



FACT SHEET

February 17, 2009

Former Boiler House
Site No. B00197
Best Avenue & Route 4/32
Town of Stillwater

Remedy Proposed for the Former Boiler House Property Brownfield Site

Availability Session, Comment Period Announced

The New York State Department of Environmental Conservation (NYSDEC), working cooperatively with the New York State Department of Health (NYSDOH) and the Town of Stillwater, is proposing a No Further Action remedy at the Former Boiler House site. The Former Boiler House site is an Environmental Restoration Program Project in the Town of Stillwater, New York (see location map on pages three and four).

Summary of the Proposed Action

Based on the results of the investigation at the site and the Interim Remedial Measures (IRMs) performed, the Department is proposing No Further Action (NFA) as the preferred alternative for the site. The Department believes that this alternative would be protective of human health and the environment.

A NFA decision would however require institutional and engineering controls. These include the imposition of an institutional control in the form of an environmental easement that would require (a) limiting the use and development of the property to restricted residential use, which would also permit commercial and industrial use; (b) re-evaluation of the potential for soil vapor intrusion in any building developed in the future at the site that may be occupied; (c) compliance with the approved site management plan; (d) restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (e) the property owner to complete and submit to the Department a periodic certification of the institutional controls.

Opportunities to Comment on the Proposed Remedy

Release of the NFA Proposed Remedial Action Plan begins a process to finalize selection of the remedy for the site. Your comment and input about the proposed remedy are important and encouraged. Your oral and written comments about the Proposed Remedial Action Plan are welcome at the March 12, 2009 availability session and during the public comment period which runs until March 31, 2009. Written comments may also be mailed to:

Mr. Michael P. McLean, P.E.

NYSDEC Region 5 - Division of Environmental Remediation

P.O. Box 296

Ray Brook, NY 12977

What Happens Next

All comments received during the public comment period will be considered as the

Availability Session

Thursday
March 12, 2009
7:00 pm - 8:00 pm

Stillwater Town Hall
66 East Street
Mechanicville, New York
12170

The New York State Departments of Environmental Conservation and Health (NYSDEC and NYSDOH) are available to answer questions concerning the proposed remedy for the Former Boiler House Brownfield Site. At the meeting, representatives from the NYSDEC and NYSDOH can:

- Describe results of the interim remedial actions and site investigations;
- Explain the proposed No Further Action;
- Answer your questions about the site;
- Receive your verbal or written comments about the proposal; and
- Answer health issues concerning the site.

PUBLIC COMMENT PERIOD

From: February 15, 2009

To: March 31, 2009

remedy for the Former Boiler House site is finalized. Public input will be factored into the Record of Decision (ROD) which will describe the final remedy selected and why it was chosen. NYSDEC will respond to comments in a responsiveness summary included in the Record of Decision.

Site History

The Stillwater Boiler House site is located in the Town of Stillwater, Saratoga County. It is 1.23 acres in size and is located on the northwestern corner of the intersection of Best Avenue and U.S. Route 4. It is surrounded by commercial and industrial facilities and a recreational park. The Hudson River is located several hundred feet to the east of the site.

The site was used as a boiler house for a paper mill beginning in 1918. The coal fired boilers were converted to fuel oil systems in the mid-1960s. The paper mill closed operations in the late 1970s. In the early 1980's the boiler house was leased to an automotive and boat repair business. The property has since been abandoned and acquired by the Town of Stillwater in 2004 due to tax-delinquent status.

Remedial Investigation

The purpose of the remedial investigation (RI) was to define the nature and extent of any contamination resulting from previous activities on the site. The Remedial Investigation was conducted between June 2004 and June 2008. The investigative tasks performed as part of the Remedial Investigation included the installation of soil borings and monitoring wells, surface and subsurface soil sampling and analysis, groundwater sampling and analysis, and soil vapor sampling and analysis.

As further detailed in the Remedial Investigation reports, contaminants of concern detected on-site include VOCs, SVOCs, PCBS, and metals in soil and groundwater. The Remedial Investigation reports are available at the document repositories listed below.

Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the Remedial Investigation. In response to the preliminary findings of the Remedial Investigation, several interim remedial measures were conducted from June 2004 to July 2008.

These measures included the closure and removal of one 16,000 gallon aboveground petroleum storage tank and contents, the identification and proper disposal of four drums of solid and liquid chemicals and several smaller containers, the excavation and disposal of 3,985 tons of petroleum contaminated soil and 1,152 tons of metals contaminated ash, and the asbestos abatement and building demolition of the two adjoining boiler house buildings and two smokestacks. The site is currently covered with grass or a gravel parking area, the proposed future usage being a Town Park.

Document Repositories

To review the complete Proposed Remedial Action Plan and other site information, you may visit:

NYSDEC Region 5 Ray Brook Office 1115 Route 86, P.O. Box 296 Ray Brook, NY 12977 Hours: Mon - Fri, 8:30am to 4:45pm (518) 897-1242	Stillwater Town Hall 66 East Street Mechanicville, NY 12170 Hours: Mon - Thur, 7:30am - 3pm Fri, 7:30am - Noon (518) 664-6148	Stillwater Free Library 72 Hudson Avenue Stillwater, NY 12170 Hours: Tues -Fri, 10m -7pm Sat, 10am - 2pm (518) 664-6255
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For More Information

Call or write the following staff for more information about:

Meeting/Comment Period/

Technical Information:

Mr. Michael P. McLean, P.E.
NYSDEC Region 5
1115 Route 86, P.O. Box 296
Ray Brook, NY 12977
Phone: (518) 897-1242

Health Related Information:

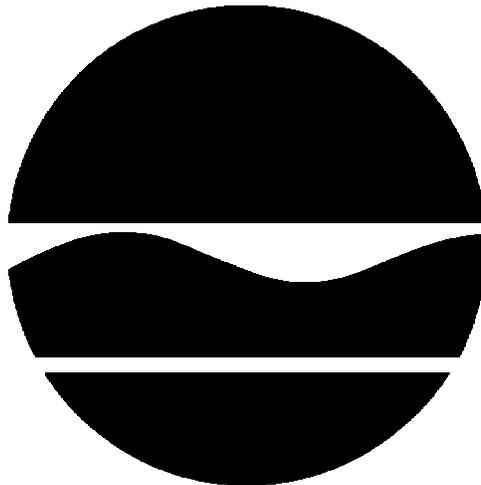
Ms. Deanna Ripstein
NYSDOH
Flanigan Square
547 River Street
Troy, NY 12180-2216
Phone: (518) 402-7870

Citizen Participation:

Mr. David Winchell
NYSDEC Region 5
1115 Route 86, P.O. Box 296
Ray Brook, NY 12977
Phone: (518) 897-1211

PROPOSED REMEDIAL ACTION PLAN
Former Boiler House Property
Environmental Restoration Project
Town of Stillwater, Saratoga County, New York
Site No. B00197

February 2009 DRAFT



Prepared by:

Division of Environmental Remediation
New York State Department of Environmental Conservation

A 1996 Clean Water/Clean Air Bond Act **Environmental Restoration Project** **PROPOSED REMEDIAL ACTION PLAN**

Former Boiler House Property
Town of Stillwater, Saratoga County, New York
Site No. B00197
February 2009

SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the Former Boiler House Property.

The 1996 Clean Water/ Clean Air Bond Act provides funding to municipalities for the investigation and cleanup of brownfields. Brownfields are abandoned, idled, or under-used properties where redevelopment is complicated by real or perceived environmental contamination. They typically are former industrial or commercial properties where operations may have resulted in environmental contamination. Brownfields often pose not only environmental, but legal and financial burdens on communities. Under the Environmental Restoration Program, the state provides grants to municipalities to reimburse up to 90 percent of eligible costs for site investigation and remediation activities. Once remediated, the property can then be reused.

As more fully described in Sections 3 and 5 of this document, generation of steam for power production and related processes resulted in the disposal of hazardous substances, including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs) and metals. These hazardous substances contaminated the surface and subsurface soils at the site, and resulted in:

- a threat to human health associated with potential exposure to soils contaminated with VOCs, SVOCs, PCBs, and metals; and also coal ash contaminated with metals.
- an environmental threat associated with VOCs, SVOCs, PCBs, and metal contaminants in the soil, and the potential migration of these materials into the groundwater.

During the course of the investigation certain actions, known as interim remedial measures (IRMs), were undertaken at the Former Boiler House in response to the threats identified above. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the site investigation/remedial alternatives report (SI/RAR). The IRMs undertaken at this site included:

- A 16,000 gallon aboveground storage tank (AST) closure, including the removal and off-site disposal of approximately 2,000 gallons of fuel oil.
- Sampling, identification, and proper disposal of four drums of solid and liquid chemicals and several smaller (less than five gallon) containers.
- Excavation and proper disposal of 3,985 tons of petroleum contaminated soil and 1,152 tons of metal contaminated ash.
- Stabilization and proper disposal of four corroded compressed gas cylinders.
- Asbestos abatement and building demolition of the two adjoined boiler house buildings and two smokestacks due to their structural instability and the need to investigate subsurface conditions and remediate petroleum contaminated subsurface soils in this area.

Based on the implementation of the above IRMs, the findings of the investigation of this site indicate that the site no longer poses a threat to human health or the environment; therefore No Further Action is proposed as the remedy for this site.

The proposed remedy, discussed in detail in Section 6, is intended to attain the remediation goals identified for this site in Section 6. The remedy must conform with officially promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, criteria and guidance are hereafter called SCGs.

This Proposed Remedial Action Plan (PRAP) identifies the preferred remedy and discusses the reasons for this preference. The Department will select a final remedy for the site only after careful consideration of all comments received during the public comment period.

The Department has issued this PRAP as a component of the Citizen Participation Plan developed pursuant to the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375. This document is a summary of the information that can be found in greater detail in The December 2008 Remedial Investigation Report and other relevant documents. The public is encouraged to review the project documents, which are available at the following repositories:

Stillwater Town Hall
66 East Street
Mechanicville, New York 12170
Contact: Mr. Shawn Connelly
Telephone: 518-664-6148
Hours: M-Th 7:30AM-3PM
Friday-7:30AM-Noon

Stillwater Free Library
72 Hudson Avenue
Stillwater, New York 12170
Telephone: 518-664-6255
Hours: T-F 10AM - 7PM
Saturday 10AM - 2PM

NYSDEC-Region 5 Office
PO Box 296, Route 86
Ray Brook, New York 12977
Contact: Michael P. McLean
Telephone: (518) 897-1242
Hours: M-F 8AM - 4PM

The Department seeks input from the community on all PRAPs. A public comment period has been set from {dates} to provide an opportunity for public participation in the remedy selection process. A public meeting is scheduled for {date} at the {location} beginning at {time}.

At the meeting, the results of the SI/RAR and IRM will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP. Written comments may also be sent to Mr. Michael McLean at the above address through {date comment period ends}.

The Department may modify the proposed remedy or select another based on new information or public comments. Therefore, the public is encouraged to review and comment on all of the alternatives identified here.

Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

SECTION 2: SITE LOCATION AND DESCRIPTION

The Stillwater Boiler House site is situated on the northwestern corner of the intersection of Best Avenue and U.S. Route 4 in the Town of Stillwater, Saratoga County, New York. The site is roughly square-shaped and 1.23 acres in size. It is close to the Village of Stillwater in an industrial and residential setting. To the east there is a New York State Electric and Gas hydroelectric facility. To the south, former paper mill property has been redeveloped as DeCresente Distributing, WA Patenaude & Sons Construction, and the Price Chopper Plaza. To the west, the Town maintains a public park and farther west are private residences. To the north, former paper mill buildings are occupied by the Polyset Company, Inc. The Hudson River is located several hundred feet to the east from the site. Refer to Figure 1- Site Location Map.

Very little native soil was observed at the boiler house site, fill material was predominant to the depth of bedrock. Bedrock in the area is mapped on the *Geologic Map of New York—Hudson-Mohawk Sheet* (1995)

as Canajoharie Shale. The Canajoharie Shale is largely comprised of fissile and highly fractured black shale with traces of sandstone. Shale was observed in most soil borings. Bedrock was visually identified as shale at the base of several test pits striking approximately north-south and dipping steeply to the east. Bedrock depth ranged from approximately 10 to 15 feet below the ground surface.

Groundwater flow appears as a thin veneer across the site and the groundwater table appears just above the fractured shale bedrock. No productive aquifer is present in the unconsolidated materials. Any existing shallow groundwater flow appears to be toward the center of the site from the east, west, and north and likely intersects with the building drainage system which was trenched into the bedrock. It is likely that any groundwater present in unconsolidated materials is hydraulically interconnected with the fractured bedrock. Static groundwater was present in the bedrock wells at approximately seven feet below ground surface.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

The site was developed circa 1918 as the boiler house for the Duncan Paper Mill. It was later owned and operated by the West Virginia Pulp & Paper Mill and the Saratoga Board Mill. Typical waste streams from pulp and paper mills include wastewater treatment sludge, lime and liquor dregs, solvent wastes, boiler and furnace ash, scrubber sludge, and wood processing residuals. Little information was available pertaining to the use, storage, or disposal of chemicals or other materials used by the paper mills on the site of the boiler house.

Historic press releases indicate that the boilers were converted from a coal-fired system to an industrial fuel oil-fired system in the mid-1960s. Bulk storage tanks with a total capacity of 1.5 million gallons were located on the adjacent property to the north. No information pertaining to the historic use, condition, or demolition of these tanks was identified. The storage tanks are no longer present on the adjacent parcel.

In the 1980s, the boiler house was leased to an automotive and boat repair business. No information pertaining to the use, storage, or disposal of petroleum and/or chemicals by the boat and car business was identified. Refer to Figure 2 - Pre-Remedial Investigation Site Map.

3.2: Remedial History

No prior subsurface investigations evaluating soil, groundwater, or soil gas quality are known to have been performed on the Former Boiler House property.

SECTION 4: ENFORCEMENT STATUS

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

The PRPs for the site documented to date include several former site owners. Previous owners include mill operators including Duncan Mill Co., West Virginia Pulp and Paper Company, and the Saratoga Board Mills. The property was idle and abandoned from the 1970's to the 1990's. Owners of the property after 1990 included Carmine DeCrescente, Jake Enterprises Ltd., and Bao Bao Inc. The Town was able to gain legal ownership of the boiler house property in 2004 due to the tax-delinquent status and deteriorated conditions of the property.

The Town of Stillwater will assist the state in their efforts by providing all information to the state which identifies PRPs. The Town will also not enter into any agreement regarding response costs without the approval of the Department.

SECTION 5: SITE CONTAMINATION

The Town of Stillwater has recently completed a site investigation (SI) to determine the nature and extent of any contamination by hazardous substances at this environmental restoration site.

5.1: Summary of the Site Investigation

The purpose of the SI was to define the nature and extent of any contamination resulting from previous activities at the site. The SI was conducted between June 2004 and June of 2008. The field activities and findings of the investigation are described in the SI report.

The following activities were conducted during the SI: The subsurface investigation began in June 2004 with the installation of 34 soil borings, 6 shallow monitoring wells, and 26 test pits. In July 2004 a ground-penetrating radar (GPR) survey was completed to assess the potential for buried drums and storage tanks on the site. In November 2005 the sub-slab soil beneath the boiler house was investigated via the installation of 20 shallow soil borings. In June and July 2006, additional investigative samples were collected to delineate the exterior areas of petroleum impacted soil on site and extending offsite. In 2008, additional samples from the ground surface to a depth of two feet were collected to confirm that surface impacts were properly mitigated.

5.1.1: Standards, Criteria, and Guidance (SCGs)

To determine whether the surface soil, subsurface soil, groundwater, and soil vapor contain contamination at levels of concern, data from the investigation were compared to the following SCGs:

- Groundwater and surface water SCGs are based on June 1998 NYSDEC "Ambient Water Quality Standards and Guidance Values".

- Soil SCGs are based on the NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs effective December 14, 2006.

- Concentrations of VOCs in air were evaluated using the air guidelines provided in the NYSDOH guidance document titled "Guidance for Evaluating Soil Vapor Intrusion in the State of New York," dated October 2006.

Based on the SI results, in comparison to the SCGs and potential public health and environmental exposure routes, certain media and areas of the site required remediation. These are summarized in Section 5.1.2. More complete information can be found in the SI report.

5.1.2: Nature and Extent of Contamination

This section describes the findings of the investigation for all environmental media that were investigated.

As described in the SI report, many soil, groundwater and soil vapor samples were collected to characterize the nature and extent of contamination. As summarized in Table 1, the main categories of contaminants that exceed their SCGs are volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and inorganics (metals). For comparison purposes, where applicable, SCGs are provided for each medium.

Chemical concentrations are reported in parts per billion (ppb) for water, parts per million (ppm) for waste, soil, and sediment. Soil vapor samples are reported in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

Table 1 summarizes the degree of contamination for the contaminants of concern in surface soil, subsurface soil, and groundwater and compares the data with the unrestricted SCGs for the site. As significant sampling occurred off-site as well as on-site, off-site locations are also included in Table A. The following are the media which were investigated and a summary of the findings of the investigation.

Waste Materials

A significant volume of waste materials were identified and removed from this site. Wastes identified at the site included fuel oil, motor oil, solvents, joint compound, gear oil, antifreeze, aerosol lubricants, aerosol paints, propane, helium, and freon. Four drums of solid and liquid chemicals, four corroded

compressed gas cylinders and several smaller (less than five gallon) containers were sampled, identified, and properly disposed of. Wastes identified during the SI were addressed during the interim remedial measures (IRMs) described in Section 5.2.

Surface Soil

Surface soil at this site is defined as soil less than two inches below the ground surface. Analytes identified above unrestricted SCGs in the surface soil on site were three metals (arsenic, lead, and mercury) and five SVOCs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, and chrysene). Lead was identified at seventeen locations, mercury at two locations, and arsenic at one location. The metal contaminants are likely related to the burning of coal and reuse of the ash as fill material throughout the site and the also the area surrounding the site. SVOCs were identified at slightly above the unrestricted SCGs at one of two locations across the site.

Similar levels of lead, mercury, and SVOC contaminants were initially detected above unrestricted and in some instances, restricted residential SCGs, in two samples collected off-site in a parking area adjacent to the Town Park northwest of the site. In consultation with the NYSDOH, eighteen additional samples were collected in and near the park and identified levels similar to those found on the site. Upon consultation with the NYSDOH, The Department has determined that these contaminant levels are considered site background.

As the site is to be used for an extension of the Town Park, contaminants identified above restricted residential are identified and discussed in the SI. Refer to Figure 3 - Surface Soil Contaminants Above Restricted Residential SCGs, Pre IRM.

All on-site surface soil contamination identified during the SI above restricted residential SCGs was addressed (removed from site) during the IRMs described in Section 5.2.

Subsurface Soil

Subsurface soil at the site is defined as soil greater than two inches below the ground surface. Subsurface soil investigation included the installation of 115 direct-push soil borings and 36 test pits, and the analysis of 205 laboratory samples. Subsurface soil on the site consisted primarily of miscellaneous fill including clay, silt, sand, gravel, brick, coal, and ash from the surface grade to the top of bedrock.

Analytes identified above unrestricted SCGs were ten metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc), one VOC (acetone), seven SVOCs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-cd)pyrene, and phenol), and one PCB (Aroclor 1260). These contaminants are likely related to the burning of coal and reuse of the ash as fill material throughout the site and the area surrounding the site. As the site is to be for restricted residential purposes, contaminants identified above restricted residential are identified and discussed in the site investigation. Refer to Figure 4-Subsurface Soil Contaminants Above Restricted Residential Usage Location Map, Pre IRM.

On-site subsurface surface soil contamination identified during the SI above restricted residential SCGs was removed from site during the IRMs described in Section 5.2.

Groundwater

Groundwater samples were collected from the eight on site monitoring wells in July of 2004. Contaminants identified above SCGs included four metals (aluminum, iron, lead, and manganese). Lead was found in one location just above SCGs. Aluminum, iron, and manganese are not considered contaminants of concern and no source or history of site usage was identified. Additionally, groundwater is not utilized at the site.

In general, metals have limited mobility in groundwater due to cation exchange and sorption onto mineral grains. With the exception of lead, the metals identified above SCGs in groundwater at the boiler house site are not the same metals identified in site soil. The flow of groundwater at the site appears to be influenced

by the placement of fill and removal of bedrock during site development. The limited groundwater in the shallow aquifer above the bedrock appears to flow toward the center of the site where it intercepts the fractured bedrock aquifer and quite possibly the former building drainage system. Neither of the samples collected from the two bedrock monitoring wells contained lead in excess of the Department ambient groundwater quality standard. However, the bedrock wells contained similar concentrations of aluminum and manganese as shallow monitoring wells MW-5 and MW-6.

No PCB, VOCs, or SVOCs were detected above the ambient groundwater quality standards in any of the eight groundwater monitoring wells. Groundwater contamination identified during the SI is insignificant and was not addressed during the IRMs described in Section 5.2.

Surface Water and Sediments

Surface water and sediments are not present at the site.

Soil Vapor/Sub-Slab Vapor/Air

Soil vapor samples were collected from seventeen locations on the site. Fourteen of these location were collected for field analysis by gas chromatography using an air sampling vacuum bag and sampling train. The other three samples were collected in SUMMA canisters and submitted for laboratory analysis.

5.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the SI. The IRMs implemented and subsequently completed at the site as part of the investigation phase included:

-a 16,000 gallon aboveground storage tank (AST) closure, including the removal and offsite disposal of approximately 2,000-gallons of industrial fuel oil and the recycling of the scrap steel from the tank and piping (performed June-July 2004).

-four drums of solid and liquid chemicals were over packed for safe transport and numerous small (less than five gallons) containers were containerized for transportation and disposal at a licensed facility (July 2004).

-3,985 tons of petroleum contaminated soil and 1,152 tons of metals-impacted material was removed from the site and disposed of at licensed facilities (performed July 2005, September-October 2006, and July 2008).

-four corroded compressed gas cylinders were stabilized and cut for metal scrap (July 2004).

-the identified asbestos containing materials at the site was removed from the site building by a licensed abatement contractor. All ACM was disposed of at a licensed facility (April-September 2005).

-the two adjoined boiler house buildings and two smokestacks were removed from the site due to their structural instability and the need to investigate subsurface conditions in those site areas (July-September 2005).

-imported fill and stockpiled crushed concrete and masonry building debris was used to backfill and grade the site and was also tested for compliance with site soil cleanup objectives. Fill materials were determined to be clean fill based on laboratory analysis. In areas where soil was excavated or in areas where the buildings were backfilled this clean soil layer is a minimum of two-feet thick. A layer of clean imported topsoil or clean was placed during site restoration for establishing a new vegetative cover. Additionally, a stone surfaced parking area has been established on the northern third portion of the property, the stone in this area is a minimum of 12 inches thick (September 2006).

A report of all IRMs performed is included as an Appendix in the SI. Refer to Figure 5 for a map of current site conditions.

5.3: Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the human exposure pathways can be found in Section 6 of the SI report.

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

The source of contamination is the location where contaminants were released to the environment (any waste disposal area or point of discharge). Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

Soil excavation activities or subsurface utility work conducted at the site could bring workers into contact with contaminated soil in the future.

Groundwater at the site contained some elevated levels of metals, however, groundwater is not used at the site for potable water or any other purpose. Public water, which is routinely tested and must comply with federal and state drinking water standards, is available at the site and surrounding properties. If a well is developed on the property in the future, use of groundwater at the site could present the potential for exposures.

Soil vapor intrusion does not present a current exposure concern since there are no buildings on the property. If a building is constructed in the future, the potential for soil gases to enter the building and affect indoor air could present an exposure concern and would need to be evaluated.

5.4: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site prior to the IRM. Environmental impacts include existing and potential future exposure pathways to fish and wildlife receptors, as well as damage to natural resources such as aquifers and wetlands.

A Fish and Wildlife Impact Analysis was not conducted as the area is in a highly urban area with mixed commercial, industrial, and residential usage. Additionally, the former boiler house covered the vast majority of the property. No wetlands are present at the site.

Site contamination has impacted the shallow groundwater aquifer. This shallow aquifer is not utilized, as the area is serviced by a public water system. No private wells are known to exist in the immediate area of the site. No environmental exposure pathways and ecological risks have been identified at the site.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS, PROPOSED REMEDY, AND THE PROPOSED USE OF THE SITE

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous substances disposed at the site through the proper application of scientific and engineering principles.

Prior to the completion of the IRM described in Section 5.2, the remediation goals for this site were to eliminate or reduce to the extent practicable:

- Exposures of persons at or around the site to SVOCs, PCBs, and metals in surface soils, subsurface soils, and groundwater at the site.
- The release of contaminants from surface and subsurface soil into groundwater that may create exceedances of groundwater quality standards.
- the release of contaminants from surface soil and subsurface soil, including under the site building into indoor and ambient air through soil vapor movement and wind borne dust.

During the IRM process, the site structure was removed and contaminated surface and subsurface soils above restricted residential SCGs have been excavated and removed from the site. A majority of the excavated area extended down to the bedrock/groundwater interface depth.

The main SCGs applicable to this project are as follows:

- Groundwater SCGs are based on the Department's "Ambient Water Quality Standards and Guidance Values"
- Soil SCGs are based on the NYSDEC 6 NYCRR Part 375-6.8(b) Environmental Remediation Programs effective December 14, 2006;

The Department believes that the IRMs have accomplished the remediation goals and satisfied the SCGs for the site.

Based on the results of the investigations at the site, the IRM that has been performed, and the evaluation presented here, the Department is proposing No Further Action as the preferred alternative for the site. The Department believes that this alternative would be protective of human health and the environment and would satisfy all SCGs as described above. Overall protectiveness is achieved through meeting the remediation goals listed above.

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

1. Elements of the IRMs that have been completed and comprise the remedy for the site include: (1) AST closure and proper disposal of tank and fluids; (2) drum, compressed gas cylinder, and container identification and proper disposal of solid and liquid chemicals, (3) excavation and disposal of 3,985 tons of petroleum contaminated soil and 1,152 tons of metals-impacted ash, (4) asbestos abatement, demolition, and disposal of the two adjoined boiler house buildings and two smokestacks, and (5) backfilling of clean fill in excavated areas with a minimum depth of two-feet thick in the excavated contaminated areas.
2. Imposition of an institutional control in the form of an environmental easement that would require (a) limiting the use and development of the property to restricted residential use, which would also permit commercial or industrial uses; (b) re-evaluation of the potential for soil vapor intrusion in any building developed in the future at the site that may be occupied; (c) compliance with the approved site management plan; (d) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH;

and (e) the property owner to complete and submit to the Department a periodic certification of institutional and engineering controls.

3. Development of a site management plan which would include the following institutional and engineering controls: (a) management of the final cover system to restrict excavation. Any excavated soil would be tested, properly handled to protect the health and safety of workers and the nearby community, and would be properly managed in a manner acceptable to the Department; (b) identification of any use restrictions on the site;
4. The property owner would provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal would: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and (c) state that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

The proposed future use for the Stillwater Boiler House Property is restricted-residential with usage being a Town Park.

TABLE 1
Nature and Extent of Contamination
On Site and Off Site Locations
 June 2004-April 2008

SURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)^a	Unrestricted SCG^b (ppm)^a	Frequency of Exceeding SCG (Pre-IRM^c)	Frequency of Exceeding SCG (Post-IRM)
Inorganic Compounds	Arsenic	1.19 to 19.6	13	1 of 20	0 of 20
	Lead	5.5 to 4,610	63	17 of 39	10 of 39
	Mercury	ND ^d to 0.29	.18	2 of 24	1 of 24
Semivolatile Organic Compounds (SVOCs)	Benzo(a)anthracene	ND to 1.8	1	1 of 8	0 of 8
	Benzo(a)pyrene	ND to 1.5	1	1 of 8	0 of 8
	Benzo(b)flouranthene	ND to 2.3	1	2 of 8	1 of 8
	Benzo(k)flouranthene	ND to 2.2	0.8	2 of 8	1 of 8
	Chrysene	ND to 2.2	1	1 of 8	0 of 8

SUB-SURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm) ^a	Unrestricted SCG ^b (ppm) ^a	Frequency of Exceeding SCG (Pre-IRM)	Frequency of Exceeding SCG (Post-IRM)
Volatile Organic Compounds	Acetone	ND to 86	.05	3 of 52	2 of 52
Semivolatile Organic Compounds (SVOCs)	Benzo(a)anthracene	ND to 11	1	9 of 76	2 of 76
	Benzo(a)pyrene	ND to 7.6	1	7 of 76	2 of 76
	Benzo(b)fluoranthene	ND to 8.8	1	9 of 76	2 of 76
	Benzo(k)fluoranthene	ND to 4	0.8	5 of 76	2 of 76
	Chrysene	ND to 9.4	1	10 of 76	2 of 76
	Dibenzo(a,h)anthracene	ND to .98	0.5	1 of 76	0 of 76
	Indeno(1,2,3-cd)pyrene	ND to 3.9	0.5	5 of 76	2 of 76
	Phenol	ND to 7.2	.33	2 of 76	0 of 76
PCBs	Arocolor 1260	ND to 1.15	0.1	6 of 8	0 of 8
Inorganic Compounds	Arsenic	2.3 to 121	13	16 of 78	6 of 78
	Cadmium	ND to 5.4	2.5	13 of 78	7 of 78
	Chromium	3.49 to 44.1	30	2 of 78	1 of 78
	Copper	12.1 to 791	50	36 of 78	8 of 78
	Lead	3.9 to 942	63	25 of 78	7 of 78
	Mercury	ND to 1.3	0.18	10 of 78	2 of 78
	Nickel	9.44 to 950	30	46 of 78	14 of 78
	Selenium	ND to 4.63	3.9	3 of 78	0 of 78
	Silver	ND to 2.72	2	2 of 78	1 of 78
	Zinc	23.8 to 487	109	30 of 78	8 of 78

GROUND-WATER	Contaminants of Concern	Concentration Range Detected (ppb) ^a	SCG ^b (ppb) ^c	Frequency of Exceeding SCG (Pre-IRM)	Frequency of Exceeding SCG (Post-IRM)
Inorganic	Aluminum	429 to 43,400	2000	4 of 8	N/A ^f
Compounds	Iron	672 to 82,800	600	8 of 8	N/A ^f
	Lead	4.54 to 78.3	50	1 of 8	N/A ^f
	Manganese	46.3 to 2120	600	5 of 8	N/A ^f

SOIL VAPOR	Contaminants of Concern	Concentration Range Detected ($\mu\text{g}/\text{m}^3$) ^g	SCG ^b ($\mu\text{g}/\text{m}^3$) ^g	Frequency of Exceeding SCG
Volatile Organic Compounds (SVOCs)	Benzene	ND to 6	NA	NA
	Toluene	3 to 122	NA	NA
	Xylene	5 to 13	NA	NA
	Isopropyl Alcohol	2 to 27	NA	NA
	Acetone	65 to 188	NA	NA
	Carbon Disulfide	ND to 13	NA	NA
	Methyl Ethyl Ketone (2-butanone)	8 to 34	NA	NA
	Hexane	ND to 8	NA	NA
	Cyclohexane	44 to 503	NA	NA
	Heptane	12 to 121	NA	NA
	Ethylbenzene	ND to 10	NA	NA
	1,3,5-Trimethylbenzene	ND to 12	NA	NA
	1,2,4-Trimethylbenzene	ND to 15	NA	NA
4-Ethyltoluene	ND to 7	NA	NA	

^a ppb = parts per billion, which is equivalent to micrograms per liter, $\mu\text{g}/\text{L}$, in water;

^b SCG = standards, criteria, and guidance values;

^cIRM=interim remedial measures;

^dND=not detected;

^eppm = parts per million, which is equivalent to milligrams per kilogram, mg/kg , in soil;

^fgroundwater was not sampled post-IRM.

^g $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter;