONE		4.2E-02				2.5E-08	5.2E-09	3.0E-08	
DICHLOROETHYLENE, CIS-1,2-		3.0E+00				5.3E-05	1.1E-05	6.4E-05	
TRICHLOROETHYLENE		7.1E+01	4.3E-08	1.0E-08	5.3E-08	5.0E-02	1.0E-02	6.1E-02	**Note! TCE short-term toxicity under review. IH HQ is 1, not 10.**
METHYL ISOBUTYL KETONE		1.0E-03				4.4E-10	9.2E-11	5.4E-10	
Toluene		7.4E-03				3.3E-09	6.8E-10	4.0E-09	
zz2-Hexanone		3.1E-03				2.2E-07	4.6E-08	2.7E-07	
TETRACHLOROETHYLENE		1.7E-01	1.2E-10	2.8E-11	1.5E-10	9.8E-06	2.0E-06	1.2E-05	**Note! PCE CSF is under review.**
Styrene		8.0E-04	2.9E-13	6.9E-14	3.6E-13	1.4E-10	2.9E-11	1.7E-10	
ALIPHATICS C9 to C18		6.0E+00				2.1E-06	2.9E-06	5.0E-06	
ALIPHATICS C19 to C36		4.9E+02				2.9E-05	4.0E-05	6.8E-05	
AROMATICS C11 to C22		2.0E+02				7.1E-05	1.6E-04	2.3E-04	
Naphthalene		3.0E-01				1.6E-07	3.7E-07	5.3E-07	
Methylnaphthalene, 2-		3.8E-01				1.0E-05	2.4E-05	3.4E-05	
ACENAPHTHENE		9.6E-01				5.1E-07	1.2E-06	1.7E-06	
Fluorene		1.0E+00				2.7E-07	6.2E-07	8.9E-07	
Phenanthrene		9.9E+00				3.5E-06	8.2E-06	1.2E-05	
Anthracene		2.2E+00				2.3E-07	5.3E-07	7.7E-07	
Fluoranthene		1.3E+01				3.5E-06	8.1E-06	1.2E-05	
Pyrene		1.2E+01				4.2E-06	9.6E-06	1.4E-05	
Benzo(a)anthracene		1.2E+01	3.2E-08	1.7E-08	4.9E-08	4.3E-06	2.0E-06	6.2E-06	
Chrysene		5.5E+00	1.5E-09	7.7E-10	2.2E-09	1.9E-06	9.0E-07	2.9E-06	
Benzo(b)fluoranthene		1.2E+01	3.2E-08	1.7E-08	4.9E-08	4.3E-06	2.0E-06	6.2E-06	
Benzo(k)fluoranthene		3.0E+00	7.9E-10	4.1E-10	1.2E-09	1.0E-06	4.8E-07	1.5E-06	
Benzo(a)pyrene		9.3E+00	2.5E-07	1.3E-07	3.8E-07	3.3E-06	1.5E-06	4.8E-06	
Indeno(1,2,3-cd)pyrene		7.7E+00	2.1E-08	1.1E-08	3.1E-08	2.7E-06	1.3E-06	4.0E-06	
Dibenzo(a,h)anthracene		7.7E+00	2.1E-07	1.1E-07	3.1E-07	2.7E-06	1.3E-06	4.0E-06	
Benzo(g,h,i)perylene		2.6E+00				9.3E-07	2.2E-06	3.1E-06	
POLYCHLORINATED BIPHENYLS (PCBs)		3.5E-01	8.6E-09	6.7E-09	1.5E-08	2.5E-03	1.7E-03	4.2E-03	
AROMATICS C11 to C22	TPH	5.8E+02				2.1E-04	4.8E-04	6.8E-04	
Barium		2.9E+02				1.5E-03	1.0E-03	2.5E-03	
CHROMIUM(VI)		3.1E+02				5.5E-03	3.8E-03	9.3E-03	**Note! Cr(VI) limit is 200 mg/kg due to contact dermitis.**
Lead		6.6E+01				1.6E-02	1.3E-03	1.7E-02	**Note! Lead IH HQ limit is 1, not 10.**

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Trespasser - Soil: Table TSIH-2
Equations to Calculate Cancer Risk for a Trespasser (Age 11-16 years)

Vlookup Version v1012

Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing} * CSF$$

$$LADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{c\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF$$

$$LADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{c\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP_{lifetime}}$$

Parameter	Value	Units
CSF	OHM specific	$(mg/kg\text{-}day)^{-1}$
LADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	50	mg/day
$RAF_{c\text{-}ing}$	OHM specific	dimensionless
$RAF_{c\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.164	event/day
ED	1	day/event
EP	5	years
C	0.000001	kg/mg
BW	48.2	kg
$AP_{(lifetime)}$	70	years
SA	2796	cm^2 / day
SAF	0.14	mg/cm^2

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Trespasser - Soil: Table TSIH-3

Equations to Calculate Subchronic Noncancer Risk for a Trespasser (Age 11-12 years)

Vlookup Version v1012

Subchronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{subchronic}}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Subchronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{subchronic}}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	50	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.286	event/day
ED	1	day/event
EP	0.577	years
C	0.000001	kg/mg
BW	40.3	kg
AP	0.577	year
SA	2477	cm^2 / day
SAF	0.14	mg/cm^2

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Trespasser - Soil: Table TSIH-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table RS-7
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
HQ - Hazard Quotient	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
RfD - Reference Dose	chemical specific	mg/kg-day	see Table RS-7
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
EPC - Exposure Point Concentration	chemical specific	mg/kg	
IR - Soil Ingestion Rate	50	mg/day	MADEP. 2002. Technical Update: Calculation of an Enhanced Soil Ingestion Rate. (http://www.mass.gov/dep/ors/orspubs.htm)
RAF_c - Relative Absorption Factor for Cancer Effects	chemical specific	dimensionless	
$EF_{subchronic}$ - Exposure Frequency for subchronic ingestion or dermal exposure	0.286	event/day	2 days/week
EF_{cancer} - Exposure Frequency for cancer, ingestion or dermal exposure	0.164	event/day	2 days/week, 30 weeks/year
ED - Exposure Duration	1	day/event	
$EP_{(11\text{-}12)}$ - Exposure Period for age group 11-12	0.577	years	30 weeks
$EP_{(11\text{-}16)}$ - Exposure Period for age group 11-16	5	years	
$BW_{(11\text{-}12)}$ - Body Weight for age group 11-12	40.3	kg	U.S. EPA. 1997. Exposure Factors Handbook. Table 7-7
$BW_{(11\text{-}16)}$ - Body Weight for age group 11-16	48.2	kg	Ibid
$AP_{subchronic}$ - Averaging Period for subchronic noncancer	0.577	years	30 weeks
AP_{cancer} - Averaging Period for lifetime	70	years	
$SA_{(11\text{-}12)}$ - Surface Area for age group 11-12	2477	cm^2 / day	50th percentile of forearms, hands, and feet for females. MADEP 1995 Guidance for Disposal Site Risk Characterization, Table B-2.
$SA_{(11\text{-}16)}$ - Surface Area for age group 11-16	2796.1	cm^2 / day	Ibid
SAF - Surface Adherence Factor, Trespasser	0.14	mg/cm^2	SAF developed for ShortForm according to procedure outlined in MA DEP Technical Update: Weighted Skin-Soil Adherence Factors, April 2002.

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Trespasser - Soil: Table TSIH-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	CSF (mg/kg-day)$^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	Subchronic RfD mg/kg-day	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$
Bromomethane				5.0E-03	1	0.03
zzTrichlorofluoromethane				3.0E-01	1	0.03
ACETONE				2.7E+00	1	0.03
zzCarbon disulfide				1.0E-01	1	0.03
DICHLOROMETHANE	2.0E-03	1.00	0.03	6.0E-03	1	0.03
METHYL ETHYL KETONE				6.0E-01	1	0.03
DICHLOROETHYLENE, CIS-				2.0E-02	1	0.03
TRICHLOROETHYLENE	5.0E-02	1.00	0.03	5.0E-04	1	0.03
METHYL ISOBUTYL KETON				8.0E-01	1	0.03
Toluene				8.0E-01	1	0.03
zz2-Hexanone				5.0E-03	1	0.03
TETRACHLOROETHYLENE	6.0E-02	1.00	0.03	6.0E-03	1	0.03
Styrene	3.0E-02	1.00	0.03	2.0E+00	1	0.03
ALIPHATICS C9 to C18				1.0E+00	1	0.2
ALIPHATICS C19 to C36				6.0E+00	1	0.2
AROMATICS C11 to C22				3.0E-01	0.3	0.1
Naphthalene				2.0E-01	0.3	0.1
Methylnaphthalene, 2-				4.0E-03	0.3	0.1
ACENAPHTHENE				2.0E-01	0.3	0.1
Fluorene				4.0E-01	0.3	0.1
Phenanthrene				3.0E-01	0.3	0.1
Anthracene				1.0E+00	0.3	0.1
Fluoranthene				4.0E-01	0.3	0.1
Pyrene				3.0E-01	0.3	0.1
Benzo(a)anthracene	7.3E-01	0.30	0.02	3.0E-01	0.3	0.02
Chrysene	7.3E-02	0.30	0.02	3.0E-01	0.3	0.02
Benzo(b)fluoranthene	7.3E-01	0.30	0.02	3.0E-01	0.3	0.02
Benzo(k)fluoranthene	7.3E-02	0.30	0.02	3.0E-01	0.3	0.02
Benzo(a)pyrene	7.3E+00	0.30	0.02	3.0E-01	0.3	0.02
Indeno(1,2,3-cd)pyrene	7.3E-01	0.30	0.02	3.0E-01	0.3	0.02
Dibenzo(a,h)anthracene	7.3E+00	0.30	0.02	3.0E-01	0.3	0.02
Benzo(g,h,i)perylene				3.0E-01	0.3	0.1
POLYCHLORINATED BIPHE	2.0E+00	1.00	0.10	5.0E-05	1	0.1
AROMATICS C11 to C22				3.0E-01	0.3	0.1
Barium				7.0E-02	1	0.1
CHROMIUM(VI)				2.0E-02	1	0.1
Lead				7.5E-04	0.5	0.006
Nickel				2.0E-02	1	0.2

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Trespasser - Soil: Table TSIH-6
Cyanide Calculations

The acute concentration of *available* cyanide in soil is the level *at or below which* adverse human health effects would not be expected following an acute exposure.

The soil concentration limit to protect tresspassers against adverse effects from an acute (one-time) exposure to cyanide is 5000 mg/kg.

Concentration Calculation for Cyanide

$$\text{Concentration} = \frac{\text{HQ x Acute Dose Limit x BW}}{\text{IR x RAF x Conversion Factor}}$$

Parameter	Value	Units
HQ (Hazard Quotient)	1	(unitless)
Acute Dose Limit	0.01	mg CN/ kg BW
BW (Body Weight) 11-12	40.3	kg
IR (1-time reasonable max)	50	mg
Conversion Factor	1.0E-06	kg soil / mg soil

The toxicological basis for estimating an allowable one-time is documented in MassDEP's 1992 *Background Documentation for the Development of an "Available Cyanide" Benchmark Concentration,* which is published at: http://www.mass.gov/dep/toxics/cn_soil.htm.

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Trespasser - Soil: Table TS-1 (0-3' Soil - Current)
Exposure Point Concentration (EPC)
Based on Trespasser Ages 11-18 (Cancer and Non-Cancer)

ShortForm Version 10-12

Vlookup Version v1012

ELCR (all chemicals) = 1E-06

Chronic HI (all chemicals) = 8E-02

Subchronic HI (all chemicals) = 1E-01

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Oil or Hazardous Material		EPC (mg/kg)	$ELCR_{ingestion}$	$ELCR_{dermal}$	$ELCR_{total}$	Chronic HQ_{ing}	Chronic HQ_{derm}	Chronic HQ_{total}	Subchronic HQ_{ing}	Subchronic HQ_{derm}	Subchronic HQ_{total}	
Bromomethane		6.8E-01				7.9E-05	1.9E-05	9.8E-05	4.8E-05	1.0E-05	5.8E-05	
zzTrichlorofluoromethane		2.2E-03				1.2E-09	2.9E-10	1.5E-09	2.6E-09	5.4E-10	3.1E-09	
Acetone		3.4E-01				6.0E-08	1.5E-08	7.5E-08	4.4E-08	9.2E-09	5.3E-08	
zzCarbon disulfide		2.6E-03				4.2E-09	1.0E-09	5.3E-09	9.2E-09	1.9E-09	1.1E-08	
DICHLOROMETHANE		4.0E-01	1.3E-11	3.2E-12	1.6E-11	1.1E-05	2.7E-06	1.4E-05	2.4E-05	4.9E-06	2.9E-05	
METHYL ETHYL KETONE		4.2E-02				1.1E-08	2.8E-09	1.4E-08	2.5E-08	5.2E-09	3.0E-08	
DICHLOROETHYLENE, CIS-1,2-		3.0E+00				2.4E-04	6.0E-05	3.0E-04	5.3E-05	1.1E-05	6.4E-05	
TRICHLOROETHYLENE		7.1E+01	5.8E-08	1.4E-08	7.2E-08	2.3E-02	5.7E-03	2.9E-02	5.0E-02	1.0E-02	6.1E-02	
METHYL ISOBUTYL KETONE		1.0E-03				2.0E-09	5.0E-10	2.5E-09	4.4E-10	9.2E-11	5.4E-10	
Toluene		7.4E-03				1.5E-08	3.7E-09	1.9E-08	3.3E-09	6.8E-10	4.0E-09	
zz2-Hexanone		3.1E-03				1.0E-07	2.5E-08	1.3E-07	2.2E-07	4.6E-08	2.7E-07	
TETRACHLOROETHYLENE		1.7E-01	1.6E-10	4.0E-11	2.0E-10	4.5E-06	1.1E-06	5.6E-06	9.8E-06	2.0E-06	1.2E-05	**Note! PCE CSF is under review.**
Styrene		8.0E-04	3.9E-13	9.6E-14	4.8E-13	6.5E-10	1.6E-10	8.1E-10	1.4E-10	2.9E-11	1.7E-10	
ALIPHATICS	C9 to C18	6.0E+00				9.7E-06	1.6E-05	2.6E-05	2.1E-06	2.9E-06	5.0E-06	
ALIPHATICS	C19 to C36	4.9E+02				3.9E-05	6.5E-05	1.0E-04	2.9E-05	4.0E-05	6.8E-05	
AROMATICS	C11 to C22	2.0E+02				3.2E-04	8.9E-04	1.2E-03	7.1E-05	1.6E-04	2.3E-04	
Naphthalene		3.0E-01				7.3E-07	2.0E-06	2.7E-06	1.6E-07	3.7E-07	5.3E-07	
Methylnaphthalene, 2-		3.8E-01				4.7E-06	1.3E-05	1.7E-05	1.0E-05	2.4E-05	3.4E-05	
Acenaphthene		9.6E-01				7.7E-07	2.1E-06	2.9E-06	5.1E-07	1.2E-06	1.7E-06	
Fluorene		1.0E+00				1.2E-06	3.4E-06	4.6E-06	2.7E-07	6.2E-07	8.9E-07	
Phenanthrene		9.9E+00				1.6E-05	4.4E-05	6.0E-05	3.5E-06	8.2E-06	1.2E-05	
Anthracene		2.2E+00				3.5E-07	9.7E-07	1.3E-06	2.3E-07	5.3E-07	7.7E-07	
Fluoranthene		1.3E+01				1.6E-05	4.4E-05	6.0E-05	3.5E-06	8.1E-06	1.2E-05	
Pyrene		1.2E+01				1.9E-05	5.2E-05	7.1E-05	4.2E-06	9.6E-06	1.4E-05	
Benzo(a)anthracene		1.2E+01	4.3E-08	2.3E-08	6.6E-08	1.9E-05	1.1E-05	3.0E-05	4.3E-06	2.0E-06	6.2E-06	
Chrysene		5.5E+00	2.0E-09	1.1E-09	3.0E-09	8.9E-06	4.9E-06	1.4E-05	1.9E-06	9.0E-07	2.9E-06	
Benzo(b)fluoranthene		1.2E+01	4.3E-08	2.3E-08	6.6E-08	1.9E-05	1.1E-05	3.0E-05	4.3E-06	2.0E-06	6.2E-06	
Benzo(k)fluoranthene		3.0E+00	1.0E-09	5.7E-10	1.6E-09	4.8E-06	2.6E-06	7.4E-06	1.0E-06	4.8E-07	1.5E-06	
Benzo(a)pyrene		9.3E+00	3.3E-07	1.8E-07	5.1E-07	1.5E-05	8.3E-06	2.3E-05	3.3E-06	1.5E-06	4.8E-06	
Indeno(1,2,3-cd)pyrene		7.7E+00	2.7E-08	1.5E-08	4.2E-08	1.2E-05	6.8E-06	1.9E-05	2.7E-06	1.3E-06	4.0E-06	
Dibenzo(a,h)anthracene		7.7E+00	2.7E-07	1.5E-07	4.2E-07	1.2E-05	6.8E-06	1.9E-05	2.7E-06	1.3E-06	4.0E-06	
Benzo(g,h,i)perylene		2.6E+00				4.3E-06	1.2E-05	1.6E-05	9.3E-07	2.2E-06	3.1E-06	
POLYCHLORINATED BIPHENYLS (PCBs)		3.5E-01	1.1E-08	9.4E-09	2.1E-08	2.9E-03	2.3E-03	5.2E-03	2.5E-03	1.7E-03	4.2E-03	
AROMATICS	C11 to C22 TPH	4.8E+02				7.8E-04	2.1E-03	2.9E-03	1.7E-04	3.9E-04	5.6E-04	
Barium		2.9E+02				2.3E-04	1.9E-04	4.2E-04	1.5E-03	1.0E-03	2.5E-03	
CHROMIUM(VI)		3.1E+02				1.7E-02	1.4E-02	3.1E-02	5.5E-03	3.8E-03	9.3E-03	**Note! Cr(VI) limit is 200 mg/kg due to contact dermititis.**
Lead		6.8E+01				7.4E-03	7.3E-04	8.1E-03	1.6E-02	1.3E-03	1.7E-02	
Nickel		2.8E+02				2.3E-03	3.7E-03	6.0E-03	5.0E-03	6.9E-03	1.2E-02	

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Trespasser - Soil: Table TS-2
Equations to Calculate Cancer Risk for a Trespasser (Age 11-18 years)

Vlookup Version v1012

Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing} * CSF$$

$$LADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{c\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF$$

$$LADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{c\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP_{lifetime}}$$

Parameter	Value	Units
CSF	OHM specific	$(mg/kg\text{-}day)^{-1}$
LADD	age/OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	50	mg/day
$RAF_{c\text{-}ing}$	OHM specific	dimensionless
$RAF_{c\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.164	event/day
ED	1	day/event
EP	7	years
C	0.000001	kg/mg
BW	50.7	kg
$AP_{(lifetime)}$	70	years
SA	2940	cm^2 / day
SAF	0.14	mg/cm^2

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Trespasser - Soil: Table TS-3

Equations to Calculate Chronic Noncancer Risk for a Trespasser (Age 11-18 years)

Vlookup Version v1012

Chronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Chronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{ing,derm}}{RfD}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	50	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.164	event/day
ED	1	day/event
EP	7	years
C	0.000001	kg/mg
BW	50.7	kg
AP	7	year
SA	2940	cm^2 / day
SAF	0.14	mg/cm^2

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Trespasser - Soil: Table TS-4

Equations to Calculate Subchronic Noncancer Risk for a Trespasser (Age 11-12 years)

Vlookup Version v1012

Subchronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{subchronic}}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Subchronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{subchronic}}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	50	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.286	event/day
ED	1	day/event
EP	0.577	years
C	0.000001	kg/mg
BW	40.3	kg
AP	0.577	year
SA	2477	cm^2 / day
SAF	0.14	mg/cm^2

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Trespasser - Soil: Table TS-5
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table RS-7
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
HQ - Hazard Quotient	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
RfD - Reference Dose	chemical specific	mg/kg-day	see Table RS-7
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
EPC - Exposure Point Concentration	chemical specific	mg/kg	
IR - Soil Ingestion Rate	50	mg/day	MADEP. 2002. Technical Update: Calculation of an Enhanced Soil Ingestion Rate. (http://www.mass.gov/dep/ors/orspubs.htm)
RAF_c - Relative Absorption Factor for Cancer Effects	chemical specific	dimensionless	
$EF_{subchronic}$ - Exposure Frequency for subchronic ingestion or dermal exposure	0.286	event/day	2 days/week
$EF_{chronic}$ - Exposure Frequency for chronic ingestion or dermal exposure	0.164	event/day	2 days/week, 30 weeks/year
EF_{cancer} - Exposure Frequency for cancer, ingestion or dermal exposure	0.164	event/day	2 days/week, 30 weeks/year
ED - Exposure Duration	1	day/event	
$EP_{(11\text{-}12)}$ - Exposure Period for age group 11-12	0.577	years	30 weeks
$EP_{(11\text{-}18)}$ - Exposure Period for age group 11-18	7	years	
$BW_{(11\text{-}12)}$ - Body Weight for age group 11-12	40.3	kg	U.S. EPA. 1997. Exposure Factors Handbook. Table 7-7
$BW_{(11\text{-}18)}$ - Body Weight for age group 11-18	50.7	kg	Ibid
$AP_{subchronic}$ - Averaging Period for subchronic noncancer	0.577	years	30 weeks
$AP_{chronic}$ - Averaging Period for chronic noncancer	7	years	
AP_{cancer} - Averaging Period for lifetime	70	years	
$SA_{(11\text{-}12)}$ - Surface Area for age group 11-12	2477	cm^2 / day	50th percentile of forearms, hands, and feet for females. MADEP 1995 Guidance for Disposal Site Risk Characterization, Table B-2.
$SA_{(11\text{-}18)}$ - Surface Area for age group 11-18	2940	cm^2 / day	Ibid
SAF - Surface Adherence Factor, Trespasser	0.14	mg/cm^2	SAF developed for ShortForm according to procedure outlined in MA DEP Technical Update: Weighted Skin-Soil Adherence Factors, April 2002.

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Trespasser - Soil: Table TS-6
Chemical-Specific Data

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Oil or Hazardous Material	CSF $(mg/kg\text{-}day)^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	Chronic RfD mg/kg-day	Subchronic RfD mg/kg-day	Chronic $RAF_{nc\text{-}ing}$	Chronic $RAF_{nc\text{-}derm}$	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$
Bromomethane				1.4E-03	5.0E-03	1	0.03	1	0.03
zzTrichlorofluoromethane				3.0E-01	3.0E-01	1	0.03	1	0.03
Acetone				9.0E-01	2.7E+00	1	0.03	1	0.03
zzCarbon disulfide				1.0E-01	1.0E-01	1	0.03	1	0.03
DICHLOROMETHANE	2.0E-03	1.00	0.03	6.0E-03	6.0E-03	1	0.03	1	0.03
METHYL ETHYL KETON				6.0E-01	6.0E-01	1	0.03	1	0.03
DICHLOROETHYLENE,				2.0E-03	2.0E-02	1	0.03	1	0.03
TRICHLOROETHYLENE	5.0E-02	1.00	0.03	5.0E-04	5.0E-04	1	0.03	1	0.03
METHYL ISOBUTYL KE				8.0E-02	8.0E-01	1	0.03	1	0.03
Toluene				8.0E-02	8.0E-01	1	0.03	1	0.03
zz2-Hexanone				5.0E-03	5.0E-03	1	0.03	1	0.03
TETRACHLOROETHYLI	6.0E-02	1.00	0.03	6.0E-03	6.0E-03	1	0.03	1	0.03
Styrene	3.0E-02	1.00	0.03	2.0E-01	2.0E+00	1	0.03	1	0.03
ALIPHATICS C9 to (				1.0E-01	1.0E+00	1	0.2	1	0.2
ALIPHATICS C19 to				2.0E+00	6.0E+00	1	0.2	1	0.2
AROMATICS C11 to				3.0E-02	3.0E-01	0.3	0.1	0.3	0.1
Naphthalene				2.0E-02	2.0E-01	0.3	0.1	0.3	0.1
Methylnaphthalene, 2-				4.0E-03	4.0E-03	0.3	0.1	0.3	0.1
Acenaphthene				6.0E-02	2.0E-01	0.3	0.1	0.3	0.1
Fluorene				4.0E-02	4.0E-01	0.3	0.1	0.3	0.1
Phenanthrene				3.0E-02	3.0E-01	0.3	0.1	0.3	0.1
Anthracene				3.0E-01	1.0E+00	0.3	0.1	0.3	0.1
Fluoranthene				4.0E-02	4.0E-01	0.3	0.1	0.3	0.1
Pyrene				3.0E-02	3.0E-01	0.3	0.1	0.3	0.1
Benzo(a)anthracene	7.3E-01	0.30	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Chrysene	7.3E-02	0.30	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Benzo(b)fluoranthene	7.3E-01	0.30	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Benzo(k)fluoranthene	7.3E-02	0.30	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Benzo(a)pyrene	7.3E+00	0.30	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Indeno(1,2,3-cd)pyrene	7.3E-01	0.30	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Dibenzo(a,h)anthracene	7.3E+00	0.30	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Benzo(g,h,i)perylene				3.0E-02	3.0E-01	0.3	0.1	0.3	0.1
POLYCHLORINATED BI	2.0E+00	1.00	0.10	2.0E-05	5.0E-05	1	0.1	1	0.1
AROMATICS C11 to				3.0E-02	3.0E-01	0.3	0.1	0.3	0.1
Barium				2.0E-01	7.0E-02	1	0.1	1	0.1
CHROMIUM(VI)				3.0E-03	2.0E-02	1	0.1	1	0.1
Lead				7.5E-04	7.5E-04	0.5	0.006	0.5	0.006
Nickel				2.0E-02	2.0E-02	1	0.2	1	0.2

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Trespasser - Soil: Table TS-7
Cyanide Calculations

The acute concentration of *available* cyanide in soil is the level *at or below which* adverse human health effects would not be expected following an acute exposure.

The soil concentration limit to protect tresspassers against adverse effects from an acute (one-time) exposure to cyanide is 5000 mg

Concentration Calculation for Cyanide

$$\text{Concentration} = \frac{\text{HQ x Acute Dose Limit x BW}}{\text{IR x RAF x Conversion Factor}}$$

Parameter	Value	Units
HQ (Hazard Quotient)	1	(unitless)
Acute Dose Limit	0.01	mg CN/ kg BW
BW (Body Weight) 11-12	40.3	kg
IR (1-time reasonable max)	50	mg
Conversion Factor	1.0E-06	kg soil / mg soil

The toxicological basis for estimating an allowable one-time is documented in MassDEP's 1992 *Background Documentation for the Development of an "Available Cyanide" Benchmark Concentration,* which is published at: http://www.mass.gov/dep/toxics/cn_soil.htm.

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Park Visitor - Soil: Table PS-1 (0-3' bgs)
Exposure Point Concentration (EPC)
Based on Visitor Ages 1-31 (Cancer), 1-8 (Chronic Noncancer), and 1-2 (Subchronic Noncancer)

ShortForm Version 10-12

Vlookup Version v1012

ELCR (all chemicals) = 2E-05

Chronic HI (all chemicals) = 2E+00

Subchronic HI (all chemicals) = 6E+00

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Oil or Hazardous Material		EPC (mg/kg)	$ELCR_{ingestion}$	$ELCR_{dermal}$	$ELCR_{total}$	Chronic HQ_{ing}	Chronic HQ_{derm}	Chronic HQ_{total}	Subchronic HQ_{ing}	Subchronic HQ_{derm}	Subchronic HQ_{total}	
Bromomethane		1.9E-01				1.9E-04	5.0E-05	2.4E-04	1.5E-04	2.6E-05	1.8E-04	
zzTrichlorofluoromethane		5.3E-03				2.6E-08	6.6E-09	3.2E-08	7.1E-08	1.2E-08	8.3E-08	
Acetone		3.7E-01				6.0E-07	1.5E-07	7.5E-07	5.5E-07	9.7E-08	6.5E-07	
zzCarbon disulfide		2.6E-03				3.8E-08	9.6E-09	4.7E-08	1.0E-07	1.8E-08	1.2E-07	
DICHLOROMETHANE		3.3E-01	1.5E-10	4.6E-11	1.9E-10	8.0E-05	2.0E-05	1.0E-04	2.2E-04	3.9E-05	2.6E-04	
METHYL ETHYL KETONE		4.2E-02				1.0E-07	2.6E-08	1.3E-07	2.8E-07	4.9E-08	3.3E-07	
DICHLOROETHYLENE, CIS-1,2-		3.3E-01				2.4E-04	6.2E-05	3.0E-04	6.7E-05	1.2E-05	7.8E-05	
TRICHLOROETHYLENE		5.3E+02	5.9E-06	1.8E-06	7.8E-06	1.5E+00	3.9E-01	1.9E+00	4.2E+00	7.4E-01	5.0E+00	
METHYL ISOBUTYL KETONE		1.0E-03				1.8E-08	4.6E-09	2.3E-08	5.0E-09	8.8E-10	5.9E-09	
Toluene		9.3E-03				1.7E-07	4.3E-08	2.1E-07	4.7E-08	8.2E-09	5.5E-08	
zz2-Hexanone		3.1E-03				9.0E-07	2.3E-07	1.1E-06	2.5E-06	4.3E-07	2.9E-06	
TETRACHLOROETHYLENE		4.1E-01	5.6E-09	1.7E-09	7.3E-09	1.0E-04	2.6E-05	1.3E-04	2.8E-04	4.8E-05	3.2E-04	**Note! PCE CSF is under review.**
Styrene		8.0E-04	5.4E-12	1.7E-12	7.1E-12	5.8E-09	1.5E-09	7.3E-09	1.6E-09	2.8E-10	1.9E-09	
ALIPHATICS	C9 to C18	4.5E+00				6.6E-05	1.1E-04	1.8E-04	1.8E-05	2.1E-05	3.9E-05	
ALIPHATICS	C19 to C36	3.5E+02				2.6E-04	4.4E-04	7.0E-04	2.4E-04	2.8E-04	5.1E-04	
AROMATICS	C11 to C22	1.5E+02				2.1E-03	6.1E-03	8.2E-03	5.9E-04	1.1E-03	1.7E-03	
Naphthalene		2.3E-01				5.0E-06	1.4E-05	1.9E-05	1.4E-06	2.7E-06	4.0E-06	
Methylnaphthalene, 2-		2.7E-01				3.0E-05	8.4E-05	1.1E-04	8.2E-05	1.6E-04	2.4E-04	
Acenaphthene		6.5E-01				4.7E-06	1.3E-05	1.8E-05	3.9E-06	7.6E-06	1.2E-05	
Fluorene		6.4E-01				7.0E-06	2.0E-05	2.7E-05	1.9E-06	3.7E-06	5.7E-06	
Phenanthrene		7.1E+00				1.0E-04	2.9E-04	3.9E-04	2.8E-05	5.5E-05	8.3E-05	
Anthracene		1.5E+00				2.2E-06	6.2E-06	8.4E-06	1.8E-06	3.5E-06	5.3E-06	
Fluoranthene		9.6E+00				1.0E-04	3.0E-04	4.0E-04	2.9E-05	5.6E-05	8.5E-05	
Pyrene		9.1E+00				1.3E-04	3.7E-04	5.0E-04	3.6E-05	7.1E-05	1.1E-04	
Benzo(a)anthracene		9.5E+00	4.7E-07	3.2E-07	7.9E-07	1.4E-04	7.9E-05	2.2E-04	3.8E-05	1.5E-05	5.3E-05	
Chrysene		4.5E+00	2.2E-08	1.5E-08	3.8E-08	6.6E-05	3.7E-05	1.0E-04	1.8E-05	7.1E-06	2.5E-05	
Benzo(b)fluoranthene		1.0E+01	5.0E-07	3.5E-07	8.5E-07	1.5E-04	8.5E-05	2.3E-04	4.1E-05	1.6E-05	5.7E-05	
Benzo(k)fluoranthene		2.3E+00	1.1E-08	7.8E-09	1.9E-08	3.3E-05	1.9E-05	5.2E-05	9.2E-06	3.6E-06	1.3E-05	
Benzo(a)pyrene		5.6E+00	2.8E-06	1.9E-06	4.7E-06	8.1E-05	4.6E-05	1.3E-04	2.2E-05	8.7E-06	3.1E-05	
Indeno(1,2,3-cd)pyrene		2.9E+00	1.4E-07	9.9E-08	2.4E-07	4.2E-05	2.4E-05	6.6E-05	1.2E-05	4.5E-06	1.6E-05	
Dibenzo(a,h)anthracene		3.5E+00	1.7E-06	1.2E-06	2.9E-06	5.0E-05	2.8E-05	7.9E-05	1.4E-05	5.4E-06	1.9E-05	
Benzo(g,h,i)perylene		2.2E+00				3.1E-05	8.9E-05	1.2E-04	8.7E-06	1.7E-05	2.6E-05	
POLYCHLORINATED BIPHENYLS (PCBs)		2.6E-01	1.2E-07	1.2E-07	2.4E-07	1.9E-02	1.6E-02	3.5E-02	2.1E-02	1.2E-02	3.3E-02	
AROMATICS	C11 to C22 TPH	3.0E+02				4.3E-03	1.2E-02	1.7E-02	1.2E-03	2.3E-03	3.5E-03	
Barium		2.5E+02				1.8E-03	1.5E-03	3.3E-03	1.4E-02	8.2E-03	2.2E-02	
CHROMIUM(VI)		1.2E+02				5.9E-02	5.0E-02	1.1E-01	2.4E-02	1.4E-02	3.9E-02	**Note! Cr(VI) limit is 200 mg/kg due to contact dermit**
Lead		7.1E+01				6.9E-02	7.0E-03	7.6E-02	1.9E-01	1.3E-02	2.0E-01	
Nickel		5.5E+02				4.0E-02	6.8E-02	1.1E-01	1.1E-01	1.3E-01	2.4E-01	

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Park Visitor - Soil: Table PS-2

Equations to Calculate Cancer Risk for Visitor (Age 1-31 years)

Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing(1\text{-}31)} * CSF$$

$$LADD_{ing\ (1\text{-}31)} = LADD_{ing\ (1\text{-}8)} + LADD_{ing\ (8\text{-}15)} + LADD_{ing\ (15\text{-}31)}$$

$$LADD_{ing\ (age\ group\ x)} = \frac{[OHM]_{soil} * IR_x * RAF_{c\text{-}ing} * EF_{ing} * ED * EP_x * C}{BW_x * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF$$

$$LADD_{derm\ (1\text{-}31)} = LADD_{derm\ (1\text{-}8)} + LADD_{derm\ (8\text{-}15)} + LADD_{derm\ (15\text{-}31)}$$

$$LADD_{derm(age\ group\ x)} = \frac{[OHM]_{soil} * SA_x * RAF_{c\text{-}derm} * SAF_x * EF_{derm} * ED * EP_x * C}{BW_x * AP_{lifetime}}$$

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Parameter	Value	Units
CSF	OHM specific	$(mg/kg\text{-}day)^{-1}$
LADD	age/OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
$IR_{(1\text{-}8)}$	100	mg/day
$IR_{(8\text{-}15)}$	50	mg/day
$IR_{(15\text{-}31)}$	50	mg/day
$RAF_{c\text{-}ing}$	OHM specific	dimensionless
$RAF_{c\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.247	event/day
ED	1	day/event
$EP_{(1\text{-}8)}$	7	years
$EP_{(8\text{-}15)}$	7	years
$EP_{(15\text{-}31)}$	16	years
C	0.000001	kg/mg
$BW_{(1\text{-}8)}$	17.0	kg
$BW_{(8\text{-}15)}$	39.9	kg
$BW_{(15\text{-}31)}$	58.7	kg
$AP_{(lifetime)}$	70	years
$SA_{(1\text{-}8)}$	2431	cm^2/day
$SA_{(8\text{-}15)}$	4427	cm^2/day
$SA_{(15\text{-}31)}$	5653	cm^2/day
$SAF_{(1\text{-}8)}$	0.35	mg/cm^2
$SAF_{(8\text{-}15)}$	0.14	mg/cm^2
$SAF_{(15\text{-}31)}$	0.13	mg/cm^2

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Park Visitor - Soil: Table PS-3
Equations to Calculate Chronic Noncancer Risk for Visitor (Age 1-8 years)

Vlookup Version v1012

Chronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Chronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{ing,derm}}{RfD}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	100	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.247	event/day
ED	1	day/event
EP	7	years
C	0.000001	kg/mg
BW	17.0	kg
AP	7	year
SA	2431	cm^2/day
SAF	0.35	mg/cm^2

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Park Visitor - Soil: Table PS-4
Equations to Calculate Subchronic Noncancer Risk for Visitor (Age 1-2 years)

Vlookup Version v1012

Subchronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{subchronic}}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Subchronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{subchronic}}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	100	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.428	event/day
ED	1	day/event
EP	0.577	years
C	0.000001	kg/mg
BW	10.7	kg
AP	0.577	year
SA	1670	cm^2/day
SAF	0.35	mg/cm^2

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Park Visitor - Soil: Table PS-5
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table PS-6
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
HQ - Hazard Quotient	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal)
RfD - Reference Dose	chemical specific	mg/kg-day	see Table PS-6
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
EPC - Exposure Point Concentration	chemical specific	mg/kg	
$IR_{(1-2)}$ - Soil Ingestion Rate for age group 1-2	100	mg/day	MADEP. 1995. Guidance for Disposal Site Risk Characterization. Appendix Table B-3.
$IR_{(1-8)}$ - Soil Ingestion Rate for age group 1-8	100	mg/day	Ibid
$IR_{(8-15)}$ - Soil Ingestion Rate for age group 8-15	50	mg/day	Ibid
$IR_{(15-31)}$ - Soil Ingestion Rate for age group 15-31	50	mg/day	Ibid
RAF_c - Relative Absorption Factor for Cancer Effects	chemical specific	dimensionless	Adjusts estimated dose to conform to the revelant CSF. See Table PS-6
RAF_{NC} - Relative Absorption Factor for non-Cancer Effects	chemical specific	dimensionless	Adjusts estimated dose to conform to the revelant RfD. See Table PS-6
$EF_{subchronic}$ - Exposure Frequency for subchronic exposure	0.428	event/day	3 events/week
$EF_{chronic,lifetime}$ - Exposure Frequency for chronic or lifetime exposure	0.247	event/day	3 events/week, 30 weeks/year
ED - Exposure Duration	1	day/event	
$EP_{(1-2)}$ - Exposure Period for age group 1-2	0.577	years	30 weeks
$EP_{(1-8)}$ - Exposure Period for age group 1-8	7	years	
$EP_{(8-15)}$ - Exposure Period for age group 8-15	7	years	
$EP_{(15-31)}$ - Exposure Period for age group 15-31	16	years	
$BW_{(1-2)}$ - Body Weight for age group 1-2, subchronic	10.7	kg	U.S. EPA. 1997. Exposure Factors Handbook. Table 7-7, females.
$BW_{(1-8)}$ - Body Weight for age group 1-8	17.0	kg	Ibid
$BW_{(8-15)}$ - Body Weight for age group 8-15	39.9	kg	Ibid
$BW_{(15-31)}$ - Body Weight for age group 15-31	58.7	kg	Ibid
$AP_{subchronic}$ - Averaging Period for subchronic noncancer	0.577	years	30 weeks
$AP_{chronic}$ - Averaging Period for chronic noncancer	7	years	
$AP_{lifetime}$ - Averaging Period for cancer/lifetime	70	years	
$SA_{(1-2)}$ - Surface Area for age group 1-2	1670	cm^2/day	50th percentile of face (1/3 head), forearms, hands, lower legs, and feet for females. MADEP 1995 Guidance for Disposal Site Risk Characterization, Appendix Table B-2.
$SA_{(1-8)}$ - Surface Area for age group 1-8	2431	cm^2 / day	Ibid
$SA_{(8-15)}$ - Surface Area for age group 8-15	4427	cm^2 / day	Ibid
$SA_{(15-31)}$ - Surface Area for age group 15-31	5653	cm^2 / day	Ibid
$SAF_{(1-2)}$ - Surface Adherence Factor for age group 1-2	0.35	mg_{soil} / cm^2	All SAFs developed for ShortForm according to procedure outlined in MADEP Technical
$SAF_{(1-8)}$ - Surface Adherence Factor for age group 1-8	0.35	mg_{soil} / cm^2	Update: Weighted Skin-Soil Adherence Factors, April 2002
$SAF_{(8-15)}$ - Surface Adherence Factor for age group 8-15	0.14	mg_{soil} / cm^2	
$SAF_{(15-31)}$ - Surface Adherence Factor for age group 15-31	0.13	mg_{soil} / cm^2	

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Park Visitor - Soil: Table PS-6
Chemical-Specific Data

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Oil or Hazardous Material	CSF (mg/kg-day)$^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	Chronic RfD mg/kg-day	Subchronic RfD mg/kg-day	Chronic $RAF_{nc\text{-}ing}$	Chronic $RAF_{nc\text{-}derm}$	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$
Bromomethane				1.4E-03	5.0E-03	1	0.03	1	0.03
zzTrichlorofluoromethane				3.0E-01	3.0E-01	1	0.03	1	0.03
Acetone				9.0E-01	2.7E+00	1	0.03	1	0.03
zzCarbon disulfide				1.0E-01	1.0E-01	1	0.03	1	0.03
DICHLOROMETHANE	2.0E-03	1	0.03	6.0E-03	6.0E-03	1	0.03	1	0.03
METHYL ETHYL KETON				6.0E-01	6.0E-01	1	0.03	1	0.03
DICHLOROETHYLENE,				2.0E-03	2.0E-02	1	0.03	1	0.03
TRICHLOROETHYLENE	5.0E-02	1	0.03	5.0E-04	5.0E-04	1	0.03	1	0.03
METHYL ISOBUTYL KE				8.0E-02	8.0E-01	1	0.03	1	0.03
Toluene				8.0E-02	8.0E-01	1	0.03	1	0.03
zz2-Hexanone				5.0E-03	5.0E-03	1	0.03	1	0.03
TETRACHLOROETHYL	6.0E-02	1	0.03	6.0E-03	6.0E-03	1	0.03	1	0.03
Styrene	3.0E-02	1	0.03	2.0E-01	2.0E+00	1	0.03	1	0.03
ALIPHATICS C9 to				1.0E-01	1.0E+00	1	0.2	1	0.2
ALIPHATICS C19 to				2.0E+00	6.0E+00	1	0.2	1	0.2
AROMATICS C11 to				3.0E-02	3.0E-01	0.3	0.1	0.3	0.1
Naphthalene				2.0E-02	2.0E-01	0.3	0.1	0.3	0.1
Methylnaphthalene, 2-				4.0E-03	4.0E-03	0.3	0.1	0.3	0.1
Acenaphthene				6.0E-02	2.0E-01	0.3	0.1	0.3	0.1
Fluorene				4.0E-02	4.0E-01	0.3	0.1	0.3	0.1
Phenanthrene				3.0E-02	3.0E-01	0.3	0.1	0.3	0.1
Anthracene				3.0E-01	1.0E+00	0.3	0.1	0.3	0.1
Fluoranthene				4.0E-02	4.0E-01	0.3	0.1	0.3	0.1
Pyrene				3.0E-02	3.0E-01	0.3	0.1	0.3	0.1
Benzo(a)anthracene	7.3E-01	0.3	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Chrysene	7.3E-02	0.3	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Benzo(b)fluoranthene	7.3E-01	0.3	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Benzo(k)fluoranthene	7.3E-02	0.3	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Benzo(a)pyrene	7.3E+00	0.3	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Indeno(1,2,3-cd)pyrene	7.3E-01	0.3	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Dibenzo(a,h)anthracene	7.3E+00	0.3	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Benzo(g,h,i)perylene				3.0E-02	3.0E-01	0.3	0.1	0.3	0.1
POLYCHLORINATED BI	2.0E+00	1	0.1	2.0E-05	5.0E-05	1	0.1	1	0.1
AROMATICS C11 to				3.0E-02	3.0E-01	0.3	0.1	0.3	0.1
Barium				2.0E-01	7.0E-02	1	0.1	1	0.1
CHROMIUM(VI)				3.0E-03	2.0E-02	1	0.1	1	0.1
Lead				7.5E-04	7.5E-04	0.5	0.006	0.5	0.006
Nickel				2.0E-02	2.0E-02	1	0.2	1	0.2

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Park Visitor - Soil: Table PS-7
Cyanide Calculations

The acute concentration of *available* cyanide in soil is the level *at or below which* adverse human health effects would not be expected following an acute exposure. The concentration is based on a potential one-time ingestion of 1000 mg/kg contaminated soil by child residents.

The soil concentration limit to protect park visitors against adverse effects from an acute (one-time) exposure to cyanide is 100 mg/kg.

Concentration Calculation for Cyanide

$$\text{Concentration} = \frac{\text{HQ x Acute Dose Limit x BW}}{\text{IR x RAF x Conversion Factor}}$$

Parameter	Value	Units
HQ (Hazard Quotient)	1	(unitless)
Acute Dose Limit	0.01	mg CN/ kg BW
BW (Body Weight) 1-2	10.7	kg
IR (1-time reasonable max)	1000	mg
Conversion Factor	1.0E-06	kg soil / mg soil

The toxicological basis for estimating an allowable one-time is documented in MassDEP's 1992 *Background Documentation for the Development of an "Available Cyanide" Benchmark Concentration,* which is published at: http://www.mass.gov/dep/toxics/cn_soil.htm.

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Resident - Soil: Table RS-1 (0-3' bgs)
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer), 1-8 (Chronic Noncancer), and 1-2 (Subchronic Noncancer)

ShortForm Version 10-12
Vlookup Version v1012

ELCR (all chemicals) = 3E-05
Chronic HI (all chemicals) = 4E+00
Subchronic HI (all chemicals) = 9E+00

Do not insert or delete any rows
Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material		EPC (mg/kg)	$ELCR_{ingestion}$	$ELCR_{dermal}$	Derm & Ing $ELCR_{total}$	Chronic HQ_{ing}	Chronic HQ_{derm}	Derm & Ing HQ_{total}	Subchronic HQ_{ing}	Subchronic HQ_{derm}	Derm & Ing HQ_{total}	
Bromomethane		1.9E-01				3.2E-04	8.3E-05	4.1E-04	2.5E-04	4.4E-05	2.9E-04	
zzTrichlorofluoromethane		5.3E-03				4.3E-08	1.1E-08	5.4E-08	1.2E-07	2.1E-08	1.4E-07	
Acetone		3.7E-01				1.0E-06	2.6E-07	1.3E-06	9.2E-07	1.6E-07	1.1E-06	
zzCarbon disulfide		2.6E-03				6.3E-08	1.6E-08	7.9E-08	1.7E-07	3.0E-08	2.0E-07	
DICHLOROMETHANE		3.3E-01	2.5E-10	7.7E-11	3.2E-10	1.3E-04	3.4E-05	1.7E-04	3.7E-04	6.4E-05	4.3E-04	
METHYL ETHYL KETONE		4.2E-02				1.7E-07	4.3E-08	2.1E-07	4.7E-07	8.2E-08	5.5E-07	
DICHLOROETHYLENE, CIS-1,2-		3.3E-01				4.0E-04	1.0E-04	5.1E-04	1.1E-04	2.0E-05	1.3E-04	
TRICHLOROETHYLENE		5.3E+02	9.9E-06	3.1E-06	1.3E-05	2.6E+00	6.6E-01	3.2E+00	7.1E+00	1.2E+00	8.3E+00	
METHYL ISOBUTYL KETONE		1.0E-03				3.0E-08	7.7E-09	3.8E-08	8.3E-09	1.5E-09	9.8E-09	
Toluene		9.3E-03				2.8E-07	7.2E-08	3.5E-07	7.8E-08	1.4E-08	9.1E-08	
zz2-Hexanone		3.1E-03				1.5E-06	3.8E-07	1.9E-06	4.1E-06	7.3E-07	4.9E-06	
TETRACHLOROETHYLENE		4.1E-01	9.3E-09	2.9E-09	1.2E-08	1.7E-04	4.3E-05	2.1E-04	4.6E-04	8.1E-05	5.4E-04	Note! PCE CSF is under review.
Styrene		8.0E-04	9.0E-12	2.8E-12	1.2E-11	9.7E-09	2.5E-09	1.2E-08	2.7E-09	4.7E-10	3.1E-09	
ALIPHATICS	C9 to C18	4.5E+00				1.1E-04	1.9E-04	3.0E-04	3.0E-05	3.5E-05	6.5E-05	
ALIPHATICS	C19 to C36	3.5E+02				4.3E-04	7.3E-04	1.2E-03	3.9E-04	4.6E-04	8.6E-04	
AROMATICS	C11 to C22	1.5E+02				3.6E-03	1.0E-02	1.4E-02	9.8E-04	1.9E-03	2.9E-03	
Naphthalene		2.3E-01				8.3E-06	2.4E-05	3.2E-05	2.3E-06	4.4E-06	6.7E-06	
Methylnaphthalene, 2-		2.7E-01				5.0E-05	1.4E-04	1.9E-04	1.4E-04	2.7E-04	4.0E-04	
Acenaphthene		6.5E-01				7.9E-06	2.2E-05	3.0E-05	6.5E-06	1.3E-05	1.9E-05	
Fluorene		6.4E-01				1.2E-05	3.3E-05	4.5E-05	3.2E-06	6.3E-06	9.5E-06	
Phenanthrene		7.1E+00				1.7E-04	4.9E-04	6.6E-04	4.7E-05	9.2E-05	1.4E-04	
Anthracene		1.5E+00				3.6E-06	1.0E-05	1.4E-05	3.0E-06	5.9E-06	8.9E-06	
Fluoranthene		9.6E+00				1.7E-04	4.9E-04	6.7E-04	4.8E-05	9.4E-05	1.4E-04	
Pyrene		9.1E+00				2.2E-04	6.2E-04	8.4E-04	6.0E-05	1.2E-04	1.8E-04	
Benzo(a)anthracene		9.5E+00	7.8E-07	5.4E-07	1.3E-06	2.3E-04	1.3E-04	3.6E-04	6.4E-05	2.5E-05	8.9E-05	
Chrysene		4.5E+00	3.7E-08	2.6E-08	6.3E-08	1.1E-04	6.2E-05	1.7E-04	3.0E-05	1.2E-05	4.2E-05	
Benzo(b)fluoranthene		1.0E+01	8.4E-07	5.8E-07	1.4E-06	2.5E-04	1.4E-04	3.9E-04	6.9E-05	2.7E-05	9.5E-05	
Benzo(k)fluoranthene		2.3E+00	1.9E-08	1.3E-08	3.2E-08	5.5E-05	3.1E-05	8.7E-05	1.5E-05	6.0E-06	2.1E-05	
Benzo(a)pyrene		5.6E+00	4.6E-06	3.2E-06	7.8E-06	1.4E-04	7.7E-05	2.1E-04	3.7E-05	1.5E-05	5.2E-05	
Indeno(1,2,3-cd)pyrene		2.9E+00	2.4E-07	1.6E-07	4.0E-07	7.0E-05	4.0E-05	1.1E-04	1.9E-05	7.5E-06	2.7E-05	
Dibenzo(a,h)anthracene		3.5E+00	2.8E-06	2.0E-06	4.8E-06	8.4E-05	4.7E-05	1.3E-04	2.3E-05	9.0E-06	3.2E-05	
Benzo(g,h,i)perylene		2.2E+00				5.2E-05	1.5E-04	2.0E-04	1.4E-05	2.8E-05	4.3E-05	
POLYCHLORINATED BIPHENYLS (PCBs)		2.6E-01	2.0E-07	2.0E-07	4.0E-07	3.2E-02	2.7E-02	5.9E-02	3.5E-02	2.0E-02	5.5E-02	
AROMATICS	C11 to C22 TPH	3.0E+02				7.2E-03	2.0E-02	2.8E-02	2.0E-03	3.9E-03	5.8E-03	
Barium		2.5E+02				3.0E-03	2.5E-03	5.5E-03	2.3E-02	1.4E-02	3.7E-02	
CHROMIUM(VI)		1.2E+02				9.8E-02	8.4E-02	1.8E-01	4.1E-02	2.4E-02	6.4E-02	Note! Cr(VI) limit is 200 mg/kg due to contac
Lead		7.1E+01				1.1E-01	1.2E-02	1.3E-01	3.2E-01	2.2E-02	3.4E-01	
Nickel		5.5E+02				6.7E-02	1.1E-01	1.8E-01	1.8E-01	2.1E-01	4.0E-01	

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Resident - Soil: Table RS-2
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer), 1-8 (Chronic Noncancer), and 1-2 (Subchronic Noncancer)

*Vegetable uptake is informational only and NOT included in totals on EPC tab.

Do not insert or delete any rows

Click on empty cell below and select OHM using arrow.

ELCR (all chemicals) = 9E-05
Chronic HI (all chemicals) = 2E+01
Subchronic HI (all chemicals) = 2E+01

Oil or Hazardous Material	EPC (mg/kg)	Chronic		Subchronic
		$ELCR_{vegetable*}$	$HQ_{vegetable*}$	$HQ_{vegetable*}$
Bromomethane	1.9E-01			
zzTrichlorofluoromethane	5.3E-03			
Acetone	3.7E-01			
zzCarbon disulfide	2.6E-03			
DICHLOROMETHANE	3.3E-01			
METHYL ETHYL KETONE	4.2E-02			
DICHLOROETHYLENE, CIS-1,2-	3.3E-01			
TRICHLOROETHYLENE	5.3E+02			
METHYL ISOBUTYL KETONE	1.0E-03			
Toluene	9.3E-03			
zz2-Hexanone	3.1E-03			
TETRACHLOROETHYLENE	4.1E-01			
Styrene	8.0E-04			
ALIPHATICS C9 to C18	4.5E+00			
ALIPHATICS C19 to C36	3.5E+02			
AROMATICS C11 to C22	1.5E+02			
Naphthalene	2.3E-01			
Methylnaphthalene, 2-	2.7E-01			
Acenaphthene	6.5E-01			
Fluorene	6.4E-01			
Phenanthrene	7.1E+00			
Anthracene	1.5E+00			
Fluoranthene	9.6E+00			
Pyrene	9.1E+00			
Benzo(a)anthracene	9.5E+00			
Chrysene	4.5E+00			
Benzo(b)fluoranthene	1.0E+01			
Benzo(k)fluoranthene	2.3E+00			
Benzo(a)pyrene	5.6E+00			
Indeno(1,2,3-cd)pyrene	2.9E+00			
Dibenzo(a,h)anthracene	3.5E+00			
Benzo(g,h,i)perylene	2.2E+00			
POLYCHLORINATED BIPHENYLS (PCBs)	2.6E-01	9.3E-05	7.8E+00	4.5E+00
AROMATICS C11 to C TPH	3.0E+02			
Barium	2.5E+02			
CHROMIUM(VI)	1.2E+02		2.7E+00	5.9E-01
Lead	7.1E+01		5.1E+00	7.2E+00
Nickel	5.5E+02		7.4E+00	1.1E+01

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Resident - Soil: Table RS-3

Equations to Calculate Cancer Risk for Resident (Age 1-31 years)

Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing(1\text{-}31)} * CSF$$

$$LADD_{ing\ (1\text{-}31)} = LADD_{ing\ (1\text{-}8)} + LADD_{ing\ (8\text{-}15)} + LADD_{ing\ (15\text{-}31)}$$

$$LADD_{ing\ (age\ group\ x)} = \frac{[OHM]_{soil} * IR_x * RAF_{c\text{-}ing} * EF_{ing} * ED * EP_x * C}{BW_x * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF$$

$$LADD_{derm\ (1\text{-}31)} = LADD_{derm\ (1\text{-}8)} + LADD_{derm\ (8\text{-}15)} + LADD_{derm\ (15\text{-}31)}$$

$$LADD_{derm(age\ group\ x)} = \frac{[OHM]_{soil} * SA_x * RAF_{c\text{-}derm} * SAF_x * EF_{derm} * ED * EP_x * C}{BW_x * AP_{lifetime}}$$

Cancer Risk from Homegrown Produce

$$ELCR_{produce} = LADD_{produce(1\text{-}31)} * CSF$$

$$LADD_{produce(1\text{-}31)} = LADD_{produce(1\text{-}8)} + LADD_{produce(8\text{-}15)} + LADD_{produce(15\text{-}31)}$$

$$LADD_{produce(age\ x)} = \frac{[OHM_{soil}] * PUF * PIR_x * RAF_{produce} * EF_{produce} * ED * EP_x * C}{BW_x * AP_{lifetime}}$$

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Parameter	Value	Units
CSF	OHM specific	$(mg/kg\text{-}day)^{-1}$
LADD	age/OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
$IR_{(1\text{-}8)}$	100	mg/day
$IR_{(8\text{-}15)}$	50	mg/day
$IR_{(15\text{-}31)}$	50	mg/day
$PIR_{(1\text{-}8)}$	12,099	mg/day
$PIR_{(8\text{-}15)}$	17,809	mg/day
$PIR_{(15\text{-}31)}$	24,420	mg/day
$RAF_{c\text{-}ing}$	OHM specific	dimensionless
$RAF_{c\text{-}derm}$	OHM specific	dimensionless
$RAF_{c\text{-}produce}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.412	event/day
$EF_{produce}$	1.00	event/day
ED	1	day/event
$EP_{(1\text{-}8)}$	7	years
$EP_{(8\text{-}15)}$	7	years
$EP_{(15\text{-}31)}$	16	years
C	0.000001	kg/mg
$BW_{(1\text{-}8)}$	17.0	kg
$BW_{(8\text{-}15)}$	39.9	kg
$BW_{(15\text{-}31)}$	58.7	kg
$AP_{(lifetime)}$	70	years
$SA_{(1\text{-}8)}$	2431	cm^2 / day
$SA_{(8\text{-}15)}$	4427	cm^2 / day
$SA_{(15\text{-}31)}$	5653	cm^2 / day
$SAF_{(1\text{-}8)}$	0.35	mg/cm^2
$SAF_{(8\text{-}15)}$	0.14	mg/cm^2
$SAF_{(15\text{-}31)}$	0.13	mg/cm^2
PUF	OHM specific	$(mg/mg)(mg/mg)^{-1}$

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Resident - Soil: Table RS-4
Equations to Calculate Chronic Noncancer Risk for Resident Child (Age 1-8 years)

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Chronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Chronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{ing,derm}}{RfD}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Chronic Noncancer Risk from Homegrown Produce

$$HQ_{produce} = \frac{ADD_{produce}}{RfD}$$

$$ADD_{produce} = \frac{[OHM_{soil}] * PUF * PIR * RAF_{produce} * EF_{produce} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	100	mg/day
PIR	12,099	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$RAF_{nc\text{-}produce}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.412	event/day
$EF_{produce}$	1.00	event/day
ED	1	day/event
EP	7	years
C	0.000001	kg/mg
BW	17.0	kg
AP	7	year
SA	2431	cm^2 / day
SAF	0.35	mg/cm^2
PUF	OHM specific	$(mg/mg)(mg/mg)^{-1}$

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Resident - Soil: Table RS-5

Equations to Calculate Subchronic Noncancer Risk for Resident Child (Age 1-2 years)

Vlookup Version v1012

Subchronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{subchronic}}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Subchronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{subchronic}}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Subchronic Noncancer Risk from Homegrown Produce

$$HQ_{produce} = \frac{ADD_{produce}}{RfD_{subchronic}}$$

$$ADD_{produce} = \frac{[OHM_{soil}] * PUF * PIR * RAF_{produce} * EF_{produce} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	100	mg/day
PIR	10,900	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$RAF_{nc\text{-}produce}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.714	event/day
$EF_{produce}$	1.00	event/day
ED	1	day/event
EP	0.577	years
C	0.000001	kg/mg
BW	10.7	kg
AP	0.577	year
SA	1670	cm^2 / day
SAF	0.35	mg/cm^2
PUF	OHM specific	$(mg/mg)(mg/mg)^{-1}$

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Resident - Soil: Table RS-6
Definitions and Exposure Factors

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Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table RS-7
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	
HQ - Hazard Quotient	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
RfD - Reference Dose	chemical specific	mg/kg-day	see Table RS-7
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
ADE - Average Daily Exposure	chemical specific	mg/m^3	
EPC - Exposure Point Concentration	chemical specific	mg/kg	
PUF - Plant Uptake Factor	chemical specific	$(mg/mg)(mg/mg)^{-1}$	See Table RS-7; $(mg_{OHM}/mg_{plant})/(mg_{OHM}/mg_{soil})^{-1}$
$IR_{(1-2)}$ - Soil Ingestion Rate for age group 1-2	100	mg/day	MADEP. 2002. Technical Update: Calculation of an Enhanced Soil Ingestion Rate. (http://www.mass.gov/dep/ors/orspubs.htm)
$IR_{(1-8)}$ - Soil Ingestion Rate for age group 1-8	100	mg/day	Ibid
$IR_{(8-15)}$ - Soil Ingestion Rate for age group 8-15	50	mg/day	Ibid
$IR_{(15-31)}$ - Soil Ingestion Rate for age group 15-31	50	mg/day	Ibid
$PIR_{(1-2)}$ = Produce Ingestion Rate for age group 1-2	10,900	mg/day	see Table RS-6
$PIR_{(1-8)}$ = Produce Ingestion Rate for age group 1-8	12,099	mg/day	see Table RS-6
$PIR_{(8-15)}$ = Produce Ingestion Rate for age group 8-15	17,809	mg/day	Ibid
$PIR_{(15-31)}$ = Produce Ingestion Rate for age group 15-31	24,420	mg/day	Ibid
RAF_c - Relative Absorption Factor for Cancer Effects	chemical specific	dimensionless	
$EF_{subchronic}$ - Exposure Frequency for subchronic ingestion or dermal exposure	0.714	event/day	5 days/week
$EF_{chronic}$ - Exposure Frequency for chronic ingestion or dermal exposure	0.412	event/day	5 days/week, 30 weeks/year
EF_{cancer} - Exposure Frequency for cancer, ingestion or dermal exposure	0.412	event/day	5 days/week, 30 weeks/year
$EF_{produce}$ - Exposure Frequency for produce ingestion, cancer and noncancer	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-2)}$ - Exposure Period for age group 1-2	0.577	years	30 weeks
$EP_{(1-8)}$ - Exposure Period for age group 1-8	7	years	
$EP_{(8-15)}$ - Exposure Period for age group 8-15	7	years	
$EP_{(15-31)}$ - Exposure Period for age group 15-31	16	years	
$BW_{(1-2)}$ - Body Weight for age group 1-2	10.7	kg	U.S. EPA. 1997. Exposure Factors Handbook. Table 7-7, females.
$BW_{(1-8)}$ - Body Weight for age group 1-8	17.0	kg	Ibid
$BW_{(8-15)}$ - Body Weight for age group 8-15	39.9	kg	Ibid
$BW_{(15-31)}$ - Body Weight for age group 15-31	58.7	kg	Ibid
$AP_{subchronic}$ - Averaging Period for subchronic noncancer	0.577	years	30 weeks
$AP_{chronic}$ - Averaging Period for chronic noncancer	7	years	
AP_{cancer} - Averaging Period for lifetime	70	years	
$SA_{(1-2)}$ - Surface Area for age group 1-2	1670	cm^2 / day	50th percentile of face (1/3 head), forearms, hands, lower legs, and feet for females MADEP. 1995. Guidance for Disposal Site Risk Characterization. Appendix Table B-2.
$SA_{(1-8)}$ - Surface Area for age group 1-8	2431	cm^2 / day	Ibid
$SA_{(8-15)}$ - Surface Area for age group 8-15	4427	cm^2 / day	Ibid
$SA_{(15-31)}$ - Surface Area for age group 15-31	5653	cm^2 / day	Ibid
$SAF_{(1-2)}$. Surface Adherence Factor for age group 1-2	0.35	mg/cm^2	All SAFs developed for ShortForm according to procedure outlined in MA DEP Technical
$SAF_{(1-8)}$. Surface Adherence Factor for age group 1-8	0.35	mg/cm^2	Update:Weighted Skin-Soil Adherence Factors, April 2002
$SAF_{(8-15)}$ - Surface Adherence Factor for age group 8-15	0.14	mg/cm^2	
$SAF_{(15-31)}$ - Surface Adherence Factor for age group 15-31	0.13	mg/cm^2	

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Resident - Soil: Table RS-7
Homegrown Produce Ingestion Rate

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Data on mean produce ingestion rates (wet weight, ww) in the Northeast was obtained from the 1994-1996 Continuing Survey of Food Intakes by Individuals (USDA). Data for both genders were used for children under 6, while data for males was used for individuals 6 and older. The mean ingestion rates presented in the survey represent the arithmetic average of all individuals surveyed, regardless of whether or not they had consumed the produce item (e.g., an individual that did not consume the produce item was assigned a rate of 0 g/day). To determine the mean ingestion rate for individuals who ate each produce item, the ingestion rate for all individuals (consumers and nonconsumers) was divided by the percentage of individuals who ate the item (Table RS-6A). These mean ingestion rates for the produce consumers were summed to determine the total produce ingestion rate for each age-group and converted to dry weight assuming the produce items were all 90% water.

To convert mean ingestion rates for the age-groups studied in the survey to age-groups used in risk calculations, each age-group ingestion rate from the survey (i.e., 1 - 2 year olds, 3 - 5 year olds, 6 - 11 year olds, 12 - 19 year olds, and 20 - 39 year olds) was weighted according to the number of years spent in the risk calculation age group (i.e., 1 - 8 year olds, 8 - 15 year olds, and 15 - 31 year olds) (Table RS-6B). It was assumed that 25% of produce ingested was home-grown (Table RS-6C).

Table RS-6A

	White Potatoes			Dark-green vegetables			Deep-yellow vegetables		
Age-groups studied in survey	Ingestion Rate for All g/d (ww)	% of individuals that consumed item.	Ingestion Rate for Consumers g/d (ww)	Ingestion Rate for All g/d (ww)	% of individuals that consumed item.	Ingestion Rate for Consumers g/d (ww)	Ingestion Rate for All g/d (ww)	% of individuals that consumed item.	Ingestion Rate for Consumers g/d (ww)
1-2	28	40.3	69.5	6	10.1	59.4	5	12.7	39.4
3-5	30	37.1	80.9	5	6.5	76.9	7	12.7	55.1
6-11	47	44.2	106.3	6	9.1	65.9	2	8.5	23.5
12-19	59	40.3	146.4	2	2.3	87.0	11	15.8	69.6
20-39	76	45.1	168.5	25	14.7	170.1	4	5.7	70.2

	Tomatoes			Lettuce			Green Beans		
Age-groups studied in survey	Ingestion Rate for All g/d (ww)	% of individuals that consumed item.	Ingestion Rate for Consumers g/d (ww)	Ingestion Rate for All g/d (ww)	% of individuals that consumed item.	Ingestion Rate for Consumers g/d (ww)	Ingestion Rate for All g/d (ww)	% of individuals that consumed item.	Ingestion Rate for Consumers g/d (ww)
1-2	10	27.9	35.8	1	6	16.7	7	12.1	57.9
3-5	10	37.1	27.0	4	14	28.6	3	5.7	52.6
6-11	20	42	47.6	8	14.9	53.7	1	2	50.0
12-19	29	45.2	64.2	19	28.7	66.2	2	2.4	83.3
20-39	48	50.9	94.3	18	29.6	60.8	4	3.7	108.1

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Table RS-6A (continued)

Age-groups studied in survey	Corn, Green peas, Lima beans: Ingestion Rate for All g/d (ww)	Corn, Green peas, Lima beans: % of individuals that consumed item.	Corn, Green peas, Lima beans: Ingestion Rate for Consumers g/d (ww)	Melons, berries: Ingestion Rate for All g/d (ww)	Melons, berries: % of individuals that consumed item.	Melons, berries: Ingestion Rate for Consumers g/d (ww)	Totals Wet Weight WWI g/day	Totals Dry Weight DWI g/day
1-2	12	15	80.0	7	9	77.8	436.4	43.6
3-5	14	21.7	64.5	14	11.6	120.7	506.3	50.6
6-11	9	13.6	66.2	5	5.9	84.7	498.0	49.8
12-19	14	9.9	141.4	17	5	340.0	998.1	99.8
20-39	12	7.3	164.4	6	4.5	133.3	969.7	97.0

Table RS-6B

Age-groups studied in survey	Years spent in age-group 1-8 year old	Years spent in age-group 8-15 year old	Years spent in age-group 15-31 year old
1-2	2		
3-5	3		
6-11	2	4	
12-19		3	4
20-39			12
	7	7	16

Table RS-6C

	Produce Intake, dry weight			
	Child 1-2 years g/day	Child 1-8 years g/day	Child 8-15 years g/day	Adult 15-31 g/day
All Produce:	43.6	48.4	71.2	97.7
Homegrown:	10.9	12.1	17.8	24.4

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Resident - Soil: Table RS-8
Chemical-Specific Data

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Oil or Hazardous Material	CSF (mg/kg-day)$^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	$RAF_{c\text{-}prod}$	Chronic RfD mg/kg-day	Subchronic RfD mg/kg-day	Chronic $RAF_{nc\text{-}ing}$	Chronic $RAF_{nc\text{-}derm}$	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$	$RAF_{nc\text{-}prod}$	PUF
Bromomethane					1.4E-03	5.0E-03	1	0.03	1	0.03		
zzTrichlorofluoromethane					3.0E-01	3.0E-01	1	0.03	1	0.03		
Acetone					9.0E-01	2.7E+00	1	0.03	1	0.03		
zzCarbon disulfide					1.0E-01	1.0E-01	1	0.03	1	0.03		
DICHLOROMETHANE	2.0E-03	1.00	0.03		6.0E-03	6.0E-03	1	0.03	1	0.03		
METHYL ETHYL KETON					6.0E-01	6.0E-01	1	0.03	1	0.03		
DICHLOROETHYLENE,					2.0E-03	2.0E-02	1	0.03	1	0.03		
TRICHLOROETHYLENE	5.0E-02	1.00	0.03		5.0E-04	5.0E-04	1	0.03	1	0.03		
METHYL ISOBUTYL KE					8.0E-02	8.0E-01	1	0.03	1	0.03		
Toluene					8.0E-02	8.0E-01	1	0.03	1	0.03		
zz2-Hexanone					5.0E-03	5.0E-03	1	0.03	1	0.03		
TETRACHLOROETHYLI	6.0E-02	1.00	0.03		6.0E-03	6.0E-03	1	0.03	1	0.03		
Styrene	3.0E-02	1.00	0.03		2.0E-01	2.0E+00	1	0.03	1	0.03		
ALIPHATICS C9 to (					1.0E-01	1.0E+00	1	0.2	1	0.2		
ALIPHATICS C19 to					2.0E+00	6.0E+00	1	0.2	1	0.2		
AROMATICS C11 to					3.0E-02	3.0E-01	0.3	0.1	0.3	0.1		
Naphthalene					2.0E-02	2.0E-01	0.3	0.1	0.3	0.1		
Methylnaphthalene, 2-					4.0E-03	4.0E-03	0.3	0.1	0.3	0.1		
Acenaphthene					6.0E-02	2.0E-01	0.3	0.1	0.3	0.1		
Fluorene					4.0E-02	4.0E-01	0.3	0.1	0.3	0.1		
Phenanthrene					3.0E-02	3.0E-01	0.3	0.1	0.3	0.1		
Anthracene					3.0E-01	1.0E+00	0.3	0.1	0.3	0.1		
Fluoranthene					4.0E-02	4.0E-01	0.3	0.1	0.3	0.1		
Pyrene					3.0E-02	3.0E-01	0.3	0.1	0.3	0.1		
Benzo(a)anthracene	7.3E-01	0.30	0.02		3.0E-02	3.0E-01	0.3	0.02	0.3	0.02		
Chrysene	7.3E-02	0.30	0.02		3.0E-02	3.0E-01	0.3	0.02	0.3	0.02		
Benzo(b)fluoranthene	7.3E-01	0.30	0.02		3.0E-02	3.0E-01	0.3	0.02	0.3	0.02		
Benzo(k)fluoranthene	7.3E-02	0.30	0.02		3.0E-02	3.0E-01	0.3	0.02	0.3	0.02		
Benzo(a)pyrene	7.3E+00	0.30	0.02		3.0E-02	3.0E-01	0.3	0.02	0.3	0.02		
Indeno(1,2,3-cd)pyrene	7.3E-01	0.30	0.02		3.0E-02	3.0E-01	0.3	0.02	0.3	0.02		
Dibenzo(a,h)anthracene	7.3E+00	0.30	0.02		3.0E-02	3.0E-01	0.3	0.02	0.3	0.02		
Benzo(g,h,i)perylene					3.0E-02	3.0E-01	0.3	0.1	0.3	0.1		
POLYCHLORINATED BI	2.0E+00	1.00	0.10	1.00	2.0E-05	5.0E-05	1	0.1	1	0.1	1	0.84
AROMATICS C11 to					3.0E-02	3.0E-01	0.3	0.1	0.3	0.1		
Barium					2.0E-01	7.0E-02	1	0.1	1	0.1		
CHROMIUM(VI)					3.0E-03	2.0E-02	1	0.1	1	0.1	1	0.095
Lead					7.5E-04	7.5E-04	0.5	0.006	0.5	0.006	0.5	0.15
Nickel					2.0E-02	2.0E-02	1	0.2	1	0.2	1	0.38

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Resident - Soil: Table RS-9
Cyanide Calculations

The acute concentration of *available* cyanide in soil is the level *at or below which* adverse human health effects would not be expected following an acute exposure. The concentration is based on a potential one-time ingestion of 1000 mg/kg contaminated soil by child residents.

The residential soil concentration limit to protect against adverse effects from an acute (one-time) exposure to cyanide is 100 mg/kg.

Concentration Calculation for Cyanide

$$\text{Concentration} = \frac{\text{HQ x Acute Dose Limit x BW}}{\text{IR x RAF x Conversion Factor}}$$

Parameter	Value	Units
HQ (Hazard Quotient)	1	(unitless)
Acute Dose Limit	0.01	mg CN/ kg BW
BW (Body Weight) 1-2	10.7	kg
IR (1-time reasonable max)	1000	mg
Conversion Factor	1.0E-06	kg soil / mg soil

The toxicological basis for estimating an allowable one-time is documented in MassDEP's 1992 *Background Documentation for the Development of an "Available Cyanide" Benchmark Concentration,* which is published at: http://www.mass.gov/dep/toxics/cn_soil.htm.

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Park Visitor - Soil: Table PS-1 (0-15' bgs)
Exposure Point Concentration (EPC)
Based on Visitor Ages 1-31 (Cancer), 1-8 (Chronic Noncancer), and 1-2 (Subchronic Noncancer)

ShortForm Version 10-12

Vlookup Version v1012

ELCR (all chemicals) = 1E-05

Chronic HI (all chemicals) = 1E+00

Subchronic HI (all chemicals) = 3E+00

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material		EPC (mg/kg)	$ELCR_{ingestion}$	$ELCR_{dermal}$	$ELCR_{total}$	Chronic HQ_{ing}	Chronic HQ_{derm}	Chronic HQ_{total}	Subchronic HQ_{ing}	Subchronic HQ_{derm}	Subchronic HQ_{total}	
zzChloromethane		3.8E-02				2.1E-06	1.8E-06	3.9E-06	5.8E-06	3.4E-06	9.3E-06	
Bromomethane		1.6E-01				1.7E-04	4.3E-05	2.1E-04	1.3E-04	2.3E-05	1.5E-04	
zzTrichlorofluoromethane		5.3E-03				2.6E-08	6.6E-09	3.2E-08	7.1E-08	1.2E-08	8.3E-08	
Acetone		2.6E-01				4.2E-07	1.1E-07	5.3E-07	3.8E-07	6.7E-08	4.5E-07	
zzCarbon disulfide		2.6E-03				3.8E-08	9.6E-09	4.7E-08	1.0E-07	1.8E-08	1.2E-07	
DICHLOROMETHANE		3.0E-01	1.3E-10	4.2E-11	1.8E-10	7.3E-05	1.9E-05	9.1E-05	2.0E-04	3.5E-05	2.4E-04	
DICHLOROETHYLENE, TRANS-1,2-		1.0E-01				7.3E-06	1.9E-06	9.1E-06	2.0E-06	3.5E-07	2.4E-06	
METHYL ETHYL KETONE		2.1E-01				5.0E-07	1.3E-07	6.3E-07	1.4E-06	2.4E-07	1.6E-06	
DICHLOROETHYLENE, CIS-1,2-		2.1E+00				1.5E-03	3.9E-04	1.9E-03	4.2E-04	7.4E-05	5.0E-04	
Chloroform		4.3E-02				6.2E-06	1.6E-06	7.8E-06	1.7E-05	3.0E-06	2.0E-05	
Trichloroethane, 1,1,1-		3.9E-02				2.8E-08	7.2E-09	3.6E-08	2.2E-08	3.9E-09	2.6E-08	
TRICHLOROETHYLENE		2.5E+02	2.9E-06	8.9E-07	3.7E-06	7.4E-01	1.9E-01	9.3E-01	2.0E+00	3.6E-01	2.4E+00	
METHYL ISOBUTYL KETONE		1.0E-03				1.8E-08	4.6E-09	2.3E-08	5.0E-09	8.8E-10	5.9E-09	
Toluene		3.3E-02				6.0E-07	1.5E-07	7.5E-07	1.7E-07	2.9E-08	1.9E-07	
zz2-Hexanone		3.1E-03				9.0E-07	2.3E-07	1.1E-06	2.5E-06	4.3E-07	2.9E-06	
TETRACHLOROETHYLENE		7.5E-01	1.0E-08	3.2E-09	1.3E-08	1.8E-04	4.7E-05	2.3E-04	5.0E-04	8.8E-05	5.9E-04	**Note! PCE CSF is under review.**
XYLENES (Mixed Isomers)		7.6E-02				5.5E-07	1.4E-07	6.9E-07	7.6E-07	1.3E-07	8.9E-07	
Styrene		8.0E-04	5.4E-12	1.7E-12	7.1E-12	5.8E-09	1.5E-09	7.3E-09	1.6E-09	2.8E-10	1.9E-09	
ALIPHATICS	C5 to C8	2.2E+01				8.0E-04	1.4E-03	2.2E-03	2.2E-04	2.6E-04	4.8E-04	
ALIPHATICS	C9 to C12	1.0E+01				1.5E-04	2.5E-04	4.0E-04	4.1E-05	4.7E-05	8.8E-05	
AROMATICS	C9 to C10	1.7E+01				8.0E-04	1.4E-03	2.2E-03	2.2E-04	2.6E-04	4.8E-04	
METHYL TERT BUTYL ETHER		1.3E-01				1.8E-06	4.7E-07	2.3E-06	5.1E-07	8.9E-08	6.0E-07	
ALIPHATICS	C9 to C18	9.3E+01				1.3E-03	2.3E-03	3.6E-03	3.7E-04	4.3E-04	8.0E-04	
ALIPHATICS	C19 to C36	2.5E+02				1.8E-04	3.1E-04	4.9E-04	1.7E-04	1.9E-04	3.6E-04	
AROMATICS	C11 to C22	1.3E+02				2.0E-03	5.6E-03	7.5E-03	5.4E-04	1.1E-03	1.6E-03	
Naphthalene		2.6E-01				5.7E-06	1.6E-05	2.2E-05	1.6E-06	3.0E-06	4.6E-06	
Methylnaphthalene, 2-		6.0E-01				6.5E-05	1.9E-04	2.5E-04	1.8E-04	3.5E-04	5.3E-04	
Acenaphthylene		4.4E-01				6.4E-06	1.8E-05	2.5E-05	1.8E-06	3.4E-06	5.2E-06	
Acenaphthene		6.7E-01				4.9E-06	1.4E-05	1.9E-05	4.0E-06	7.8E-06	1.2E-05	
Fluorene		7.7E-01				8.4E-06	2.4E-05	3.2E-05	2.3E-06	4.5E-06	6.9E-06	
Phenanthrene		5.6E+00				8.1E-05	2.3E-04	3.1E-04	2.2E-05	4.3E-05	6.5E-05	
Anthracene		1.2E+00				1.8E-06	5.0E-06	6.8E-06	1.5E-06	2.9E-06	4.3E-06	
Fluoranthene		7.3E+00				7.9E-05	2.2E-04	3.0E-04	2.2E-05	4.2E-05	6.4E-05	
Pyrene		6.9E+00				1.0E-04	2.8E-04	3.8E-04	2.7E-05	5.3E-05	8.1E-05	
Benzo(a)anthracene		7.0E+00	3.4E-07	2.4E-07	5.8E-07	1.0E-04	5.8E-05	1.6E-04	2.8E-05	1.1E-05	3.9E-05	
Chrysene		3.5E+00	1.7E-08	1.2E-08	2.9E-08	5.0E-05	2.9E-05	7.9E-05	1.4E-05	5.4E-06	1.9E-05	
Benzo(b)fluoranthene		7.4E+00	3.6E-07	2.5E-07	6.1E-07	1.1E-04	6.1E-05	1.7E-04	3.0E-05	1.2E-05	4.1E-05	
Benzo(k)fluoranthene		1.8E+00	8.8E-09	6.1E-09	1.5E-08	2.6E-05	1.5E-05	4.1E-05	7.1E-06	2.8E-06	9.9E-06	
Benzo(a)pyrene		5.5E+00	2.7E-06	1.9E-06	4.5E-06	7.9E-05	4.5E-05	1.2E-04	2.2E-05	8.5E-06	3.0E-05	
Indeno(1,2,3-cd)pyrene		2.3E+00	1.1E-07	7.8E-08	1.9E-07	3.3E-05	1.9E-05	5.2E-05	9.1E-06	3.6E-06	1.3E-05	
Dibenzo(a,h)anthracene		3.6E+00	1.8E-06	1.2E-06	3.0E-06	5.2E-05	3.0E-05	8.2E-05	1.4E-05	5.6E-06	2.0E-05	
Benzo(g,h,i)perylene		1.7E+00				2.5E-05	7.0E-05	9.4E-05	6.8E-06	1.3E-05	2.0E-05	
POLYCHLORINATED BIPHENYLS (PCBs)		1.7E-01	7.8E-08	8.1E-08	1.6E-07	1.3E-02	1.1E-02	2.3E-02	1.4E-02	8.1E-03	2.2E-02	
AROMATICS	C11 to C22 TPH	3.0E+02				4.3E-03	1.2E-02	1.7E-02	1.2E-03	2.3E-03	3.5E-03	
Barium		1.6E+02				1.1E-03	9.6E-04	2.1E-03	8.9E-03	5.2E-03	1.4E-02	
CHROMIUM(VI)		1.1E+02				5.1E-02	4.4E-02	9.5E-02	2.1E-02	1.2E-02	3.4E-02	**Note! Cr(VI) limit is 200 mg/kg due to contact dermititis.**
Lead		5.8E+01				5.6E-02	5.8E-03	6.2E-02	1.6E-01	1.1E-02	1.7E-01	
Nickel		5.5E+02				4.0E-02	6.8E-02	1.1E-01	1.1E-01	1.3E-01	2.4E-01	

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Park Visitor - Soil: Table PS-2

Equations to Calculate Cancer Risk for Visitor (Age 1-31 years)

Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing(1\text{-}31)} * CSF$$

$$LADD_{ing\ (1\text{-}31)} = LADD_{ing\ (1\text{-}8)} + LADD_{ing\ (8\text{-}15)} + LADD_{ing\ (15\text{-}31)}$$

$$LADD_{ing\ (age\ group\ x)} = \frac{[OHM]_{soil} * IR_x * RAF_{c\text{-}ing} * EF_{ing} * ED * EP_x * C}{BW_x * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF$$

$$LADD_{derm\ (1\text{-}31)} = LADD_{derm\ (1\text{-}8)} + LADD_{derm\ (8\text{-}15)} + LADD_{derm\ (15\text{-}31)}$$

$$LADD_{derm(age\ group\ x)} = \frac{[OHM]_{soil} * SA_x * RAF_{c\text{-}derm} * SAF_x * EF_{derm} * ED * EP_x * C}{BW_x * AP_{lifetime}}$$

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Parameter	Value	Units
CSF	OHM specific	$(mg/kg\text{-}day)^{-1}$
LADD	age/OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
$IR_{(1\text{-}8)}$	100	mg/day
$IR_{(8\text{-}15)}$	50	mg/day
$IR_{(15\text{-}31)}$	50	mg/day
$RAF_{c\text{-}ing}$	OHM specific	dimensionless
$RAF_{c\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.247	event/day
ED	1	day/event
$EP_{(1\text{-}8)}$	7	years
$EP_{(8\text{-}15)}$	7	years
$EP_{(15\text{-}31)}$	16	years
C	0.000001	kg/mg
$BW_{(1\text{-}8)}$	17.0	kg
$BW_{(8\text{-}15)}$	39.9	kg
$BW_{(15\text{-}31)}$	58.7	kg
$AP_{(lifetime)}$	70	years
$SA_{(1\text{-}8)}$	2431	cm^2/day
$SA_{(8\text{-}15)}$	4427	cm^2/day
$SA_{(15\text{-}31)}$	5653	cm^2/day
$SAF_{(1\text{-}8)}$	0.35	mg/cm^2
$SAF_{(8\text{-}15)}$	0.14	mg/cm^2
$SAF_{(15\text{-}31)}$	0.13	mg/cm^2

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Park Visitor - Soil: Table PS-3
Equations to Calculate Chronic Noncancer Risk for Visitor (Age 1-8 years)

Vlookup Version v1012

Chronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Chronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{ing,derm}}{RfD}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	100	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.247	event/day
ED	1	day/event
EP	7	years
C	0.000001	kg/mg
BW	17.0	kg
AP	7	year
SA	2431	cm^2/day
SAF	0.35	mg/cm^2

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Park Visitor - Soil: Table PS-4
Equations to Calculate Subchronic Noncancer Risk for Visitor (Age 1-2 years)

Vlookup Version v1012

Subchronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{subchronic}}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Subchronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{subchronic}}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	100	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.428	event/day
ED	1	day/event
EP	0.577	years
C	0.000001	kg/mg
BW	10.7	kg
AP	0.577	year
SA	1670	cm^2/day
SAF	0.35	mg/cm^2

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Park Visitor - Soil: Table PS-5
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table PS-6
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
HQ - Hazard Quotient	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal)
RfD - Reference Dose	chemical specific	mg/kg-day	see Table PS-6
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
EPC - Exposure Point Concentration	chemical specific	mg/kg	
$IR_{(1-2)}$ - Soil Ingestion Rate for age group 1-2	100	mg/day	MADEP. 1995. Guidance for Disposal Site Risk Characterization. Appendix Table B-3.
$IR_{(1-8)}$ - Soil Ingestion Rate for age group 1-8	100	mg/day	Ibid
$IR_{(8-15)}$ - Soil Ingestion Rate for age group 8-15	50	mg/day	Ibid
$IR_{(15-31)}$ - Soil Ingestion Rate for age group 15-31	50	mg/day	Ibid
RAF_c - Relative Absorption Factor for Cancer Effects	chemical specific	dimensionless	Adjusts estimated dose to conform to the revelant CSF. See Table PS-6
RAF_{NC} - Relative Absorption Factor for non-Cancer Effects	chemical specific	dimensionless	Adjusts estimated dose to conform to the revelant RfD. See Table PS-6
$EF_{subchronic}$ - Exposure Frequency for subchronic exposure	0.428	event/day	3 events/week
$EF_{chronic,lifetime}$ - Exposure Frequency for chronic or lifetime exposure	0.247	event/day	3 events/week, 30 weeks/year
ED - Exposure Duration	1	day/event	
$EP_{(1-2)}$ - Exposure Period for age group 1-2	0.577	years	30 weeks
$EP_{(1-8)}$ - Exposure Period for age group 1-8	7	years	
$EP_{(8-15)}$ - Exposure Period for age group 8-15	7	years	
$EP_{(15-31)}$ - Exposure Period for age group 15-31	16	years	
$BW_{(1-2)}$ - Body Weight for age group 1-2, subchronic	10.7	kg	U.S. EPA. 1997. Exposure Factors Handbook. Table 7-7, females.
$BW_{(1-8)}$ - Body Weight for age group 1-8	17.0	kg	Ibid
$BW_{(8-15)}$ - Body Weight for age group 8-15	39.9	kg	Ibid
$BW_{(15-31)}$ - Body Weight for age group 15-31	58.7	kg	Ibid
$AP_{subchronic}$ - Averaging Period for subchronic noncancer	0.577	years	30 weeks
$AP_{chronic}$ - Averaging Period for chronic noncancer	7	years	
$AP_{lifetime}$ - Averaging Period for cancer/lifetime	70	years	
$SA_{(1-2)}$ - Surface Area for age group 1-2	1670	cm^2/day	50th percentile of face (1/3 head), forearms, hands, lower legs, and feet for females. MADEP 1995 Guidance for Disposal Site Risk Characterization, Appendix Table B-2.
$SA_{(1-8)}$ - Surface Area for age group 1-8	2431	cm^2 / day	Ibid
$SA_{(8-15)}$ - Surface Area for age group 8-15	4427	cm^2 / day	Ibid
$SA_{(15-31)}$ - Surface Area for age group 15-31	5653	cm^2 / day	Ibid
$SAF_{(1-2)}$ - Surface Adherence Factor for age group 1-2	0.35	mg_{soil} / cm^2	All SAFs developed for ShortForm according to procedure outlined in MADEP Technical
$SAF_{(1-8)}$ - Surface Adherence Factor for age group 1-8	0.35	mg_{soil} / cm^2	Update: Weighted Skin-Soil Adherence Factors, April 2002
$SAF_{(8-15)}$ - Surface Adherence Factor for age group 8-15	0.14	mg_{soil} / cm^2	
$SAF_{(15-31)}$ - Surface Adherence Factor for age group 15-31	0.13	mg_{soil} / cm^2	

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Park Visitor - Soil: Table PS-6
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	CSF $(mg/kg\text{-}day)^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	Chronic RfD mg/kg-day	Subchronic RfD mg/kg-day	Chronic $RAF_{nc\text{-}ing}$	Chronic $RAF_{nc\text{-}derm}$	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$
zzChloromethane				2.6E-02	2.6E-02	1	0.1	1	0.1
Bromomethane				1.4E-03	5.0E-03	1	0.03	1	0.03
zzTrichlorofluoromethane				3.0E-01	3.0E-01	1	0.03	1	0.03
Acetone				9.0E-01	2.7E+00	1	0.03	1	0.03
zzCarbon disulfide				1.0E-01	1.0E-01	1	0.03	1	0.03
DICHLOROMETHANE	2.0E-03	1	0.03	6.0E-03	6.0E-03	1	0.03	1	0.03
DICHLOROETHYLENE,				2.0E-02	2.0E-01	1	0.03	1	0.03
METHYL ETHYL KETON				6.0E-01	6.0E-01	1	0.03	1	0.03
DICHLOROETHYLENE,				2.0E-03	2.0E-02	1	0.03	1	0.03
Chloroform				1.0E-02	1.0E-02	1	0.03	1	0.03
Trichloroethane, 1,1,1-				2.0E+00	7.0E+00	1	0.03	1	0.03
TRICHLOROETHYLENE	5.0E-02	1	0.03	5.0E-04	5.0E-04	1	0.03	1	0.03
METHYL ISOBUTYL KE				8.0E-02	8.0E-01	1	0.03	1	0.03
Toluene				8.0E-02	8.0E-01	1	0.03	1	0.03
zz2-Hexanone				5.0E-03	5.0E-03	1	0.03	1	0.03
TETRACHLOROETHYL	6.0E-02	1	0.03	6.0E-03	6.0E-03	1	0.03	1	0.03
XYLENES (Mixed Isome				2.0E-01	4.0E-01	1	0.03	1	0.03
Styrene	3.0E-02	1	0.03	2.0E-01	2.0E+00	1	0.03	1	0.03
ALIPHATICS C5 to				4.0E-02	4.0E-01	1	0.2	1	0.2
ALIPHATICS C9 to				1.0E-01	1.0E+00	1	0.2	1	0.2
AROMATICS C9 to				3.0E-02	3.0E-01	1	0.2	1	0.2
METHYL TERT BUTYL I				1.0E-01	1.0E+00	1	0.03	1	0.03
ALIPHATICS C9 to				1.0E-01	1.0E+00	1	0.2	1	0.2
ALIPHATICS C19 to				2.0E+00	6.0E+00	1	0.2	1	0.2
AROMATICS C11 to				3.0E-02	3.0E-01	0.3	0.1	0.3	0.1
Naphthalene				2.0E-02	2.0E-01	0.3	0.1	0.3	0.1
Methylnaphthalene, 2-				4.0E-03	4.0E-03	0.3	0.1	0.3	0.1
Acenaphthylene				3.0E-02	3.0E-01	0.3	0.1	0.3	0.1
Acenaphthene				6.0E-02	2.0E-01	0.3	0.1	0.3	0.1
Fluorene				4.0E-02	4.0E-01	0.3	0.1	0.3	0.1
Phenanthrene				3.0E-02	3.0E-01	0.3	0.1	0.3	0.1
Anthracene				3.0E-01	1.0E+00	0.3	0.1	0.3	0.1
Fluoranthene				4.0E-02	4.0E-01	0.3	0.1	0.3	0.1
Pyrene				3.0E-02	3.0E-01	0.3	0.1	0.3	0.1
Benzo(a)anthracene	7.3E-01	0.3	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Chrysene	7.3E-02	0.3	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Benzo(b)fluoranthene	7.3E-01	0.3	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Benzo(k)fluoranthene	7.3E-02	0.3	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Benzo(a)pyrene	7.3E+00	0.3	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Indeno(1,2,3-cd)pyrene	7.3E-01	0.3	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Dibenzo(a,h)anthracene	7.3E+00	0.3	0.02	3.0E-02	3.0E-01	0.3	0.02	0.3	0.02
Benzo(g,h,i)perylene				3.0E-02	3.0E-01	0.3	0.1	0.3	0.1
POLYCHLORINATED BI	2.0E+00	1	0.1	2.0E-05	5.0E-05	1	0.1	1	0.1
AROMATICS C11 to				3.0E-02	3.0E-01	0.3	0.1	0.3	0.1
Barium				2.0E-01	7.0E-02	1	0.1	1	0.1
CHROMIUM(VI)				3.0E-03	2.0E-02	1	0.1	1	0.1
Lead				7.5E-04	7.5E-04	0.5	0.006	0.5	0.006
Nickel				2.0E-02	2.0E-02	1	0.2	1	0.2

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Park Visitor - Soil: Table PS-7
Cyanide Calculations

The acute concentration of *available* cyanide in soil is the level *at or below which* adverse human health effects would not be expected following an acute exposure. The concentration is based on a potential one-time ingestion of 1000 mg/kg contaminated soil by child residents.

The soil concentration limit to protect park visitors against adverse effects from an acute (one-time) exposure to cyanide is 100 mg/kg.

Concentration Calculation for Cyanide

$$\text{Concentration} = \frac{\text{HQ x Acute Dose Limit x BW}}{\text{IR x RAF x Conversion Factor}}$$

Parameter	Value	Units
HQ (Hazard Quotient)	1	(unitless)
Acute Dose Limit	0.01	mg CN/ kg BW
BW (Body Weight) 1-2	10.7	kg
IR (1-time reasonable max)	1000	mg
Conversion Factor	1.0E-06	kg soil / mg soil

The toxicological basis for estimating an allowable one-time is documented in MassDEP's 1992 *Background Documentation for the Development of an "Available Cyanide" Benchmark Concentration,* which is published at: http://www.mass.gov/dep/toxics/cn_soil.htm.

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Resident - Soil: Table RS-1 (0-15' bgs)
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer), 1-8 (Chronic Noncancer), and 1-2 (Subchronic Noncancer)

ShortForm Version 10-12
Vlookup Version v1012

ELCR (all chemicals) = 2E-05
Chronic HI (all chemicals) = 2E+00
Subchronic HI (all chemicals) = 5E+00

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Oil or Hazardous Material		EPC (mg/kg)	$ELCR_{ingestion}$	$ELCR_{dermal}$	Derm & Ing $ELCR_{total}$	Chronic HQ_{ing}	Chronic HQ_{derm}	Derm & Ing HQ_{total}	Subchronic HQ_{ing}	Subchronic HQ_{derm}	Derm & Ing HQ_{total}	
zzChloromethane		3.8E-02				3.5E-06	3.0E-06	6.6E-06	9.8E-06	5.7E-06	1.5E-05	
Bromomethane		1.6E-01				2.8E-04	7.2E-05	3.6E-04	2.2E-04	3.8E-05	2.6E-04	
zzTrichlorofluoromethane		5.3E-03				4.3E-08	1.1E-08	5.4E-08	1.2E-07	2.1E-08	1.4E-07	
Acetone		2.6E-01				7.0E-07	1.8E-07	8.8E-07	6.4E-07	1.1E-07	7.5E-07	
zzCarbon disulfide		2.6E-03				6.3E-08	1.6E-08	7.9E-08	1.7E-07	3.0E-08	2.0E-07	
DICHLOROMETHANE		3.0E-01	2.2E-10	7.0E-11	2.9E-10	1.2E-04	3.1E-05	1.5E-04	3.3E-04	5.9E-05	3.9E-04	
DICHLOROETHYLENE, TRANS-1,2-		1.0E-01				1.2E-05	3.1E-06	1.5E-05	3.3E-06	5.9E-07	3.9E-06	
METHYL ETHYL KETONE		2.1E-01				8.4E-07	2.1E-07	1.1E-06	2.3E-06	4.1E-07	2.7E-06	
DICHLOROETHYLENE, CIS-1,2-		2.1E+00				2.6E-03	6.5E-04	3.2E-03	7.0E-04	1.2E-04	8.3E-04	
Chloroform		4.3E-02				1.0E-05	2.7E-06	1.3E-05	2.9E-05	5.0E-06	3.4E-05	
Trichloroethane, 1,1,1-		3.9E-02				4.7E-08	1.2E-08	5.9E-08	3.7E-08	6.5E-09	4.4E-08	
TRICHLOROETHYLENE		2.5E+02	4.8E-06	1.5E-06	6.3E-06	1.2E+00	3.2E-01	1.6E+00	3.4E+00	6.0E-01	4.0E+00	
METHYL ISOBUTYL KETONE		1.0E-03				3.0E-08	7.7E-09	3.8E-08	8.3E-09	1.5E-09	9.8E-09	
Toluene		3.3E-02				1.0E-06	2.6E-07	1.3E-06	2.8E-07	4.8E-08	3.2E-07	
zz2-Hexanone		3.1E-03				1.5E-06	3.8E-07	1.9E-06	4.1E-06	7.3E-07	4.9E-06	
TETRACHLOROETHYLENE		7.5E-01	1.7E-08	5.3E-09	2.2E-08	3.0E-04	7.8E-05	3.8E-04	8.4E-04	1.5E-04	9.9E-04	**Note! PCE CSF is under review.**
XYLENES (Mixed Isomers)		7.6E-02				9.2E-07	2.4E-07	1.2E-06	1.3E-06	2.2E-07	1.5E-06	
Styrene		8.0E-04	9.0E-12	2.8E-12	1.2E-11	9.7E-09	2.5E-09	1.2E-08	2.7E-09	4.7E-10	3.1E-09	
ALIPHATICS	C5 to C8	2.2E+01				1.3E-03	2.3E-03	3.6E-03	3.7E-04	4.3E-04	7.9E-04	
ALIPHATICS	C9 to C12	1.0E+01				2.5E-04	4.2E-04	6.6E-04	6.8E-05	7.9E-05	1.5E-04	
AROMATICS	C9 to C10	1.7E+01				1.3E-03	2.3E-03	3.6E-03	3.7E-04	4.3E-04	8.0E-04	
METHYL TERT BUTYL ETHER		1.3E-01				3.1E-06	7.8E-07	3.9E-06	8.5E-07	1.5E-07	1.0E-06	
ALIPHATICS	C9 to C18	9.3E+01				2.2E-03	3.8E-03	6.1E-03	6.2E-04	7.2E-04	1.3E-03	
ALIPHATICS	C19 to C36	2.5E+02				3.0E-04	5.1E-04	8.1E-04	2.8E-04	3.2E-04	6.0E-04	
AROMATICS	C11 to C22	1.3E+02				3.3E-03	9.3E-03	1.3E-02	9.0E-04	1.8E-03	2.7E-03	
Naphthalene		2.6E-01				9.4E-06	2.7E-05	3.6E-05	2.6E-06	5.1E-06	7.7E-06	
Methylnaphthalene, 2-		6.0E-01				1.1E-04	3.1E-04	4.2E-04	3.0E-04	5.9E-04	8.9E-04	
Acenaphthylene		4.4E-01				1.1E-05	3.0E-05	4.1E-05	2.9E-06	5.7E-06	8.7E-06	
Acenaphthene		6.7E-01				8.1E-06	2.3E-05	3.1E-05	6.7E-06	1.3E-05	2.0E-05	
Fluorene		7.7E-01				1.4E-05	4.0E-05	5.4E-05	3.9E-06	7.6E-06	1.1E-05	
Phenanthrene		5.6E+00				1.3E-04	3.8E-04	5.2E-04	3.7E-05	7.2E-05	1.1E-04	
Anthracene		1.2E+00				3.0E-06	8.4E-06	1.1E-05	2.4E-06	4.8E-06	7.2E-06	
Fluoranthene		7.3E+00				1.3E-04	3.7E-04	5.1E-04	3.6E-05	7.1E-05	1.1E-04	
Pyrene		6.9E+00				1.7E-04	4.7E-04	6.4E-04	4.6E-05	8.9E-05	1.3E-04	
Benzo(a)anthracene		7.0E+00	5.7E-07	4.0E-07	9.7E-07	1.7E-04	9.6E-05	2.7E-04	4.7E-05	1.8E-05	6.5E-05	
Chrysene		3.5E+00	2.8E-08	2.0E-08	4.8E-08	8.4E-05	4.8E-05	1.3E-04	2.3E-05	9.0E-06	3.2E-05	
Benzo(b)fluoranthene		7.4E+00	6.1E-07	4.2E-07	1.0E-06	1.8E-04	1.0E-04	2.8E-04	4.9E-05	1.9E-05	6.8E-05	
Benzo(k)fluoranthene		1.8E+00	1.5E-08	1.0E-08	2.5E-08	4.3E-05	2.5E-05	6.8E-05	1.2E-05	4.6E-06	1.7E-05	
Benzo(a)pyrene		5.5E+00	4.5E-06	3.1E-06	7.6E-06	1.3E-04	7.5E-05	2.1E-04	3.6E-05	1.4E-05	5.1E-05	
Indeno(1,2,3-cd)pyrene		2.3E+00	1.9E-07	1.3E-07	3.2E-07	5.5E-05	3.1E-05	8.7E-05	1.5E-05	5.9E-06	2.1E-05	
Dibenzo(a,h)anthracene		3.6E+00	3.0E-06	2.0E-06	5.0E-06	8.7E-05	5.0E-05	1.4E-04	2.4E-05	9.4E-06	3.3E-05	
Benzo(g,h,i)perylene		1.7E+00				4.1E-05	1.2E-04	1.6E-04	1.1E-05	2.2E-05	3.3E-05	
POLYCHLORINATED BIPHENYLS (PCBs)		1.7E-01	1.3E-07	1.3E-07	2.6E-07	2.1E-02	1.8E-02	3.9E-02	2.3E-02	1.4E-02	3.7E-02	
AROMATICS	C11 to C22 TPH	3.0E+02				7.2E-03	2.0E-02	2.8E-02	2.0E-03	3.9E-03	5.8E-03	
Barium		1.6E+02				1.9E-03	1.6E-03	3.5E-03	1.5E-02	8.7E-03	2.4E-02	
CHROMIUM(VI)		1.1E+02				8.5E-02	7.3E-02	1.6E-01	3.5E-02	2.1E-02	5.6E-02	**Note! Cr(VI) limit is 200 mg/kg due to contact dermitis.**
Lead		5.8E+01				9.4E-02	9.6E-03	1.0E-01	2.6E-01	1.8E-02	2.8E-01	
Nickel		5.5E+02				6.7E-02	1.1E-01	1.8E-01	1.8E-01	2.1E-01	4.0E-01	

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Resident - Soil: Table RS-2
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer), 1-8 (Chronic Noncancer), and 1-2 (Subchronic Noncancer)

ELCR (all chemicals) =
Chronic HI (all chemicals) =
Subchronic HI (all chemicals) =

*Vegetable uptake is informational only and NOT included in totals on EPC tab.

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Oil or Hazardous Material	EPC (mg/kg)	Chronic		Subchronic
		$ELCR_{vegetable*}$	$HQ_{vegetable*}$	$HQ_{vegetable*}$
zzChloromethane	3.8E-02			
Bromomethane	1.6E-01			
zzTrichlorofluoromethane	5.3E-03			
Acetone	2.6E-01			
zzCarbon disulfide	2.6E-03			
DICHLOROMETHANE	3.0E-01			
DICHLOROETHYLENE, TRANS-1,2-	1.0E-01			
METHYL ETHYL KETONE	2.1E-01			
DICHLOROETHYLENE, CIS-1,2-	2.1E+00			
Chloroform	4.3E-02			
Trichloroethane, 1,1,1-	3.9E-02			
TRICHLOROETHYLENE	2.5E+02			
METHYL ISOBUTYL KETONE	1.0E-03			
Toluene	3.3E-02			
zz2-Hexanone	3.1E-03			
TETRACHLOROETHYLENE	7.5E-01			
XYLENES (Mixed Isomers)	7.6E-02			
Styrene	8.0E-04			
ALIPHATICS C5 to C8	2.2E+01			
ALIPHATICS C9 to C12	1.0E+01			
AROMATICS C9 to C10	1.7E+01			
METHYL TERT BUTYL ETHER	1.3E-01			
ALIPHATICS C9 to C18	9.3E+01			
ALIPHATICS C19 to C36	2.5E+02			
AROMATICS C11 to C22	1.3E+02			
Naphthalene	2.6E-01			
Methylnaphthalene, 2-	6.0E-01			
Acenaphthylene	4.4E-01			
Acenaphthene	6.7E-01			
Fluorene	7.7E-01			
Phenanthrene	5.6E+00			
Anthracene	1.2E+00			
Fluoranthene	7.3E+00			
Pyrene	6.9E+00			
Benzo(a)anthracene	7.0E+00			
Chrysene	3.5E+00			
Benzo(b)fluoranthene	7.4E+00			
Benzo(k)fluoranthene	1.8E+00			
Benzo(a)pyrene	5.5E+00			
Indeno(1,2,3-cd)pyrene	2.3E+00			
Dibenzo(a,h)anthracene	3.6E+00			
Benzo(g,h,i)perylene	1.7E+00			
POLYCHLORINATED BIPHENYLS (PCBs)	1.7E-01	6.1E-05	5.2E+00	3.0E+00
AROMATICS C11 to C TPH	3.0E+02			
Barium	1.6E+02			
CHROMIUM(VI)	1.1E+02		2.4E+00	5.1E-01
Lead	5.8E+01		4.1E+00	5.9E+00
Nickel	5.5E+02		7.4E+00	1.1E+01

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Resident - Soil: Table RS-3

Equations to Calculate Cancer Risk for Resident (Age 1-31 years)

Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing(1\text{-}31)} * CSF$$

$$LADD_{ing\ (1\text{-}31)} = LADD_{ing\ (1\text{-}8)} + LADD_{ing\ (8\text{-}15)} + LADD_{ing\ (15\text{-}31)}$$

$$LADD_{ing\ (age\ group\ x)} = \frac{[OHM]_{soil} * IR_x * RAF_{c\text{-}ing} * EF_{ing} * ED * EP_x * C}{BW_x * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF$$

$$LADD_{derm\ (1\text{-}31)} = LADD_{derm\ (1\text{-}8)} + LADD_{derm\ (8\text{-}15)} + LADD_{derm\ (15\text{-}31)}$$

$$LADD_{derm(age\ group\ x)} = \frac{[OHM]_{soil} * SA_x * RAF_{c\text{-}derm} * SAF_x * EF_{derm} * ED * EP_x * C}{BW_x * AP_{lifetime}}$$

Cancer Risk from Homegrown Produce

$$ELCR_{produce} = LADD_{produce(1\text{-}31)} * CSF$$

$$LADD_{produce(1\text{-}31)} = LADD_{produce(1\text{-}8)} + LADD_{produce(8\text{-}15)} + LADD_{produce(15\text{-}31)}$$

$$LADD_{produce(age\ x)} = \frac{[OHM_{soil}] * PUF * PIR_x * RAF_{produce} * EF_{produce} * ED * EP_x * C}{BW_x * AP_{lifetime}}$$

Vlookup Version v1012

Parameter	Value	Units
CSF	OHM specific	$(mg/kg\text{-}day)^{-1}$
LADD	age/OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
$IR_{(1\text{-}8)}$	100	mg/day
$IR_{(8\text{-}15)}$	50	mg/day
$IR_{(15\text{-}31)}$	50	mg/day
$PIR_{(1\text{-}8)}$	12,099	mg/day
$PIR_{(8\text{-}15)}$	17,809	mg/day
$PIR_{(15\text{-}31)}$	24,420	mg/day
$RAF_{c\text{-}ing}$	OHM specific	dimensionless
$RAF_{c\text{-}derm}$	OHM specific	dimensionless
$RAF_{c\text{-}produce}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.412	event/day
$EF_{produce}$	1.00	event/day
ED	1	day/event
$EP_{(1\text{-}8)}$	7	years
$EP_{(8\text{-}15)}$	7	years
$EP_{(15\text{-}31)}$	16	years
C	0.000001	kg/mg
$BW_{(1\text{-}8)}$	17.0	kg
$BW_{(8\text{-}15)}$	39.9	kg
$BW_{(15\text{-}31)}$	58.7	kg
$AP_{(lifetime)}$	70	years
$SA_{(1\text{-}8)}$	2431	cm^2 / day
$SA_{(8\text{-}15)}$	4427	cm^2 / day
$SA_{(15\text{-}31)}$	5653	cm^2 / day
$SAF_{(1\text{-}8)}$	0.35	mg/cm^2
$SAF_{(8\text{-}15)}$	0.14	mg/cm^2
$SAF_{(15\text{-}31)}$	0.13	mg/cm^2
PUF	OHM specific	$(mg/mg)(mg/mg)^{-1}$

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Resident - Soil: Table RS-4
Equations to Calculate Chronic Noncancer Risk for Resident Child (Age 1-8 years)

Vlookup Version v1012

Chronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Chronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{ing,derm}}{RfD}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Chronic Noncancer Risk from Homegrown Produce

$$HQ_{produce} = \frac{ADD_{produce}}{RfD}$$

$$ADD_{produce} = \frac{[OHM_{soil}] * PUF * PIR * RAF_{produce} * EF_{produce} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	100	mg/day
PIR	12,099	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$RAF_{nc\text{-}produce}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.412	event/day
$EF_{produce}$	1.00	event/day
ED	1	day/event
EP	7	years
C	0.000001	kg/mg
BW	17.0	kg
AP	7	year
SA	2431	cm^2 / day
SAF	0.35	mg/cm^2
PUF	OHM specific	$(mg/mg)(mg/mg)^{-1}$

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Resident - Soil: Table RS-5

Equations to Calculate Subchronic Noncancer Risk for Resident Child (Age 1-2 years)

Vlookup Version v1012

Subchronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{subchronic}}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Subchronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{subchronic}}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Subchronic Noncancer Risk from Homegrown Produce

$$HQ_{produce} = \frac{ADD_{produce}}{RfD_{subchronic}}$$

$$ADD_{produce} = \frac{[OHM_{soil}] * PUF * PIR * RAF_{produce} * EF_{produce} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	100	mg/day
PIR	10,900	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$RAF_{nc\text{-}produce}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.714	event/day
$EF_{produce}$	1.00	event/day
ED	1	day/event
EP	0.577	years
C	0.000001	kg/mg
BW	10.7	kg
AP	0.577	year
SA	1670	cm^2 / day
SAF	0.35	mg/cm^2
PUF	OHM specific	$(mg/mg)(mg/mg)^{-1}$

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Resident - Soil: Table RS-6
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table RS-7
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	
HQ - Hazard Quotient	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
RfD - Reference Dose	chemical specific	mg/kg-day	see Table RS-7
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
ADE - Average Daily Exposure	chemical specific	mg/m^3	
EPC - Exposure Point Concentration	chemical specific	mg/kg	
PUF - Plant Uptake Factor	chemical specific	$(mg/mg)(mg/mg)^{-1}$	See Table RS-7; $(mg_{OHM}/mg_{plant})/(mg_{OHM}/mg_{soil})^{-1}$
$IR_{(1-2)}$ - Soil Ingestion Rate for age group 1-2	100	mg/day	MADEP. 2002. Technical Update: Calculation of an Enhanced Soil Ingestion Rate. (http://www.mass.gov/dep/ors/orspubs.htm)
$IR_{(1-8)}$ - Soil Ingestion Rate for age group 1-8	100	mg/day	Ibid
$IR_{(8-15)}$ - Soil Ingestion Rate for age group 8-15	50	mg/day	Ibid
$IR_{(15-31)}$ - Soil Ingestion Rate for age group 15-31	50	mg/day	Ibid
$PIR_{(1-2)}$ = Produce Ingestion Rate for age group 1-2	10,900	mg/day	see Table RS-6
$PIR_{(1-8)}$ = Produce Ingestion Rate for age group 1-8	12,099	mg/day	see Table RS-6
$PIR_{(8-15)}$ = Produce Ingestion Rate for age group 8-15	17,809	mg/day	Ibid
$PIR_{(15-31)}$ = Produce Ingestion Rate for age group 15-31	24,420	mg/day	Ibid
RAF_c - Relative Absorption Factor for Cancer Effects	chemical specific	dimensionless	
$EF_{subchronic}$ - Exposure Frequency for subchronic ingestion or dermal exposure	0.714	event/day	5 days/week
$EF_{chronic}$ - Exposure Frequency for chronic ingestion or dermal exposure	0.412	event/day	5 days/week, 30 weeks/year
EF_{cancer} - Exposure Frequency for cancer, ingestion or dermal exposure	0.412	event/day	5 days/week, 30 weeks/year
$EF_{produce}$ - Exposure Frequency for produce ingestion, cancer and noncancer	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-2)}$ - Exposure Period for age group 1-2	0.577	years	30 weeks
$EP_{(1-8)}$ - Exposure Period for age group 1-8	7	years	
$EP_{(8-15)}$ - Exposure Period for age group 8-15	7	years	
$EP_{(15-31)}$ - Exposure Period for age group 15-31	16	years	
$BW_{(1-2)}$ - Body Weight for age group 1-2	10.7	kg	U.S. EPA. 1997. Exposure Factors Handbook. Table 7-7, females.
$BW_{(1-8)}$ - Body Weight for age group 1-8	17.0	kg	Ibid
$BW_{(8-15)}$ - Body Weight for age group 8-15	39.9	kg	Ibid
$BW_{(15-31)}$ - Body Weight for age group 15-31	58.7	kg	Ibid
$AP_{subchronic}$ - Averaging Period for subchronic noncancer	0.577	years	30 weeks
$AP_{chronic}$ - Averaging Period for chronic noncancer	7	years	
AP_{cancer} - Averaging Period for lifetime	70	years	
$SA_{(1-2)}$ - Surface Area for age group 1-2	1670	cm^2 / day	50th percentile of face (1/3 head), forearms, hands, lower legs, and feet for females MADEP. 1995. Guidance for Disposal Site Risk Characterization. Appendix Table B-2.
$SA_{(1-8)}$ - Surface Area for age group 1-8	2431	cm^2 / day	Ibid
$SA_{(8-15)}$ - Surface Area for age group 8-15	4427	cm^2 / day	Ibid
$SA_{(15-31)}$ - Surface Area for age group 15-31	5653	cm^2 / day	Ibid
$SAF_{(1-2)}$. Surface Adherence Factor for age group 1-2	0.35	mg/cm^2	All SAFs developed for ShortForm according to procedure outlined in MA DEP Technical
$SAF_{(1-8)}$. Surface Adherence Factor for age group 1-8	0.35	mg/cm^2	Update:Weighted Skin-Soil Adherence Factors, April 2002
$SAF_{(8-15)}$ - Surface Adherence Factor for age group 8-15	0.14	mg/cm^2	
$SAF_{(15-31)}$ - Surface Adherence Factor for age group 15-31	0.13	mg/cm^2	

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Resident - Soil: Table RS-7
Homegrown Produce Ingestion Rate

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Data on mean produce ingestion rates (wet weight, ww) in the Northeast was obtained from the 1994-1996 Continuing Survey of Food Intakes by Individuals (USDA). Data for both genders were used for children under 6, while data for males was used for individuals 6 and older. The mean ingestion rates presented in the survey represent the arithmetic average of all individuals surveyed, regardless of whether or not they had consumed the produce item (e.g., an individual that did not consume the produce item was assigned a rate of 0 g/day). To determine the mean ingestion rate for individuals who ate each produce item, the ingestion rate for all individuals (consumers and nonconsumers) was divided by the percentage of individuals who ate the item (Table RS-6A). These mean ingestion rates for the produce consumers were summed to determine the total produce ingestion rate for each age-group and converted to dry weight assuming the produce items were all 90% water.

To convert mean ingestion rates for the age-groups studied in the survey to age-groups used in risk calculations, each age-group ingestion rate from the survey (i.e., 1 - 2 year olds, 3 - 5 year olds, 6 - 11 year olds, 12 - 19 year olds, and 20 - 39 year olds) was weighted according to the number of years spent in the risk calculation age group (i.e., 1 - 8 year olds, 8 - 15 year olds, and 15 - 31 year olds) (Table RS-6B). It was assumed that 25% of produce ingested was home-grown (Table RS-6C).

Table RS-6A

	White Potatoes			Dark-green vegetables			Deep-yellow vegetables		
Age-groups studied in survey	Ingestion Rate for All g/d (ww)	% of individuals that consumed item.	Ingestion Rate for Consumers g/d (ww)	Ingestion Rate for All g/d (ww)	% of individuals that consumed item.	Ingestion Rate for Consumers g/d (ww)	Ingestion Rate for All g/d (ww)	% of individuals that consumed item.	Ingestion Rate for Consumers g/d (ww)
1-2	28	40.3	69.5	6	10.1	59.4	5	12.7	39.4
3-5	30	37.1	80.9	5	6.5	76.9	7	12.7	55.1
6-11	47	44.2	106.3	6	9.1	65.9	2	8.5	23.5
12-19	59	40.3	146.4	2	2.3	87.0	11	15.8	69.6
20-39	76	45.1	168.5	25	14.7	170.1	4	5.7	70.2

	Tomatoes			Lettuce			Green Beans		
Age-groups studied in survey	Ingestion Rate for All g/d (ww)	% of individuals that consumed item.	Ingestion Rate for Consumers g/d (ww)	Ingestion Rate for All g/d (ww)	% of individuals that consumed item.	Ingestion Rate for Consumers g/d (ww)	Ingestion Rate for All g/d (ww)	% of individuals that consumed item.	Ingestion Rate for Consumers g/d (ww)
1-2	10	27.9	35.8	1	6	16.7	7	12.1	57.9
3-5	10	37.1	27.0	4	14	28.6	3	5.7	52.6
6-11	20	42	47.6	8	14.9	53.7	1	2	50.0
12-19	29	45.2	64.2	19	28.7	66.2	2	2.4	83.3
20-39	48	50.9	94.3	18	29.6	60.8	4	3.7	108.1

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Table RS-6A (continued)

Age-groups studied in survey	Corn, Green peas, Lima beans: Ingestion Rate for All g/d (ww)	Corn, Green peas, Lima beans: % of individuals that consumed item.	Corn, Green peas, Lima beans: Ingestion Rate for Consumers g/d (ww)	Melons, berries: Ingestion Rate for All g/d (ww)	Melons, berries: % of individuals that consumed item.	Melons, berries: Ingestion Rate for Consumers g/d (ww)	Totals Wet Weight WWI g/day	Totals Dry Weight DWI g/day
1-2	12	15	80.0	7	9	77.8	436.4	43.6
3-5	14	21.7	64.5	14	11.6	120.7	506.3	50.6
6-11	9	13.6	66.2	5	5.9	84.7	498.0	49.8
12-19	14	9.9	141.4	17	5	340.0	998.1	99.8
20-39	12	7.3	164.4	6	4.5	133.3	969.7	97.0

Table RS-6B

Age-groups studied in survey	Years spent in age-group 1-8 year old	Years spent in age-group 8-15 year old	Years spent in age-group 15-31 year old
1-2	2		
3-5	3		
6-11	2	4	
12-19		3	4
20-39			12
	7	7	16

Table RS-6C

	Produce Intake, dry weight			
	Child 1-2 years g/day	Child 1-8 years g/day	Child 8-15 years g/day	Adult 15-31 g/day
All Produce:	43.6	48.4	71.2	97.7
Homegrown:	10.9	12.1	17.8	24.4

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Resident - Soil: Table RS-8
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	CSF (mg/kg-day)$^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	$RAF_{c\text{-}prod}$	Chronic RfD mg/kg-day	Subchronic RfD mg/kg-day	Chronic $RAF_{nc\text{-}ing}$	Chronic $RAF_{nc\text{-}derm}$	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$	$RAF_{nc\text{-}prod}$	PUF
zzChloromethane					2.6E-02	2.6E-02	1	0.1	1	0.1		
Bromomethane					1.4E-03	5.0E-03	1	0.03	1	0.03		
zzTrichlorofluoromethane					3.0E-01	3.0E-01	1	0.03	1	0.03		
Acetone					9.0E-01	2.7E+00	1	0.03	1	0.03		
zzCarbon disulfide					1.0E-01	1.0E-01	1	0.03	1	0.03		
DICHLOROMETHANE	2.0E-03	1.00	0.03		6.0E-03	6.0E-03	1	0.03	1	0.03		
DICHLOROETHYLENE,					2.0E-02	2.0E-01	1	0.03	1	0.03		
METHYL ETHYL KETON					6.0E-01	6.0E-01	1	0.03	1	0.03		
DICHLOROETHYLENE,					2.0E-03	2.0E-02	1	0.03	1	0.03		
Chloroform					1.0E-02	1.0E-02	1	0.03	1	0.03		
Trichloroethane, 1,1,1-					2.0E+00	7.0E+00	1	0.03	1	0.03		
TRICHLOROETHYLENE	5.0E-02	1.00	0.03		5.0E-04	5.0E-04	1	0.03	1	0.03		
METHYL ISOBUTYL KE					8.0E-02	8.0E-01	1	0.03	1	0.03		
Toluene					8.0E-02	8.0E-01	1	0.03	1	0.03		
zz2-Hexanone					5.0E-03	5.0E-03	1	0.03	1	0.03		
TETRACHLOROETHYLI	6.0E-02	1.00	0.03		6.0E-03	6.0E-03	1	0.03	1	0.03		
XYLENES (Mixed Isome					2.0E-01	4.0E-01	1	0.03	1	0.03		
Styrene	3.0E-02	1.00	0.03		2.0E-01	2.0E+00	1	0.03	1	0.03		
ALIPHATICS C5 to					4.0E-02	4.0E-01	1	0.2	1	0.2		
ALIPHATICS C9 to (					1.0E-01	1.0E+00	1	0.2	1	0.2		
AROMATICS C9 to					3.0E-02	3.0E-01	1	0.2	1	0.2		
METHYL TERT BUTYL E					1.0E-01	1.0E+00	1	0.03	1	0.03		
ALIPHATICS C9 to (					1.0E-01	1.0E+00	1	0.2	1	0.2		
ALIPHATICS C19 to					2.0E+00	6.0E+00	1	0.2	1	0.2		
AROMATICS C11 to					3.0E-02	3.0E-01	0.3	0.1	0.3	0.1		
Naphthalene					2.0E-02	2.0E-01	0.3	0.1	0.3	0.1		
Methylnaphthalene, 2-					4.0E-03	4.0E-03	0.3	0.1	0.3	0.1		
Acenaphthylene					3.0E-02	3.0E-01	0.3	0.1	0.3	0.1		
Acenaphthene					6.0E-02	2.0E-01	0.3	0.1	0.3	0.1		
Fluorene					4.0E-02	4.0E-01	0.3	0.1	0.3	0.1		
Phenanthrene					3.0E-02	3.0E-01	0.3	0.1	0.3	0.1		
Anthracene					3.0E-01	1.0E+00	0.3	0.1	0.3	0.1		
Fluoranthene					4.0E-02	4.0E-01	0.3	0.1	0.3	0.1		
Pyrene					3.0E-02	3.0E-01	0.3	0.1	0.3	0.1		
Benzo(a)anthracene	7.3E-01	0.30	0.02		3.0E-02	3.0E-01	0.3	0.02	0.3	0.02		
Chrysene	7.3E-02	0.30	0.02		3.0E-02	3.0E-01	0.3	0.02	0.3	0.02		
Benzo(b)fluoranthene	7.3E-01	0.30	0.02		3.0E-02	3.0E-01	0.3	0.02	0.3	0.02		
Benzo(k)fluoranthene	7.3E-02	0.30	0.02		3.0E-02	3.0E-01	0.3	0.02	0.3	0.02		
Benzo(a)pyrene	7.3E+00	0.30	0.02		3.0E-02	3.0E-01	0.3	0.02	0.3	0.02		
Indeno(1,2,3-cd)pyrene	7.3E-01	0.30	0.02		3.0E-02	3.0E-01	0.3	0.02	0.3	0.02		
Dibenzo(a,h)anthracene	7.3E+00	0.30	0.02		3.0E-02	3.0E-01	0.3	0.02	0.3	0.02		
Benzo(g,h,i)perylene					3.0E-02	3.0E-01	0.3	0.1	0.3	0.1		
POLYCHLORINATED BI	2.0E+00	1.00	0.10	1.00	2.0E-05	5.0E-05	1	0.1	1	0.1	1	0.84
AROMATICS C11 to					3.0E-02	3.0E-01	0.3	0.1	0.3	0.1		
Barium					2.0E-01	7.0E-02	1	0.1	1	0.1		
CHROMIUM(VI)					3.0E-03	2.0E-02	1	0.1	1	0.1	1	0.095
Lead					7.5E-04	7.5E-04	0.5	0.006	0.5	0.006	0.5	0.15
Nickel					2.0E-02	2.0E-02	1	0.2	1	0.2	1	0.38

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Resident - Soil: Table RS-9
Cyanide Calculations

The acute concentration of *available* cyanide in soil is the level *at or below which* adverse human health effects would not be expected following an acute exposure. The concentration is based on a potential one-time ingestion of 1000 mg/kg contaminated soil by child residents.

The residential soil concentration limit to protect against adverse effects from an acute (one-time) exposure to cyanide is 100 mg/kg.

Concentration Calculation for Cyanide

$$\text{Concentration} = \frac{\text{HQ x Acute Dose Limit x BW}}{\text{IR x RAF x Conversion Factor}}$$

Parameter	Value	Units
HQ (Hazard Quotient)	1	(unitless)
Acute Dose Limit	0.01	mg CN/ kg BW
BW (Body Weight) 1-2	10.7	kg
IR (1-time reasonable max)	1000	mg
Conversion Factor	1.0E-06	kg soil / mg soil

The toxicological basis for estimating an allowable one-time is documented in MassDEP's 1992 *Background Documentation for the Development of an "Available Cyanide" Benchmark Concentration,* which is published at: http://www.mass.gov/dep/toxics/cn_soil.htm.

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Construction Worker - Soil: Table CW-1 (0-15' bgs)
Exposure Point Concentration (EPC) and Risk
Based on Construction Worker 18-25 years of age

ShortForm Version 10-12
Vlookup Version v1012

ELCR (all chemicals) = 9E-07
HI (all chemicals) = 1E+00

****Do not insert or delete any rows****
Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material (OHM)		EPC (mg/kg)	ELCR ingestion	ELCR dermal	ELCR inhalation GI	ELCR inhalation pulmonary	$ELCR_{total}$	Subchronic HQ_{ing}	Subchronic HQ_{derm}	Subchronic HQ_{inh-GI}	Subchronic HQ_{inh}	HQ_{total}	
zzChloromethane		3.8E-02						1.8E-06	1.8E-06	4.7E-08	1.6E-08	3.6753E-06	
Bromomethane		1.6E-01						4.0E-05	1.2E-05	1.0E-06	6.1E-08	5.4E-05	
zzTrichlorofluoromethane		5.3E-03						2.2E-08	6.6E-09	5.6E-10	2.8E-10	2.9E-08	
Acetone		2.6E-01						1.2E-07	3.6E-08	3.1E-09	1.2E-08	1.7E-07	
zzCarbon disulfide		2.6E-03						3.2E-08	9.7E-09	8.3E-10	1.4E-10	4.3E-08	
DICHLOROMETHANE		3.0E-01	5.3E-12	1.6E-12	1.4E-13	8.0E-16	7.0E-12	6.2E-05	1.9E-05	1.6E-06	1.9E-08	8.2E-05	
DICHLOROETHYLENE, TRANS-1,2-		1.0E-01						6.2E-07	1.9E-07	1.6E-08	6.2E-08	8.8E-07	
METHYL ETHYL KETONE		2.1E-01						4.3E-07	1.3E-07	1.1E-08	1.6E-09	5.7E-07	
DICHLOROETHYLENE, CIS-1,2-		2.1E+00						1.3E-04	3.9E-05	3.4E-06	1.3E-06	1.7E-04	
Chloroform		4.3E-02				2.6E-13	2.6E-13	5.3E-06	1.6E-06	1.4E-07	2.4E-09	7.0E-06	
Trichloroethane, 1,1,1-		3.9E-02						6.9E-09	2.1E-09	1.8E-10	2.9E-10	9.4E-09	
TRICHLOROETHYLENE		2.5E+02	1.1E-07	3.4E-08	2.9E-09	2.7E-10	1.5E-07	6.3E-01	1.9E-01	1.6E-02	4.7E-03	8.4E-01	
METHYL ISOBUTYL KETONE		1.0E-03						1.5E-09	4.7E-10	4.0E-11	1.2E-11	2.1E-09	
Toluene		3.3E-02						5.1E-08	1.5E-08	1.3E-09	2.5E-10	6.8E-08	
zz2-Hexanone		3.1E-03						7.6E-07	2.3E-07	2.0E-08	3.8E-09	1.0E-06	
TETRACHLOROETHYLENE		7.5E-01	4.0E-10	1.2E-10	1.0E-11	2.0E-12	5.3E-10	1.5E-04	4.7E-05	4.0E-06	7.0E-07	2.1E-04	**Note! PCE CSF is under review.**
XYLENES (Mixed Isomers)		7.6E-02						2.3E-07	7.1E-08	6.1E-09	7.1E-09	3.2E-07	
Styrene		8.0E-04	2.1E-13	6.4E-14	5.5E-15	1.2E-16	2.8E-13	4.9E-10	1.5E-10	1.3E-11	9.9E-12	6.6E-10	
ALIPHATICS	C5 to C8	2.2E+01						6.8E-05	1.4E-04	1.8E-06	4.1E-06	2.1E-04	
ALIPHATICS	C9 to C12	1.0E+01						1.2E-05	2.5E-05	3.2E-07	6.3E-07	3.9E-05	
AROMATICS	C9 to C10	1.7E+01						6.8E-05	1.4E-04	1.8E-06	1.2E-06	2.1E-04	
METHYL TERT BUTYL ETHER		1.3E-01						1.6E-07	4.7E-08	4.0E-09	1.6E-09	2.1E-07	
ALIPHATICS	C9 to C18	9.3E+01						1.1E-04	2.3E-04	3.0E-06	5.8E-06	3.5E-04	
ALIPHATICS	C19 to C36	2.5E+02						5.1E-05	1.0E-04	1.3E-06		1.6E-04	
AROMATICS	C11 to C22	1.3E+02						1.7E-04	5.6E-04	4.3E-06	1.0E-05	7.4E-04	
Naphthalene		2.6E-01						4.8E-07	1.6E-06	1.2E-08	3.2E-06	5.3E-06	
Methylnaphthalene, 2-		6.0E-01						5.5E-05	1.9E-04	1.4E-06	4.5E-08	2.4E-04	
Acenaphthylene		4.4E-01						5.4E-07	1.8E-06	1.4E-08	3.3E-08	2.4E-06	
Acenaphthene		6.7E-01						1.2E-06	4.1E-06	3.2E-08	5.0E-08	5.5E-06	
Fluorene		7.7E-01						7.2E-07	2.4E-06	1.9E-08	5.8E-08	3.2E-06	
Phenanthrene		5.6E+00						6.8E-06	2.3E-05	1.8E-07	4.1E-07	3.0E-05	
Anthracene		1.2E+00						4.5E-07	1.5E-06	1.2E-08	9.1E-08	2.1E-06	
Fluoranthene		7.3E+00						6.7E-06	2.3E-05	1.7E-07	5.4E-07	3.0E-05	
Pyrene		6.9E+00						8.4E-06	2.8E-05	2.2E-07	5.1E-07	3.8E-05	
Benzo(a)anthracene		7.0E+00	1.3E-08	9.0E-09	3.5E-10	3.9E-10	2.3E-08	8.6E-06	5.8E-06	2.2E-07	5.2E-07	1.5E-05	
Chrysene		3.5E+00	6.7E-10	4.5E-10	1.7E-11	1.9E-11	1.2E-09	4.3E-06	2.9E-06	1.1E-07	2.6E-07	7.5E-06	
Benzo(b)fluoranthene		7.4E+00	1.4E-08	9.5E-09	3.7E-10	4.1E-10	2.4E-08	9.1E-06	6.1E-06	2.4E-07	5.5E-07	1.6E-05	
Benzo(k)fluoranthene		1.8E+00	3.4E-10	2.3E-10	8.9E-12	9.9E-12	5.9E-10	2.2E-06	1.5E-06	5.7E-08	1.3E-07	3.9E-06	
Benzo(a)pyrene		5.5E+00	1.1E-07	7.1E-08	2.7E-09	3.0E-09	1.8E-07	6.7E-06	4.5E-06	1.7E-07	4.1E-07	1.2E-05	
Indeno(1,2,3-cd)pyrene		2.3E+00	4.4E-09	2.9E-09	1.1E-10	1.3E-10	7.6E-09	2.8E-06	1.9E-06	7.3E-08	1.7E-07	4.9E-06	
Dibenzo(a,h)anthracene		3.6E+00	6.9E-08	4.7E-08	1.8E-09	2.0E-09	1.2E-07	4.4E-06	3.0E-06	1.2E-07	2.7E-07	7.8E-06	
Benzo(g,h,i)perylene		1.7E+00						2.1E-06	7.0E-06	5.4E-08	1.3E-07	9.3E-06	
POLYCHLORINATED BIPHENYLS (PCBs)		1.7E-01	3.0E-09	3.1E-09	7.9E-11	4.6E-12	6.2E-09	4.3E-03	4.3E-03	1.1E-04	3.2E-04	9.0E-03	
AROMATICS	C11 to C22 TPH	3.0E+02						3.7E-04	1.2E-03	9.5E-06	2.2E-05	1.6E-03	
Barium		1.6E+02						2.7E-03	2.8E-03	7.1E-05	1.2E-03	6.7E-03	
CHROMIUM(VI)		1.1E+02				3.4E-07	3.4E-07	6.5E-03	6.6E-03	1.7E-04	1.3E-02	2.6E-02	**Note! Cr(VI) limit is 200 mg/kg due to contact dermitis.**
Lead		5.8E+01						4.8E-02	5.8E-03	1.2E-03	2.2E-03	5.7E-02	
Nickel		5.5E+02				7.0E-08	7.0E-08	3.4E-02	6.8E-02	8.8E-04	2.0E-02	1.2E-01	

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Construction Worker - Soil: Table CW-2

Equations to Calculate Cancer Risk for Construction Worker

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Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing} * CSF_{oral}$$

$$LADD_{ing} = \frac{EPC * IR * RAF_{c\text{-}ing} * EF * ED_{ing} * EP * C1}{BW * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF_{oral}$$

$$LADD_{derm} = \frac{EPC * SA * AF * RAF_{c\text{-}derm} * EF * ED_{derm} * EP * C1}{BW * AP_{lifetime}}$$

Cancer Risk from Particulate Inhalation - Gastrointestinal Absorption

$$ELCR_{inh\text{-}GI} = LADD_{inh\text{-}GI} * CSF_{oral}$$

$$LADD_{inh\text{-}GI} = \frac{EPC * RCAF_{inh\text{-}gi} * PM_{10} * VR_{work} * RAF_{c\text{-}ing} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{lifetime}}$$

Cancer Risk from Particulate Inhalation - Pulmonary Absorption

$$ELCR_{inh} = LADD_{inh} * CSF_{inhalation}$$

$$LADD = \frac{EPC * RCAF_{inh} * PM_{10} * VR_{work} * RAF_{c\text{-}inh} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{lifetime}}$$

Parameter	Value	Units
CSF	OHM-specific	$(mg/kg\text{-}day)^{-1}$
LADD	age/OHM-specific	mg/kg-day
EPC	OHM-specific	mg/kg
IR	100	mg/day
$RAF_{c\text{-}ing}$	OHM-specific	dimensionless
$RAF_{c\text{-}derm}$	OHM-specific	dimensionless
$RAF_{c\text{-}inh}$	OHM-specific	dimensionless
EF	0.714	event/day
$ED_{ing\ \&\ derm}$	1	day/event
ED_{inh}	0.333	day/event
EP	182	days
C1	1.0E-06	kg/mg
C2	1.0E-09	kg/µg
C3	1440	min/days
C4	1.0E-03	m^3/L
BW	58.0	kg
$AP_{(lifetime)}$	25,550	days
VR_{work}	60	L/min
AF	0.29	mg/cm^2
SA	3473	cm^2/day
$RCAF_{inh\text{-}gi}$	1.5	dimensionless
$RCAF_{inh}$	0.5	dimensionless
PM_{10}	60	$µg/m^3$

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Construction Worker - Soil: Table CW-3

Equations to Calculate Noncancer Risk for Construction Worker

Vlookup Version v1012

Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{ing} = \frac{EPC * IR * RAF_{nc\text{-}ing} * EF * ED_{ing} * EP * C1}{BW * AP_{noncancer}}$$

Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{dermal} = \frac{EPC * SA * AF * RAF_{nc\text{-}derm} * EF * ED_{dermal} * EP * C1}{BW * AP_{noncancer}}$$

Noncancer Risk from Particulate Inhalation - Gastrointestinal Absorption

$$HQ_{inh\text{-}GI} = \frac{ADD_{inh\text{-}GI}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{inh\text{-}GI} = \frac{EPC * RCAF_{inh\text{-}gi} * PM_{10} * VR_{work} * RAF_{nc\text{-}ing} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{noncancer}}$$

Noncancer Risk from Particulate Inhalation - Pulmonary Absorption

$$HQ_{inh} = \frac{ADD}{RfD_{inhalation\text{-}subchronic}}$$

$$ADD_{inh} = \frac{EPC_{soil} * RCAF_{inh} * PM_{10} * VR_{work} * RAF_{nc\text{-}inh} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{noncancer}}$$

Parameter	Value	Units
RfD	OHM-specific	mg/kg-day
ADD	OHM-specific	mg/kg-day
EPC	OHM-specific	mg/kg
IR	100	mg/day
$RAF_{nc\text{-}ing}$	OHM-specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM-specific	dimensionless
$RAF_{nc\text{-}inh}$	OHM-specific	dimensionless
EF	0.714	event/day
$ED_{ing\ \&\ derm}$	1	day/event
ED_{inh}	0.333	day/event
EP	182	days
C1	1.0E-06	kg/mg
C2	1.0E-09	kg/µg
C3	1440	min/days
C4	1.0E-03	m^3/L
BW	58.0	kg
$AP_{noncancer}$	182	days
VR_{work}	60	L/min
AF	0.29	mg/cm^2
SA	3473	cm^2/day
$RCAF_{inh\text{-}gi}$	1.5	dimensionless
$RCAF_{inh}$	0.5	dimensionless
PM10	60	$\mu g/m^3$

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Construction Worker - Soil: Table CW-4
Definitions and Exposure Factors

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Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
HI - Hazard Index	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table CW-5.
RfD - Reference Dose	chemical specific	mg/kg-day	see Table CW-5.
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific. See Table CW-2.
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific. See Table CW-3.
EPC - Exposure Point Concentration	chemical specific	mg/kg	see Table CW-1.
IR - Soil Ingestion Rate	100	mg/day	MADEP. 2002. Technical Update: Calculation of an Enhanced Soil Ingestion Rate. (http://www.mass.gov/dep/ors/orspubs.htm).
RAF_c - Relative Absorption Factor for Cancer Effects	chemical specific	dimensionless	Pathway specific - see Table CW-5.
RAF_{nc} - Relative Absorption Factor for Noncancer Effects	chemical specific	dimensionless	Pathway specific - see Table CW-5.
EF - Exposure Frequency	0.714	event/day	5 events (days) / 7 events (days) in a week; MADEP 1995 Guidance for Disposal Site Risk Characterization pg B-38.
$ED_{ing,derm}$ - Exposure Duration for ingestion or dermal exposure	1	day/event	
ED_{inh} - Exposure Duration for inhalation exposure	0.333	day/event	Represents 8 hours / event.
EP - Exposure Period	182	days	6 months; MADEP 1995 Guidance for Disposal Site Risk Characterization.
BW - Body Weight	58.0	kg	U.S. EPA. 1997. Exposure Factors Handbook. Table 7-7, Females, ages 18 - 25.
$AP_{(lifetime)}$ - Averaging Period for lifetime	25,550	days	Represents 70 years
$AP_{(noncancer)}$ - Averaging Period for noncancer	182	days	6 months; MADEP 1995 Guidance for Disposal Site Risk Characterization.
AF - Adherence Factor	0.29	mg/cm^2	MA DEP. 2002 Technical Update: Weighted Skin-Soil Adherence Factors. (http://www.mass.gov/dep/ors/orspubs.htm)
VR_{work} - Ventilation Rate during work (heavy exertion)	60	L/min	Table B-4 MADEP 1995 Guidance for Disposal Site Risk Characterization.
SA - Surface Area	3473	cm^2/day	MADEP. 1995. Guidance for Disposal Site Risk Characterization. 50th percentile for females. Appendix Table B-2.
$IFAF_{inh\text{-}gi}$ - Ingestion Fraction Adjustment Factor, gastrointestinal	1.5	dimensionless	MADEP 2007. Characterization of Risks Due to Inhalation of Particulates by Construction Workers
$IFAF_{inh}$ - Inhalation Fraction Adjustment Factor, inhalation	0.5	dimensionless	MADEP 2002. Characterization of Risks Due to Inhalation of Particulates by Construction Workers
PM10 - Concentration of PM_{10}	60	$\mu g/m^3$	MADEP 1995 Guidance for Disposal Site Risk Characterization pg B-11

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Construction Worker - Soil: Table CW-5
Chemical-Specific Data

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Oil or Hazardous Material	Oral CSF $(mg/kg\text{-}day)^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	$RAF_{c\text{-}inh}$	Inhalation CSF $(mg/kg\text{-}day)^{-1}$	Subchronic Oral RfD mg/kg-day	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$	Subchronic $RAF_{nc\text{-}inh}$	Subchronic Inhalation RfD
zzChloromethane						2.6E-02	1	0.1	1	2.6E-02
Bromomethane						5.0E-03	1	0.03	1	2.9E-02
zzTrichlorofluoromethane						3.0E-01	1	0.03	1	2.0E-01
Acetone						2.7E+00	1	0.03	1	2.3E-01
zzCarbon disulfide						1.0E-01	1	0.03	1	2.0E-01
DICHLOROMETHANE	2.0E-03	1	0.03	1	3.5E-05	6.0E-03	1	0.03	1	1.7E-01
DICHLOROETHYLENE, TRANS-1,2-						2.0E-01	1	0.03	1	1.7E-02
METHYL ETHYL KETONE						6.0E-01	1	0.03	1	1.4E+00
DICHLOROETHYLENE, CIS-1,2-						2.0E-02	1	0.03	1	1.7E-02
Chloroform					8.1E-02	1.0E-02	1	0.03	1	1.9E-01
Trichloroethane, 1,1,1-						7.0E+00	1	0.03	1	1.4E+00
TRICHLOROETHYLENE	5.0E-02	1	0.03	1	1.4E-02	5.0E-04	1	0.03	1	5.7E-04
METHYL ISOBUTYL KETONE						8.0E-01	1	0.03	1	8.6E-01
Toluene						8.0E-01	1	0.03	1	1.4E+00
zz2-Hexanone						5.0E-03	1	0.03	1	8.6E-03
TETRACHLOROETHYLENE	6.0E-02	1	0.03	1	3.5E-02	6.0E-03	1	0.03	1	1.1E-02
XYLENES (Mixed Isomers)						4.0E-01	1	0.03	1	1.1E-01
Styrene	3.0E-02	1	0.03	1	2.0E-03	2.0E+00	1	0.03	1	8.6E-01
ALIPHATICS C5 to C8						4.0E-01	1	0.2	1	5.7E-02
ALIPHATICS C9 to C12						1.0E+00	1	0.2	1	1.7E-01
AROMATICS C9 to C10						3.0E-01	1	0.2	1	1.4E-01
METHYL TERT BUTYL ETHER						1.0E+00	1	0.03	1	8.6E-01
ALIPHATICS C9 to C18						1.0E+00	1	0.2	1	1.7E-01
ALIPHATICS C19 to C36						6.0E+00	1	0.2		
AROMATICS C11 to C22						3.0E-01	0.3	0.1	1	1.4E-01
Naphthalene						2.0E-01	0.3	0.1	1	8.6E-04
Methylnaphthalene, 2-						4.0E-03	0.3	0.1	1	1.4E-01
Acenaphthylene						3.0E-01	0.3	0.1	1	1.4E-01
Acenaphthene						2.0E-01	0.3	0.1	1	1.4E-01
Fluorene						4.0E-01	0.3	0.1	1	1.4E-01
Phenanthrene						3.0E-01	0.3	0.1	1	1.4E-01
Anthracene						1.0E+00	0.3	0.1	1	1.4E-01
Fluoranthene						4.0E-01	0.3	0.1	1	1.4E-01
Pyrene						3.0E-01	0.3	0.1	1	1.4E-01
Benzo(a)anthracene	7.3E-01	0.3	0.02	1	7.3E-01	3.0E-01	0.3	0.02	1	1.4E-01
Chrysene	7.3E-02	0.3	0.02	1	7.3E-02	3.0E-01	0.3	0.02	1	1.4E-01
Benzo(b)fluoranthene	7.3E-01	0.3	0.02	1	7.3E-01	3.0E-01	0.3	0.02	1	1.4E-01
Benzo(k)fluoranthene	7.3E-02	0.3	0.02	1	7.3E-02	3.0E-01	0.3	0.02	1	1.4E-01
Benzo(a)pyrene	7.3E+00	0.3	0.02	1	7.3E+00	3.0E-01	0.3	0.02	1	1.4E-01
Indeno(1,2,3-cd)pyrene	7.3E-01	0.3	0.02	1	7.3E-01	3.0E-01	0.3	0.02	1	1.4E-01
Dibenzo(a,h)anthracene	7.3E+00	0.3	0.02	1	7.3E+00	3.0E-01	0.3	0.02	1	1.4E-01
Benzo(g,h,i)perylene						3.0E-01	0.3	0.1	1	1.4E-01
POLYCHLORINATED BIPHENYLS (PCBs)	2.0E+00	1	0.1	1	3.5E-01	5.0E-05	1	0.1	1	5.7E-06
AROMATICS C11 to C22						3.0E-01	0.3	0.1	1	1.4E-01
Barium						7.0E-02	1	0.1	1	1.4E-03
CHROMIUM(VI)					4.2E+01	2.0E-02	1	0.1	1	8.6E-05
Lead						7.5E-04	0.5	0.006	1	2.9E-04
Nickel					1.7E+00	2.0E-02	1	0.2	1	2.9E-04

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Construction Worker - Soil: Table CW-6
Cyanide Calculations

The acute concentration of *available* cyanide in soil is the level *at or below which* adverse human health effects would not be expected following an acute exposure. For construction workers, the subchronic concentrations calculated in the EPCs tab are more conservative than the acute concentrations. The acute calculation is below.

Acute Concentration Calculation for Cyanide

$$\text{Concentration} = \frac{\text{HQ x Acute Dose Limit x BW}}{\text{IR x RAF x Conversion Factor}}$$

Parameter	Value	Units
HQ (Hazard Quotient)	1	(unitless)
Acute Dose Limit	0.01	mg CN/ kg BW
BW (Body Weight) $_{11\text{-}12}$	58	kg
IR $_{(1\text{-time reasonable max})}$	100	mg
Conversion Factor	1.0E-06	kg soil / mg soil

The toxicological basis for estimating an allowable one-time is documented in MassDEP's 1992 *Background Documentation for the Development of an "Available Cyanide" Benchmark Concentration,* which is published at: http://www.mass.gov/dep/toxics/cn_soil.htm.

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Utility Worker - Soil: Table CW-1 (Roadway)
Exposure Point Concentration (EPC) and Risk
Based on Construction Worker 18-25 years of age

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ELCR (all chemicals) = 2E-11
HI (all chemicals) = 3E-03

****Do not insert or delete any rows****
Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material (OHM)			EPC (mg/kg)	ELCR ingestion	ELCR dermal	ELCR inhalation GI	ELCR inhalation pulmonary	$ELCR_{total}$	Subchronic HQ_{ing}	Subchronic HQ_{derm}	Subchronic HQ_{inh-GI}	Subchronic HQ_{inh}	HQ_{total}	
DICHLOROETHYLENE, CIS-1,2-			1.0E-01						1.2E-06	3.7E-07	3.2E-08	1.2E-08	1.6490E-06	
TRICHLOROETHYLENE			4.3E+00	1.5E-11	4.4E-12	3.8E-13	3.5E-14	1.9E-11	2.1E-03	6.4E-04	5.5E-05	1.6E-05	2.8E-03	
Toluene			5.1E-02						1.6E-08	4.7E-09	4.1E-10	7.6E-11	2.1E-08	
TETRACHLOROETHYLENE			2.5E-02	1.0E-13	3.1E-14	2.7E-15	5.2E-16	1.4E-13	1.0E-06	3.2E-07	2.7E-08	4.7E-09	1.4E-06	**Note! PCE CSF is under review.**
AROMATICS	C11 to C22	TPH	3.6E+02						8.7E-05	2.9E-04	2.3E-06	5.3E-06	3.9E-04	

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Construction Worker - Soil: Table CW-2

Equations to Calculate Cancer Risk for Construction Worker

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Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing} * CSF_{oral}$$

$$LADD_{ing} = \frac{EPC * IR * RAF_{c\text{-}ing} * EF * ED_{ing} * EP * C1}{BW * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF_{oral}$$

$$LADD_{derm} = \frac{EPC * SA * AF * RAF_{c\text{-}derm} * EF * ED_{derm} * EP * C1}{BW * AP_{lifetime}}$$

Cancer Risk from Particulate Inhalation - Gastrointestinal Absorption

$$ELCR_{inh\text{-}GI} = LADD_{inh\text{-}GI} * CSF_{oral}$$

$$LADD_{inh\text{-}GI} = \frac{EPC * RCAF_{inh\text{-}gi} * PM_{10} * VR_{work} * RAF_{c\text{-}ing} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{lifetime}}$$

Cancer Risk from Particulate Inhalation - Pulmonary Absorption

$$ELCR_{inh} = LADD_{inh} * CSF_{inhalation}$$

$$LADD = \frac{EPC * RCAF_{inh} * PM_{10} * VR_{work} * RAF_{c\text{-}inh} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{lifetime}}$$

Parameter	Value	Units
CSF	OHM-specific	$(mg/kg\text{-}day)^{-1}$
LADD	age/OHM-specific	mg/kg-day
EPC	OHM-specific	mg/kg
IR	100	mg/day
$RAF_{c\text{-}ing}$	OHM-specific	dimensionless
$RAF_{c\text{-}derm}$	OHM-specific	dimensionless
$RAF_{c\text{-}inh}$	OHM-specific	dimensionless
EF	0.143	event/day
$ED_{ing\ \&\ derm}$	1	day/event
ED_{inh}	0.333	day/event
EP	7	days
C1	1.0E-06	kg/mg
C2	1.0E-09	kg/µg
C3	1440	min/days
C4	1.0E-03	m^3/L
BW	58.0	kg
$AP_{(lifetime)}$	25,550	days
VR_{work}	60	L/min
AF	0.29	mg/cm^2
SA	3473	cm^2/day
$RCAF_{inh\text{-}gi}$	1.5	dimensionless
$RCAF_{inh}$	0.5	dimensionless
PM_{10}	60	$µg/m^3$

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Construction Worker - Soil: Table CW-3

Equations to Calculate Noncancer Risk for Construction Worker

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Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{ing} = \frac{EPC * IR * RAF_{nc\text{-}ing} * EF * ED_{ing} * EP * C1}{BW * AP_{noncancer}}$$

Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{dermal} = \frac{EPC * SA * AF * RAF_{nc\text{-}derm} * EF * ED_{dermal} * EP * C1}{BW * AP_{noncancer}}$$

Noncancer Risk from Particulate Inhalation - Gastrointestinal Absorption

$$HQ_{inh\text{-}GI} = \frac{ADD_{inh\text{-}GI}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{inh\text{-}GI} = \frac{EPC * RCAF_{inh\text{-}gi} * PM_{10} * VR_{work} * RAF_{nc\text{-}ing} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{noncancer}}$$

Noncancer Risk from Particulate Inhalation - Pulmonary Absorption

$$HQ_{inh} = \frac{ADD}{RfD_{inhalation\text{-}subchronic}}$$

$$ADD_{inh} = \frac{EPC_{soil} * RCAF_{inh} * PM_{10} * VR_{work} * RAF_{nc\text{-}inh} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{noncancer}}$$

Parameter	Value	Units
RfD	OHM-specific	mg/kg-day
ADD	OHM-specific	mg/kg-day
EPC	OHM-specific	mg/kg
IR	100	mg/day
$RAF_{nc\text{-}ing}$	OHM-specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM-specific	dimensionless
$RAF_{nc\text{-}inh}$	OHM-specific	dimensionless
EF	0.143	event/day
$ED_{ing\ \&\ derm}$	1	day/event
ED_{inh}	0.333	day/event
EP	7	days
C1	1.0E-06	kg/mg
C2	1.0E-09	kg/µg
C3	1440	min/days
C4	1.0E-03	m^3/L
BW	58.0	kg
$AP_{noncancer}$	7	days
VR_{work}	60	L/min
AF	0.29	mg/cm^2
SA	3473	cm^2/day
$RCAF_{inh\text{-}gi}$	1.5	dimensionless
$RCAF_{inh}$	0.5	dimensionless
PM10	60	µg/m^3

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Construction Worker - Soil: Table CW-4
Definitions and Exposure Factors

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Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
HI - Hazard Index	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table CW-5.
RfD - Reference Dose	chemical specific	mg/kg-day	see Table CW-5.
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific. See Table CW-2.
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific. See Table CW-3.
EPC - Exposure Point Concentration	chemical specific	mg/kg	see Table CW-1.
IR - Soil Ingestion Rate	100	mg/day	MADEP. 2002. Technical Update: Calculation of an Enhanced Soil Ingestion Rate. (http://www.mass.gov/dep/ors/orspubs.htm).
RAF_c - Relative Absorption Factor for Cancer Effects	chemical specific	dimensionless	Pathway specific - see Table CW-5.
RAF_{nc} - Relative Absorption Factor for Noncancer Effects	chemical specific	dimensionless	Pathway specific - see Table CW-5.
EF - Exposure Frequency	0.143	event/day	1 events (days) / 7 events (days) in a week; MADEP 1995 Guidance for Disposal Site Risk Characterization pg B-38.
$ED_{ing,derm}$ - Exposure Duration for ingestion or dermal exposure	1	day/event	
ED_{inh} - Exposure Duration for inhalation exposure	0.333	day/event	Represents 8 hours / event.
EP - Exposure Period	7	days	1 week; MADEP 1995 Guidance for Disposal Site Risk Characterization.
BW - Body Weight	58.0	kg	U.S. EPA. 1997. Exposure Factors Handbook. Table 7-7, Females, ages 18 - 25.
$AP_{(lifetime)}$ - Averaging Period for lifetime	25,550	days	Represents 70 years
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	days	1 week; MADEP 1995 Guidance for Disposal Site Risk Characterization.
AF - Adherence Factor	0.29	mg/cm^2	MA DEP. 2002 Technical Update: Weighted Skin-Soil Adherence Factors. (http://www.mass.gov/dep/ors/orspubs.htm)
VR_{work} - Ventilation Rate during work (heavy exertion)	60	L/min	Table B-4 MADEP 1995 Guidance for Disposal Site Risk Characterization.
SA - Surface Area	3473	cm^2/day	MADEP. 1995. Guidance for Disposal Site Risk Characterization. 50th percentile for females. Appendix Table B-2.
$IFAF_{inh\text{-}gi}$ - Ingestion Fraction Adjustment Factor, gastrointestinal	1.5	dimensionless	MADEP 2007. Characterization of Risks Due to Inhalation of Particulates by Construction Workers
$IFAF_{inh}$ - Inhalation Fraction Adjustment Factor, inhalation	0.5	dimensionless	MADEP 2002. Characterization of Risks Due to Inhalation of Particulates by Construction Workers
PM10 - Concentration of PM_{10}	60	$\mu g/m^3$	MADEP 1995 Guidance for Disposal Site Risk Characterization pg B-11

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Construction Worker - Soil: Table CW-5
Chemical-Specific Data

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Oil or Hazardous Material	Oral CSF $(mg/kg\text{-}day)^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	$RAF_{c\text{-}inh}$	Inhalation CSF $(mg/kg\text{-}day)^{-1}$	Subchronic Oral RfD mg/kg-day	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$	Subchronic $RAF_{nc\text{-}inh}$	Subchronic Inhalation RfD
DICHLOROETHYLENE, CIS-1,2-						2.0E-02	1	0.03	1	1.7E-02
TRICHLOROETHYLENE	5.0E-02	1	0.03	1	1.4E-02	5.0E-04	1	0.03	1	5.7E-04
Toluene						8.0E-01	1	0.03	1	1.4E+00
TETRACHLOROETHYLENE	6.0E-02	1	0.03	1	3.5E-02	6.0E-03	1	0.03	1	1.1E-02
AROMATICS C11 to C22						3.0E-01	0.3	0.1	1	1.4E-01

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Construction Worker - Soil: Table CW-6
Cyanide Calculations

The acute concentration of *available* cyanide in soil is the level *at or below which* adverse human health effects would not be expected following an acute exposure. For construction workers, the subchronic concentrations calculated in the EPCs tab are more conservative than the acute concentrations. The acute calculation is below.

Acute Concentration Calculation for Cyanide

$$\text{Concentration} = \frac{\text{HQ x Acute Dose Limit x BW}}{\text{IR x RAF x Conversion Factor}}$$

Parameter	Value	Units
HQ (Hazard Quotient)	1	(unitless)
Acute Dose Limit	0.01	mg CN/ kg BW
BW (Body Weight) $_{11\text{-}12}$	58	kg
IR $_{(1\text{-time reasonable max})}$	100	mg
Conversion Factor	1.0E-06	kg soil / mg soil

The toxicological basis for estimating an allowable one-time is documented in MassDEP's 1992 *Background Documentation for the Development of an "Available Cyanide" Benchmark Concentration,* which is published at: http://www.mass.gov/dep/toxics/cn_soil.htm.

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Utility Worker - Soil: Table CW-1 (0-15' bgs)
Exposure Point Concentration (EPC) and Risk
Based on Construction Worker 18-25 years of age

ShortForm Version 10-12
Vlookup Version v1012

ELCR (all chemicals) = 7E-09
HI (all chemicals) = 2E-01

****Do not insert or delete any rows****
Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material (OHM)		EPC (mg/kg)	ELCR ingestion	ELCR dermal	ELCR inhalation GI	ELCR inhalation pulmonary	$ELCR_{total}$	Subchronic HQ_{ing}	Subchronic HQ_{derm}	Subchronic HQ_{inh-GI}	Subchronic HQ_{inh}	HQ_{total}	
zzChloromethane		3.8E-02						3.6E-07	3.6E-07	9.3E-09	3.1E-09	7.3506E-07	
Bromomethane		1.6E-01						8.1E-06	2.4E-06	2.1E-07	1.2E-08	1.1E-05	
zzTrichlorofluoromethane		5.3E-03						4.4E-09	1.3E-09	1.1E-10	5.6E-11	5.8E-09	
Acetone		2.6E-01						2.4E-08	7.2E-09	6.1E-10	2.4E-09	3.4E-08	
zzCarbon disulfide		2.6E-03						6.4E-09	1.9E-09	1.7E-10	2.8E-11	8.5E-09	
DICHLOROMETHANE		3.0E-01	4.1E-14	1.2E-14	1.1E-15	6.1E-18	5.4E-14	1.2E-05	3.7E-06	3.2E-07	3.7E-09	1.6E-05	
DICHLOROETHYLENE, TRANS-1,2-		1.0E-01						1.2E-07	3.7E-08	3.2E-09	1.2E-08	1.8E-07	
METHYL ETHYL KETONE		2.1E-01						8.6E-08	2.6E-08	2.2E-09	3.1E-10	1.1E-07	
DICHLOROETHYLENE, CIS-1,2-		2.1E+00						2.6E-05	7.9E-06	6.7E-07	2.6E-07	3.5E-05	
Chloroform		4.3E-02				2.0E-15	2.0E-15	1.1E-06	3.2E-07	2.7E-08	4.9E-10	1.4E-06	
Trichloroethane, 1,1,1-		3.9E-02						1.4E-09	4.1E-10	3.6E-11	5.8E-11	1.9E-09	
TRICHLOROETHYLENE		2.5E+02	8.6E-10	2.6E-10	2.2E-11	2.1E-12	1.1E-09	1.3E-01	3.8E-02	3.3E-03	9.5E-04	1.7E-01	
METHYL ISOBUTYL KETONE		1.0E-03						3.1E-10	9.3E-11	8.0E-12	2.5E-12	4.1E-10	
Toluene		3.3E-02						1.0E-08	3.1E-09	2.6E-10	4.9E-11	1.4E-08	
zz2-Hexanone		3.1E-03						1.5E-07	4.6E-08	4.0E-09	7.7E-10	2.0E-07	
TETRACHLOROETHYLENE		7.5E-01	3.1E-12	9.2E-13	7.9E-14	1.5E-14	4.1E-12	3.1E-05	9.4E-06	8.0E-07	1.4E-07	4.1E-05	**Note! PCE CSF is under review.**
XYLENES (Mixed Isomers)		7.6E-02						4.7E-08	1.4E-08	1.2E-09	1.4E-09	6.4E-08	
Styrene		8.0E-04	1.6E-15	4.9E-16	4.2E-17	9.3E-19	2.2E-15	9.9E-11	3.0E-11	2.6E-12	2.0E-12	1.3E-10	
ALIPHATICS	C5 to C8	2.2E+01						1.4E-05	2.7E-05	3.5E-07	8.2E-07	4.2E-05	
ALIPHATICS	C9 to C12	1.0E+01						2.5E-06	5.0E-06	6.5E-08	1.3E-07	7.7E-06	
AROMATICS	C9 to C10	1.7E+01						1.4E-05	2.7E-05	3.5E-07	2.5E-07	4.1E-05	
METHYL TERT BUTYL ETHER		1.3E-01						3.1E-08	9.4E-09	8.1E-10	3.1E-10	4.2E-08	
ALIPHATICS	C9 to C18	9.3E+01						2.3E-05	4.6E-05	5.9E-07	1.2E-06	7.1E-05	
ALIPHATICS	C19 to C36	2.5E+02						1.0E-05	2.1E-05	2.6E-07		3.1E-05	
AROMATICS	C11 to C22	1.3E+02						3.3E-05	1.1E-04	8.6E-07	2.0E-06	1.5E-04	
Naphthalene		2.6E-01						9.6E-08	3.2E-07	2.5E-09	6.4E-07	1.1E-06	
Methylnaphthalene, 2-		6.0E-01						1.1E-05	3.7E-05	2.9E-07	8.9E-09	4.9E-05	
Acenaphthylene		4.4E-01						1.1E-07	3.6E-07	2.8E-09	6.6E-09	4.8E-07	
Acenaphthene		6.7E-01						2.5E-07	8.3E-07	6.4E-09	1.0E-08	1.1E-06	
Fluorene		7.7E-01						1.4E-07	4.8E-07	3.7E-09	1.2E-08	6.4E-07	
Phenanthrene		5.6E+00						1.4E-06	4.6E-06	3.5E-08	8.3E-08	6.1E-06	
Anthracene		1.2E+00						9.0E-08	3.0E-07	2.3E-09	1.8E-08	4.1E-07	
Fluoranthene		7.3E+00						1.3E-06	4.5E-06	3.5E-08	1.1E-07	6.0E-06	
Pyrene		6.9E+00						1.7E-06	5.7E-06	4.4E-08	1.0E-07	7.5E-06	
Benzo(a)anthracene		7.0E+00	1.0E-10	7.0E-11	2.7E-12	3.0E-12	1.8E-10	1.7E-06	1.2E-06	4.5E-08	1.0E-07	3.0E-06	
Chrysene		3.5E+00	5.1E-12	3.4E-12	1.3E-13	1.5E-13	8.9E-12	8.6E-07	5.7E-07	2.2E-08	5.2E-08	1.5E-06	
Benzo(b)fluoranthene		7.4E+00	1.1E-10	7.3E-11	2.8E-12	3.1E-12	1.9E-10	1.8E-06	1.2E-06	4.7E-08	1.1E-07	3.2E-06	
Benzo(k)fluoranthene		1.8E+00	2.6E-12	1.8E-12	6.8E-14	7.6E-14	4.6E-12	4.4E-07	3.0E-07	1.1E-08	2.7E-08	7.7E-07	
Benzo(a)pyrene		5.5E+00	8.1E-10	5.4E-10	2.1E-11	2.3E-11	1.4E-09	1.3E-06	9.0E-07	3.5E-08	8.1E-08	2.4E-06	
Indeno(1,2,3-cd)pyrene		2.3E+00	3.4E-11	2.3E-11	8.7E-13	9.7E-13	5.8E-11	5.6E-07	3.8E-07	1.5E-08	3.4E-08	9.9E-07	
Dibenzo(a,h)anthracene		3.6E+00	5.3E-10	3.6E-10	1.4E-11	1.5E-11	9.2E-10	8.9E-07	6.0E-07	2.3E-08	5.4E-08	1.6E-06	
Benzo(g,h,i)perylene		1.7E+00						4.2E-07	1.4E-06	1.1E-08	2.5E-08	1.9E-06	
POLYCHLORINATED BIPHENYLS (PCBs)		1.7E-01	2.3E-11	2.4E-11	6.1E-13	3.5E-14	4.8E-11	8.5E-04	8.6E-04	2.2E-05	6.5E-05	1.8E-03	
AROMATICS	C11 to C22 TPH	3.0E+02						7.3E-05	2.5E-04	1.9E-06	4.4E-06	3.2E-04	
Barium		1.6E+02						5.5E-04	5.5E-04	1.4E-05	2.3E-04	1.3E-03	
CHROMIUM(VI)		1.1E+02				2.6E-09	2.6E-09	1.3E-03	1.3E-03	3.4E-05	2.6E-03	5.3E-03	**Note! Cr(VI) limit is 200 mg/kg due to contact dermitis.**
Lead		5.8E+01						9.6E-03	1.2E-03	2.5E-04	4.3E-04	1.1E-02	
Nickel		5.5E+02				5.4E-10	5.4E-10	6.8E-03	1.4E-02	1.8E-04	4.1E-03	2.5E-02	

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Construction Worker - Soil: Table CW-2

Equations to Calculate Cancer Risk for Construction Worker

Vlookup Version v1012

Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing} * CSF_{oral}$$

$$LADD_{ing} = \frac{EPC * IR * RAF_{c\text{-}ing} * EF * ED_{ing} * EP * C1}{BW * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF_{oral}$$

$$LADD_{derm} = \frac{EPC * SA * AF * RAF_{c\text{-}derm} * EF * ED_{derm} * EP * C1}{BW * AP_{lifetime}}$$

Cancer Risk from Particulate Inhalation - Gastrointestinal Absorption

$$ELCR_{inh\text{-}GI} = LADD_{inh\text{-}GI} * CSF_{oral}$$

$$LADD_{inh\text{-}GI} = \frac{EPC * RCAF_{inh\text{-}gi} * PM_{10} * VR_{work} * RAF_{c\text{-}ing} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{lifetime}}$$

Cancer Risk from Particulate Inhalation - Pulmonary Absorption

$$ELCR_{inh} = LADD_{inh} * CSF_{inhalation}$$

$$LADD = \frac{EPC * RCAF_{inh} * PM_{10} * VR_{work} * RAF_{c\text{-}inh} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{lifetime}}$$

Parameter	Value	Units
CSF	OHM-specific	$(mg/kg\text{-}day)^{-1}$
LADD	age/OHM-specific	mg/kg-day
EPC	OHM-specific	mg/kg
IR	100	mg/day
$RAF_{c\text{-}ing}$	OHM-specific	dimensionless
$RAF_{c\text{-}derm}$	OHM-specific	dimensionless
$RAF_{c\text{-}inh}$	OHM-specific	dimensionless
EF	0.143	event/day
$ED_{ing\ \&\ derm}$	1	day/event
ED_{inh}	0.333	day/event
EP	7	days
C1	1.0E-06	kg/mg
C2	1.0E-09	kg/µg
C3	1440	min/days
C4	1.0E-03	m^3/L
BW	58.0	kg
$AP_{(lifetime)}$	25,550	days
VR_{work}	60	L/min
AF	0.29	mg/cm^2
SA	3473	cm^2/day
$RCAF_{inh\text{-}gi}$	1.5	dimensionless
$RCAF_{inh}$	0.5	dimensionless
PM_{10}	60	$µg/m^3$

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Construction Worker - Soil: Table CW-3

Equations to Calculate Noncancer Risk for Construction Worker

Vlookup Version v1012

Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{ing} = \frac{EPC * IR * RAF_{nc\text{-}ing} * EF * ED_{ing} * EP * C1}{BW * AP_{noncancer}}$$

Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{dermal} = \frac{EPC * SA * AF * RAF_{nc\text{-}derm} * EF * ED_{dermal} * EP * C1}{BW * AP_{noncancer}}$$

Noncancer Risk from Particulate Inhalation - Gastrointestinal Absorption

$$HQ_{inh\text{-}GI} = \frac{ADD_{inh\text{-}GI}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{inh\text{-}GI} = \frac{EPC * RCAF_{inh\text{-}gi} * PM_{10} * VR_{work} * RAF_{nc\text{-}ing} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{noncancer}}$$

Noncancer Risk from Particulate Inhalation - Pulmonary Absorption

$$HQ_{inh} = \frac{ADD}{RfD_{inhalation\text{-}subchronic}}$$

$$ADD_{inh} = \frac{EPC_{soil} * RCAF_{inh} * PM_{10} * VR_{work} * RAF_{nc\text{-}inh} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{noncancer}}$$

Parameter	Value	Units
RfD	OHM-specific	mg/kg-day
ADD	OHM-specific	mg/kg-day
EPC	OHM-specific	mg/kg
IR	100	mg/day
$RAF_{nc\text{-}ing}$	OHM-specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM-specific	dimensionless
$RAF_{nc\text{-}inh}$	OHM-specific	dimensionless
EF	0.143	event/day
$ED_{ing\ \&\ derm}$	1	day/event
ED_{inh}	0.333	day/event
EP	7	days
C1	1.0E-06	kg/mg
C2	1.0E-09	kg/µg
C3	1440	min/days
C4	1.0E-03	m^3/L
BW	58.0	kg
$AP_{noncancer}$	7	days
VR_{work}	60	L/min
AF	0.29	mg/cm^2
SA	3473	cm^2/day
$RCAF_{inh\text{-}gi}$	1.5	dimensionless
$RCAF_{inh}$	0.5	dimensionless
PM10	60	µg/m^3

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Construction Worker - Soil: Table CW-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
HI - Hazard Index	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table CW-5.
RfD - Reference Dose	chemical specific	mg/kg-day	see Table CW-5.
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific. See Table CW-2.
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific. See Table CW-3.
EPC - Exposure Point Concentration	chemical specific	mg/kg	see Table CW-1.
IR - Soil Ingestion Rate	100	mg/day	MADEP. 2002. Technical Update: Calculation of an Enhanced Soil Ingestion Rate. (http://www.mass.gov/dep/ors/orspubs.htm).
RAF_c - Relative Absorption Factor for Cancer Effects	chemical specific	dimensionless	Pathway specific - see Table CW-5.
RAF_{nc} - Relative Absorption Factor for Noncancer Effects	chemical specific	dimensionless	Pathway specific - see Table CW-5.
EF - Exposure Frequency	0.143	event/day	1 events (days) / 7 events (days) in a week; MADEP 1995 Guidance for Disposal Site Risk Characterization pg B-38.
$ED_{ing,derm}$ - Exposure Duration for ingestion or dermal exposure	1	day/event	
ED_{inh} - Exposure Duration for inhalation exposure	0.333	day/event	Represents 8 hours / event.
EP - Exposure Period	7	days	1 week; MADEP 1995 Guidance for Disposal Site Risk Characterization.
BW - Body Weight	58.0	kg	U.S. EPA. 1997. Exposure Factors Handbook. Table 7-7, Females, ages 18 - 25.
$AP_{(lifetime)}$ - Averaging Period for lifetime	25,550	days	Represents 70 years
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	days	1 week; MADEP 1995 Guidance for Disposal Site Risk Characterization.
AF - Adherence Factor	0.29	mg/cm^2	MA DEP. 2002 Technical Update: Weighted Skin-Soil Adherence Factors. (http://www.mass.gov/dep/ors/orspubs.htm)
VR_{work} - Ventilation Rate during work (heavy exertion)	60	L/min	Table B-4 MADEP 1995 Guidance for Disposal Site Risk Characterization.
SA - Surface Area	3473	cm^2/day	MADEP. 1995. Guidance for Disposal Site Risk Characterization. 50th percentile for females. Appendix Table B-2.
$IFAF_{inh\text{-}gi}$ - Ingestion Fraction Adjustment Factor, gastrointestinal	1.5	dimensionless	MADEP 2007. Characterization of Risks Due to Inhalation of Particulates by Construction Workers
$IFAF_{inh}$ - Inhalation Fraction Adjustment Factor, inhalation	0.5	dimensionless	MADEP 2002. Characterization of Risks Due to Inhalation of Particulates by Construction Workers
PM10 - Concentration of PM_{10}	60	$\mu g/m^3$	MADEP 1995 Guidance for Disposal Site Risk Characterization pg B-11

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Construction Worker - Soil: Table CW-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	Oral CSF $(mg/kg\text{-}day)^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	$RAF_{c\text{-}inh}$	Inhalation CSF $(mg/kg\text{-}day)^{-1}$	Subchronic Oral RfD mg/kg-day	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$	Subchronic $RAF_{nc\text{-}inh}$	Subchronic Inhalation RfD
zzChloromethane						2.6E-02	1	0.1	1	2.6E-02
Bromomethane						5.0E-03	1	0.03	1	2.9E-02
zzTrichlorofluoromethane						3.0E-01	1	0.03	1	2.0E-01
Acetone						2.7E+00	1	0.03	1	2.3E-01
zzCarbon disulfide						1.0E-01	1	0.03	1	2.0E-01
DICHLOROMETHANE	2.0E-03	1	0.03	1	3.5E-05	6.0E-03	1	0.03	1	1.7E-01
DICHLOROETHYLENE, TRANS-1,2-						2.0E-01	1	0.03	1	1.7E-02
METHYL ETHYL KETONE						6.0E-01	1	0.03	1	1.4E+00
DICHLOROETHYLENE, CIS-1,2-						2.0E-02	1	0.03	1	1.7E-02
Chloroform					8.1E-02	1.0E-02	1	0.03	1	1.9E-01
Trichloroethane, 1,1,1-						7.0E+00	1	0.03	1	1.4E+00
TRICHLOROETHYLENE	5.0E-02	1	0.03	1	1.4E-02	5.0E-04	1	0.03	1	5.7E-04
METHYL ISOBUTYL KETONE						8.0E-01	1	0.03	1	8.6E-01
Toluene						8.0E-01	1	0.03	1	1.4E+00
zz2-Hexanone						5.0E-03	1	0.03	1	8.6E-03
TETRACHLOROETHYLENE	6.0E-02	1	0.03	1	3.5E-02	6.0E-03	1	0.03	1	1.1E-02
XYLENES (Mixed Isomers)						4.0E-01	1	0.03	1	1.1E-01
Styrene	3.0E-02	1	0.03	1	2.0E-03	2.0E+00	1	0.03	1	8.6E-01
ALIPHATICS C5 to C8						4.0E-01	1	0.2	1	5.7E-02
ALIPHATICS C9 to C12						1.0E+00	1	0.2	1	1.7E-01
AROMATICS C9 to C10						3.0E-01	1	0.2	1	1.4E-01
METHYL TERT BUTYL ETHER						1.0E+00	1	0.03	1	8.6E-01
ALIPHATICS C9 to C18						1.0E+00	1	0.2	1	1.7E-01
ALIPHATICS C19 to C36						6.0E+00	1	0.2		
AROMATICS C11 to C22						3.0E-01	0.3	0.1	1	1.4E-01
Naphthalene						2.0E-01	0.3	0.1	1	8.6E-04
Methylnaphthalene, 2-						4.0E-03	0.3	0.1	1	1.4E-01
Acenaphthylene						3.0E-01	0.3	0.1	1	1.4E-01
Acenaphthene						2.0E-01	0.3	0.1	1	1.4E-01
Fluorene						4.0E-01	0.3	0.1	1	1.4E-01
Phenanthrene						3.0E-01	0.3	0.1	1	1.4E-01
Anthracene						1.0E+00	0.3	0.1	1	1.4E-01
Fluoranthene						4.0E-01	0.3	0.1	1	1.4E-01
Pyrene						3.0E-01	0.3	0.1	1	1.4E-01
Benzo(a)anthracene	7.3E-01	0.3	0.02	1	7.3E-01	3.0E-01	0.3	0.02	1	1.4E-01
Chrysene	7.3E-02	0.3	0.02	1	7.3E-02	3.0E-01	0.3	0.02	1	1.4E-01
Benzo(b)fluoranthene	7.3E-01	0.3	0.02	1	7.3E-01	3.0E-01	0.3	0.02	1	1.4E-01
Benzo(k)fluoranthene	7.3E-02	0.3	0.02	1	7.3E-02	3.0E-01	0.3	0.02	1	1.4E-01
Benzo(a)pyrene	7.3E+00	0.3	0.02	1	7.3E+00	3.0E-01	0.3	0.02	1	1.4E-01
Indeno(1,2,3-cd)pyrene	7.3E-01	0.3	0.02	1	7.3E-01	3.0E-01	0.3	0.02	1	1.4E-01
Dibenzo(a,h)anthracene	7.3E+00	0.3	0.02	1	7.3E+00	3.0E-01	0.3	0.02	1	1.4E-01
Benzo(g,h,i)perylene						3.0E-01	0.3	0.1	1	1.4E-01
POLYCHLORINATED BIPHENYLS (PCBs)	2.0E+00	1	0.1	1	3.5E-01	5.0E-05	1	0.1	1	5.7E-06
AROMATICS C11 to C22						3.0E-01	0.3	0.1	1	1.4E-01
Barium						7.0E-02	1	0.1	1	1.4E-03
CHROMIUM(VI)					4.2E+01	2.0E-02	1	0.1	1	8.6E-05
Lead						7.5E-04	0.5	0.006	1	2.9E-04
Nickel					1.7E+00	2.0E-02	1	0.2	1	2.9E-04

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Construction Worker - Soil: Table CW-6
Cyanide Calculations

The acute concentration of *available* cyanide in soil is the level *at or below which* adverse human health effects would not be expected following an acute exposure. For construction workers, the subchronic concentrations calculated in the EPCs tab are more conservative than the acute concentrations. The acute calculation is below.

Acute Concentration Calculation for Cyanide

$$\text{Concentration} = \frac{\text{HQ x Acute Dose Limit x BW}}{\text{IR x RAF x Conversion Factor}}$$

Parameter	Value	Units
HQ (Hazard Quotient)	1	(unitless)
Acute Dose Limit	0.01	mg CN/ kg BW
BW (Body Weight) $_{11\text{-}12}$	58	kg
IR $_{(1\text{-time reasonable max})}$	100	mg
Conversion Factor	1.0E-06	kg soil / mg soil

The toxicological basis for estimating an allowable one-time is documented in MassDEP's 1992 *Background Documentation for the Development of an "Available Cyanide" Benchmark Concentration,* which is published at: http://www.mass.gov/dep/toxics/cn_soil.htm.

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APPENDIX H-5

GROUNDWATER RISK CALCULATIONS

Table 1
Construction Worker - 6 Months
Dermal Contact with Groundwater
Former Payne Cutlery Site
New Bedford, Massachusetts

Constituent		Ground Water Concentration (mg/l)	Kp cm/hr	RAF Dermal Cancer (--)	LADD Cancer (mg/kg-d)	RAF Dermal Noncancer (--)	ADD Noncancer (mg/kg-d)	Toxicity Values: Cancer Slope Factor (mg/kg-d)-1	Toxicity Values: Subchronic Non-Cancer Reference Dose (mg/kg-d)	Risk Estimates: Cancer Risk (--)	Risk Estimates: Non-Cancer Hazard Quotient (--)
VOCs/SVOCs											
67-64-1	Acetone	1.8E-02	5.2E-04	NC	NA	1.00	1.3E-07	NA	2.7E+00	NA	4.8E-08
75-35-4	1,1-Dichloroethylene	1.5E-03	1.2E-02	NC	NA	1.00	2.5E-07	NA	5.0E-02	NA	4.9E-06
156-59-2	cis-1,2-Dichloroethylene	2.8E-01	7.7E-03	NC	NA	1.00	3.1E-05	NA	2.0E-02	NA	1.5E-03
71-55-6	1,1,1-Trichloroethane	9.5E-04	1.3E-02	NC	NA	1.00	1.7E-07	NA	7.0E+00	NA	2.4E-08
79-01-6	Trichloroethylene	6.3E+00	1.2E-02	1.00	7.4E-06	1.00	1.0E-03	5.0E-02	5.0E-04	4.E-07	2.1E+00
127-18-4	Tetrachloroethylene	3.4E-02	3.3E-02	1.00	1.1E-07	1.00	1.6E-05	6.0E-02	6.0E-03	7.E-09	2.6E-03
75-01-4	Vinyl chloride	1.1E-02	5.6E-03	1.00	6.1E-09	1.00	8.6E-07	1.4E+00	3.0E-03	9.E-09	2.9E-04
C5-C8	C5-C8 Aliphatics	2.4E+00	1.7E-01	NC	NA	1.00	5.7E-03	NA	4.0E-01	NA	1.4E-02
Dissolved Metals											
7440-36-0	Antimony	3.8E-01	1.0E-03	NC	NA	1.00	5.5E-06	NA	4.0E-04	NA	1.4E-02
7440-39-3	Barium	6.1E-02	1.0E-03	NC	NA	1.00	8.7E-07	NA	7.0E-02	NA	1.2E-05
7440-43-9	Cadmium	1.8E-03	1.0E-03	NC	NA	1.00	2.5E-08	NA	5.0E-04	NA	5.0E-05
18540-29-9	Chromium (VI)	1.3E-02	2.0E-03	NC	NA	1.00	3.7E-07	NA	2.0E-02	NA	1.9E-05
7440-50-8	Copper	1.3E-02	1.0E-03	NC	NA	1.00	1.8E-07	NA	1.0E-02	NA	1.8E-05
7440-02-0	Nickel	6.3E+00	2.0E-04	NC	NA	1.00	1.8E-05	NA	2.0E-02	NA	9.0E-04
7782-49-2	Selenium	5.0E-03	1.0E-03	NC	NA	1.00	7.1E-08	NA	5.0E-03	NA	1.4E-05
7440-22-4	Silver	3.3E-03	6.0E-04	NC	NA	1.00	2.8E-08	NA	5.0E-03	NA	5.7E-06
7440-28-0	Thallium	6.4E-02	1.0E-03	NC	NA	1.00	9.2E-07	NA	4.0E-05	NA	2.3E-02

NA = Not Applicable
NC = No Criteria

LADD = Lifetime Average Daily Dose
RAF = Relative Absorption Coefficient
ADD = Average Daily Dose

	Cancer Risk	Hazard Index
TOTAL:	4.E-07	**2E+00**

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Where:
LADD = (EPC x SA x Kp x RAF x ED x EF x EP x UC)/(BW x APcancer)
ADD = (EPC x SA x Kp x RAF x ED x EF x EP x UC)/(BW x APnoncancer)

Constituent Specific (CS)		
Exposure Point Concentration (EPC):	CS	mg/l
Skin surface area (SA):	3477	cm2 [1]
Permeability constant (Kp):	CS	cm/h
Exposure Duration (ED):	0.333	8 hours/event [2]
Exposure Frequency (EF):	0.71	5 events/ 7 events in one week [2]
Exposure Period (EP):	182	days [1]
Units Conversion (UC):	0.001	l/cm3
Body Weight (BW):	58	kg [1]
Averaging Period (APcancer):	25550	days [1]
Averaging Period (APnoncancer):	182	days [1]

[1] MADEP, 2008
[2] Best Professional Judgement

Table 2
Utility Worker - 1 Day
Dermal Contact with Groundwater
Former Payne Cutlery Site
New Bedford, Massachusetts

Constituent		Ground Water Concentration (mg/l)	Kp cm/hr	RAF Dermal Cancer (--)	LADD Cancer (mg/kg-d)	RAF Dermal Noncancer (--)	ADD Noncancer (mg/kg-d)	Toxicity Values: Cancer Slope Factor (mg/kg-d)-1	Toxicity Values: Subchronic Non-Cancer Reference Dose (mg/kg-d)	Risk Estimates: Cancer Risk (--)	Risk Estimates: Non-Cancer Hazard Quotient (--)
VOCs/SVOCs											
67-64-1	Acetone	1.8E-02	5.2E-04	NC	NA	1.00	2.6E-08	NA	2.7E+00	NA	9.6E-09
75-35-4	1,1-Dichloroethylene	1.5E-03	1.2E-02	NC	NA	1.00	4.9E-08	NA	5.0E-02	NA	9.9E-07
156-59-2	cis-1,2-Dichloroethylene	2.8E-01	7.7E-03	NC	NA	1.00	6.2E-06	NA	2.0E-02	NA	3.1E-04
71-55-6	1,1,1-Trichloroethane	9.5E-04	1.3E-02	NC	NA	1.00	3.4E-08	NA	7.0E+00	NA	4.9E-09
79-01-6	Trichloroethylene	6.3E+00	1.2E-02	1.00	5.7E-08	1.00	2.1E-04	5.0E-02	5.0E-04	3.E-09	4.1E-01
127-18-4	Tetrachloroethylene	3.4E-02	3.3E-02	1.00	8.6E-10	1.00	3.1E-06	6.0E-02	6.0E-03	5.E-11	5.2E-04
75-01-4	Vinyl chloride	1.1E-02	5.6E-03	1.00	4.7E-11	1.00	1.7E-07	1.4E+00	3.0E-03	7.E-11	5.7E-05
C5-C8	C5-C8 Aliphatics	2.4E+00	1.7E-01	NC	NA	1.00	1.1E-03	NA	4.0E-01	NA	2.8E-03
Dissolved Metals											
7440-36-0	Antimony	3.8E-01	1.0E-03	NC	NA	1.00	1.1E-06	NA	4.0E-04	NA	2.7E-03
7440-39-3	Barium	6.1E-02	1.0E-03	NC	NA	1.00	1.7E-07	NA	7.0E-02	NA	2.5E-06
7440-43-9	Cadmium	1.8E-03	1.0E-03	NC	NA	1.00	5.0E-09	NA	5.0E-04	NA	1.0E-05
18540-29-9	Chromium (VI)	1.3E-02	2.0E-03	NC	NA	1.00	7.5E-08	NA	2.0E-02	NA	3.7E-06
7440-50-8	Copper	1.3E-02	1.0E-03	NC	NA	1.00	3.7E-08	NA	1.0E-02	NA	3.7E-06
7440-02-0	Nickel	6.3E+00	2.0E-04	NC	NA	1.00	3.6E-06	NA	2.0E-02	NA	1.8E-04
7782-49-2	Selenium	5.0E-03	1.0E-03	NC	NA	1.00	1.4E-08	NA	5.0E-03	NA	2.9E-06
7440-22-4	Silver	3.3E-03	6.0E-04	NC	NA	1.00	5.7E-09	NA	5.0E-03	NA	1.1E-06
7440-28-0	Thallium	6.4E-02	1.0E-03	NC	NA	1.00	1.8E-07	NA	4.0E-05	NA	4.6E-03

NA = Not Applicable
NC = No Criteria

LADD = Lifetime Average Daily Dose
RAF = Relative Absorption Coefficient
ADD = Average Daily Dose

	Cancer Risk	Hazard Index
TOTAL:	3.E-09	4E-01

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Where:
LADD = (EPC x SA x Kp x RAF x ED x EF x EP x UC)/(BW x APcancer)
ADD = (EPC x SA x Kp x RAF x ED x EF x EP x UC)/(BW x APnoncancer)

Constituent Specific (CS)		
Exposure Point Concentration (EPC):	CS	mg/l
Skin surface area (SA):	3477	cm2 [1]
Permeability constant (Kp):	CS	cm/h
Exposure Duration (ED):	0.333	8 hours/event [2]
Exposure Frequency (EF):	0.14	1 event/7 events in a week [2]
Exposure Period (EP):	7	days [1]
Units Conversion (UC):	0.001	l/cm3
Body Weight (BW):	58	kg [1]
Averaging Period (APcancer):	25550	days [1]
Averaging Period (APnoncancer):	7	days [1]

[1] MADEP, 2008
[2] Best Professional Judgement

APPENDIX H-6

TRENCH AIR RISK CALCULATIONS

Table 1
Construction Worker - 6 Month
Inhalation of Trench Air Exposure Pathway - 0-15' Soil Interval
Former Payne Cutlery Site
New Bedford, Massachusetts

		EPC	Estimated Dose		Toxicity Values		Risk Estimates	
	Constituent	Trench Air Concentration µg/m3	ADEcancer (Cancer) µg/m3	ADEnon-cancer (Non-cancer) µg/m3	Unit Risk µg/m3	Subchronic Noncancer Reference Concentration µg/m3	Cancer Risk (--)	Hazard Quotient (--)
VOCs								
74-87-3	Chloromethane	1.70E-04	1.5E-07	2.0E-05	NA	9.0E+02	NA	2.E-08
74-83-9	Bromomethane	2.32E-03	2.0E-06	2.8E-04	NA	1.0E+02	NA	3.E-06
75-69-4	Trichlorofluoromethane	2.09E-05	1.8E-08	2.5E-06	NA	7.0E+03	NA	4.E-10
67-64-1	Acetone	5.71E-06	4.9E-09	6.9E-07	NA	8.0E+02	NA	9.E-10
75-15-0	Carbon disulfide	1.53E-05	1.3E-08	1.8E-06	NA	7.0E+02	NA	3.E-09
75-09-2	Methylene Chloride	3.04E-04	2.6E-07	3.6E-05	1.0E-08	6.0E+02	3.E-15	6.E-08
156-60-5	trans-1,2-Dichloroethene	2.55E-04	2.2E-07	3.1E-05	NA	6.0E+01	NA	5.E-07
78-93-3	2-Butanone	2.76E-06	2.4E-09	3.3E-07	NA	5.0E+03	NA	7.E-11
156-59-2	cis-1,2-Dichloroethene	2.52E-04	2.2E-07	3.0E-05	NA	6.0E+01	NA	5.E-07
67-66-3	Chloroform	3.94E-05	3.4E-08	4.7E-06	2.3E-05	6.6E+02	8.E-13	7.E-09
71-55-6	1,1,1-Trichloroethane	8.12E-05	6.9E-08	9.7E-06	NA	5.0E+03	NA	2.E-09
79-01-6	Trichloroethene	4.01E-01	3.4E-04	4.8E-02	4.0E-06	2.0E+00	1.E-09	2.E-02
108-10-1	4-Methyl-2-pentanone	5.09E-08	4.4E-11	6.1E-09	NA	3.0E+03	NA	2.E-12
108-88-3	Toluene	2.52E-05	2.2E-08	3.0E-06	NA	5.0E+03	NA	6.E-10
591-78-6	2-Hexanone	9.70E-08	8.3E-11	1.2E-08	0.0E+00	3.0E+01	FALSE	4.E-10
127-18-4	Tetrachloroethene	8.93E-04	7.6E-07	1.1E-04	1.0E-05	4.0E+01	8.E-12	3.E-06
1330-20-7	Xylene (total)	3.42E-05	2.9E-08	4.1E-06	NA	4.0E+02	NA	1.E-08
100-42-5	Styrene	4.55E-08	3.9E-11	5.5E-09	5.7E-07	3.0E+03	2.E-17	2.E-12
C5-C8	C5-C8 Aliphatics	2.25E-01	1.9E-04	2.7E-02	NA	2.0E+02	NA	1.E-04
C9-C12	C9-C12 Aliphatics	5.16E-03	4.4E-06	6.2E-04	NA	6.0E+02	NA	1.E-06
C9-C10	C9-C10 Aromatics	3.58E-03	3.1E-06	4.3E-04	NA	5.0E+02	NA	9.E-07
1634-04-4	Methyl tert-butyl ether	3.56E-05	3.0E-08	4.3E-06	NA	3.0E+03	NA	1.E-09
91-20-3	Naphthalene	1.62E-06	1.4E-09	1.9E-07	NA	3.0E+00	NA	6.E-08
91-57-6	2-Methylnaphthalene	1.71E-06	1.5E-09	2.1E-07	NA	5.0E+02	NA	4.E-10

	Cancer Risk	Hazard Index
TOTAL:	1E-09	2E-02

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+01

Where:

LADEcancer = IAC x EFx ED x EP/APcancer
ADEnon-cancer = IAC x EF x ED x EP / APnon-cancer
Cancer Risk = LADEcancer x UR
Hazard Quotient = ADEnon-cancer / Inhalation Reference Concentration

LADE = Life Time Average Daily Exposure
ADE = Average Daily Exposure
EPC = Exposure Point Concentration
$\mu g/m^3$ = micrograms per cubic meter

And where:

Exposure Frequency (EF) =	130	days/year (5 days a week for 26 weeks of exposure)
Exposure Duration (ED) =	8	hrs/day [1]
Exposure Period (EP) =	0.5	yr [1]
Unit Conversion (UC) =	0.042	days/hr
Averaging Period (APcancer) =	25550	days [1]
Averaging Period (APnon-cancer) =	182	days [1]

[1] MADEP, 2006

Table 2
Utility Worker - 1 Day
Inhalation of Trench Air Exposure Pathway - 0-15' Soil Interval
Former Payne Cutlery Site
New Bedford, Massachusetts

		EPC	Estimated Dose		Toxicity Values		Risk Estimates	
	Constituent	Trench Air Concentration µg/m3	ADEcancer (Cancer) µg/m3	ADEnon-cancer (Non-cancer) µg/m3	Unit Risk µg/m3	Subchronic Noncancer Reference Concentration µg/m3	Cancer Risk (--)	Hazard Quotient (--)
VOCs								
74-87-3	Chloromethane	1.70E-04	2.2E-09	8.2E-06	NA	9.0E+02	NA	9.E-09
74-83-9	Bromomethane	2.32E-03	3.1E-08	1.1E-04	NA	1.0E+02	NA	1.E-06
75-69-4	Trichlorofluoromethane	2.09E-05	2.7E-10	1.0E-06	NA	7.0E+03	NA	1.E-10
67-64-1	Acetone	5.71E-06	7.5E-11	2.7E-07	NA	8.0E+02	NA	3.E-10
75-15-0	Carbon disulfide	1.53E-05	2.0E-10	7.3E-07	NA	7.0E+02	NA	1.E-09
75-09-2	Methylene Chloride	3.04E-04	4.0E-09	1.5E-05	1.0E-08	6.0E+02	4.E-17	2.E-08
156-60-5	trans-1,2-Dichloroethene	2.55E-04	3.4E-09	1.2E-05	NA	6.0E+01	NA	2.E-07
78-93-3	2-Butanone	2.76E-06	3.6E-11	1.3E-07	NA	5.0E+03	NA	3.E-11
156-59-2	cis-1,2-Dichloroethene	2.52E-04	3.3E-09	1.2E-05	NA	6.0E+01	NA	2.E-07
67-66-3	Chloroform	3.94E-05	5.2E-10	1.9E-06	2.3E-05	6.6E+02	1.E-14	3.E-09
71-55-6	1,1,1-Trichloroethane	8.12E-05	1.1E-09	3.9E-06	NA	5.0E+03	NA	8.E-10
79-01-6	Trichloroethene	4.01E-01	5.3E-06	1.9E-02	4.0E-06	2.0E+00	2.E-11	1.E-02
108-10-1	4-Methyl-2-pentanone	5.09E-08	6.7E-13	2.4E-09	NA	3.0E+03	NA	8.E-13
108-88-3	Toluene	2.52E-05	3.3E-10	1.2E-06	NA	5.0E+03	NA	2.E-10
591-78-6	2-Hexanone	9.70E-08	1.3E-12	4.7E-09	0.0E+00	3.0E+01	FALSE	2.E-10
127-18-4	Tetrachloroethene	8.93E-04	1.2E-08	4.3E-05	1.0E-05	4.0E+01	1.E-13	1.E-06
1330-20-7	Xylene (total)	3.42E-05	4.5E-10	1.6E-06	NA	4.0E+02	NA	4.E-09
100-42-5	Styrene	4.55E-08	6.0E-13	2.2E-09	5.7E-07	3.0E+03	3.E-19	7.E-13
C5-C8	C5-C8 Aliphatics	2.25E-01	3.0E-06	1.1E-02	NA	2.0E+02	NA	5.E-05
C9-C12	C9-C12 Aliphatics	5.16E-03	6.8E-08	2.5E-04	NA	6.0E+02	NA	4.E-07
C9-C10	C9-C10 Aromatics	3.58E-03	4.7E-08	1.7E-04	NA	5.0E+02	NA	3.E-07
1634-04-4	Methyl tert-butyl ether	3.56E-05	4.7E-10	1.7E-06	NA	3.0E+03	NA	6.E-10
91-20-3	Naphthalene	1.62E-06	2.1E-11	7.8E-08	NA	3.0E+00	NA	3.E-08
91-57-6	2-Methylnaphthalene	1.71E-06	2.2E-11	8.2E-08	NA	5.0E+02	NA	2.E-10

	Cancer Risk	Hazard Index
TOTAL:	2E-11	1E-02

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+01

Where:

LADEcancer = IAC x EFx ED x EP/APcancer
ADEnon-cancer = IAC x EF x ED x EP / APnon-cancer
Cancer Risk = LADEcancer x UR
Hazard Quotient = ADEnon-cancer / Inhalation Reference Concentration

LADE = Life Time Average Daily Exposure
ADE = Average Daily Exposure
EPC = Exposure Point Concentration
$\mu g/m^3$ = micrograms per cubic meter

And where:

Exposure Frequency (EF) =	1	days/week
Exposure Duration (ED) =	8	hrs/day [1]
Exposure Period (EP) =	1	week [1]
Unit Conversion (UC) =	0.042	days/hr
Averaging Period (APcancer) =	25550	days [1]
Averaging Period (APnon-cancer) =	7	days [1]

[1] MADEP, 2006

Table 3
Utility Worker - 1 Day
Inhalation of Trench Air Exposure Pathway - Roadway Soil
Former Payne Cutlery Site
New Bedford, Massachusetts

		EPC	Estimated Dose		Toxicity Values		Risk Estimates	
	Constituent	Trench Air Concentration µg/m3	ADEcancer (Cancer) µg/m3	ADEnon-cancer (Non-cancer) µg/m3	Unit Risk µg/m3	Subchronic Noncancer Reference Concentration µg/m3	Cancer Risk (--)	Hazard Quotient (--)
VOCs								
156-59-2	cis-1,2-Dichloroethene	1.19E-04	1.6E-09	5.7E-06	NA	6.0E+01	NA	1.E-07
79-01-6	Trichloroethene	6.76E-03	8.9E-08	3.2E-04	4.0E-06	2.0E+00	4.E-13	2.E-04
108-88-3	Toluene	3.88E-05	5.1E-10	1.9E-06	NA	5.0E+03	NA	4.E-10
127-18-4	Tetrachloroethene	3.02E-05	4.0E-10	1.4E-06	1.0E-05	4.0E+01	4.E-15	4.E-08

	Cancer Risk	Hazard Index
TOTAL:	4E-13	2E-04

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+01

Where:

LADEcancer = IAC x EFx ED x EP/APcancer
ADEnon-cancer = IAC x EF x ED x EP / APnon-cancer
Cancer Risk = LADEcancer x UR
Hazard Quotient = ADEnon-cancer / Inhalation Reference Concentration

LADE = Life Time Average Daily Exposure
ADE = Average Daily Exposure
EPC = Exposure Point Concentration
$\mu g/m^3$ = micrograms per cubic meter

And where:

Exposure Frequency (EF) =	1	days/week
Exposure Duration (ED) =	8	hrs/day [1]
Exposure Period (EP) =	1	week [1]
Unit Conversion (UC) =	0.042	days/hr
Averaging Period (APcancer) =	25550	days [1]
Averaging Period (APnon-cancer) =	7	days [1]

[1] MADEP, 2006

Table 4
Construction Worker - 6 Month
Inhalation of Trench Air Exposure Pathway - Shallow Groundwater
Former Payne Cutlery Site
New Bedford, Massachusetts

		EPC	Estimated Dose		Toxicity Values		Risk Estimates	
	Constituent	Trench Air Concentration µg/m3	ADEcancer (Cancer) µg/m3	ADEnon-cancer (Non-cancer) µg/m3	Unit Risk µg/m3	Subchronic Noncancer Reference Concentration µg/m3	Cancer Risk (--)	Hazard Quotient (--)
VOCs								
67-64-1	Acetone	3.93E-01	3.4E-04	4.7E-02	NA	8.0E+02	NA	6.E-05
75-35-4	1,1-Dichloroethylene	6.72E-02	5.7E-05	8.1E-03	NA	2.0E+02	NA	4.E-05
156-59-2	cis-1,2-Dichloroethene	1.25E+01	1.1E-02	1.5E+00	NA	6.0E+01	NA	3.E-02
71-55-6	1,1,1-Trichloroethane	3.63E-02	3.1E-05	4.4E-03	NA	5.0E+03	NA	9.E-07
79-01-6	Trichloroethene	2.41E+02	2.1E-01	2.9E+01	4.0E-06	2.0E+00	8.E-07	1.E+01
127-18-4	Tetrachloroethene	1.15E+00	9.8E-04	1.4E-01	1.0E-05	4.0E+01	1.E-08	3.E-03
75-01-4	Vinyl chloride	6.04E-01	5.2E-04	7.2E-02	8.8E-06	1.0E+02	5.E-09	7.E-04
C5-C8	C5-C8 Aliphatics	1.10E+01	9.4E-03	1.3E+00	NA	2.0E+02	NA	7.E-03

	Cancer Risk	Hazard Index
TOTAL:	8E-07	**1E+01**

Where:

LADEcancer = IAC x EFx ED x EP/APcancer
ADEnon-cancer = IAC x EF x ED x EP / APnon-cancer
Cancer Risk = LADEcancer x UR
Hazard Quotient = ADEnon-cancer / Inhalation Reference Concentration

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+01

LADE = Life Time Average Daily Exposure
ADE = Average Daily Exposure
EPC = Exposure Point Concentration
$\mu g/m^3$ = micrograms per cubic meter

And where:

Exposure Frequency (EF) =	130	days/year (5 days a week for 26 weeks of exposure)
Exposure Duration (ED) =	8	hrs/day [1]
Exposure Period (EP) =	0.5	yr [1]
Unit Conversion (UC) =	0.042	days/hr
Averaging Period (APcancer) =	25550	days [1]
Averaging Period (APnon-cancer) =	182	days [1]

[1] MADEP, 2006

Table 5
Utility Worker - 1 Day
Inhalation of Trench Air Exposure Pathway - Shallow Groundwater
Former Payne Cutlery Site
New Bedford, Massachusetts

		EPC	Estimated Dose		Toxicity Values		Risk Estimates	
	Constituent	Trench Air Concentration µg/m3	ADEcancer (Cancer) µg/m3	ADEnon-cancer (Non-cancer) µg/m3	Unit Risk µg/m3	Subchronic Noncancer Reference Concentration µg/m3	Cancer Risk (--)	Hazard Quotient (--)
VOCs								
67-64-1	Acetone	3.93E-01	7.4E-07	2.7E-03	NA	8.0E+02	NA	3.E-06
75-35-4	1,1-Dichloroethylene	6.72E-02	1.3E-07	4.6E-04	NA	2.0E+02	NA	2.E-06
156-59-2	cis-1,2-Dichloroethene	1.25E+01	2.3E-05	8.6E-02	NA	6.0E+01	NA	1.E-03
71-55-6	1,1,1-Trichloroethane	3.63E-02	6.8E-08	2.5E-04	NA	5.0E+03	NA	5.E-08
79-01-6	Trichloroethene	2.41E+02	4.5E-04	1.7E+00	4.0E-06	2.0E+00	2.E-09	8.E-01
127-18-4	Tetrachloroethene	1.15E+00	2.2E-06	7.9E-03	1.0E-05	4.0E+01	2.E-11	2.E-04
75-01-4	Vinyl chloride	6.04E-01	1.1E-06	4.1E-03	8.8E-06	1.0E+02	1.E-11	4.E-05
C5-C8	C5-C8 Aliphatics	1.10E+01	2.1E-05	7.5E-02	NA	2.0E+02	NA	4.E-04

	Cancer Risk	Hazard Index
TOTAL:	2E-09	**8E-01**

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+01

Where:

LADEcancer = IAC x EFx ED x EP/APcancer
ADEnon-cancer = IAC x EF x ED x EP / APnon-cancer
Cancer Risk = LADEcancer x UR
Hazard Quotient = ADEnon-cancer / Inhalation Reference Concentration

LADE = Life Time Average Daily Exposure
ADE = Average Daily Exposure
EPC = Exposure Point Concentration
$\mu g/m^3$ = micrograms per cubic meter

And where:

Exposure Frequency (EF) =	0.143	1 days/ 7 days in one week
Exposure Duration (ED) =	8	hrs/day [1]
Exposure Period (EP) =	1	week [1]
Unit Conversion (UC) =	0.042	days/hr
Averaging Period (APcancer) =	25550	days [1]
Averaging Period (APnon-cancer) =	7	days [1]

[1] MADEP, 2006

APPENDIX H-7

INDOOR AIR RISK CALCULATIONS

Resident - Indoor Air: Table RAIH-1 (8 Oneko Lane)
Exposure Point Concentration (EPC)
Based on Resident Age 1-6 (Cancer and Noncancer)

ShortForm Version 10-12

Vlookup Version v1012

ELCR (all chemicals) =

HI (all chemicals) = 4E-03

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}
TRICHLOROETHANE, 1,1,1-	5.6E+00		1.1E-03
TOLUENE	1.3E+01		2.6E-03
ETHYLBENZENE	2.4E+00		2.6E-04

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Resident - Indoor Air: Table RAIH-2

Equations to Calculate Cancer Risk for Resident Child (Age 1-6 years)

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	5	years
$AP_{lifetime}$	70	years

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1-6)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

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Resident - Indoor Air: Table RAIH-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-6 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
[OHM]air	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	5	years
C	0.001	mg/ug
AP	5	year

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Resident - Indoor Air: Table RAIH-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RAIH-5
LADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RAIH-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RAIH-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RAIH-3
EPC - Exposure Point Concentration	chemical specific	µg/m3	see Table RAIH-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-6)}$ - Exposure Period for age group 1-6	5	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	5	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RAIH-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
TRICHLOROETHANE, 1,1,1-		5.00E+00
TOLUENE		5.00E+00
ETHYLBENZENE		9.00E+00

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Resident - Indoor Air: Table RAIH-1 (350 Coffin Avenue)
Exposure Point Concentration (EPC)
Based on Resident Age 1-6 (Cancer and Noncancer)

ShortForm Version 10-12

Vlookup Version v1012

ELCR (all chemicals) =

HI (all chemicals) = 2E-02

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}
zzTrichlorofluoromethane	8.4E+00		1.2E-02
TOLUENE	4.4E+01		8.9E-03
ETHYLBENZENE	4.9E+00		5.5E-04

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Resident - Indoor Air: Table RAIH-2

Equations to Calculate Cancer Risk for Resident Child (Age 1-6 years)

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	5	years
$AP_{lifetime}$	70	years

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1-6)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

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Resident - Indoor Air: Table RAIH-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-6 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
[OHM]air	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	5	years
C	0.001	mg/ug
AP	5	year

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Resident - Indoor Air: Table RAIH-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RAIH-5
LADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RAIH-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RAIH-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RAIH-3
EPC - Exposure Point Concentration	chemical specific	µg/m3	see Table RAIH-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-6)}$ - Exposure Period for age group 1-6	5	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	5	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RAIH-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
zzTrichlorofluoromethane		7.00E-01
TOLUENE		5.00E+00
ETHYLBENZENE		9.00E+00

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Resident - Indoor Air: Table RAIH-1 (357 Coffin Avenue)
Exposure Point Concentration (EPC)
Based on Resident Age 1-6 (Cancer and Noncancer)

ShortForm Version 10-12

Vlookup Version v1012

ELCR (all chemicals) =

HI (all chemicals) = 6E-04

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC	$ELCR_{air}$	HQ_{air}
TRICHLOROETHANE, 1,1,1-	3.1E+00		6.1E-04

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Resident - Indoor Air: Table RAIH-2

Equations to Calculate Cancer Risk for Resident Child (Age 1-6 years)

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	5	years
$AP_{lifetime}$	70	years

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1-6)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

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Resident - Indoor Air: Table RAIH-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-6 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
[OHM]air	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	5	years
C	0.001	mg/ug
AP	5	year

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Resident - Indoor Air: Table RAIH-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RAIH-5
LADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RAIH-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RAIH-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RAIH-3
EPC - Exposure Point Concentration	chemical specific	µg/m3	see Table RAIH-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-6)}$ - Exposure Period for age group 1-6	5	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	5	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RAIH-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
TRICHLOROETHANE, 1,1,1-		5.00E+00

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Resident - Indoor Air: Table RAIH-1 (358 Coffin Avenue)
Exposure Point Concentration (EPC)
Based on Resident Age 1-6 (Cancer and Noncancer)

ShortForm Version 10-12

Vlookup Version v1012

ELCR (all chemicals) =

HI (all chemicals) = 9E-03

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC	$ELCR_{air}$	HQ_{air}
zzTrichlorofluoromethane	4.0E+00		5.7E-03
TRICHLOROETHANE, 1,1,1-	4.8E+00		9.6E-04
TOLUENE	1.4E+01		2.8E-03

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Resident - Indoor Air: Table RAIH-2

Equations to Calculate Cancer Risk for Resident Child (Age 1-6 years)

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	5	years
$AP_{lifetime}$	70	years

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1-6)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

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Resident - Indoor Air: Table RAIH-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-6 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
[OHM]air	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	5	years
C	0.001	mg/ug
AP	5	year

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Resident - Indoor Air: Table RAIH-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RAIH-5
LADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RAIH-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RAIH-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RAIH-3
EPC - Exposure Point Concentration	chemical specific	µg/m3	see Table RAIH-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-6)}$ - Exposure Period for age group 1-6	5	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	5	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RAIH-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
zzTrichlorofluoromethane		7.00E-01
TRICHLOROETHANE, 1,1,1-		5.00E+00
TOLUENE		5.00E+00

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Resident - Indoor Air: Table RAIH-1 (362 Coffin Avenue)
Exposure Point Concentration (EPC)
Based on Resident Age 1-6 (Cancer and Noncancer)

ShortForm Version 10-12

Vlookup Version v1012

ELCR (all chemicals) =

HI (all chemicals) = 9E-03

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC	$ELCR_{air}$	HQ_{air}
TRICHLOROETHANE, 1,1,1-	1.2E+01		2.5E-03
TOLUENE	3.2E+01		6.4E-03
ETHYLBENZENE	2.9E+00		3.2E-04

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Resident - Indoor Air: Table RAIH-2

Equations to Calculate Cancer Risk for Resident Child (Age 1-6 years)

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	5	years
$AP_{lifetime}$	70	years

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1-6)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

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Resident - Indoor Air: Table RAIH-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-6 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
[OHM]air	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	5	years
C	0.001	mg/ug
AP	5	year

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Resident - Indoor Air: Table RAIH-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RAIH-5
LADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RAIH-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RAIH-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RAIH-3
EPC - Exposure Point Concentration	chemical specific	µg/m3	see Table RAIH-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-6)}$ - Exposure Period for age group 1-6	5	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	5	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RAIH-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
TRICHLOROETHANE, 1,1,1-		5.00E+00
TOLUENE		5.00E+00
ETHYLBENZENE		9.00E+00

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Resident - Indoor Air: Table RAIH-1 (364 Coffin Avenue)
Exposure Point Concentration (EPC)
Based on Resident Age 1-6 (Cancer and Noncancer)

ShortForm Version 10-12

Vlookup Version v1012

ELCR (all chemicals) = 1E-07

HI (all chemicals) = 1E-02

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC	$ELCR_{air}$	HQ_{air}
TOLUENE	4.3E+01		8.6E-03
TETRACHLOROETHYLENE	2.1E-01	1.5E-07	5.2E-03
ETHYLBENZENE	6.3E+00		7.0E-04

Note! PCE IUR is under review.

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Resident - Indoor Air: Table RAIH-2

Equations to Calculate Cancer Risk for Resident Child (Age 1-6 years)

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	5	years
$AP_{lifetime}$	70	years

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1-6)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

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Resident - Indoor Air: Table RAIH-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-6 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
[OHM]air	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	5	years
C	0.001	mg/ug
AP	5	year

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Resident - Indoor Air: Table RAIH-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RAIH-5
LADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RAIH-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RAIH-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RAIH-3
EPC - Exposure Point Concentration	chemical specific	µg/m3	see Table RAIH-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-6)}$ - Exposure Period for age group 1-6	5	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	5	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RAIH-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
TOLUENE		5.00E+00
TETRACHLOROETHYLENE	1.00E-05	4.00E-02
ETHYLBENZENE		9.00E+00

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Resident - Indoor Air: Table RA-1 (8 Oneko Lane - Current)
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer) and 1-8 (Noncancer)

ShortForm Version 08-12

Vlookup Version v1012

ELCR (all chemicals) =

HI (all chemicals) = 6E-03

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}
TRICHLOROETHANE, 1,1,1-	5.6E+00		1.1E-03
TOLUENE	1.3E+01		2.6E-03
ETHYLBENZENE	2.4E+00		2.4E-03

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Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 1-31 years)

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1\text{-}31)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

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Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-8 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
AP	7	year

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Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RA-5
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-8)}$ - Exposure Period age group 1-8 (noncancer)	7	years	
$EP_{(1-31)}$ - Exposure Period for age group 1-31 (cancer)	30	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RA-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
TRICHLOROETHANE, 1,1,1-		5.00E+00
TOLUENE		5.00E+00
ETHYLBENZENE		1.00E+00

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Resident - Indoor Air: Table RA-1 (350 Coffin Avenue - Current)
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer) and 1-8 (Noncancer)

ShortForm Version 08-12

Vlookup Version v1012

ELCR (all chemicals) =

HI (all chemicals) = 3E-02

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}
zzTrichlorofluoromethane	8.4E+00		1.2E-02
TOLUENE	4.4E+01		8.9E-03
ETHYLBENZENE	4.9E+00		4.9E-03

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Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 1-31 years)

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1\text{-}31)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

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Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-8 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
AP	7	year

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Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RA-5
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-8)}$ - Exposure Period age group 1-8 (noncancer)	7	years	
$EP_{(1-31)}$ - Exposure Period for age group 1-31 (cancer)	30	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RA-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
zzTrichlorofluoromethane		7.00E-01
TOLUENE		5.00E+00
ETHYLBENZENE		1.00E+00

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Resident - Indoor Air: Table RA-1 (357 Coffin Avenue - Current)
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer) and 1-8 (Noncancer)

ShortForm Version 08-12

Vlookup Version v1012

ELCR (all chemicals) =

HI (all chemicals) = 6E-04

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}
TRICHLOROETHANE, 1,1,1-	3.1E+00		6.1E-04

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Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 1-31 years)

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1\text{-}31)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

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Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-8 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
AP	7	year

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Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RA-5
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-8)}$ - Exposure Period age group 1-8 (noncancer)	7	years	
$EP_{(1-31)}$ - Exposure Period for age group 1-31 (cancer)	30	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RA-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
TRICHLOROETHANE, 1,1,1-		5.00E+00

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Resident - Indoor Air: Table RA-1 (358 Coffin Avenue - Current)
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer) and 1-8 (Noncancer)

ShortForm Version 08-12

Vlookup Version v1012

ELCR (all chemicals) =

HI (all chemicals) = 9E-03

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}
zzTrichlorofluoromethane	4.0E+00		5.7E-03
TRICHLOROETHANE, 1,1,1-	4.8E+00		9.6E-04
TOLUENE	1.4E+01		2.8E-03

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Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 1-31 years)

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1\text{-}31)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

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Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-8 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
AP	7	year

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Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RA-5
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-8)}$ - Exposure Period age group 1-8 (noncancer)	7	years	
$EP_{(1-31)}$ - Exposure Period for age group 1-31 (cancer)	30	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RA-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
zzTrichlorofluoromethane		7.00E-01
TRICHLOROETHANE, 1,1,1-		5.00E+00
TOLUENE		5.00E+00

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Resident - Indoor Air: Table RA-1 (362 Coffin Avenue - Current)
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer) and 1-8 (Noncancer)

ShortForm Version 08-12

Vlookup Version v1012

ELCR (all chemicals) =

HI (all chemicals) = 1E-02

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}
TRICHLOROETHANE, 1,1,1-	1.2E+01		2.5E-03
TOLUENE	3.2E+01		6.4E-03
ETHYLBENZENE	2.9E+00		2.9E-03

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Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 1-31 years)

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1\text{-}31)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

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Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-8 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
AP	7	year

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Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RA-5
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-8)}$ - Exposure Period age group 1-8 (noncancer)	7	years	
$EP_{(1-31)}$ - Exposure Period for age group 1-31 (cancer)	30	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RA-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
TRICHLOROETHANE, 1,1,1-		5.00E+00
TOLUENE		5.00E+00
ETHYLBENZENE		1.00E+00

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Resident - Indoor Air: Table RA-1 (364 Coffin Avenue - Current)
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer) and 1-8 (Noncancer)

ShortForm Version 08-12

Vlookup Version v1012

ELCR (all chemicals) = 9E-07
HI (all chemicals) = 2E-02

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}	
TOLUENE	4.3E+01		8.6E-03	
TETRACHLOROETHYLENE	2.1E-01	8.8E-07	5.2E-03	**Note! PCE IUR is under review.**
ETHYLBENZENE	6.3E+00		6.3E-03	

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Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 1-31 years)

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1\text{-}31)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

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Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-8 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
AP	7	year

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Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RA-5
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-8)}$ - Exposure Period age group 1-8 (noncancer)	7	years	
$EP_{(1-31)}$ - Exposure Period for age group 1-31 (cancer)	30	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RA-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
TOLUENE		5.00E+00
TETRACHLOROETHYLENE	1.00E-05	4.00E-02
ETHYLBENZENE		1.00E+00

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Resident - Indoor Air: Table RA-1 (8 Oneko Lane - Future)
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer) and 1-8 (Noncancer)

ShortForm Version 08-12

Vlookup Version v1012

ELCR (all chemicals) =

HI (all chemicals) = 5E-02

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}
zzTrichlorofluoromethane	2.0E+01		2.9E-02
TRICHLOROETHANE, 1,1,1-	2.3E+01		4.6E-03
TOLUENE	4.4E+01		8.7E-03
ETHYLBENZENE	8.6E+00		8.6E-03

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Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 1-31 years)

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1\text{-}31)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

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Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-8 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
AP	7	year

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Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RA-5
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-8)}$ - Exposure Period age group 1-8 (noncancer)	7	years	
$EP_{(1-31)}$ - Exposure Period for age group 1-31 (cancer)	30	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RA-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
zzTrichlorofluoromethane		7.00E-01
TRICHLOROETHANE, 1,1,1-		5.00E+00
TOLUENE		5.00E+00
ETHYLBENZENE		1.00E+00

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Resident - Indoor Air: Table RA-1 (350 Coffin Avenue - Future)
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer) and 1-8 (Noncancer)

ShortForm Version 08-12

Vlookup Version v1012

ELCR (all chemicals) =

HI (all chemicals) = 5E-02

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}
zzTrichlorofluoromethane	8.4E+00		1.2E-02
TOLUENE	4.4E+01		8.9E-03
ETHYLBENZENE	2.4E+01		2.4E-02

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Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 1-31 years)

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1\text{-}31)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

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Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-8 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
AP	7	year

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Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RA-5
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-8)}$ - Exposure Period age group 1-8 (noncancer)	7	years	
$EP_{(1-31)}$ - Exposure Period for age group 1-31 (cancer)	30	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RA-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
zzTrichlorofluoromethane		7.00E-01
TOLUENE		5.00E+00
ETHYLBENZENE		1.00E+00

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Resident - Indoor Air: Table RA-1 (357 Coffin Avenue - Future)
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer) and 1-8 (Noncancer)

ShortForm Version 08-12

Vlookup Version v1012

ELCR (all chemicals) = 3E-06
HI (all chemicals) = 9E-01

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}
TRICHLOROETHANE, 1,1,1-	7.8E+00		1.6E-03
TRICHLOROETHYLENE	1.9E+00	3.2E-06	9.4E-01

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Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 1-31 years)

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1\text{-}31)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

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Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-8 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
AP	7	year

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Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RA-5
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-8)}$ - Exposure Period age group 1-8 (noncancer)	7	years	
$EP_{(1-31)}$ - Exposure Period for age group 1-31 (cancer)	30	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RA-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
TRICHLOROETHANE, 1,1,1-		5.00E+00
TRICHLOROETHYLENE	4.00E-06	2.00E-03

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Resident - Indoor Air: Table RA-1 (358 Coffin Avenue - Future)
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer) and 1-8 (Noncancer)

ShortForm Version 08-12

Vlookup Version v1012

ELCR (all chemicals) =

HI (all chemicals) = 4E-02

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}
zzTrichlorofluoromethane	4.1E+00		5.8E-03
TRICHLOROETHANE, 1,1,1-	6.7E+00		1.3E-03
TOLUENE	7.5E+01		1.5E-02
ETHYLBENZENE	1.5E+01		1.5E-02

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Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 1-31 years)

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1\text{-}31)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

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Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-8 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
AP	7	year

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Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RA-5
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-8)}$ - Exposure Period age group 1-8 (noncancer)	7	years	
$EP_{(1-31)}$ - Exposure Period for age group 1-31 (cancer)	30	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RA-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
zzTrichlorofluoromethane		7.00E-01
TRICHLOROETHANE, 1,1,1-		5.00E+00
TOLUENE		5.00E+00
ETHYLBENZENE		1.00E+00

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Resident - Indoor Air: Table RA-1 (362 Coffin Avenue - Future)
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer) and 1-8 (Noncancer)

ShortForm Version 08-12

Vlookup Version v1012

ELCR (all chemicals) = 1E-06
HI (all chemicals) = 9E-02

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}
TRICHLOROETHANE, 1,1,1-	8.7E+01		1.7E-02
TOLUENE	1.7E+02		3.4E-02
ETHYLBENZENE	3.3E+01		3.3E-02
STYRENE	5.3E+00	1.3E-06	5.3E-03

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Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 1-31 years)

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1\text{-}31)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

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Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-8 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
AP	7	year

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Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RA-5
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-8)}$ - Exposure Period age group 1-8 (noncancer)	7	years	
$EP_{(1-31)}$ - Exposure Period for age group 1-31 (cancer)	30	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RA-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
TRICHLOROETHANE, 1,1,1-		5.00E+00
TOLUENE		5.00E+00
ETHYLBENZENE		1.00E+00
STYRENE	5.70E-07	1.00E+00

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Resident - Indoor Air: Table RA-1 (364 Coffin Avenue - Future)
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer) and 1-8 (Noncancer)

ShortForm Version 08-12

Vlookup Version v1012

ELCR (all chemicals) = 9E-07
HI (all chemicals) = 3E-02

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}	
TOLUENE	6.3E+01		1.3E-02	
TETRACHLOROETHYLENE	2.1E-01	8.8E-07	5.2E-03	**Note! PCE IUR is under review.**
ETHYLBENZENE	1.2E+01		1.2E-02	

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Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 1-31 years)

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1\text{-}31)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

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Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-8 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
AP	7	year

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Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RA-5
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-8)}$ - Exposure Period age group 1-8 (noncancer)	7	years	
$EP_{(1-31)}$ - Exposure Period for age group 1-31 (cancer)	30	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RA-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
TOLUENE		5.00E+00
TETRACHLOROETHYLENE	1.00E-05	4.00E-02
ETHYLBENZENE		1.00E+00

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Resident - Indoor Air: Table RAIH-1 (Tabor Mills - 2013)
Exposure Point Concentration (EPC)
Based on Resident Age 1-6 (Cancer and Noncancer)

ShortForm Version 10-12

Vlookup Version v1012

ELCR (all chemicals) = 2E-06

HI (all chemicals) = 4E-01

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}	
Trichloroethane, 1,1,1-	1.9E-01		3.8E-05	
Benzene	2.6E+00	1.4E-06	2.6E-01	
zzCarbon Disulfide	4.3E+00		6.1E-03	
zzEthanol	3.4E+03			
zzEthyl Acetate	1.7E+01			
zz2-Hexanone	8.5E-01		2.8E-02	
zzIsopropanol	1.9E+02			
zzTetrahydrofuran	1.9E-01	4.1E-08	9.5E-05	
TRICHLOROETHYLENE	2.3E-01	6.6E-08	1.2E-01	**Note! TCE short-term toxicity under rev**
TETRACHLOROETHYLENE	3.1E-01	2.2E-07	7.8E-03	**Note! PCE IUR is under review.**
Styrene	9.0E-01	3.7E-08	3.0E-04	
Methyl Ethyl Ketone	4.1E+00		8.2E-04	
AROMATICS C9 to C10	7.2E+00		1.4E-02	

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Resident - Indoor Air: Table RAIH-2

Equations to Calculate Cancer Risk for Resident Child (Age 1-6 years)

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	5	years
$AP_{lifetime}$	70	years

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1-6)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

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Resident - Indoor Air: Table RAIH-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-6 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
[OHM]air	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	5	years
C	0.001	mg/ug
AP	5	year

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Resident - Indoor Air: Table RAIH-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RAIH-5
LADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RAIH-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RAIH-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RAIH-3
EPC - Exposure Point Concentration	chemical specific	µg/m3	see Table RAIH-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-6)}$ - Exposure Period for age group 1-6	5	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	5	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RAIH-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
Trichloroethane, 1,1,1-		5.00E+00
Benzene	7.80E-06	1.00E-02
zzCarbon Disulfide		7.00E-01
zzEthanol		
zzEthyl Acetate		
zz2-Hexanone		3.00E-02
zzIsopropanol		
zzTetrahydrofuran	3.00E-06	2.00E+00
TRICHLOROETHYLENE	4.00E-06	2.00E-03
TETRACHLOROETHYLENE	1.00E-05	4.00E-02
Styrene	5.70E-07	3.00E+00
Methyl Ethyl Ketone		5.00E+00
AROMATICS C9 to C10		5.00E-01

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Resident - Indoor Air: Table RA-1 (Tabor Mills - 2013)
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer) and 1-8 (Noncancer)

ShortForm Version 08-12

Vlookup Version v1012

ELCR (all chemicals) = 1E-05

HI (all chemicals) = 1E+00

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}	
Trichloroethane, 1,1,1-	1.9E-01		3.8E-05	
Benzene	2.6E+00	8.7E-06	2.6E-01	
zzCarbon Disulfide	4.3E+00		6.1E-03	
zzEthanol	3.4E+03		8.5E-01	
zzEthyl Acetate	1.7E+01		5.4E-03	
zz2-Hexanone	8.5E-01		2.8E-02	
zzIsopropanol	1.9E+02		2.7E-02	
zzTetrahydrofuran	1.9E-01	2.4E-07	9.5E-05	
TRICHLOROETHYLENE	2.3E-01	3.9E-07	1.2E-01	
TETRACHLOROETHYLENE	3.1E-01	1.3E-06	7.8E-03	**Note! PCE IUR is under review.**
Styrene	9.0E-01	2.2E-07	9.0E-04	
Methyl Ethyl Ketone	4.1E+00		8.2E-04	
AROMATICS C9 to C10	7.2E+00		1.4E-01	

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Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 1-31 years)

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1\text{-}31)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

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Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-8 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
AP	7	year

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Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RA-5
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-8)}$ - Exposure Period age group 1-8 (noncancer)	7	years	
$EP_{(1-31)}$ - Exposure Period for age group 1-31 (cancer)	30	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RA-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
Trichloroethane, 1,1,1-		5.00E+00
Benzene	7.80E-06	1.00E-02
zzCarbon Disulfide		7.00E-01
zzEthanol		4.00E+00
zzEthyl Acetate		3.15E+00
zz2-Hexanone		3.00E-02
zzIsopropanol		7.00E+00
zzTetrahydrofuran	3.00E-06	2.00E+00
TRICHLOROETHYLENE	4.00E-06	2.00E-03
TETRACHLOROETHYLENE	1.00E-05	4.00E-02
Styrene	5.70E-07	1.00E+00
Methyl Ethyl Ketone		5.00E+00
AROMATICS C9 to C10		5.00E-02

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Resident - Indoor Air: Table RA-1 (Tabor Mills - Future - 2012)
Exposure Point Concentration (EPC)
Based on Resident Ages 1-31 (Cancer) and 1-8 (Noncancer)

ShortForm Version 08-12

Vlookup Version v1012

ELCR (all chemicals) = 6E-06
HI (all chemicals) = 1E+00

****Do not insert or delete any rows****

Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC ($\mu g/m^3$)	$ELCR_{air}$	HQ_{air}
TRICHLOROETHANE, 1,1,1-	1.2E+00		2.4E-04
BENZENE	9.4E-01	3.1E-06	9.4E-02
TRICHLOROETHYLENE	1.5E+00	2.6E-06	7.5E-01
METHYL ETHYL KETONE	9.6E+00		1.9E-03
AROMATICS C9 to C10	1.4E+01		2.7E-01

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Resident - Indoor Air: Table RA-2

Equations to Calculate Cancer Risk for Resident (Age 1-31 years)

Cancer Risk from Inhalation

$$ELCR_{air} = LADE_{(1\text{-}31)} * URF$$

$$LADE = \frac{[OHM]_{air} * EF * ED * EP}{AP_{lifetime}}$$

Vlookup Version v1012

Parameter	Value	Units
URF	OHM specific	$(\mu g/m^3)^{-1}$
LADE	age/OHM specific	$\mu g/m^3$
$[OHM]_{air}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	30	years
$AP_{lifetime}$	70	years

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Resident - Indoor Air: Table RA-3

Equations to Calculate Noncancer Risk for Resident Child (Age 1-8 years)

Vlookup Version v1012

Noncancer Risk from Inhalation

$$HQ_{air} = \frac{ADE}{RfC}$$

$$ADE = \frac{[OHM]_{air} * EF * ED * EP * C}{AP}$$

Parameter	Value	Units
RfC	OHM specific	mg/m^3
ADE	OHM specific	mg/m^3
$[OHM]_{soil}$	OHM specific	$\mu g/m^3$
EF	1.00	event/day
ED	1	day/event
EP	7	years
C	0.001	mg/ug
AP	7	year

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Resident - Indoor Air: Table RA-4
Definitions and Exposure Factors

Vlookup Version v1012

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	
URF - Unit Risk Factor	chemical specific	$(\mu g/m^3)^{-1}$	see Table RA-5
LADE - Lifetime Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-2
HQ - Hazard Quotient	chemical specific	dimensionless	
RfC - Reference Concentration	chemical specific	mg/m^3	see Table RA-5
ADE - Average Daily Exposure	chemical specific	$\mu g/m^3$	see Table RA-3
EPC - Exposure Point Concentration	chemical specific	$\mu g/m^3$	see Table RA-1
EF - Exposure Frequency	1.00	event/day	
ED - Exposure Duration	1	day/event	
$EP_{(1-8)}$ - Exposure Period age group 1-8 (noncancer)	7	years	
$EP_{(1-31)}$ - Exposure Period for age group 1-31 (cancer)	30	years	
$AP_{(noncancer)}$ - Averaging Period for noncancer	7	years	
$AP_{(lifetime)}$ - Averaging Period for lifetime	70	years	

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Resident - Indoor Air: Table RA-5
Chemical-Specific Data

Vlookup Version v1012

Oil or Hazardous Material	URF $(ug/m^3)^{-1}$	RfC mg/m^3
TRICHLOROETHANE, 1,1,1-		5.00E+00
BENZENE	7.80E-06	1.00E-02
TRICHLOROETHYLENE	4.00E-06	2.00E-03
METHYL ETHYL KETONE		5.00E+00
AROMATICS C9 to C10		5.00E-02

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APPENDIX I

TIER CLASSIFICATION SCORESHEET

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC107A

NUMERICAL RANKING SYSTEM (NRS) SCORESHEET

Pursuant to 310 CMR 40.1511 (Subpart O)

Release Tracking Number
4 - 15373

A. NRS SCORESHEET SUMMARY SECTION:

1. Classification Submittal: (check one) ☑ a. Initial NRS Score ☐ b. Revised NRS Score

2. Disposal Site Score:

II	III	IV	V	VI	Total
75	141	30	0	50	296

3. Disposal Site Classification: (check one)

☐ a. Tier IA ☐ b. Tier IB ☐ c. Tier IC ☑ d. Tier II

B. DISPOSAL SITE INFORMATION (NRS SECTION I):

1. UTM Coordinates: a. UTM N: 339137 b. UTM E: 461388

2. Check which, if any, of the Tier I inclusionary criteria are met by the Disposal Site, pursuant to 310 CMR 40.0520(2):

☐ a. Groundwater is located within an Interim Wellhead Protection Area or a Zone II, and there is evidence of groundwater contamination by an Oil or Hazardous Material at the time of Tier Classification at concentrations equal to or exceeding the applicable RCGW-1 Reportable Concentration set forth in 310 CMR 40.0360.

☐ b. An Imminent Hazard is present at the time of Tier Classification.

C. EXPOSURE PATHWAYS (NRS SECTION II):

1. Exposure Pathways, and Oil and Hazardous Material (OHM) Sources:

For A. through D., score according to 310 CMR 40.1512 - Exposure Pathway Designation Criteria and NRS Table II.
For E., score using NRS Table II.E.

	Score
A. Soil (includes sediment)	15
B. Groundwater	20
C. Surface Water (includes wetlands)	0
D. Air	15
E. Number of OHM Sources	25
Total NRS Section II Score (15 - 700)	75

2. Was Section G (NRS Section VI) used to amend the score for this Section of the NRS? ☑ a. Yes ☐ b. No

3. Summary Rationale for Exposure Pathway Values, A. through D., and Phase I Report References:

a) OHM identified in soil at concentrations greater than RCs. Site is fenced with a locked gate; b) OHM identified in groundwater at concentrations greater than RCs. There are no drinking water wells nearby; therefore, there is no pathway to groundwater; c) OHM is not anticipated to be identified in surface water. Nearest downgradient surface water body (Acushnet River) is located approximately 1/2 mile to the east; d) TCE has been detected in indoor air in the Taber Mill facility. However, a system is currently in place to eliminate the exposure pathway. VOCs have been identified in groundwater at concentrations <5 mg/L. However, these wells are located greater than 30' from occupied residences, and soil gas surveys have been conducted that demonstrate no exposure to OHM attributable to the Site.

D. DISPOSAL SITE CHARACTERISTICS (NRS SECTION III):

1. Oil and Hazardous Material (OHM) Toxicity Score (NRS Section III.A.):

a. List the Four Highest OHM Toxicity Scores from NRS Table III.A.:

OHM Scored	Concentration and Media	Toxicity Score (1 - 80)
Trichlorothylene	40,000 ug/L in groundwater	45
C5-C8 aliphatics	15,000 ug/L in groundwater	35
Lead	260 mg/kg in soil	30
Nickel	1,600 mg/kg in soil	30

b. Score using NRS Worksheet III.A.1. to determine the OHM Toxicity Score for OHM not listed in NRS Table III.A.:

OHM	Human Health-based Toxicity Value	Concentration (Soil - ug/g)	Concentration (Water - ug/l)	Toxicity Score
cis-1,2-dichloroethylene	18	7.2000	3800.0000	25
Benzo(a)pyrene	44	10.0000	0.0000	20
				0
				0

c. Use the Highest OHM Toxicity Score from either NRS Table III.A. or Worksheet III.A.1.:

OHM Scored	Toxicity Score
Trichlorothylene	45

2. Multiple OHMs (NRS Section III.B.):

Was the Toxicity Score of more than one OHM greater than or equal to 30? ☑ a. Yes (30) ☐ b. No (0)

3. OHM Mobility and Persistence (NRS Section III.C.):

Score according to 310 CMR 40.1514 - OHM Mobility and Persistence

a. OHM Scored	b. Score (0 - 50)
cis-1,2-dichloroethylene	50

4. Disposal Site Hydrogeology (NRS Section III.D.):

Score according to 310 CMR 40.1515 - Soil Permeability, and NRS Table III.D.

Site Hydrogeology Score (2-20)
16

5. Total NRS Section III Score:

A.	B.	C.	D.	Total for Section III (3 - 180)
45	30	50	16	141

6. Was Section G (NRS Section VI) used to amend the score for this Section of the NRS? ☐ a. Yes ☑ b. No

E. HUMAN POPULATION AND LAND USES (NRS SECTION IV):

1. Human Population (NRS Section IV.A.):

Score using NRS Table IV.A.

Residential Population within 1/2 Mile	Institutions within 500 Feet	On-site Workers	Population Score (0 - 40)
15	10	5	30

2. Aquifers (NRS Section IV.B.):

a. Sole Source Aquifer: ☐ i. Yes (25) ii. Name: _____ ☑ iii. No (0)

b. Potentially Productive Aquifer: ☐ i. Medium or High (15) ☑ ii. No (0)

3. Water Use (NRS Section IV.C.):

Score using NRS Table IV.C.

Proximity to Public Drinking Water Source	Persons Served by Public Drinking Water Supply	Private Water Supplies within 500 Feet	Alternate Public Water Supply Available	Water Use Score (0 -125)
0	0	0	0	0

4. Total NRS Section IV Score:

A.	B.	C.	Total for Section IV (0 - 205)
30	0	0	30

5. Was Section G (NRS Section VI) used to amend the score for this Section of the NRS? ☑ a. Yes ☐ b. No

F. ECOLOGICAL POPULATION (NRS SECTION V):

1. Environmental Resource Areas (NRS Section V.A.): Score using NRS Table V.A.

Area of Critical Environmental Concern	Species of Special Concern, Threatened or Endangered Species Habitat	Wetlands, Certified Vernal Pool, or Outstanding Resource Water	Fish Habitat	Protected Open Space	Environmental Resource Area Score (0 - 150)
0	0	0	0	0	0

2. Environmental Toxicity Score (NRS Section V.B.):

Score only if Environmental Resource Area Score is greater than or equal to 30.

a. List the Three Highest Environmental Toxicity Scores from NRS Table V.B.:

OHM Scored	Concentration and Media	Toxicity Score (0 - 35)

b. Score using NRS Worksheet V.B.1. to determine the Environmental Toxicity Score for OHM not listed in NRS Table V.B. See 310 CMR 40.1516 for Environmental Toxicity Values for each OHM.

OHM	Environmental Toxicity Value	Concentration (Soil - ug/g)	Concentration (Water - ug/l)	Environmental Toxicity Score

c. Use the Highest Environmental Toxicity Score from either NRS Table V.B. or from Worksheet V.B.1.:

OHM Scored	Toxicity Score
	0

3. Total NRS Section V Score:

A.	B.	Total for Section V (0 - 185)
0	0	0

4. Was Section G (NRS Section VI) used to amend the score for this Section of the NRS? ☐ a. Yes ☑ b. No

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC107A

NUMERICAL RANKING SYSTEM (NRS) SCORESHEET
Pursuant to 310 CMR 40.1511 (Subpart O)

Release Tracking Number
4 - 15373

G. MITIGATING DISPOSAL SITE -SPECIFIC CONDITIONS (NRS SECTION VI):

1. Disposal site-specific conditions that warrant amending the site score. Changes directly related to NRS Sections or Subsection scores may not reduce the score more than the relevant subsection value assigned for the disposal site in that subsection. Section VI must reference specific pages of the Phase I. Section VI may not exceed plus or minus 50 points and may be scored only in 5-point increments.

Add 50 points due to the presence of PCE in soil gas at 6 Oneko Lane. However, this concentration is not likely to be attributable to the Site as PCE has not been identified in soil or groundwater at TRC-1, located adjacent to 6 Oneko Lane.

☐ 2. Check here if additional pages are provided in an attachment.

3. Disposal Site Amendment (Not to exceed plus or minus 50 points):

Total Score Section VI
50

APPENDIX J

MASSDEP CONDITIONAL APPROVAL LETTER

APPENDIX K

GROUNDWATER MONITORING DATA SHEETS

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

RICHARD K. SULLIVAN JR.
Secretary

KENNETH L. KIMMELL
Commissioner

March 11, 2013

Michele Paul, Director
Office of Environmental Stewardship
City of New Bedford, City Hall
133 William Street
New Bedford, Massachusetts 02740

RE: NEW BEDFORD
Release Tracking Number: 4-0015373
295 Phillips Avenue
CONDITIONAL APPROVAL TO APPLY REMEDIAL ADDITIVES

Dear Ms. Paul:

The Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup (MassDEP or the Department) is tasked with ensuring the cleanup of oil and/or hazardous material (OHM) releases pursuant to the Massachusetts Oil and Hazardous Material Release Prevention and Response Act (M.G.L. Chapter 21E). The law is implemented through regulations known as the Massachusetts Contingency Plan (310 CMR 40.0000 et seq. – the MCP). Both M.G.L. c. 21E and the MCP require the performance of response actions to provide for the protection of harm to health, safety, public welfare and the environment which may result from releases and/or threats of releases of oil and/or hazardous material at disposal sites.

MassDEP is currently regulating a release (or releases) of OHM that have occurred at the former Payne Cutlery property located at 295 Phillips Avenue, in New Bedford, Massachusetts (the Site).

MassDEP is in receipt of a document titled *Immediate Response Action Status and Modification Report*, dated December, 2012 (the Status Report) submitted for the Site. The Status report details response actions proposed to be conducted at the Site including improvements/alterations to the existing heating, ventilation and/or air conditioning system in the adjacent Taber Mill Residential building and the application of remedial additives to address a contaminant source area at the Site. Also submitted to supplement the Status Report was a Memorandum regarding the proposed monitoring to be conducted related to the application of remedial additives at the Site, dated March 5, 2013. Additional information regarding the monitoring of the application of remedial additives at the Site is included in a document titled, *Brownfields Program Quality Assurance Project Plan Addendum NB-1,* which was submitted to the United States Environmental Protection Agency (USEPA) in February, 2013. All of the documents referenced herein were prepared and submitted to MassDEP and/or the USEPA on your ("you" and "your", as used in this correspondence, refers to the City of New Bedford) behalf by TRC Environmental Corporation. In addition, on March 11, 2013, TRC forwarded MassDEP a letter addressed to TRC from the City's Department of Public Infrastructure (DPI), dated March 8, 2013, regarding the proposed remedial program and the potential for the remedial additives to be detected in the sanitary or storm sewer lines located in the area of the proposed remedial actions.

The proposed response actions include the injection of potassium permanganate ($KMNO_4$) into the subsurface with the intention of reducing the mass of chlorinated volatile organic compounds (VOCs) at the Site. This is specifically targeted for an area at the southern end of the Site near the intersection of Coffin Avenue and Brook Street, which is the area of the Site where the highest concentrations of VOCs in the shallow aquifer have been detected.

This injection of $KMNO_4$ is proposed to be accomplished by using direct push technology to pump the $KMNO_4$ into up to 40 injection points, which will be spaced based upon a 5-foot radius of influence. Up to 35,000 gallons of a 5% solution will be injected through direct push rods using 2 foot injection zones from the bottom up at depths ranging from 2-15 feet below ground surface (bgs). The injection is expected to be conducted over a period of 3 to 5 days.

The stormwater and sanitary sewer infrastructure in Brook Street and Coffin Avenue will be monitored twice daily, at a minimum, during the injection activities to determine whether the additive is infiltrating the sanitary and/or storm sewer infrastructure. Monitoring of existing Site groundwater monitoring wells will be conducted prior to, during and after the injections/extraction.

MassDEP hereby grants conditional approval to apply remedial additives at the Site, as described in the referenced documents, subject to the following conditions:

1. The application of remedial additives shall be performed as described in the documents submitted and conducted in full compliance with 310 CMR 40.0046 and the MCP;

2. Notify MassDEP 72 hours in advance of implementing the proposed application of remedial additives. This notice can be made by emailing Ms. Molly Cote at the following address: molly.cote@state.ma.us;

3. Inspection and monitoring of the remedial additive application shall be performed as described in the documents and in accordance with the provisions of 310 CMR 40.0046 (4), (5) and (6);

4. Written approval from MassDEP shall be required prior to any modification of the proposed design and/or inspection and monitoring program specified in the documents, and prior to any subsequent application of remedial additives at the Site;

5. Notify MassDEP immediately if the additives are observed in any subsurface utility. Notice can be provided as described in #2, above. Based on discussions with you and TRC, and as provided in the letter from the City's DPI, the application of additives does not necessarily have to cease if these conditions are observed, nor would it this require a permit from DPI. However, further discussion with MassDEP should occur if this is the case;

6. Pursuant to 310 CMR 40.0046(1)(a), the application of remedial additives shall immediately cease at the Site if groundwater mounding, flooding or breakout to the ground surface or a building interior is observed;

7. Pursuant to 310 CMR 40.0046(1)(c), the application of remedial additives shall be conducted in a manner that does not exacerbate existing conditions, or prevent or impair the performance of remedial actions at the Site;

8. Reporting on the implementation of the injections/extractions shall be conducted in accordance with 310 CMR 40.0047 and reports shall include, but not be limited to, the information required by 40.0047 (3) and (4). Remedial Monitoring Reports and/or Immediate Response Action Status Reports, if applicable, shall be submitted to MassDEP at the frequency described in, and in full accordance with 310 CMR 40.0425.

This Site shall not be deemed to have had all the necessary and required response actions taken unless and until all substantial hazards presented by the release and/or threat of release have been eliminated and a level of No Significant Risk exists or has been achieved in compliance with M.G.L. c.21E and the MCP.

If you have any questions regarding the information contained herein, or if you would like to discuss compliance with this Notice, please contact Molly Cote at the letterhead address or by telephone at (508) 946-2792. All future communications regarding this matter must reference Release Tracking Number 4-0015373.

Sincerely,

GERARD M.R. MARTIN

FOR: Millie Garcia – Serrano, MPH
Deputy Regional Director
Bureau of Waste Site Cleanup

MGS/MC/lg

W:\BWSC\Document Archive\4-0015373.New Bedford.APWRIT.03-11-2013

CERTIFIED MAIL # 7012 1640 0001 4831 7261
RETURN RECIEPT REQUESTED

ec: Mayor Jonathan F. Mitchell, City of New Bedford
City of New Bedford, Board of Health
James J. Ricci, Superintendent of Water - DPI

David Sullivan, LSP – TRC

Laurie O'Connor, USEPA

DEP-SERO
Molly Cote, Project Manager, BWSC- Risk Reduction & Special Project Support Branch
Lara Goodine, BWSC – Data Entry [APWRIT]

TRC

Low-flow Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Payne Cotton	172744	8/15/13	

TRC Personnel: K. Jordan

Well ID: CGW-8

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present		X

Sampling Equipment:

Flow-thru Cell Volume:

PID SCREENING MEAS.

Background	0.0
Well Mouth	97.4

Protective Casing Stick-up (from ground): flush ft.

Riser Stick-up (from ground): ✓ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch — Other: ____

WELL MATERIAL: [X] PVC [ ] SS [ ] ____

Well Depth: 15' ft. — [X] top of riser [X] top of casing [ ] ____ — [ ] measured [X] historical (boring log)

Water Depth: 8.20 ft. — LNAPL/DNAPL Depth = ~ — Thickness = ~

LOW FLOW DATA

Depth of pump intake: ~12'

Static water level after pump put into well: 8.20

Initial purge Rate/ Water Level (100-400 ml/min): 50

Adjusted purge Rates/time/WL(record changes): —

Flow rate at time of sampling: 50

Volume of water purged: ~6750 mL

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0855	0910	0920	0930	0940	0950	1000	1010	1020	1030
Temp. (C)		22.56	22.46	22.44	22.48	22.55	22.59	22.65	22.47	22.76
Conduct. (µmhos/cm)		2473	2501	2511	2522	2530	2544	2554	2564	2578
DO (mg/l)		0.91	0.61	0.53	0.45	0.40	0.34	0.32	0.31	0.30
pH (Std. Units)		6.54	6.57	6.59	6.63	6.64	6.61	6.61	6.62	6.63
Eh/ORP (millivolts)		176	123	86	25	-12	-23	-36	-44	-55
Turbidity (NTU)	34.3	24.2	20.6	16.4	12.2	14.0	16.6	13.3	12.0	11.3
Flow (ml/min)	50	50	50	50	50	50	50	50	50	50
Depth To Water (ft)	8.20	8.48	8.54	8.55	8.55	8.55	8.55	8.55	8.55	8.55

Time	1040	1050	1100	1110	1111		
Temp. (C)	22.87	23.11	23.11	23.27			
Conduct. (µmhos/cm)	2585	2601	2614	2619			
DO (mg/l)	0.29	0.27	0.26	0.25			
pH (Std. Units)	6.65	6.64	6.64	6.64	sample		
Eh/ORP (millivolts)	-68	-66	-72	-76			
Turbidity (NTU)	8.6	6.29	5.76	5.20			
Flow (ml/min)	56	50	50	50			
Depth To Water (ft)	8.55	8.55	8.55	8.55			

Stabilization Criteria* (3 consecutive readings)
- Temperature: +/- 3 %
- Conduct. (µmhos/cm): +/- 3 %
- DO (mg/l): +/- 10 % (for values >0.5 mg/L)
- pH (Std. Units): +/- 0.1 SU
- Eh/ORP (millivolts): +/- 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

Pump Type	Purge	Sample
Peristaltic Pump		
Submersible Pump		
Bladder Pump	X	X
Other: ____		

Comments: YSI 556 w/ 556 MPS display, 1.75" QED Sample Pro bladder pump 100' solinst, J.P., LaMotte 2020e, MP15 w/ obj' gas.

Analytical Parameter	Filtered (Y/N)	Preservation	Volume	Time Collected	QC	Sample #
VOC	N	HCl/13mg of ascorbic acid	3 x 40 mL VOA	1111	—	# CGW-8

* From USEPA Region 1 Low-Stress (Low-Flow) SOP, January 19, 2010 (EQASOP-GW-001).

Signed: [signature]

Rev: October 2012

4

TRC

Low-flow Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Payne Cutler	172744	8/14/13	

TRC Personnel: Aaron Ting / Kevin Jordan

Well ID: CGW-14

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	☒	☐
Concrete Collar Intact	☒	☐
PVC Stick-up Intact	☒	☐
Well Cap Present	☒	☐
Security Lock Present	☐	☒

Sampling Equipment: YSI / bladder pump

Flow-thru Cell Volume: 500mL 475

PID SCREENING MEAS.

Background	0.0
Well Mouth	0.0

Protective Casing Stick-up (from ground): flush ft.

Riser Stick-up (from ground): — ft.

WELL DIAMETER: ☒ 2 inch ☐ 4 inch ☐ 6 inch

Other: _____

WELL MATERIAL: ☒ PVC ☐ SS ☐ —

Well Depth: 15 ft. ☒ top of riser ☐ top of casing ☐ _____ ☐ measured ☒ historical

Water Depth: 9.16 ft.

LNAPL/DNAPL Depth = —

Thickness = —

LOW FLOW DATA

Depth of pump intake: ~12.25 ft

Static water level after pump put into well: 9.06'

Initial purge Rate/ Water Level (100-400 ml/min): 40 120 mL/min

Adjusted purge Rates/time/WL(record changes): ~~150~~ mL/min @ 1120

Flow rate at time of sampling: 50 mL/min

Volume of water purged: 1850 mL

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1100	1115	1120	1125	1130	1135	1140	1145		
Temp. (C)	Fill	20.14	21.21	21.77	21.98	22.50	22.64			
Conduct. (µmhos/cm)	Cell	1612	1186	1203	1209	1223	1226	Sample		
DO (mg/l)	|	0.69	0.58	0.55	0.52	0.56	0.51			
pH (Std. Units)	|	6.46	6.49	6.51	6.51	6.52	6.52			
Eh/ORP (millivolts)	|	28.5	29.8	30.9	31.8	31.0	31.9			
Turbidity (NTU)	|	4.28	4.02	4.50	3.78	3.47	3.07		At 8/13/13	
Flow (ml/min)	|	~~120~~	120	150	150	~~150~~	~~156~~ 150			
Depth To Water (ft)	10.0	9.73	9.7	9.7	9.7	9.7	9.7			

Time								
Temp. (C)								
Conduct. (µmhos/cm)								
DO (mg/l)								
pH (Std. Units)								
Eh/ORP (millivolts)								
Turbidity (NTU)								
Flow (ml/min)								
Depth To Water (ft)								

Stabilization Criteria* (3 consecutive readings)
- Temperature: +/- 3 %
- Conduct. (µmhos/cm): +/- 3 %
- DO (mg/l): +/- 10 % (for values >0.5 mg/L)
- pH (Std. Units): +/- 0.1 SU
- Eh/ORP (millivolts): +/- 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

Pump Type	Purge	Sample
Peristaltic Pump	☐	☐
Submersible Pump	☐	☐
Bladder Pump	☒	☒
Other: _____	☐	☐

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	Volume	Time Collected	QC	Sample #
VOC	N	HCl	3x40mL VOA	1145		TGW-14

* From USEPA Region 1 Low-Stress (Low-Flow) SOP, January 19, 2010 (EQASOP-GW-001).

Signed: _____

Rev. October 2012

0.0 1.07 9.15

TRC

Low-flow Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet
Payne Cuttery	172744	8/14/13	1 of 1

TRC Personnel: K. Jordan

Well ID: TRC-4

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact		X
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present		X

Sampling Equipment: See Below

Flow-thru Cell Volume: 475

PID SCREENING MEAS.

Background	0.0
Well Mouth	0.4

Protective Casing Stick-up (from ground): Flush ft.

Riser Stick-up (from ground): ✓ ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL: [X] PVC [ ] SS [ ] _____

Well Depth: 16' ft. [ ] top of riser [X] top of casing [ ] _____ [ ] measured [X] historical (boney log)

Water Depth: 6.65 ft.

LNAPL/DNAPL Depth = ✓

Thickness = ✓

LOW FLOW DATA

Depth of pump intake: ~11.5'

Static water level after pump put into well: 6.52'

Initial purge Rate/ Water Level (100-400 ml/min): 45

Adjusted purge Rates/time/WL(record changes): ✓

Flow rate at time of sampling: 45

Volume of water purged: ~5625 mL

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1525	1530	1540	1550	1600	1610	1620	1630	1640	1650
Temp. (C)	Begin	20.27	20.10	20.05	20.02	19.94	19.90	19.90	19.89	19.86
Conduct. (µmhos/cm)	↓	0834	0830	0842	0867	0884	0894	0899	0904	0906
DO (mg/l)	purge	1.66	1.28	1.13	0.95	0.81	0.69	0.61	0.56	0.52
pH (Std. Units)	↓	6.55	6.52	6.51	6.50	6.49	6.48	6.48	6.48	6.47
Eh/ORP (millivolts)		-73	-118.2	-125	-132	-136	-139	-144	-148	-150
Turbidity (NTU)		186	162	98	70	56.6	45.2	36.0	28.9	24.8
Flow (ml/min)		45	45	45	45	45	45	45	45	45
Depth To Water (ft)	6.52	6.80	6.80	6.80	6.80	6.96	6.80	6.80	6.80	6.80

Time	1700	1710	1720	1730			
Temp. (C)	19.96	19.96	20.02	↓			
Conduct. (µmhos/cm)	0913	0915	0914	↓			
DO (mg/l)	0.49	0.46	0.45	↓			
pH (Std. Units)	6.48	6.49	6.48	↓			
Eh/ORP (millivolts)	-153	-157	-157	↓			
Turbidity (NTU)	22.6	26.9	19.8	↓			
Flow (ml/min)	45	45	45	↓			
Depth To Water (ft)	6.80	6.80	6.80	↓			

Stabilization Criteria* (3 consecutive readings)

- Temperature: +/- 3 %
- Conduct. (µmhos/cm): +/- 3 %
- DO (mg/l): +/- 10 % (for values >0.5 mg/L)
- pH (Std. Units): +/- 0.1 SU
- Eh/ORP (millivolts): +/- 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

Pump Type	Purge	Sample
Peristaltic Pump		
Submersible Pump		
Bladder Pump	X	X
Other: _____		

Comments: YSI 556 w/ 556 MPS display, MP15 w/ CO2 gas, LaMotte 2020e., QED Samplers 1.75" bladder pump Solinst 100' I.P.

Analytical Parameter	Filtered (Y/N)	Preservation	Volume	Time Collected	QC	Sample #
VOC	N	HCl	3 x 40 mL VOA	1730	DUP-1	TRC-4

* From USEPA Region 1 Low-Stress (Low-Flow) SOP, January 19, 2010 (EQASOP-GW-001).

Signed: Kevin Jordan

Rev: October 2012

TRC

Low-flow Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 2
Payne Cutlery	172744	8/15/13	

TRC Personnel: A. Ting / K. Jordan

Well ID: TRC-5D

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present		✓

Sampling Equipment: YSI / bladder pump

Flow-thru Cell Volume: 475

PID SCREENING MEAS.

Background	0.0
Well Mouth	219.3

Protective Casing Stick-up (from ground): flush ft.

Riser Stick-up (from ground): — ft.

WELL DIAMETER: [X] 2 inch; [ ] 4 inch; [ ] 6 inch; Other: —

WELL MATERIAL: [X] PVC; [ ] SS; [ ] —

Well Depth: 28 ft. [ ] top of riser [X] top of casing [ ] — [ ] measured [X] historical

Water Depth: 8.03 ft.

LNAPL/DNAPL Depth = —

Thickness = —

LOW FLOW DATA

Depth of pump intake: ~23'

Static water level after pump put into well: 8.14'

Initial purge Rate/ Water Level (100-400 ml/min): 60 mL/min

Adjusted purge Rates/time/WL(record changes):

Flow rate at time of sampling: 60 mL/min

Volume of water purged: 12,600 mL

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1130	1155	1202	1209	1216	1223	1239	1244	1251	1258
Temp. (C)	Begin	22.03	22.32	22.37	21.90	21.87	Changed	21.93	21.62	21.33
Conduct. (µmhos/cm)	Filling	0853	0859	0857	0859	0860	QED	0869	0855	0856
DO (mg/l)	Flow	1.59	1.04	0.87	0.73	0.59	Cont'll	0.59	0.30	0.12
pH (Std. Units)	Cell	6.45	6.45	6.43	6.42	6.34		6.40	6.35	6.33
Eh/ORP (millivolts)		-105.4	-111.5	-120.5	-129.6	-137.9		-139.0	-136.4	-138.1
Turbidity (NTU)		104.1	94	105.5	113	115		157	124	108.9
Flow (ml/min)		60	60	60	60	60		60	60	60
Depth To Water (ft)		8.21	8.28	8.28	8.28	8.28		8.28	8.35	8.35

Time	1305	1312	1319	1326	1333	1340	1347
Temp. (C)	21.66	21.21	21.35	21.06	21.04	20.91	20.98
Conduct. (µmhos/cm)	0862	0861	0863	0860	0862	0852	0863
DO (mg/l)	0.13	0.25	0.22	0.20	0.19	0.19	0.17
pH (Std. Units)	6.34	6.29	6.30	6.28	6.27	6.27	6.26
Eh/ORP (millivolts)	-142.5	-155.7	-155.5	-167.9	-173.4	-180.7	-176.0
Turbidity (NTU)	117	97.5	99.5	82.0	83.4	68	63.7
Flow (ml/min)	60	60	60	60	60	60	60
Depth To Water (ft)	8.35	8.35	8.35	8.35	8.35	8.35	8.35

Stabilization Criteria* (3 consecutive readings)

- Temperature: +/- 3 %
- Conduct. (µmhos/cm): +/- 3 %
- DO (mg/l): +/- 10 % (for values >0.5 mg/L)
- pH (Std. Units): +/- 0.1 SU
- Eh/ORP (millivolts): +/- 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

Pump Type	Purge	Sample
Peristaltic Pump	[ ]	[ ]
Submersible Pump	[ ]	[ ]
Bladder Pump	[X]	[X]
Other:	[ ]	[ ]

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	Volume	Time Collected	QC	Sample #
VOC	N	HCl	3x40mL VOA	1400		TRC-5D

* From USEPA Region 1 Low-Stress (Low-Flow) SOP, January 19, 2010 (EQASOP-GW-001).

Signed: [signature]

Rev: October 2012

TRC

Low-flow Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Payne Cutlery	172744	8/15/13	

TRC Personnel: Aaron Ting/Kevin Jordan

Well ID: TRC-5

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present		X

Sampling Equipment: YSI/bladder pump

Flow-thru Cell Volume: 475mL

PID SCREENING MEAS.

Background	0.0
Well Mouth	462

Protective Casing Stick-up (from ground): Flush ft.

Riser Stick-up (from ground): — ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: _____

WELL MATERIAL: [X] PVC [ ] SS [ ] _____

Well Depth: 15.5 ft. [X] top of riser [ ] top of casing [ ] _____ [ ] measured [X] historical

Water Depth: 7.94 ft.

LNAPL/DNAPL Depth = _____ Thickness = _____

LOW FLOW DATA

Depth of pump intake: ~~11.75~~ 12.0ft

Static water level after pump put into well: 7.94'

Initial purge Rate/ Water Level (100-400 ml/min): 60mL/min

Adjusted purge Rates/time/WL(record changes): 0937 → 40mL/min

Flow rate at time of sampling: 40mL/min

Volume of water purged: 4020mL

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	0900	0920	0927	0937	0947	0957	1007	1017	1027	1033
Temp. (C)	Begin	21.10	21.23	21.07	21.17	21.26	21.32	21.35	21.57	Sample
Conduct. (µmhos/cm)	Filling	3135	3172	3160	3178	3178	3183	3179	3192	
DO (mg/l)	Flow	0.45	0.47	0.36	0.32	0.09	0.34	0.34	0.31	
pH (Std. Units)	Cell	6.22	6.24	6.22	6.22	6.22	6.22	6.21	6.22	
Eh/ORP (millivolts)		505	573	607	628	647	657	664.9	665.2	
Turbidity (NTU)		106.6	109.6	100.3	102.3	106.6	103.1	103.1	102.0	
Flow (ml/min)		~~360~~ 60	60	40	40	40	40	40	40	
Depth To Water (ft)		8.58	8.70	8.70	8.70	8.70	8.70	8.70	8.70	

Time								Stabilization Criteria* (3 consecutive readings)
Temp. (C)								- Temperature: +/- 3 %
Conduct. (µmhos/cm)								- Conduct. (µmhos/cm): +/- 3 %
DO (mg/l)								- DO (mg/l): +/- 10 % (for values >0.5 mg/L)
pH (Std. Units)								- pH (Std. Units): +/- 0.1 SU
Eh/ORP (millivolts)								- Eh/ORP (millivolts): +/- 10 mV
Turbidity (NTU)								- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
Flow (ml/min)								- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)
Depth To Water (ft)								

Pump Type	Purge	Sample
Peristaltic Pump		
Submersible Pump		
Bladder Pump	X	X
Other: _____		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	Volume	Time Collected	QC	Sample #
VOC	N	HCl	3X40mL VOA	1033		TRC-5

* From USEPA Region 1 Low-Stress (Low-Flow) SOP, January 19, 2010 (EQASOP-GW-001).

Signed: _____

Rev: October 2012

Turbidity 0.00 1.22

TRC

Low-flow Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 2 of 2
Payne Cutlery	172744	8/15/13	

TRC Personnel: A. Ting / K Jordan

Well ID: TRC-5D

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present		X

Sampling Equipment: YSI / bladder pump

Flow-thru Cell Volume: 4.75

PID SCREENING MEAS.

Background	0.0
Well Mouth	219.3

Protective Casing Stick-up (from ground): flush ft.

Riser Stick-up (from ground): — ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch

Other: —

WELL MATERIAL

[X] PVC [ ] SS [ ] —

Well Depth: 28 ft. [ ] top of riser [X] top of casing [ ] —

[ ] measured [X] historical

Water Depth: 8.03 ft.

LNAPL/DNAPL Depth = —

Thickness = —

LOW FLOW DATA

Depth of pump intake: ~23 ft

Static water level after pump put into well: 8.14

Initial purge Rate/ Water Level (100-400 ml/min): 60

Adjusted purge Rates/time/WL(record changes):

Flow rate at time of sampling: See 1 of 2

Volume of water purged:

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1354	1400								
Temp. (C)	21.01	Samp.								
Conduct. (µmhos/cm)	0865									
DO (mg/l)	0.16									
pH (Std. Units)	6.27									
Eh/ORP (millivolts)	-186.0									
Turbidity (NTU)	62.1									
Flow (ml/min)	60									
Depth To Water (ft)	8.35									
Time										
Temp. (C)										
Conduct. (µmhos/cm)										
DO (mg/l)										
pH (Std. Units)										
Eh/ORP (millivolts)										
Turbidity (NTU)										
Flow (ml/min)										
Depth To Water (ft)										

Stabilization Criteria* (3 consecutive readings)

- Temperature: +/- 3 %
- Conduct. (µmhos/cm): +/- 3 %
- DO (mg/l): +/- 10 % (for values >0.5 mg/L)
- pH (Std. Units): +/- 0.1 SU
- Eh/ORP (millivolts): +/- 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

Pump Type	Purge	Sample
Peristaltic Pump		
Submersible Pump		
Bladder Pump	X	X
Other:		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	Volume	Time Collected	QC	Sample #
	See Sheet 1 of 2					

* From USEPA Region 1 Low-Stress (Low-Flow) SOP, January 19, 2010 (EQASOP-GW-001).

Signed:

Rev: October 2012

TRC

Low-flow Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Payne Cutlery	172744	8/13/13	

TRC Personnel: Aaron Ting / Kevin Jordan **Well ID:** TRC-L2

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present		X

Sampling Equipment: YSI / bladder pump

Flow-thru Cell Volume: 475mL

PID SCREENING MEAS.

Background	0.0
Well Mouth	0.4

Protective Casing Stick-up (from ground): flush ft.

Riser Stick-up (from ground): — ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch — Other: ____

WELL MATERIAL: [X] PVC [ ] SS [ ] —

Well Depth 10.5 ft. [X] top of riser [ ] top of casing [ ] measured [X] historical

Water Depth 7.57 ft. LNAPL/DNAPL Depth = — Thickness = —

LOW FLOW DATA

Depth of pump intake: ~9 ft

Static water level after pump put into well: 7.55

Initial purge Rate/ Water Level (100-400 ml/min): 40mL/min

Adjusted purge Rates/time/WL(record changes):

Flow rate at time of sampling: 40 mL/min

Volume of water purged: 3000mL

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1515	1545	1550	1555	1600	1605	1620	1630	1640	1650
Temp. (C)	Filling	20.63	20.41	20.26	20.25	20.21	20.10	20.09	20.08	20.08
Conduct. (µmhos/cm)	Flow	526	516	0490	0484	0476	0461	0454	0452	0454
DO (mg/l)	Cell	3.80	3.87	4.11	4.06	4.24	4.41	4.51	4.46	4.35
pH (Std. Units)		6.74	6.70	6.64	6.54	6.62	6.58	6.55	6.55	6.54
Eh/ORP (millivolts)		79.1	76.5	73.9	72.9	71.7	70.4	68.9	67.6	67.0
Turbidity (NTU)	(Ar 8/13/13)	21.3	17.0	11.1	9.50	8.90	8.10	6.97	6.05	5.54
Flow (ml/min)	40 → 200	200	200	200	200	200	40	40	40	40
Depth To Water (ft)	7.6	7.65	7.65	7.65	7.65	7.65	7.65	7.65	7.65	7.65

Time	1700	1710
Temp. (C)	20.02	Samp
Conduct. (µmhos/cm)	0459	
DO (mg/l)	4.25	
pH (Std. Units)	6.53	
Eh/ORP (millivolts)	66.3	
Turbidity (NTU)	5.90	
Flow (ml/min)	40	
Depth To Water (ft)	7.65	

Stabilization Criteria* (3 consecutive readings)
- Temperature: +/- 3 %
- Conduct. (µmhos/cm): +/- 3 %
- DO (mg/l): +/- 10 % (for values >0.5 mg/L)
- pH (Std. Units): +/- 0.1 SU
- Eh/ORP (millivolts): +/- 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

Pump Type	Purge	Sample
Peristaltic Pump		
Submersible Pump		
Bladder Pump	X	X
Other:		

Comments:

Analytical Parameter	Filtered (Y/N)	Preservation	Volume	Time Collected	QC	Sample #
VOC	N	HCl	3 x 40mL VOA	1710		TRC-L2

* From USEPA Region 1 Low-Stress (Low-Flow) SOP, January 19, 2010 (EQASOP-GW-001).

Signed: _____

Rev October 2012

note to Elizabeth 407-647-2537 18646-28646-9968

boring logs

Erin 1900-2274224 x6121

309-9920

TRC

Low-flow Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Payne Cutlery	172744	8/14/15	

TRC Personnel: K. Jordan

Well ID: TRC-7

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	X	
Concrete Collar Intact	X	
PVC Stick-up Intact	X	
Well Cap Present	X	
Security Lock Present		X

Sampling Equipment: See Below

Flow-thru Cell Volume: 475

PID SCREENING MEAS.

Background	0.0
Well Mouth	1.2

Protective Casing Stick-up (from ground): flush ft.

Riser Stick-up (from ground): — ft.

WELL DIAMETER: [X] 2 inch [ ] 4 inch [ ] 6 inch — Other: ____

WELL MATERIAL: [X] PVC [ ] SS [ ] —

Well Depth: 15' ft. [X] top of riser [ ] top of casing [ ] measured [X] historical (boring log)

Water Depth: 5.73 ft. LNAPL/DNAPL Depth = — Thickness = —

LOW FLOW DATA

Depth of pump intake: ~11'

Static water level after pump put into well: 5.25'

Initial purge Rate/ Water Level (100-400 ml/min):

Adjusted purge Rates/time/WL(record changes): 40 mL/min, 1020, 6.70'

Flow rate at time of sampling: 45

Volume of water purged: ~2175 mL

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1005	1010	1020	1030	1035	Shut	1105	12:00	1210	1220
Temp. (C)	Begin	20.17	20.36	20.53	20.55	off		Restart	19.75	20.03
Conduct. (µmhos/cm)	purge	0246	0240	0240	0239	pump		pump	0230	0235
DO (mg/l)		3.22	2.47	2.24	2.06	to			2.07	2.00
pH (Std. Units)		6.55	6.62	6.73	6.76	allow			6.73	6.75
Eh/ORP (millivolts)		153	-8	-69	-119	for			-95	-107
Turbidity (NTU)		2402	2598	2998	4927	recharge			4887	4824
Flow (ml/min)		100	45	45	45				45	45
Depth To Water (ft)	5.25	6.28	6.70	6.82	7.15		6.78	6.30	6.85	7.18

Time	Shut	1355	1400					
Temp. (C)	off	Restart						
Conduct. (µmhos/cm)	pump	pump						
DO (mg/l)	again.		Sample					
pH (Std. Units)								
Eh/ORP (millivolts)								
Turbidity (NTU)								
Flow (ml/min)								
Depth To Water (ft)								

Stabilization Criteria* (3 consecutive readings)

- Temperature: +/- 3 %
- Conduct. (µmhos/cm): +/- 3 %
- DO (mg/l): +/- 10 % (for values >0.5 mg/L)
- pH (Std. Units): +/- 0.1 SU
- Eh/ORP (millivolts): +/- 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

Pump Type	Purge	Sample
Peristaltic Pump	[ ]	[ ]
Submersible Pump	[ ]	[ ]
Bladder Pump	[X]	[X]
Other: ____		

Comments: YSI 556 w/ 556 MPS display, MP15 w/ CO2 gas, LaMotte 2020e, Solinst 100' T.P., 1.75" bladder pump

Analytical Parameter	Filtered (Y/N)	Preservation	Volume	Time Collected	QC	Sample #
VOC	N	HCl	3x40mL VIA	1400	—	TRC-7

* From USEPA Region 1 Low-Stress (Low-Flow) SOP, January 19, 2010 (EQASOP-GW-001).

Signed: [signature]

Rev: October 2012

TRC-7: 15'
TRC-8: 17'

TRC

Low-flow Groundwater Field Data Record

Project:	Project No.:	Date/Time:	Sheet 1 of 1
Payne Cutlery	172744	8/14/13	

TRC Personnel: K. Jordan

Well ID: TRC-8

WELL INTEGRITY

	YES	NO
Protect. Casing Secure	✓	
Concrete Collar Intact	✓	
PVC Stick-up Intact	✓	
Well Cap Present	✓	
Security Lock Present		✓

Sampling Equipment: See Below

Flow-thru Cell Volume: 475

PID SCREENING MEAS.

Background	0.6
Well Mouth	0.8

Protective Casing Stick-up (from ground): flush ft.

Riser Stick-up (from ground): ✓ ft.

WELL DIAMETER: ☒ 2 inch ☐ 4 inch ☐ 6 inch

Other: ____

WELL MATERIAL: ☒ PVC ☐ SS ☐ —

Well Depth: 17' ft. ☒ top of riser ☐ top of casing ☐ ____ ☐ measured ☒ historical

Water Depth: 6.92 ft.

LNAPL/DNAPL Depth = ✓

Thickness = ✓

LOW FLOW DATA

Depth of pump intake: ~12'

Static water level after pump put into well: 6.70

Initial purge Rate/ Water Level (100-400 ml/min): 40

Adjusted purge Rates/time/WL(record changes): ✓

Flow rate at time of sampling: 40

Volume of water purged: ~2400 mL

FIELD WATER QUALITY MEASUREMENTS (record at appropriate intervals)

Time	1240	1250	1300	1310	1320	1330	1340			
Temp. (C)		21.51	21.54	21.40	21.40	21.37				
Conduct. (µmhos/cm)		0282	0283	0282	0283	0283				
DO (mg/l)		5.92	5.36	5.24	5.26	5.16				
pH (Std. Units)		7.06	6.92	6.89	6.91	6.87	Sampling			
Eh/ORP (millivolts)		-120	-96	-96	-161	-95				
Turbidity (NTU)		1170	350	163	179	169				
Flow (ml/min)		40	40	40	40	40				
Depth To Water (ft)	6.70	7.52	7.70	7.78	7.83	7.84				

Time							
Temp. (C)							
Conduct. (µmhos/cm)							
DO (mg/l)							
pH (Std. Units)							
Eh/ORP (millivolts)							
Turbidity (NTU)							
Flow (ml/min)							
Depth To Water (ft)							

Stabilization Criteria* (3 consecutive readings)
- Temperature: +/- 3 %
- Conduct. (µmhos/cm): +/- 3 %
- DO (mg/l): +/- 10 % (for values >0.5 mg/L)
- pH (Std. Units): +/- 0.1 SU
- Eh/ORP (millivolts): +/- 10 mV
- Turbidity (NTU): +/- 10 % (for values >5.0 NTUs)
- Drawdown: < 0.3 ft (can be greater as long as water level stabilizes above well screen)

Pump Type	Purge	Sample
Peristaltic Pump		
Submersible Pump		
Bladder Pump	☒	☒
Other: ____		

Comments: YSI 556 w/ 556 MPS, MP15, 1.75" Sample Pro bladder pump, LaMotte 2020e, Solinst 100 IP. CO_2 gas.

Analytical Parameter	Filtered (Y/N)	Preservation	Volume	Time Collected	QC	Sample #
VOC	N	HCl	3x40 mL VOA	1340	—	TRC-8

* From USEPA Region 1 Low-Stress (Low-Flow) SOP, January 19, 2010 (EQASOP-GW-001).

Signed: Kevin Jordan

Rev: October 2012

Field Instrument Calibration Log

Date: 8/14/13 Site Name: Payne Cutlery

Water Quality Instrument Type / ID: YSI 556 MPS

Turbidity Instrument Type / ID: La Motte

Date of Last Temperature Probe Check: _____

Dissolved Oxygen (DO)

Time	Barometric Pressure (mm Hg)	Temperature (° Celsius)	100% Saturation Calibration (On Instrument)	Actual 100% Saturation Calibration (Refer to Attachment A)	Oxygen Solubility at Indicated Pressure (mg/L) (On Instrument)	Actual Oxygen Solubility at Indicated Pressure (mg/L) (Refer to Attachment B)	Zero DO Check (mg/L)	Comments	Initials
0805	755.4	22.58	99.4%	99.5%	8.30	8.70	0.00		ACT

pH

Time	Solution Temperature (° Celsius)	pH 7	pH 4	pH 10	pH 7 Check	Comments	Initials
0836	22.99	7.00	4.00	10.01	7.00		ACT

Specific Conductance

Time	Specific Conductance Reading (umhos/cm3)	Comments	Initials
0852	1.413		ACT

Oxidation Reduction Potential (ORP)

Time	Solution Temperature (° Celsius)	ORP Reading (mV) (Refer to Attachment C)	Actual ORP Reading (mV) (On Instrument)	Comments	Initials
0857	26.65	229	240		ACT

Turbidity

Time	Zero Standard	Standard #1 (10__ NTUs)	Standard #1 (1__ NTUs)	Comments	Initials
	0.00	9.65	1.047		ACT
		~~10.08~~	~~1.03~~		KDJ
			KDJ 8/15/13		

Calibration Fluid ID / Expiration Date:

Zero DO: Lot 20102384 Exp 9/2013 Specific Conductance: Lot 3AC129 Exp 3/2014

pH 4: Lot 3AB480 Exp 2/2015 ph 7: Lot 3AB402 Exp 2/2015 pH 10: Lot 3AC002 Exp 3/30/15

ORP: Zobell Lot 13C100354 Exp 4/2015

Zero Turbidity: C361967 / 6/14 Turbidity Std. # 1: C361847 6/14 (1 NTU) Turbidity Std. #2: C358938 6/14 (10 NTU)

Signed _____

L2008-213

Field Instrument Calibration Log

Date: 8/14/13 Site Name: Payne Cutlery

Water Quality Instrument Type / ID: YSI 556 MPS 09G100704

Turbidity Instrument Type / ID: La Motte

Date of Last Temperature Probe Check: _____

Dissolved Oxygen (DO)

Time	Barometric Pressure (mm Hg)	Temperature (° Celsius)	100% Saturation Calibration (On Instrument)	Actual 100% Saturation Calibration (Refer to Attachment A)	Oxygen Solubility at Indicated Pressure (mg/L) (On Instrument)	Actual Oxygen Solubility at Indicated Pressure (mg/L) (Refer to Attachment B)	Zero DO Check (mg/L)	Comments	Initials
0805	755.4	21.54	99.4%	99.5%	8.34	8.70	0.16		ACT

pH

Time	Solution Temperature (° Celsius)	pH 7	pH 4	pH 10	pH 7 Check	Comments	Initials
0823	21.63	7.00	4.00	10.00	7.01		ACT

Specific Conductance

Time	Specific Conductance Reading (umhos/cm3)	Comments	Initials
0838	1413		ACT

Oxidation Reduction Potential (ORP)

Time	Solution Temperature (° Celsius)	ORP Reading (mV) (Refer to Attachment C)	Actual ORP Reading (mV) (On Instrument)	Comments	Initials
0849	25.21	230	240		ACT

Turbidity

Time	Zero Standard	Standard #1 (10__ NTUs)	Standard #1 (1__ NTUs)	Comments	Initials
	0.00	[redacted] 9.15	[redacted] 1.07		ACT

Calibration Fluid ID / Expiration Date:

Zero DO: _____ Specific Conductance: _____

pH 4: See previous ph 7: 8/14/13 Cal Log pH 10: _____

ORP: _____

Zero Turbidity: _____ Turbidity Std. # 1: _____ Turbidity Std. #2: _____

Signed _____

L2008-213

Field Instrument Calibration Log

Date: 8/15/13 Site Name: Payne Cutlery

Water Quality Instrument Type / ID: See 8/14/13 Cal Log

Turbidity Instrument Type / ID:

Date of Last Temperature Probe Check:

Dissolved Oxygen (DO)

Time	Barometric Pressure (mm Hg)	Temperature (° Celsius)	100% Saturation Calibration (On Instrument)	Actual 100% Saturation Calibration (Refer to Attachment A)	Oxygen Solubility at Indicated Pressure (mg/L) (On Instrument)	Actual Oxygen Solubility at Indicated Pressure (mg/L) (Refer to Attachment B)	Zero DO Check (mg/L)	Comments	Initials
0744	763.5	17.46	100.5%	100.3%	9.62	9.64	0.46		ACT
0720	763.5	21.15	100.5	106.3	8.92	8.90	0.72		KDJ

pH

Time	Solution Temperature (° Celsius)	pH 7	pH 4	pH 10	pH 7 Check	Comments	Initials
0750	20.26	7.00	4.00	10.00	7.03		ACT
0746	20.28	7.00	4.00	10.03	6.97		KDJ

Specific Conductance

Time	Specific Conductance Reading (umhos/cm3)	Comments	Initials
0805	1.413		ACT
0755	1.413		KDJ

Oxidation Reduction Potential (ORP)

Time	Solution Temperature (° Celsius)	ORP Reading (mV) (Refer to Attachment C)	Actual ORP Reading (mV) (On Instrument)	Comments	Initials
0810	21.17	236	239.8		ACT
0805	18.50	239.5	239.5		KDJ

Turbidity

Time	Zero Standard	Standard #1 (10__ NTUs)	Standard #1 (1__ NTUs)	Comments	Initials
0855	—	10.08	1.12		ACT
0845	—	10.04	0.98		KDJ

Calibration Fluid ID / Expiration Date:

Zero DO: Specific Conductance:

pH 4: See 8/14/13 Cal Log pH 7: pH 10:

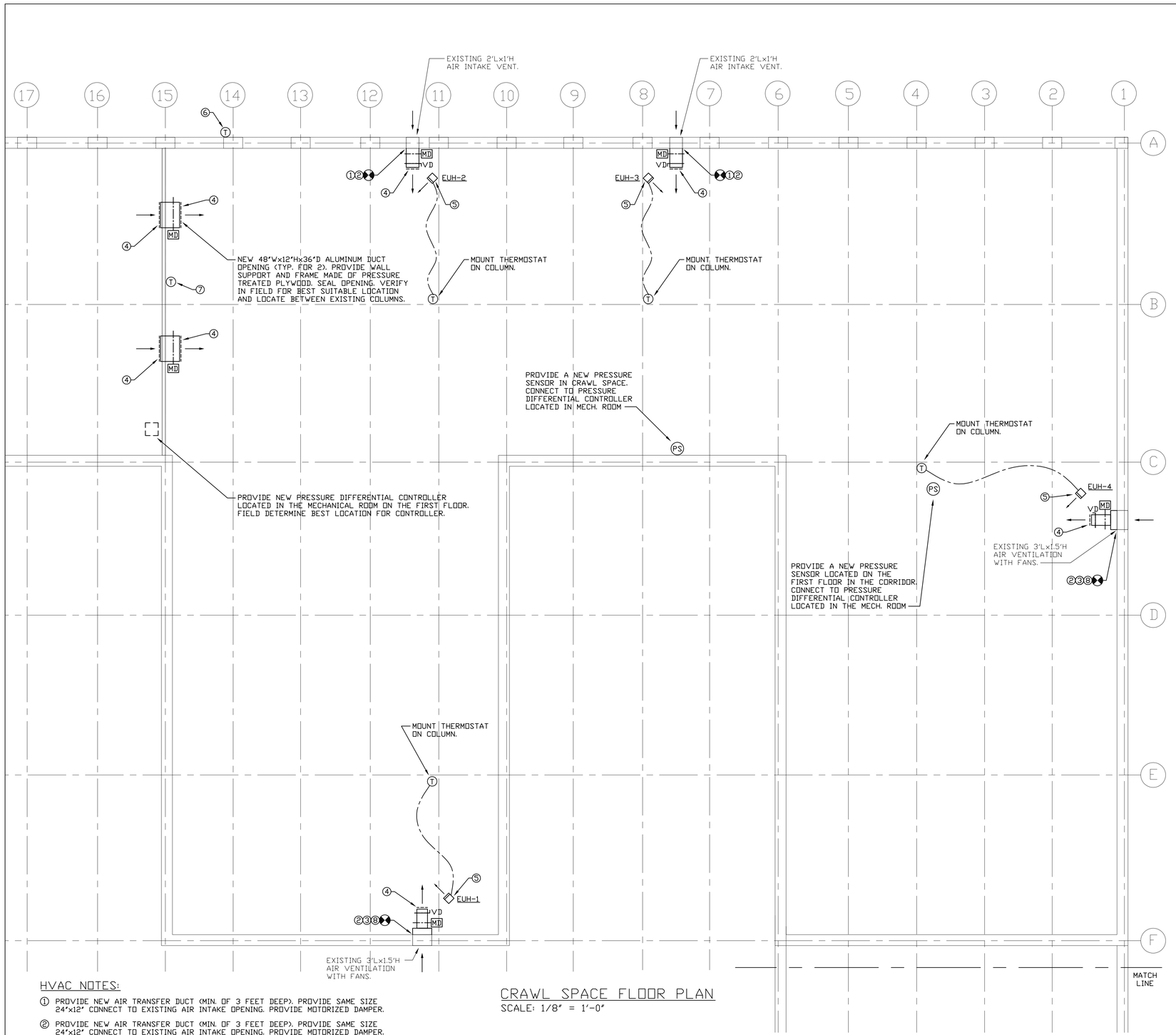
ORP:

Zero Turbidity: Turbidity Std. # 1: Turbidity Std. #2:

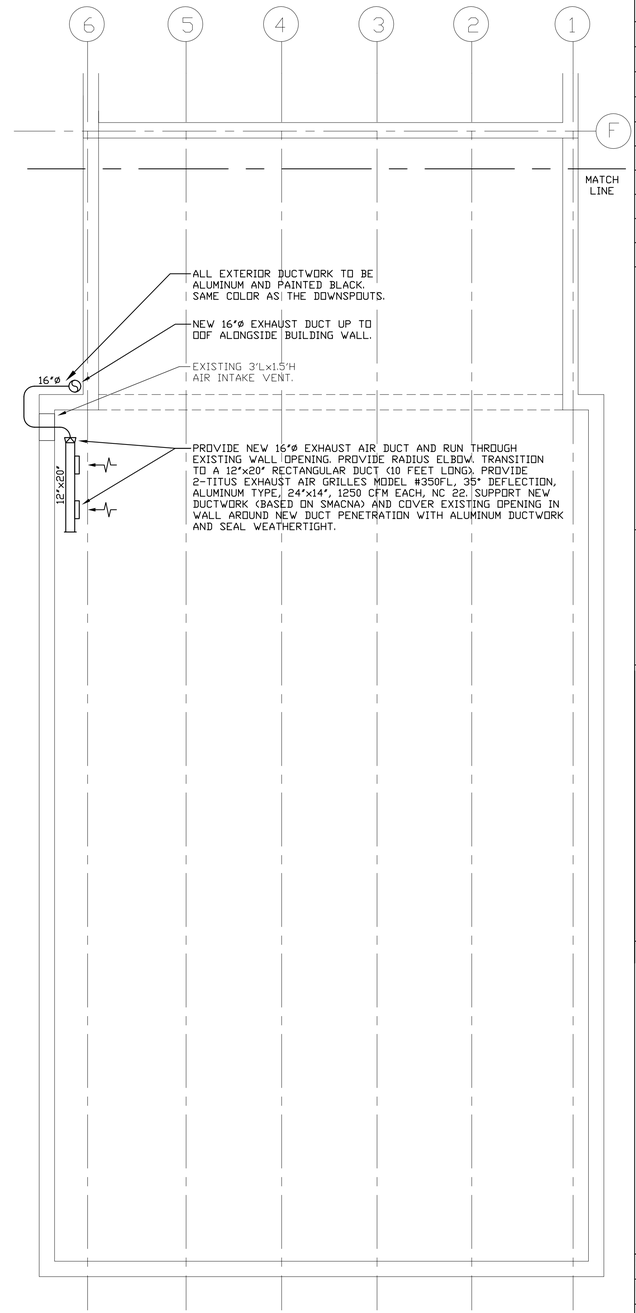
Signed

APPENDIX L

VENTILATION SYSTEM MODIFICATION DESIGN DRAWINGS



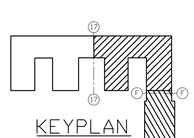
CRAWL SPACE FLOOR PLAN
SCALE: 1/8" = 1'-0"



BASEMENT SPACE FLOOR PLAN
SCALE: 1/8" = 1'-0"

HVAC NOTES:

1. PROVIDE NEW AIR TRANSFER DUCT (MIN. OF 3 FEET DEEP). PROVIDE SAME SIZE 24"x12" CONNECT TO EXISTING AIR INTAKE OPENING. PROVIDE MOTORIZED DAMPER.
2. PROVIDE NEW AIR TRANSFER DUCT (MIN. OF 3 FEET DEEP). PROVIDE SAME SIZE 24"x12" CONNECT TO EXISTING AIR INTAKE OPENING. PROVIDE MOTORIZED DAMPER.
3. BALANCE EACH OUTSIDE AIR INTAKE OPENING FOR 625 CFM EACH. TYPICAL FOR 4.
4. PROVIDE BIRD SCREEN COVER OVER THE END OF DUCT OPENING. SECURE TIGHT.
5. PROVIDE NEW ELECTRIC UNIT HEATER IN CRAWL SPACE. TOTAL OF 4 HEATERS
6. PROVIDE NEW OUTDOOR AIR THERMOSTAT. LOCATION TO BE DETERMINED IN THE FIELD.
7. PROVIDE NEW CRAWL SPACE THERMOSTAT TO CONTROL THE OPERATION OF THE MOTORIZED DAMPERS WITHIN THE NEW BARRIER WALL IN THE CRAWL SPACE.
8. REMOVE AND DISCONNECT THE EXISTING FANS LOCATED ON THE EXISTING AIR INTAKE OPENINGS (2-FANS EA. AIR INTAKE).



KEYPLAN
NTS

REVISIONS:

-	12-08-12 ISSUE FOR REVIEW
-	12-10-12 ISSUE FOR REVIEW
-	12-12-12 ISSUE FOR REVIEW
-	12-13-12 ISSUE FOR REVIEW
-	12-21-12 ISSUE FOR REVIEW
-	01-04-13 ISSUE FOR CONST.
-	01-10-13 ISSUE FOR BID
1	02-11-13 GENERAL REVISION
2	04-18-13 GENERAL REVISION
-	04-29-13 DIMENSION CHANGES
-	05-09-13 NO CHANGES

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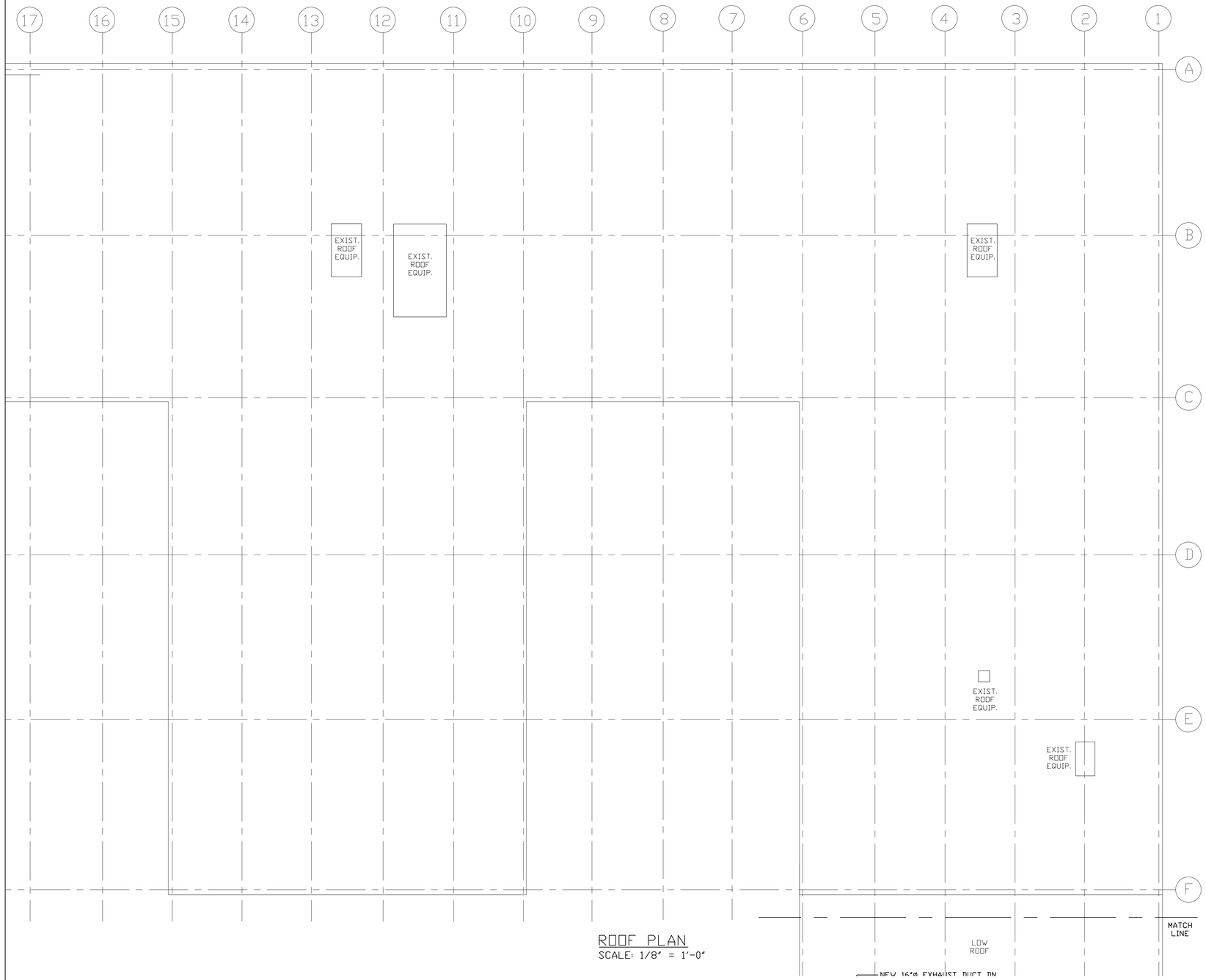
(E-mail) ADAENGINE @ AOL.COM

DRAWING TITLE: CRAWL SPACE HVAC VENTILATION SYSTEM

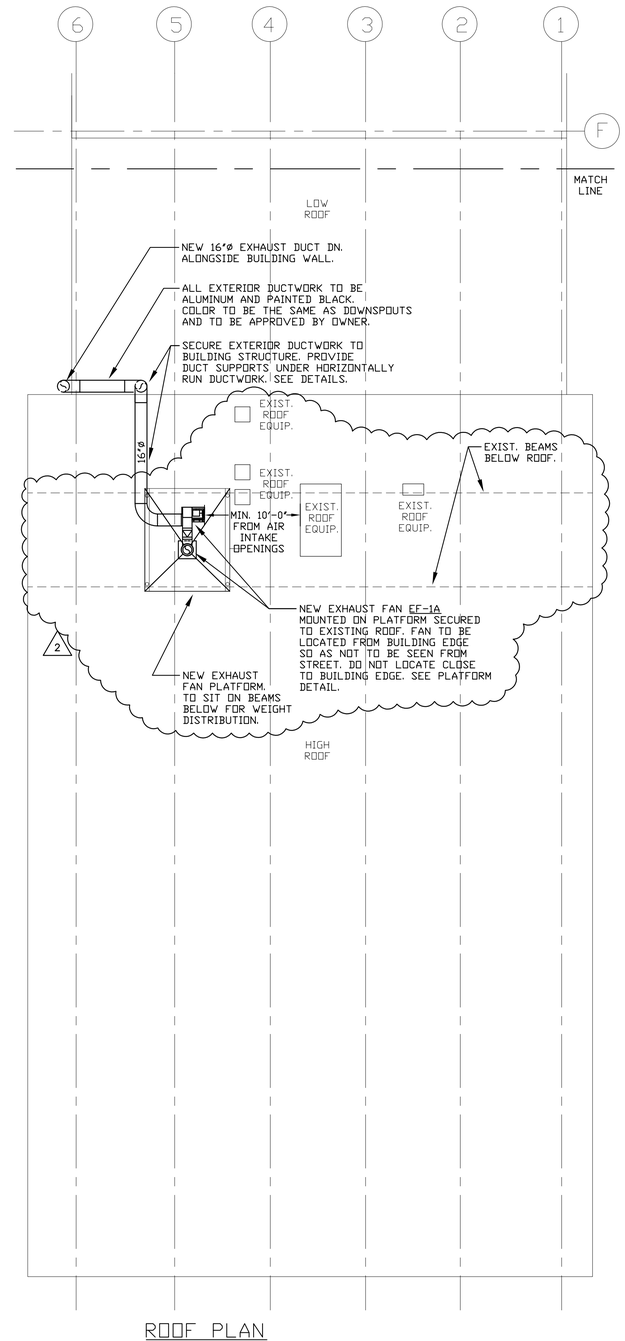
PROJECT: TABER MILL APARTMENTS
NEW BEDFORD, MA

SCALE:	1/8"=1'-0"
DATE:	12-08-2012
DRAWN BY:	RO
CHECKED BY:	ADA
PROJECT #:	M2188

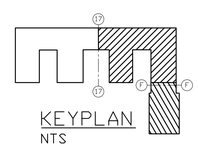
H1.0



ROOF PLAN
SCALE: 1/8" = 1'-0"



ROOF PLAN
SCALE: 1/8" = 1'-0"



KEYPLAN
NTS

REVISIONS:

-	12-08-12 ISSUE FOR REVIEW
-	12-10-12 ISSUE FOR REVIEW
-	12-12-12 ISSUE FOR REVIEW
-	12-13-12 ISSUE FOR REVIEW
-	12-21-12 ISSUE FOR REVIEW
-	01-04-13 ISSUE FOR CONST.
-	01-10-13 ISSUE FOR BID
1	02-11-13 GENERAL REVISION
-	04-18-13 NO CHANGES
2	05-09-13 EXH. FAN PLATFORM

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DRAWING TITLE: ROOF PLAN HVAC

PROJECT: TABER MILL APARTMENTS
NEW BEDFORD, MA

SCALE:	1/8"=1'-0"
DATE:	12-08-2012
DRAWN BY:	RO
CHECKED BY:	ADA
PROJECT #:	M2188

H2.0

HVAC SPECIFICATIONS

1. Materials, workmanship and equipment performance shall conform with the latest edition of the applicable codes and regulations, including local codes and ordinances.

2. The Contractor shall pay all fees, submit all necessary documents, obtain all permits and certification, and all necessary approvals from authorities having jurisdiction.

3. The Contractor shall, with the approval of the Owner/Engineer and without extra cost to the Owner, make reasonable modifications in his work as required by normal structural interferences.

4. All equipment shall be installed in strict accordance with the manufacturer's recommendations.
   All work shall be installed so that parts requiring periodic inspection, operation, maintenance and repair are readily accessible.

5. Low Pressure Ductwork shall consist of the following: Exhaust air ductwork and all ductwork within the crawl space or basement (including make-up air duct within crawl space) shall be of aluminum construction. Spiral duct shall be single wall spiral lockseam round aluminum duct, reinforcing and companion angles, and hangers. Metal Specifications, gauges and construction of seam, joints and reinforcing shall be according to SMACNA Low Velocity Standards. All transverse seams of all ducts shall be coated with duct sealer and made air tight. The ducts shall be securely fastened to the building construction as recommended in Section 5 of SMACNA-"Low Velocity Standard." Provide any supplementary aluminum support between structural beams as required to support all ductwork. Ducts shall not be supported from other ducts, equipment, piping or conduit. Elbows shall be radius type or 90° mitered type with air foil turning vanes.

6. Provide the complete balancing and adjusting of the air system indicated on the drawings including test and record exhaust fan, nameplate data, fan speed, static pressures, and motor amperage; test and adjust make-up air supply and exhaust registers to within 10% of air requirements. List design and measured air velocities and quantities. Submit three copies of complete report listing all above data. Test and balance agency shall be an independent agency specializing in the testing and balancing of hvac systems. All work shall be per Associated Air Balance Council (AABC), Smacna, or National Environmental Balancing Bureau (NEBB)requirements.

7. All ducts shall be thoroughly cleaned inside and outside. Before system is placed in operation.

8. Contractor shall guarantee his work for a period of one year.

9. The HVAC contractor shall protect his material and equipment from loss or damage at all times. All materials on the job site shall be suitably stored and protected.

10. The contractor shall maintain at the site for the Owner one record copy of all Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to record all changes made during construction, and approved Shop Drawings & Product Data. These shall be available to the Owner and shall be delivered to him upon completion of the work.

11. Contractor shall submit shop drawings for approval prior to the ordering of any equipment.

12. Contractor shall furnish to the Owner, five (5) copies of Maintenance & Operation Manuals as prepared by the Manufacturer of all items of equipment installed.

13. Upon completion of all sheetmetal work in any area, all work specified under this section is to be cleaned.

14. Automatic temperature controls shall be electric type as manufactured by Honeywell, Johnson Controls, or equal. All control wiring shall be in strict accordance with the National Electric Code. Control sequences shall be as follows:

    a. An outside thermostat shall control the operation of the exhaust fan. When the outside air temperature is above 50°F (adjustable) the exhaust fan shall run at full speed. When the outside air temperature is below 50°F (adjustable) the pressure differential controller shall control the speed of the fan. The pressure differential controller shall also monitor the pressure differential between the corridor (on the first floor) and the crawl space.

    b. Roof Exhaust Fan: shall operate at all times.

    c. Intake air motorized dampers (within crawl space): Provide the interlock of all intake air motorized dampers with the exhaust fan (except for the motorized damper in the new barrier wall).

    d. Provide pressure sensors in crawl space and first floor common area to monitor pressure differential between spaces. Provide alarm to activate when pressure differential is equal. Provide an "Auto-Dialer" to automatically dial a pre-recorded message to one or more phones when the pressure differential controller is alarmed.

HVAC EQUIPMENT:

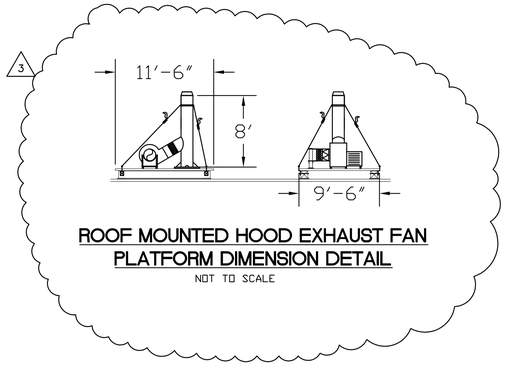
EF-1A: EXHAUST FAN BELT DRIVE UTILITY BLOWER, GREENHECK #SWB-216, 2500 CFM, 1255 RPM, .7 BHP, 11.2 SONES, 1" SP, 208-230/3/60. PROVIDE VARIABLE FREQUENCY DRIVE AND DISCONNECT SWITCH.

MD: ALL MOTORIZED DAMPERS ARE 115/1/60.

EUH-1:
EUH-2
EUH-3
EUH-4: ELECTRIC UNIT HEATER, QMARK #UH520, 5-KW, 208/3/60, 270 CFM, 1400 RPM, 6.0 WATTS, AMPS 12.5, PROVIDE COMBINATION WALL/CEILING MOUNTING BRACKET, WEIGHT 26 LBS. ELECTRIC HEATING ELEMENT IS FINISHED WITH ALUMINIZED PAINT, CABINET IS FINISHED WITH AN EPOXY COATING (CORROSION RESISTANCE). UNIT TO BE INSTALLED BASED ON MANUFACTURER'S RECOMMENDATIONS. PROVIDE WALL OR CEILING MOUNTED HEATING THERMOSTAT AND DISCONNECT SWITCH FOR EACH HEATER.

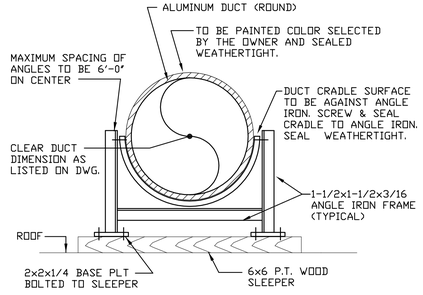
LEGEND

T	THERMOSTAT W/CONTROL WIRING
PS	PRESSURE SENSOR CONTROLLER
	SUPPLY GRILLE, REGISTER OR DIFFUSER
	RETURN OR EXHAUST GRILLE OR REGISTER
	DUCT DROPS DOWN
	90° ELBOW W/TURNING VANES
	LIGHT LINEWORK (EXISTING)
	BOLD LINEWORK (NEW)
VD	VOLUME DAMPER
MD	MOTORIZED DAMPER
	EXHAUST OR RETURN AIR
	SUPPLY AIR
ϕ	ROUND
AFF	ABOVE FINISHED FLOOR
G.C.	GENERAL CONTRACTOR
EUH-1	ELECTRIC UNIT HEATER
EF-1	EXHAUST FAN
	CONNECT TO EXISTING



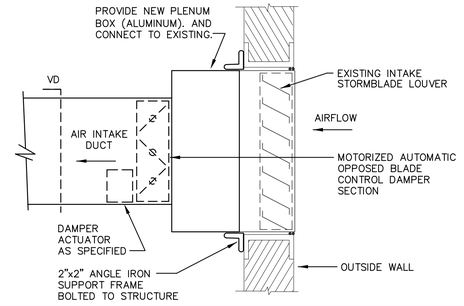
ROOF MOUNTED HOOD EXHAUST FAN PLATFORM DIMENSION DETAIL

NOT TO SCALE



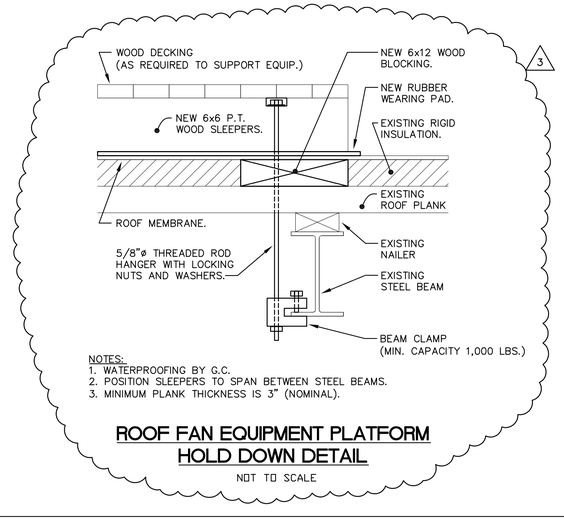
EXTERIOR DUCTWORK DETAIL

NO SCALE



EXISTING EXTERIOR AIR INTAKE OPENING WITH NEW DAMPERS

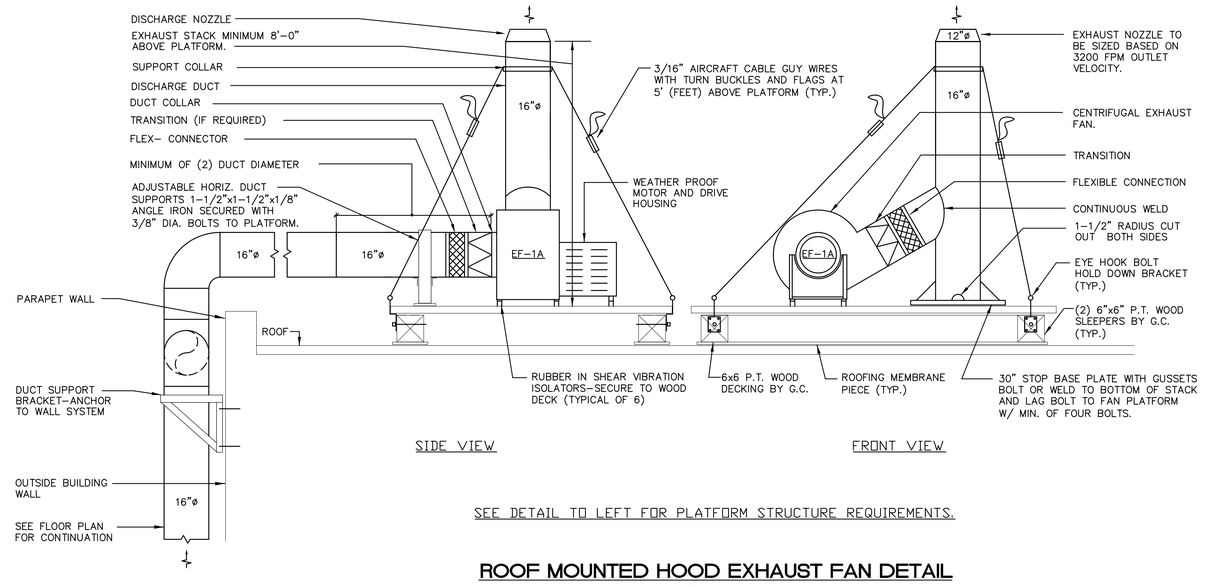
NO SCALE



NOTES:
1. WATERPROOFING BY G.C.
2. POSITION SLEEPERS TO SPAN BETWEEN STEEL BEAMS.
3. MINIMUM PLANK THICKNESS IS 3" (NOMINAL).

ROOF FAN EQUIPMENT PLATFORM HOLD DOWN DETAIL

NOT TO SCALE



SEE DETAIL TO LEFT FOR PLATFORM STRUCTURE REQUIREMENTS.

ROOF MOUNTED HOOD EXHAUST FAN DETAIL

NOT TO SCALE

REVISIONS:

-	12-08-12 ISSUE FOR REVIEW
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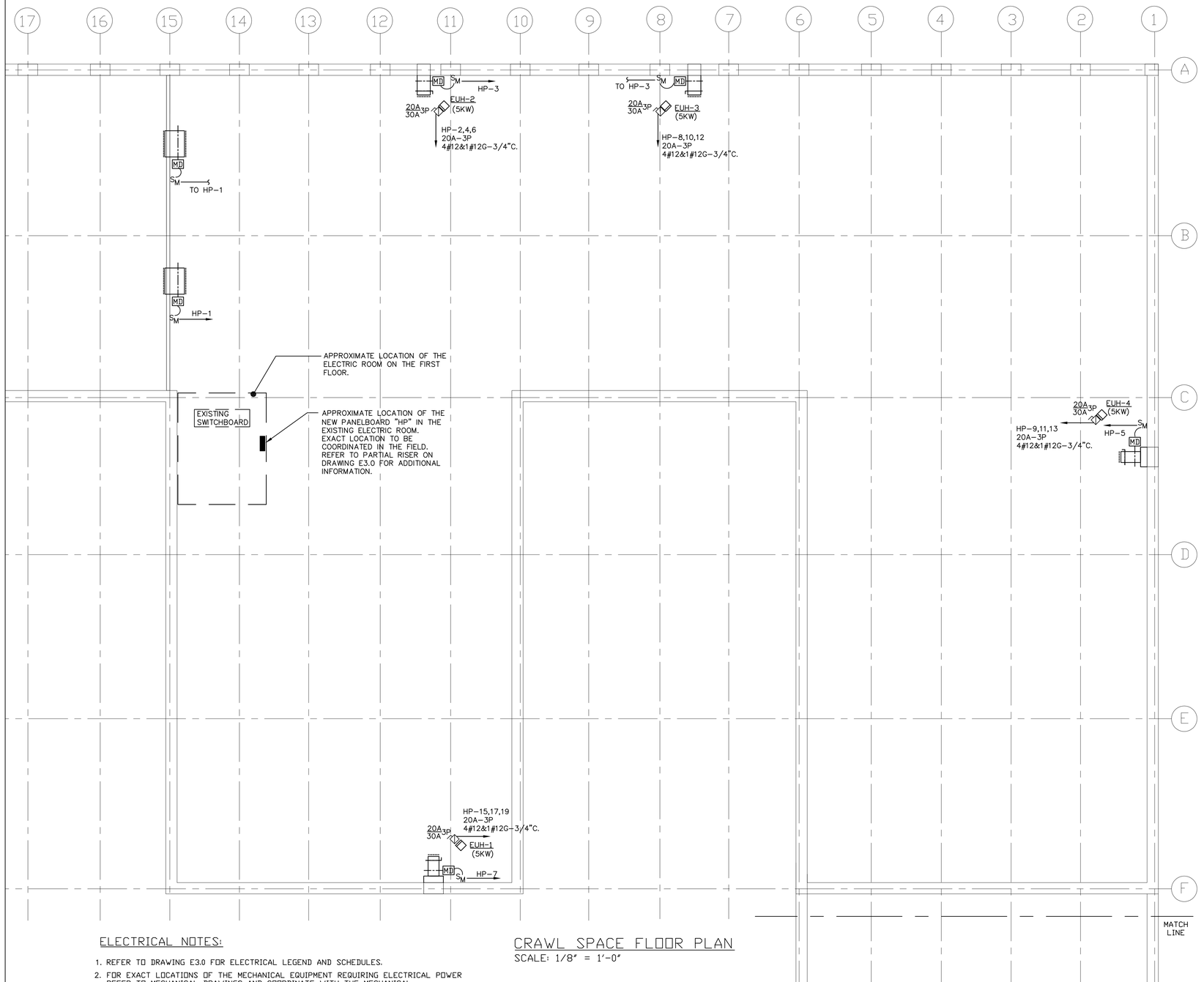
DRAWING TITLE: HVAC DETAILS, LEGEND AND SPECIFICATIONS

PROJECT: TABER MILL APARTMENTS NEW BEDFORD, MA

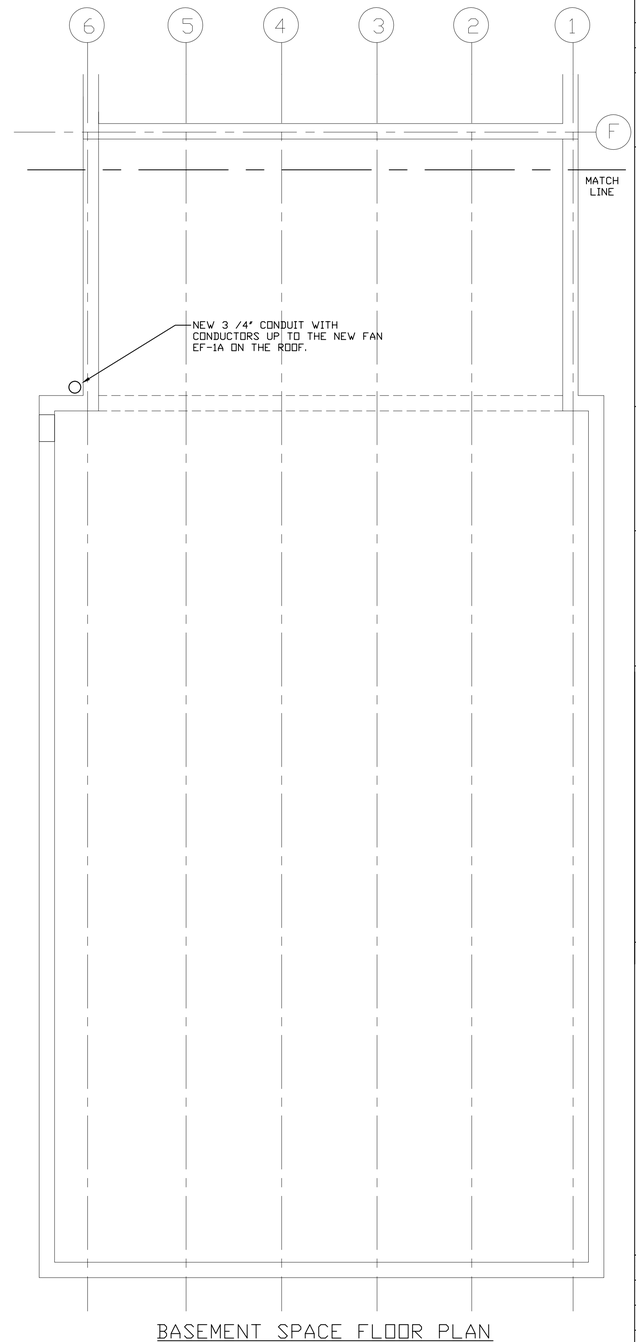
SCALE:	NO SCALE
DATE:	12-08-2012
DRAWN BY:	RO
CHECKED BY:	ADA
PROJECT #:	M2188

H3.0



CRAWL SPACE FLOOR PLAN

SCALE: 1/8" = 1'-0"

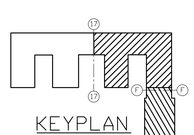


BASEMENT SPACE FLOOR PLAN

SCALE: 1/8" = 1'-0"

ELECTRICAL NOTES:

1. REFER TO DRAWING E3.0 FOR ELECTRICAL LEGEND AND SCHEDULES.
2. FOR EXACT LOCATIONS OF THE MECHANICAL EQUIPMENT REQUIRING ELECTRICAL POWER REFER TO MECHANICAL DRAWINGS AND COORDINATE WITH THE MECHANICAL SUB-CONTRACTOR.
3. FOR ALL 120 OR 208 VOLT BRANCH POWER CIRCUIT WIRING EXCEEDING 100 FEET FROM THE POWER PANELBOARDS, ELECTRICAL CONTRACTOR SHALL UTILIZE #10 AWG CONDUCTORS IN LIEU OF #12 AWG CONDUCTORS.
4. EACH PHASE CONDUCTOR SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR. SHARING OF THE NEUTRAL CONDUCTOR BETWEEN THE PHASES IS NOT ALLOWED.
5. NEW 100A, 120 /208 VOLT, 3 PHASE, 4 WIRE SURFACE MOUNTED PANELBOARD. REFER TO DRAWING E3.0 FOR THE PANELBOARD SCHEDULE..



KEYPLAN
NTS

REVISIONS:

-	01-10-13 ISSUE FOR BID

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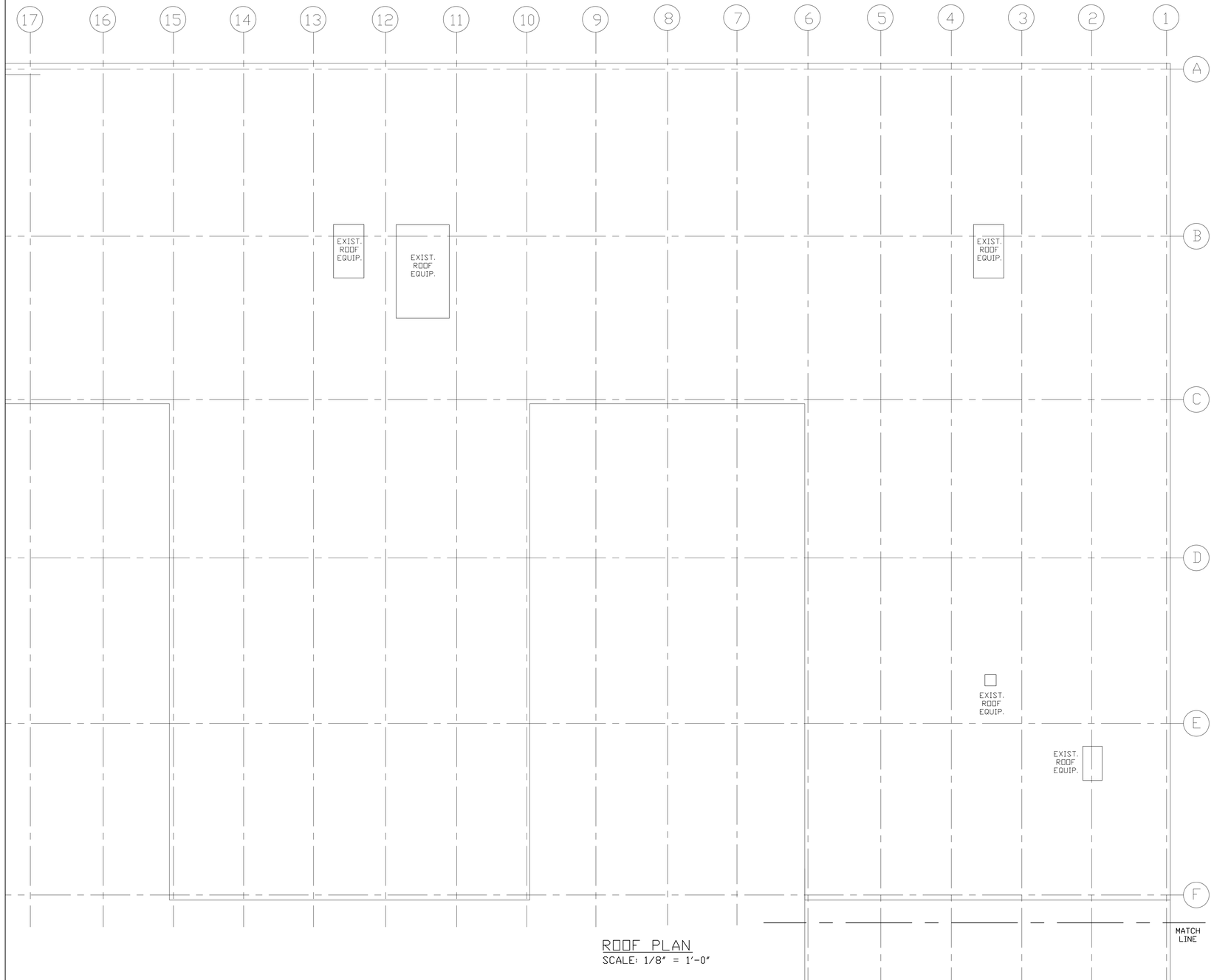
DRAWING TITLE: CRAWL SPACE , BASEMENT ELECTRICAL PLANS

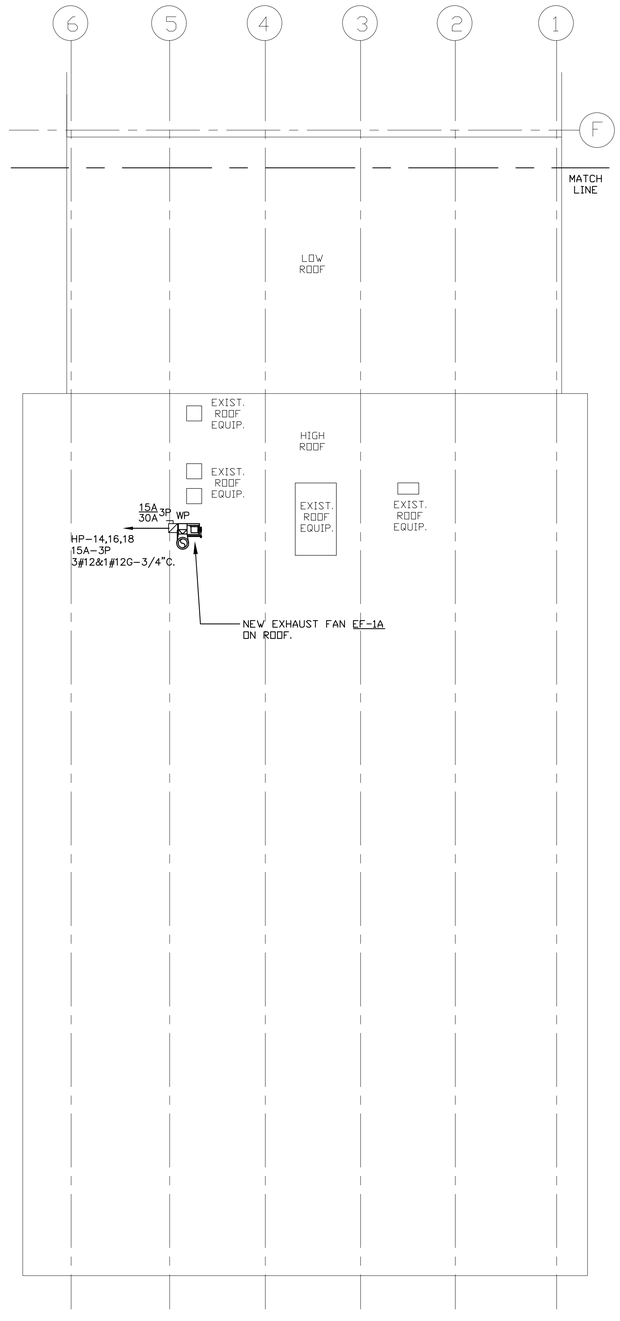
PROJECT: TABER MILL APARTMENTS NEW BEDFORD, MA

SCALE:	1/8"=1'-0"
DATE:	12-08-2012
DRAWN BY:	GRG
CHECKED BY:	RG
PROJECT #:	M2188

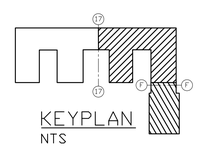
E1.0



ROOF PLAN
SCALE: 1/8" = 1'-0"



ROOF PLAN
SCALE: 1/8" = 1'-0"



KEYPLAN
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REVISIONS:

-	01-10-13 ISSUE FOR BID

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DRAWING TITLE: ROOF PLAN ELECTRICAL

PROJECT: TABER MILL APARTMENTS
NEW BEDFORD, MA

SCALE:	1/8"=1'-0"
DATE:	12-08-2012
DRAWN BY:	GRG
CHECKED BY:	RG
PROJECT #:	M2188

E2.0

SYMBOL LIST

MOUNTING HEIGHTS SHALL BE AS INDICATED UNLESS SHOWN OTHERWISE ON ELECTRICAL DRAWINGS OR ARCHITECTURAL ELEVATIONS

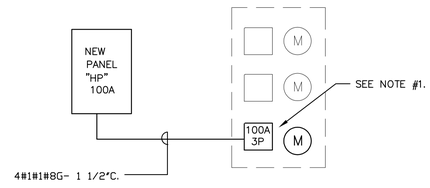
RACEWAYS AND WIRING

HP–3 → HOMERUN TO PANELBOARD. "HP" INDICATES PANELBOARD, "3" INDICATES CIRCUIT NUMBER, (20A, 1P, UNLESS INDICATED OTHERWISE) 2#12 & 1#12G–3/4"C UNLESS INDICATED OTHERWISE.

NOTES:
1. GREEN GROUND CONDUCTOR NOT INDICATED BUT SHALL BE INCLUDED IN EACH RACEWAY. SIZE SHALL BE #12AWG UNLESS INDICATED OTHERWISE.
2. HOMERUNS TO PANELBOARD SHALL HAVE A MAXIMUM OF THREE (3) PHASE CONDUCTORS (ONE PER PHASE) PLUS DEDICATED NEUTRAL WITH EACH PHASE CONDUCTOR AND GROUND CONDUCTOR IN EACH CONDUIT.

POWER DISTRIBUTION EQUIPMENT

- PANELBOARD, SURFACE MOUNTED
- (J)(J) JUNCTION BOX, SIZED PER NEC
- (2) MOTOR, "2" INDICATES HORSEPOWER
- S_M MANUAL MOTOR STARTER WITH THERMAL OVERLOAD.
- NON–FUSED DISCONNECT SWITCH, SIZE AS INDICATED.
- FUSED DISCONNECT SWITCH, SIZE OF SWITCH AND FUSE AS INDICATED.



PARTIAL RISER DIAGRAM

N.T.S.

NOTE

1. IN ONE THE EXISTING METER STACKS EXTEND THE BUSSING AND PROVIDE A NEW SINGLE METER SOCKET AND MAIN BREAKER FOR THE NEW PANELBOARD. MAIN BREAKER AND THE METER SOCKET SHALL BE 100A–THREE PHASE, COMPATIBLE WITH THE EXISTING METER STACK AND SHALL BE PER UTILITY COMPANY REQUIREMENT. NEW CIRCUIT BREAKER AND METER SOCKET SHALL MATCH THE EXISTING (i.e. MANUFACTURER, VOLTAGE, AIC RATING, ETC.)

ABBREVIATIONS

A	AMPERES
AF	AMPERE FRAME (CIRCUIT BREAKER RATING)
AFF	ABOVE FINISHED FLOOR
AT	AMPERE TRIP (CIRCUIT BREAKER RATING)
AWG	AMERICAN WIRE GAUGE
C.B.	CIRCUIT BREAKER
F	FLUSH
G	GROUND
KVA	KILO VOLT–AMPERES
KW	KILOWATTS
MISC.	MISCELLANEOUS
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
ø	PHASE
P	POLE
R	RECESSED
S	SURFACE

GENERAL NOTES:

1. ANY DISCREPANCIES BETWEEN THE ELECTRICAL DRAWING SET AND ANY SPECIFICATIONS, ARCHITECTURAL DRAWINGS, OR OTHER TRADES' DRAWINGS SHALL BE IMMEDIATELY REPORTED IN WRITING TO THE ARCHITECT AND ELECTRICAL ENGINEER VIA THE GENERAL CONTRACTOR.
2. ALL CONDUITS AND EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE NATIONAL ELECTRIC CODE AND APPLICABLE LOCAL CODES.
3. CONDUIT RUNS ARE SHOWN DIAGRAMMATIC ALLY ONLY AND SHALL BE INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT AND STRUCTURAL CONDITIONS. CONDUITS SHALL BE INSTALLED PARALLEL TO BEAMS AND WALLS.
4. CONDUITS SHALL BE TERMINATED SO AS TO PERMIT NEAT CONNECTIONS TO MOTORS AND OTHER EQUIPMENT.
5. NO CONDUIT SMALLER THAN 3/4" PIPE SIZE NOR WIRE SMALLER THAN NO. 12 AWG FOR POWER SHALL BE USED UNLESS OTHERWISE NOTED.
6. ALL PANELBOARDS SHALL BE MOUNTED SO THAT DISTANCE FROM THE TOP CIRCUIT BREAKER OPERATING HANDLE TO THE FLOOR SHALL NOT EXCEED 6'–6".
7. ALL CONDUIT RUNS CROSSING EXPANSION JOINTS SHALL HAVE EXPANSION OR EXPANSION AND DEFLECTION TYPE FITTINGS AS REQUIRED. FOR EXACT LOCATIONS OF EXPANSION JOINTS SEE STRUCTURAL AND ARCHITECTURAL DRAWINGS.

VOLTAGE: 120/208 VOLTS				MAIN BUS 125 A.		TOTAL WATTS, L1		7818		PANEL NO.	NEW PANEL "HP"
MAIN BREAKER: 125A FRAME 100A TRIP						TOTAL WATTS, L2		7619			
MOUNTING: SURFACE						TOTAL WATTS, L3		7418		LOC.	ELECTRIC ROOM
NOTE: PANEL SHALL HAVE FULL NEUTRAL, GROUND GROUND BUS						TOTAL WATTS		22855			

DIRECTORY	WATTS LOAD L1	L2	L3	CKT.	AMPS	L1 L2 L3	AMPS	CKT.	WATTS LOAD L1	L2	L3	DIRECTORY
MOTORIZED DAMPERS	400			1	20			2	1667			EHU–2
MOTORIZED DAMPERS		400		3	20		20 3P	4		1667		–
MOTORIZED DAMPERS			200	5	20			6			1667	–
MOTORIZED DAMPERS	200			7	20			8	1667			EHU–3
EHU–4		1667		9			20 3P	10		1667		–
–			1667	11	20 3P			12			1667	–
–	1667			13				14	550			EF–1A
EHU–1		1667		15			15 3P	16		550		–
–			1667	17	20 3P			18			550	–
–	1667			19			20	20	–			SPARE
SPARE		–		21	20		20	22		–		SPARE
SPARE			–	23	20		20	24			–	SPARE
SPARE	–			25	20		20	26	–			SPARE
SPACE		–		27				28		–		SPACE
			–	29				30			–	
	–			31				32	–			
		–		33				34		–		
			–	35				36			–	
	–			37				38	–			
		–		39				40		–		
			–	41				42			–	
SUB–TOTAL	3934	3734	3534			N			3884	3885	3884	SUB–TOTAL

TOTAL CONNECTED LOAD = 22855 WATT

TOTAL DEMAND LOAD: 22855 @ 80% = 18284 WATT

18284 WATT. @ 120/208 VOLT, 3ø, 4W = 50649 AMPERE X 1.25 =64 AMPERE.

ELECTRICAL SPECIFICATION

A. THE GENERAL CONDITIONS SHALL BE CONSIDERED AS FORMING A PART OF THESE SPECIFICATIONS AND SHALL BE CAREFULLY EXAMINED BEFORE PROPOSAL FOR ANY WORK ARE SUBMITTED.

B. SCOPE OF WORK SHALL INCLUDE ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, TRANSPORTATION, HOISTING, RIGGING, ETC., AS INDICATED ON THE DRAWINGS AND HEREIN SPECIFIED FOR A COMPLETE INSTALLATION.

C. ALL WORK SHALL BE IN ACCORDANCE WITH NATIONAL, STATE AND LOCAL CODES AND ORDINANCES.

D. THE ELECTRICAL CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION, APPROVALS, ARRANGE ALL INSPECTIONS, AND PAY ALL FEES REQUIRED.

E. ALL WORK UNDER THIS CONTRACT SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER COMPLETION.

F. SUBMIT RECORD DRAWINGS FOR ALL WORK PROVIDED UNDER THIS CONTRACT TO THE OWNER FOR HIS USE.

G. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO STUDY ALL DRAWINGS AND DETAILS SO THAT ALL ALTERATIONS AND INSTALLATION OF NEW WORK CAN BE FULLY COORDINATED. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE TO SATISFY HIMSELF THAT ALL PROVISIONS HAVE BEEN MADE FOR ALL ASPECTS OF THIS PROJECT. IF DISCREPANCIES EXIST BETWEEN DRAWINGS AND/OR SITE CONDITIONS, THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO SIGNING OF THE CONTRACT.

H. IT IS NOT INTENDED THAT THE DRAWINGS SHALL SHOW EVERY PIPE, FITTING AND CONNECTION, BUT THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SUCH PARTS AS MAY BE NECESSARY TO COMPLETE THE SYSTEMS IN ACCORDANCE WITH THE BEST TRADE PRACTICE, AND TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER.

I. CONCEALMENT OF CONDUITS, BOXES AND EQUIPMENT

1. IT IS THE INTENT OF THE ELECTRICAL DRAWINGS AND SPECIFICATIONS THAT ALL ELECTRIC WORK SHALL BE CONCEALED. OUTLET BOXES AND THE LIKE SHALL BE RECESSED INTO WALLS, AND CONDUIT IN FINISHED AREAS SHALL BE CONCEALED IN BUILDING WALLS AND ABOVE CEILINGS.

J. SCOPE OF WORK

1. CONDUIT AND CABLE.
2. WIRING DEVICES.
3. MODIFICATIONS TO THE ELECTRICAL DISTRIBUTION SYSTEMS.
4. OUTLET, PULL AND JUNCTION BOXES.
5. CIRCUIT BREAKERS.
6. GROUNDING.
7. HANGERS, SUPPORTS, INSERTS, SLEEVES.
8. FIRESTOPPING, SMOKEPROOFING, WATERPROOFING.
9. TESTING, CLEANING AND ADJUSTING.
10. FEES, PERMITS, ROYALTIES, GUARANTEES.
11. SHOP DRAWINGS.
12. RECORD DRAWINGS.

K. FEEDER AND BRANCH CIRCUIT WIRING

1. ALL FEEDER AND BRANCH CIRCUITS, SIGNAL WIRING SHALL BE COPPER RATED AT 600 VOLTS.
2. MINIMUM SIZE FOR BRANCH CIRCUIT AND POWER WIRING SHALL BE #12 AWG FOR REMOTE CONTROL SIGNAL CIRCUIT AND INTERLOCK WIRING MAY BE #14 AWG.
3. INSULATION TYPES SHALL BE THW FOR FEEDERS AND POWER WIRING, THHN FOR LIGHTING BRANCH CIRCUIT AND THWN FOR REMOTE CONTROL, SIGNAL CIRCUITS.
4. NUMBER ASSOCIATED WITH EACH BRANCH CIRCUIT OUTLET IDENTIFIES THE BRANCH CIRCUIT TO WHICH THE DEVICE SERVED BY THE OUTLET IS TO BE CONNECTED. THE BALANCING OF ALL LOADS SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY.

L. OUTLET BOXES

1. OUTLET BOXES SHALL BE ONE PIECE GALVANIZED CONSTRUCTION MEETING NEC REQUIREMENTS, OF PROPER SIZE AND SUITABLE FOR LOCATION INDICATED ON THE DRAWINGS.
2. OUTLET BOXES IN WALL PARTITIONS SHALL NOT BE INSTALLED BACK–TO–BACK.
3. OUTLET BOXES SHALL BE MANUFACTURED BY ONE OF THE FOLLOWING:
   A. CROUSE–HINDS COMPANY: APPLETON
   B. STEEL CITY ELECTRIC COMPANY: RACO

M. GROUNDING

1. PROVIDE GROUNDING FOR ALL ELECTRICAL EQUIPMENT AND DEVICES IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND IEEE STANDARDS.
2. BONDING JUMPERS SHALL BE INSTALLED AT ALL LOCATIONS REQUIRED BY NEC.
3. A GREEN GROUNDING CONDUCTOR OF PROPER SIZE SHALL BE INSTALLED AND CONNECTED WITH THE FEEDER CIRCUIT CONDUCTORS, TO WIRING DEVICES, CIRCUITS AND LIGHTING FIXTURES. CONNECTIONS TO THE EQUIPMENT MAY BE BOLTED OR SCREWED USING CORROSION RESISTING BOLTS OR SCREWS.

N. PULL AND JUNCTION BOXES

1. PULL BOXES SHALL BE CONSTRUCTED OF CODE GAUGE GALVANIZED STEEL AND SHALL BE INSTALLED AT POINTS WHETHER INDICATED ON THE DRAWINGS OR NOT. MINIMUM DIMENSION SHALL NOT BE LESS THAN NEC REQUIREMENTS.
2. PROVIDE FLAT PLAIN COVERS WITH SUITABLE FLAT HEAD MACHINE SCREWS OR SLOTTED TRUSS HEAD BOLTS.

O. IDENTIFICATION OF EQUIPMENT

1. IDENTIFICATION SHALL BE PROVIDED FOR ALL EQUIPMENT AND DEVICES. PROVIDE A DYMO LABEL INDICATING BRANCH CIRCUIT AND PANELBOARD OF ORIGIN. MODIFY RESPECTIVE PANELBOARD DIRECTORIES ACCORDINGLY.

P. EQUIPMENT CONNECTIONS

1. ALL EQUIPMENT SHOWN ON THE DRAWINGS WHICH IS FURNISHED UNDER OTHER SECTIONS OF THESE SPECIFICATIONS AND BY OTHERS SHALL BE CONNECTED UNDER THIS SECTION.
2. BEFORE CONNECTING ANY PIECE OF EQUIPMENT, CHECK THE NAMEPLATE RATING AGAINST THE INFORMATION SHOWN ON THE DRAWINGS AND CALL TO THE ATTENTION OF THE ARCHITECT ANY DISCREPANCIES.
3. THE ELECTRICAL CONTRACTOR SHALL CAREFULLY STUDY ALL EQUIPMENT MANUFACTURERS WIRING DIAGRAMS AND MAKE CONNECTIONS ACCORDINGLY.

Q. DISCONNECTION AND REMOVAL OF EXISTING ELECTRICAL WORK

1. THE ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL DEVICES, EQUIPMENT NOT EXISTING TO REMAIN OR RELOCATED. REFER TO ELECTRICAL AND ARCHITECTURAL DRAWINGS. REMOVE ALL ABANDONED WIRING BACK TO SOURCE.
2. REMOVED MATERIAL SHALL BE DELIVERED TO A DESIGNATED POINT WITHIN THE AREA OF CONSTRUCTION AND SUCH ITEMS AS REQUESTED SHALL BE TURNED OVER TO THE OWNER. REMAINING MATERIAL SHALL BE DISPOSED OF BY THE ELECTRICAL CONTRACTOR.
3. USED CONDUIT, FITTINGS, ETC., WHICH HAVE BEEN REMOVED, SHALL NOT BE REUSED IN CONJUNCTION WITH THE NEW WORK UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE ELECTRICAL DRAWINGS.

R. PANELBOARDS

1. FURNISH AND INSTALL PANELBOARDS AS INDICATED AND AS SCHEDULED ON THE DRAWINGS. PANELBOARDS SHALL BE PROVIDED WITH TYPEWRITTEN DIRECTORIES INDICATING CIRCUIT NUMBERS, EQUIPMENT SERVED AND ROOM NUMBER OF THE AREA SERVED.
2. PANELBOARDS SHALL BE OF DEAD FRONT CONSTRUCTION WITH THERMAL MAGNETIC CIRCUIT BREAKERS AND SHALL CONFORM TO THE REQUIREMENTS OF NEMA AND NEC. ALL PANELBOARDS SHALL BE UL APPROVED AND LABELED.
3. PANELBOARDS SHALL CONSIST OF CIRCUIT BREAKERS, CODE GAUGE STEEL CABINET OR BACKBOX, BUS ASSEMBLY, TRIM WITH CODE GAUGE GALVANIZED STEEL DOORS. GUTTER SPACE SHALL BE A MINIMUM OF 4" ON ALL SIDES. BOXES SHALL BE MINIMUM 20" WIDE AND 5 3/4" DEEP.
4. CIRCUIT BREAKERS SHALL BE OF THE QUICK–MAKE, QUICK–BREAK TRIP FREE THERMAL MAGNETIC TYPE WITH CHARACTERISTICS AS SCHEDULED. AUTOMATIC TRIPPING SHALL BE CLEARLY INDICATED BY THE OPERATING HANDLE ASSUMING A MID–POSITION BETWEEN "ON" AND "OFF". TWO AND THREE POLE BREAKERS SHALL HAVE COMMON TRIP. ALL CIRCUIT BREAKERS SHALL BE BOLT ON TYPE. ALL BREAKERS SHALL BE 100 AMPERE FRAME MINIMUM.
5. ALL PANELBOARDS SHALL BE PROVIDED WITH SOLID NEUTRAL. IN ADDITION, GROUNDING AND ISOLATED GROUNDING BUS WITH LUGS SHALL BE PROVIDED ON ALL PANELBOARDS MEETING UL AND NEMA STANDARDS. OTHER SPECIAL FEATURES SHALL BE PROVIDED AS REQUIRED AND AS INDICATED.
6. TWO (2) MILLED TYPE KEYS SHALL BE PROVIDED WITH EACH PANEL AND ALL PANEL LOCKS SHALL BE KEYED ALIKE.
7. BUS ARRANGEMENTS SHALL BE SEQUENCE PHASED SUCH THAT ADJACENT SINGLE–POLE BREAKERS SHALL BE CONNECTED TO OPPOSITE PHASES IN A MANNER SUCH THAT ANY 2–OR 3–POLE BREAKERS CAN BE INSTALLED ANYWHERE IN THE PANELBOARD. BUSES AND LUGS SHALL BE COPPER.
8. ALL PANELBOARDS SHALL BE SUPPLIED WITH A DOOR–IN–DOOR TRIM. THE ENTIRE TRIM SHALL BE HINGED AND SHALL SWING OPEN TO EXPOSE WIRING GUTTERS WHILE THE INTERIOR DOOR SHALL BE HINGED AND SWING OPEN TO EXPOSE ONLY THE BREAKER HANDLES.
9. PANELBOARDS SHALL BE MANUFACTURED BY SQUARE D., GE OR CUTLER HAMMER, EATON.

REVISIONS:
- 01-10-13 ISSUE FOR BID

ADA Engineering, Inc.
Consulting Engineers
271 Main Street
Stoneham, MA. 02180–0004
781–279–2800 (Fax) 781–279–3556
(E–mail) ADAENGINE @ AOL.COM

DRAWING TITLE: ELECTRICAL DETAILS, LEGEND AND SPECIFICATIONS

PROJECT: TABER MILL APARTMENTS NEW BEDFORD, MA

SCALE: NO SCALE
DATE: 12–08–2012
DRAWN BY: GRG
CHECKED BY: RG
PROJECT #: M2188

E3.0

APPENDIX M

COPIES OF PUBLIC NOTIFICATION LETTERS

Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854

978.970.5600 PHONE
978.453.1995 FAX

www.TRCsolutions.com

TRC Reference Number: 172744

September 30, 2013

New Bedford Board of Health
1213 Purchase Street
New Bedford, Massachusetts 02740

Re: Notice of Availability
Interim Phase II Comprehensive Site Assessment Report
Former Payne Cutlery Site
295 Phillips Avenue, New Bedford, Massachusetts
Release Tracking Number (RTN) 4-15373

To Whom It May Concern:

TRC has prepared this notification letter on behalf of the City of New Bedford (the City), to inform you of the availability of an Interim Phase II Comprehensive Site Assessment (CSA) Report for the above-referenced property in New Bedford, Massachusetts. In addition, the Former Payne Cutlery Site has been classified as a Tier II Disposal Site in accordance with the MassDEP Numerical Ranking System (NRS) Scoresheet. This notification is being submitted to you in accordance with the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000).

In accordance with 310 CMR 40.1403(3)(e) of the MCP, a copy of the report cover and Interim Phase II CSA conclusions is attached. The Interim Phase II CSA Report can be reviewed in its entirety at the Massachusetts Department of Environmental Protection (MassDEP), Southeast Regional Office, located at 20 Riverside Drive in Lakeville, Massachusetts or at the City's Department of Environmental Stewardship, 133 William Street, Room 304, New Bedford, Massachusetts.

In addition, per 310 CMR 40.1403(6)(b) copies of the public notice of Tier Classification and the Disposal Site map included in the Interim Phase II CSA are attached. A copy of the Tier Classification submittal is included in the Interim Phase II CSA report.

If you have any questions concerning this document, please don't hesitate to contact David Sullivan of TRC at (978) 656-3565 or Michele S.W. Paul with the Department of Environmental Stewardship at (508) 979-1487.

DRAFT

Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854

978.970.5600 PHONE
978.453.1995 FAX

www.TRCsolutions.com

Sincerely,

TRC Environmental Corporation

David M. Sullivan, LSP
Sr. Project Manager and Division Safety Manager

Attachment

cc: MassDEP Southeast Regional Office
Mayor, City of New Bedford

DRAFT

Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854

978.970.5600 PHONE
978.453.1995 FAX

www.TRCsolutions.com

TRC Reference Number: 172744

September 30, 2013

Mayor Jonathan Mitchell
City of New Bedford
133 William Street
New Bedford, Massachusetts 02740

Re: Notice of Availability
Interim Phase II Comprehensive Site Assessment Report
Former Payne Cutlery Site
295 Phillips Avenue, New Bedford, Massachusetts
Release Tracking Number (RTN) 4-15373

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Sincerely,

TRC Environmental Corporation

David M. Sullivan, LSP
Sr. Project Manager and Division Safety Manager

Attachment

cc: MassDEP Southeast Regional Office
Board of Health, City of New Bedford

DRAFT

APPENDIX N

LIMITATIONS

LIMITATIONS

1. TRC Environmental Corporation's (TRC's) study was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area, and TRC observed that degree of care and skill generally exercised by other consultants under similar circumstances and conditions. TRC's findings and conclusions must be considered not as scientific certainties, but rather as our professional opinion concerning the significance of the limited data gathered during the course of the study. No other warranty, express or implied is made. Specifically, TRC does not and cannot represent that the Site contains no hazardous material, oil, or other latent condition beyond that observed by TRC during its study. Additionally, TRC makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by a Massachusetts Department of Environmental Protection (MassDEP) audit.

2. This study and report have been prepared on behalf of and for the exclusive use of the MassDEP and the City of New Bedford (Client), solely for use in an environmental response actions at the Former Payne Cutlery Site in New Bedford, Massachusetts ("Site") under the Massachusetts Contingency Plan (MCP - 310 CMR 40.0000). This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party in whole or in part, without the prior written consent of TRC.

3. The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by Client. The work described in this report was carried out in accordance with the Terms and Conditions referenced in our proposals with the City of New Bedford.

4. In preparing this report, TRC has relied on certain information provided by state and local officials and other parties referenced therein, and on information contained in the files of state and/or local agencies available to TRC at the time of the study. Although there may have been some degree of overlap in the information provided by these various sources, TRC did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this evaluation.

5. In the event that the Client or others authorized to use this report obtain information on environmental or hazardous waste issues at the Site not contained in this report, such information shall be brought to TRC's attention forthwith. TRC will evaluate such information and, on the basis of that evaluation, may modify the conclusions stated in this report.

6. The purpose of this report was to assess the Site with respect to the requirements of the MCP. No specific attempt was made to check on the compliance of present or past owners or operators of the Site with federal, state, or local laws and regulations, environmental or otherwise.

7. The conclusions and recommendations contained in this report are based in part upon the data obtained from soil, groundwater, soil gas and indoor air samples obtained from subsurface and other explorations described herein. The nature and extent of variations between these explorations may not become evident until further exploration. If variations or other latent conditions then appear evident, it will be necessary to reevaluate the conclusions and recommendations of this report.

8. The generalized soil profile and groundwater elevation/depth contours described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed by interpretations of widely spaced explorations and samples; actual soil transitions are probably more gradual. The depictions of groundwater represents a snapshot in time and is based on a limited number of groundwater monitoring wells, and represents a generalized professional interpretation.

9. The conclusions and recommendations contained in this report are based in part upon various types of chemical data and are contingent upon their validity. These data have been reviewed and interpretations made in the report. As may be indicated within the report, some of these data may be preliminary "screening" level data, and should be confirmed with quantitative analyses if more specific information is necessary. Moreover, it should be noted that variations in the types and concentrations of contaminants may occur due to past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by TRC and the conclusions and recommendations presented herein modified accordingly.

10. Chemical analyses have been performed for specific parameters during the course of this Site assessment, as described in the text. However, it should be noted that additional chemical constituents not searched for during the current study could be present at the Site.

11. TRC's risk evaluation was performed in accordance with generally accepted practices of the MassDEP and other consultants undertaking similar studies. The findings of the risk evaluation are dependent on numerous assumptions and uncertainties inherent in the risk assessment process. Sources of uncertainty may include the description of Site conditions and the nature and extent of chemical distribution and the use of toxicity information. Consequently, the findings of the risk assessment are not an absolute characterization of actual risks, but rather serve to highlight potential sources of risk at the Site. Although the range of uncertainties has not been quantified, the use of conservative assumptions and parameters throughout the assessment would be expected to err on the side of protection of human health and the environment.