



**U.S. ENVIRONMENTAL
PROTECTION AGENCY
REGION 1**

**RECORD OF DECISION
OU2 Groundwater (Keyes Field)
Fletcher's Paint Works and Storage
Facility Superfund Site
Milford, NH**

September 28, 2012

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Record of Decision
OU2 Groundwater – Keyes Field

September , 2012

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Part 1:

Fletcher's Paint Works and Superfund Site

Declaration to the Record of Decision

OU2 Groundwater (Keyes Field)

A. SITE NAME AND LOCATION

The Fletcher's Paint Works and Storage Facility, Milford, NH
EPA ID# NHD001079649
Operable Unit 2 (OU2) – Groundwater (Keyes Field)

B. STATEMENT OF BASIS AND PURPOSE

This decision document presents a decision that no further remedial action is warranted for Operable Unit #2 – Groundwater (Keyes Field) at the Fletcher's Paint Works and Storage Facility (the Site), in Milford, New Hampshire, which was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 USC § 9601 *et seq.*, and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) as amended, 40 CFR Part 300. The Director of the Office of Site Remediation and Restoration (OSRR) has been delegated the authority to approve this Record of Decision (ROD).

This decision was based on the Administrative Record, which has been developed in accordance with Section 113 (k) of CERCLA, and which is available for review at the Wadleigh Memorial Library, Milford, New Hampshire and at the United States Environmental Protection Agency (EPA), Region 1, Office of Site Remediation and Restoration (OSRR) Records Center in Boston, Massachusetts. The Administrative Record Index (Appendix B to this ROD) identifies each of the items comprising the Administrative Record upon which the selection of no remedial action is based.

C. DESCRIPTION OF THE RECORD OF DECISION

The Fletcher's Paint Site is comprised of two operable units (OUs). OU1 includes the primary source areas at Elm and Mill Street. The 1998 OU1 ROD, amended in 2009, addresses source control and management of migration and includes the excavation and off-site treatment/disposal of contaminated soils, construction of an engineered soil and asphalt cover over residual soil contamination and the establishment of a Groundwater

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Management Zone (GMZ) under NH Regulations to prohibit the use of and to monitor contaminated groundwater at the Site until drinking water levels are met. OU2 includes contaminated sediments within a portion of the Souhegan River and the groundwater under the Keyes Field. OU2 response actions for the Souhegan River will be addressed in a separate ROD in 2013. The Keyes Municipal Water Supply Well, located several hundred feet from the Fletcher's Paint Site, was closed in 1984 following the detection of VOC contamination in the well. The subsequent preliminary investigations at Fletcher's Paint led to the listing of the Site on the NPL in 1989. During the 1990's, the EPA RI documented the presence of significant petroleum contamination in groundwater under the Keyes Field as a result of an upgradient petroleum release. The 2011 OU2 RI determined that the future risks from use of on-site groundwater are from arsenic and MTBE, which are not Site related and future risks are related to the potential migration of off-site groundwater from the OU1 area of the Site into the Keyes Field should the Keyes Well be re-used in the future as a municipal water supply.

This OU2 ROD sets forth EPA's determination that no additional cleanup measures for groundwater under the Keyes Field portion of the Site are necessary because:

- There are no current users of groundwater at Keyes Field and therefore there are no current risks;
- The RI concluded that if the on-site groundwater under the Keyes Field was used in the future, risks for the future hypothetical residential user are from arsenic, a naturally occurring compound in groundwater and MTBE which is believed to be associated with the upgradient petroleum source;
- While there is the potential in the future that contamination at unacceptable levels could be pulled into Keyes Field from upgradient areas (OU1 and Xtramart) if pumping of groundwater resumes at the Keyes Municipal Supply Well (Keyes Well), these upgradient areas are being addressed by the State and EPA; and
- An Institutional Control in the form of a Groundwater Management Zone (GMZ) under New Hampshire regulations is required for groundwater contamination associated with the upgradient OU1 portion of the Site. Within the GMZ, pumping of groundwater is prohibited and groundwater monitoring of contaminant concentration and migration is required until drinking water standards are met. The proposed OU1 GMZ includes the area of OU1 groundwater contamination and the groundwater under the Keyes Field. Because action is being taken under the OU1 remedy which addresses potential future risks at OU2, no action is required for OU2 Groundwater.

The no further response selected in this OU2 ROD is warranted as no further action is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

D. STATUTORY DETERMINATIONS

EPA has determined that no remedial action is necessary to protect human health and the environment from risks related to OU2 Groundwater under the Keyes Field portion of the Site. The groundwater under the Keyes Field currently poses no current threat to human health or the environment. No further action is necessary to protect human health and the environment from potential future threats beyond the OU1 source control remedy.

Because the OU1 remedy, as amended, will result in hazardous substances remaining on-site above levels that allow for unlimited use and unrestricted exposure, groundwater and land use restrictions are necessary until cleanup levels are met and a review will be conducted within five years after initiation of remedial action and every five years to ensure that the remedy is, or will be, protective of human health and the environment.

E. ROD DATA CERTIFICATION CHECKLIST

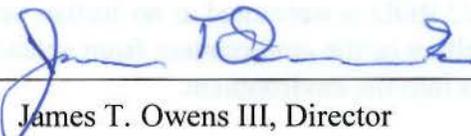
The following information and relevant updates are included in the Decision Summary section of this ROD. Additional information can be found in the Administrative Record for this Site.

1. Information about chemicals of potential concerns (COPCs) and their respective concentrations.
2. Determination that the COPCs do not pose a current risk to human health and the environment and potential future risks are being addressed by the OU1 remedy.
3. Current and future land and groundwater use assumptions used in the Baseline Risk Assessments and ROD.
4. Potential land and groundwater use that will be available at the Site as a result of the selected remedy.
5. 2012 NHDES Groundwater Use and Value Determination.
6. Decisive factors that led to the selection of no further remedial action for this ROD.

F. AUTHORIZING SIGNATURES

This ROD documents a no further remedial action decision for OU2 Groundwater at the Keyes Field portion of the Fletcher's Paint Works and Storage Facility Superfund Site. The U.S. EPA made this decision with concurrence from the New Hampshire Department of Environmental Services.

U.S. Environmental Protection Agency

By: 
James T. Owens III, Director

Date: 9/28/12

Office of Site Remediation and Restoration
U.S. EPA New England, Region I

PART 2: THE RECORD OF DECISION – DECISION SUMMARY

A. SITE NAME, LOCATION, AND DESCRIPTION

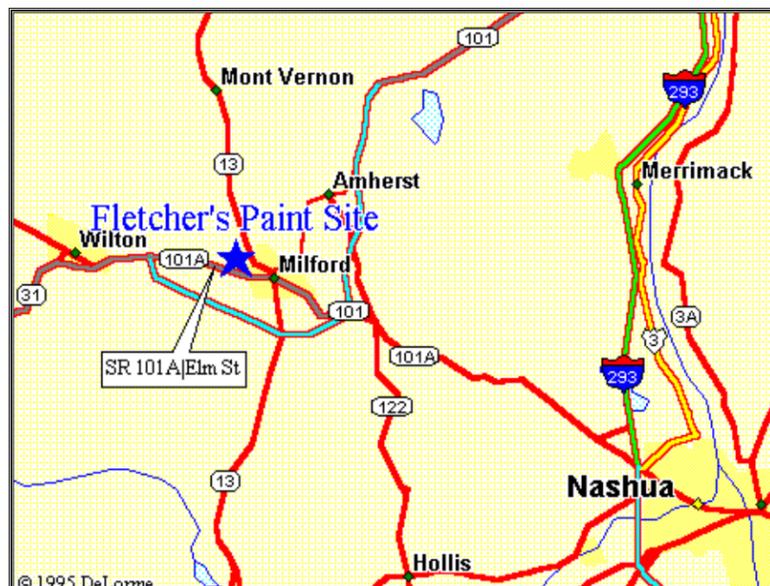
SITE NAME: **The Fletcher's Paint Works and Storage Facility
Milford, New Hampshire
Hillsborough County
CERCLIS ID # NHD001079649
Operable Unit 2 (OU2) Groundwater - Keyes Field**

SITE LOCATION:

The Fletcher's Paint Superfund Site (the "Site") is situated in southeastern New Hampshire, Hillsborough County, Milford, New Hampshire. The Site is located approximately one-eighth of a mile from downtown Milford, along Route 101A (Elm Street).

The Site consists of two Operable Units (OUs). OU1 includes the two former Fletcher's Paint Works properties (located on Elm and Mill Streets) which are approximately 700 feet apart and a drainage ditch which runs near the Mill Street Area; and OU2 includes a section of the Souhegan River and the Keyes Field (See Figure 1-1). The Elm Street Area of the Site is bounded to the north by the Souhegan River, to the east by a historical cemetery, to the south by Route 101A, and to the west by Keyes Drive, the entrance to the Town of Milford -Keyes Recreation Field (Keyes Field). The OU1 groundwater contamination currently extends from the Mill Street Area of the Site, through the Elm Street Area of the Site to the Souhegan River. The OU2 Groundwater includes the groundwater located under the Keyes Field.

Figure 1 - Locus Map



LEAD and SUPPORT AGENCIES:

Lead Agency: United States Environmental Protection Agency

Support Agency: New Hampshire Department of Environmental Services

SITE DESCRIPTION:

The primary, two-acre OU1 portion of the Site consists of two lots formerly owned by Fletcher's Paint Works: a former paint manufacturing plant/retail outlet on Elm Street and a storage shed area 700 feet south on Mill Street. Fletcher's Paint Works manufactured and sold paints and stains for residential use at its Milford plant from 1949 until 1991. Annual production was 25,000 to 35,000 gallons of both water-based paints and solvent-based oil paints and stains. VMP Naptha and mineral spirits were stored in large underground tanks at the Elm Street Area. Bulk paint pigments, drums and miscellaneous materials were stored at the Mill Street storage shed area. During the Fletcher's Paint operations, hundreds of drums of hazardous substances were stored outside at both the Elm and Mill Street locations, ultimately leading to the release of various hazardous substances into surrounding soils and groundwater and the migration of contaminants into the OU2 portions of the Site, the Keyes Field and the Souhegan River.

In 1989, the EPA removed over 800 drums from the Elm Street facility and placed a permeable synthetic liner and clean fill over areas containing high levels of polychlorinated biphenyls (PCBs) at both the Mill Street and Elm Street locations. By the end of 1991, EPA had built a fence around the Elm Street property. The storage shed on Mill Street and its contents, along with the contents left inside the Elm Street property when the business shut down, were properly disposed of during the summer of 1993, due to deteriorating conditions and concern of local citizens. In 1995, PCB contaminated surface soils were removed from three residential properties adjacent to the Mill Street Site. Asphalt was also placed over Mill Street to direct future run-off away from these residential properties. In 1996, contaminated soils were removed from a small piece of land adjacent to the Elm Street facility to allow for construction of a Korean War Memorial. In December 2000, EPA demolished and disposed of the former Fletcher's Paint Works building on the Elm Street property and covered the area with sand. At the time, the building was vacant, in deteriorating condition and presented concerns for public safety given its location adjacent to the sidewalk and Route 101A. The demolition action was completed in the spring of 2001. During the mid 1990's, sand was also placed over contaminated soils at the Mill Street Area following the fire at the nearby former coal yard weigh station.

The Fletcher's Paint Site is situated in a densely populated residential and commercial area, located approximately 1/8th mile from the downtown Milford Area. Approximately 11,400 people within 3 miles of the Site obtain drinking water from public and private wells. Municipal supplied water is used nearest the Site, and no known private well user is located nearby. There are two schools and a 19-acre

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recreation field called the Keyes Field, located adjacent to the former Fletcher's Paint Elm Street Area of the Site. The Elm Street portion of the Site and the Keyes Field are located adjacent to the Souhegan River, which is used for many town recreational and sport activities. Across the river from the Site is the Boys and Girls Club property. A footbridge extends across the river allowing pedestrian access between the Boys and Girls Club and the Keyes Field. See Site Map, Figure 1-1.

The Fletcher's Paint Site is situated along the southeastern extent of the Milford-Souhegan Aquifer. Depth to groundwater across the Site varies from approximately four feet below the ground surface near Mill Street to approximately twenty feet at the Elm Street Area and twelve feet at Keyes Field. The saturated thickness also varies across the Site from approximately ten feet near the Mill Street property to twenty feet beneath the Elm Street property and fifty-five feet beneath Keyes Field.

Groundwater flow is toward the Souhegan River. Groundwater flows generally in a north-northwest direction from the Mill Street Area, a north-northeast direction across the Elm Street Area and discharges into the Souhegan River. Groundwater flow across Keyes Field is north-north east toward the Souhegan River. This lateral flow is consistent with regional interpretations that suggest the River is the primary groundwater discharge point associated with this part of the Milford-Souhegan Aquifer. Vertical flow in both the overburden and bedrock aquifers is generally upward in the immediate vicinity of the Souhegan River and prevails downward in the vicinity of the Mill Street Area of the Site.

The OU1 Areas of the Fletcher's Paint Site (during the 1990's) is shown in greater detail in Figures 2 and 3 below. Figure 4 shows the OU2 Keyes Field portion of the Site. A more complete description of the Site can be found in the 1998 ROD, 2009 Amended ROD and the OU1 and OU2 Remedial Investigation Reports completed for the Site.

Figure 2: The OU1 Elm Street Area of the Site

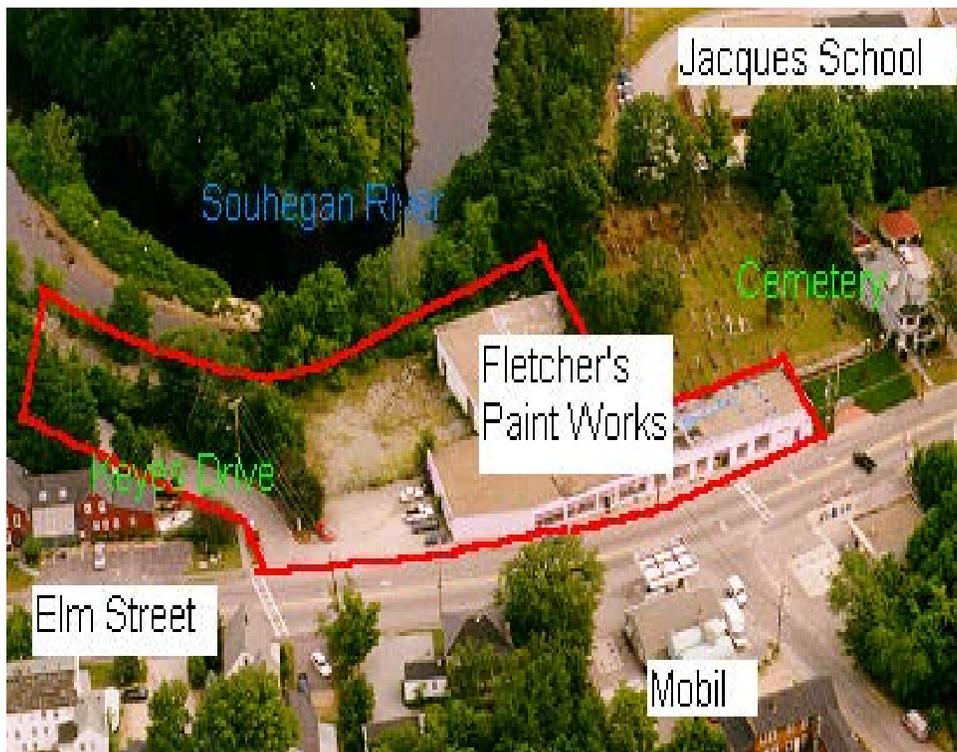
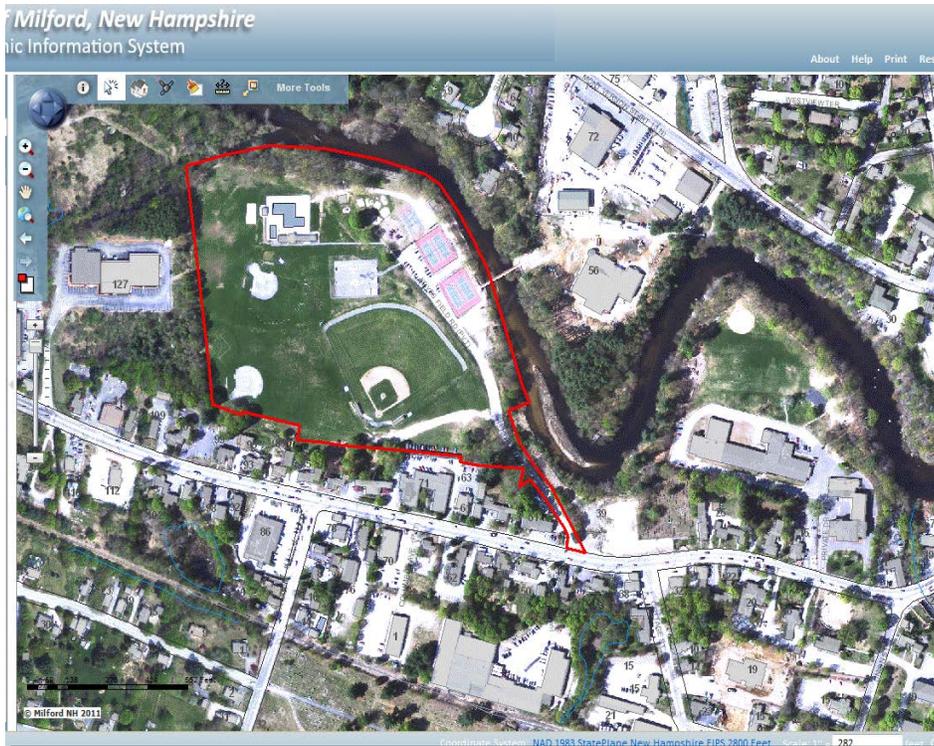


Figure 3: The OU1 Mill Street Area of the Site



Figure 4. Keyes Field OU2 Area of the Site



B. SITE HISTORY AND CHARACTERIZATION OF CONTAMINATION

Commercial and light industrial use at the Fletcher's Paint facilities dates back to the late 1700's. The land has been used for such activities as carriage painting, a blacksmith shop, an armory, a car dealership, a Town burning dump, a paint manufacturing and retail facility, and a consignment shop. Fletcher's Paint Works operated at the Site from approximately 1948 until 1991. During the Fletcher's Paint operations, hundreds of drums of hazardous substances were stored outside at both the Elm and Mill Street areas.

Spills, leaks, manufacturing operations, and dust suppression activities led to the current contamination of the soils and groundwater at the Site. PCBs, the primary contaminant at the Site, were brought to the Site from approximately 1948 until 1967 from the General Electric (GE) facilities in Hudson Falls and Fort Edward, New York in a material called scrap pyranol. This scrap pyranol was a waste liquid, which could contain PCBs, trichloroethylene and trichlorobenzene as well as small amounts of other waste compounds. A small amount of waste PCB material also came from the Sprague Electric Company and the Aerovox Company. Several hundred of these drums of scrap pyranol were stored at the Mill Street Area from the late 1960's through the early 1980's and currently a significant continuing source of contamination to groundwater is found within the soils and bedrock under the Mill Street property.

PCBs, TCE and other contaminants that were released to the environment are found at concentrations in Site soils, sediments, and groundwater at levels that pose an unacceptable risk to human health and the environment. Additional details on the Site history and the characterization of the contamination at the Site can be found in the 1998 ROD and the 2009 Pre-Design Investigation Report.

From 1960 to 1984, groundwater was the sole source of drinking water for the town of Milford. An estimated 80 percent of Milford's population relied upon the municipal supply system for drinking water, while the remainder relied on private wells. The Town's municipal supply wells were finished in the deep overburden of the Souhegan aquifer. The Keyes Well is located approximately 800 feet to the northwest of the Elm Street Area of the Fletcher's Paint property. It is 18 inches in diameter, approximately 60 feet deep, and screened in gravel. Other nearby municipal supply wells operating at that time were the Kokko Well (1.0 mile to the southwest) and the two Curtis Wells (1.2 miles to the east and Savage Well (1.8 miles to the west). The Savage Well was found contaminated in 1983 and removed from service. The contamination that resulted in the Savage Well being removed from service is being addressed as part of the cleanup at the Savage Well/OK Tool Superfund Site.

In 1982, the State inspected the Fletcher's facility in response to a complaint and found 800 drums of alkyd resins and 21 drums of solvent at the Elm Street Area. Leaking and open drums, as well as stained soil, were observed on the property.

In 1984, the nearby Keyes Municipal Supply Well was found to be contaminated with low levels of volatile organic compounds (VOCs) by the New Hampshire Department of Environmental Services (NHDES - formerly known as the New Hampshire Water Supply

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and Pollution Control Commission). This discovery triggered the removal of the Keyes Well from service and prompted the EPA into a series of investigation and remediation activities to determine and address the contaminant sources. The Fletcher's Paint properties and nearby gasoline stations were determined to be the most likely sources of the contamination at the Keyes Well during the Preliminary Site Investigations conducted at the Fletcher's Paint Superfund Site and other nearby properties throughout the mid 1980's.

HISTORY OF CERCLA ENFORCEMENT ACTIVITIES:

There are several parties that have been identified by EPA as potentially responsible parties and who are responsible for the investigation and cleanup at the Site. The Fletcher's Paint Works Company, owner and operator at the time of the release, is defunct. On July 10, 1998 a Consent Decree in United States v. The Town of Milford, No. 98-430-B (D.N.H.) was lodged with the United States District Court for the District of New Hampshire. In that action, the United States sought, pursuant to Section 107 (a) of CERCLA, 42 U.S.C. 9607 (a), recovery of its costs for the First Operable Unit at the Site. The Town of Milford previously has operated a burning dump on the Elm Street portion of the Site, and currently owns the former Fletcher's Paint properties as well as the Keyes Recreation Field. In the Consent Decree, the Town of Milford agreed to pay the United States, \$62,139.00, for past and future response costs at the Site; to provide various in-kind services, including replacement piping material, valued at \$16,675.00; to perform future routine maintenance on the Site; and to provide access to portions of the Site owned or controlled by the Town.

Two parties, Sprague Electric and Aerovox were *de minimis* contributors to the contamination at the Site. As a result, they signed a Consent Decree with EPA in 2002 and agreed to pay their portion of the past and future costs at the Site.

EPA issued a Unilateral Administrative Order to the General Electric Company on July 16, 2001 to perform the remedial design and remedial action for the first phase (OU1) of cleanup at the Site. This Order was amended in 2001 and again in 2010 to include off-site disposal of the contaminated soils. The OU2 portions of the Site are not included in this Order.

C. COMMUNITY PARTICIPATION

EPA has maintained close contact with the Town of Milford and interested parties. Throughout the Site's history, community concern and involvement has been high. Public meetings began at the Site in 1991 and a significant number of individuals have attended the periodic meetings held by EPA over the years. The Town of Milford, the current owner of the former Fletcher Paint properties as well as the Keyes Field, has also been a key player in all discussions regarding the Site. The community has voiced significant cleanup concerns over the years regarding truck traffic near the Site during construction, dust control and air monitoring, future use of the properties, impacts to the

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local schools, the Souhegan River and access to and use of the adjacent Keyes Recreation Field. As part of the public participation process required under CERCLA, the Town and the local community have submitted comments in support of the 1998 OU1 ROD, and the 2009 Amended OU1 ROD. No comments were received on the Proposed Plan for OU2 Groundwater.

The Town has participated in this OU2 Groundwater ROD process by reviewing the OU2 remedial investigation documents developed by Watermark and the US Army Corp of Engineers which included a Human Health Risk Assessment on potential future groundwater consumption within the Keyes Field. The Town was also consulted by the NHDES in their review and 2012 re-issue of the Groundwater Use and Value Determination for the Site.

In August 2012, EPA released a Proposed Plan for no further action for groundwater at the Keyes Field portion of the Fletcher's Paint Site. To support this Proposed Plan, the OU2 Remedial Investigation and other pertinent Site characterization documents were made available to the public on EPA and NHDES's websites as well as through the Town's Wadleigh Memorial Library and the EPA Record Center in Boston. The public comment period was initiated on August 23, 2012. The EPA held a 30 day public comment period to accept written comments on the OU2 Proposed Plan. Notice of the availability of the Proposed Plan and the Administrative Record was published in the Milford Cabinet on August 30, 2012. The Nashua Telegraph ran a story on the Proposed Plan and the upcoming public meeting/public hearing on August 25, 2012. The Manchester Union leader ran a story on the Public Meeting and the Proposed Plan on August 27, 2012. The Milford Cabinet discussed the Proposed Plan and the OU1 cleanup plans in an article on September 6, 2012.

On September 12, 2012 EPA held a Public Meeting at the Milford Town Hall to present information on the OU2 Proposed Plan and updates about the other operable units at the Site. During the Public Meeting on September 12, 2012, EPA also held the Public Hearing to accept oral comments. No oral comments were received. The Milford Cabinet ran a story on the September 12, 2012 public meeting on September 20, 2012. No requests to extend the public comment period were received by EPA, and the public comment period ended on September 24, 2012. A transcript of the Public Meeting and Public Hearing are included in Appendix D of this ROD. A Responsiveness Summary was not prepared as no comments were received by the EPA during the public comment period.

Pursuant to Section 300.825(c) of the NCP, EPA has provided an Administrative Record for this ROD which includes documents which EPA considered and/or relied upon to support the OU2 Groundwater Proposed Plan for the Fletcher's Paint Site. See Appendix B for the Index to this Administrative Record.

D. SCOPE AND ROLE OF OU2 GROUNDWATER RESPONSE ACTION

As with many Superfund Sites, the problems at the Fletcher's Paint Superfund Site are complex. As a result, EPA divided the Site work into two Operable Units (OUs). The first phase of cleanup, Operable Unit One (also referred to as OU1), includes the contaminated soils and groundwater at the Elm and Mill Street Areas of the Site. The second phase of cleanup, Operable Unit Two (also referred to as OU2), includes the contaminated sediment within the Souhegan River and the groundwater under the Keyes Field. The scope and role of the two OUs for the Site are further summarized below.

Scope and Role of OU1 Source Control and Management of Migration Response Action

The September 30, 1998 ROD sets forth the cleanup actions required to address unacceptable risks to human health and the environment at Operable Unit One. An Explanation of Significant Differences was signed in 2001 and in 2010 to clarify certain cleanup requirements at the Site. A ROD Amendment was signed in 2009 to address a change in the remedy from on-site treatment of contaminated soils to off-site treatment/disposal of those contaminated soils.

The source control portion of the OU1 remedy targets the following threats to human health and the environment:

- Soil containing high levels of PCBs which pose an unacceptable risk to human health through potential current and future direct contact and incidental ingestion;
- Soils containing contaminants which may migrate into groundwater at levels exceeding Federal and State drinking water standards.

The management of migration portion of the OU1 remedy targets the following threats to human health and the environment:

- Groundwater containing contaminant concentration levels exceeding Federal and State drinking water standards.

The remedial measures presented in the 1998 ROD, as Amended in 2009, would prevent direct contact with and the incidental ingestion of contaminated soils through excavation and off-site treatment/disposal of soils with concentrations of contaminants in excess of the soil cleanup levels set for the Site in the 1998 ROD, as Amended. The future migration of contaminants from the contaminated Site soils into groundwater would be minimized through containment by the construction of a multi-media cap consisting of an engineered soil and asphalt cover. The OU1 remedy allows for the restoration of groundwater to concentrations at or below Federal and State drinking water standards through natural attenuation processes. Once soil cleanup levels have been achieved within the Site, and the remaining soils are covered to minimize further leaching, long-term monitoring of the contaminated groundwater would be required and the use of groundwater at the Site would be prohibited until drinking water standards are met as part

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of a Groundwater Management Zone (GMZ) in accordance with State regulations (NH RSA Chapter Env-Or 600 Contaminated Site Management Part Env-Or 607 Groundwater Management Permits).

Establishment of a GMZ is a component of NH's Groundwater Management Permit (GMP) process which allows for the exceedances of groundwater, defined within an area known as the GMZ, to be addressed through remediation and/or monitoring, until such time as those exceedances no longer exist. Within the GMZ, pumping of groundwater is prohibited and monitoring of groundwater contaminant concentrations and contaminant migration is required until drinking water levels are met.

EPA's Permits and Permit Equivalency Processes for CERCLA On-Site Response Actions (EPA's Permit Guidance dated February 19, 1992) acknowledges EPA's discretion to use an equivalent permit process even if an actual permit is not issued, such as a Groundwater Management Permit (GMP) through NHDES for groundwater violations. EPA can determine whether or not the NH regulations are met by response actions at the Site and may consult with the NHDES in such a review and determination.

EPA has consulted with the NHDES to ensure that GE's proposed OU1 GMZ and monitoring and reporting submissions meet the substantive requirements of the NH GMP regulations and represent an equivalent level of documentation needed to establish the OU1 GMZ required at the Site. EPA, in its determination that ARARs are being met by the OU1 response action, will continue to seek NHDES's opinion whether or not GE is meeting the requirements and performance standards established by the OU1 ROD.

On July, 30, 2007 GE submitted a Draft Surface Water and Groundwater Monitoring Plan (WMP), a Draft Environmental Monitoring plan (EMP), and a draft Institutional Controls/Access Restrictions (IC/AR) plan to address groundwater requirements under the management of migration portion of the OU1 remedy. The WMP provides monitoring requirements during pre-design, design, and initial construction activities. Since 2007, OU1 groundwater has been monitored on a quarterly basis as required by the WMP and results are documented in Water Monitoring Reports to the EPA.

The Draft 2007 EMP provides specific details regarding the scope of the post construction groundwater monitoring activities that will be required at the Site until the Interim Cleanup levels (ICLs) set for groundwater at the OU1 portion of the Site are met. The Draft EMP included the proposed OU1 GMZ for the Site and the requirements to be undertaken to comply with NH Regulations for the monitoring of contaminant concentrations and contaminant migration within the GMZ and to ensure that contaminants do not migrate into and adversely impact the Souhegan River. The GMZ and the requirements for monitoring will be considered final with the EPA approval of the EMP as required under the OU1 Administrative Order.

The Draft IC/AR Plan, as amended, provides details regarding access restrictions and institutional controls (IC's) during construction and post-construction phases of the OU1 cleanup. The OU1 IC's include the establishment of the GMZ, and the monitoring and groundwater use restrictions at the Site until drinking water levels have been attained.

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The IC/AR Plan specifies those properties located within the proposed GMZ, which require the implementation of IC's to prohibit the use of groundwater until drinking water levels are met.

As seen in Figure 3-6, the proposed OU1 GMZ includes the monitoring and evaluation of the contaminated groundwater within the OU1 portion of the Site as well as the monitoring for contaminant migration into the OU2 Keyes Field portion of the Site. Implementation of the proposed OU1 GMZ will prohibit the use of groundwater at the OU2 Keyes Field portions of the Site to minimize the potential future migration of OU1 groundwater contamination into Keyes Field.

The relationship between the OU1 source control and management of migration response action and the OU2 groundwater response action will be discussed further below.

Scope and Role of OU2 Groundwater Response Action

EPA separated the Keyes Field groundwater and Souhegan River portions of the Site (now OU2) from the OU1 activities during the late 1990's to allow OU1 actions to proceed while allowing additional investigations to continue as part of OU2. The separation of operable units was warranted after the 1994 RI and 1997 Preliminary Ecological Risk Assessment revealed that additional studies were necessary to characterize the extent of PCB contamination within the Souhegan River and after significant petroleum product from a nearby gasoline station migrated into the Keyes Field groundwater.

As a result, additional studies of the Souhegan River were conducted in 2004, 2006, and 2007 to determine the extent of PCB contamination in the sediment and biota within the Souhegan River adjacent to the OU1 Elm Street Area and extending downstream to the Goldman Dam (See Figure 1-1). In addition, EPA conducted groundwater monitoring in 2007 and 2009 to assess the groundwater quality under the Keyes Field following a State mandated cleanup of the Xtramart gasoline station (the source of the petroleum contamination). These recent investigations are the subject of the 2011 OU2 RI, the 2011 Human Health Risk Assessment on OU2 Groundwater, and the Baseline Human Health and Ecological Risk Assessment on the Souhegan River.

EPA is currently addressing data gaps regarding PCB sediment concentrations near the Goldman Dam and upon receipt of that data will finalize the Feasibility Study (FS) for the Souhegan River OU2. EPA released the Baseline Human Health and Ecological Risk Assessment on the Souhegan River in July 2011 and the OU2 Remedial Investigations Report in September 2011. EPA anticipates that the OU2 Feasibility Study (FS) on the Souhegan River sediments will be completed in 2013. A proposed plan and ROD for OU2 sediments in the Souhegan River will be released upon completion of those feasibility studies. The OU2 Souhegan River FS and Proposed Plan will target the following threats to human health and the environment:

- Ingestion of recreationally caught fish which are contaminated with PCBs;

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- Direct contact with PCB contaminated sediments during recreation use of the River in the hotspot area; and
- Risks to benthic invertebrates and upper trophic organisms from the uptake and bioaccumulation of PCBs found in sediments.

The OU2 ROD for sediments in the Souhegan River combined with this OU2 ROD for Groundwater under the Keyes Field, and the OU1 ROD signed in 1998 and amended in 2009, will represent the final action for this Site.

The focus of this ROD is the OU2 Groundwater under Keyes Field. After careful review of the data collected and the risk assessments conducted for OU2 Groundwater, it was determined that a Feasibility Study for this action was not required. The OU2 Human Health Risk Assessment indicated that there are no current users of groundwater under the Keyes Field and therefore no current risks to human health. This OU2 Proposed Plan and this OU2 Groundwater ROD targets the following threats to human health and the environment:

- Risks related to residential ingestion of groundwater contaminated by the migration of OU1 groundwater contaminants into the Keyes Field should the Keyes Well be used as a municipal source of residential drinking water in the future.

The OU2 RI found that groundwater under the Keyes Field no longer contained any Site related compounds or the petroleum contamination previously found, and that the primary substances that are found are methyl tert butyl ether (MTBE), an additive to petroleum and arsenic, a naturally occurring compound in groundwater. A review of data from the sampling of monitoring wells surrounding Keyes Field continued to show high levels of chlorinated VOCs, PCBs, and petroleum related groundwater contamination at two upgradient areas: Fletcher OU1 and the Xtramart petroleum release.

EPA can determine that no action is warranted at a Site or a portion of a Site when a previous response has eliminated the need for further remedial response. Based on the information in the Administrative Record, EPA has determined that a No Action response is warranted for OU2 groundwater under Keyes Field for the following reasons:

- 1) There is no current threat to human health and the environment because there are no current users of groundwater at the Site; and
- 2) A previous response action required at the OU1 portion of the Site has eliminated the need for a further remedial response at OU2 as this OU1 response addresses potential future risks to human health from migration of upgradient contamination (Fletcher's OU1) to Keyes Field if the Keyes Well were used in the future.

EPA's OU1 ROD requires that groundwater be restored to drinking water levels and requires contaminated soils, acting as a source of contamination to groundwater, be addressed (removed and treated/disposed of or contained). Institutional Controls are

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required as part of OU1 to prevent the use of groundwater, to monitor and prevent contaminant migration, and to monitor contaminant concentrations until drinking water standards (ICLs) are met. The proposed OU1 GMZ (Figure 3-6) defines those areas where the use of groundwater will be restricted until ICLs are met in OU1 and where the monitoring and evaluation of the contaminated groundwater within the OU1 portion of the Site as well as the monitoring for contaminant migration into the OU2 Keyes Field portion of the Site is required. The proposed OU1 GMZ will prohibit the use of the Keyes Well in the future and the use of groundwater under Keyes Field as a municipal water supply source. Because this GMZ will prevent the Keyes Well from being used in the future until cleanup levels are met in OU1 groundwater, it will prevent upgradient contamination from migrating to the Keyes Field.

Future monitoring and the requirements of a GMZ for the entire Site are therefore already in place and will ensure that the potential future migration of OU1 groundwater contamination does not migrate into and cause a risk to human health and the environment within the Keyes Field, should that groundwater be used as a municipal supply in the future.

Because this GMZ is proposed and is being implemented as part of the OU1 remedy, EPA will monitor the status of this GMZ to insure that it sufficiently restricts pumping of groundwater within the OU2 Keyes Field portion of the Site in the long term. If sufficient restrictions are not put in place or are otherwise modified, EPA will issue another decision document to address OU2 groundwater.

E. SUMMARY OF SITE CHARACTERISTICS

EPA performed a series of investigations to develop an understanding of the nature and extent of contamination at the Site. This section summarizes information obtained as part of the RI activities for OU2 and pertinent information from OU1 activities, including a brief summary of the area wide characteristics and Site source areas. Additional OU1 information can be found in documents posted on the EPA's Fletcher's Paint website (www.epa.gov/region1/superfund/sites/fletcher). Activities conducted as part of the OU2 RI included surface water, groundwater, soil, and sediment sampling programs designed specifically to document hazardous substance migration routes and concentrations. The information collected from the field activities was used to evaluate potential human and ecological risks related to OU2 at the Site.

The sources of contamination, release mechanisms, exposure pathways to receptors for groundwater, surface water, sediments, and soils, as well as other Site-specific factors are discussed below as part of a Conceptual Site Model (CSM). The CSM is a three-dimensional "picture" that documents current and potential future Site conditions and shows what is known about human and environmental exposures through hazardous substance release and migration to potential receptors. The OU2 Keyes Field groundwater human health risk assessment and the decision that no further remedial action is necessary are both based on this CSM.

Conceptual Site Model

1. General Characteristics of the Site

The OU1 RI and Pre-Design Investigations showed that municipal wastes, industrial wastes, and other hazardous substances have been released into the soil within the OU1 areas and have contaminated the groundwater beneath the Site with metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and PCBs. Sampling of soils and groundwater has provided data to support the understanding of the transport mechanisms that hazardous substances may travel through the soils into the groundwater and once these transport mechanisms were determined, the potential impacts to groundwater were evaluated for the presence of Site related contaminants and the areal extent and potential migration pathway of the groundwater contamination determined.

In summary, the long term storage of hazardous substances, the leaks and spills associated with long term storage and the general industrial operations that took place on the properties, combined with the use of fill materials to build up and expand the Elm Street property during the operations, have resulted in both wide spread shallow contamination of Site soils, as well as various locations of the Site containing extremely high concentrations of PCBs and other compounds from the surface into the deeper subsurface material and/or shallow fractured bedrock. The transport of contamination into groundwater occurs via 1) compounds released into soils which migrate directly into the groundwater, 2) groundwater is in contact with pooled or residual contamination which has adsorbed onto soils as it migrates through the subsurface or collected within the subsurface and 3) precipitation through the contaminated soils transport contaminants to the groundwater. The significant source of contamination in soils and the various migration pathways have resulted in the long term contamination of groundwater at the Site.

Human Health and Environmental Risk assessments determined whether or not the hazardous substances at the Site in soils and groundwater and those migrating from the Site, through groundwater or soil erosion, have an impact on human or ecological receptors. The OU1 Risk Assessment determined that exposures to contaminated Site soils and groundwater resulted in an unacceptable risk to human health. The OU2 Baseline Human Health and Ecological Risk Assessment determined that PCBs that migrated to the sediments in the Souhegan River present unacceptable risks to human health from recreational ingestion of fish from the area of the river adjacent to the OU1 Elm Street property down to the Goldman Dam and from recreational contact with contaminated sediments in the hotspot area of elevated concentrations of PCBs located in the river adjacent to the Elm Street Area of the Site.

2. Groundwater under Keyes Field

Keyes Field is approximately 19 acres in size and was originally a privately-owned farm but has been publicly owned since 1957 (first by a land Trust, then by the Milford School System, and finally by the Town of Milford). The Keyes Field area is currently the location of a municipal recreation park which is comprised of the Keyes Memorial Field complex and the Keyes Memorial Pool. A small structure housing the Keyes Well is located on-site on the northern end near the Souhegan River. The Keyes Well, located approximately 800 feet northwest of the Elm Street Area, operated from 1972 to 1984. It is believed that while the Keyes Well was in operation, contaminants in groundwater from the OU1 Area could have been drawn north and west through the Keyes Field to the Keyes Well. Contaminants related to the Fletcher's Paint Site were found in the Keyes Well by the NH WSPCC in 1984. Analysis of water samples collected from the Keyes Well disclosed the presence of VOCs including 1,2-dichloroethane(2.6 ppb), 1,1,1-trichloroethane (2.8 ppb) tetrachloroethylene (3.5 ppb); and benzene (less than 1 ppb). As a result of this contamination, the Keyes Well was removed from service.

The U.S. Geological Survey (USGS), in cooperation with the USEPA, conducted a study from October 1988 to June 1990 of the Milford-Souhegan aquifer to determine the regional groundwater flow system and provide estimates of the contributing recharge areas to the Keyes Well. These studies determined that during the time that the Keyes Well was in operation, groundwater could have been drawn from the OU1 Site Areas into the Keyes Field and toward the Keyes Well.

Initial RI studies to determine the extent of Site related contamination within the Keyes Field groundwater were unsuccessful when sampling activities found that a significant volume of petroleum product from the nearby Xtramart gasoline station had migrated from the intersection of Elm and West Street, through the Keyes Field to the Souhegan River, making the detection and analysis of the much smaller concentrations of Site related compounds impossible. Elevated concentrations of VOCs (primarily benzene, toluene, ethylbenzene, and xylene [collectively known as BTEX]) were detected in several of the Keyes Field wells. Benzene was detected at concentrations of 1,200, 280, and 33 µg/L in wells KW01S, OW2P, and KW01D, respectively. Several VOCs were also detected in the small diameter wells installed as part of the field screening program. The highest concentrations of VOCs were detected along the southern edge of Keyes Field on the northern side of Elm Street across from the Xtramart gasoline station. The highest observed benzene concentrations were found at the water table and the maximum benzene concentration was 19,900 µg/L.

EPA suspended all groundwater sampling activities of the Keyes Field for over ten years while the NHDES addressed the petroleum release that resulted in contamination of the Keyes Field groundwater. Under Superfund law, EPA does not have the authority to respond to releases of pure petroleum. Instead, New Hampshire took the lead in addressing this petroleum release under state law.

EPA resumed sampling of Keyes Field groundwater in 2007 and again in 2009. This data is found in the OU2 RI and the Administrative Record. The RI sampling results found that wells within the Keyes Field proper no longer contained any Site related compounds

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or the petroleum contaminations as previously found, and that the primary substances that are found are methyl-tert-butyl-ether (MTBE), an additive to petroleum and arsenic, a naturally occurring compound in groundwater. Results for all other compounds were non-detect, met drinking water levels, or did not significantly contribute to risk.

3. Potential Off-Site Contamination Sources

The conceptual site model, which describes hazardous substance movement and the sources of human and environmental risk, is complicated by the fact that there are several potential sources of groundwater contamination in the vicinity of the Keyes Field portion of the Site. Contaminants found in groundwater at Xtramart and in the OU1 groundwater upgradient of Keyes Field include chlorinated VOCs (Trichloroethylene, 1,2-dichloroethane), SVOCs (1,2,4 trichlorobenzene), PCBs and metals (manganese), as well as petroleum related compounds (including benzene, ethylbenzene, toluene) at levels that exceed Federal and State drinking water standards.

a. Xtramart petroleum release

The Xtramart facility, located at 78 Elm Street (Figure 3-1), has operated as a gasoline station since 1956 when the property was owned by the Atlantic Richfield Company. The Xtramart property is currently operated as an Xtramart convenience store and retail gasoline station. The property has been addressed under NHDES regulations (Site No. 199404027) since 1994. Numerous subsurface investigations, groundwater monitoring events, and field observations have been completed to determine the extent of contamination in soil and groundwater.

In January 1994, the NHDES received information from the USEPA stating that a groundwater sample obtained from a well down gradient of the Xtramart contained constituents of petroleum hydrocarbons. Between 1996 and 1998, Xtramart investigations indicated that petroleum hydrocarbons were detected at concentrations above the Ambient Groundwater Quality Standards (AGQS). Approximately one foot of light non-aqueous phase liquid (LNAPL) was measured in one of the monitoring wells with lesser amounts measured in two other monitoring wells.

A Revised Remedial Action Plan (RAP) Addendum was submitted to the NHDES in 1998 to address LNAPL; periodic bailing was proposed and approved by the NHDES. On September 17, 1999, Groundwater Management Permit (GMP) No. 199404027-M-001 was issued for the property. LNAPL continued to be observed in early July 2002. On November 1, 2001, a Revised RAP Addendum was completed for a more aggressive approach to address LNAPL. As part of the 2002 Annual Summary Report, the installation of up to two additional monitoring wells to delineate the contamination plume was proposed. On June 18, 2003, monitoring well XM MW-13 was installed down gradient of the Xtramart at Keyes Field to complete the GMZ delineation for the Xtramart release.

On May 10, 2007 a Remediation System Evaluation was completed for the installation of a SVE well and an air sparge (AS) well at the Xtramart property. The remedial system was operated on the Xtramart property nearly full time from May 10, 2007 until June 16,

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2009 when at the request of the NHDES the treatment system was cycled off until the summer of 2010 when the remedial system was expanded to cover the northern side of Elm Street. A total of four (4) new 2-inch SVE wells (SVE-8 through SVE-11), two (2) new 1-inch AS wells (AS-8 and AS-9), and one (1) new 2-inch monitoring well (XM MW-14) were installed in the town right-of-way in front of 83 and 77 Elm Street.

On March 18, 2010, the NHDES issued Groundwater Management Permit (GMP) No. 199404027-M-003. The GMP for the Xtramart site requires that several monitoring wells be gauged and sampled in April and October each year. Figure 3-3a presents the GMZ associated with the Xtramart site and where monitoring of petroleum contaminants is required.

Groundwater monitoring of the Xtramart well network has been routinely conducted starting in 1996. Groundwater flows north from the Xtramart property to Keyes Field and then northeast across Keyes Field toward the Souhegan River.

Available analytical results since 2007 for the Xtramart wells that are included in the upgradient data set associated with Keyes Field identify the estimated extent of LNAPL while analytical results from XM MW-10, which is centrally located on the southern edge of Keyes Field and upgradient of the Keyes Well, indicate that VOCs [benzene, and methyl tert-butyl ether (MTBE)] concentrations have declined significantly. The historic maximum observed concentrations of benzene and MTBE in XM MW-10 were 940.5 µg/L and 580 µg/L, respectively. Benzene had not been detected in XM MW-10 since April 2008 until October 2010 (3.3 µg/L) and MTBE has not been detected since November 2003.

b. Fletcher's Paint OU1 Groundwater Contamination

Investigations into the nature and extent of contamination have been on-going at the OU1 portion of the Site since the early 1990's. Data from these investigations support the knowledge and understanding of the contaminant issues at OU2. Further details on Site conditions can be found in the following reports:

OU1

1998 OU1 ROD

2009 Amended OU1 ROD

2009 Revised Pre-Design Investigation Report (Arcadis)

OU2

1994 Remedial Investigation Report (ADL)

1998 Preliminary Ecological Risk Assessment (ADL)

2007 Final Revised Souhegan River Supplemental Investigation Data Summary Report (Arcadis)

2011 Supplemental Baseline Human health and Ecological Risk Assessments (Battelle)

2011 Final Remedial Investigation Report for OU2 (Watermark)

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Several removal actions over a period of years have addressed imminent public health threats at the Site. Through these removal actions, hundreds of drums and boxes of hazardous substances have been removed from the Site. The installation of a fence at the Elm Street area and a temporary cap over Site soils have temporarily protected workers and trespassers from the high concentrations of PCBs found in the Site soils. The severely deteriorating PCB-contaminated wooden Mill Street shed was demolished and the paint pigment and miscellaneous drum contents were disposed of off-site. PCB-contaminated surface soils from three residential properties located on Mill Street, across from the storage shed property were also excavated and disposed off-site.

As required by the 1998 ROD, in the fall of 2000, EPA tasked the Army Corp of Engineers with the demolition and disposal of the former Fletcher's Elm Street building. By 2000, this building was vacant, in deteriorating condition with large cracks and holes in the concrete structure, a leaking roof, no heat or electricity, located adjacent to a sidewalk used by local school children, and close to a heavily traveled state highway. The condition of the building posed an imminent and substantial endangerment to the public and a decision was made by EPA to demolish and dispose of the building.

The OU1 Pre-Design Investigations undertaken from 2001-2005 by GE, confirmed the presence of a substantial volume (28,000 cubic yards) of PCB contaminated soils at the Site exceeding soil cleanup levels. Long-term storage, leaks, spills and manufacturing operations resulted in PCB contamination at and below the water table at the Elm Street area of the Site and to the top of bedrock at the Mill Street Area. The water table at the Elm Street Area is found at approximately 23 feet below grade and approximately 7 feet below grade in the Mill Street Area. The surface of the bedrock at the Mill Street Area is approximately 20 feet below grade.

Contaminants from the Site have migrated into the soils, bedrock and groundwater and the plume of contaminated groundwater in both the overburden and the bedrock extends from the Mill Street Area, north through the Elm Street area to the Souhegan River. Scrap pyranol is considered a dense non-aqueous phase liquid (DNAPL) and movement of this material through the subsurface is governed by adsorption, advection, dispersion, and gravity as well as the geologic conditions of the subsurface materials. DNAPL was found in the overburden and bedrock at the Mill Street Area of the Site during the July 2012 pump test undertaken to collect groundwater extraction rates, sufficient to lower the water table during the OU1 soil excavation. OU1 groundwater monitoring activities are on-going and progress continues in the assessment of the DNAPL source zone and its potential impacts to groundwater following the OU1 soil remedy.

In 2007, as part of the establishment of the GMZ and submission of the EMP, EPA required GE to determine the estimated time required for constituents to attenuate to ICLs in both the overburden and the bedrock at the OU1 portion of the Site. Arcadis, GE's Remedial Design contractor, developed a methodology using the maximum concentrations from the 2004 pre-design investigation groundwater monitoring results and published degradation half-lives to calculate attenuation timeframes to reach ICLs. These results are presented below:

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OU1 Estimated Timeframes for Groundwater to Reach ICLS

Elm Street - Overburden							
ICL Parameter	Degradation Half-Life (days)			ICL (µg/L)	Maximum Initial Concentration (µg/L)	Time to Degrade to ICL	
	Low	High	Mean			(# Half-Lives)	Years (Mean)
Benzene	10	730	370	5	30	2.6	2.6
Ethylbenzene	6	228	117	700	8,400	3.6	1.1
Toluene	7	28	18	1,000	3,000	1.6	0.1
Trichloroethene	321	1644	982	5	66	3.7	10
PCBs	730	10,950	5,840	0.5	8.6	4.1	66

Elm Street - Bedrock							
ICL Parameter	Degradation Half-Life (days)			ICL (µg/L)	Maximum Initial Concentration (µg/L)	Time to Degrade to ICL	
	Low	High	Mean			(# Half-Lives)	Years (Mean)
Trichloroethene	321	1,644	982	5	65	3.7	10
PCBs	730	10,950	5,840	0.5	1.4	1.5	24

Mill Street - Overburden							
ICL Parameter	Degradation Half-Life (days)			ICL (µg/L)	Maximum Initial Concentration (µg/L)	Time to Degrade to ICL	
	Low	High	Mean			(# Half-Lives)	Years (Mean)
Trichloroethene	321	1,644	982	5	150	4.9	13
PCBs	730	10,950	5,840	0.5	16.9	5.1	81

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Mill Street - Bedrock							
ICL Parameter	Degradation Half-Life (days)			ICL (µg/L)	Maximum Initial Concentration (µg/L)	Time to Degrade to ICL	
	Low	High	Mean			(# Half-Lives)	Years (Mean)
1,2,4-Trichlorobenzene	56	365	211	70	160	1.2	0.7
Trichloroethene	321	1,644	982	5	870	7.4	20
PCBs	730	10,950	5,840	0.5	397	9.6	154

es:

1. Maximum initial concentrations based on February 2004 groundwater sampling results. Only those ICL parameters detected in each area and in each unit (i.e., overburden or bedrock) are shown. Manganese excluded based on natural occurrence.
2. Calculations assume first-order decay constituent to its associated ICL.
3. Mean half-life calculated as arithmetic average of low-end and high-end estimates.
4. Half-lives for non-PCBs, from Howard, P. H., R. S. Boethling, W. F. Jarvis, W. M. Meylan, E. M. Michalenko, 1991, Handbook of Environmental Degradation Rates, Lewis Publishers, Chelsea, Michigan.
5. Half-lives for PCBs from:
 - a. Environment Canada web site, 2007. Suggested PCB half lives in various environmental compartments, (<http://www.ec.gc.ca/wmd-dgd/default.asp?lang=En&n=97B21DD4-1&offset=4&toc=show#t3>), after Mackay et al., 1992. Range reported as 2 to 6 years in soil and sediment.
 - b. Davis, J.A., 2004. The long-term fate of polychlorinated biphenyls in San Francisco Bay (USA), Environmental Toxicology and Chemistry, v. 23, issue 10, pp. 2396-2409. Range reported as 4 to 30 years in sediment.

Using this methodology and the maximum reported concentrations from the 2004 sampling event, it was concluded that approximately 20 years would be required to achieve the ICLs for TCE and approximately 81 years for PCBs within the overburden aquifer. It was estimated that more time will be required to reach the ICLs in the bedrock at the Mill Street Area, specifically the groundwater cleanup timeframes for PCBs in bedrock at the Mill Street Area is estimated at approximately 154 years. These timeframes are generally consistent with the time frames estimated by the EPA during the OU1 RI and evaluated in the FS and OU1 1998 ROD.

In addition to dissolved constituents in groundwater as seen in the sampling results, DNAPL is present in both the overburden and bedrock at the Mill Street Area. The high concentrations of the constituents in the DNAPL indicate that these estimated timeframes may be conservative. EPA is continuing to evaluate the extent of the DNAPL, the removal of DNAPL during the OU1 cleanup at the Mill Street Area and its effect on the long term attainment of ICLs at the Mill Street Area of the Site. Groundwater monitoring is required as part of the OU1 remedy and has been conducted on a quarterly basis through remedial design. Sampling results, water level measurements, water table

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contours and contaminant trends information relative to groundwater contamination at the site can be found in the quarterly Water Monitoring Reports prepared by GE for the Site and available at on the EPA website.

The OU2 Human Health Risk Assessment for the Keyes Field groundwater indicates that there are no current human health risks related to the on-site Keyes Field groundwater and hypothetical future risks are primarily related to the potential migration of off-site contamination into Keyes Field should the Keyes Well be returned to service. Groundwater flow from the OU1 Mill Street and Elm Street Areas are no longer toward the Keyes Well, but generally north from the Mill Street Area towards Elm Street, then northwest towards Keyes Field, and finally north/northeast to the Souhegan River, ultimately discharging to the Souhegan River.

The 2011 OU2 RI concluded that both OU1 and the Xtramart property (petroleum release) are potential future sources where groundwater contamination could migrate into the Keyes Field and present a future unacceptable exposure risk, should the Keyes Well be used to supply potable water to residents. This hypothetical future risk is being addressed through the OU1 remedy by preventing the use of the Keyes Well until these off-site sources are remediated, otherwise addressed, or deemed not to present an unacceptable risk to use of groundwater at the Keyes Field in the future.

4. Local Hydrology

Portions of both the Keyes Field and the Elm Street Areas are located within the 100-year flood plain of the Souhegan River. The flow gradient of the river is relatively low due to minor topographical changes, with mean river elevations ranging from 230 feet to 240 feet above mean sea level. The river receives groundwater and surface water runoff from the Elm Street Area from direct overland flow and through a catch basin located along Keyes Drive, which discharges through an outfall into the river. A storm water drainage ditch and culvert system is present under the east side of the Elm Street Area which drains runoff from the Mill Street pond area and beyond into the Souhegan River. During the operational period of the former Fletcher's Paint Works, in addition to the storm water drainage culvert mentioned above, several outfalls carried runoff from an underground storage tank (UST) and building roof drains to the Souhegan River. Due to flooding during heavy precipitation events (likely caused by blockages in the portions of the culvert system near the Elm Street Area), the Town of Milford installed additional storm drain piping to direct overflow to a nearby alternate discharge location.

The Fletcher's Paint Superfund Site is situated along the southeastern extent of the Milford-Souhegan Aquifer system. This glacial aquifer is approximately three miles long, extends from the town of East Wilton to Milford Town Center and has an approximate width of one-half mile. The Milford-Souhegan Aquifer discharges to the Souhegan River in the Fletcher's Paint Superfund Site vicinity and receives recharge from precipitation. The base of the Milford-Souhegan Aquifer is locally defined by a discontinuous veneer of clayey silt with gravel (lower glacial till) that ranges in thickness from zero to four (4) feet. At locations where the lower glacial till is discontinuous, such as the eastern half of the Elm Street Area, direct hydraulic communication exists between the bedrock and overburden aquifers.

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Groundwater at the Fletcher's Paint Superfund Site is present in both the unconfined overburden aquifer and in bedrock. The OU1 RI Report (ADL, 1994) presented a significant amount of information describing the local hydrogeology, a summary of which is provided below.

Depth to groundwater across the Fletcher's Paint Superfund Site varies from approximately 4 feet below grade at the Mill Street Area, 20 feet at the Elm Street Area, and 12 feet at Keyes Field. The saturated thickness also varies from approximately 10 feet beneath the Mill Street Area, 20 feet beneath the Elm Street Area to 55 feet beneath Keyes Field.

Overburden groundwater flow at the Mill Street Area generally has a northward component. The horizontal component of the hydraulic gradient between the Mill Street Area and the Elm Street Area is northward (approximately 0.01 feet per foot), and the available data indicate that the Souhegan River is the regional groundwater discharge location. The gradient is divergent at the Mill Street Area. The gradient in the western portion of the Mill Street Area is generally west to northwestward, toward the drainage ditch/culvert system that traverses in a northerly direction from the Mill Street Pond to the Souhegan River. The gradient in the eastern portion of the Mill Street Area is generally toward the north or northeast. Under current, non-pumping conditions of the Keyes Well, Keyes Field is located hydraulically upgradient of OU1 and down gradient of the Xtramart gasoline station located on Elm Street.

The vertical flow component between the overburden and bedrock varies with distance southward from the Souhegan River. Near the Souhegan River at the Elm Street Area, groundwater flows upward from the bedrock to the overburden, consistent with groundwater discharge at the Souhegan River. Near the Mill Street Area, groundwater flows downward from the overburden to the bedrock, consistent with groundwater recharge.

Groundwater monitoring conducted at Keyes Field by EPA in 2007 and in 2009 found MTBE at a concentration of 49 µg/L (50 µg/L in the duplicate sample), and arsenic at a concentration of 11 ug/l in monitoring well KW01D. The NHDES drinking water standard for MTBE is 13 µg/L, and 10ug/l for arsenic. Monitoring well KW-01D is screened in the lower portion of the overburden and has a screen length of 2 feet. In addition to the arsenic and MTBE found in this one well within Keyes Field, three other contaminants of potential concern were found at slightly elevated concentrations in this well: manganese, iron and aluminum. These compounds are all naturally occurring in groundwater, are not Site related and do not contribute significantly to future risks. Monitoring well KW-01D was damaged sometime between the 2007 and 2009 sampling events and only one round of sampling data was collected from this well during the RI.

BTEX (the primary components in petroleum) have not been detected in any of the on-site wells in the past four years that EPA has sampled groundwater under the Keyes Field as part of the OU2 remedial investigations. Because MTBE is no longer present at the Xtramart facility, what was present in 2007 has likely migrated through the Keyes Field toward the Souhegan River and any remaining concentrations under the Keyes Field should continually decrease within the Keyes Field in the absence of a continual upgradient source.

Given the natural flow of groundwater towards the Souhegan River, the ongoing remediation and groundwater monitoring efforts associated with the OU1 portion of the Site and the success of the ongoing remediation of the Xtramart site under the NHDES regulations (NHDES Site No. 199404027), the contamination associated with these properties is unlikely to impact Keyes Field groundwater in the future if the Keyes Well remains inactive until these off-site sources have been fully investigated, remediated or deemed to no longer pose a future risk to future users of groundwater at the Keyes Field.

F. CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES

The OU1 Elm Street Area of the Site is bounded to the south by Elm Street, to the north by the Souhegan River, to the west by Keyes Field, and to the east by a cemetery. Both the Mill and Elm Street properties are owned by the Town of Milford and the OU1 remedy includes consideration for future use. Once soils are addressed at the Mill Street location, the land will be restored to incorporate the relocation of Mill Street and provide additional buffer to the nearby residential houses. Once soils are addressed at the Elm Street location, an engineered soil cover will be constructed over a large portion of the remaining residual contamination while asphalt will be placed on the lower portion of the property to allow for additional parking for the nearby Keyes Field

Keyes Field is approximately 19 acres in size and is located on Elm Street, abutting the Souhegan River. Keyes Field has one access road, Keyes Drive, which is located just west of the Elm Street Area. Facilities include a swimming pool, wading pool, a children's playground and swings, a baseball diamond, two softball diamonds, a soccer field, a skate park, tennis courts, open space for walks and play, a picnic area with grills, a pavilion with tables, a basketball court, and a street hockey court. A footbridge is located adjacent to the tennis courts and provides access from Keyes Field to the opposite side of the river, where the local Boys and Girls Club is situated. It is anticipated that the Keyes Field will remain a recreational use facility in the future.

The Keyes Field portion of the Site is situated along the southeastern extent of the Milford-Souhegan Aquifer system. This glacial aquifer is approximately three miles long, extends from the town of East Wilton to Milford Town Center and has an approximate width of one-half mile. As stated in the OU1 RI Report (ADL, 1994a), the saturated thickness of this aquifer is approximately 60 feet and its transmissivity ranges between 4,000 and more than 8,000 square feet per day. The NHDES completed a Use and Value Determination in May 2012 and determined that groundwater under Keyes Field is considered a potential drinking water source; however, the Town of Milford has indicated it does not plan to use Keyes Well in the foreseeable future and is contemplating decommissioning the well. The Town would have to meet NH regulations for reestablishing the groundwater under the Keyes Field as a municipal water supply and the development of the nearby land would make meeting well head protection requirements difficult and treatment/filtration requirements on the water supply likely cost-prohibitive.

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The Town has an adequate municipal water supply and is exploring use of groundwater from drinking water in an area west of the Site to meet future drinking water needs.

The Souhegan River runs adjacent to the Elm Street Area and Keyes Field, and is a pathway that connects communities, provides year round recreation to swim, fish, and paddle, walk along, and enjoy scenic views. The Souhegan River is seen as a community asset in all of the towns, including Milford, through which it flows. The Souhegan Watershed Association has been actively involved in water quality monitoring, education, and outreach and recreation events. The Souhegan River is covered by the NHDES Rivers Management and Protection Act and the NHDES Comprehensive Shoreland Protection Act. There is no doubt that the Souhegan River is viewed as both a significant community and State asset that deserves a high priority for protection by both the local communities and NHDES (Nashua Regional Planning Commission, 2006)

A site visit conducted on May 19, 1994 noted people utilizing the sandbar in the river for sunbathing and determined that the river was easily accessed from both Keyes Field and the cemetery. A rope swing was located across the river from the Fletcher's Paint Elm Street property and a visible path in the riverbed suggests a frequently used connection between the Keyes Field, the sandbar, and the use of the river's deeper water in this area for swimming.

The Souhegan River is considered "priority" Atlantic salmon nursery habitat. Some wild populations of Atlantic salmon in New England are listed as federally endangered. However, stocked populations, such as the local Merrimack population and fish in the Souhegan River, are not. Several northeast rivers are stocked annually by the State of New Hampshire from two fish hatcheries that are located along the river, Souhegan Valley Aquaculture and the Milford State Fish Hatchery. The young salmon feed on aquatic invertebrates in the water column and associated with the benthos, and, after spending up to two years in the freshwater habitat of the Souhegan and Merrimack Rivers, they migrate to the Atlantic Ocean where they mature.

G. SUMMARY OF SITE RISKS

The 1998 ROD presented a detailed summary of the OU1 Site risks. Risks related to exposure to contaminated Site soils and groundwater has not changed. A summary of these Site risks is presented below.

1998 OU1 Human Health Risk Assessment:

The 1998 ROD sets forth the evaluation of risks posed by the Site, based on data collected during the remedial investigations. This risk estimate is a conservative analysis of the potential for adverse health effects to occur, based on possible exposures scenarios for the Site. The exposure scenarios identified and risk evaluations conducted in support of the 1998 ROD are still valid. Further information relative to the risk assessment can be found in the 1998 OU1 ROD.

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Based on the intended future uses of the OU1 Area, exposures to the following media present an unacceptable cancer risk: surface soils at the Elm Street and Mill Street locations, subsurface soil at Elm Street area and the former Draper Energy portion of the Mill Street area, and groundwater. The compounds contributing to the majority of the potential cancer risk in Elm Street and Mill Street soils are PCBs. The compounds contributing to the majority of the potential cancer risk in ground water are benzene, 1,2-dichloroethane, trichloroethylene, and PCBs.

Exposures to the following media present an unacceptable non-cancer risk: surface soils at the Elm Street and Mill Street areas, subsurface soils at the Elm Street area, and groundwater. The contaminants contributing to the majority of the potential non-carcinogenic effects in groundwater are ethylbenzene, manganese, and PCBs.

Remedial action objectives were not developed for groundwater under Keyes Field. The OU2 baseline risk assessment shows that there could be a risk to future users of groundwater in the Keyes Field should the Keyes Well be re-activated and upgradient or off-site groundwater contamination be drawn into the Keyes Field in the future (from the OU1 portion of the Site). Remedial Action Objective (RAO's) previously set for groundwater contamination within the OU1 portion of the Site were developed based on information relating to types of contaminants, environmental media of concern, and potential exposure pathways to mitigate existing and future potential threats to human health and the environment. The 1998 RAO's that were developed for OU1 groundwater are as follows:

1. Prevent the ingestion of groundwater contaminated in excess of drinking water standards (MCLs/MCLGs) or, in their absence, which produces an incremental cancer risk greater than 10^{-6} , for each carcinogenic compound. Also prevent ingestion of contaminated groundwater, which produces an incremental cancer risk level greater than 10^{-4} to 10^{-6} for all carcinogenic compounds together.
2. Prevent ingestion of groundwater contaminated in excess of drinking water standards for each non-carcinogenic compound, which produces a hazard quotient greater than 1 and a total hazard index of 1.
3. Restore the groundwater to drinking water standards or, in their absence, the more stringent of an incremental cancer risk of greater than 10^{-6} , for each carcinogenic compound, or a hazard quotient of 1 for each non-carcinogenic compound. Also restore the aquifer to the more stringent of (1) a total incremental cancer risk level of 10^{-4} to 10^{-6} for all carcinogenic compounds; or (2) a hazard index of 1.
4. Prevent the leaching of contaminants from the soil to the groundwater that would result in groundwater contamination in excess of drinking water standards.

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An institutional control in the form of a Groundwater Management Zone under NH Regulations is required for the OU1 groundwater contamination. The GMZ sets plume boundaries within which pumping of groundwater is prohibited and groundwater monitored over time to ensure that the contaminant concentrations are decreasing and to ensure that the remaining contamination has not migrated beyond the established plume boundaries or impacted the Souhegan River. Monitoring will also ensure that the OU1 contamination does not migrate into and contaminate the groundwater under the Keyes Field.

Based on the results of the OU1 RI, the 1998 ROD, 2009 Amended ROD, and 2001 and 2010 Explanation of Significant Differences, Interim Cleanup Levels (ICLs) were established for certain constituents in OU1 groundwater. The constituents and ICLs applicable to OU1 groundwater include:

- benzene (5.0 µg/L)
- 1,2-dichloroethane (5.0 µg/L)
- trichloroethene (5.0 µg/L)
- ethylbenzene (700 µg/L)
- toluene (1,000 µg/L)
- 1,2,4-trichlorobenzene (70 µg/L)
- total PCBs (0.5 µg/L)
- arsenic (10 µg/L)
- manganese (300 µg/L)

2011 OU2 Human Health Risk Assessment -- Keyes Field Groundwater

Evaluation of groundwater sampling data collected within the Keyes Field from 2007 through 2009 indicate that groundwater under the Keyes Field currently meets Federal and State drinking water standards with the exception of methyl tert butyl ether (MTBE) and arsenic. Arsenic was found at a level slightly above the Federal and State drinking water standard; is naturally occurring in NH groundwater and is not considered a Site related contaminant. MTBE is an additive to and associated with the petroleum release upgradient of the Keyes Field, which is being addressed under NH regulations and is also not considered a Site contaminant.

A human health risk assessment was conducted as part of the 2011 OU2 Remedial Investigation which included an evaluation of potential cancer risks and non-cancer health effects as a result of exposure to Site contaminants in groundwater (assuming no additional remediation is performed) and to help evaluate whether or not remedial response actions are warranted.

The OU2 RI distinguished data from wells located on Keyes Field which characterized groundwater currently under Keyes Field and upgradient wells which characterized

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groundwater which could migrate to Keyes Field in the future should the use of Keyes Well be resumed to meet potential future water needs at Keyes Field or the surrounding community (See Figure 3-1). The on-site monitoring well group is limited to monitoring wells within the Keyes Field property and those wells just across the river (KW01D, KW01S, OW2, OW2P, Keyes Well, MW-05A, MW-05BR, MW-06A, and MW-06B). MW-06C, a bedrock monitoring well co-located with MW-06A and MW-06B, is not included in the on-site well group because it is not representative of the overburden aquifer connected with the Keyes Well Field. The monitoring wells just across the river were included because the USGS pump tests determined that during pumping conditions, groundwater is drawn from this area toward the well.

The upgradient monitoring well locations included those nearby monitoring wells which are just off the Keyes Field property and hydraulically upgradient, but which under future potential pumping conditions (of the Keyes Well or any newly installed well), would represent areas groundwater will likely migrate from and into the Keyes Field. The 2007 and 2009 EPA sampling included the upgradient well KW-03D. In accordance with the 2001 USEPA Unilateral Administrative Order, as amended in 2010, quarterly groundwater monitoring has been conducted since 2007 by GE at more than 40 monitoring wells including the following wells associated with Keyes Field and used in the OU2 Risk Assessment:

- On-Site Wells: MW-05A, MW-05BR, MW-06A, MW-06B
- Upgradient Wells: MW-18B

Monitoring well MW-25B was used as a background well for OU1, is located upgradient and approximately 400 feet south of the Mill Street Area, is sampled under the UAO by GE and was also used to represent background conditions in groundwater for OU2.

Overview of Risk Assessment Process

The quantitative portion of the HHRA relative to the current groundwater quality and potential uses was conducted using a four-step process: (1) hazard identification, which identifies those hazardous substances which, given the specifics of the Site, were of significant concern; (2) exposure assessment, which identifies actual or potential exposure pathways, characterizes the potentially exposed populations and determines the extent of possible exposure; (3) effects assessment, which considers the types and magnitude of adverse effects associated with exposure to hazardous substances; and (4) risk characterization and uncertainty analysis, which integrates the three earlier steps to summarize the potential and actual risks posed by hazardous substances at the Site, including carcinogenic and non-carcinogenic risks and a discussion of the risk at background levels of contamination and the uncertainty in the risk estimates. These steps are performed with consideration to the conceptual site model (CSM) developed to describe the potential current and future exposure pathways relative to groundwater at the Site. The CSM reflects the current and projected future continued use of Keyes Field as a municipal park and focuses on the potential exposures of the Park Workers and users. In addition, the CSM reflects the possibility that the local groundwater could one day again be extracted and used to supply a public water system and become the source of drinking water and water for domestic uses at private homes.

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Exposure pathways were selected for quantitative consideration in the HHRA to reflect the current and potential future groundwater uses at Keyes Field based on a review of the characteristics of Keyes Field and groundwater data and observations made during site visits by project team personnel.

Currently there are no users of groundwater at the Site or within the Keyes Field recreation area. All of the water used at the Keyes Field (drinking, showering, sanitation, irrigation and filling the pool) is municipal water obtained from other sources. As a result, there are no current exposures to groundwater and therefore there is no current risk.

The Risk Assessment therefore evaluated future risk should the Town of Milford consider reactivating the Keyes Well as a municipal supply, to obtain groundwater for residential use or for the park facilities. Under this hypothetical scenario, the receptors associated with the potential future groundwater use at Keyes Field were evaluated as presented in Table 4-1. These receptors include a future park worker, a future park user and a future hypothetical residential user of the OU2 groundwater.

Groundwater Data Evaluation

Analytical results from sampling events conducted between April 2007 and January 2010 were used to create the data sets used in the OU2 risk assessment. All wells within OU2, with the exception of wells drilled into the bedrock, were considered for inclusion. Only one bedrock well (MW-06C) was designated as being located "on-site" and is located across the Souhegan River and within the Boys and Girls Club. The USGS pump tests indicated that the river was not a hydrologic barrier and groundwater from this upgradient area of the River could have been drawn into the Keyes Well while it operated. This bedrock well was installed as part of the OU1 groundwater monitoring well network. All the remaining bedrock wells at the Site are also associated with OU1 groundwater and used to monitor contaminant concentrations and migration within the bedrock formation. Historically, groundwater within this well has always met drinking water standards, however this single bedrock well (MW-06C) was not included in the risk assessment for OU2 as the extraction of groundwater from the bedrock under the Keyes Field would not be as feasible or as attractive for a municipal supply as compared to the much more productive overburden formation that prevails within the Souhegan Aquifer.

Separate groundwater data sets were needed relative to the wells within OU2 (referred to as the "on-site" wells) and the wells hydraulically upgradient of the on-site wells (referred to as the "upgradient" wells). Figure 3-1 shows the approximate locations of the on-site wells, the upgradient wells, and the background well.

The results for a total of 61 original and eight duplicate groundwater samples were compiled. Twenty-three (23) original and five duplicate groundwater samples were collected in 2007, 26 original and one duplicate groundwater sample were collected in 2008, 11 original and two duplicate groundwater samples were collected in 2009, and one additional original groundwater sample was collected in 2010. As noted above, these groundwater samples were analyzed for varying combinations of VOCs, Base Neutral

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Acids (BNAs), volatile petroleum hydrocarbons (VPH), total petroleum hydrocarbons (TPH), PCBs, pesticides, and metals.

On-site, upgradient, and background groundwater data sets were then created and analyzed separately in consideration of the separate potentials for exposure to the current and future groundwater characteristics. The wells compiled for each well grouping were:

On-Site Wells: OW2, OW2P, KW01D, KW01S, Keyes Well, MW-05A, MW-05BR, MW-06A, MW-06B

Upgradient Wells: MW-18B, Xtramart (XM) MW-10, XM MW-11, XM MW-13, KW03D

Background Well: MW-25B (the same background well used for OU1)

The analytical results for the groundwater samples for each of these well groupings were compiled and reviewed and summarized as follows:

- The on-site groundwater data set consisted of the results for 35 original and seven duplicate samples;
- The upgradient groundwater data set consisted of the results for 19 original and one duplicate samples; and
- The background groundwater data set consisted of the results for seven original samples collected at MW-25B.

Compounds listed in Table 4-2.2 Chemicals of Potential Concern (COPCs) were identified by applying appropriate exposure pathway-related screening criteria to the groundwater sampling results for each of the detected chemicals in the on-site data set. The screening criteria used for groundwater were developed for a residential drinking water exposure scenario. Given the small number of wells and sampling results available for certain analytes and the high number of non-detects, a constituent was conservatively retained as a COPC in groundwater for this HHRA when it was only detected in one well at one point in time if that single detected concentration exceeded the relevant screening criterion. The maximum concentration of each detected chemical in the on-site groundwater data set was compared to screening criteria which correspond to a 1×10^{-6} for carcinogenic risks or a non carcinogenic Hazard Index of 1. Both MTBE and arsenic were retained as COPCs based on one detection in one well (KW-01D) at one point in time and the exceedance of the screening criteria corresponding to a carcinogenic risk of 1×10^{-6} .

Manganese, iron, and aluminum were also retained as COPCs for exceedance of screening criteria related to the exceedance of the maximum concentration found and the non-carcinogenic Hazard Index of 0.1. These compounds are naturally occurring in groundwater and are not considered Site related.

The ways in which people may be exposed to the identified COPCs in the on-site groundwater were evaluated and quantitatively described for the exposure pathways indicated in the CSM to be complete or potentially complete now or in the future. The receptors associated with the potentially complete groundwater exposure pathways are a future Park Worker, a future Park User, and a hypothetical future Resident using the local

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groundwater. Table 4-1 presents the exposure pathways considered for OU2 Groundwater.

The exposure point concentrations (EPCs) are estimates of the concentrations of a hazardous substance to which a human receptor may be exposed should groundwater were to be utilized for general use water at the park or as municipal source. The EPCs are used in conjunction with the receptor-specific exposure factors to calculate chronic daily intakes (CDIs), dermally absorbed doses (DADs) to the receptors, or the projected airborne exposure levels of the COPCs experienced by the receptors. This HHRA was designed to evaluate the risks to the identified receptors associated with a reasonable maximum exposure (RME), which is defined as the "highest exposure that is reasonably expected to occur at the site."

The EPCs used in the risk assessment are presented in Table 4-3.1. The cancer risk EPCs for MTBE and arsenic were the one value detected, or 50 ug/l for MTBE and 11 ug/l for arsenic. The EPCs that were calculated for the non-cancer COPCs aluminum, iron, and manganese, are estimates of the 95% upper confidence limit (UCL) on the mean of the on-site well data distribution using the USEPA ProUCL Version 4.1.01 statistical software package that is available through the USEPA website (USEPA, 2011). The EPC arithmetic mean for these COPCs are 11,798 ug/l aluminum, 4,196 ug/l iron and 57.5 ug/l manganese.

Results of the Quantitative Risk Assessment of the On-Site Groundwater

Risk characterization requires integrating exposure and toxicity information into a quantitative estimate of excess lifetime carcinogenic risk (ELCR) and non-carcinogenic Hazard Quotients and Hazard Indices (HQs and HIs). The intake, dose, or inhalation exposure to a COPC is estimated from as many as six basic factors: exposure frequency, exposure duration, and contact rate, COPC concentration in the exposure medium, body weight, and averaging time. The calculation of risks is performed by combining EPCs, exposure scenarios, and toxicity values using methods defined by USEPA to calculate potential carcinogenic and non-carcinogenic risks associated with current and future use exposure scenarios. The exposure parameters and assumptions selected for use in the quantitative risk assessment for a future adult Park Worker, a future adolescent Park User, and a hypothetical adult and child resident exposed to the on-site groundwater are presented in Tables 4-7.1 through 4-7.4.

EPA has established an acceptable target excess lifetime cancer risk range of 1×10^{-6} and 1×10^{-4} and a Hazard Index (HI) of 1. A 1-in-1,000,000 cancer risk (i.e., 1×10^{-6}) means that in a population of 1,000,000 people exposed under an identical exposure scenario would be one additional case of cancer in the population. The results of the risk assessment for various receptors (future park user, future park worker, and future resident) to groundwater currently under the Keyes Field indicate that cancer risks are within the EPA's acceptable risk range of 1×10^{-6} to 1×10^{-4} and at or below the non-cancer Hazard Index of 1 for a future park worker or future park user.

The cancer and non-carcinogenic risks associated with the future exposure of a Park Worker to the on-site groundwater were calculated to be 3.3×10^{-5} and 0.31, respectively

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(see Table 4-7.1). The cancer and non-carcinogenic risks associated with the future exposure of a Park User to the on-site groundwater were calculated to be 1.7×10^{-6} and 0.052, respectively (see Table 4-7.2).

The cancer risk range was slightly exceeded (2×10^{-4}) for the adult hypothetical future residential user of groundwater (consuming 2L/day, 350 days/year for 30 years) and nearly all of the risk resulted from the potential ingestion of arsenic in groundwater. The risk for a child resident (consuming 1L/day, 350 days/year for 6 years) was 9.8×10^{-5} and within the EPA acceptable risk range. The non-carcinogenic risk for a future residential user was calculated to be a target tissue specific Hazard Index of 1.0 for the adult and 2.6 for the child. Only the child exposure slightly exceeds EPA's non-cancer acceptable risk criteria of 1.0. This exceedance is related to the non-cancer effects from arsenic and manganese which are naturally occurring compounds in groundwater and not Site related. The non-cancer tissue specific risk related to iron was below the HI criteria of 1.0.

MTBE was found in one well (KW-01D) at 50 ug/l, above the NH drinking water standard of 13 ug/l. MTBE is an additive to petroleum, and previously detected in groundwater at the upgradient petroleum release. MTBE is monitored for, but has not been detected above drinking water standards at the upgradient petroleum source in several years. Well KW01D, which had MTBE detected at 49 $\mu\text{g/L}$ in 2007, was not sampled in 2009 due to obstructions in the well. The contribution of MTBE to the total cancer risks was calculated to be 6.8×10^{-6} for the child and 7.4×10^{-6} for the adult. MTBE detected in the on-site groundwater is very likely due to upgradient sources that are currently being addressed. As such, the presence of MTBE in the on-site groundwater would be expected to be a short-term situation.

Arsenic was found in one of ten samples and only in the 2007 sampling event at a concentration of 11ug/l, which is just above the drinking water standard of 10ug/l. The contribution of arsenic to the total cancer risk for a future residential consumer of on-site groundwater was 1.9×10^{-4} for the adult and 9.0×10^{-5} for the child.

Arsenic is not considered Site related, but is naturally occurring in groundwater. Arsenic is a naturally occurring element that is found in the bedrock, soils, and groundwater throughout New England and southern New Hampshire. A study by the USGS indicated that arsenic was detected at concentrations that exceeded the USEPA SDWA MCL and NHDES MCL of 10 $\mu\text{g/L}$ in 21% of private wells in Hillsborough County even though the geologic formation underlying the town of Milford was not found to be uniformly high in arsenic (USGS, 2003). Other studies indicate that arsenic concentrations in groundwater are heavily influenced by the bedrock geology and lithology of the area (Ayotte, et. al., 1999; Robinson and Ayotte, 2007). As arsenic is not associated with the upgradient sources relative to OU2, the arsenic contributing to the calculated risks relative to the on-site groundwater is not indicated to be due to former activities at the Fletcher's Paint Facility. Given the low frequency and detected concentration of arsenic, the indication that the concentrations of arsenic that were detected were due to background sources, and the lack of an association between arsenic and the activities previously performed at the Fletcher's Paint Facility, the single exceedance does not represent a significant potential risk.

Screening Level Risk Assessment of the Upgradient Groundwater

The groundwater data for the upgradient wells was compiled and a screening level risk assessment relative to potential drinking water exposure was performed. The upgradient wells included three Xtramart monitoring wells (i.e., XM MW-10, XM MW-11, XM MW-13), monitoring well MW-18B, and monitoring well KW03D. The locations of these wells are shown on Figure 3-1.

The compiled upgradient groundwater data was analyzed to identify the maximum detected concentration in any upgradient well over the sampling period (i.e., April 2007 through January 2010). This screening analysis indicated that the groundwater upgradient of Keyes Field (i.e., to the southwest and southeast – OU1 groundwater and the petroleum release) has or is likely to have for a significant time period, contaminant levels that exceed thresholds for a public drinking water supply. Characterizations of the hydraulic conductivities in the overburden glacial deposits and in the underlying bedrock indicate that a significant cone of depression would likely be created if the Keyes Well were to be re-activated to extract water for public consumption. This pumping would be expected, based on past experience when the municipal well was formerly in use, to draw groundwater from these upgradient locations. The exact quality of the groundwater that would be produced by a re-activated Keyes Well cannot be projected without a specific analysis of the potential pumping scenario and variables effecting contaminant concentrations within the Keyes Well. However, the screening assessment suggests that pumping the Keyes Well would likely draw contaminated upgradient groundwater under Keyes Field and re-contaminates the on-site groundwater.

A quantitative risk analysis was not conducted for this scenario as the concentrations of the contaminants that would migrate to the Keyes Well should it be used in the future, would be highly dependent on many variables including the concentrations in OU1 groundwater at the time the Keyes Well was returned to service, the pumping rate of the Keyes Well and dilution from clean groundwater entering the Keyes Well from upgradient sources west of or across the river from the Keyes Well. As such, only a screening evaluation was performed which assumed that upgradient groundwater at OU1 exceeds drinking water standards, and if this groundwater migrated into the Keyed Field, it would migrate at levels exceeding drinking water standards and therefore could represent an unacceptable future risk to the use of the Keyes Well as a future municipal water supply.

Only one well was identified as being representative of background conditions relative to the OU2 groundwater (MW-25B). This well was sampled quarterly by GE for VOCs, manganese, and PCBs from July 2007 through October 2008 due to project-specific objectives related to OU1. In addition, full Target Compound List/Target Analyte List (TCL/TAL) sampling is conducted biennially during September/October. The sampling frequency for monitoring well MW-25 was changed after October 2008 from quarterly to once a year in September/October so that it coincides with the biennial TCL/TAL monitoring events. Although arsenic, iron, and aluminum were identified as COPCs, they are not linked to or associated with a specific on-site or OU1 source.

Uncertainties

For this Risk Assessment, groundwater data collected from the most recent sampling events at the on-site OU2 wells and the upgradient wells were evaluated. Sampling results going back approximately 4 years (starting in April of 2007) were evaluated for inclusion in the risk assessment databases. Damage to Site wells within the Keyes Field between sampling rounds limited the availability of multiple data collections for each location. The constituents detected in the groundwater associated with the on-site wells naturally occurring or related to the upgradient petroleum release. Constituents detected in upgradient wells were primarily VOCs, SVOCs and naturally occurring inorganic compounds (metals). Typically, the compounds detected were detected very infrequently in the respective wells over the stated time frame. The newest version of ProUCL was used to quantify the groundwater EPCs. This version allows EPCs to be generated with explicit evaluation of non-detect sampling results using the most recent statistical approaches identified for that purpose. Even though this tool was applied to the data sets, suitable EPCs could not be identified for all detected constituents and their maximum detected concentrations had to be used as their EPCs in the risk calculations. This is likely to lead to an overestimation of the actual risks.

Reasonable maximum exposure scenarios were identified for each receptor of interest and corresponding exposure parameters were selected in relation to the potential intakes from the ingestion, dermal absorption, and inhalation of groundwater contaminants. Considerable uncertainty can be associated with qualitative (hazard assessment) and quantitative (dose-response) evaluations. The most likely future use of Keyes Field is its present use as a municipal park. As such, the future Park Worker and future Park User were the most directly relevant receptors of interest. The park is currently serviced by a municipal water supply that does not draw on the OU2 groundwater as a source. The HHRA was performed for the future Park Worker and future Park User assuming that the local groundwater would once again in the future be used as a municipal supply and provide the drinking water and ancillary water needs of the park. Use of groundwater under Keyes Field for a future residential use is considered to be very unlikely due to the significant value and use of this Town Field, the likelihood of flooding in this low-lying area next to the Souhegan River and unlikely for future municipal use due to availability of other municipal sources for groundwater and the potential to draw upgradient groundwater contamination into the Keyes Field with the reuse of the Keyes Well.

Summary of OU2 Groundwater Risk

The quantitative risk assessment performed relative to potential exposures to the on-site groundwater focused on a future Park Worker, a future Park User, and hypothetical future Residents who could be exposed to the on-site groundwater in a residential setting if the Keyes Well were to be re-activated and the groundwater used to supply the public water system. The exposure scenarios evaluated for the future Park Worker and the future Park User assumed that all water used at the park for all needs (e.g., drinking, irrigation, washing, filling the pool) would come from the on-site groundwater. This included

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potential ingestion (i.e., drinking) as well as potential dermal absorption exposures due to direct contact with the groundwater during these uses.

The calculated risks for the future Park Worker and the future Park User under these potential future exposure scenarios did not exceed the USEPA cancer risk reference range or non-cancer thresholds. The calculated risks for the hypothetical Resident (adult and child) under the scenario of the on-site groundwater as a municipal water supply did exceed the EPA cancer risk reference range for the adult residential consumer of groundwater and exceeded the non-cancer HI threshold for a child residential user of groundwater. However, the exceedance of the EPA cancer risk reference range was almost entirely due to a one time detection of arsenic at a concentration just over the drinking water standard. The detection of arsenic in groundwater is attributed to the naturally occurring presence of this compound in groundwater.

The only other compound in the on-site groundwater that contributed to any significant degree to the calculated risks was MTBE. However, MTBE was only detected in one well in 2007 and was very likely due to upgradient off-site sources that are currently being addressed. The lone detection of MTBE contributed to future risk, however the future groundwater risk would be expected to actually decrease with the expectation that no additional detections of this compound will be found due to the on-going work to address and monitor this upgradient source. As such, the MTBE is not indicated to be due to any release from the Fletcher's Paint Superfund Site and is not expected to pose a long-term concern if upgradient sources continue to be addressed and monitored under NH regulations.

The screening level risk assessment performed relative to the upgradient groundwater revealed that this groundwater has or is likely to have contaminant levels that exceed thresholds for a public drinking water supply. Characterizations of the hydraulic conductivities in the overburden and in the underlying bedrock suggest that a cone of depression would likely be created if the Keyes Well were to be re-activated to extract water for use as a public supply. This pumping could draw contaminated groundwater from these upgradient locations and re-contaminate the on-site groundwater. A quantitative risk analysis was not conducted for this scenario as the concentrations of the contaminants that would migrate to the Keyes Well should it be used in the future would be highly dependent on many variables including the concentrations in OU1 groundwater at the time the Keyes Well was returned to service, the pumping rate of the Keyes Well and dilution from clean groundwater entering the Keyes Well from upgradient sources west of or across the river from the Keyes Well. As such, only a screening evaluation was performed which assumed that upgradient groundwater at OU1 exceeds drinking water standards, and should this groundwater migrate into the Keyed Field, it would migrate at levels exceeding drinking water standards and therefore could represent an unacceptable future risk to the use of the Keyes Well as a future municipal water supply.

Results for the sampling of groundwater at OU1, which is upgradient of Keyes Field, indicate the presence of contaminants at concentrations which exceed Federal and State drinking water standards and therefore also exceed thresholds for a public drinking water

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supply. Attainment of the OU1 groundwater to ICLs is expected to take between 20 and over 100 years. As a result, the Risk Assessment qualitatively evaluated future risk for a hypothetical residential use, should groundwater be pumped from Keyes Well and contamination from OU1 migrate into Keyes Field. The Risk Assessment concluded that under this scenario, Keyes Field could become re-contaminated, and the future use of the Keyes Well as a public water supply would result in unacceptable risks.

Basis for No Action

This OU2 ROD sets forth EPA's determination that no additional cleanup measures for groundwater are necessary because:

- There are no current users of groundwater at Keyes Field and therefore there are no current risks;
- The RI concluded that if the on-site groundwater under the Keyes Field was used in the future, risks for the future hypothetical residential user are from arsenic, a naturally occurring compound in groundwater and MTBE which is believed to be associated with the upgradient petroleum source;
- While there is the potential in the future that contamination at unacceptable levels could be pulled into Keyes Field from upgradient areas (OU1 and Xtramart) if pumping of groundwater resumes at the Keyes Municipal Supply Well (Keyes Well), these upgradient areas are being addressed by the State and EPA ; and
- An Institutional Control in the form of a Groundwater Management Zone (GMZ) under New Hampshire regulations is required for groundwater contamination associated with the upgradient OU1 portion of the Site. Within the GMZ, pumping of groundwater is prohibited and groundwater monitoring of contaminant concentration and migration is required until drinking water standards are met. The proposed OU1 GMZ includes the area of the OU1 groundwater contamination and the groundwater under the Keyes Field. Because action is being taken under the OU1 remedy which addresses potential future risks at OU2, no action is required for OU2 Groundwater.

Remediation of the upgradient source at the OU1 portion of the Fletcher's Paint Site is expected to begin in October 2012. The upgradient petroleum source (Xtramart) is being remediated under State law and contaminant concentrations have continually decreased. The contamination associated with these upgradient sources is unlikely to impact Keyes Field groundwater in the future if the Keyes Well remains inactive until these off-site sources are remediated. Because this OU2 No Action ROD is contingent on the implementation of the OU1 GMZ as part of the OU1 remedy, EPA will monitor the status of this GMZ to insure that it sufficiently restricts activities at Keyes Field in the long term. If sufficient restrictions are not put in place, EPA will issue another decision document to address OU2 groundwater.

EPA supports a No Action approach for OU2 groundwater at the Keyes Field as further action is not necessary to protect human health or the environment.

H. Five Year Reviews

Because contaminants will remain on-site under the OU1 remedy, EPA will review the Site every five years after construction is complete to assure that the remedial action continues to be protective of human health and the environment and exposures at the Site are being controlled.

I. DOCUMENTATION OF SIGNIFICANT CHANGES

The Proposed Plan was released for public comment in August 2012. The Public comment period was held open for 30 days from August 23 until September 24, 2012. Having received no comments, EPA did not develop a Responsiveness Summary and has determined no significant change is needed to the Proposed Plan.

J. STATE ROLE

The New Hampshire Department of Environmental Services has reviewed the OU2 RI, and the Proposed Plan and has indicated its support for No Action. The State has also determined that the OU1 GMZ is in compliance with applicable or relevant and appropriate State Environmental laws and regulations. As of the signing of this OU2 ROD, the State of New Hampshire has not concurred with no further action for the OU2 groundwater portion of the Fletcher's Paint Site. The State has indicated that it will concur shortly. A copy of the declaration of concurrence will be attached as Appendix C upon receipt.

Tables

TABLE 4-1
SELECTION OF EXPOSURE PATHWAYS
Final Remedial Investigation Report
Operable Unit 2, Fletcher's Paint Works and Storage Facility
Milford, New Hampshire

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current	Groundwater	Groundwater	On-Site Wells	None	Not Applicable	All Applicable	None	There are currently no complete exposure pathways relative to the on-site groundwater. Municipal water from other sources is available at the Site. Groundwater from the Site wells is not used on-site for any consumptive or non-consumptive purposes.
	Indoor Air	Indoor Air	On-Site Buildings	None	Not Applicable	Inhalation of Volatiles	None	There have been very few volatiles detected in the on-site groundwater and these have been detected at relatively low concentrations. There are currently no routinely occupied buildings on-site. The pool house is a building that people can enter, but it is only occupied for relatively short periods of time by park users and the pool staff. The building also is open and well-ventilated during the time the pool is open which would prevent the potential build-up of any volatiles that may be released from the groundwater if it were to be used on-site. As such, this exposure pathway is not currently complete.
Future	Groundwater	Groundwater	On-Site Wells	Hypothetical Resident	Adult (18+ yrs)	Ingestion	Quant	Given that municipal water is available at the Site, the scenario of a on-site well specifically to supply drinking and general use water to a future hypothetical resident is not currently occurring. However, the possibility of such a well being installed and its water used for drinking and other typical residential uses was considered as a conservative future exposure scenario.
						Dermal Absorption	Quant	
						Inhalation of Volatiles	Quant	
				Child (0-6 yrs)	Ingestion	Quant		
					Dermal Absorption	Quant		
					Inhalation of Volatiles	Quant		
			Park Worker	Adult (18+ yrs)	Ingestion	Quant	Given that municipal water is available at the Site, the scenario of the installation of an on-site well specifically to supply drinking and general use water to the park is considered to be very unlikely. However, the possibility of such a well being installed and its water used for these purposes was considered.	
					Dermal Absorption	Quant		
					Inhalation of Volatiles	None		
			Park User	Adolescent (6-14 yrs)	Ingestion	Quant	Given that municipal water is available at the Site, the scenario of a on-site well specifically to supply drinking, cleaning and irrigation water to the park is considered to be very unlikely. However, the possibility of such a well being installed and its water used for drinking and filling the pool was considered.	
	Dermal Absorption	Quant						
	Inhalation of Volatiles	None						
	On-Site Groundwater	Construction Worker	Adult (18+ yrs)	Incidental Ingestion	None	Any future additional construction at the site is expected to be slab-on-grade because of the proximity of the river and the potential for flooding. Since groundwater is encountered at a minimum of 3 - 4 feet below the ground surface or more, no prolonged exposure to the groundwater is anticipated for the construction worker.		
				Dermal Absorption	None			
Inhalation of Volatiles				None				
Utility Worker				Adult (18+ yrs)	Incidental Ingestion		None	The site currently has underground water, sewer and irrigation lines. However, since groundwater is typically encountered at 3 - 4 feet below the ground surface or more, no prolonged exposure to the groundwater is anticipated for the utility worker.
	Dermal Absorption	None						
	Inhalation of Volatiles	None						
Indoor Air	Indoor Air	On-Site Buildings	Hypothetical Resident	Adult (18+ yrs)	Inhalation of Volatiles (Vapor Intrusion)	None	Given the presence of only two (2) volatile constituents in the groundwater at very low concentrations, this pathway would be effectively incomplete even if an occupied residence were to be constructed on-site in the future.	
				Child (0-6 yrs)	Inhalation of Volatiles (Vapor Intrusion)	None		
			Park Worker	Adult (18+ yrs)	Inhalation of Volatiles (Vapor Intrusion)	None	Given the presence of only 2 volatile constituents in the groundwater at very low concentrations, this pathway would be effectively incomplete if a routinely occupied building were to be constructed on-site in the future to be used by the park staff. The pool house is an existing building that people can enter, but it is only occupied for relatively short periods of time by park visitors and the pool staff. The building also is open and well-ventilated during the time the pool is open which would prevent the potential build-up of volatiles from the groundwater below.	

TABLE 4-3.1
EXPOSURE POINT CONCENTRATION SUMMARY
Final Remedial Investigation Report

Operable Unit 2, Fletcher's Paint Works and Storage Facility
Milford, New Hampshire

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean (1)	95% UCL Distribution	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Groundwater	Methyl-tert-Butyl Ether (MTBE)	ug/L	1.97	(5)	49	49.0	ug/L	Maximum	(2)
	Aluminum	ug/L	988	2540	12,000	2,540	ug/L	95% KM UCL-t	(3)
	Arsenic	ug/L	5.4	(5)	11	11.0	ug/L	Maximum	(2)
	Iron	ug/L	1,435	9084	9,900	9,084	ug/L		(4)
	Manganese	ug/L	31.68	58.11	460	58.11	ug/L	99% KM UCL-C 95% KM UCL-t	(3)

Footnotes:

(1) The Arithmetic Means for aluminum, iron and manganese were calculated by ProUCL using the KM method due to the high proportion of non-detect results for these constituents.

The Arithmetic Mean EPC for MTBE and arsenic were calculated using the KM method for all non-detect results.

99% KM UCL-C = KM Method UCL based on Chebyshev inequality using sample mean and standard deviation

EPC Rationale:

- (2) There was only one detection of the chemical. It is presented here as the maximum concentration, and was used as the EPC.
- (3) Non-parametric distribution. The 95% KM (t) UCL was used as the EPC.
- (4) Non-parametric distribution. The 99% KM (Chebyshev) UCL was used as the EPC.

TABLE 4-7.1 RME
 CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS FOR THE PARK WORKER
 REASONABLE MAXIMUM EXPOSURE
 Final Remedial Investigation Report
 Operable Unit 2, Fletcher's Paint Works and Storage Facility
 Milford, New Hampshire

Scenario Timefr: Future
 Receptor Popula: Park Worker
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Groundwater	Groundwater	Groundwater	Ingestion	Methyl-tert-Butyl Ether (MTBE)	4.90E-02	mg/L	9.8E-05	mg/kg-day	1.8E-03	(mg/kg-day) ⁻¹	1.8E-07	2.7E-04	mg/kg-day	-	mg/kg-day	-	
				Aluminum	2.54E+00	mg/L	5.1E-03	mg/kg-day	-	(mg/kg-day) ⁻¹	-	1.4E-02	mg/kg-day	1.0E+00	mg/kg-day	1.4E-02	
				Arsenic	1.10E-02	mg/L	2.2E-05	mg/kg-day	1.5E+00	(mg/kg-day) ⁻¹	3.3E-05	6.2E-05	mg/kg-day	3.0E-04	mg/kg-day	2.1E-01	
				Iron	9.08E+00	mg/L	1.8E-02	mg/kg-day	-	(mg/kg-day) ⁻¹	-	5.1E-02	mg/kg-day	7.0E-01	mg/kg-day	7.3E-02	
				Manganese	5.81E-02	mg/L	1.2E-04	mg/kg-day	-	(mg/kg-day) ⁻¹	-	3.3E-04	mg/kg-day	2.4E-02	mg/kg-day	1.4E-02	
			Exp. Route Total							3.3E-05						3.1E-01	
			Dermal Absorption	Methyl-tert-Butyl Ether (MTBE)	4.90E-02	mg/L	1.5E-06	mg/kg-day	1.8E-03	(mg/kg-day) ⁻¹	2.7E-09	4.2E-06	mg/kg-day	-	mg/kg-day	-	
				Aluminum	2.54E+00	mg/L	2.3E-05	mg/kg-day	-	(mg/kg-day) ⁻¹	-	6.3E-05	mg/kg-day	1.0E+00	mg/kg-day	6.3E-05	
				Arsenic	1.10E-02	mg/L	9.8E-08	mg/kg-day	1.5E+00	(mg/kg-day) ⁻¹	1.5E-07	2.7E-07	mg/kg-day	3.0E-04	mg/kg-day	9.1E-04	
				Iron	9.08E+00	mg/L	8.1E-05	mg/kg-day	-	(mg/kg-day) ⁻¹	-	2.3E-04	mg/kg-day	7.0E-01	mg/kg-day	3.2E-04	
				Manganese	5.81E-02	mg/L	5.2E-07	mg/kg-day	-	(mg/kg-day) ⁻¹	-	1.4E-06	mg/kg-day	9.6E-04	mg/kg-day	1.5E-03	
			Exp. Route Total							1.5E-07						2.8E-03	
			Exposure Point Total							3.3E-05							3.1E-01
			Exposure Medium Total							3.3E-05							3.1E-01
			Medium Total							3.3E-05							3.1E-01
Total of Receptor Risks Across All Media										3.3E-05	Total of Receptor Hazards Across All Media				3.1E-01		

TABLE 4-7.2 RME
 CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS FOR THE PARK USER
 REASONABLE MAXIMUM EXPOSURE
 Final Remedial Investigation Report
 Operable Unit 2, Fletcher's Paint Works and Storage Facility
 Milford, New Hampshire

Scenario Timeframe: Future
 Receptor Population: Park User
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units					
Groundwater	Groundwater	Groundwater	Ingestion	Methyl-tert-Butyl Ether (MTBE)	4.90E-02	mg/L	4.7E-06	mg/kg-day	1.8E-03	(mg/kg-day) ⁻¹	8.5E-09	4.1E-05	mg/kg-day	-	mg/kg-day	-		
				Aluminum	2.54E+00	mg/L	2.5E-04	mg/kg-day	-	(mg/kg-day) ⁻¹	-	2.1E-03	mg/kg-day	1.0E+00	mg/kg-day	2.1E-03		
				Arsenic	1.10E-02	mg/L	1.1E-06	mg/kg-day	1.5E+00	(mg/kg-day) ⁻¹	1.6E-06	9.3E-06	mg/kg-day	3.0E-04	mg/kg-day	3.1E-02		
				Iron	9.08E+00	mg/L	8.8E-04	mg/kg-day	-	(mg/kg-day) ⁻¹	-	7.7E-03	mg/kg-day	7.0E-01	mg/kg-day	1.1E-02		
				Manganese	5.81E-02	mg/L	5.6E-06	mg/kg-day	-	(mg/kg-day) ⁻¹	-	4.9E-05	mg/kg-day	2.4E-02	mg/kg-day	2.0E-03		
			Exp. Route Total							1.6E-06					4.6E-02			
			Dermal Absorption	Methyl-tert-Butyl Ether (MTBE)	4.90E-02	mg/L	8.4E-07	mg/kg-day	1.8E-03	(mg/kg-day) ⁻¹	1.5E-09	7.3E-06	mg/kg-day	-	mg/kg-day	-		
				Aluminum	2.54E+00	mg/L	1.6E-05	mg/kg-day	-	(mg/kg-day) ⁻¹	-	1.4E-04	mg/kg-day	1.0E+00	mg/kg-day	1.4E-04		
				Arsenic	1.10E-02	mg/L	6.7E-08	mg/kg-day	1.5E+00	(mg/kg-day) ⁻¹	1.0E-07	5.9E-07	mg/kg-day	3.0E-04	mg/kg-day	2.0E-03		
				Iron	9.08E+00	mg/L	5.6E-05	mg/kg-day	-	(mg/kg-day) ⁻¹	-	4.9E-04	mg/kg-day	7.0E-01	mg/kg-day	7.0E-04		
				Manganese	5.81E-02	mg/L	3.6E-07	mg/kg-day	-	(mg/kg-day) ⁻¹	-	3.1E-06	mg/kg-day	9.6E-04	mg/kg-day	3.2E-03		
			Exp. Route Total							1.0E-07					6.0E-03			
			Exposure Point Total							1.7E-06					5.2E-02			
			Exposure Medium Total							1.7E-06					5.2E-02			
			Medium Total							1.7E-06					5.2E-02			
			Total of Receptor Risks Across All Media										1.7E-06	Total of Receptor Hazards Across All Media				5.2E-02

Table 4-7.3
 CALCULATION OF CHEMICAL CANCER RISKS AND NON CANCER HAZARDS FOR THE ADULT RESIDENT
 Final Remedial Investigation Report
 Operable Unit 2, Fletcher's Paint Work and Storage Facility
 Milford, New Hampshire

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

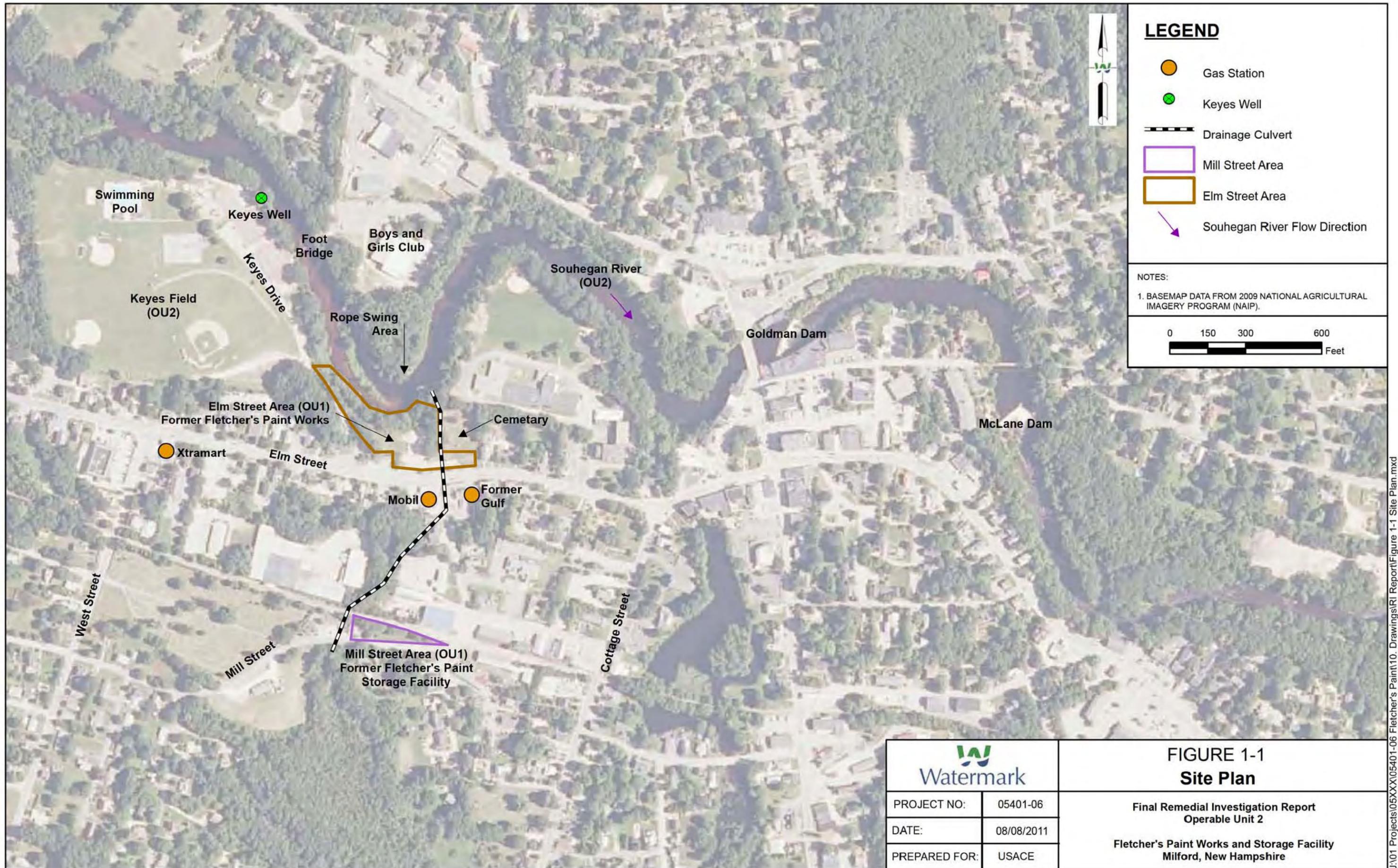
Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Ingestion	Methyl-tert-Butyl Ether (MTBE)	4.90E-02	mg/L	5.8E-04	mg/kg-day	1.8E-03	(mg/kg-day) ⁻¹	1.0E-06	1.3E-03	mg/kg-day	-	mg/kg-day	-
				Aluminum	2.54E+00	mg/L	3.0E-02	mg/kg-day	-	(mg/kg-day) ⁻¹	-	7.0E-02	mg/kg-day	1.0E+00	mg/kg-day	7.0E-02
				Arsenic	1.10E-02	mg/L	1.3E-04	mg/kg-day	1.5E+00	(mg/kg-day) ⁻¹	1.9E-04	3.0E-04	mg/kg-day	3.0E-04	mg/kg-day	1.0E+00
				Iron	9.08E+00	mg/L	1.1E-01	mg/kg-day	-	(mg/kg-day) ⁻¹	-	2.5E-01	mg/kg-day	7.0E-01	mg/kg-day	3.6E-01
				Manganese	5.81E-02	mg/L	6.8E-04	mg/kg-day	-	(mg/kg-day) ⁻¹	-	1.6E-03	mg/kg-day	2.4E-02	mg/kg-day	6.6E-02
			Exp. Route Total								1.9E-04					1.5E+00
			Dermal Absorption	Methyl-tert-Butyl Ether (MTBE)	4.90E-02	mg/L	8.6E-06	mg/kg-day	1.8E-03	(mg/kg-day) ⁻¹	1.6E-08	2.0E-05	mg/kg-day	-	mg/kg-day	-
				Aluminum	2.54E+00	mg/L	6.7E-05	mg/kg-day	-	(mg/kg-day) ⁻¹	-	1.6E-04	mg/kg-day	1.0E+00	mg/kg-day	1.6E-04
				Arsenic	1.10E-02	mg/L	2.9E-07	mg/kg-day	1.5E+00	(mg/kg-day) ⁻¹	4.4E-07	6.8E-07	mg/kg-day	3.0E-04	mg/kg-day	2.3E-03
				Iron	9.08E+00	mg/L	2.4E-04	mg/kg-day	-	(mg/kg-day) ⁻¹	-	5.6E-04	mg/kg-day	7.0E-01	mg/kg-day	8.0E-04
				Manganese	5.81E-02	mg/L	1.5E-06	mg/kg-day	-	(mg/kg-day) ⁻¹	-	3.6E-06	mg/kg-day	9.6E-04	mg/kg-day	3.7E-03
			Exp. Route Total								4.5E-07					6.9E-03
			Inhalation	Methyl-tert-Butyl Ether (MTBE)	4.90E-02	mg/L	2.5E-02	mg/m ³	2.6E-04	(mg/m ³) ⁻¹	6.4E-06	2.5E-02	mg/m ³	3.0E+00	mg/m ³	8.2E-03
				Exp. Route Total							6.4E-06					8.2E-03
			Exposure Point Total								2.0E-04					1.5E+00
Exposure Medium Total								2.0E-04					1.5E+00			
Medium Total								2.0E-04					1.5E+00			
Total of Receptor Risks Across All Media										2.0E-04	Total of Receptor Hazards Across All Media				1.5E+00	

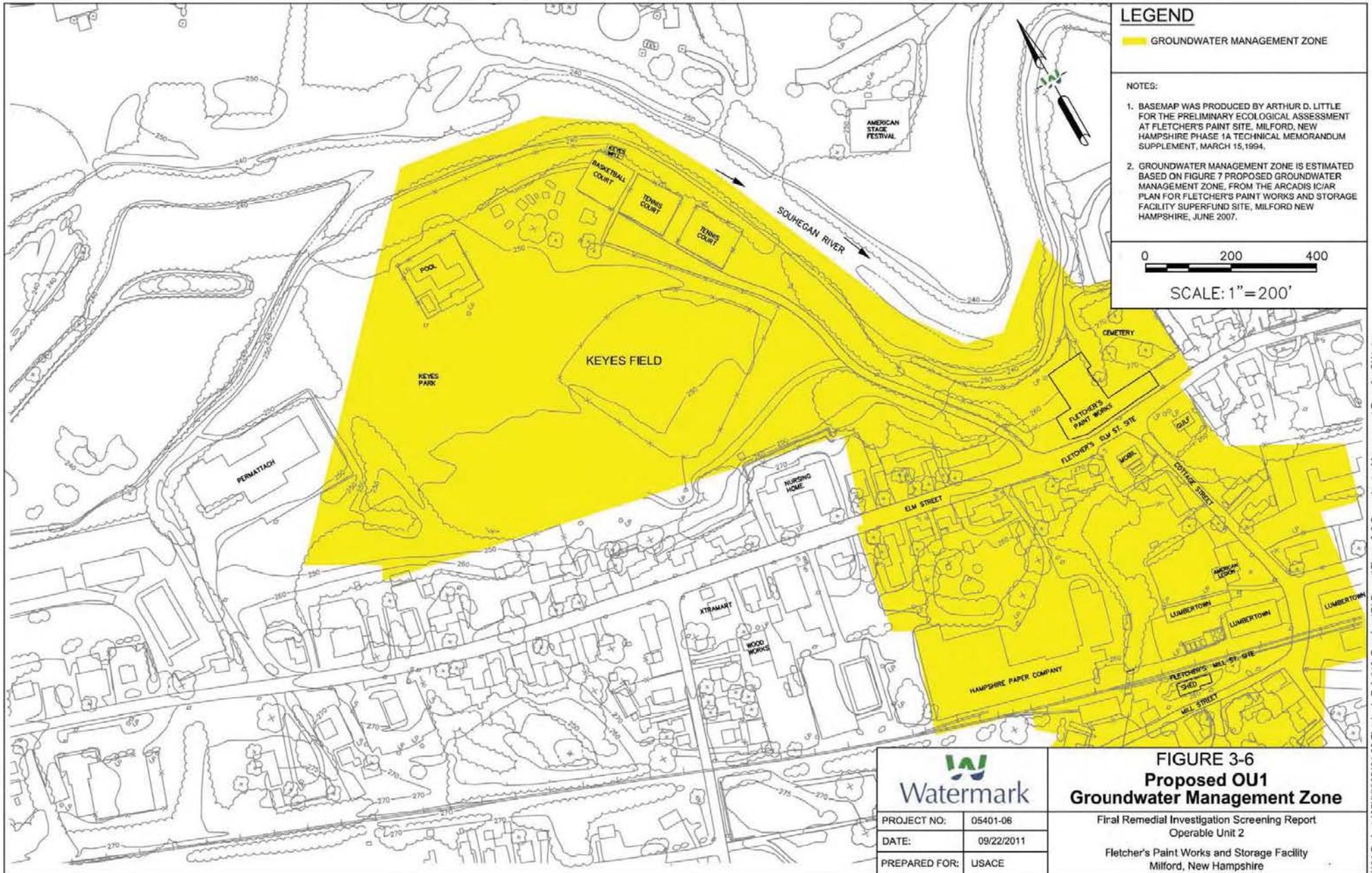
TABLE 4-7.4 RME
 CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS FOR THE CHILD RESIDENT
 REASONABLE MAXIMUM EXPOSURE
 Final Remedial Investigation Report
 Operable Unit 2, Fletcher's Paint Works and Storage Facility
 Milford, New Hampshire

Scenario Timeframe: Future
 Receptor Population: Resident
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Groundwater	Groundwater	Ingestion	Methyl-tert-Butyl Ether (MTBE)	4.90E-02	mg/L	2.7E-04	mg/kg-day	1.8E-03	(mg/kg-day) ⁻¹	4.8E-07	3.1E-03	mg/kg-day	-	mg/kg-day	-
				Aluminum	2.54E+00	mg/L	1.4E-02	mg/kg-day	-	(mg/kg-day) ⁻¹	-	1.6E-01	mg/kg-day	1.0E+00	mg/kg-day	1.6E-01
				Arsenic	1.10E-02	mg/L	6.0E-05	mg/kg-day	1.5E+00	(mg/kg-day) ⁻¹	9.0E-05	7.0E-04	mg/kg-day	3.0E-04	mg/kg-day	2.3E+00
				Iron	9.08E+00	mg/L	5.0E-02	mg/kg-day	-	(mg/kg-day) ⁻¹	-	5.8E-01	mg/kg-day	7.0E-01	mg/kg-day	8.3E-01
				Manganese	5.81E-02	mg/L	3.2E-04	mg/kg-day	-	(mg/kg-day) ⁻¹	-	3.7E-03	mg/kg-day	2.4E-02	mg/kg-day	1.5E-01
			Exp. Route Total							9.1E-05						3.5E+00
			Dermal Absorption	Methyl-tert-Butyl Ether (MTBE)	4.90E-02	mg/L	4.5E-06	mg/kg-day	1.8E-03	(mg/kg-day) ⁻¹	8.1E-09	5.2E-05	mg/kg-day	-	mg/kg-day	-
				Aluminum	2.54E+00	mg/L	5.3E-05	mg/kg-day	-	(mg/kg-day) ⁻¹	-	6.2E-04	mg/kg-day	1.0E+00	mg/kg-day	6.2E-04
				Arsenic	1.10E-02	mg/L	2.3E-07	mg/kg-day	1.5E+00	(mg/kg-day) ⁻¹	3.5E-07	2.7E-06	mg/kg-day	3.0E-04	mg/kg-day	9.0E-03
				Iron	9.08E+00	mg/L	1.9E-04	mg/kg-day	-	(mg/kg-day) ⁻¹	-	2.2E-03	mg/kg-day	7.0E-01	mg/kg-day	3.2E-03
				Manganese	5.81E-02	mg/L	1.2E-06	mg/kg-day	-	(mg/kg-day) ⁻¹	-	1.4E-05	mg/kg-day	9.6E-04	mg/kg-day	1.5E-02
			Exp. Route Total							3.5E-07						2.8E-02
			Inhalation	Methyl-tert-Butyl Ether (MTBE)	4.90E-02	mg/L	2.5E-02	mg/m ³	2.6E-04	(mg/m ³) ⁻¹	6.4E-06	2.5E-02	mg/m ³	3.0E+00	(mg/m ³) ⁻¹	8.2E-03
				Exp. Route Total							6.4E-06					8.2E-03
			Exposure Point Total								9.8E-05					3.5E+00
Exposure Medium Total								9.8E-05					3.5E+00			
Medium Total								9.8E-05					3.5E+00			
Total of Receptor Risks Across All Media										9.8E-05	Total of Receptor Hazards Across All Media				3.5E+00	

Figures

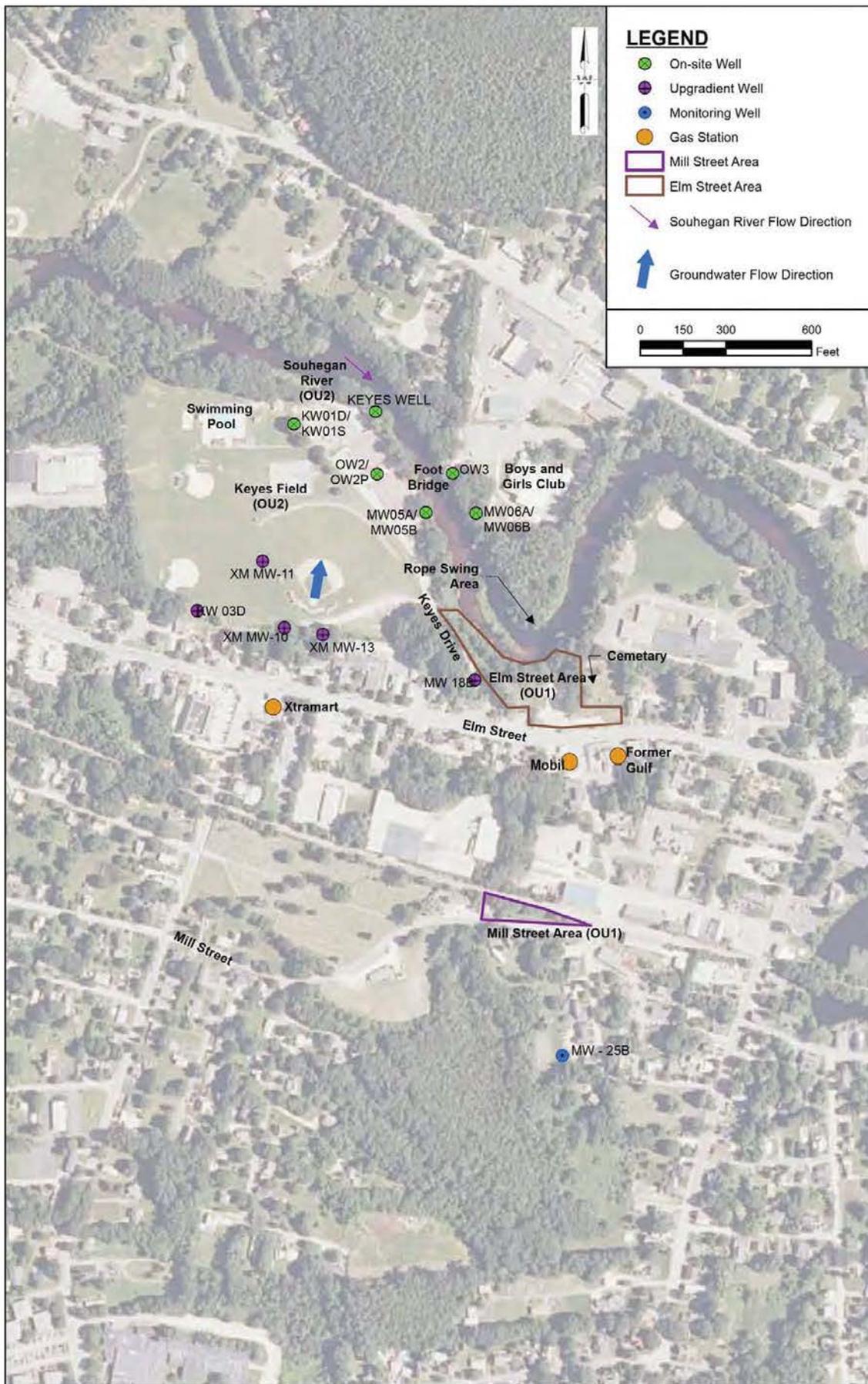




PROJECT NO: 05401-06
DATE: 09/22/2011
PREPARED FOR: USACE

**FIGURE 3-6
Proposed OU1
Groundwater Management Zone**

Firal Remedial Investigation Screening Report
Operable Unit 2
Fletcher's Paint Works and Storage Facility
Milford, New Hampshire



NOTES:

1. BASEMAP DATA FROM 2009 NATIONAL AGRICULTURAL IMAGERY PROGRAM (NAIP).
2. LOCATIONS OF THE MONITORING WELLS ARE APPROXIMATE BASED ON AVAILABLE INFORMATION.
3. XM PREFIX DESIGNATES MONITORING WELLS INSTALLED FOR THE XTRAMART SITE.

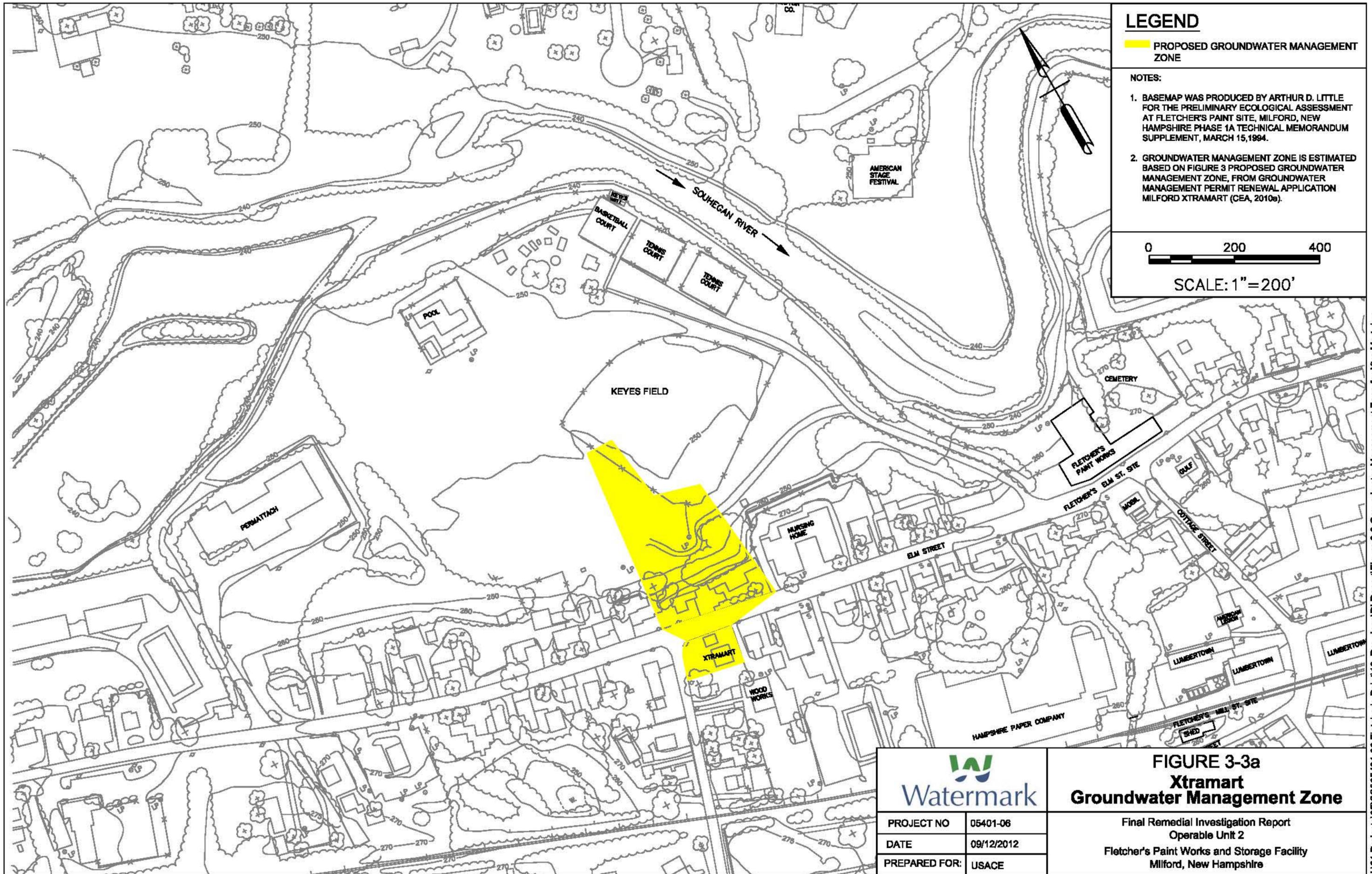
	
PROJECT NO:	05401-06
DATE:	09/22/2011
PREPARED FOR:	USACE

FIGURE 3-1
On-site and Upgradient
Groundwater Monitoring Wells for OU2

Final Remedial Investigation Report
 Operable Unit 2

Fletcher's Paint Works and Storage Facility
 Milford, New Hampshire

J:\01 Projects\05401-06 Fletcher's Paint\10 Drawings\RI Report\Figure 3-1 On-Site and Upgradient GW Monitoring Wells.mxd



LEGEND
 PROPOSED GROUNDWATER MANAGEMENT ZONE

- NOTES:**
1. BASEMAP WAS PRODUCED BY ARTHUR D. LITTLE FOR THE PRELIMINARY ECOLOGICAL ASSESSMENT AT FLETCHER'S PAINT SITE, MILFORD, NEW HAMPSHIRE PHASE 1A TECHNICAL MEMORANDUM SUPPLEMENT, MARCH 15, 1994.
 2. GROUNDWATER MANAGEMENT ZONE IS ESTIMATED BASED ON FIGURE 3 FROM GROUNDWATER MANAGEMENT PERMIT RENEWAL APPLICATION MILFORD XTRAMART (CEA, 2010e).

0 200 400

 SCALE: 1" = 200'

 Watermark	
PROJECT NO	05401-06
DATE	09/12/2012
PREPARED FOR:	USACE

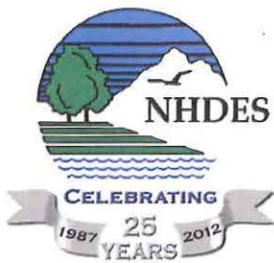
FIGURE 3-3a
Xtramart
Groundwater Management Zone

Final Remedial Investigation Report
 Operable Unit 2
 Fletcher's Paint Works and Storage Facility
 Milford, New Hampshire

Fletcher's Paint Site
2012 OU2 Groundwater No-Action ROD

Appendix A

NHDES 2012 Groundwater Use and Value Determination



The State of New Hampshire
Department of Environmental Services

Thomas S. Burack, Commissioner



*Celebrating 25 Years of Protecting
New Hampshire's Environment*

May 7, 2012

James T. Owens, Director
Office of Site Remediation and Restoration
USEPA - New England, Region I
5 Post Office Square, Suite 100, OSRR07-1
Boston, MA 02109-3912

**SUBJECT: Milford – Fletcher's Paint Works and Storage Superfund Site,
DES Site #198506001; Project #3576**

Groundwater Use and Value Determination

Dear Mr. Owens:

The New Hampshire Department of Environmental Services (Department) has completed a Groundwater Use and Value Determination (Determination) for the Fletcher's Paint Works and Storage Superfund Site located in Milford, NH (Site). The Department made the Determination at the request of the U.S. Environmental Protection Agency (EPA) using EPA's guidance document entitled, "Groundwater Use and Value Determination Guidance," dated April 3, 1996, and a December 5, 1996 memorandum of agreement between the Department and EPA for implementation of this program. This Determination is the basis for state and local planning for groundwater use and value in the vicinity of the Site for input to Superfund remedial action decisions.

Following the procedures outlined in the guidance document, the Department has determined that the groundwater in the vicinity of the Site is **Medium Use and Value**. Attached is a Table summarizing the site-specific use and value considerations and information used in the Determination. This Determination is consistent with the previous Determination dated June 30, 1997. New Hampshire's Comprehensive State Groundwater Protection Program, which was developed in cooperation with and approved by EPA, was consulted and provided significant input for the findings in this Determination.

The Site is situated along the southeastern extent of the Milford-Souhegan Aquifer. This stratified drift aquifer is approximately three miles long, extends from the town of East Wilton to Milford Town Center and has an approximate width of one-half mile. The estimated transmissivity of the aquifer is 4,000-8,000 square feet per day. Overburden deposits consist primarily of glacial outwash deposits composed of stratified fine to coarse sand and gravel underlain by a discontinuous veneer of glacial till. The saturated thickness of overburden in the vicinity of the Site ranges from 10 feet in the Mill Street area, to 20 feet in the Elm Street area and approximately 55 feet beneath Keyes Field. Depth to groundwater in the site vicinity is approximately 4 feet in the Mill Street area, 20 feet in the Elm Street area and approximately 12 feet in the Keyes Field area. Groundwater flow at the site in the vicinity of Keyes Field is in a

DES Web Site: www.des.nh.gov

PO Box 95 • 29 Hazen Drive • Concord, NH 03302-0095

Telephone: (603) 271-2908 • Fax: (603) 271-2181 • TDD Access: Relay NH 1-800-735-2964

north-northeast direction across Keyes Field and discharges into the Souhegan River, a Class B surface water. Vertical flow in both the overburden and the bedrock is generally upward in the vicinity of the Souhegan River.

In 1984 volatile organics were detected in the Keyes Municipal Water Supply Well (Keyes Well) located in the Keyes Field area of the Site. The Keyes Well had a capacity of approximately 250,000 gallons per day (based on 12 hours of usage daily) before it was closed due to contamination from the site and other sources in the area in 1984. The Town currently uses the Curtis Wells and a connection to the Pennichuck Water Distribution System. The Curtis Wells provide approximately 89% of the town's supply, with 11% coming from Pennichuck.

The Town does not plan to use the Keyes Well in the foreseeable future and is currently contemplating decommissioning the well. However, the Town is currently exploring a potential future municipal drinking water site in the area of Riverway West, located approximately 3,500 feet to the west of the Site between Elm Street and the Souhegan River. The Town plans to conduct an aggressive pump test at this location in 2012.

The contaminants of concern at the Site include benzene, ethylbenzene, toluene, 1,2-dichloroethane, trichlorethylene, PCBs, 1,2,4-trichlorobenzene, arsenic and manganese. Groundwater sampling conducted in the Keyes Field area of the Site by EPA in 2007 and 2009 indicates that contaminant concentrations were below a level of concern, with the exception of arsenic. Petroleum hydrocarbons including benzene, ethylbenzene and toluene are attributed to off-site sources associated with current or former gasoline stations in the area, and arsenic and manganese are believed to be naturally occurring.

The Department uses Groundwater Management Zones (GMZ) as a component of the remediation of contaminated groundwater. A GMZ is required at this Site. The GMZ sets boundaries within which groundwater will be monitored over time to ensure: that the contaminant concentrations are decreasing; that the remaining contamination has not migrated beyond the established boundaries; and, that the remediation is progressing effectively over time.

New Hampshire's Groundwater Protection Act, RSA 485-C, and Contaminated Site Management rules, Env-Or 600, provide for protective management and remediation of groundwater affected by regulated contaminants in order that groundwater may be used for drinking water supply. Pursuant to RSA 485-C, ambient groundwater quality standards shall be equal to drinking water standards. Further, RSA 485-C recognizes that groundwater constitutes an integral part of the hydrologic cycle and that the protection of groundwater quality is necessary to preserve the integrity of surface water. Therefore, Env-Or 600 mandates that groundwater shall not contain any regulated contaminant such that the natural discharge of groundwater to surface water will cause a violation of the Department's surface water quality standards.

James T. Owens, Director
DES Site #198506001
May 7, 2012
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The Groundwater Use and Value Determination for the Site is **Medium Use and Value**. The Town was provided a draft of this Groundwater Use and Value Determination on April 11 and concurs with the Department's determination.

If you have any questions on this Determination, please contact Robin Mongeon at (603) 271-7378.

Sincerely,



Thomas S. Burack
Commissioner

Enclosure: Table 1

cc: Milford Town Administrator, Guy Scaife
Milford Water Utilities, Superintendent, David Boucher
Cheryl Sprague, EPA
Michael Wimsatt, P.G., Director WMD
Carl Baxter, P.E., WMD
Richard Pease, P.E., WMD
Robin Mongeon, P.E., WMD
Brandon Kernen, P.G., DES

**TABLE 1
 FLETCHER'S PAINT WORKS AND STORAGE SUPERFUND SITE, MILFORD NEW HAMPSHIRE
 GROUNDWATER USE AND VALUE DETERMINATION WORKSHEET
 SUMMARY OF GROUNDWATER SITE-SPECIFIC USE AND VALUE CONSIDERATIONS**

FACTORS	HIGH	MEDIUM	LOW	COMMENTS
1. QUANTITY	X			The Site overlies a stratified drift aquifer with estimated transmissivity of 4,000-8,000 gallons square feet per day. The Keyes Well, an inactive municipal well, is located at the site. The Keyes Well had a capacity of approximately 250,000 gallons per day (based on 12 hours of usage daily) before it was closed due to contamination from the site and other sources in the area.
2. QUALITY		X		There has been some occurrence of elevated levels of manganese and arsenic in the vicinity of the site which is likely naturally occurring. The Keyes Well is within 100 feet of Souhegan River and therefore may require treatment or relocation to meet Safe Drinking Water Act requirements for groundwater under the influence of surface water in order to be used in the future irrespective of the site.
3. CURRENT PUBLIC WATER SUPPLY SYSTEMS (PWSSs)			X	The Keyes Well has been inactive since 1984. The Town uses groundwater from the Curtis Wells for approximately 89% of their municipal water supply and the other 11% comes from a connection to the Pennichuck Water Distribution System. The Curtis Wells are located approximately 7,000 feet to the east of the site in the Town of Amherst, New Hampshire and are unlikely to be affected by site contaminants.
4. CURRENT PRIVATE DRINKING WATER SUPPLY WELLS			X	Municipal water is available to all properties in the review area. A Groundwater Management Zone will be established to control the use of groundwater at the site.

TABLE 1 (continued)

FACTORS	HIGH	MEDIUM	LOW	COMMENTS
5. LIKELIHOOD AND IDENTIFICATION OF FUTURE DRINKING WATER USE		X		The Town uses groundwater from the Curtis Wells and a connection to the Pennichuck Water Distribution System to address foreseeable needs. Current source capacity, including the interconnection with the Pennichuck water system originating in Nashua, is 2.3 million gallons per day(MGD). The average daily demand for water in Milford is approximately 0.850 MGD with a maximum daily use of 1.37 MGD. The Town is currently thinking of decommissioning the Keyes Well. If redeveloped in the future, the Keyes Well may require treatment due to influence from surface water; therefore, the future feasibility and cost effectiveness of treating or resiting the Keyes Well is unknown but may be low relative to current and potential future sources. For example, the reuse of the Savage Well after the Savage Superfund site aquifer restoration is completed, due to the substantially higher yield at the Savage Well compared to the Keyes Well.
6. OTHER CURRENT OR REASONABLY EXPECTED GROUNDWATER USE(S) IN REVIEW AREA			X	Municipal water is available to all properties in the review area. The Town is currently exploring a potential future municipal drinking water site in the area of Riverway West, located approximately 3,500 feet to the west of the Site. The Town plans to conduct an aggressive pump test at this location in 2012. A Groundwater Management Zone will be established to control the use of groundwater in the future and to ensure that the contaminant concentrations are decreasing, the remaining contamination has not migrated beyond the established boundaries, and that the remediation is progressing effectively over time.
7. ECOLOGICAL VALUE		X		Groundwater at the site discharges to the Souhegan River, a Class B surface water. The river is used for recreational purposes including canoeing, fishing and swimming.
8. PUBLIC OPINION		X		The Town does not plan to use the Keyes Well in the foreseeable future. The Town is contemplating decommissioning the Keyes Well.

Fletcher's Paint Site
2012 OU2 Groundwater No-Action ROD

Appendix B

Administrative Record Index

**FLETCHER'S PAINT WORKS & STORAGE
FACILITY**

NPL Superfund Site

Administrative Record

Index

For the Record of Decision (ROD)
Operable Unit Two (OU2)
Keyes Field

ROD Dated: September 2012
Released: October 2012

Prepared by
EPA New England
Office of Site Remediation and Restoration

With Assistance from
ASRC Primus
6301 Ivy Lane, Suite 300
Greenbelt, MD 20770

INTRODUCTION

This is the Administrative Record Index for the Record of Decision (ROD) for the Fletcher's Paint Works & Storage Facility Superfund Site (Site) in Milford, New Hampshire, Operable Unit Two [OU2 (Keyes Field)]. The Record of Decision (ROD) was signed September 2012. Section I of the Index cites site-specific documents.

This record replaces the Proposed Plan Administrative Record File distributed in August 2012. This record includes, by reference, the Administrative Record for the Fletcher's Paint Works & Storage Facility, Record of Decision (ROD), issued on January 10, 1997, Record of Decision (ROD), issued on September 30, 1998, Explanation of Significant Differences (ESD), issued on March 14, 2001, the Amended Record of Decision (AROD), issued on June 15, 2009 and the Second Explanation of Significant Differences (ESD), issued September 30, 2010.

The Record of Decision (ROD) Administrative Record is available for public review at:

EPA New England
OSRR Records & Information Center
5 Post Office Square
Suite 100 (OSRR 02-3)
Boston, MA 02109 - 3912
(By appointment)
(617) 918-1440 (phone)
(617) 918-0440 (fax)
<http://www.epa.gov/region01/superfund/resource/records.htm>

Wadleigh Memorial Library
49 Nashua Street
Milford, NH 03055
Phone: 603-673-2408; Fax: 603-672-6064
wadleigh@wadleigh.lib.nh.us

An Administrative Record is required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA).

Please note that the compact disc(s) (CD) containing this Administrative Record may include index data and other metadata (hereinafter collectively referred to as metadata) to allow the user to conduct index searches and key word searches across all the files contained on the CD. All the information that appears in the metadata, including any dates associated with creation of the indexing data, is not part of the Administrative Record for the Site under CERCLA and shall not be construed as relevant to the documents that comprise the Administrative Record. This metadata is provided as a convenience for the user and is not part of the Administrative Record.

Questions about this Administrative Record file should be directed to the EPA New England site manager.

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Phase 03: REMEDIAL INVESTIGATION (RI)			
490819 FINAL ECOLOGICAL RISK ASSESSMENT (ERA) FOR THE SOUHEGAN RIVER			# of Pages: 124 Doc Date: 11/01/1997
Author: , ARTHUR D LITTLE INC	Addressee: , US EPA REGION 1	Doc Type: REPORT RISK/HEALTH ASSESSMENT	File Break: 03.10 Access Type(s): REL
492342 SUPPLEMENTAL BASELINE HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENTS, FINAL REPORT (06/30/2011 TRANSMITTAL LETTER ATTACHED)			# of Pages: 532 Doc Date: 09/08/2011
Author: , AVATAR ENVIRONMENTAL , BATTELLE	Addressee: , US ARMY CORPS OF ENGINEERS - NEW ENGLAND DIVISION	Doc Type: REPORT	File Break: 03.10 Access Type(s): REL
494730 FINAL REMEDIAL INVESTIGATION (RI) REPORT, OPERABLE UNIT (OU) 2			# of Pages: 188 Doc Date: 09/01/2011
Author: , WATERMARK	Addressee: , US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT	Doc Type: REMEDIAL INVESTIGATION (F REPORT	File Break: 03.06 Access Type(s): REL

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Phase 03: REMEDIAL INVESTIGATION (RI)

Phase 03: REMEDIAL INVESTIGATION (RI)			
519408	LABORATORY REPORT, BASE NEUTRAL ACIDS (BNA) IN WATER	# of Pages: 20	Doc Date: 11/05/2009
Author: DANIEL N BOUDREAU, US EPA REGION 1	Addressee: CHERYL SPRAGUE, US EPA REGION 1	Doc Type: REPORT SAMPLING DATA	File Break: 03.02 Access Type(s): REL
519409	LABORATORY REPORT, TOTAL RECOVERABLE METALS IN WATER BY INDUCTIVELY COUPLED PLASMA SPECTROSCOPY (ICP)	# of Pages: 11	Doc Date: 12/03/2009
Author: DANIEL N BOUDREAU, US EPA REGION 1	Addressee: CHERYL SPRAGUE, US EPA REGION 1	Doc Type: REPORT SAMPLING DATA	File Break: 03.02 Access Type(s): REL
519410	LABORATORY REPORT, PCBS IN WATER LOW LEVEL	# of Pages: 8	Doc Date: 11/10/2009
Author: DANIEL N BOUDREAU, US EPA REGION 1	Addressee: CHERYL SPRAGUE, US EPA REGION 1	Doc Type: REPORT SAMPLING DATA	File Break: 03.02 Access Type(s): REL

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519411 LABORATORY REPORT, VOLATILE ORGANIC ANALYTES (VOA) IN WATER			# of Pages: 22 Doc Date: 11/05/2009
Author: DANIEL N BOUDREAU, US EPA REGION 1	Addressee: CHERYL SPRAGUE, US EPA REGION 1	Doc Type: REPORT SAMPLING DATA	File Break: 03.02 Access Type(s): REL
519412 LABORATORY REPORT, BASE NEUTRAL ACIDS (BNA) IN WATER			# of Pages: 24 Doc Date: 05/02/2007
Author: DANIEL N BOUDREAU, US EPA REGION 1	Addressee: CHERYL SPRAGUE, US EPA REGION 1	Doc Type: REPORT SAMPLING DATA	File Break: 03.02 Access Type(s): REL
519413 LABORATORY REPORT, BASE NEUTRAL ACIDS (BNA) IN WATER			# of Pages: 30 Doc Date: 04/27/2007
Author: DANIEL N BOUDREAU, US EPA REGION 1	Addressee: CHERYL SPRAGUE, US EPA REGION 1	Doc Type: REPORT SAMPLING DATA	File Break: 03.02 Access Type(s): REL

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Phase 03: REMEDIAL INVESTIGATION (RI)

519414 LABORATORY REPORT, TOTAL MERCURY IN WATER				# of Pages: 10
				Doc Date: 04/27/2007
Author: DANIEL N BOUDREAU, US EPA REGION 1	Addressee: CHERYL SPRAGUE, US EPA REGION 1	Doc Type: REPORT SAMPLING DATA	File Break: 03.02 Access Type(s): REL	
519415 LABORATORY REPORT, TOTAL RECOVERABLE METALS IN WATER BY INDUCTIVELY COUPLED PLASMA SPECTROSCOPY (ICP)				# of Pages: 23
				Doc Date: 06/07/2007
Author: DANIEL N BOUDREAU, US EPA REGION 1	Addressee: CHERYL SPRAGUE, US EPA REGION 1	Doc Type: REPORT SAMPLING DATA	File Break: 03.02 Access Type(s): REL	
519416 LABORATORY REPORT, PCBS IN WATER LOW LEVEL				# of Pages: 19
				Doc Date: 05/10/2007
Author: DANIEL N BOUDREAU, US EPA REGION 1	Addressee: CHERYL SPRAGUE, US EPA REGION 1	Doc Type: REPORT SAMPLING DATA	File Break: 03.02 Access Type(s): REL	

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# of Pages: 28			
Doc Date: 05/03/2007			
519417 LABORATORY REPORT, VOLATILE ORGANIC ANALYTES (VOA) IN WATER	Author: DANIEL N BOUDREAU, US EPA REGION 1	Addressee: CHERYL SPRAGUE, US EPA REGION 1	Doc Type: REPORT SAMPLING DATA
			File Break: 03.02 Access Type(s): REL
# of Pages: 28			
Doc Date: 05/14/2007			
519418 LABORATORY REPORT, VOLATILE ORGANIC ANALYTES (VOA) IN WATER	Author: DANIEL N BOUDREAU, US EPA REGION 1	Addressee: CHERYL SPRAGUE, US EPA REGION 1	Doc Type: REPORT SAMPLING DATA
			File Break: 03.02 Access Type(s): REL
# of Pages: 1			
Doc Date: 01/01/1111			
519419 HANDWRITTEN NOTES, DEPTH OF SCREENS OF KEYS MONITORING WELLS	Author: , US EPA REGION 1	Addressee:	Doc Type: NOTES
			File Break: 03.02 Access Type(s): REL

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Phase 03: REMEDIAL INVESTIGATION (RI)

519479		KEYES WELL CONTRIBUTING RECHARGE DETERMINATION, DISCUSSION GUIDE (05/31/1994 TRANSMITTAL LETTER ATTACHED)		# of Pages: 24
				Doc Date: 05/12/1994
Author: , ARTHUR D LITTLE INC	Addressee:	Doc Type: REPORT	File Break: 03.04 Access Type(s): REL	
519480		LETTER REGARDING RECOMMENDATIONS FOR ADDITIONAL WORK ON THE GROUND-WATER FLOW MODELING		# of Pages: 2
				Doc Date: 05/13/1994
Author: PHILIP T HARTE, US DOI/US GEOLOGICAL SURVEY	Addressee: CHERYL L SPRAGUE, US EPA REGION 1	Doc Type: REPORT	File Break: 03.01 Access Type(s): REL	
519881		EMAIL REGARDING REMEDIAL INVESTIGATION (RI) ADDENDUM, RERUN OF RISK ASSESSMENT (EMAIL TRANSMITTAL ATTACHED)		# of Pages: 2
				Doc Date: 09/10/2012
Author: LARRY PANNELL, WATERMARK ENVIRONMENTAL INC	Addressee: MARYELLEN IORIO, US ARMY CORPS OF ENGINEERS	Doc Type: CORRESPONDENCE EMAIL	File Break: 03.01 Access Type(s): REL	

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Phase 03: REMEDIAL INVESTIGATION (RI)

522303 ERRATA SHEETS - FINAL REMEDIAL INVESTIGATION (RI) REPORT, OPERABLE UNIT (OU) 2 (TRANSMITTAL LETTER ATTACHED)

of Pages: 144

Doc Date: 09/13/2012

Author: , WATERMARK

Addressee: , US ARMY CORPS OF ENGINEERS NEW ENGLAND
DISTRICT

Doc Type: REMEDIAL INVESTIGATION (F
REPORT

File Break: 03.06

Access
Type(s): REL

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Phase 04: FEASIBILITY STUDY (FS)

519459 PROPOSED PLAN, KEYES FIELD PORTION OF SITE, OPERABLE UNIT (OU) 2

of Pages: 8

Doc Date: 08/01/2012

Author: , US EPA REGION 1

Addressee:

Doc Type: PROPOSED PLAN
PUBLIC INFORMATION
REPORT

File Break: 04.09

Access
Type(s): REL

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Phase 05: RECORD OF DECISION (ROD)

519477	EMAIL TRANSMITTING OPERABLE UNIT (OU) 2 GROUNDWATER UNDER KEYES FIELD NO ACTION PROPOSED PLAN	# of Pages: 1	
			Doc Date: 08/20/2012
Author: CHERYL L SPRAGUE, US EPA REGION 1	Addressee:	Doc Type: CORRESPONDENCE EMAIL	File Break: 05.01 Access Type(s): REL
521967	REVISED DRAFT FINAL COMPLETION REPORT, GROUNDWATER MANAGMENT AREA 2 (GMA2)	# of Pages: 1	
			Doc Date: 09/11/2012
Author: CHERYL SPRAGUE, US EPA REGION 1	Addressee: COREY AVERILL, ARCADIS BBL ELLEN IORIO, US ARMY CORPS OF ENGINEERS ROBIN MONGEON, NH DEPT OF ENVIRONMENTAL SERVICES JOHN URUSKYJ, GENERAL ELECTRIC CO	Doc Type: CORRESPONDENCE LETTER	File Break: 05.01 Access Type(s): REL

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Phase 06: REMEDIAL DESIGN (RD)

286703 RESPONSE TO INTERMEDIATE (60%) DESIGN COMMENTS PROVIDED IN ENVIRONMENTAL PROTECTION AGENCY'S (EPA) 11/01/2007 LETTER		# of Pages: 32
		Doc Date: 12/31/2007
Author: , GENERAL ELECTRIC CO	Addressee:	Doc Type: PUBLIC (AND OTHER) COMMENT REPORT
		File Break: 06.06 Access Type(s): REL
286705 RESPONSE TO GROUNDWATER-RELATED COMMENTS PROVIDED IN ENVIRONMENTAL PROTECTION AGENCY'S (EPA) 11/01/2007 LETTER		# of Pages: 22
		Doc Date: 12/31/2007
Author: , EPA	Addressee:	Doc Type: PUBLIC (AND OTHER) COMMENT REPORT
		File Break: 06.06 Access Type(s): REL
471134 WATER MONITORING REPORT (WMR) - JANUARY 2010		# of Pages: 4789
		Doc Date: 04/14/2010
Author: , ARCADIS	Addressee: , GENERAL ELECTRIC CO	Doc Type: REPORT SAMPLING DATA
		File Break: 06.02 Access Type(s): REL

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Phase 06: REMEDIAL DESIGN (RD)

490472 GROUNDWATER MONITORING REPORT - APRIL 2011			# of Pages: 3703 Doc Date: 07/25/2011
Author: , ARCADIS	Addressee: , GENERAL ELECTRIC CO	Doc Type: REPORT SAMPLING DATA	File Break: 06.02 Access Type(s): REL
490473 TRANSMITTAL LETTER FOR GROUNDWATER MONITORING REPORT, OPERABLE UNIT (OU1)			# of Pages: 2 Doc Date: 07/25/2011
Author: PAUL WM HARE, GENERAL ELECTRIC COMPANY	Addressee: CHERYL SPRAGUE, US EPA REGION 1	Doc Type: CORRESPONDENCE LETTER	File Break: 06.01 Access Type(s): REL
509338 LETTER FROM STATE OF NEW HAMPSHIRE (NH) REGARDING GROUNDWATER USE AND VALUE DETERMINATION			# of Pages: 5 Doc Date: 05/07/2012
Author: THOMAS S BURACK, NH DEPT OF ENVIRONMENTAL SERVICES	Addressee: JAMES T OWENS III, US EPA REGION 1	Doc Type: CORRESPONDENCE LETTER	File Break: 06.02 Access Type(s): REL

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Phase 06: REMEDIAL DESIGN (RD)

519465 LETTER REGARDING PROPOSED CHANGES TO THE WATER MONITORING PLAN (WMP)			# of Pages: 2 Doc Date: 12/09/2010
Author: CHERYL SPRAGUE, US EPA REGION 1	Addressee: PAUL HARE, GENERAL ELECTRIC COMPANY	Doc Type: CORRESPONDENCE LETTER	File Break: 06.06 Access Type(s): REL
519466 LETTER REGARDING PARTIAL RESPONSE TO COMMENTS ON THE WATER MONITORING PLAN (WMP)			# of Pages: 23 Doc Date: 07/13/2007
Author: PAUL WM HARE, GENERAL ELECTRIC COMPANY	Addressee: CHERYL SPRAGUE, US EPA REGION 1	Doc Type: CORRESPONDENCE LETTER	File Break: 06.06 Access Type(s): REL
519467 APRIL 2012 GROUNDWATER MONITORING REPORT, MILFORD XTRAMART, 78 ELM STREET (TRANSMITTAL LETTER ATTACHED)			# of Pages: 69 Doc Date: 05/29/2012
Author: , CORPORATE ENVIRONMENTAL ADVISORS ; INC	Addressee: , DRAKE PETROLEUM COMPANY INC	Doc Type: REPORT SAMPLING DATA	File Break: 06.02 Access Type(s): REL

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Phase 06: REMEDIAL DESIGN (RD)

519468	DECEMBER 2012 GROUNDWATER ANNUAL SUMMARY REPORT, MILFORD XTRAMART, 78 ELM STREET (TRANSMITTAL LETTER ATTACHED)	# of Pages: 121
		Doc Date: 12/28/2011
Author: , CORPORATE ENVIRONMENTAL ADVISORS ; INC	Addressee: , DRAKE PETROLEUM COMPANY INC	Doc Type: REPORT SAMPLING DATA
		File Break: 06.02 Access Type(s): REL
519469	LETTER REGARDING SUBSTANTIVE REQUIREMENTS ON NEW HAMPSHIRE (NH) APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARAR) RELATING TO THE ESTABLISHMENT OF A GROUNDWATER MANAGMENT ZONE (GMZ) (TWO LETTERS ATTACHED)	# of Pages: 16
		Doc Date: 07/30/2007
Author: IGNACIA S MORENO, GENERAL ELECTRIC CO	Addressee: RUTHANN SHERMAN, US EPA REGION 1	Doc Type: CORRESPONDENCE LETTER
		File Break: 06.03 Access Type(s): REL
519470	LETTER REGARDING EPA APPROVAL WITH MODIFICATION OF PRELIMINARY (30%) DESIGN REPORT, POTENTIAL STATE GROUNDWATER MANAGEMENT PERMIT APPLICATION REQUIREMENT	# of Pages: 3
		Doc Date: 05/15/2007
Author: JEFFREY R PORTER, MINTZ LEVIN COHN ; FERRIS GLOVSKY AND POPEO PC	Addressee: RUTHANN SHERMAN, US EPA REGION 1	Doc Type: CORRESPONDENCE LETTER
		File Break: 06.04 Access Type(s): REL

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519471 LETTER REGARDING GROUNDWATER CLEANUP TIMEFRAME ESTIMATES (07/27/2007 LETTER ATTACHED)				# of Pages: 8
				Doc Date: 07/30/2007
Author: PAUL WM HARE, GENERAL ELECTRIC COMPANY	Addressee: CHERYL SPRAGUE, US EPA REGION 1	Doc Type: CORRESPONDENCE LETTER	File Break: 06.01 Access Type(s): REL	
519472 LETTER REGARDING PRELIMINARY (30%) DESIGN REPORT, MODIFICATIONS AND SUBMISSIONS, STATE GROUNDWATER MANAGEMENT PERMIT APPLICATION REQUIREMENT				# of Pages: 2
				Doc Date: 05/25/2007
Author: RUTHANN SHERMAN, US EPA REGION 1	Addressee: JEFFREY R PORTER, MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO PC	Doc Type: CORRESPONDENCE LETTER	File Break: 06.04 Access Type(s): REL	
519473 GROUNDWATER MANAGEMENT PERMIT RENEWAL APPLICATION, DRAKE PETROLEUM COMPANY, INC., MILFORD XTRAMART, 78 ELM STREET (TRANSMITTAL LETTER ATTACHED)				# of Pages: 33
				Doc Date: 01/27/2010
Author: , CORPORATE ENVIRONMENTAL ADVISORS ; INC	Addressee: , DRAKE PETROLEUM COMPANY INC	Doc Type: REPORT	File Break: 06.06 Access Type(s): REL	

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Phase 06: REMEDIAL DESIGN (RD)

519474 SURFACE WATER AND GROUNDWATER MONITORING PLAN			# of Pages: 49 Doc Date: 06/01/2003
Author: , BLASLAND BOUCK & LEE INC	Addressee: , GENERAL ELECTRIC CO	Doc Type: REPORT	File Break: 06.06 Access Type(s): REL
519475 LETTER REGARDING 10/21/2008 PROPOSED CHANGES TO THE WATER MONITORING PLAN (WMP)			# of Pages: 3 Doc Date: 12/01/2008
Author: CHERYL L SPRAGUE, US EPA REGION 1	Addressee: PAUL HARE, GENERAL ELECTRIC COMPANY	Doc Type: CORRESPONDENCE LETTER	File Break: 06.06 Access Type(s): REL
519476 LETTER REGARDING 10/21/2008 PROPOSED CHANGES TO THE WATER MONITORING PLAN (WMP)			# of Pages: 1 Doc Date: 12/02/2008
Author: CHERYL L SPRAGUE, US EPA REGION 1	Addressee: PAUL HARE, GENERAL ELECTRIC COMPANY	Doc Type: CORRESPONDENCE LETTER	File Break: 06.06 Access Type(s): REL

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Phase 06: REMEDIAL DESIGN (RD)

519478	LETTER REGARDING APPROVAL WITH MODIFICATIONS ON SURFACE WATER AND GROUNDWATER MONITORING PLAN (WMP), AND COMMENTS ASSOCIATED WITH GROUNDWATER SAMPLING RESULTS, LOW FLOW SAMPLING MODIFICATION AND PROPOSED GROUNDWATER MONITORING ZONE (GMZ) DELINEATION	# of Pages: 12 Doc Date: 06/20/2007
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Author: MICHAEL JASINSKI, US EPA REGION 1 CHERYL L SPRAGUE, US EPA REGION 1	Addressee: PAUL WM HARE, GENERAL ELECTRIC COMPANY	Doc Type: CORRESPONDENCE LETTER	File Break: 06.06 Access Type(s): REL
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Phase 08: POST REMEDIAL ACTION

519464 INSTITUTIONAL CONTROLS AND ACCESS RESTRICTIONS (IC/AR) PLAN (04/16/2012 TRANSMITTAL LETTER ATTACHED)

of Pages: 32

Doc Date: 04/01/2002

Author: , BLASLAND BOUCK & LEE INC

Addressee: , GENERAL ELECTRIC CO

Doc Type: REPORT

File Break: 08.07

Access
Type(s): REL

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Phase 10: ENFORCEMENT/NEGOTIATION

237190 ADMINISTRATIVE ORDER (AOC) FOR REMEDIAL DESIGN AND REMEDIAL ACTION, DOCKET #01-2001-0063, INCLUDES ATTACHMENT C (STATEMENT OF WORK (SOW))		# of Pages: 111
		Doc Date: 07/16/2001
Author: , US EPA REGION 1	Addressee:	Doc Type: ADMIN ORDER ON CONSENT ENFORCEMENT & SETTLEMEN
		File Break: 10.07 Access Type(s): REL
471143 SECOND MODIFICATION TO ADMINISTRATIVE ORDER (AOC) FOR REMEDIAL DESIGN AND REMEDIAL ACTION (RD/RA) AND STATEMENT OF WORK (SOW) DOCKET NO. 01-2001-0063 (06/11/2010 LETTER ATTACHED)		# of Pages: 77
		Doc Date: 06/10/2010
Author: , US EPA REGION 1	Addressee: , GENERAL ELECTRIC CO	Doc Type: ADMIN ORDER ON CONSENT ENFORCEMENT & SETTLEMEN
		File Break: 10.07 Access Type(s): REL
519484 FIRST MODIFICATION TO ADMINISTRATIVE ORDER (AOC), MODIFICATIONS TO ADMINISTRATIVE ORDER AND STATEMENT OF WORK (SOW)		# of Pages: 11
		Doc Date: 08/15/2001
Author: , US EPA REGION 1	Addressee:	Doc Type: ADMIN ORDER ON CONSENT ENFORCEMENT & SETTLEMEN
		File Break: 10.07 Access Type(s): REL

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Phase 10: ENFORCEMENT/NEGOTIATION

519485 LETTER TRANSMITTING FIRST MODIFICATION TO ADMINISTRATIVE ORDER (AOC), MODIFICATIONS TO ADMINISTRATIVE ORDER

of Pages: 2

Doc Date: 08/15/2001

Author: PATRICIA L MEANEY, US EPA REGION 1

Addressee: JANE GARDNER, GENERAL ELECTRIC CO

Doc Type: CORRESPONDENCE
LETTER

File Break: 10.07

**Access
Type(s):** REL

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Phase 13: COMMUNITY RELATIONS

519455 SAVE THE DATE REMINDER FOR PUBLIC MEETING ON PROPOSED PLAN, 09/12/2012	# of Pages: 2
	Doc Date: 08/14/2012

Author: , US EPA REGION 1	Addressee:	Doc Type: PUBLIC INFORMATION	File Break: 13.01 Access Type(s): REL
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519461 PRESS RELEASE: PUBLIC MEETING AND HEARING ON 09/12/2012 WILL DISCUSS GROUNDWATER AT FLETCHER'S PAINT SUPERFUND SITE IN MILFORD, NH	# of Pages: 2
	Doc Date: 08/21/2012

Author: , US EPA REGION 1	Addressee:	Doc Type: PRESS RELEASE PUBLIC INFORMATION	File Break: 13.03 Access Type(s): REL
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519463 FACT SHEET: ARSENIC IN NEW HAMPSHIRE (NH) WELL WATER	# of Pages: 4
	Doc Date: 01/01/2012

Author: , NHDES	Addressee:	Doc Type: FACT SHEET PUBLIC INFORMATION	File Break: 13.05 Access Type(s): REL
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Phase 13: COMMUNITY RELATIONS

521966	ARTICLE FROM UNION LEADER: EPA PLANS HEARING TO DISCUSS MILFORD'S SITE	# of Pages: 3
		Doc Date: 08/27/2012

Author: NANCY BEAN FOSTER, UNION LEADER	Addressee:	Doc Type: ARTICLE - NEWS/ PERIODICAL NEWS ARTICLE	File Break: 13.03 Access Type(s): REL
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522332	PUBLIC HEARING TRANSCRIPT REGARDING THE RECORD OF DECISION (ROD) PROPOSED PLAN, OPERABLE UNIT 2 (OU2), KEYES FIELD	# of Pages: 39
		Doc Date: 09/12/2012

Author: ELAINE J RITSEMA, NONE	Addressee:	Doc Type: MEETING RECORD PUBLIC (AND OTHER) COMMUNICATION PUBLIC INFORMATION	File Break: 13.04 Access Type(s): REL
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522333	VIDEO OF PUBLIC HEARING REGARDING THE RECORD OF DECISION (ROD) PROPOSED PLAN, OPERABLE UNIT 2 (OU2), KEYES FIELD	# of Pages: 1
		Doc Date: 09/12/2012

Author: , MILFORD (NH) TOWN OF	Addressee:	Doc Type: MEETING RECORD PUBLIC (AND OTHER) COMMUNICATION PUBLIC INFORMATION VIDEO	File Break: 13.04 Access Type(s): REL
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Phase 13: COMMUNITY RELATIONS

522338	ARTICLE IN NASHUA TELEGRAPH: EPA CLEARS FLETCHER'S PAINT SUPERFUND SITE IN MILFORD, BUT SOME CLEANUP REMAINS	# of Pages: 2
		Doc Date: 08/25/2012

Author: MICHAEL CLEVELAND, NASHUA TELEGRAPH	Addressee:	Doc Type: ARTICLE - NEWS/ PERIODICAL NEWS ARTICLE	File Break: 13.03 Access Type(s): REL
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522339	SAVE THE DATE, NOTICE OF PUBLIC MEETING 09/12/2012 AT MILFORD TOWN HALL	# of Pages: 1
		Doc Date: 08/30/2012

Author: , US EPA REGION 1	Addressee:	Doc Type: PRESS RELEASE PUBLIC INFORMATION	File Break: 13.03 Access Type(s): REL
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522340	PRESS RELEASE IN MILFORD CABINET: SAVE THE DATE, NOTICE OF PUBLIC MEETING 09/12/2012 AT MILFORD TOWN HALL (09/25/2012 TRANSMITTAL MEMO ATTACHED) [BEST AVAILABLE COPY]	# of Pages: 2
		Doc Date: 08/30/2012

Author: , US EPA REGION 1	Addressee:	Doc Type: PRESS RELEASE PUBLIC INFORMATION	File Break: 13.03 Access Type(s): REL
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Phase 13: COMMUNITY RELATIONS

522341	ARTICLE IN MILFORD CABINET: EPA HOLDS FLETCHER SUPERFUND HEARING IN MILFORD	# of Pages: 3
		Doc Date: 09/20/2012

Author: KATHY CLEVELAND, THE CABINET OF MILFORD	Addressee:	Doc Type: ARTICLE - NEWS/ PERIODICAL NEWS ARTICLE	File Break: 13.03 Access Type(s): REL
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522342	ARTICLE IN MILFORD CABINET: GROUP WANTS TO BEAUTIFY SUPERFUND SITE	# of Pages: 3
		Doc Date: 09/06/2012

Author: KATHY CLEVELAND, THE CABINET OF MILFORD MICHAEL CLEVELAND, MILFORD CABINET AND WILTON JOURNAL	Addressee:	Doc Type: ARTICLE - NEWS/ PERIODICAL NEWS ARTICLE	File Break: 13.03 Access Type(s): REL
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OU2 Keyes Field ROD AR
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Phase 16: NATURAL RESOURCE TRUSTEE

449012 INFORMATION ON HYDROLOGIC AND PHYSICAL PROPERTIES OF WATER TO ASSESS TRANSIENT HYDROLOGY OF THE MILFORD-SOUHEGAN GLACIAL-DRIFT AQUIFER, MILFORD, NEW HAMPSHIRE (NH) (01/08/1998 LETTER TRANSMITTING UPDATED COPY OF TABLE 8 ATTACHED)

of Pages: 101

Doc Date: 01/01/1997

Author: , US EPA REGION 1
, US GEOLOGICAL SURVEY

Addressee:

Doc Type: REPORT

File Break: 16.05

**Access
Type(s):** REL

Number of Documents in Administrative Record:58

Selected Key Guidance Documents

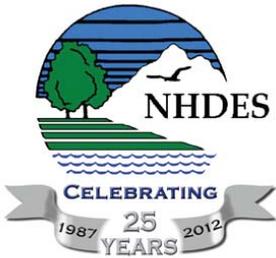
EPA Guidance Documents may be reviewed at the OSRR Records and Information Center in Boston, MA

DOCNUMBER	DOCDATE	TITLE	OSWEREPAID
C276	22-Apr-91	ROLE OF THE BASELINE RISK ASSESSMENT IN SUPERFUND REMEDY SELECTION DECISIONS	OSWER 9355.0-30
C527	01-Jul-99	GUIDE TO PREPARING SUPERFUND PROPOSED PLANS RECORDS OF DECISION AND OTHER REMEDY SELECTION DECISION DOCUMENTS	OSWER 9200.1-23P
C694	19-Feb-92	PERMITS AND PERMIT EQUIVALENCY PROCESSES FOR CERCLA ON-SITE RESPONSE ACTIONS	OSWER 9355.7-03
C723	26-Apr-02	ROLE OF BACKGROUND IN THE CERCLA CLEANUP PROGRAM	OSWER 9285.6-07P

Fletcher's Paint Site
2012 OU2 Groundwater No-Action ROD

Appendix C

State Concurrence Letter



The State of New Hampshire
Department of Environmental Services

Thomas S. Burack, Commissioner



*Celebrating 25 Years of Protecting
New Hampshire's Environment*

October 2, 2012

James T. Owens III, Director
Office of Site Remediation and Restoration
US EPA New England, Region I
5 Post Office Sq, Suite 100
Boston MA 02109-3912

**RE: Record of Decision – Operable Unit 2, Keyes Field Groundwater
Fletcher's Paint Works and Storage Facility Superfund Site
Milford, New Hampshire – DES #198506001, Project RSN #3576**

SUBJECT: Declaration of Concurrence

Dear Mr. Owens:

The New Hampshire Department of Environmental Services (Department) has reviewed the Record of Decision (ROD), dated September 2012, for the Fletcher's Paint Works and Storage Facility Superfund Site (Site) in Milford, New Hampshire. The United States Environmental Protection Agency (EPA) prepared this ROD in accordance with the provisions of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986. The ROD addresses the remedial actions necessary under CERCLA, as amended, to manage potential threats to human health and the environment at the Site.

Rationale for the ROD

The Fletcher's Paint Works and Storage Facility Superfund Site (Site) was listed on the National Priorities List (NPL) in March 1989 after contamination was found in the nearby Keyes Municipal Supply Well (Keyes Well). EPA divided the Site into two separate operable units (OUs).

The OU1 portion of the Site addresses the former Fletcher's properties and associated groundwater contamination. It is generally comprised of the approximately 2 acre Elm Street Area and the 0.5-acre Mill Street Area, that is located roughly 800 feet south of the Elm Street Area, and associated groundwater contamination which is found in both the overburden and bedrock aquifers from the Mill Street Area to the Souhegan River. The most significant source of groundwater contamination is within the Mill Street Area. A ROD was issued for OU1 in 1998 and amended in 2009. The ROD for OU1 involves the excavation and off-site treatment and/or disposal of approximately 28,000 cubic yards of primarily PCB-contaminated soils; site restoration including the construction of a low permeability, engineered soil cover over the Elm Street area of the site; monitored natural attenuation of the contaminated groundwater; and institutional controls to prevent future ingestion of contaminated groundwater and contact with the subsurface soils at the Elm Street area of the site. The remedial design is being finalized, and response actions are expected to start in 2012 to address this portion of the Site.

DES Web Site: www.des.nh.gov

PO Box 95 • 29 Hazen Drive • Concord, NH 03302-0095

Telephone: (603) 271-2905 • Fax: (603) 271-2456 • TDD Access: Relay NH 1-800-735-2964

The OU2 Keyes Field portion of the Site is approximately 19 acres, is bordered by Elm Street and the Souhegan River and is used for the town's recreational activities including baseball, soccer, tennis, swimming and as a picnic and play area. A small structure housing the Keyes Well is located on-site near the Souhegan River.

EPA initiated a Remedial Investigation (RI) that included Keyes Field groundwater in 1991. However, petroleum contamination from the Xtramart site upgradient of the Site was found in groundwater under Keyes Field during the RI. This prompted EPA to temporarily suspend investigations. EPA resumed sampling of groundwater under Keyes Field in 2007 and again in 2009. In September 2011, EPA released the RI for OU2 which included the Human Health Risk Assessment for Keyes Field Groundwater.

This RI found that wells within Keyes Field no longer contained contaminants at levels previously found, and that the substances found are associated with a petroleum additive or elevated concentrations of naturally occurring compounds. Sampling of monitoring wells at the Xtramart and OU1 locations continued to show elevated levels of groundwater contamination.

The proposed no action ROD applies to OU2 groundwater under the Keyes Field. There is no current exposure to groundwater and therefore there is no current risk. Future hypothetical risks are primarily related to the potential migration of contaminants into the Keyes Field from upgradient sources resulting from use of the Keyes Well. These upgradient sources are currently being remediated and the Town of Milford has indicated it does not plan to use the Keyes Well in the foreseeable future and is contemplating decommissioning the well.

Justification of Selected Remedy

The no action remedy for the groundwater under the Keyes Field portion of the Site (OU2) specifies no additional cleanup measures because:

- There are no current users of groundwater at Keyes Field and therefore there are no current risks;
- The RI concluded that if the groundwater were used in the future, risks for the future hypothetical residential user are from substances associated with an upgradient petroleum source or slightly elevated naturally occurring compounds, and not site-related contaminants;
- An Institutional Control in the form of a Groundwater Management Zone (GMZ) is currently proposed for the groundwater contamination associated with the upgradient OU1 portion of the Site, to prevent pumping groundwater in the future, and require groundwater monitoring until drinking water standards are met. The monitoring and groundwater use restrictions within the GMZ at the OU1 portion of the Site are considered long term measures.

State Concurrence

The Department, in reviewing the referenced ROD, has determined that the remedy is consistent with the Department's requirement for groundwater to meet drinking water quality. Ultimately, the remedy for the OU1 portion of the site will address the source of contamination to groundwater, provide for institutional controls that restrict the use of groundwater, and provide for long term monitoring of the site that will be protective of human health and the environment. Therefore, the Department, acting on behalf of the State of New Hampshire, concurs with the no action ROD for groundwater under the Keyes Field portion of the Site (OU2).

Sincerely yours,



Michael J. Wimsatt, P.G., Director
Waste Management Division

ec: Guy Scaife, Town Manager
Board of Selectmen, Town of Milford
Town of Milford Health Officer
Michael Jasinski, USEPA
Cheryl Sprague, USEPA
Thomas S. Burack, Commissioner, NHDES
Vicky Quiram, Assistant Commissioner, NHDES
Allen Brooks, NHDOJ
Keith DuBois, NHDES
Carl Baxter, NHDES
Richard Pease, NHDES
Robin Mongeon, NHDES

Appendix D – Public Meeting/Hearing Transcript

NOTE:

Responsiveness Summary – Not Included

EPA did not receive comments on this No Action ROD for OU2 Groundwater under Keyes Field and therefore a Responsiveness Summary was not required.

EPA has included a transcript of the Public Meeting and Public Hearing held on September 12, 2012.

TOWN OF MILFORD, NH

PUBLIC HEARING

Fletcher's Paint Superfund Site

One Union Square

Milford, NH 03055

Wednesday, September 12, 2012

7:05 p.m.

Hearing Officer:

Michael Jasinski, EPA

Project Manager:

Cheryl Sprague, EPA

Panel:

Robin Mongeon, NHDES

Dick Pease, NHDES

Ellen Iorio, US Army Corps of Engineers

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1 MS. SPRAGUE: All right. Thank you all
2 for coming here tonight. We are here for the
3 Fletcher's Paint Superfund Site. We're here for a
4 proposed plan introduction by the Environmental
5 Protection Agency.

6 We're going to start off tonight with a
7 quick introduction. My name is Cheryl Sprague. I
8 work with the Environmental Protection Agency. I am
9 the remedial project manager for the Fletcher's Paint
10 Superfund Site.

11 With me tonight is my boss, chief of the
12 New Hampshire/Rhode Island Superfund Section, Mike
13 Jasinski; Robin Mongeon, my co-partner for New
14 Hampshire DES; her boss, Dick Pease, from
15 New Hampshire DES; Ellen Iorio, she works for the
16 Corps of Engineers for the EPA, and I will point out
17 Elaine.

18 Because we are in the middle of a public
19 comment period, we are recording. We are required to
20 record all of the comments that I make and the
21 questions that are happening tonight.

22 At the end of the public meeting, which
23 is the part where I describe the plan, we're going to

1 town, you know that for 20 years you may have heard
2 about Fletcher's Paint. If you didn't know this, we
3 started when the Keyes well became contaminated in
4 1984.

5 Keyes well was a municipal supply well
6 to roughly 10 percent of Milford's population from
7 1972 until 1984. Low levels of contamination were
8 found in 1984. The state and EAP came onboard, and
9 what they did is they thought -- they figured out that
10 Fletcher's was the most likely source.

11 So, EPA came onboard, we removed
12 hundreds of drums from the property in 1987 and again
13 in 1993; and at that point in 1989 EPA became eligible
14 to put the Fletcher's Superfund Site on the national
15 priorities list; and once it's on the list, it becomes
16 eligible for cleanup under Superfund.

17 So Fletcher's Paint, I know you've
18 driven by likely on Elm Street, it's actually multiple
19 parts. And what we've done over the last 20 years is
20 clean it up and address it in different components.
21 We call them operable units.

22 So just as an overview -- if I can get
23 this to work -- Fletcher's Paint property, there's one

1 located on Elm Street; one located on Mill Street. We
2 call those Operable Unit 1. Those are the source
3 areas. Those contain the higher level of chemicals
4 within the soils and groundwater.

5 Operable Unit 2 includes Keyes field and
6 the Souhegan site. Those are areas that received
7 contamination that may have migrated off of Fletcher's
8 Paint. So that's how we divided up the operable
9 units.

10 So Operable Unit 1 is the Elm Street
11 property. It used to house the former Fletcher's
12 Paint manufacturing facility. It's roughly 1.6 acres,
13 and it's a complex site in that it's bordered by the
14 Souhegan River, a cemetery, a highway and a
15 playground, which kind of constrains a little site.

16 Over on Mill Street it gets even
17 smaller. It's a 0.2 acre site abutting a former coal
18 yard, and at the back of it is an active railroad.

19 Operable Unit 2 is the Keyes field,
20 which is roughly 19 acres; and it's the groundwater
21 under Keyes field which is of the concern, not Keyes
22 field the soils, just the groundwater underneath and
23 the roughly half mile of the Souhegan River, which

1 starts about at the Fletcher's Paint property on Elm
2 Street down to the Goldman Dam.

3 So, if you've been around town for a
4 long time, this building right here in the middle --
5 if I can get this to work -- right here in the middle
6 is the former Fletcher's Paint manufacturing facility.
7 This building was torn down by the EPA in 1990 -- in
8 2001 when all of their tenants had moved out and it
9 fell into disarray.

10 This is a picture -- again, as I said,
11 Keyes became contaminated in 1984; and this is what
12 the site would have looked like in 1987 when we came
13 onboard. Drums were stored typically in the back of
14 the Elm Street facility along Keyes Drive and at Mill
15 Street.

16 This is the Mill Street facility; and,
17 again, we have -- in red you see it, there's the
18 former coal yard which has burned down, the transfer
19 weigh station for the coal yard; and this property
20 housed two small sheds; and within those sheds the
21 Fletcher's Paint housed their pigments and other
22 chemicals; and this was removed by the EPA and
23 demolished and sent offsite in 1993.

1 Little bit of history if you're not
2 familiar with it. The Fletchers have operated in
3 Milford from 1949 to about 1991 when they closed their
4 business. They sold residential paints and stains.
5 They made stains for traffic paint, but they also had
6 a few other businesses where Mr. Fletcher would act as
7 a middleman or make other components or other
8 chemicals.

9 From the 1950's to the 1960's a waste
10 product called scrap pyranol was brought to the
11 Fletcher site. This came from the General Electric
12 manufacturing facilities in New York. Scrap pyranol
13 is a mixture essentially of polychlorinated biphenyls,
14 trichloroethylene, TCE, and trichlorobenzene.

15 And in 1984 after many years of
16 operation of Fletcher's the well was found
17 contaminated.

18 Now, there's no direct, you know, link
19 that we have to it other than knowing that the
20 Fletchers had operated. The state has done
21 investigations, and it wasn't just Fletcher's that was
22 reviewed. Every property around the Keyes well was
23 looked at at the time. However, with Fletcher's being

1 so close and the number of drums in the operation, it
2 became evident.

3 So, EPA came onboard. We did remedial
4 investigations from 1991 until 1998. What we found at
5 the end was that the soils at the Fletcher's Elm
6 Street piece of the site is heavily contaminated with
7 PCBs. PCBs are found at depths, sometimes down to 26
8 feet or in some cases bedrock. Depending on where
9 bedrock is.

10 The groundwater was contaminated with
11 PCBs, TCE and trichlorobenzene. We also have gasoline
12 products because there are two gasoline stations
13 between our two properties, and those have leaked over
14 time, so there is some petroleum product mixed in with
15 our contamination.

16 And in the end what we found was that
17 there's unacceptable human health risk from exposure
18 from direct contact and ingestion with these
19 materials.

20 So EPA had selected a remedy in 1998,
21 and in 2001 EPA issued an order to General Electric to
22 perform the cleanup at the site. So under that order
23 GE's been doing the predesign investigations. They

1 have done preliminary designs, which a lot of it
2 include how to cap the site.

3 And in the meantime there was a look at
4 changing it from the 1998 remedy, which was an onsite
5 thermal treatment to excavation and offsite disposal.

6 So in all those years all of those
7 designs worked on looking at the difference between
8 the two of them. The EPA did change the remedy to
9 offsite disposal in 2009.

10 Recently EPA had approved the draft
11 final design in September 2011, and this following
12 spring GE has been conducting constructability
13 testing; and with that they've been taking soil
14 samples on Elm Street to kind of finalize the design
15 placement for the support walls. And they've been
16 doing pump tests at Mill Street where they lower the
17 water table to see -- you know, doing it at a short
18 period so that when they actually get to the final
19 construction, we understand how the water could be
20 lowered, what the rates would be and how to treat the
21 groundwater.

22 Those are wrapping up at this point, but
23 GE will continue on. Because we're going to delay the

1 design somewhat from September 2011 until November of
2 2012, GE's agreed to go out and perform some remedial
3 action work to get the ball started; and those include
4 putting in an alternative parking area at Keyes field.
5 Eventually, when the construction happens, Keyes Drive
6 will be dug up.

7 So GE will be constructing this fall a
8 parking area within Keyes Park. They'll also be
9 removing some telephone poles and relocating them, and
10 we do have one resident whose parking area is impacted
11 and we'll be addressing that.

12 And what we're hoping to do -- we're
13 still finalizing the plans on that. So EPA will be
14 holding another meeting in October where we discuss
15 the details of that action that's going to happen this
16 fall.

17 The basic elements of the remedy that's
18 happening at the OU1 soils portion of the site -- and
19 I'm going to point out why this is important. We're
20 excavating and setting offsite the contaminated soils,
21 and there's going to be containment for the lesser
22 contaminated soil.

23 But also part of that remedy,

1 groundwater has to meet New Hampshire groundwater --
2 drinking water standards; and to do that we've had to
3 require that an establishment of a groundwater
4 management zone be established around the groundwater
5 that's contaminated at the site; and within the zone,
6 groundwater gets monitored and the use of the
7 groundwater would be restricted. So that's already a
8 component of the OU1 remedy.

9 Groundwater at Mill Street is primarily
10 the source area for the contamination for the
11 groundwater as it migrates to the Souhegan River.

12 The groundwater at Mill Street is
13 heavily contaminated, and it's contaminated with
14 compounds that don't readily migrate. They don't
15 readily degrade. So, as a result, they're going to be
16 here for a long time.

17 So there's groundwater management zone
18 that's going to require monitoring and restrictions on
19 use will likely be around for about a hundred years.

20 So I'm going to move on and describe
21 what else we've done at the site, which is the OU2
22 Souhegan River.

23 So while we were in design on the OU1

1 properties, General Electric and GE and their
2 consultant, Arcadis, came out; and they actually
3 sampled sediments and biota within the river portion
4 from the Fletcher's Paint site down to the Goldman
5 Dam. That report is on EPA's website. I believe it's
6 listed in here.

7 Anytime EPA gets a final report and it's
8 a significant report, we're publishing it on our
9 website. So you have access to it from anywhere. You
10 don't have to go to the library or any other place to
11 get it. So that report, the Souhegan River report, is
12 on the website.

13 EPA took the data from that report, and
14 we developed a baseline human health and ecological
15 risk assessment. So what that means is we took the
16 sediment data and the fish data and we calculated a
17 risk assessment and found that the risk from the
18 Souhegan River, from the sediment within the Souhegan
19 River, are from the ingestion of recreational caught
20 fish. The fish bioaccumulate the PCBs that are in the
21 sediment. They hold onto the PCBs. So, if someone
22 were to eat the fish for 30 years, there would be a
23 risk.

1 There's also a lesser risk from direct
2 contact with PCBs, and I'll point out -- if my pincher
3 would work -- I'll point out this little blue area
4 right here -- right here is the Fletcher's Paint site.
5 So essentially the PCBs have migrated into the
6 sediments, and they're pretty much staying right
7 around here. There's very little -- low levels all
8 the way down to the dam, but primarily this is where
9 the PCBs are located adjacent to the Fletcher's Paint
10 site.

11 And this is where the direct contact
12 would happen. This is where we studied it because,
13 again, this is where we know this is a swimming spot
14 for kids in the town.

15 So EPA took the data. We know there's a
16 risk now from sediments in the river, and we looked at
17 doing a feasible study; and, as we progressed in the
18 feasibility study, one of the things that became
19 unclear was how much sediment was contaminated down by
20 the Goldman Dam.

21 So recently we've undertaken a study to
22 collect samples. This happens to be the grid we used,
23 and we're collecting samples and we're waiting for the

1 results. When we get the data back from this sediment
2 sampling, we're going to complete the feasibility
3 study and we'll be presenting a proposed plan for the
4 cleanup of the Souhegan sediments in 2013.

5 Okay. So now we'll talk about what
6 we're here tonight to talk about, which is the Keyes
7 field, Keyes field groundwater.

8 Outlined in red here is the area that we
9 call the Keyes field. One of the things we -- I put
10 this slide in to show you that -- the star happens to
11 represent the Keyes well, which is located at the back
12 of the Keyes field.

13 Groundwater flow, when the pump was
14 on -- of course, this is a well that's about 60 feet
15 deep. When it's on, it's pumping at a great rate. So
16 it's going to influence groundwater flow around it.
17 So the groundwater flow when the pump was on -- when
18 the pump was on was flowing towards the well and not
19 towards the river at that point.

20 When the pump is off, however,
21 groundwater flows toward the Souhegan River. Souhegan
22 River is a discharge point, so you no longer have
23 flows from the Fletcher's Paint site towards the Keyes

1 well; but you do have flows generally crossing Keyes
2 field toward and discharging to the river. And that's
3 helpful because it allows us to be able to segregate
4 where the OU1 groundwater contamination is flowing to.

5 Keyes field sampling. So in 1994 we
6 have contamination discovered in the Keyes well. From
7 the late 1980s both the State of New Hampshire and the
8 US Geological Survey did a series of pump tests to
9 determine where the influence of the pump might be --
10 the pumping might be -- to see where the contamination
11 was that got to the Keyes well.

12 And during the 1990s we performed the
13 remedial investigation, and one of the things we were
14 looking at as we put wells into the Keyes field was
15 where does the Fletcher's contamination end?

16 So, as we put these small wells in, one
17 of the things we discovered was a lot of petroleum
18 floating on top of the groundwater in the Keyes field.
19 So we sampled the Keyes field groundwater and noticed
20 that Xtramart did indeed have a leak and was
21 producing, of course, this product of petroleum across
22 the Keyes field.

23 So the New Hampshire DES has been

1 working with the Xtramart facility since then to
2 address this petroleum release.

3 EPA at the time didn't do any further
4 sampling. Under the EPA's law that we follow, which
5 is called CERCLA, we're not allowed to address
6 petroleum releases. So we kind of put a hiatus on for
7 ten years letting that clean itself through those
8 regulations.

9 We came back in 2007 and again in 2009,
10 and we sampled the wells in the Keyes field. What we
11 found was that there was no longer any site-related
12 contamination in the Keyes field. There was no longer
13 petroleum as it was when we found it and -- and that
14 was great. Most of it was below federal and state
15 drinking water standards.

16 So we took the data we had and we did a
17 risk assessment, and what we found is that there's no
18 current risk to anybody because there's no current
19 users. All of the water at the Keyes field, whether
20 it be for drinking, irrigation, or anything else, is
21 used by a municipal source.

22 So we looked at future risk scenarios,
23 and the future risk scenarios we looked at was a park

1 worker, you know, irrigation swimming, a park user who
2 might swim in water taken from groundwater or drink
3 from a bubbler taken from the groundwater and a future
4 resident; and the future resident means that we're
5 assuming that the Keyes well was turned back on and
6 used as a municipal source.

7 And that's significant because when you
8 use it as an municipal source and you characterize it
9 for a resident, you're drinking two liters of water a
10 day, you're showering. There's much greater exposure
11 and you calculate it over 30 years. So, when we did
12 our calculations, we still have the no current risk
13 because there's no current user.

14 And just to define risk, since that
15 seems to be a word that's hard to define. You already
16 have, each one of us a, roughly, one-in-three chance
17 of developing cancer. That's our excess cancer risk.
18 EPA has an acceptable risk range which allows for one
19 in 10,000 up to -- or one in a million up to one in
20 10,000 extra cancer across a lifetime as a result of
21 exposure to the chemicals at one of our Superfund
22 sites.

23 So, when we did our calculation, we

1 develop a number; and what we saw was that for the
2 park worker and the park user, there was acceptable
3 risk. There was nothing exceeding EPA's risk range
4 from those two scenarios.

5 For the future resident, which again is
6 30 years, every day, there was a risk of two times ten
7 to the minus four or two in 10,000 excess cancer risk
8 in a lifetime.

9 But the other thing we noticed when we
10 looked at it is that upgradient of the Keyes field, we
11 have contamination from Fletcher's Paint and we have
12 the Xtramart, which has petroleum in it. So really we
13 decided that there was a third risk scenario, whereas
14 if you put the Keyes well on, you're not just being
15 exposed to what's currently in the groundwater but
16 what could migrate into the Keyes field; and that is
17 actually a much more significant risk is what could
18 migrate into the Keyes field.

19 So just to describe the contaminants
20 that led to the two times ten to the minus four risk,
21 the first one is arsenic. Arsenic is a naturally
22 occurring compound in groundwater in New Hampshire.
23 We found it in one well at 11 micrograms per liter.

1 The state standard is 10 micrograms per liter. And
2 when you calculate a risk for 11 micrograms per liter,
3 it gives you 1.9 times ten to the minus four.

4 So you can see it really occupies most
5 of the risk that was present in the groundwater.

6 The second compound was methyl tertiary
7 butyl ether or MTBE. It's a petroleum additive. We
8 found it in one well at 15 micrograms per liter. The
9 state standard is 13 per drinking water.

10 There was MTBE up at the Xtramart
11 facility. When you look back at the data over the
12 last few years, it's migrated on. It's a very mobile
13 contaminate. It's clearly gone and moved across Keyes
14 field discharging to the river, and just we're getting
15 whatever's on the tail end of. There was no entity
16 detected up at the Xtramart station recently.

17 The future residential risk, we did not
18 calculate a risk for what was upgradient because we
19 already have risk assessments done for OU1, but there
20 was such significant concentrations in groundwater
21 that exceed federal and state drinking water
22 standards, that clearly if these waters were to move
23 into Keyes field and Keyes field -- the water under

1 Keyes field was used as a municipal source, they would
2 also exceed drinking water standards and pose a risk.

3 Normally after EPA gets a risk
4 assessment and finds a risk, we move on to do a
5 feasible study; how do we address the cleanup? Well,
6 in this case we had a naturally occurring compound and
7 a petroleum additive, which is not addressable under
8 CERCLA.

9 So EPA has the option of doing a
10 no-further-action plan under three different
11 scenarios. So we chose to present a no-further-action
12 plan because there's no current users, so there's no
13 current risk, because the future risk is primarily
14 related to offsite contamination migrating into the
15 Keyes field should the Keyes field be used again as a
16 municipal supply, and because the OU1 response action
17 that we selected in 1998 and in 2009 already
18 eliminated the need for further remedial action.

19 The groundwater management zone that has
20 been established or proposed for OU1 already addresses
21 the potential risk to human health from exposure to
22 these contaminants, it already requires that the wells
23 be restricted from use within that groundwater zone,

1 and it requires the monitoring until drinking water
2 standards are met.

3 So we believe we can propose no further
4 action necessary at Keyes field groundwater because
5 we've already documented that we've already got
6 protection at Keyes field groundwater.

7 And what you're seeing here in
8 yellow -- if I can get this to work -- what you're
9 seeing here in yellow is on the far east side or the
10 right side of the screen is the area for OU1
11 groundwater. The contamination is essentially in this
12 ballpark for the groundwater management zone.
13 However, the groundwater management zone includes all
14 of Keyes field.

15 Part of that is to prevent the migration
16 of contaminants, part of it is to monitor for the edge
17 of the OU1 contamination; but it already is in place
18 proposed under OU1 and, therefore, there's no further
19 action necessary.

20 EPA has to go through this process. We
21 do have to document each and every piece that's listed
22 as a piece of the Superfund site. So sometimes, you
23 know, our job is to clean up, and sometimes our job is

1 to document the decisions made; and that's what we're
2 here for tonight to do.

3 At this point we'd like to open up to
4 see if there's any clarifying questions about the
5 Keyes field groundwater proposal we have; and when we
6 follow that, we'll open it for public hearing. And
7 when the hearing is closed, if you have questions
8 about any other piece of the Fletcher's Paint site,
9 we'll take it then; but right now we'd like to address
10 comments for the Keyes field groundwater.

11 Are you going to do the -- public
12 hearing officer?

13 HEARING OFFICER: Any clarifying
14 questions that you can ask Cheryl that she'd be more
15 than willing to answer?

16 UNIDENTIFIED SPEAKER: There's a house
17 on Mill Street sitting right beside --

18 UNIDENTIFIED SPEAKER: Excuse me. We're
19 going to need to get individuals to use a microphone
20 so the audience can hear, and we have a hand mic we
21 can pass around.

22 MS. SPRAGUE: Thank you, Guy.

23 UNIDENTIFIED SPEAKER: Thank you.

1 There's a house on Mill Street right
2 beside all of the cans of contaminated soil and
3 whatever and a newly erected fence.

4 The house there had people living in it,
5 and it was for sale for a short period of time. Was
6 it safe for people to be living there?

7 MS. SPRAGUE: You're talking about the
8 white house near the railroad?

9 UNIDENTIFIED SPEAKER: Yes.

10 MS. SPRAGUE: Yes. Actually, we know
11 the owner. We're in conversations with him all the
12 time.

13 Yes. The contamination at Mill
14 Street -- this is not part of the groundwater piece --
15 but the contamination at Mill Street is not carried
16 over to his property, and we've tested indoor air at
17 the property, and it's been fine, and we're in
18 constant contact with him.

19 UNIDENTIFIED SPEAKER: Okay. Thank you.

20 HEARING OFFICER: Is there another --
21 Mr. Clemens (phon), you have a question about the OU2
22 groundwater?

23 UNIDENTIFIED SPEAKER: Who's currently

1 responsible for the Keyes well and who makes the
2 decision whether they turn it on again in the future?

3 MS. SPRAGUE: Currently responsible for
4 the Keyes well or the Keyes field and the use of the
5 Keyes well, I believe, is part of the town's potential
6 use of groundwater. They would have to probably go
7 through the state, you know, program to get it turned
8 back on.

9 But my understanding -- and Robin can
10 speak to -- she did a groundwater use and value
11 determination came out, talked to Guy over here, and
12 they determined that there was no future, you know,
13 determination that they were going to use the Keyes
14 well for future municipal supply.

15 So I think it's only an issue if it's
16 going to get turned back on again to go through the
17 process.

18 UNIDENTIFIED SPEAKER: I might clarify.

19 Here in Milford we have an elected set
20 of water utility commissioners who oversee that
21 activity, but they can only activate a well that meets
22 a state and federal standard. So they would work in
23 compliance with DES and federal in the event there was

1 ever desire to turn it back on. But since it doesn't
2 meet standards, that pretty well closes that door.

3 HEARING OFFICER: Are there any other
4 clarifying questions that you would like to ask Cheryl
5 before we start the formal hearing where we won't be
6 able to answer your questions?

7 That usually gets somebody up.

8 UNIDENTIFIED SPEAKER: You'd mentioned
9 the Goldman Dam. As you know, there's another dam
10 down the river as well. Does the presence or absence
11 of those dams have any affect on this whatsoever? If
12 the dams weren't there, would the change in flow of
13 the river have any impact on the groundwater?

14 MS. SPRAGUE: No. Not that we've seen.
15 It's still going to discharge to it. All the
16 groundwater discharges from both sides to that part of
17 the river.

18 Is there anything else?

19 HEARING OFFICER: Anything else before
20 we start the formal hearing? Okay.

21 Oops. Sorry, sir. The microphone.

22 UNIDENTIFIED SPEAKER: I've been down
23 there in that part of the river, and I haven't seen

1 any signs that said no fishing or no swimming. Is
2 that something that should be there?

3 MS. SPRAGUE: We actually have done
4 health consultations, and they have issued a -- it's
5 not a warning to no fish because there's PCBs in the
6 filet. So what there is, the State of New Hampshire
7 worked with the US Fish and Wildlife Service, and what
8 they have, I believe it came out in the early '90s was
9 a recommendation that if you were to eat the fish,
10 that if you -- because the PCBs want to be in the fat
11 tissues of the fish, that you actually grill it and
12 skin it, because now you're releasing some of the PCBs
13 and you are exposing yourself to as little as
14 possible.

15 Again, the risk that you see is from
16 eating it for 30 years, eating so much per day; and
17 that's how they developed the risk.

18 There's signs down at the river.
19 They're hard to see because, of course, the water
20 level has dropped and you've got vegetation now; but
21 there is a snow fence essentially across the bank area
22 and it says keep out. And I actually went up again
23 when the river levels dropped, and you couldn't see

1 them. I actually went up on Friday night; we posted
2 another no trespassing sign.

3 When we do see people in the river, we
4 have -- our consultants are out here quite a bit -- as
5 soon as I get notified on my cell phone that there's
6 somebody in the river, we've called the town, and the
7 town has called the Boys & Girls Clubs and made sure
8 there's no children are out there.

9 We've talked with the Keyes field park
10 rangers to make sure we're monitoring what's in there
11 to see who's there, and we come out and we talk.

12 HEARING OFFICER: All right. Thank you,
13 Cheryl. You can sit down for a second.

14 UNIDENTIFIED SPEAKER: Now, in that area
15 there's supposed to be no swimming at all? Like,
16 because I remember swimming that little rope swing
17 area a lot when I was younger.

18 MS. SPRAGUE: Right. No. It's more of
19 a qualitative risk. What it essentially means is when
20 the PCBs have come into the river and they've settled,
21 they've done it over time.

22 I mean, there's 26 feet of contamination
23 up against the site. So what you're seeing is

1 essentially the PCBs coming in. So when you actually
2 look at the profile of the contamination in the river,
3 it's going from cleaner to dirtier as you go down.

4 So really what we're more concerned
5 about is somebody's going to be swimming and they're
6 going to move over 12 inches of sediment and actually
7 get to something more contaminated. So it's a
8 qualitative risk should there be enough exposure that
9 they move the sediment and get to the deeper
10 contamination.

11 So the surface is much less contaminated
12 than it is at depth; and over time what you have is,
13 you know, you have the natural attenuation where you
14 have upgradient sediments coming in continuously that
15 are clean and they're all depositing over. So, as
16 time goes on, you're burying some of the
17 contamination. In many areas it's well below two feet
18 before you can even find contamination.

19 HEARING OFFICER: All right.

20 Good evening. My name's Mike Jasinski.
21 I'm chief of New Hampshire/Rhode Island Superfund
22 section at EPA in Boston; and I'll be the hearing
23 officer for the next portion of tonight's proceedings.

1 As you heard this evening, we're here to
2 talk about the OU2 groundwater Keyes field proposed
3 plan that EPA has in front of you that is out for
4 public comment that started in the end of August and
5 will end September 24th.

6 As Cheryl indicated, we are in the
7 formal hearing session now. We will take any
8 additional comments that weren't asked earlier, but we
9 will not respond to those at this point in time.

10 We are recording every comment, every
11 statement, every question; and we will consider those
12 comments/questions as they pertain to the OU2
13 groundwater proposed plan.

14 When we go back to Boston, we get the
15 transcript, we finish the public comment period, we
16 will evaluate all those comments, we will respond to
17 all those comments in what we call the response to the
18 summary. Once the response to the summary is
19 prepared, we will also make a final decision on what
20 we will do for the OU2 groundwater Keyes field and
21 will document that in what we call a record of
22 decision.

23 And, as Cheryl indicated, we've written

1 at least one and amended it once at least in the last
2 couple of years. Those documents will be available
3 this fall, it will be available online, they'll be
4 available across the street at the library and at
5 EPA's Boston offices for your review if you wish to
6 look at them; but, as I indicated, we will respond to
7 all comments tonight as they pertain to the OU2
8 groundwater in a document we call the response to the
9 summary.

10 So with that, if I could ask if you have
11 any comments on tonight's proposal, would you please
12 come up to the microphone, state your name, speak
13 loudly, please, try to spell your name if you need to,
14 and try to give us an indication of how you relate to
15 this Fletcher's Paint Superfund Site.

16 So with that, is there any formal public
17 comments on the OU2 groundwater proposal that we have
18 in front of us this evening?

19 (Pause)

20 HEARING OFFICER: Okay. I think you've
21 asked all your questions, and Cheryl's responded to
22 all of those. I will formally close the hearing this
23 evening. I thank you for coming out this evening, and

1 have a good night; and if you wish to ask any
2 questions about anything else, we'll be here to answer
3 those for the next half hour.

4 Thank you very much. Have a good
5 evening.

6 (Hearing concluded at 7:36 p.m.)

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I, Elaine J. Ritsema, a Certified Court Reporter and Notary Public of the State of New Hampshire, do hereby certify that the foregoing is a true and accurate transcription to the best of my ability, taken at the place and on the date hereinbefore set forth.

I further certify that I am neither attorney, nor counsel for, nor related to or employed by any of the parties to the action in which this testimony was taken, and further that I am not a relative or employee of any attorney or counsel employed in this case, nor am I financially interested in this action.

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